Appendix A-1
DEIS Scoping Document

DRAFT ENVIRONMENTAL IMPACT STATEMENT
SCOPING DOCUMENT

AIRPORT CAMPUS
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY, NEW YORK

Name of Project:	Airport Campus
Project Location:	Town of North Castle 113 King Street Armonk, NY 10504 Tax Map: 118.02-1-1, 113.04-1-13, and 113.04-1-14
Applicant:	Airport Campus I LLC, Airport Campus II LLC, Airport Campus III LLC, Airport Campus IV LLC, and Airport Campus V LLC
Owner:	Airport Campus I LLC, Airport Campus II LLC, Airport Campus III LLC, Airport Campus IV LLC, and Airport Campus V LLC
SEQRA Classification:	Type I Action
Lead Agency:	Town of North Castle Town Board Town Hall 1 Bedford Road Armonk, New York 10504 (914) 273-3321
Lead Agency Contact:	Alison Simon Town Clerk 15 Bedford Road Armonk, New York 10504 (914) 273-3321
Scoping Session:	September 26, 2018, October 10, 2018 Town of North Castle Town Hall 15 Bedford Road Armonk, New York 10504
Scoping Comments Due:	October 26, 2018
Scope Adopted:	March 13, 2019

DESCRIPTION OF THE PROPOSED ACTION:

The "Applicant," proposes to repurpose and redevelop the approximately 38-acre site known as 113 King Street within the Town of North Castle (the "Project Site" or "Site"), which is currently improved with approximately 261,000 sf of office space in two buildings. Efforts over the past ten years to lease the Site's office buildings have been unsuccessful. As such, the Applicant proposes to re-use the northernmost existing office building as a hotel, construct a new 151-unit multi-family building, construct 22 townhouse units, and re-occupy the southernmost existing office building with office tenants (the "Proposed Project"). The 5-story multi-family residential building is proposed to be located to the north of the existing northern office building and would be built on top of 3-stories of structured parking, one of which would be below grade. The total height of the structure as viewed would be seven stories. In the northern portion of the Project Site, the Applicant proposes to construct 22 townhouses. The Applicant would provide affordable housing on-Site in accordance with the requirements of the Town Code. Vehicular access to the office, hotel, and multifamily uses would be from the existing signalized driveway intersection with King Street. Vehicular access for the townhouses would be from Cooney Hill Road.

In addition to the Site's existing improvements, site plan approvals in full effect allow for the construction of an additional 165,000 square feet of office space, 53,000 sf of amenity space, a 20,000 sf meeting house, and a 1,000 space parking structure on the Site. The Proposed Project is being advanced in lieu of these currently permitted improvements. The Project Site is located within the Town's "Designed Office Business 20A" (DOB-20A) Zoning District. To develop the Site as proposed, the Applicant has petitioned the Town Board of the Town of North Castle ("Town Board") for amendments to the Town's Zoning Code to permit multi-family, hotel, and townhouse uses on the Site as special permit uses and to provide bulk and density requirements for those uses (the "Proposed Zoning"). The Applicant has also applied to the Town Board for approval of a Preliminary Development Concept Plan (PDCP) and Special Permit approval, which would allow for the subsequent preparation of a detailed Site Plan and subdivision application to construct the Proposed Project.

For ease of understanding, each technical chapter of the DEIS will be organized to include a site specific analysis for the Project Site and a generic analysis of the proposed zoning amendment.

POTENTIAL SIGNIFICANT ADVERSE IMPACTS

Based upon a review of the applicant's submitted Full Environmental Assessment Form and all other application materials that were prepared for this action, the Lead Agency has determined that the proposed action may have the following significant adverse impacts:

1. The potential for significant impacts related to land use, zoning, and public policy. The proposed Action would also change the allowable uses throughout the DOB-20A District. The Proposed Action would change the land use on the site from its current office campus to a hotel, multifamily housing and single-family townhouse uses.

2. The Proposed Action would result in excavation and other disturbance on several acres of currently undeveloped land.

3. Construction of the Proposed Project would occur in more than one phase.

4. Increased stormwater runoff and erosion resulting from site disturbance and construction of new impervious surfaces in the form of structures, access roads, and residential lots may impact surface water, specifically the nearby Kensico Reservoir which is part of the New York City watershed system. In addition, surface water and groundwater may be impacted by the introduction of fertilizers and pesticides associated with new residential uses.

5. The Proposed Action would involve site disturbance and new construction proximate to federally regulated freshwater wetlands.

6. The Proposed Action would result in an increased demand on water supply and delivery and sewage disposal systems.

7. The Proposed Action may impact the habitat of species that have been identified as species of special concern, endangered and/or threatened (including the bald eagle).

8. The Proposed Action would occur within an area identified as potentially sensitive for archaeological resources.

9. The Proposed Action would result in the placement of new residential and hotel uses in an area between the 60 DNL and 65 DNL noise contours for Westchester County Airport.

10. The Proposed Action would result in an increase in daily vehicle trips, which may impact the surrounding roadway network.

11. The Proposed Action would result in an increased demand for energy.

12. There is a completed emergency spill remediation on the site of the Proposed Action, which may have impacted the existing structures to be modified as well as the subsurface conditions of the Project Site.

13. The Proposed Action may create a demand for additional community services (e.g. schools, police and fire).

14. The potential for significant impacts related to stormwater runoff. The proposed construction will add new impervious surfaces requiring stormwater quality and quantity management.

15. The potential for significant design/visual resource impacts and neighborhood character impacts. The currently undeveloped portions of the site would be developed with a new seven story multifamily building.

GENERAL GUIDELINES:

"Scoping" means the process by which the Lead Agency identifies the potentially significant adverse impacts related to the Proposed Action that are to be addressed in the Draft Environmental Impact Statement (DEIS), including the content and level of detail of the analysis, the range of alternatives, the mitigation measures needed and the identification of non-relevant issues. Scoping provides a Project Sponsor (also referred to as "the Applicant" herein) with guidance on matters which must be considered and provides an opportunity for early participation by Involved Agencies and the public in the review of the Proposed Action. The primary goals of scoping are to focus the EIS on potentially significant adverse impacts and to eliminate consideration of those impacts that are irrelevant or nonsignificant.

The DEIS for Airport Campus shall cover all items in this "Scope of Issues" document. Each impact issue (e.g., soils, surface water, traffic, etc.) can be presented in a separate subsection which includes a discussion of existing conditions, significant impacts associated with the Proposed Action, and mitigation measures designed to minimize the identified impacts. If appropriate, impact issues listed separately in this document may be combined in the DEIS, as long as all issues are addressed.

Narrative discussions shall 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 shall include adjacent uses and structures (including but not limited to wells and subsurface sanitary sewage disposal systems), roads and water bodies within a distance of not less than two hundred and fifty (250) feet from the property line of the Proposed Action based upon existing available data sources.

The preferred development plan for the entire site shall be prepared at a scale of 1 inch = 40 feet. Reduced scale drawings shall be incorporated into the DEIS text [Note: The original full-size scale drawings shall also be separately submitted to each of the Involved Agency members as well as their advisors in the quantities required by those agencies.]

Information shall be presented in a manner that can be readily understood by the public. Use of technical terminologies shall be avoided. When practical, impacts shall be described in terms that the lay person can readily understand.

All discussions of mitigation measures shall consider at least those measures mentioned in this "Scope of Issues" document. Where reasonable and necessary, they shall be incorporated into the Proposed Action if they are not already so included. For any mitigation measures listed in this "Scope of Issues" document that are not incorporated into the Proposed Action, the reason why the Applicant considers them unnecessary or infeasible shall be discussed in the DEIS. The Applicant may suggest additional mitigation measures where appropriate. When no mitigation is needed, the DEIS shall so indicate.

The document shall be written in the third person (i.e., the terms "we" and "our" shall not be used). The Applicant's conclusions and opinions, if given, shall be identified as those of "the Applicant."

Any assumptions incorporated into assessments of impact shall be clearly identified. In such cases, the "worst case" scenario analysis shall also be identified and discussed.

The entire document shall be checked carefully to ensure consistency with respect to the information presented in the various sections.

ENVIRONMENTAL IMPACT STATEMENT CONTENT

I. FRONT MATERIAL

A. Cover Sheet.

The DEIS shall be preceded by a cover sheet that identifies the following:

1. That it is a Draft Environmental Impact Statement.
2. The name or descriptive title of the Proposed Action.
3. Location: Street names, Town of North Castle, Westchester County, New York, as well as the tax map designation numbers of all properties that are part of the subject parcel.
4. The Town of North Castle Town Board as the Lead Agency for the project and the name and telephone number of the following persons to be contacted for further information:
   - Town of North Castle – Alison Simon, Town Clerk (914) 273-3000 (ext. 42)
5. The name and address of the Project Sponsor, and the name and telephone number of a contact person representing the Project Sponsor.
6. The name and address of the primary preparer(s) of the DEIS and the name and telephone number of a contact person representing the preparer(s).
7. Date of acceptance of the DEIS [Note: Specific calendar date to be inserted later].
8. Deadline by which comments on the DEIS are due [Note: Specific calendar date to be inserted later].

B. List of Consultants Involved with the Project.

The names, addresses and project responsibilities of all consultants involved with the project shall be listed.

C. Table of Contents.

All headings which appear in the text shall be presented in the Table of Contents along with the appropriate page numbers. In addition, the Table of Contents shall include a list of figures, a list of tables, a list of appendix items, and a list of additional DEIS volumes, if any.

II. SUMMARY

The DEIS shall include a summary. The summary shall only include information found elsewhere in the main body of the DEIS and shall be organized as follows:

A. Brief description of the Proposed Action.

B. List of Involved Agencies and required approvals/permits.

C. Brief listing of the anticipated impacts and proposed mitigation measures for each impact issue discussed in the DEIS. The presentation format shall be simple and concise.

D. Brief description of the project alternatives considered in the DEIS. A table shall be presented which assesses and compares each alternative relative to the various impact issues.

III. DESCRIPTION OF PROPOSED ACTION

A. Project Overview.

Describe site location and description, including tax map designation, zoning, site access, easements, general site characteristics.

B. Approvals.

Describe jurisdiction of the Town over the site and the various local approvals required. List other County, State, regional and Federal agencies having jurisdiction over the site and the various approvals required. Include list of Involved and Interested Agencies.

C. Site Description.

The site description shall include the following:

1. General location; acreage; zoning; and tax map designations.
2. Frontage and access (vehicular and pedestrian).
3. Existing site improvements and uses.
4. Environmental characteristics, including topography, steep slopes, wetlands, bedrock outcrops, etc.
5. Description of any easements, restrictions and/or other conditions that affect the future development and use of the subject site, including submission of a full title report.

D. Description of Surrounding Uses and Facilities.

The description shall include the following:

1. IBM World Headquarters
2. Swiss RE
3. Citi Conference Facility
4. Greenwich American Center

5. Residential uses along Route 128/Cooney Hill

6. NYCDEP Shaft 17

7. Regional and local roadway network

8. Armonk Hamlet

9. Critical Environmental Area(s) (map required) (Westchester County Airport 60 Ldn Noise Contour)

E. Detailed Description of Proposed Project.

1. Submitted plans shall identify the following information:

   a. Site layout plan

   b. Floor plans (internal layout) of the proposed structures

   c. Detailed zoning conformance chart

   d. Proposed grading plan

   e. Proposed limits of disturbance

   f. Proposed signage

   g. Proposed lighting plan, photometric plan and lighting details

   h. Location of proposed stormwater management facilities

   i. Location of proposed erosion controls

   j. Proposed architectural plans including conceptual renderings of façades, and examples of building materials, mechanical screenings, and any green building technologies.

   k. Proposed open space.

   l. Landscaping plan

   m. Tree removal mitigation plan

   n. Proposed construction sequencing plan

o. Proposed phasing plan

p. Site limitations and constraints

2. Currently Approved Development Plan. Identify and describe the Site's development history, including a description in text and graphics of the development plans that are currently approved for the Project Site.

3. Gross Floor Area analysis and building footprint analysis

4. Area of land to be cleared (square foot and percent of site), new impervious surfaces (square foot and percent of site)

5. Operational information including vehicular access, traffic circulation, emergency access, fire protection, and site security.

6. Description of any off-site improvements.

7. Description of proposed accessory uses, including but not limited to development amenities, recreation facilities, shuttle services and concierge services/amenities.

8. Description of Proposed Site Access, including a discussion of emergency access roads, maintenance issues and whether the facility will be gated to control access to the subject site.

9. Summary of capacity and proposed improvements to water supply, sanitary sewage, stormwater management and other utilities.

F. Description of the Proposed Zoning

1. Description of proposed zoning amendments and the parcels that would be entitled to apply for a special permit for additional uses per the zoning amendments.

2. Description of the maximum build out of the various parcels within the DOB-20A zoning district based on the Proposed Zoning.

G. Project Purpose, Needs and Benefits.

The purpose and objectives of the proposed action will be described from a regional, local, neighborhood and site perspective. Also, the public need for and/or public benefits from implementation of the proposed action are to be identified and described for the Town of North Castle. For needs and benefits not supported by the Town's comprehensive plan, justification with sources should be provided.

Submit a market study completed for the project, and summarize existing demographics targeted for the proposed development. This study should discuss marketability of higher density residential in a low-density area of town that is not within walking distance of the hamlet and within close proximity to the Westchester County Airport. The market study shall also discuss the viability of the hotel in light of the hotel proposal as part of the Eagle Ridge development.

IV. ENVIRONMENTAL ANALYSES

The DEIS shall include a discussion of the existing conditions, potentially significant adverse impacts and proposed mitigation measures for the following:

A. Land Use and Zoning.

1. Existing Conditions.

a. Describe existing land uses and zoning district designations on the subject site, within a 1/2-mile from the site boundaries.

b. Discuss land use history of the entire project site assemblage (MBIA campus and Cooney Hill area).

c. Discuss DOB-20A Preliminary Development Concept Plan (PDCP) requirements, current PDCP and proposed PDCP.

d. Discuss the recommendations for the site and surrounding area as set forth in the Town of North Castle Comprehensive Plan.

e. Discuss approved and pending development project, including Swiss Re's approved PDCP, and the relationship to the subject application, if any.

f. Discuss recommendations of the Westchester County master plan entitled "Westchester 2025" and the previous plan "Patterns" and other pertinent planning documents prepared by the County or other agencies applicable to the areas to be studied identified above.

g. Description of location and restrictions associated with the existing NRDC and Riverkeeper conservation easement, and the relationship, if any, to neighboring properties.

h. Address, generally, the items above for the entirety of the DOB-20A district.

2. Future without Proposed Project

Identify and discuss approved and pending projects within the study area, and the relationship to this application, including shared infrastructure, in any.

3. Potential Impacts.

a. The proposed local law would significantly increase the maximum permitted height as compared to the existing DOB-20A Zoning District (from 3 stories 45 feet to 85 feet). The Applicant will need to demonstrate that the height of the proposed multifamily building does not negatively impact potential development within the surrounding neighborhood and is in keeping with the existing character of the community. The Applicant shall evaluate the proposed 40-foot increase in maximum building height and how that may impact adjacent visual resources.

b. The proposed local law would significantly increase the density permitted at the site (each square foot of approved but unbuilt office and related space may be converted into one and one-quarter (1.25) square feet of residential space). In order to better evaluate potential impacts, the applicant shall prepare a square foot development potential analysis between the existing DOB-20A District and the proposed DOB-20A Zoning District.

c. Given the location of the proposed multifamily building and the proposed side and rear yard setbacks, the Applicant shall evaluate whether larger setbacks would be appropriate on the site, particularly if proximate to the solar array field on the abutting Swiss Re campus.

d. Describe the compatibility of the proposed action with existing, and proposed, land uses and zoning district designations on the subject site and within the areas studied above.

e. Discuss the consistency of the proposed use with articulated land use and planning policies and recommendations of the Town, Westchester County, State and Federal Government and other pertinent agencies for the subject site and the areas studied above.

f. Discuss proposed zoning amendments and describe qualitatively and quantitatively how the zoning amendments would affect development of the project site.

g. Describe potential impacts associated with proposed land uses on the Site when compared to existing neighborhood land use and character.

h. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

4. Mitigation Measures.

Describe mitigation measures including, but not limited to methods such as site configuration and design, use of buffers and screening, building design to reduce impacts on the surrounding community. In addition, describe proposed mitigation measures to minimize potential impacts to surrounding land uses. Consider cumulative impact of other development proposals that are currently planned or proposed for the area surrounding the subject site given a 'reasonable worst case' development scenario in the district.

Discuss limiting impervious surfaces, such as internal roads and parking areas, to the minimum necessary to meet local zoning requirements. In addition, discuss further reductions to new impervious surfaces to levels below zoning requirements, where appropriate. Furthermore, discuss providing minimal access road widths, reduced building footprints, multi-level parking structures, landbanking of parking spaces, and the use of porous alternatives.

Design the townhouse portion as an aesthetically pleasing pedestrian friendly residential village.

Discuss increasing the size of the NRDC and Riverkeeper conservation easement.

Discuss increasing size of NRDC conservation easement relative to both what currently would be required (since some of what was originally covered by the agreement is no longer covered) and the maximum that would have been required under the agreement with the NRDC.

B. Geology and Soils.

1. Existing Conditions.

a. Describe regional and bedrock geology.

b. Discuss any special geological features on or adjacent to the subject site, including but not limited to the location of significant rock outcrops. Provide map identifying all such features.

c. Identify and list soil types on the site based on site-specific mapping, based upon available soils surveys, with discussion of soil characteristics. Include a soils map and identify location of areas of sensitive soils (soils with shallow depth to bedrock, shallow water table, high erodibility characteristics or having greater than 20% clay content). Provide tables indicating soil characteristics (e.g., construction-related and long-term erosion potential, runoff, permeability), limitations and suitability of each soil type for particular land uses, specifically, roads, driveways, sewage disposal areas, underground utility installation, and building construction.

d. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Describe impacts to special geological features of the subject site, if any. Describe location and amount of blasting anticipated. Include map showing areas of potential blasting activities. Describe blasting procedures to be followed and materials to be used. Discuss compliance with Chapter 122 (Blasting and Explosives) of the Code of the Town of North Castle.

b. Describe soil types to be impacted, and to what extent, with a grading limit line indicated on the preliminary grading plan. Indicate amount (preliminary cut and fill analysis) and location of earthwork anticipated.

c. Discuss potential impacts of soil limitations on proposed actions. with respect to stormwater management and erodibility during construction.

d. Discuss whether on-site rock crushing is proposed. If so, discuss rock crushing procedures to be followed.

e. Provide preliminary grading plan with a limit of disturbance line.

f. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Sedimentation and Erosion Control Plan based upon consideration of a 100-year storm event and proposed modifications to vegetative cover. Include discussion of initial installation by phase, maintenance, contingency and emergency measures, notification procedures in the event of failure of sedimentation and erosion control measures, and timing of removal.

b. Corrective measures necessary to overcome any soil limitations.

c. If blasting is proposed, provide a blasting protocol, , including a discussion of alternatives to blasting (e.g., cutting, ripping, chipping); a description of blasting activities, methods and schedules; and a description of the procedures that will be followed to document existing conditions, notify neighboring properties and the pertinent municipal jurisdiction(s) of the timing of blasting activities and remediate potential impacts.

d. If required, provide a draft rock crushing mitigation plan, including a discussion of alternatives to on-site crushing; a description of crushing activities, methods and schedules.

e. Construction Phasing Plan.

f. Other.

C. Topography and Slopes.

1. Existing Conditions.

a. Describe existing topography, variation in elevation and relationship to surrounding topography.

b. Prepare slope analysis of the overall site showing slope categories 0- 15%, 15-25%, 25-35% and 35%+.

c. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Prepare cut and fill analysis for proposed development (preliminary grading plan required). Discuss quality of fill to be brought onto the subject site from off-site locations (if any).

b. Describe potential impacts to the steep slopes (15% and greater) on the entire site, including but not limited to potential sedimentation impacts and the potential for slope failure.

c. Describe steep slope permits required in North Castle based upon steep slopes analysis as required by Section 355-18 (Steep Slopes) of the Code of the Town of North Castle.

d. Discuss long-term post-development impacts due to changes in surface coverage and topography.

e. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

a. Sedimentation and Erosion Control Plan prepared for the entire site.

b. Use of retaining walls to minimize proposed grading.

c. Other

D. Vegetation & Wildlife.

1. Existing Conditions.

a. Woody and herbaceous species on the subject site.

(1) Distribution of vegetative cover types for the entire site (map required).

(2) General species abundance.

(3) Approximate age and sizes of woody species.

b. Presence of threatened, rare or endangered plant species on or near the subject site based upon existing available data (NYSDEC, NYNHP) and recent field inspection (map required). Include description of species, size, abundance and health condition. Particular attention should be provided to investigating for Bald Eagles, Bald Eagle nests, Indiana Bat and Northern Long-eared Bat.

c. Site-specific analysis of resident and migratory wildlife, including amphibian, reptile, mammal and bird species. Assessment shall examine habitat functions (i.e., breeding habitat, transitional, staging areas, feeding and roosting sites and travel lanes).

d. Survey of location, species, size and health condition of individual trees, within the limit of disturbance, on the subject site that are regulated by Chapter 308 (Tree Preservation) of the Code of the Town of North Castle (i.e., trees greater than eight (8) inches in diameter at breast height (DBH) in areas proposed to be disturbed, including significant trees) (map required).

e. Location of unique trees on the subject site that are not regulated by the Town (if any).

f. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Bald Eagle impacts should be assessed following the National Bald Eagle Management Guidelines, published by the US Fish and Wildlife Service (USFWS). Potential impacts to the Bald Eagle during the construction of the Proposed Project, including those relating to habitat impacts as well as impacts from noise, should be discussed in this Chapter.

b. Description of proposed limits of site disturbance and impacts to each vegetative cover type and threatened, rare or endangered plant species on entire site; and other trees (including specimen trees) identified above.

c. Cumulative loss of vegetation, overall and by vegetative cover type, upon project completion.

d. Vegetation to remain as a result of residential construction, especially at critical buffering locations, such as the site's property lines.

e. Unique or specimen trees worthy of preservation as part of the residential development, and discussion of any compelling reasons justifying the removal of such trees.

f. Increased erosion resulting from removal of vegetation.

g. Impacts of construction traffic on street trees, 24” dbh or greater, located along roadways where roadway and utility improvements are proposed.

h. Impact on habitat and habitat functions caused by site development (e.g., clearing of vegetation, loss of wetlands).

i. Impacts of use of fertilizer, pesticides, herbicides, fungicides and other chemicals on the subject site.

j. Habitat and wildlife corridor fragmentation.

k. Wildlife impacts on neighboring properties caused by displacement of wildlife from the subject site.

l. Compare the Proposed Project’s potential impacts to vegetation and wildlife to the Site conditions that existed at the time the currently approved development plan was proposed.

m. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Utilization of existing cleared areas to maximum extent possible.

b. Establishment of Clearing Limit Lines and Clearing and Grading Limit Lines (if not the same) to depict maximum limits of areas of disturbance.

c. Schematic landscape plan for the subject site showing proposed planting areas, as well as their design intent and function (e.g., visual buffer, wetland enhancement, wildlife, street trees, slope stabilization, formal garden, etc). Typical plant lists for each of specified functions shall be provided. Include a description of the resulting planting character of the site and the length of time it will take to achieve that character. Include scientific names on the proposed landscaping plan, and review New York State invasive species regulations to assure that no invasive species will be used. In addition, avoid the use of plant species known to be invasive in other states, particularly those listed as invasive in neighboring states but which may not yet appear on the New York list. Species of plants native to New York should be used to the extent practicable for landscaping, soil stabilization, and stormwater mitigation features.

d. Buffer screening to reduce impacts on neighboring properties for existing and potential development and area roadways.

e. Preservation of trees, to the maximum extent possible.

f. Proposed method of identification and preservation of unique and/or specimen (significant) trees, to the maximum extent possible.

g. Preservation of existing conditions (e.g., forested areas, wetlands).

h. Protection of wetlands.

i. Preservation and creation of wildlife corridors.

j. Fertilizer, Herbicide, Fungicide and Pesticide Application Plan, if proposed.

E. Wetlands.

1. Existing Conditions.

a. Delineate in the field, survey for accurate location and map existing Town of North Castle, NYSDEC and U.S Army Corps of Engineers (USACOE) wetlands on the subject site using wetlands definition appropriate to each jurisdiction. All wetlands should be identified regardless of size.

b. Identify and map existing Town of North Castle, NYSDEC and USACOE wetlands within a distance of not less than 1/4-mile from the site boundaries, expanded as necessary to include all areas that are functionally related to and which might reasonably be expected to be impacted by development of the subject site. All wetlands should be identified regardless of size.

c. For each on-site wetland, indicate:

(1) Location.

(2) Wetlands type, including soils, vegetation and hydrology.

(3) Wetlands acreage (approximate for off-site wetlands).

(4) Pertinent jurisdiction.

(5) Wetlands functions, as identified in Chapter 340 (Wetlands and Watercourse Protection) of the Code of the Town of North Castle. Functional analysis shall be based upon one of the accepted methodologies, such as the U.S. Army Corps of Engineers HGM (hydrogeomorphic model), EPW (Evaluation of Planned Wetlands) model or Hollands-Magee Method.

d. Identify total wetlands acreage on the subject site and percent of site occupied by all wetlands, regulated wetlands and regulated wetlands buffer/adjacent areas using definitions appropriate to each jurisdiction.

e. Identify any applicable regulatory authorities including Town, NYCDEP, NYSDEC, and the USACOE.

f. Discuss existing drainage patterns, existing discharge points of drainage.

g. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Identify acreage of proposed wetlands and wetlands buffer/adjacent area disturbances and analyze potential direct and indirect impacts on survey-located wetlands as regulated by the Town of North Castle, the NYSDEC and the USACOE. Discuss area to be disturbed, types of potential disturbance, impact to functional values of the wetland, changes to wetland vegetative composition, modifications to hydrology and hydroperiod, and modifications to the 100-year floodplain, if any.

b. Describe permits required for local, State and Federal jurisdictions, if any.

c. Describe potential for and evaluate the impact of increased sedimentation of wetlands.

d. Describe potential for and evaluate the impact of increased concentrations of fertilizer, pesticides, herbicides, fungicides and other chemicals proposed for use on the subject site in the existing and proposed wetlands.

e. Include qualitative analysis of construction-related and long-term impacts to wetlands and their functions, including impact on wildlife habitat, pollution abatement capabilities, stormwater control capabilities and changes in aesthetic value based upon evaluation methodology described above.

f. For each of above analyses include consideration of cumulative impacts of other developments planned or proposed in the immediate area of the subject site.

g. Identify and assess any altered drainage patterns and the potential adverse impacts that increased or, in some cases, decreased runoff amounts would pose to wetlands and streams.

h. Compare the Proposed Project's potential impacts to surface waters or wetlands and their adjacent areas to the Site conditions that existed at the time the currently approved development plan was proposed.

i. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Minimization of wetland impacts.

b. Elimination and minimization of fertilizer, pesticide, herbicide, fungicide and other chemical concentrations in existing and proposed wetlands through avoidance and containment, respectively.

c. Other.

F. Stormwater Management.

1. Existing Conditions.

a. Discuss existing stormwater runoff quality and quantity within the watersheds of which the subject site is a part, with modeling for 1-, 2- , 5-, 10-, 25-, 50- and 100-year storm events. The Applicant shall use Northeast Regional Climate Center (NRCC) data.

b. Discuss and quantify pre-development and existing conditions in the contributing watershed.

c. Discuss pre-development point and nonpoint pollution sources within the watershed of which the subject site is a part.

(1) Subsurface sewage disposal systems.

(2) Roadway runoff.

(3) Grass clippings and other organic materials containing chemical residues.

(4) Other.

d. Describe and map North Castle, NYCDEP, NYSDEC and USACOE regulated existing surface water bodies, intermittent and perennial streams; and 100-year floodplains on the site, and immediately surrounding the site (within 1000' of site property lines).

e. Pre-development pollutant loading as required by NYCDEP, NYSDEC. Methodologies outlined in the NYSDEC manual titled "Reducing the Impacts of Storm water Runoff from New Development" shall be utilized. In addition, the stormwater analysis shall demonstrate that the practices proposed can adequately treat and attenuate the runoff to approximately predevelopment pollutant levels.

f. Address, generally, the existing stormwater management for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Calculate the total impervious areas for the site in the pre-development, and proposed conditions.

b. Calculate stormwater runoff quantity; volume of stormwater runoff and peak discharge rates within the watersheds of which the subject site is a part for 1-, 2-, 5-, 10-, 25-, 50- and 100-year storm events. The Applicant shall use Northeast Regional Climate Center (NRCC) data.

c. Identify surface water quality and quantity impacts on receiving wetlands, streams, ponds, and tributary watercourses within the watersheds of which the subject site is a part. Include potential short-term and long-term impacts of runoff carrying fertilizers, pesticides, herbicides, fungicides and other chemicals from lawns, roadways and other impervious surfaces, and sedimentation. Evaluate potential impact of failure of erosion and sedimentation control measures and stormwater control measures both during the construction process and after the proposed development is in operation.

d. Identify stormwater permits required from the New York State Department of Environmental Conservation (NYSDEC), New York City Department of Environmental Protection (NYCDEP), or other agencies having jurisdiction.

e. Discuss impacts associated with construction of proposed infrastructure.

f. Provide an analysis of the impact of the proposed development on stormwater pollutants, as required by NYCDEP and NYSDEC, construction related erosion and sedimentation, discharges of turbidity in runoff, increased stormwater flow from additional impervious surfaces, and the creation of runoff containing pollutants.

g. Identify potential impacts to groundwater due to interception and/or capture during construction, change in land coverage and recharge,.

h. For each of above analyses, also include consideration of cumulative impacts of other developments planned or proposed in the immediate area of the subject site.

i. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Description of erosion and sedimentation control measures to protect water bodies, wetlands, and tributary watercourses, and maintenance of such measures during construction.

b. Preliminary Stormwater Pollution Prevention Plan (SWPPP) prepared for the project site in accordance with the Chapter 267 of the Town Code and shall include a pollutant loading analysis (PLA) for total suspended solids, total nitrogen, total phosphorus, biochemical oxygen demand and fecal coliforms. The PLA assessment shall also compare the actual existing on-site condition with the proposed revised plan to accurately gage the environmental impacts and mitigation remedies.

c. Fertilizer, Herbicide, Fungicide and Pesticide Application Plan, if applicable.

d. Compliance with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit #GP 0- 015-002).

e. Compliance with the NYCDEP Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources.

f. Discuss need to provide bond for construction pollution/environmental damage and/or need to provide environmental liability insurance, if applicable.

g. Discuss alternatives such as enhanced treatment and/or the use of green infrastructure practices.

h. Other.

G. Utilities.

1. Water Supply

a. Existing Conditions.

(i) Describe in text and graphics the location, condition, and capacity of the water withdrawal infrastructure serving the Project Site. Identify the current yield of the on-site water supply system. Include any aquifers shared by adjoining properties where water supply is drawn.

(ii) Using rates published by the NYSDEC, or historical Site-specific data, if available, estimate the potential water demand of the Project Site under full occupancy of the current buildings.

(iii) Address, generally, the items above for the entirety of the DOB-20A district.

b. Potential Impacts.

(i) Provide average daily water demand for proposed use. Include water demand for fire, domestic and irrigation.

(ii) Identify proposed method of supplying water to the development.

(iii) Identify off-site improvements that would be required to adequately supply water to the project site and existing and potential project within the study area.

(iv) Identify provisions for fire protection water supply.

(v) Discuss impacts related to construction of proposed infrastructure, including any easement with adjoining property owners.

(vi) Analyze the potential impact of the Proposed Project's water withdrawals on the adjacent Swiss Re site as well as other neighboring wells and aquifers, including those impacts on capacity and water quality, based on a 72-hour pumping test and off-Site well monitoring program conducted in accordance with NYSDOH Sanitary Code Par 5, Subpart 5-

1, Appendix 5-D and NYSDEC's February 2015 "Pumping Test Procedures for Water Withdrawal Applications."

(vii) Identify the State, County, and local permits, approvals, and reporting requirements that will be required to construct and operate the proposed water supply.

(viii) For each of above analyses, also include consideration of cumulative impacts of other developments planned or proposed in the immediate area of the subject site.

(ix) Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

c. Mitigation Measures.

(i) Discuss potential mitigation measures, if necessary.

(ii) Discuss potential connection to an existing public water source and discuss whether adequate volume to serve the project is available.

(iii) Harvesting of rainwater for irrigation purposes.

2. Sanitary Sewer

a. Existing Conditions.

(i) Identify existing wastewater district, treatment facilities to be used and capacity to accept additional sanitary waste from the project.

(ii) Identify existing service lines and downstream sewer district mains.

(iii) Compare the above conditions to the condition of the site at the time the currently approved development plan was proposed.

(iv) Using rates published by the NYSDEC, or historical Site-specific data, if available, estimate the potential sanitary sewage generation of the Project Site under full occupancy of the current buildings.

(v) Address, generally, the items above for the entirety of the DOB-20A district.

b. Potential Impacts.

(i) Provide anticipated wastewater generation for the proposed project.

(ii) Evaluate capacity of the sewer district for existing and potential development in the study area.

(iii) Describe proposed wastewater treatment connections, including pumping station capacity, equipment and in particular, the force main system suspended from the I-684 overpass and any easement and/or agreement needed with adjacent properties.

(iv) Provide description of proposed sanitary sewage treatment facilities and NYSDEC, NYCDEP, WCDEF and WCDOH jurisdiction.

(v) Discuss impacts related to construction of proposed infrastructure.

(vi) For each of above analyses, also include consideration of cumulative impacts of other developments planned or proposed in the immediate area of the subject site.

(vii) Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

c. Mitigation Measures.

Potential mitigation measures to explore:

(i) Provision of additional sewer capacity at waste treatment plant for the Sewer District and the purpose and need for the additional capacity.

(ii) Potential reductions in inflow/infiltration into the sewer system which helps to free up treatment capacity at the sewer plant. Identify mitigation measures that will offset the projected increase in flow through I&I at a ratio of three for one for market rate units and a ratio of one for one for affordable AFFH units. Provide specific details on how implementation of these improvements is to be accomplished. For example, will the applicant be required to place funds into a dedicated account for 1&1 work based on a per gallon cost of removal of flow through I&I? How will I&I projects be identified? Who will conduct the work and in what timeframe?

(iii) Discuss funding a Town program that requires inspection of sewer laterals from private structures for leaks and illegal connections to the sewer system, such as from sump pumps. These private connections to the system have been found to be a significant source of avoidable flows.

H. Traffic and Transportation.

1. Existing Conditions.

Describe the roadway characteristics in the area surrounding the Project Site (number of lanes, posted speed limits, travel-way width, surface treatment and condition, horizontal and vertical curves, grades, drainage, parking, traffic controls, vehicle classification restrictions and general character) .

For the weekday AM and PM Peak Hours (weekday morning - 7:00 to 9:00 A.M. , weekday afternoon - 4:00 to 6:00 P.M., and lunch document and show on a figure, the existing traffic volumes using historical data and manual turning movements traffic counts at the following intersections (i.e., "Study Area"):

- King Street/Main Driveway/American Lane
- King Street/Cooney Hill Road
- King Street/New Right-In and Right-Out Site Driveway
- King Street/Gateway Lane
- NYS Route 120 (King Street) at New King Street
- King Street at IBM/Swiss Re Access Drives
- King Street at Route 22 (both signalized intersections)
- NYS Route 120 at Airport Access Road/Interstate 684 connecting road and Interstate 684 ramps
- NYS Route 22 and North Broadway (Sir John’s Plaza) in NWP
- NYS Route 22 and Central Westchester Parkway NWP
- NYS Route 22 and NYS Route 128

Conduct capacity analysis (Level of Service) for each of the above intersections using the SYNCHRO software.

Identify pending improvement in the study area in the future without the proposed project, their status for design and completion.

Summarize the existing Levels of Service in tabular format.

Provide a summary description of existing public transportation facilities in the vicinity of the site.

Provide Accident History Update or new data for each of the intersections listed for the most recent three-year period.

Describe the Bee-Line bus routes and stops adjacent to the Project Site.

Address, generally, traffic for the entirety of the DOB-20A district.

2. Future Without the Proposed Project.

Estimate traffic volumes in the Study Area in the future without the Proposed Project (i.e., “No Build”) in a future design year, 2022, utilizing:

- Estimated traffic volumes resulting from full occupancy of the two existing office buildings on the Project Site.
- A background growth factor based on historical data
- Estimated traffic volumes from other pending or approved projects in the area, if any, as identified and provided by the Town.

Calculate the Design Year No-Build traffic volumes for each of the peak hours and show on a figure.

Conduct capacity analysis (Level of Service) for each of the above intersection using the SYNCHRO software for the Design Year No-Build condition.

Summarize the Levels of Service in tabular form for the Design Year No-Build condition.

3. Potential Impacts of the Proposed Project.

Estimate Site Generated Traffic based on the information published by the Institute of Transportation Engineers (ITE) as contained in their report entitled *Trip Generation, 10th Edition, 2017*. Assign the Site Generated Traffic Volumes to the roadway network based on the anticipated arrival and departure distributions.

Combine the Site Generated Traffic Volume with the Design Year No-Build traffic volumes to obtain the Build Traffic Volumes for each of the peak hours and show on a figure.

Conduct capacity analysis (Level of Service) for each of the above intersections using the SYNCHRO software for the Build condition.

Provide intersection sight distance analysis of any new site access drives.

Describe known changes to the Bee-Line bus routes and stops adjacent to the Project Site that are expected to occur in the future without the Proposed Project.

Describe effects on traffic flow/congestion on King St., NYS Route 120 and NYS Route 22.

Analyze the impact of the development on parking in downtown Armonk.

Impacts of traffic shall also be studied at 150% and 200% of the amount of additional traffic that the formulas indicate will be generated.

Discuss potential future impact of autonomous vehicles on the Proposed Action.

Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

4. Mitigation Measures.

Based on the results of the traffic analyses, identify improvements to the traffic and transportation system where necessary, the status, and the entity responsible for construction. The impact of proposed improvements shall be identified consistent with the methodology and format of the Project-impact analysis.

I. Visual Resources and Community Character.

1. Existing Conditions.

a. Provide analysis of the existing visual character of the subject site as viewed from surrounding roads and surrounding properties, based upon use of photographs, site line diagrams and/or cross-sections, as appropriate. Include, NYS Route 120, American Lane and Cooney Hill Drive. Existing views shall be clearly described in narrative form and supplemented with appropriate graphic illustrations.

b. Address, generally, visual resources and community character for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Provide analysis of the visual character of the subject site after development as viewed from surrounding roads (including NYS Route 22) and surrounding adjacent properties, based upon use of photographs, computer simulations, site line diagrams and/or cross-sections, as appropriate, using the NYSDEC Program Policy, Assessing and Mitigating Visual Impacts, DEP-00-2 as a guideline. Altered views shall be clearly described in narrative form and supplemented with appropriate graphic illustrations. Any plans to erect walls, fences and/or gates along some or all of the subject site's perimeter during construction and after development of the subject site shall be identified, including but not limited to a description of the type, materials and height of proposed walls, fencing and/or gates.

b. Assess the visual impact of the proposed project in context with other existing and approved structures in the study area.

c. Provide architectural renderings, details and photosimulations illustrating height massing, scale and façade treatments. Photosimulations shall use photographs of existing and proposed conditions during the leaf and leafless seasons.

d. Describe impacts associated with proposed lighting plan and how lighting may impact adjoining properties for both existing and approved projects.

e. Specifically discuss potential impacts to the view from the existing residence on Cooney Hill Road.

f. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Capital contributions to the Town and the specifics of such contributions that will be embodied in a Community Benefits Agreement.

b. Measures aimed at reducing visual impact.

c. Preservation of existing trees.

d. Establishment of setbacks from property lines.

e. Height of structures.

f. Establishment of Clearing Limit Lines to depict maximum limits of areas of disturbance.

g. Landscaping, including buffer screening plans.

h. Building architecture .

i. Other.

J. Community Facilities and Services.

1. Schools.

a. Existing Conditions.

(1) Describe the location of the subject site in relation to the Byram Hills public school district that serves the site.

(2) Describe the location of the DOB-20A Zoning District in relation to the Byram Hills public school district that serves the DOB-20A Zoning District.

b. Potential Impacts.

(1) Estimate the public school child generation from the townhomes and multi-family apartments by use of accepted school child multipliers (Rutgers CUPR or ACS PUMA cross tabs), segmented by unit mix, tenure and rent or income level; if possible, confirmed by experience of similar developments.

(2) Apply the average annual current enrollment expenditure per student as borne by property taxes net of state aid (based on the average of all grades and special needs) to the number of proposed development students for the measure of the development costs. Evaluate the impacts of projected enrollment increases, from the project, on the Byram Hills school district, school facilities and budgets. Consider long term cumulative impacts of enrollment increases within the district. Communicate with the school district and evaluate the potential for the need for new buildings, fields or other facilities. Impacts on property tax revenues to the School District and other taxing jurisdictions should take into consideration the need for capital improvements resulting from the proposed project.

(3) Discuss transportation impacts upon the Byram Hills School District, including need for the District to add a transportation route and pick up location to accommodate students.

(4) Discuss impacts associated with the NYS tax levy limit with new assessed values.

(5) Compute the school district's property tax benefit from the proposed development by applying the current North Castle school tax rate to the estimated Assessed Value for the measure of the development benefit.

(6) Compare the financial cost and school tax benefit of the proposed development to the School District.

(7) Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

c. Mitigation Measures.

(1) Discuss potential mitigation measures, if necessary. Discuss tax implications of the project.

2. Police, Fire and EMS Protection.

a. Existing Conditions.

(1) Staff size and organization of service provider in town.

(2) Location of stations in relation to the subject site.

(3) Average response time to the subject site for service provider.

(4) Service ratio for service provider.

(5) Number and type of apparatus for service provider.

(6) Water supply and capacity for fire-fighting purposes.

(7) Transport time to the nearest hospital for service provider.

(8) Adequacy of access for service provider.

(9) Address, generally, the items above for the entirety of the DOB-20A district.

b. Potential Impacts.

(1) Increased demand for services (based upon normal usage of the subject site) and allocation of responsibilities between service provider.

(2) Increased costs for service provider.

(3) Adequacy of access to/from and on the subject site, including roadway surface and width, barriers and maintenance.

(4) Documented concerns of service provider.

(5) Water supply and pressure for firefighting purposes.

(6) Need for new fire truck (or other apparatus) to serve the development

(7) For each of above analyses, also include consideration of cumulative impacts of other developments planned or proposed in the immediate area of the subject site.

(8) Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

(9) Other.

c. Mitigation Measures.

Potential mitigation measures to explore:

(1) Real estate property taxes generated.

(2) Site access modifications.

(3) Fire suppression sprinklers and standpipe systems.

(4) Provision of fire hydrants and water supply systems for the subject site.

(5) Provision of additional AFFH or MIU housing for emergency service providers serving the Town of North Castle.

(6) Generator power receptacle for the NYSDOT traffic signal at NYS Route 120 and American Lane.

(7) Other.

K. Fiscal and Market Impacts

1. Existing Conditions.

a. Provide existing tax revenues to the Town of North Castle, Byram Hills Central School District, Westchester County, and New York State from the existing subject site.

b. Provide an overview of the market for townhomes in North Castle.

c. Provide an overview of the market for multifamily residential buildings.

d. Provide an overview of the luxury hotel market.

2. Potential Impacts.

a. Estimate temporary (construction) employment and permanent employment associated with the proposed action.

b. Consider preparing an economic impact assessment of the direct, indirect and induced effects on employment, output and earnings in the Town of North Castle by the temporary (construction) and permanent (operations) activity associated with the proposed development. Quantify the expected economic impacts to the local economy during the construction period. Identify the number of jobs (in person-years) to be generated directly and indirectly as a result of construction. Calculate income to the local economy from sales of construction material, construction labor and sales tax. Address hotel tax impacts.

c. Compare future tax revenues resulting from the proposed project with current tax revenues generated from the existing project site.

d. Address economic impacts of hotel operations.

3. Mitigation Measures.

a. Describe any measures that would be pursued to maximize economic benefits to the community from the proposed project.

b. Other.

M. Historic, Archaeological and Cultural Resources.

1. Existing Conditions.

a. Describe historic architectural and archaeological resources on the subject site. Include information obtained from the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and North Castle Historical Society.

b. A descriptive detail of the Project including the proposed direct impact areas will be submitted to the New York State Office of Parks, Recreation and Historic Preservation (NYOPRHP) as part of the SEQR consultation process. The project notification paperwork will be submitted electronically to NYOPRHP using that agency's Cultural Resources Information System (CRIS). NYOPRHP has determined that a Phase I cultural resources assessment is needed , and shall be conducted.

c. Identify any properties listed on the State or National Register of Historic Places on or within a 1/2-mile of the subject site's boundaries.

d. Identify locally significant properties within a 1/2-mile of the subject site's boundaries.

e. Identify and map existing on-site stone walls.

f. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts.

a. Discuss how the project would impact historic, cultural or archaeological resources on, or in the vicinity of the project site.

b. Prepare a Phase I cultural resources assessment.

c. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

d. Other.

3. Mitigation Measures.

Potential mitigation measures to explore:

a. Preserve historic and archeological resources on the subject site.

b. Other.

N. Air Quality

1. Existing Conditions.

a. Describe existing ambient air quality using information from NYSDEC's Ambient Air Quality Monitoring Network. In addition, describe the latest information regarding the status of the State Implementation Plan (SIP) and attainment status.

2. Potential Impacts.

a. Analyze the potential for stationary sources of air emissions (i.e., HVAC systems) to have a significant adverse impact to air quality. For annual average NO2, potential impacts should be qualitatively evaluated using project experience and screening procedures outlined in the 2014 City Environmental Quality Review (CEQR) Technical Manual and based on general conservative dispersion modeling. Impacts to 1-hour average NO2, 24-hour average PM2.5, and annual average PM2.5 should be analyzed using the United States Environmental Protection Agency's (EPA) screening-level model, AERSCREEN.

b. Analyze the potential for Project-generated mobile emission sources (e.g., Project-generated traffic) to have an adverse impact on air quality using the procedures outlined in NYSDOT's The Environmental Manual (TEM).

3. Mitigation Measures.

a. Describe measures, if any, which will be implemented to mitigate potentially adverse air quality impacts from the Proposed Project.

b. Other.

L. Noise

1. Existing Conditions.

a. Determine existing noise levels and noise characteristics within the study area. Conduct field measurements of existing noise levels (one-hour equivalent noise level, $L_{eq(1)}$) at nearby sensitive receptor locations (e.g., adjoining residences) and along major feeder streets to and from the Project Site. Measurements will be made during two time periods--the AM and PM peak periods. Measurements will be made using a Type I noise analyzer and would include measurements of L_{eq}, L_1, L_{10}, L_{50}, and L_{90} noise levels. Where necessary, measurements will be supplemented by mathematical model results to determine an appropriate base of existing noise levels.

Using data published by the Westchester County Airport, describe the noise impact to the Project Site from Airport operations.

b. At each receptor location, determine the noise levels without the Proposed Project using existing noise levels and proportional modeling techniques. Compare existing noise levels and future noise levels without the Proposed Project, as analyzed in the Traffic Impact Study, with various noise standards, guidelines, and other noise criteria.

Qualitatively describe potential changes, if any are known, to the noise impact to the Project Site from Airport operations.

c. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts

a. At each receptor location identified above, determine the noise levels with the Proposed Project for the analysis years using existing noise levels and proportional modeling techniques or other approved analysis methodologies to account for changes in traffic volumes due to the Proposed Project, as well as noise level contours for the nearby Westchester County Airport as necessary. Discuss appropriateness of this site for residential uses.

b. Discuss noise impacts (and number of complaints) at other residential properties near Westchester County Airport (e.g. Bellefair).

c. Qualitatively consider potential increases in noise levels due to operation of proposed new on-site mechanical equipment (i.e. HVAC equipment).

d. Compare noise levels with standards, guidelines, and other criteria, and impact evaluation. Existing noise levels and future noise levels with and without the Proposed Project will be compared with applicable noise standards, guidelines, and other noise impact criteria.

e. Compare the predicted noise levels at the proposed new residential uses proposed for the Project Site specifically, and within the DOB-20A generally, including noise generated by Airport operations, to generally accepted noise level standards for residential uses.

f. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

2. Mitigation Measures.

a. Describe measures, if any, which will be implemented to mitigate potentially adverse noise impacts from the Proposed Action.

b. Discuss measures that will be incorporated into the Proposed Project to mitigate potential adverse impacts to on-Site residential uses from the Airport.

c. Other.

M. Construction Impacts

1. Analysis

a. Summarize the major phases of construction, potential significant adverse impacts expected to result from construction, and measures proposed to mitigate those significant adverse impacts.

b. Generally describe the construction schedule and timeline by phase of construction. Describe the construction processes, activities, and tasks within each phase.

c. Estimate the number of workers anticipated to be on-Site during each phase. Identify preliminary construction staging areas and areas for construction worker parking.

d. Address, generally, the items above for the entirety of the DOB-20A district.

2. Potential Impacts

a. Identify temporary impacts to the traffic network resulting from construction activity. This assessment will consider increases in vehicle trips from construction workers and equipment and potential impacts from truck traffic.

b. Describe the Erosion and Sediment Control Plan and its compliance with NYCDEP, NYSDEC, and Town regulations.

c. Qualitatively discuss potential air quality impacts from mobile source emissions from construction equipment and worker and delivery vehicles and fugitive dust emissions.

d. Qualitatively discuss potential noise impacts to sensitive off-Site receptors from each phase of construction activity and describe Town's requirements and limitations on hours of construction work as described in Chapter 225 of the Town Code.

e. Discuss whether construction of the Proposed Project is expected to require blasting. If blasting may be required, identify the areas of potential blasting and the amount of material that may need to be removed via blasting. All blasting shall be conducted in accordance with Chapter 122, "Blasting and Explosives," of the Town Code. This section shall describe the measures required by the Town Code to avoid impacts to neighboring properties.

f. Based on information included in the environmental review record of the currently approved project, including the Asbestos and Lead-Based Paint Survey (included as Appendix F of the previous DEIS) and the Petroleum Storage Tank Closure Survey and Tank Closure Report Attachment No. 1 (included as Appendix G of the previous DEIS), discuss the potential for hazardous materials to be present within structures to be modified and the potential for hazardous materials to be present in subsurface areas proposed for new development. Based on this discussion, identify the potential impacts of the Proposed Project with respect to hazardous materials and the measures proposed to avoid or mitigate potentially adverse impacts.

g. Describe the potential DOB-20A district wide zoning amendment impacts on the DOB-20A Zoning District; also include the potential for impacts on Airport Campus in excess of the PDCP that would be permitted by the amended zoning.

2. Mitigation Measures.

a. Identify mitigation measures necessary to mitigate potential significant adverse impacts to traffic and transportation during the Project's construction.

b. Identify mitigation measures necessary to mitigate potential significant adverse impacts to air quality during the Project's construction.

c. Identify mitigation measures necessary to mitigate potential significant adverse impacts from noise during the Project's construction.

d. Identify mitigation measures necessary to mitigate potential significant adverse impacts from blasting during the Project's construction.

e. Identify mitigation measures necessary to mitigate potential significant adverse impacts from hazardous materials during the Project's construction.

f. Other.

V. REASONABLE ALTERNATIVES TO BE CONSIDERED

The description and evaluation of the following alternatives to the Proposed Action shall address all of the topics in Section IV of this document, shall be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed, shall be analyzed in terms of the impact issues listed above in summary and matrix format, and shall reflect compliance with all applicable regulations of the Town of North Castle. Alternatives shall include the following:

1. No Action.

As described above, there is a currently approved development plan for the Project Site. This plan does not require further discretionary approvals, or actions, from the Town. As such, the No Action alternative assumes that the currently approved development plan is constructed on the Project Site.

The potential environmental impacts of the currently approved development plan will be based on the previously completed DEIS, FEIS, and Statement of Findings, which analyzed the potential impacts of redeveloping the Project Site.

With respect to the potential impacts of the approved development plan to natural resources, including wetlands, vegetation, and wildlife, as well as the potential impacts to traffic and transportation, the analysis of potential environmental impacts will be updated based on the current conditions described in this DEIS.

2. No Action – Existing Site Conditions

3. Reduced Height of Multifamily Building.

This alternative would evaluate the change in the potential visibility of the proposed multifamily building from King Street. To evaluate this change, the Applicant would develop one or more plans that reduced the maximum elevation of the northern 'wing' of the multifamily building, which is located closest to King Street. At least one plan would reduce the height of the northern wing to the existing maximum building height of the DOB-20A Zoning District as defined in Section 355-30.J(3)(c) of the Town Code.

4. Static Density.

The Applicant's proposed zoning currently includes provision to allow each square foot of approved but unbuilt office and related space to be converted into one and one-quarter (1.25) square feet of residential space. The static density alternative would keep the density on the site the same as that of the currently approved non-residential development (office space and conference facility). Specifically, each square foot of approved but unbuilt office and related space may be converted into one (1.00) square foot of hotel/residential space.

5. Multifamily Building on Cooney Hill Road.

This alternative would evaluate the potential environmental impacts of locating the multifamily residential building north of the location proposed.

6. Senior Housing.

This alternative would permit "senior citizen housing," as defined by the Town Code, in the place of one or more components of the Proposed Project.

7. Increased Townhouse Density.

This alternative would develop a greater number of townhouse units on the Project Site from what is included in the Proposed Project (i.e., 22). The additional townhouses units will be offset by reductions in the number of multi-family units.

8. Combined Alternatives.

This alternative would develop a 45-foot multifamily building, a greater number of townhouse units and have a project with static density.

VI. ADVERSE IMPACTS THAT CANNOT BE AVOIDED IF THE PROPOSED ACTION IS IMPLEMENTED

Identify adverse environmental impacts identified in Chapter IV of the DEIS that cannot be avoided or adequately mitigated based on the implementation and construction of the Proposed Action.

VII. OTHER REQUIRED ANALYSES

A. Irreversible and Irretrievable Commitment of Resources.

Identify natural and human resources that will be consumed, converted or made unavailable for future use from the implementation and construction of the Proposed Action.

B. Impacts on the Use and Conservation of Energy.

Identify impacts that could result as potential impacts from the implementation and construction of the Proposed Action on the use and conservation of energy. Identify sustainable and green building practices.

C. Growth Inducing Aspects of the Proposed Action

This section should evaluate the effects of the proposed action as it relates to the potential to increase the permanent residential population in the Town of North Castle or similar commercial development. The growth inducing aspect of the proposed action will describe and evaluate any potential that the proposed action may have for triggering further development in terms of attracting similar, additional, or ancillary uses, significant increases in local population, increasing the demand for support facilities, and increasing the commercial and residential development potential for the local area. This section shall present secondary and cumulative impacts to housing, commercial economic development, additional traffic, water and wastewater needs.

D. Cumulative Impacts

This section should evaluate the effects of the proposed action as it relates to when multiple actions affect the same resource(s). These impacts can occur when the incremental or increased impacts of an action, or actions, are added to other past, present and reasonably foreseeable future actions.

VIII. SOURCES AND BIBLIOGRAPHY

IX. APPENDICES

A. All SEQRA documentation, including a copy of the Environmental Assessment Form (EAF), the Positive Declaration and the DEIS Scope.

B. Copies of all official correspondence related to issues discussed in the DEIS.

C. Copies of all technical studies, in their entirety, including the following:

1. Market study, if prepared
2. Traffic study
3. Architectural, historic and/or archaeological reports
4. Tree Data
5. Rare, threatened and endangered species documentation
6. Geotechnical data
7. Preliminary SWPPP

ISSUES RAISED DURING SCOPING THAT HAVE BEEN DETERMINED BY THE LEAD AGENCY TO NOT BE RELEVANT OR NOT ENVIRONMENTALLY SIGNIFICANT

In preparing the Final Draft Scoping Document for the Airport Campus Draft Environmental Impact Statement (DEIS) that was submitted to the Town Board, the Town Board carefully considered all of the scoping comments received during the DEIS Scoping Session and during the written public comment period. This Final Scoping Document considered not only the comments made during the formal scoping comment period, but also those comments made during the subsequent comment period. A total of ten (10) comments and comment letters were received during the formal scoping session and comment period. As is evident in the Final Scoping Document, many of the received comments were incorporated; however some of the comments were not.

- Section III.A of the Scope – Project Overview. Provide a description of the DOB-20A zoning district and the properties therein.

  This comment was not included in the scope as a description of the DOB-20A in the project overview section is not appropriate. A description of the DOB-20A zoning district is provided elsewhere in the scope.

- Section III.D of the Scope – Description of Surrounding Uses and Facilities. Describe existing development, a 'reasonable 10-year window worst case' development scenario for the DOB-20A zoning district given market conditions and any shared infrastructure or easements.

  This comment was not included in the scope as an analysis of development in the DOB-20A is not appropriate for the description of surrounding uses and facilities section. An analysis of impacts in the DOB-20A zoning district is provided elsewhere in the scope.

- Section III.E.2 of the Scope – Description of the Proposed Action. Identify and describe development history, including a description in text and graphics of the development plans that are currently approved for project within the study area.

  This comment was not included in the scope as an analysis of development plans in the study area is not appropriate in the Detailed Description of the Proposed Action section. An analysis of impacts within the study area is provided elsewhere in the scope.

- Section III.E.5 of the Scope – Description of the Proposed Action. Describe off-site improvements pending within the study area.

  This comment was not included in the scope as an analysis of off-site improvements within the study area is not appropriate in the Detailed Description of the Proposed Action section. A discussion of proposed off-site improvements within the study area is provided elsewhere in the scope.

- Section III.F of the Scope – Project Purpose, Needs and Benefits. Describe any Market Study completed for the project, summarize existing demographist aged for the proposed development and potential development within the study area.

  This comment was not included in the scope as preparation of a Market Study for off-site properties in the study area is beyond the scope of the State Environmental Quality Review Act (SEQR) process.

- Section IV.G.1.b.(viii) of the Scope – Potential Utilities Water Supply Impacts – Consider cumulative impacts and improvements needed to ensure capacity of other development approved, planned or proposed, or allowable under the existing zoning and/or the proposed zoning text amendments, in the immediate area of the subject site.

  This comment was not included in the scope as preparation of a study of the improvements needed to ensure capacity of the total amount of potential development under a theoretical maximum zoning condition is beyond the scope of the State Environmental Quality Review Act (SEQR) process.

- Section IV.G.2.b.(vi) of the Scope – Potential Utilities Sanitary Sewer Impacts – Consider cumulative impacts approved, planned or proposed, or allowable under the existing zoning and/or the proposed zoning text amendments, in the immediate area of the subject site.

  This comment was not included in the scope as a study of the impacts with respect to potential development under a theoretical maximum zoning condition is beyond the scope of the State Environmental Quality Review Act (SEQR) process.

- Section V.1 of the Scope – Reasonable Alternatives to be Considered – No Action.

  The No Action alternative should also include potential development from other sites within the study area and related off-site improvements.

  This comment was not included in the scope as the described scenario should be *compared to* the No Build alternative.

- Section V.8 of the Scope – Reasonable Alternatives to be Considered – Application of Proposed Text Changes to DOB-20A District. The DEIS should consider on a qualitative basis an alternative that would assess the impacts of the proposed zoning text amendments ere to allow residential development in the DOB-20A Zone without the need for such development to have been the result of a conversion of previously approved office space.

  This comment was not included in the scope as the proposed zoning petition and proposed local law has been revised to incorporate portions of this comment.

Appendix A-2
Proposed Zoning

TOWN OF NORTH CASTLE

Local Law No. ___ For the Year 202__

A Local Law to amend Chapter 355 of the Town of North Castle Town Code with respect to the DOB-20A Zoning District.

Section 1. In accordance with Section 355-80, Chapter 355 of the Town of North Castle Code is amended by amending § 355-14(A)(1), entitled "Lot for every building," to read as follows:

"Every building hereafter erected shall be located on a lot as herein defined, and except as herein provided, there shall be no more than one main building and its accessory buildings on one lot, except for multifamily, townhouse, single-family, and two-family dwellings; hotels; senior citizen housing; assisted living facilities; and nonresidential buildings in districts where such uses are permitted."

Section 2. Chapter 355 is further amended by amending § 355-30(J)(1)(a) entitled "Designed Office Business 20A (DOB-20A) - Policy" to read as follows:

"It is the purpose of this subsection to provide for the implementation of the recommendation, as contained in the ~~Town Development Plan~~ 2018 Comprehensive Plan of the Town of North Castle, for the establishment of additional areas for ~~office business~~ mixed use as shown on the ~~Town Development Plan Map~~ North Castle Future Land Use Plan, and subject to the other limitations and conditions as recommended in the ~~Town Development Plan~~ 2018 Comprehensive Plan. Specifically, this zone is designed to provide for ~~low-density,~~ high-quality ~~nonresidential~~ development including office; medical office; and hotel uses, as well as multifamily, townhouse, single-family, and two-family dwellings; senior citizen housing; and assisted living facilities, provided that requisite highway access and proximity to the interstate highway system is available."

Section 3. Chapter 355 is further amended by amending § 355-30(J)(2)(c) entitled "Criteria for Designed Office Business District establishment - Access" to read as follows:

"Each DOB-20A site shall have frontage on the access to an arterial ~~major~~ road as shown on the ~~Town Development Plan Map~~ Roadway Classification plan in the 2018 Comprehensive Plan. Traffic from within the DOB-20A shall not be permitted to enter directly upon any local residential roads. Access and service drives shall be laid out in such manner that connections with the street or streets on which the lot has frontage are located and designed in such manner as to avoid unsafe conditions or traffic congestion.

Section 4. Chapter 355 is further amended by amending §355-40 "Specific use standards and regulations" by adding thereto a new subsection (X), "Mixed Use Developments in the DOB-20A Zone," to read as follows:

(1) Purpose and Intent. It is the purpose and intent of this subsection to implement the recommendations of the 2018 Comprehensive Plan by allowing additional uses and permitting a mix of uses in the DOB-20A zoning district, including office; medical office; hotel; multifamily, townhouse, single-family, and two-family dwellings; senior citizen housing; and assisted living facilities.

(2) Hotel conversion. The conversion of existing office and related amenity space and/or fully approved but unbuilt office and related amenity space to hotel use, including typical accessory uses such as a spa, fitness facility, and restaurant, shall be permitted, subject to Town Board approval and subject to the following special conditions and requirements:

   a. The conversion of existing office and related amenity space to hotel use can be accomplished either by repurposing the existing building(s) or by demolishing the existing building(s) and constructing new hotel space.

   b. Hotel use shall be permitted on a single site in addition to office; medical office; multifamily, townhouse, single-family, and two-family dwellings; senior citizen housing; and assisted living facilities.

   c. Parking requirements for hotel use shall be determined by the Planning Board in connection with site plan approval.

(3) Residential conversion. The conversion of existing office and related amenity space and/or fully approved but unbuilt office and related amenity space to multifamily, townhouse, single-family, and two-family dwellings; senior citizen housing; and/or assisted living facilities shall be permitted, subject to Town Board approval and subject to the following special conditions and requirements:

   a. Residential conversion shall only be permitted for office and related space that has received all necessary approvals from the Town of North Castle, including zoning, subdivision, special permit, and/or site plan approvals, but not including building permit approval.

   b. Each square foot of approved but unbuilt office and related amenity space, up to a maximum of 250,000 square feet, may be converted into one and one-quarter (1.25) square feet of residential and amenity space, with a maximum of 250 residential units, provided, however, that (i) the unit count for assisted living facilities may be increased by 25%, even if said increase would result in more than 250 total residential units; and (ii) if the residential space consists entirely of assisted living and/or senior citizen housing, the unit count may be increased by 50%, even if said increase would result in more than 250 total residential units.

   c. Each square foot of existing office and related amenity space, up to a maximum of 250,000 square feet but not less than 50,000 square feet, may be converted into one (1.00) square foot of residential and amenity space, provided that at least 75% of the building(s) to be converted have been vacant and unleased for two (2) years prior to applying for the conversion, and further provided that the conversion can be accomplished either by repurposing the existing building(s) or by demolishing the existing building(s) and constructing new residential space subject to the limitations set forth in this subsection (c).

d. Notwithstanding the provisions of subsections (b) and (c) above, the maximum residential unit count for any overall site shall not exceed 500.

e. Notwithstanding any other provisions of this chapter, the Town Board, by special permit, may modify certain physical dimensional requirements, as follows:

i. Minimum front yard setback for multifamily buildings: 65 feet.
ii. Minimum front yard setback for townhouses: 200 feet.
iii. Minimum side yard setback for townhouses: 60 feet.
iv. Minimum rear yard setback for multifamily buildings: 80 feet.
v. Maximum building coverage: 15%.
vi. Maximum building height for multifamily buildings: 85 feet.
vii. Maximum building height for townhouses: 35 feet.
viii. FAR: not applicable within the limitations set forth above.
ix. Parking requirements for multifamily and townhouse uses shall be determined by the Planning Board in connection with site plan approval.

f. Residential uses shall be permitted on a single site in addition to office, medical office, and hotel uses.

Section 5. Chapter 355 is further amended by amending §355-23 (Schedule of Office and Industrial District Regulations (Part 1)) by adding the following permitted principal uses in the DOB-20A district:

"4. Medical offices
*5. Hotels
*6. Multifamily, townhouse, single-family, and two-family dwellings
*7. Senior citizen housing
*8. Assisted living facilities

Section 6. Conflicting Standards.

Where the requirements of this Local Law impose a different restriction or requirement than imposed by other sections of the Code of the Town of North Castle, the Town Law of the State of New York, or other applicable rules or regulations, the requirements of this Local Law shall prevail.

Section 7. Severability.

The invalidity of any word, section, clause, paragraph, sentence, part or provision of this Local Law shall not affect the validity of any other part of this Local Law that can be given effect without such invalid part or parts.

Section 8. Effective Date.

This Local Law shall take effect immediately upon its adoption and filing with the Secretary of State.

Dated: ____________, 2019

Appendix A-3
Positive Declaration

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

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 North Castle Town Board, acting as Lead Agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement will be prepared.

Date: September 12, 2018

Name of Action: Airport Campus

SEQRA Status: Type I Action

Description of Action: The "Applicant," proposes to repurpose and redevelop the approximately 38-acre site known as 113 King Street within the Town of North Castle (the "Project Site"), which is currently improved with approximately 261,000 sf of office space in two buildings. Efforts over the past ten years to lease the Site's office buildings have been unsuccessful. As such, the Applicant proposes to re-use the northernmost existing office building as a hotel, construct a new 151-unit multi-family building, construct 22 townhouse units, and re-occupy the southernmost existing office building with office tenants (the "Proposed Project"). The 5-story multi-family residential building is proposed to be located to the north of the existing northern office building and would be built on top of 3-stories of structured parking, one of which would be below grade. In the northern portion of the Project Site, the Applicant proposes to construct 22 townhouses. The Applicant would provide affordable housing on-Site in accordance with the requirements of the Town Code. Vehicular access to the office, hotel, and multifamily uses would be from the existing signalized driveway intersection with King Street. Vehicular access for the townhouses would be from Cooney Hill Road.

In addition to the Site's existing improvements, site plan approvals in full effect allow for the construction of an additional 165,000 square feet of office space, 53,000 sf of amenity space, a 20,000 sf meeting house, and a 1,000 space parking structure on the Site. The Proposed Project is being advanced in lieu of these currently permitted improvements. The Project Site is located within the Town's "Designed Office Business 20A" (DOB-20A) Zoning District. To develop the Site as proposed, the Applicant has petitioned the Town Board of the Town of North Castle ("Town Board") for amendments to the Town's Zoning Code to permit multi-family, hotel, and townhouse uses on the Site as special permit uses and to provide bulk and density requirements for those uses (the "Proposed Zoning"). The Applicant has also applied to the Town Board for approval of a Preliminary Development Concept Plan (PDCP) and Special Permit approval, which would allow for the subsequent preparation of a detailed Site Plan and subdivision application to construct the Proposed Project.

Location: 113 King Street (west side of King Street between American Lane and Cooney Hill Road) Town of North Castle, NY

Reasons Supporting This Determination:

Based upon a review of the applicant's submitted Full Environmental Assessment Form and all other application materials that were prepared for this action, the Lead Agency has determined that the proposed action may have the following significant adverse impacts:

1. The potential for significant impacts related to land use, zoning, and public policy. The Proposed Action would change the land use on the site from its current office campus to a hotel, multifamily housing and single-family townhouse uses.

2. The Proposed Action would result in excavation and other disturbance on several acres of currently undeveloped land.

3. Construction of the Proposed Project would occur in more than one phase.

4. Increased stormwater runoff and erosion resulting from site disturbance and construction of new impervious surfaces in the form of structures, access roads, and residential lots may impact surface water, specifically the nearby Kensico Reservoir which is part of the New York City watershed system. In addition, surface water and groundwater may be impacted by the introduction of fertilizers and pesticides associated with new residential uses.

5. The Proposed Action would involve site disturbance and new construction proximate to federally regulated freshwater wetlands.

6. The Proposed Action would result in an increased demand on water delivery and sewage disposal systems.

7. The Proposed Action may impact the habitat of species that have been identified as species of special concern, endangered and/or threatened (including the bald eagle).

8. The Proposed Action would occur within an area identified as potentially sensitive for archaeological resources.

9. The Proposed Action would result in the placement of new residential and hotel uses in an area between the 60 DNL and 65 DNL noise contours for Westchester County Airport.

10. The Proposed Action would result in an increase in daily vehicle trips, which may impact the surrounding roadway network.

11. The Proposed Action would result in an increased demand for energy.

12. There is a completed emergency spill remediation on the site of the Proposed Action, which may have impacted the existing structures to be modified as well as the subsurface conditions of the Project Site.

13. The Proposed Action may create a demand for additional community services (e.g. schools, police and fire).

14. The potential for significant impacts related to stormwater runoff. The proposed construction will add new impervious surfaces requiring stormwater quality and quantity management.

15. The potential for significant design/visual resource impacts and neighborhood character impacts. The currently undeveloped portions of the site would be developed with a new seven story multifamily building.

Scoping Information:

Scoping of the issues to be contained in the EIS will be conducted. The Applicant has prepared a draft scope for consideration and is attached to this document. Involved agencies and the public should provide written comments, by October 5, 2018, reflecting their concerns, jurisdictions and information needs sufficient to ensure that the EIS will be adequate to support their SEQR findings.

In addition, the Lead Agency will hold a public scoping session on September 26, 2018 at 7:30 PM at the following location:

Town Hall
15 Bedford Road
Armonk, New York 10504

Lead Agency: Town of North Castle Town Board
15 Bedford Road
Armonk, New York 10504

Lead Agency Contact Person: Alison Simon, Town Clerk
Town of North Castle
15 Bedford Road
Armonk, NY 10504
Telephone: (914) 273-3000 ext. 42
E-mail: asimon@northcastleny.com

A Copy Of This Notice Has Been Sent To The Following Involved and Interested Agencies:

- Permit Administrator, New York State Department of Environmental Conservation, Region III Office, 21 South Putt Corners Road, New Paltz, New York 12561
- New York State Department of Transportation, SEQR Unit, Traffic Engineering & Safety Division, 4 Burnett Blvd., Poughkeepsie, New York 12603
- Deputy Commissioner, Historic Preservation, New York State Office of Parks, Recreation and Historic Preservation, Empire State Plaza, Agency Building 1, 20th Floor Albany. New York 12238
- Commissioner, Westchester County Department of Planning, Westchester County Office Building 148 Martine Avenue, White Plains, New York 10601
- Town of North Castle Planning Board, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504
- Town of North Castle Conservation Board, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504
- North Castle Architectural Review Board, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504
- Building Inspector, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504
- Matt Trainor, Superintendent, Town of North Castle Parks and Recreation Department 40 Maple Avenue, Armonk, New York 10504
- Jamie Norris, Highway Superintendent, Town Hall - 17 Bedford Road, Armonk, New York 10504
- Sal Misiti, Superintendent, Town of North Castle, Department of Sewer and Water 115 Business Park Drive, Armonk, New York 10504
- Jen Lamia, Byram Hill Central School District, District Office, 10 Tripp Lane Armonk, NY 10504
- Fire Commissioners, Armonk Fire Department, PO Box 116, Armonk NY, 10504
- Open Space Committee, 17 Bedford Road, Armonk, New York 10504
- Cynthia Garcia, NYCDEP - SEQRA Coordination Section, 465 Columbus Ave, Valhalla, NY 10595
- The Environmental Notice Bulletin (ENB), enb@gw.dec.state.ny.us

Appendix A-4
MBIA Expansion SEQRA Findings 2004

TOWN OF NORTH CASTLE
Town Hall - 15 Bedford Road
Armonk, New York 10504
Established 1736

Ann Leber
Town Clerk

Telephone: (914) 273-3321
Fax: (914) 273-4176
www.northcastleny.com

Councilman Geist moved, seconded by Councilman McClure, approval of the Lead Agency's Findings Statement in regard to MBIA headquarters expansion as amended in the memo from Veneziano & Associates, dated October 8, 2003.

The roll call vote was as follows:

Councilman Geist	Aye
Councilman McClure	Aye
Councilman Kittredge	Aye
Councilman Berman	Aye
Supervisor Lombardi	Aye

I, Ann Leber, Town Clerk of the Town of North Castle, do hereby certify that the above resolution was duly adopted at a regular meeting of the Town Board of the Town of North Castle on October 8, 2003 and that the resolution is a true and correct transcript thereof.

Ann Leber

Ann Leber, Town Clerk

Dated: October 15, 2003
Armonk, New York

AL/ad

FREDERICK P. CLARK ASSOCIATES, INC.
Planning/Development/Environment/Transportation
Rye, New York and Fairfield, Connecticut

350 Theodore Fremd Avenue
Rye, New York 10580

(914) 967-6540 • FAX (914) 967-6615

David H. Stolman, AICP, PP
Michael A. Galante

Joanne P. Meder, AICP
Daniel K. Wery, AICP

David J. Portman, FAICP

MEMORANDUM

To: Involved and Interested Agencies

Date: October 10, 2003

Subject: **MBIA Corporate Headquarters Expansion Findings Statement**

The Town of North Castle Town Board, acting as Lead Agency in the environmental review of the proposed MBIA Corporate Headquarters Expansion under SEQR, adopted a Findings Statement on October 8, 2003. The final version of the adopted Findings Statement is enclosed for you information.

Adam R. Kaufman, AICP
Associate/Planning

Attachment/Enclosure

J:\DOCS2\100\North Castle\MBIA\Adopted Findings Statement Distribution.doc

Supervisor John A. Lombardi and Town of North Castle Town Board, Town Hall, 15 Bedford Road, Armonk, New York 10504

Town of North Castle Planning Board, Town Hall Annex, 17 Bedford Road, Armonk, New York 10504

Town of North Castle Zoning Board of Appeals, Town Hall Annex, 17 Bedford Road, Armonk, New York 10504

John Fava, Chairman, Town of North Castle Conservation Board, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504

Craig Usted, Highway Superintendent, Town Hall - 15 Bedford Road, Armonk, New York 10504

North Castle Architectural Review Board, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504

Richard Fon, Building Inspector, Town Hall Annex - 17 Bedford Road, Armonk, New York 10504

Anthony Futia, Superintendent, Town of North Castle, Department of Sewer and Water, 115 Business Park Drive, Armonk, New York 10504

New York State Department of Transportation, Attention: Richard Peters, Regional Planning and Program Manager,
Four Burnett Boulevard, Poughkeepsie, New York 12603

Mr. Danny Shedlo, and Mr. Ed Polese, New York City Department of Environmental Protection, 465 Columbus Avenue, Valhalla, New York 10595

Joshua Lipsman, Commissioner c/o Robert Vrana, Westchester County Department of Health, 145 Huguenot St.,
New Rochelle, New York 10801

Mr. Edward Delaney, Westchester County Department of Health (WCDOH), 110 South Bedford Road, Mt. Kisco, NY 10549

Commissioner Erin Crotty, New York State Department of Environmental Conservation, 625 Broadway, Albany, NY 12233

James W. Haggerty, Chief, U. S. Army Corps of Engineers, Eastern Permits Section, New York District, 26 Federal Plaza
New York, New York 10278-0090

Mr. Marc Moran, Regional Director, New York State Department of Environmental Conservation (NYSDEC), Region III Office, 21 South Putt Corners Road, New Paltz, New York 12561

Jerry Mulligan, AICP, Commissioner, Westchester County Department of Planning, Westchester County Office Building
148 Martine Avenue, White Plains, New York 10601

Westchester County Board of Legislators, Westchester County Office Building, 148 Martine Avenue, White Plains, New York 10601

Ms. Ruth Pierpont, New York State Historic Preservation Field Services, Office of Parks, Recreation and Historic Preservation, The Governor Nelson A. Rockefeller Empire State Plaza, Agency Building 1, Albany, NY 12228

Commissioner Ralph Butler, Westchester County Department of Public Works, (WCDPW), Westchester County Office Building, 148 Martine Avenue, White Plains, NY 10601

Mr. Jan Blair, Chairman, Westchester County Environmental Management Council, 414 County Office Building, 148 Martine Avenue, White Plains, NY 10601

Ms. Carol Coggeshall, Chairman, Westchester County Soil and Water Conservation Service (WCSWCD), 148 Martine Avenue, White Plains, NY 10601

Jim Tierney, Esq., NYS Attorney General's Office, NYC Watershed Inspector General, Environmental Protection Bureau, State Capitol, Albany, NY 12224

Marc A. Yaggi, Esq., The Riverkeeper, Pace Environmental Litigation Clinic, 78 N. Broadway, White Plains, NY 10603

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

Ann Leber, Town Clerk, Town of North Castle, Town Hall, 15 Bedford Road, Armonk, New York 10504

New York State Clearinghouse, State Capitol, 488 Broadway, Albany, NY 12234

EXTRACT FROM THE MINUTES OF A REGULAR MEETING OF THE TOWN BOARD OF THE TOWN OF NORTH CASTLE HELD AT TOWN HALL, ARMONK, NEW YORK ON WEDNESDAY, OCTOBER, 8, 2003 AT 8:00 P.M.

PRESENT: John Lombardi, Supervisor, Town of North Castle
Rebecca Kittredge, Town of North Castle Town Board
Gerald Geist, Town of North Castle Town Board
William McClure, Town of North Castle Town Board
rth Castle Town Board

ALSO PRESENT: Roland A. Baroni, Town Attorney
, Town of North Castle
John Kellard, Consulting Town Engineer
onsulting Town Planner

LEAD AGENCY'S FINDINGS STATEMENT
MBIA HEADQUARTERS EXPANSION

After due discussion and deliberation, on motion by Councilman Geist, seconded by Councilman McClure, and carried, the following Findings Statement was adopted by the Town of North Castle Town Board:

I. INTRODUCTION

This document is a Findings Statement prepared pursuant to and as required by Part 617.11 of NYCRR Part 617, Title 6 (the Statewide regulations implementing the New York State Environmental Quality Review Act). This Findings Statement pertains to the environmental review of the proposed MBIA Corporate Headquarters Expansion (the "Proposed Action"). This Findings Statement draws upon the facts and conclusions in the Draft Environmental Impact Statement (DEIS) filed by the Town Board on October 9, 2002 and the Final Environmental Impact Statement (FEIS) accepted by the Town Board on September 10, 2003.

This Findings Statement attests to the fact that the Town of North Castle Town Board, as Lead Agency, has complied with all of the applicable procedural requirements of Part 617 in reviewing this matter, including but not limited to:

- Coordinated designation of Lead Agency with all Involved Agencies, followed by confirmation of the North Castle Town Board as Lead Agency on March 7, 2002;
- Issuance of a Positive Declaration on March 7, 2002 by the Town Board and direction to prepare a Draft Environmental Impact Statement;
- Provision for public participation through public review and written comment on the draft scope;
- Preparation of a DEIS by the Project Sponsor;

- Conditional acceptance of the DEIS by the Town Board on October 9, 2003, and the filing of the DEIS and a Notice of Completion on October 23, 2003;
- Holding of a Public Hearing on the DEIS by the Town Board on November 20, 2002;
- Establishment of a Public Comment Period on the DEIS which ended December 20, 2002;
- Preparation of a Final Environmental Impact Statement;
- Conditional acceptance of the FEIS by the Town Board on September 10, 2003, and the filing of the FEIS and a Notice of Completion by the Town Board on September 12, 2003; and
- Preparation and adoption of this Findings Statement by the Town Board.

This Findings Statement also attests to the fact that the Town Board has given due consideration to the Environmental Impact Statement (EIS) prepared in conjunction with this action and the public comments submitted on such document. Further, this Findings Statement contains the facts and conclusions in the Environmental Impact Statement relied upon by the Town Board to support its decisions and "indicates the social, economic and other factors and standards" which form the basis for its decisions.[1]

A. Site Description

The MBIA headquarters site comprises ±15.95 acres, and consists of two separate tax lots known on the Tax Assessment Map of the Town of North Castle as Section 3, Block 4, Lot 3 B (±14.30 acres) and Section 3, Block 4, Lot 3A (±1.65 acres). The site is zoned DOB-20A "Designed Office Business 20A District." The site has a park-like corporate headquarters character consistent with the neighboring corporate headquarters uses.

The Cooney Hill area, located immediately to the north of the MBIA headquarters site, consists of 17 lots, all zoned R-1A (single-family residential). To date, MBIA has acquired 15 of these 17 lots comprising approximately 20.1 acres and has a 16th lot subject to a purchase right of first refusal. The proposed action includes a rezoning of the 17 lots from R-1A to DOB-20A. The following chart summarizes the tax lot designation of the Cooney Hill lots, all of which are shown on the Tax Assessment Map as Section 3, Block 4:

[1] Part 617.11(d)(5).

Cooney Hill Tax Lots

LOT DESIGNATION	TAX LOT	AREA (ACRES)
1	3A1	1.19
2	3-C	1.00
3	3-H	1.61
4	3-G1	1.03
5	3-G	2.43
6	3F	1.21
7*	3E	1.01
8	3	1.64
9	3D	1.17
10	3-6	1.53
11	3-7	1.04
12	3-8	1.03
13	3-9	1.00
14	3-4	2.06
15	3-3	1.19
16*	3-2	1.01
17	3-1	1.00
TOTAL	17	±22.15

* Not acquired by MBIA

2. Existing Site Character

The Cooney Hill lots contain single family residential homes constructed in the 1950's and 1960's. All but one of the homes owned by MBIA are presently vacant. All of the properties contain underground septic systems and residential wells. The properties are characterized by residential lawn areas, mature landscaping, and trees primarily along residential property lines. A ±0.39 acre portion of an isolated wetland exists in the southerly portion of the Cooney Hill area, north of the location of the proposed MBIA parking structure. The ±0.39 acre on-site wetland is a poorly drained meadow that has been maintained as a lawn. No disturbances are proposed to this wetland.

3. Easements and Private Agreements

As described in more detail below, a Conservation Easement covers Lot 3A1, to prevent any development on that lot. The purpose of the conservation easement was to protect and buffer some of the residential lots in the Cooney Hill area from the corporate development to the south. These lots are now owned by MBIA and no longer require such protection. Part of the relief requested by the Applicant in the rezoning petition for the proposed action is that this conservation easement be extinguished.

4. Surrounding Land Uses

The MBIA site is situated at 113 King Street (NY Route 120) in the Town of North Castle, Westchester County, New York. It borders the west side of King Street, within the southwesterly portion of the Town of North Castle. The existing site driveway provides access to King Street, opposite the Crompton Greenwich American Centre access driveway. This driveway intersection with King Street is signalized.

To the north, 17 residential properties lie within the area known as Cooney Hill. Cooney Hill Road lies adjacent to these properties to the north, and Weber Place provides access to the properties to the southwest of Cooney Hill Road. Cooney Hill Road intersects with King Street north of the existing MBIA site driveway.

Immediately north of the Cooney Hill properties, and across Cooney Hill Road, is the southerly portion of the property owned by Swiss Re America containing their 300,000 square foot U.S. headquarters building.

Located to the northeast of the MBIA property and across King Street from the Cooney Hill properties is the site of the Citigroup Executive Conference Center. IBM's world headquarters is located further to the northeast of the property, across King Street.

Located immediately to the south of the MBIA headquarters site is property owned by the New York City Department of Environmental Protection (NYCDEP). This property is vacant and unoccupied New York City watershed land and is being utilized by the City as a buffer for the Kensico Reservoir, situated to the west.

Located west of the MBIA headquarters site and the Cooney Hill properties is additional land also owned by the NYCDEP. Similarly, this property is vacant, undeveloped, and unoccupied, and is a buffer for the Kensico Reservoir.

NY Route 22, situated approximately one mile to the north, provides access to the City of White Plains to the west and the Armonk Hamlet to the northeast. King Street continues in a generally northerly direction to the Town of New Castle (Chappaqua) approximately 5 miles north of MBIA, and the Taconic State Parkway is approximately 10 miles to the north of the MBIA site.

Interstate 684 Interchange 2 is situated approximately one mile to the south of the site along King Street, as is the entranceway to the Westchester County Airport.

5. Project History Including Prior Approvals and Development

Prior to MBIA acquiring the property, the original office building was developed containing a 93,000 square foot building. MBIA purchased that existing building in April 1989 and occupied the building for its corporate headquarters.

Shortly thereafter, MBIA prepared and processed several related applications before the Town of North Castle, including an Amended Site Plan Application associated with a 60,000 square foot expansion. Following a complete zoning, environmental and engineering review process, on December 11, 1989, the Planning

Board adopted an Environmental Findings Statement and granted amended site plan approval for the 60,000 square foot expansion including a 60,000 square foot transfer of density from what is now the Swiss Re parcel.

Also in 1989, and as part of the expansion of the original headquarters building, MBIA acquired a separate tax lot located immediately north of the existing headquarters, consisting of a parcel of approximately 1.6 acres in size, and known on the Tax Assessment Map as Section 3, Block 4, Lot 3A. At the time of acquisition, that additional lot was zoned R-1A (single family residential).

In order to construct the 60,000 square foot expansion, MBIA applied to the Zoning Board of Appeals of the Town of North Castle for several area variances. The Zoning Board of Appeals approved the requested variances. As part of this approval, MBIA agreed to place a Conservation Easement on Lot 3A, preventing any development on the northerly 90 feet of that lot. The purpose of the Conservation Easement was to protect and buffer some of the residential lots in the Cooney Hill area from the corporate development taking place to the south. As of the date of this findings statement, MBIA owns Cooney Hill lot numbers 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, and 17. Two lots, 7 and 16, remain under private residential ownership.

On April 5, 1996, MBIA submitted a Petition to the Town Board, seeking a rezoning of Lot 3A from R-1A to DOB-20A, which was the zoning designation of the headquarters parcel. In addition, the Petition submitted by MBIA requested certain text amendments to the Zoning Ordinance of the Town of North Castle to create a new special permit section to govern the development of DOB-20A sites. The Petition also requested PDCP (Preliminary Development Concept

Plan) approval of a plan showing an expansion of MBIA's corporate headquarters to a total of approximately 235,000 square feet. Finally, the Petition sought an amendment to the Conservation Easement, which would permit certain limited development on the northerly portion of Lot 3A. On June 27, 1996, the Town Board granted the requested rezoning, adopted the special permit text amendments, approved the amendment to the Conservation Easement, and granted PDCP approval for the expansion.

On July 15, 1996, MBIA submitted an application for a Special Use Permit in accordance with the recently adopted Zone Text Amendments. On September 12, 1996, the Town Board granted the requested Special Use Permit, thereby allowing the Planning Board to grant site plan approval to expand the existing corporate headquarters to 235,000 square feet.

Following approval of the Special Permit by the Town Board, the Planning Board, on September 16, 1996, granted Amended Site Plan Approval to permit the expansion of the corporate headquarters to a total of 235,000 square feet. The site plan approval allowed construction of the recently completed new wing of the building as well as the parking garage on the southerly portion of the site. This Amended Site Plan Approval was readopted, with very minor amendments, on October 7, 1996.

On February 10, 1997, the Planning Board granted Second Amended Site Plan Approval to permit several canopies to be installed over the entrances to the headquarters building and the parking structure.

On May 5, 1997, the Planning Board granted Third Amended Site Plan Approval and amended wetlands permit approval to permit modest modifications to the parking plan as well as the installation of additional landscaping and a landscaped berm on the site.

On January 26, 1998, the Planning Board granted Fourth Amended Site Plan Approval associated with modifications to the building footprint, caused by certain revised internal layouts and structural considerations.

MBIA then sought the necessary approvals to construct a temporary 60 space parking area located immediately north of the existing parking lot, use of a second and temporary accessway located north of the existing site access on King Street, and other related matters. Those proposed modifications required three separate approvals from the Town. On July 16, 1998, the Town Board approved an amendment to the Conservation Easement on the northern portion of MBIA's property to accommodate the proposed gravel parking lot and secondary access. On June 27, 1998, the Zoning Board of Appeals granted MBIA's application for a temporary use variance to permit the secondary access to be located on a residentially zoned lot that had previously been purchased by MBIA (the Bolbrock lot, known as Section 3, Block 4, Lot 3A1). On August 10, 1998, the Planning Board granted Fifth Amended Site Plan Approval to MBIA to permit construction of the gravel parking lot, secondary access and related items, including approximately 25,000 square feet of amenity space in the basement of the expansion.

On April 26, 1999, the Planning Board granted Sixth Amended Site Plan Approval to add a new stairway below the existing bridge connecting the two buildings on the property.

Finally, on December 13, 1999, the Planning Board granted Seventh Amended Site Plan Approval associated with the construction of a salt storage structure on the premises, to modify the configuration of the previously approved land banked parking and to utilize the previously approved temporary construction access on Route 120 as a permanent emergency access drive only.

All of these approvals received by MBIA have conformed in every respect to the then applicable NYCDEP regulations to protect the adjacent watershed property.

II. PROPOSED ACTION

A. Project Description

1. Original Project - DEIS

The DEIS examined the potential impacts of the proposed expansion of MBIA's corporate headquarters located in Armonk, New York.

MBIA has grown rapidly through the acquisition of other companies and strong performance in the market place. According to the Applicant, the current facility is insufficient to accommodate its future needs. The proposed development is concentrated in and around the existing headquarters building, leaving large areas of open space and minimizing new impervious surface.

MBIA's current headquarters is located on two tax lots which total 15.95 acres and are zoned DOB-20A (Designed Office Business). This headquarters site contains the existing 261,000 square foot MBIA headquarters building, a five level parking structure at the southerly portion of the site, a stormwater management pond west of the parking structure and south of the MBIA office building and a house constructed in the 1820's located in the southerly portion of the site. There are currently 644 parking spaces on the site, including 315 in the existing parking structure and 329 in an at-grade parking lot to the west and north of the existing MBIA office building.

The DEIS Plan proposed an expansion consisting of 165,000 square feet of additional office space, 58,000 square feet of new amenity space, a 15,000 square foot corporate meeting house, a 5 level parking garage (with 2½ levels constructed below grade), recreational amenities for employees including a 1.6 mile walking/jogging trail, exercise benches along the trail, tennis and basketball courts and associated onsite improvements including a proposed decorative/stormwater management basin and two water quality basins.

To accommodate the proposed expansion, MBIA has acquired 15 of the 17 residential lots located adjacent to the MBIA site to the north. These lots are located in the Cooney Hill area and are all zoned R-1A (Single Family Residential). A 16th lot is subject to a right of first refusal in MBIA's favor. The remaining lot in the Cooney Hill Area is still owned by its individual owners. The proposed action includes the rezoning of all 17 of the Cooney Hill lots from R-1A to DOB-20A, consistent with the existing MBIA site's zoning, and the Town's Comprehensive Plan.

The density of office space from the Cooney Hill lots will be developed largely on the existing MBIA headquarters site, in order that the additional 165,000 square foot expansion be physically proximate and connected to the existing headquarters building. According to the Applicant, this physical proximity and connection will permit MBIA to take advantage of economies of scale in constructing and operating the expanded headquarters buildings, and will also permit MBIA to utilize the existing impervious surface of the at-grade parking lot for the new building, thereby significantly reducing any increased impervious surface which might otherwise result from the proposed new development.

Under the DEIS plan, the existing parking structure situated to the south of the existing building will remain. A water quality basin and a decorative/storm water management basin are proposed to the east of the new office expansion, and a water quality basin and stormwater management basin are proposed within the Cooney Hill area.

MBIA will demolish the homes in the Cooney Hill area. This demolition, including the homes, driveways, walkways, and patios, will result in a decrease of impervious surface of approximately 77,000 square feet (1.77 acres) for the lots owned by MBIA. Given the demolitions to take place in the Cooney Hill area and the construction of the proposed 165,000 square foot office expansion and the new parking structure and roadway, the net increase in impervious surface under the DEIS plan would have been approximately 70,207 square feet (1.6 acres) for the entire project. The additional stormwater runoff generated by the overall increase in impervious surface will be mitigated by the proposed Stormwater Pollution Prevention Plan which will attenuate the peak rate of runoff from the site and treat the stormwater runoff in accordance with the requirements of the New York City Department of Environmental Protection (NYCDEP) and the New York State Department of Environmental Conservation (NYSDEC), thereby protecting the adjacent watershed.

The New York State Department of Transportation (NYSDOT) recently completed its environmental review of a series of proposed roadway improvements for I-684 Exits 2 and 3, as well as Routes 22 and 120 in the Town of North Castle. That review process included both a Draft Environmental Impact Statement and a Final Environmental Impact Statement. As part of that environmental review, NYSDOT reviewed the traffic impacts associated with a potential 165,000 s.f. of additional office space which could be developed from available density in the Cooney Hill area. The environmental review conducted by NYSDOT concluded that the traffic impacts associated with their proposed roadway improvements, including the additional traffic which would be generated by an additional 165,000 s.f. of office space, would not have a significant adverse impact upon the environment.

As part of the demolition of the homes in Cooney Hill, these individual septic systems and fuel oil tanks will be completely eliminated. The elimination of the septic systems and fuel tanks would remove the potential for pollutants leaching into the ground.

The Cooney Hill lots will be utilized largely for passive recreational use and the stormwater management features mentioned above. A corporate meeting house of approximately 15,000 square feet will also be constructed in this area. The properties remaining under private residential ownership will be screened from the MBIA property.

In terms of proposed buildings, the DEIS PDCP depicts the 165,000 MBIA headquarters expansion to the north and connected to the existing MBIA headquarters building. The expansion will be situated over an existing on-grade parking lot, minimizing additional proposed impervious surface. Also to the north of the proposed office expansion and connected to it will be a service/mechanical building, which in turn connects to the proposed multi-level parking structure. Therefore, access from the proposed parking structure to the MBIA headquarters building will be through a building connection.

The proposed corporate meeting house will be constructed on the Cooney Hill properties, adjacent to Cooney Hill Road. Access to the meeting house will be via the proposed MBIA access drive to Cooney Hill Road. The meeting house will be utilized by MBIA employees whose offices are in the headquarters building.

In addition to the proposed 165,000 square feet of office space, 58,000 square feet of amenity space and a 15,000 square foot corporate meeting house are proposed, bringing the overall MBIA development to 400,000 square feet of office space, 84,000 square feet of amenity space, plus the corporate meeting house. The existing parking structure situated to the south of the existing building will remain. The existing on-grade parking north of the existing office building will be replaced with a second parking structure. Under the DEIS plan, a total of 1,560 parking spaces will be provided at the site, of which 916 spaces will be provided to accommodate the proposed expansion.

Pedestrian access from the proposed parking structure is via a building connection to the proposed office expansion. The existing parking structure and adjacent at-grade parking lot to the east of the existing pond will remain, with the existing pedestrian walkways providing pedestrian access to the office building.

The existing site access drive will remain and connect with a proposed access drive to Cooney Hill Road, providing access to the corporate meeting house and associated parking as well as the proposed parking structure and office building expansion. A proposed 1.6 mile walking/jogging trail in the Cooney Hill area provides access to the proposed tennis and basketball courts as well as the corporate meeting house.

In terms of vehicular circulation, the existing site access driveway will remain and connect to the new access to Cooney Hill Road, providing a continuous accessway from King Street to Cooney Hill Road. Vehicles may thus access the site from either of these entryways.

In terms of site utilities, the electric service will be extended underground into the site from the existing overhead lines along King Street. Con Edison will determine if the existing transformer on the site is adequate or if an additional transformer is required. Likewise, telephone service will be expanded to serve the needs of the proposed facilities, and will be provided underground as is the existing service. Gas service will also be provided from King Street, and will be underground.

The proposed sanitary sewer connection for the proposed corporate meeting house will connect to the existing pump station on Cooney Hill Road, and be pumped up the existing sanitary sewer beneath Cooney Hill Road and thence to King Street. Likewise, a sanitary connection will be made from the proposed office building expansion to the existing sewer infrastructure beneath King Street.

MBIA is currently on a well system, which provides water for the site. MBIA expects to install additional wells in the area to the northwest of the existing MBIA facility, where groundwater yields of approximately 25 gpm from existing residential wells are potentially available. Up to three or more additional wells may be required to meet the proposed MBIA supplemental demand for domestic and building cooling systems.

The residential properties acquired by MBIA will be utilized for the most part for passive recreational use by MBIA employees. This includes construction of a four-foot wide mulched walking/jogging trail having a total length of 1.6 miles, exercise stations and trail benches along the trail, and a basketball court and tennis court.

The existing impervious surfaces and building structures on the Cooney Hill lots owned by MBIA plus the remaining fuel oil tanks will be removed, a mitigation measure of the proposed MBIA expansion. Those properties remaining under private residential ownership will be screened from the MBIA office use.

The existing access to Weber Place will remain as long as private residential properties exist along this roadway; however approximately ±9,000 square feet of impervious pavement is proposed to be removed from Weber Place since access to the Witherspoon property and the adjacent is not required since MBIA's acquisition of those lots.

The zoning of the existing site is DOB-20A, and the Cooney Hill properties are currently zoned R-1A. A rezoning petition has been filed with the Town to rezone the Cooney Hill R-1A properties to DOB-20A.

The present infrastructure will need to be expanded to accommodate the proposed development. As noted above, site access will be enhanced by a second proposed access to the site, from Cooney Hill Road. In addition, NYSDOT, as part of their approved improvements to King Street, will include a traffic signal at the intersection of Cooney Hill Road and King Street. In addition, the Citigroup Executive Center Driveway will be realigned so access is provided directly opposite the Cooney Hill Road intersection with King Street. A left turn lane will be constructed by the NYSDOT on both northbound and southbound King Street to accommodate turning movements into Cooney Hill Road and the realigned Citigroup Executive Planning Center site. As detailed above, NYSDOT has included the 165,000 square feet office expansion proposed by MBIA in its SEQRA review.

With respect to water, the existing MBIA site is supplied by a well system. This well system will be supplemented with additional wells to accommodate the proposed expansion.

The applicant is petitioning the Town of North Castle to extend Town Sewer District No. 3 to include the Cooney Hill properties. The existing MBIA headquarters building site is currently within Sewer District No. 3. In addition, Westchester County is to be petitioned by the Town of North Castle for inclusion of the Cooney Hill properties into Sewer District No. 3. Westchester County owns and operates Blind Brook Wastewater Treatment Plant into which Sewer District No. 3 discharges. The Blind Brook Wastewater Treatment Plant has ample capacity to accommodate the Cooney Hill properties.

The proposed Stormwater Management Facilities include a proposed decorative/stormwater management pond immediately to the east of the proposed MBIA headquarters expansion, two proposed water quality basins, and a proposed stormwater management basin situated along the southerly portion of the Cooney Hill properties. The existing stormwater management basin situated on the southwesterly portion of the existing site will remain.

Proposed improvements will include earthwork and grading associated with construction of the building expansion, parking structure and driveways. Prior to commencing the clearing and grading activities in these areas, erosion control measures will be installed, including the erection of silt fencing, placement of baled filters and construction of water quality basins. Temporary control measures are to be implemented to prevent erosion from occurring during the construction process. Following completion of earth moving activities, disturbed areas will be stabilized with permanent erosion control measures including turf and landscaping.

With respect to visual impacts, the location of the project site and its surroundings limits potential visual impacts almost exclusively to the few remaining homes in the Cooney Hill area together with motorists traveling along King Street.

The project has been designed to provide significant screening in the area of the remaining Cooney Hill homes. In addition, the project has been designed to locate the new structures, including the meeting house and the new parking structure, as far away as possible from those remaining homes.

For motorists traveling north on King Street, the primary view of the site will be at the traffic light at the existing entrance to the MBIA headquarters. The view from that location will be largely the same as it is today. The existing headquarters structure will be the most prominent feature. The proposed expansion, by virtue of being set back from King Street substantially at that point, will be visible in the distance, behind an attractive, decorative pond, which will also serve as a stormwater management pond.

For cars traveling southbound on King Street, the initial view will take place just past the intersection with Cooney Hill Road, at which time a portion of the parking structure will be visible. In order to minimize visual impacts at this point, a heavily landscaped berm is planned between the parking structure and King Street, which will largely mitigate any visual impacts.

Traveling slightly further south, between the existing signalized entrance to MBIA and Cooney Hill Road, King Street is significantly below the level of the MBIA site. That change in topography, coupled with the typical vehicle speed on King Street, will largely preclude additional visual impacts. In addition, and as noted above, a substantial landscape berm is planned for the west side of King Street to further mitigate any remaining visual impacts.

2. Mitigation Plan - FEIS

The applicant presented a plan in the DEIS that raised a number of concerns from the Town and the public. For the most part, these concerns were associated with the proximity of the MBIA property to the Kensico Reservoir.

MBIA, in response to discussions with and at the direction of the NYCDEP and the Town of North Castle, revised the plans so as to address the major issues raised, while still achieving MBIA's objectives.

The most significant changes in the plan, as presented in the FEIS, are associated with a reduction in total impervious surfaces on the site. Many of the comments on the DEIS were related, either directly or indirectly, to this issue and its impact on stormwater quality and runoff into the Kensico Reservoir, which is in close proximity (±500 feet) to the site. In a "typical" development scenario, MBIA's DEIS proposal to construct the office expansion, parking garage and meeting house would have resulted in a significant overall increase in impervious surface. However, in the DEIS, MBIA presented a plan which took advantage of existing conditions to reduce additional impervious surface to 1.6 acres. Among other things, this was achieved by locating the office expansion upon what is now the site of an at-grade, paved parking lot. In addition, MBIA, having purchased 15 of the 17 lots in the Cooney Hill area, is able to remove those homes and their associated driveways, patios, etc, thereby reducing existing impervious surfaces in that area of the property. With the recent (June 2003) acquisition of the Witherspoon property (Tax Assessment Map Lot Section 3, Block 4, Lot 3-4), MBIA will not only remove the residence and associated impervious surfaces, but will also remove ±9,000 square feet of impervious pavement from that portion of Weber Place that served the Witherspoon property and the adjacent lot owned by MBIA.

In response to those comments, the FEIS Mitigation Plan, at full build-out, achieves an overall net *reduction* in impervious surface from existing conditions of approximately 11,700 square feet. This overall reduction in impervious surface has been accomplished through a number of design changes, which are described below.

a. Perhaps most significantly, the proposed parking structure has been redesigned so as to eliminate a major portion of the west bay and the entire northernmost 30 foot wide portion of the structure. The loss of parking resulting from the garage redesign described above will be partially compensated for by adding a 6th floor onto the parking deck. This will not add any additional impervious surface because it is merely another floor on the proposed new parking structure. This additional floor will enable MBIA to reclaim 140 of the parking spaces that would otherwise be lost. Net, a total of 306 parking spaces have been lost over the entire site and a reduction in impervious surface of 20,000 square feet was achieved as a result of the parking structure redesign compared with the Proposed Action in the DEIS.

   In addition to the substantial reduction in impervious surface caused by these changes to the plan, there are other benefits to the redesign of the garage. The most important benefit is that the redesign has moved the garage so that it is more than 75 feet from the property line and more than 100 feet from the wetland boundary. This design change eliminates the need for any impervious intrusion into either the wetland or the wetland buffer associated with the garage structure.

b. The second change to the DEIS plan to reduce impervious surface is associated with the 1820 House, which is located immediately to the north of the existing parking structure. The revised FEIS plan will eliminate the existing small garage adjacent to the 1820 House, which garage is currently used for the storage of certain materials and equipment. Those materials and equipment will be relocated to the service/mechanical building to be located between the proposed office expansion and the proposed new parking garage. In addition, two paved areas adjacent to the 1820 House and the existing frame garage will also be eliminated. These changes will reduce impervious surface by approximately 5,200 square feet.

c. The DEIS plan included a terraced sculpture garden to be located between the existing office building and the proposed office building expansion. The FEIS plan has replaced that terraced sculpture garden with a lawn sculpture garden, resulting in the elimination of approximately 5,500 square feet of impervious surface.

d. As part of the amenity package for its employees, MBIA had proposed in the DEIS plan to include a tennis court and a basketball court, to be located in the Cooney Hill Area near the proposed Meeting House. These two at-grade courts have now been combined into a multi-purpose athletic court and relocated to the roof of the proposed new parking structure, thereby resulting in the elimination of approximately 14,500 square feet of impervious area. In addition, this has enabled the elimination of the small associated court parking area, resulting in the elimination of an additional 1,300 square feet of impervious surface.

e. Two other significant changes to the DEIS plan, as reflected on the FEIS plan, are associated with the proposed Meeting House. First, the at-grade parking area for the Meeting House has been eliminated and relocated below the Meeting House itself, thereby resulting in a reduction of approximately 6,200 square feet of impervious surface. In addition, the patio on the south side of the Meeting House has been reduced in size, resulting in a reduction of approximately 2,525 square feet of impervious surface.

f. In addition to all of the foregoing revisions to the plan, changes were also made to the access roadway to the office expansion in an effort to further reduce impervious surface. The DEIS plan provided for an access drive from Cooney Hill Road which would provide two branches into the new parking structure and one branch directly to the entrance of the office building expansion. That third branch has now been eliminated and replaced with a 12 foot wide stabilized pervious gravel surface suitable for emergency access use only. Access from Cooney Hill Road to the front of the office building expansion will now be accomplished through the new parking structure itself. In addition to eliminating impervious surface, this proposed change also reduces the impact of activity within the 100 foot wetland buffer, which will now be limited to the installation of a pervious stabilized gravel surface, rather than impervious pavement.

g. Since the DEIS was accepted, MBIA has acquired the Witherspoon property (Tax Assessment Map lot Section 3, Block 4, Lot 3-4), enabling MBIA to further reduce existing impervious coverage by removing, not only the residence and associated impervious surfaces, but also to remove approximately 9,000 square feet of impervious pavement from that portion of the Weber Pace that served the Witherspoon property and the adjacent lot owned by MBIA.

Following approval and after subsequent demolition of the residential structures, driveways, septic systems, underground fuel tanks, etc., MBIA proposed that the land will be reclaimed into open space consisting of landscaping, pervious walking/exercise paths, temporary multi-purpose tennis and basketball courts and a playing field. The courts and playing field will be removed with construction of the parking garage.

Cumulatively, the foregoing changes to the proposed project result in an overall net *decrease* in impervious surface of approximately 11,700 square feet over the existing conditions on the site, and a decrease of approximately 82,000 square feet over the DEIS Plan. According to the Applicant, MBIA will, by virtue of this new FEIS plan, be able to accomplish its goals of providing additional office space and amenities for its employees.

In addition to the foregoing changes, the revised plan addresses other issues raised during the DEIS comment period. For example, the proposed stormwater management infiltration basin and stormwater forebays, originally located south of the proposed Meeting House and immediately adjacent to the property line, have been relocated to the north and west away from the property line. As originally proposed, the infiltration basin and one of the forebays would have been at least partially located within the 100 foot wetland buffer. The relocation of these facilities eliminates all such activity within the buffer.

The mitigation plan included in the FEIS is significantly improved, addressing various concerns raised in the SEQRA process while still achieving the goals and objectives of the project sponsor.

B. Required Approvals

The Proposed Action requires the following approvals:

1. **Town of North Castle Town Board**
   - Rezoning Approval, Zone Text Amendments & Special Permit Approval
   - Sewer District No. 3 Extension

2. **Town of North Castle Planning Board**

- Amended Site Plan Approval
- Local Wetland Buffer Encroachment Permit
- Tree Removal Permit

3. **Town of North Castle Architectural Review Board**

- Architectural Aesthetics Review

4. **Town of North Castle Water & Sewer Department**

- Sanitary Sewer Connection

5. **Town of North Castle Building Department**

- Building Permit

6. **Westchester County Department of Health**

- Well and Water System

7. **Westchester County Board of Legislators**

- Blind Brook Sewer District Extension

8. **Town of North Castle Highway Department**

- Driveway Permit (Cooney Hill Road)

9. **New York State Department of Transportation**

- Highway Work Permit (Route 120)

10. **New York State Department Environmental Conservation (NYSDEC)**

- SPDES General Permit (Stormwater)

11. **New York City Department of Environmental Protection (NYCDEC)**

- Stormwater Pollution Prevention Plan
- Sanitary Sewer Connection

III. ALTERNATIVES CONSIDERED

The proposed action includes a 165,000 square foot expansion to the existing MBIA headquarters building, 58,000 square feet of amenity space, a 15,000 square foot corporate meeting house, and a parking structure. However, as part of the environmental review process, other alternatives were analyzed, as discussed below.

Pursuant to the DEIS scoping document, ten alternatives to the proposed action have been evaluated. These alternatives include a single family subdivision, two development scenarios with stand-alone office buildings, four office development scenarios varying in layout and design, one scenario involving a smaller office building, one scenario involving an off-site location, and a no build alternative.

Other than the proposed action, the Applicant contends that only alternatives 2C-1 and 3, described in more detail below, meet the goals and objectives of the project sponsor.

A. Alternative 1: Single Family Subdivision (Utilizing Existing Zoning)

This alternative analyzes a conventional single family subdivision, utilizing the existing residential lots in the Cooney Hill area. Under this alternative, the two existing homes not owned by MBIA would remain. The remaining houses would be demolished and replaced by larger, more modern homes. In addition, homes would be constructed on the two currently vacant lots owned by MBIA.

Under this alternative, there would be less traffic than under the proposed action. In addition, total lot coverage would be reduced from approximately 30% under the proposed action to approximately 27%. There would be a reduced increase in impervious surface and a smaller encroachment into wetlands and buffers, 0.7 acres and 0.9 acres, respectively. The single family homes throughout the Cooney Hill area would eliminate any additional building mass along King Street. The alternative is consistent with the current R-1A zoning but is inconsistent with the Town's 1996 Comprehensive Plan Update, which calls for the Cooney Hill area to be rezoned and developed for office use, similar to the surrounding properties. The residential use is also inconsistent with existing corporate development along Route 120, i.e., IBM, Swiss Re, and Citigroup.

The text of the 1996 Town Comprehensive Plan Update recommends that the long term development of the Cooney Hill area should be consistent with the existing office building uses. The text specifically provides, as a goal of the Comprehensive Plan, that the area of which Cooney Hill is a part should be rezoned to office use. Despite the clear objective contained in the text of the Comprehensive Plan, the Town Comprehensive Plan Map identifies the Cooney Hill area as remaining residential. The Town Planning consultant has indicated that the Town Comprehensive Plan Map depicted the Cooney Hill area to remain residential, in the short term, in order to protect the existing residential uses in the area.

At this time, MBIA has acquired title to 15 of the 17 lots in Cooney Hill and has the right of first refusal on one additional lot. As part of the zoning petition submitted by MBIA, it is proposed to amend the Comprehensive Plan Map to be consistent with the Comprehensive Plan text and support the rezoning of the Cooney Hill area from residential to DOB-20A. The Town Board, at its meeting on August 14, 2002, referred this issue to the Planning Board with a request that the Planning Board prepare an appropriate amendment to the Comprehensive Plan Map. The Planning Board discussed this issue at its meeting on September 9, 2002, and conducted a public hearing on this issue on September 23, 2002.

Following the public hearing, the Planning Board adopted a resolution recommending that the Town Board amend the Comprehensive Plan Map to reflect Cooney Hill as being appropriate for office development, consistent with the text of the 1996 Comprehensive Plan Update.

In addition to not being consistent with the Town's Comprehensive Plan, this alternative is less desirable to the Applicant for a number of other reasons. First, this alternative does not meet the Applicant's goal of increasing MBIA's available corporate headquarters office space. This alternative would return the Cooney Hill lots to their present use, with larger homes, most likely with pools, patios and tennis courts in order to be consistent with current housing market demand. In addition, this alternative would generate substantially less tax revenue to all of the affected taxing jurisdictions than the proposed 165,000 square foot office building.

This alternative would not provide contiguous open space. Also, the properties would be under separate ownership and thus be more difficult to monitor or regulate than a single corporation. Finally, this alternative, unlike the proposed action, would provide no stormwater protection for the reservoir.

B. Alternative Building Layout/Configuration

1. 165,000 Square Foot Stand-Alone Office Building in Cooney Hill Area

a. Alternative 2A-1: Stand-Alone Office Building with On-Grade Parking

This alternative analyzes a stand-alone 165,000 square foot office building with associated on-grade parking, all located in the

Cooney Hill area. While this alternative provides the 165,000 square feet of additional office space sought by MBIA, it is inferior to the proposed action in almost every other respect. This alternative would generate taxes similar to the proposed action and would eliminate the parking structure that will be somewhat visible from King Street.

However, the alternative does not provide the amenities sought by MBIA, including the corporate meeting house and the open and passive recreation. Most significantly, this alternative results in 5.6 acres of additional impervious surface, compared with a 11,700 square feet reduction in impervious surface as compared to the FEIS Plan. This alternative results in 50% more encroachment into wetland and buffer areas, as well as significantly more total lot coverage when compared with the proposed action. The additional impervious surface and lot coverage would result in increased stormwater runoff. Finally, this alternative does not meet the Applicant's objective of having the new office space connected to the existing office space.

b. Alternative 2A-2: Stand-Alone Office Building with Parking Garage

This alternative is similar to Alternative 2A-1, except that the parking is proposed to be located in a parking structure. Like Alternative 2A-1, this alternative proposes 165,000 square feet of additional office space, together with the proposed parking, all located in the Cooney Hill area.

This alternative has several advantages over Alternative 2A-1, largely associated with the elimination of the at-grade parking and the construction of a parking structure. These improvements over Alternative 2A-1 include additional open space (but not contiguous open space), a significant reduction in total impervious surface, and less encroachment into wetlands and buffers. In addition, compared with Alternative 2A-1, this alternative has approximately 1/3 less total lot coverage.

When compared with the proposed action, this alternative should generate approximately the same tax revenues to the various taxing jurisdictions.

However, this alternative creates some of the same problems described above for Alternative 2A-1. Specifically, the new office space would not be connected to the existing headquarters building. In addition, this alternative lacks the corporate meeting house as well as the active and passive recreation provided by the proposed action. Traffic patterns would be identical.

2. Alternative 2B: Office Building in Compliance with DOB-20A Zoning

This alternative analyzes a 165,000 square foot office building adjacent to the existing at-grade parking lot, together with a new at-grade parking lot located in the Cooney Hill area. While this alternative meets most of MBIA's objectives, it is not as desirable to the Applicant as the proposed action. The existing and proposed buildings are disconnected and parking is not within a parking garage. Like the proposed action, this alternative would generate significant additional tax revenues. In addition, this alternative provides significant contiguous open space along Cooney Hill Road and Weber Place. Under this alternative, the amenities desired by MBIA, including the corporate meeting house and active recreation, would be provided. Finally, this alternative complies with the existing DOB-20A zoning and does not require zone text amendments.

However, from an environmental perspective, this alternative is not as desirable when compared to the proposed action. First, the location of the new office building does not take advantage of the existing impervious surface which is part of the at-grade parking lot adjacent to the existing headquarters building. Coupled with the new at-grade parking lot proposed for the expansion, this alternative results in an additional 5 acres of impervious surface, as compared with a net reduction in impervious surface of approximately 11,700 square feet of impervious surface, at full build-out, for the proposed action.

3. No Increase in Impervious Surface

a. Alternative 2C-1: No Increase in Impervious Surface (Taller Office Building and Parking Structure)

Given the proximity of the Kensico Reservoir, the Lead Agency requested an analysis of at least one alternative which would result in no increase in impervious surface over the existing conditions. Three separate alternatives that provide different means of achieving that goal were analyzed in the DEIS. As described in more detail above, the FEIS mitigation plan represents another alternative which both meets the goals of the sponsor, but also results in a net decrease in impervious surface over present conditions.

The first alternative in this group achieves the objective of no increase in impervious surface by substantially reducing the footprint of the proposed office building expansion and parking structure. In this fashion, this alternative is able to accommodate MBIA's objectives, including a connected headquarters building, the corporate meeting house, active and passive recreation. However, this plan does not address vertical and internal circulation issues, and has not been agreed-upon by the project sponsor. The open space associated with this alternative is virtually identical to that of the proposed action. The taxes that would be generated would be essentially identical to that of the proposed action.

The principal disadvantage of this plan is that, in order to meet the requirement of no increase in impervious surface, the footprints of the proposed office building and parking structure had to be significantly reduced, resulting in substantial increases in the height of these two structures to achieve the same area of office space and number of parking spaces. Specifically, the footprint of the proposed office building has been reduced from approximately 67,000 square feet to 25,000 square feet, while the footprint of the parking structure has been similarly reduced from approximately 72,500 square feet to 48,600 square feet. With respect to the office building, the reduction in footprint necessitates an increase in height from 3 stories to 9 stories in order to achieve the 165,000 square feet of office space. The parking structure has likewise increased in height from 5 stories to 7 stories.

This significant height increase for the office building is inconsistent with present zoning, the Comprehensive Plan, and the other campus/office buildings in the King Street corridor. The additional height required by this alternative would have significant visual impacts along King Street when compared to the proposed action.

b. Alternative 2C-2: No Increase in Impervious Surface (Office Building with Limited Amenities)

Like the previous alternative, the object of Alternative 2C-2 is to provide an alternative that results in no increase in impervious surface. Unlike the prior alternative, which achieved this goal by reducing building footprint and increasing height, Alternative 2C-2 holds the proposed building footprint and achieves no increase in impervious surface largely by eliminating all of the amenities and reducing the overall size of the parking structure.

Like the proposed action, this alternative would generate significant additional tax revenues. In addition, this alternative provides substantial contiguous open space in the Cooney Hill area as well as passive recreation. However, this alternative eliminates both the corporate meeting house and the active recreation areas in order to maintain the current level of impervious surface. Also, this alternative substantially reduces the amount of parking available in the parking structure.

c. Alternative 2C-3: No Increase in Impervious Surface (Smaller Footprint Office Building with No Increase in Height)

This alternative is identical to Alternative 2C-1 except that both the proposed office building and parking structure are limited to the currently permitted height in the DOB-20A zone. With the reduced footprint of these structures required in order to meet the objective of no increase in impervious surface, the height limitation reduces the available office space to 55,000 square feet, with a concomitant reduction of additional parking down to 157 spaces. This alternative does not meet the goals and objectives of the project sponsor in that it results in only 1/3 of the additional office space sought by the Applicant. This resultant density is well below the permitted density in the DOB-20A zone.

C. Alternative 3: Office Building with Minimum Parking Required

This alternative is identical to the proposed action except that the parking structure is reduced in size to provide a net increase of 500 parking spaces, as opposed to 916. This reduced number of parking spaces represents the minimum number of parking spaces required by zoning.

This reduction in the size of the parking structure results in smaller decreases in total lot coverage and new impervious surfaces than the proposed action. Building coverage and total lot coverage are each reduced by 1.5% compared with the DEIS plan. Although the amount of parking provided by Alternative 3 meets the minimum parking required by the Zoning Ordinance, it is not sufficient to meet the applicant's objective to provide generous parking for its employees and visitors.

D. Alternative 4: Off-Site Location

This alternative analyzes an off-site facility, such as the renting of 165,000 square feet of office space in White Plains.

In terms of environmental impacts, this alternative would be essentially the same as the no-build alternative in that there would be no additional activities taking place in the Cooney Hill area. However, this alternative does not meet the goals and objectives of MBIA.

Since moving its headquarters from White Plains to Armonk in 1989, MBIA has grown to include two New York City based companies and a large global division. Consequently, the company expanded its Armonk facility twice (in 1989 and 1996) to accommodate the growing needs of the business.

According to MBIA, having all administrative facets of the business housed under one roof promotes cost savings and efficiency, which in turn, allows MBIA to provide its employees, most of whom are Westchester residents, with subsidized benefits and services, such as a professionally run fitness center, a state-of-the-art-cafeteria, and a host of other services on site.

MBIA moved to the Armonk location for its accessibility for its employees, its convenience to New York City, and its support of MBIA's future growth.

E. No Action Alternative

At the time of the preparation of the DEIS, fourteen of the seventeen lots in the Cooney Hill area had been acquired by MBIA. As a result, a no-build scenario maintaining the existing residential homes in this area is unrealistic. Similar to Alternative 1, this alternative is inconsistent with the Town's 1996 Comprehensive Plan Update, which calls for the Cooney Hill area to be rezoned and developed for office use, similar to the surrounding properties. The residential use is also inconsistent with existing corporate development along Route 120, i.e., IBM, Swiss Re, and Citigroup.

The text of the 1996 Town Comprehensive Plan Update recommends that the long term development of the Cooney Hill area should be consistent with the existing office building uses. The text specifically provides, as a goal of the Comprehensive Plan, that the area of which Cooney Hill is a part should be rezoned to office use. Despite the clear objective contained in the text of the Comprehensive Plan, the Town Comprehensive Plan Map identifies the Cooney Hill area as remaining residential. The Town Planning consultant has indicated that the Town Comprehensive Plan Map depicted the Cooney Hill area to remain residential, in the short term, in order to protect the existing residential uses in the area.

At this time, MBIA has acquired title to 15 of the 17 lots in Cooney Hill and has the right of first refusal on one additional lot. As part of the zoning petition submitted by MBIA, it is proposed to amend the Comprehensive Plan Map to be consistent with the Comprehensive Plan text and support the rezoning of the Cooney Hill area from residential to DOB-20A. The Town Board, at its meeting on August 14, 2002, referred this issue to the Planning Board with a request that the Planning Board prepare an appropriate amendment to the Comprehensive Plan Map. The Planning Board discussed this issue at its meeting on September 9, 2002, and conducted a public hearing on this issue on September 23, 2002.

Following the public hearing, the Planning Board adopted a resolution recommending that the Town Board amend the Comprehensive Plan Map to reflect Cooney Hill as being appropriate for office development, consistent with the text of the 1996 Comprehensive Plan Update.

The no-build alternative would provide no additional tax revenues to the various taxing jurisdictions. In addition, the existing homes and associated septic systems would remain, with potential negative impacts on the adjacent Kensico Reservoir. No stormwater controls would be put into place, leaving the possibility of untreated runoff flowing into the reservoir.

The proposed action, in contrast, would eliminate the existing septic fields and underground fuel oil tanks, remove driveways and improve the Cooney Hill area with passive and active recreation.

IV. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

A. Land Use

1. Impacts and Proposed Mitigation

The proposed MBIA corporate headquarters expansion is compatible with surrounding land uses, although there will be potential land use impacts to the adjacent two residential properties not owned by MBIA. The neighborhood will become less residential in character with the proposed MBIA expansion and removal of the vacant homes owned by MBIA. In addition, construction, visual and traffic impacts will affect the two remaining private residential properties.

Mitigation for neighboring properties will include the following:

- Construction activities will be limited to weekdays between the hours of 7:00 AM and 4:00 PM.

- Dust from construction activities will be mitigated by implementing typical dust prevention methods including crushed stone truck pads, the us of watering trucks daily when the temperature is above freezing and seeding exposed areas with quick germinating turf grass and provision for appropriate mulching in these area to provide plant cover to retain soil and minimize dust.

- The majority of the proposed construction will occur at a significant distance from the remaining residential properties.

- The Applicant will implement a vegetative screening plan around the MBIA corporate meeting house to screen adjacent residential properties.

- On site amenities would be limited to 6:00 AM to 8:00 PM, Monday through Friday. The outside multi-use athletic court would be lit, with fixtures that would direct light down and avoid spillage onto adjacent properties and King Street.

- MBIA will forego any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA:

  - o Such restriction on development shall be memorialized, either prior to site plan approval or as a condition thereof, but in no event more than six (6) months from the date of adoption of this Findings Statement, in a conservation easement to an entity, mutually agreed upon by MBIA, the town , NRDC, and The Riverkeeper, which entity is committed to the preservation of open in perpetuity for the purpose of protecting the Kensico Reservoir;

  - o The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the DEP property. The balance of the conservation easement area shall be revocable, the easement as to the revocable area may only be revoked if the following two conditions are met:

- MBIA has not constructed both the proposed office building ad the associated parking structure; and

- MBIA sells the Cooney Hill lots to at third party for a standalone development.

- Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by NYCDEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonable be placed outside of the conservation easement area, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, no shall nay limitation so imposed reduce the lots area(s) for purposes of bulk and density requirements.

2. Discussion and Findings

Based upon implementation of the above-described mitigation measures, the Town Board finds that potential impacts due to proposed land use changes will be adequately mitigated.

B. Planning and Zoning

1. Impacts and Proposed Mitigation

The MBIA property is zoned DOB-20A "Designed Office Business 20A District." The Cooney Hill properties to the north of the existing MBIA office site are zoned R-1A "One Family Residence District," Two homes in the Coney Hill area remain under private residential ownership.

Surrounding land uses include the Swiss Re U.S. Headquarters site, the Citigroup Executive Conference Center, IBM World Headquarters, New York City Department of Environmental Protection (NYCDEP) land as well as the residential properties in the Cooney Hill neighborhood.

MBIA has requested that the Town Board consider rezoning the Cooney Hill area from R-1A to the DOB-20A zone to be consistent with the 1996 Town of North Castle Comprehensive Plan.

Specifically, the Town of North Castle 1996 Comprehensive Plan states that the "Area bounded by the Armonk retail center to the north, Westchester County Airport and the watershed lands to the south, I-684 on the east, and the RELIP District on the west should be rezoned from residential to office use with floor area ration (FAR) controls to regulate the intensity of development."

The rezoning of the Cooney Hill area from R-1A to DOB-20A would permit the two remaining residence to continue in existence as legal non-conforming uses. Over time, these non-conforming uses would be expected to conform with the uses permitted in the DOB-20A zone.

In addition, to the proposed rezoning of the Cooney Hill Area, MBIA is petitioning the Town Board to amend the special permit provisions of the DOB-20A district. Specifically, MBIA is proposing to modify the special permit requirements as follows:

i. At least 90% of the parking shall be provided in structured parking garages.

ii. The development site shall contain on-site amenities, such as cafeteria and/or exercise facilities, which limit the amount of traffic generated between the project site and the Armonk Hamlet area.

iii. Reduce the maximum permitted lot coverage from 60% to 35%.

iv. Permit the minimum 100 foot rear yard setback to be calculated on an average basis.

v. Establish a minimum front yard building setback of 100 feet.

vi. Parking areas and internal circulation roadways would be permitted within wetland buffers provided they are not within 10 feet of the property line.

Furthermore, the Applicant is proposing two zoning text amendments relating to the height of buildings. The first change proposes that building height be measured from the average level of the finished grade adjacent to the exterior walls of the building, if the building is more than ten feet from the property line. This language is consistent with how height is measured in other zoning districts within the Town.

The second change relates to projecting features above roof level, as governed by Section 213-14(E) of the Town Code. MBIA proposes that the Planning Board be given the responsibility for permitted additional height instead of the Zoning Board of Appeals.

In addition, the Westchester County Planning Board in its November 20, 2002 letter stated that the proposed MBIA expansion project is consistent with the polices and strategies of *Patterns for Westchester,* the County's long-range land use planning policy document with regard to density of development, relationship to surrounding development and visual impacts.

2. **Discussion and Findings**

The Town Board finds that:

- If the proposed rezoning of the Cooney Hill area is adopted, all remaining single family homes would be permitted to remain as legal non-conforming uses.
- The proposed rezoning of the Cooney Hill area would be consistent with the Town of North Castle 1996 Comprehensive Plan.
- The proposed amendments to the special permit requirements permit added flexibility on the odd shaped lot(s) owned by MBIA.
- The proposed Comprehensive Map amendment would be consistent with the Comprehensive Plan text which states that the "area bounded by the Armonk retail center to the north, Westchester County Airport and the watershed lands to the south, I-684 on the east, and the RELIP District on the west should be rezoned from residential to office use with floor area ration (FAR) controls to regulate the intensity of development."
- The proposed zone text amendments would permit the Applicant's desired corporate office development in an area that would have the least impact to adjacent property owners and permit the development in an area currently supplied with adequate infrastructure.
- The removal of the "Bolbrock" easement would not have any

impact on neighboring residential properties given the acquisition of the additional residential lots by MBIA.

- MBIA will forego any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA:

  - o Such restriction on development shall be memorialized, either prior to site plan approval or as a condition thereof, but in no event more than six (6) months from the date of adoption of this Findings Statement, in a conservation easement to an entity, mutually agreed upon by MBIA, the town , NRDC, and The Riverkeeper, which entity is committed to the preservation of open in perpetuity for the purpose of protecting the Kensico Reservoir;

  - o The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the DEP property. The balance of the conservation easement area shall be revocable, the easement as to the revocable area may only be revoked if the following two conditions are met:

    - MBIA has not constructed both the proposed office building ad the associated parking structure; and

    - MBIA sells the Cooney Hill lots to at third party for a standalone development.

- Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by NYCDEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonable be placed outside of the conservation easement area, related to the duly approved re-development of the Project

Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, no shall nay limitation so imposed reduce the lots area(s) for purposes of bulk and density requirements.

- The Westchester County Planning Board indicated that the proposed MBIA headquarters expansion is consistent with "Pattern for Westchester", the County's long-range land use planning policy document.

- Existing stone walls on the site will be retained in all areas not proposed for regrading or development, including all the stone walls along King Street and Cooney Hill Road. Existing stone walls will also be repaired and a new stone wall will be constructed as necessary in order to provide a continuous stone wall along the entire King Street and Cooney Hill Road rights-of-way with the exception of the Takeda frontage.

- Any outdoor lighting proposed in the vicinity of neighboring residential properties will incorporate sharp cutoff fixtures which will not "spill" light beyond the property line. Proposed parking structure lighting will be shielded to prevent spillage onto King Street.

- The Planning Board will confirm the acceptability of the proposed areas of disturbance as defined by Clearing and Grading Limit Lines.

- The Applicant will need to propose a detailed planting plan that screens the Proposed Action from King Street and neighboring properties to the maximum extent practicable.

- Subject to securing approval of the requested zone change, special permit amendments, zoning text amendments and the above referenced mitigation measures, the Proposed Action is consistent with applicable zoning and land use regulations of the Town. Accordingly, there will be no significant adverse impacts with regard to planning and zoning issues.

B. Soils and Geology

1. Impacts and Proposed Mitigation

Grading operations and clearing of vegetation will necessarily impact the soils on the site. All soils have an increased potential for erosion when vegetation is cleared and soils are exposed.

The potential for soil erosion impacts will be limited primarily to the period during and shortly after construction, and will be mitigated to the maximum extent practicable by implementing a soil erosion and sedimentation control plan to be approved by the Planning Board. Long-term erosion and sedimentation impacts will be mitigated due to the revegetation of disturbed soils and implementation of the proposed stormwater management system.

In order to reduce the amount of blasting required, the existing topography will be utilized to the maximum extent practicable in the proposed development plan. The plan will avoid large rock outcrops wherever possible.

To minimize adverse effects from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

2. Discussion and Findings

The Town Board finds that:

- MBIA will redevelop the project site such that a net reduction in impervious surface of at least 11,700 sq. ft. is achieved on the project site.

- Disturbance on the site will be limited to the maximum extent practicable by establishing Clearing and Grading Limit Lines, beyond which clearing and regrading and entry of construction vehicles will not be permitted.

- By avoiding regrading to the maximum extent practicable, the amount of proposed disturbance has been minimized in the proposed plan. In order to explore opportunities to further reduce potential disturbance is required.

- The installation of erosion and sedimentation control practices, in accordance with the Westchester County Best Management Practices for Construction-related Activities will be required.

- A detailed erosion control plan has been prepared for the subject site. This plan provides as many safeguards as necessary to prevent erosion impacts, and includes a narrative which summarizes the materials to be used and the sequence of implementation. The Town Board will require that this plan be revised, as necessary, to reflect the design of the project that is approved.

- Extreme care will be taken during the entire construction process to leave as much existing vegetation as possible in place. Any movement of construction equipment beyond the designated construction area swill also be avoided by installing of orange snow fence along ht entire Clearing and Grading Limit Line (C&GLL).

- Construction sequencing techniques and proper storage of stockpiled soils are proposed to minimize the potential for erosion of disturbed soils associated with grading activity.

- Vegetation will not be removed from specific construction areas until as close to the actual scheduled work as possible.

- Stockpiled soils from cut operations and site preparation work will be mulched or otherwise covered and stabilized.

- Erosion control barriers will be installed around the entire perimeter of stockpiled soils.

- Permanent vegetative cover will be established immediately upon achieving the final grade in those areas which are not to be developed with roads, driveways or other impervious surfaces. Temporary seeding or mulching will be used if disturbed areas are left for two (2) weeks or linger between work operations. Contours and slopes in excess of 1:3 will be stabilized with stabilization fabric.

- To minimize adverse effect from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

- The estimated 1,250 truck loads of excess rock will be disposed of off-site by a contractor.

- Based upon implementation of the above-described mitigation measures, the Town Board finds that potential impacts due to soil erosion associated with development of the Proposed Action, will be adequately mitigated.

C. Surface and Groundwater

1. Impacts and Proposed Mitigation

The entire MBIA property and land to be acquired by MBIA as part of the project are located in the drainage basin of the Kensico Reservoir and is located approximately 500 feet from the Kensico Reservoir separated by undeveloped, forested lands owned by New York City.

Impacts are not anticipated as a result of the proposed development with respect to existing hydrologic features since impervious surfaces are proposed to be reduced as compared to existing conditions under the FEIS plan.

The proposed FEIS plan proposes a reduction in impervious surfaces of 11,700 square feet. Even though impervious surfaces would be reduced under the FEIS plan, the Town and the City of New York will require the Applicant to prepare a Stormwater Pollution Prevention Plan (SPPP) since the project site lies completely within the New York City Kensico Reservoir Watershed.

The SPPP will specifically address erosion, sedimentation, stormwater volume, flow rates and pollutant loading. As a result of the SPPP implementation, it is expected that there will be no significant impact on downstream properties, wetlands, ponds and streams and watercourses including the New York City Watershed and the Kensico Reservoir and its floodplain and related wetlands.

A hydrological study has been prepared by Leggette, Brashears & Graham and was submitted as part of the DEIS and supplemented in the FEIS. The groundwater supply will suffer no adverse impacts from development of the MBIA headquarters expansion, since there will be no significant reduction in recharge area.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS.

A de-icing plan was prepared as part of the DEIS and supplemented in the FEIS.

2. **Discussion and Findings**

The Town Board finds that:

- In response to comments on the DEIS, the Stormwater Management Basin has been relocated to the north and west of its former proposed location in order to eliminate any disturbance within the Town-regulated wetland adjacent area. In addition, the basin has been rotated to limit the amount of grading necessary to construct the basin.

- Due to the existence of the adjacent Kensico Reservoir, implementation and maintenance of erosion and sediment control measures will be essential, especially during the construction phase of the proposed development.

- All construction equipment shall be inspected periodically for fuel, oil and grease leaks. Fuel containers are to be located as far from wetlands and surface water as possible and are to be placed in fuel traps consisting of sand over impermeable materials such as plastic lining. These measures shall be enumerated in the contractor's contract.

- A Stormwater Pollution Prevention Plan is being prepared and will be approved by the New York City Department of Environmental Protection.

- The Proposed Action will be required to comply with all requirements of the SPDES General Permit for stormwater discharge associated with construction activity in connection with controlling the project's environmental impacts during all phases of construction.

- All residential wells on properties owned by MBIA will be abandoned as per the requirements listed in Bulletin 42, "Ten State Standards" (1997, Mississippi River Board of State and Provincial Public Health and Environmental Managers) and the Westchester County Department of Health.

- In response to comments on the DEIS, the Town Board will require the preparation of a detailed Integrated Pest Management plan to the satisfaction of the Planning Board demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.

- In response to comments on the DEIS, the FEIS plan has been revised to eliminate the originally proposed water cooled air conditioning system and now proposes an air cooled system. The implementation of this change significantly reduces the water demand on the site (75,600 gallons per day).

- In response to comments on the DEIS, the Applicant will be required to provide a new well, if necessary, for any homeowner impacted by interference caused by MBIA's proposed wells.

- In response to comments on the DEIS, the proposed de-icing plan has been revised to discontinue the usage of sand for interior roadway maintenance. In addition, MBIA will utilize Ice B' Gone 2, the deicer noted in the Watershed Inspector General's report as having the lowest total phosphorus concentration of any deicer tested, in combination with salt.

- The Town of North Castle will require that a qualified consultant monitor water quality during construction to assure full compliance with the SPPP and State water quality standards. MBIA shall be responsible for the reimbursement of any consultant services.

- The management and maintenance of the Stormwater Treatment System shall be monitored by MBIA on an ongoing basis in accordance with a regular schedule (no less than twice each year) to be approved by the Town Planning Board and incorporated as a condition of site plan approval.

- MBIA will comply with the maintenance requirements set forth in the new York State Department of Environmental Conservation's Stormwater Design Manual's section covering Stormwater Ponds.

- Based on implementation of the above-described mitigation measures, the Town Board finds that potential impacts on surface and groundwater resources associated with development of the MBIA headquarters expansion will be adequately mitigated.

D. Wetlands

1. Impacts and Proposed Mitigation

Based upon the proposed FEIS plan, it is anticipated that Town-regulated wetlands would not be disturbed and 10,120 square feet of Town-regulated wetland adjacent area would be impacted by a portion of the proposed walking trail and the installation of a 12-foot wide gravel access road for emergency use.

Potential impacts within regulated adjacent areas relate to proposed clearing and/or grading. Specifically, potential short-term indirect impacts to regulated wetland adjacent areas may occur during and, for a short time, after construction. These temporary impacts involve vegetation removals, soil disturbance and the related potential for soil erosion and sedimentation into wetlands areas. Possible short-term increases in nutrient loadings and stormwater runoff, and a temporary decrease in transpiration due to soil disturbance and vegetation removal, are less significant.

The potential for sedimentation impacts to the adjacent Kensico Reservoir is considered to be remote with the implementation of the proposed erosion and sedimentation control plan.

Temporary and permanent losses to wildlife habitat associated with wetlands adjacent area disturbance will result from the proposed development. The permanent functional losses relate to loss of vegetation.

As mitigation for the proposed Town-regulated wetland adjacent area impacts, MBIA is proposing a significant wetland buffer planting plan. The planting plan includes planting of native shrub and herbaceous species in areas that are currently lawn along the walking path. Some of the existing lawn area of the wetland adjacent area will also be removed and the area will be seeded with a native wildflower seed mix.

2. Discussion And Findings

The Town Board finds that:

- In response to comments on the DEIS, the stormwater management infiltration basin and forebay have been moved out of the wetland buffer area.
- In response to comments on the DEIS, the proposed walking trail has been relocated to be 60 feet from the wetlands as its closest approach.
- In response to comments on the DEIS, the multi-level parking garage has been removed from the on-site wetland buffer.
- In response to comments on the DEIS, all off-site wetland areas with regulated buffers on the site are depicted on all plans. No disturbance is proposed to the associated wetland buffer that extends into the MBIA site.
- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.
- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of wetlands and their adjacent areas outside of these areas.
- A wetland buffer planting plan has been proposed. This plan will need to be prepared to the satisfaction of the Planning Board as a condition of site plan and wetlands permit approvals.
- The Town Board notes that the Proposed Action would affect 10,120 square feet of Town-regulated wetland adjacent area and 17,273 square feet of wetland buffer mitigation planting is proposed to mitigate the impacts associated with the proposed wetland buffer impacts.

- The Applicant will be required to secure a Wetlands Permit from the Planning Board.
- Based on the absence of direct impacts to Town-regulated wetlands, the proposed erosion and sedimentation control measures to be employed and the proposed wetland buffer mitigation planting plan, the Town Board finds that there will be no significant impact to wetlands or adjacent areas.

E. Vegetation

1. Impacts and Proposed Mitigation

Nearly the entire project site has been developed for commercial or residential use. The south portion of the site contains the MBIA office complex that consists of buildings, parking lots, a parking deck and a constructed pond that are surrounded by lawn and landscaped areas. The northern portion of the site consists of residential lots with single family homes that are surrounded by maintained lawns and landscaped areas. Vegetative species present on the site are typical of maintained areas within a residential setting. There are no rare habitats on, or adjacent to, the site that may be expected to provide habitat for protected species.

The residential portion of the site will be modified as a result of the proposed project. The majority of the Cooney Hill area will be utilized for passive and active recreation. The proposed landscaping plan will incorporate natural meadow with shrub and tree planting to provide a naturalistic setting.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS. This plan will provide a method for minimizing the amount of pesticides and/or fertilizers applied to the site.

As depicted on the FEIS plan as well as on the preliminary planting plan, extensive areas of exiting trees and vegetation will be maintained on the site and a significant amount of vegetation is proposed to reforest the site.

The primary mitigation technique for minimizing vegetative impacts associated with the development of the Proposed Action will be the implementation of a planting plan. In addition, the Applicant will be required to establish Clearing and Grading Limit Lines which define the maximum limits of disturbance. Furthermore, where trees to be preserved are located within the areas defined by the designated Clearing and Grading Limit Lines, the installation and maintenance of tree protection measures around such trees during construction will be required.

The Applicant will also implement a wetland adjacent area mitigation plan developed to the satisfaction of the Planning Board. The plan will include plants with wildlife value to mitigate for the loss of habitat.

2. Discussion and Findings

The Town Board finds that:

- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of vegetation outside of the areas defined by these lines.
- A planting plan has been proposed that results in the revegetation of the site to the maximum extent practicable.
- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.
- In response to comments on the DEIS, tree armor to protect individual trees and a 4-foot high constriction fence at the drip line of all trees to be preserved will be required.
- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle at the time of site plan review.
- In response to comments on the DEIS, the large Maple trees which exist along King Street will be preserved through the prohibition of grading adjacent to the trees. In addition, the Town of North Castle will require the Applicant to retain the services of an arborist or other qualified processional to assess the existing condition of those trees as well as offer specific mitigation measures aimed to protect the Sugar Maple trees.
- In response to comments on the DEIS, the Town Board will require the preparation of a detailed Integrated Pest Management plan to the satisfaction of the Planning Board

demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.
- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.
- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.
- Only low phosphorous fertilizers shall be used.
- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.
- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.
- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.
- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.
- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.
- As a result of these and other proposed mitigation measures, the Proposed Action will not have a significant adverse impact on vegetation.

F. Wildlife

1. Impacts and Proposed Mitigation

Nearly the entire project site has been developed for commercial or residential use. The south portion of the site contains the MBIA office complex that consists of buildings, parking lots, a parking deck and a constructed pond that are surrounded by lawn and landscaped areas. The northern portion of the site consists of residential lots with single family homes that are surrounded by maintained lawns and landscaped areas. Wildlife expected to occur within the habitats on the property include species typical to suburban settings that are relatively tolerant to humans.

The New York State Department of Environmental Conservation Natural Heritage Program (NYS NHP) was contacted regarding any known occurrences of endangered, threatened or special concern species of plants or animals or significant habitats on the site. The response letter from the NYS NHP indicated that the Kentucky warbler (Oporornis formosus) was spotted in the Town of North Castle in 1985. The Kentucky warbler is not a Federal or State listed Threatened or Endangered species and is not protected per the Federal Endangered Species Act nor per the New York State ECL Section 11-0535 (Endangered and Threatened Species). This species is also not listed as a State Special Concern species. The Kentucky warbler is protected per ECL Section 11-0103, under which all wild birds are protected (except for a few non-native invasive species, e.g., English sparrow). The Kentucky warbler is a southern species that is at the northern edge of its range in New York State (according to The Atlas of Breeding Birds of New York State). The Kentucky warbler is a ground nesting species with a breeding habitat of mixed hardwood forest with a dense understory of shrubs and vines near streams or wetlands. Given the habitat requirements of this species it is unlikely that it would utilize the habitats on the site for breeding.

The residential portion of the site will be modified as a result of the proposed project. The majority of the Cooney

Hill area will be utilized for passive and active recreation. The proposed landscaping plan will incorporate natural meadow with shrub and tree planting to provide a naturalistic setting.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS. This plan will provide a method for minimizing the amount of pesticides and/or fertilizers applied to the site.

As depicted on the FEIS plan as well as on the preliminary planting plan, extensive areas of existing trees and vegetation will be maintained on the site and a significant amount of vegetation is proposed to reforest the site.

The primary mitigation technique for minimizing wildlife impacts associated with the development of the Proposed Action will be the implementation of a planting plan. In addition, the Applicant will be required to establish Clearing and Grading Limit Lines which define the maximum limits of disturbance. Furthermore, where trees to be preserved are located within the areas defined by the designated Clearing and Grading Limit Lines, the installation and maintenance of tree protection measures around such trees during construction will be required.

The Applicant will also implement a wetland adjacent area mitigation plan developed to the satisfaction of the Planning Board. The plan will include plants with wildlife value to mitigate for the loss of habitat.

2. Discussion and Findings

The Town Board finds that:

- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of vegetation outside of the areas defined by these lines and thereby provide the maximum amount of wildlife habitat.

- A planting plan has been proposed that results in the revegetation of the site to the maximum extent practicable.

- Given the habitat requirements of Kentucky warbler it is unlikely that it would utilize the habitats on the site for breeding.

- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle at the time of site plan review.

- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.

- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.

- In response to comments on the DEIS, the Town Board will require the preparation of a detailed Integrated Pest Management plan to the satisfaction of the Planning Board demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.

- As a result of these and other proposed mitigation measures, the Proposed Action will not have a significant adverse impact on wildlife.

G. Traffic and Transportation

1. Impacts and Proposed Mitigation

It is anticipated that the Proposed Action would generate 222 vehicles utilizing the north entrance (Cooney Hill Road) during the morning rush hour, with some 165 vehicles using that same entrance during the evening rush hour. The existing MBIA entrance would accommodate some 219 vehicles entering or leaving the site during the morning rush hour, with some 236 during the evening rush hour.

The New York State Department of Transportation (NYSDOT) as part of its Draft and Final Environmental Impact Statements for the improvements from NY Route 22 to Interchange 2 on I-684 have indicated that the bridge over I-684 and the IBM (Swiss Re) driveway will remain a two-lane highway with turn lanes at the appropriate locations. MBIA is currently served by a left turn lane at the MBIA driveway and a left turn lane is provided at the Swiss Re/IBM driveway. The NYSDOT as part of its proposed program along Route 120 plans to construct a left turn lane at Cooney Hill Road, signalize that location and also relocate the current access road for Citigroup (Formerly Travelers).

It is noted that the NYSDOT plans anticipated the Proposed Action and the traffic generation associated with the MBIA headquarters expansion.

Level of Service (LOS) analyses performed showed satisfactory operations, with Levels of Service in the A to C range.

It is noted that the MBIA site is served by the Westchester County Bee-Line. In addition, MBIA provides its own, private mass transit van service to the White Plans Metro North station. Impacts to the Metro North train system and Bee-Line bus service are anticipated to be minimal.

During the on-site construction phase, construction truck traffic will be limited to off-peak hours.

2. Discussion and Findings

The Town Board finds that:

- In response to comments on the DEIS, the Applicant has agreed to post a maintenance bond in the amount necessary to repair area roadways in the event that construction traffic creates impassable conditions.
- In response to comments on the DEIS, the Applicant has agreed to dedicate the amount of land necessary adjacent to Cooney Hill Road to provide a right-of-way at least 25-feet in width from the centerline of the road.
- As a result of the improvements to be implemented by the NYSDOT, traffic impacts to area roadways will be minimal and, therefore, additional off-site road improvement will not be needed.
- Impacts to public transportation systems will not be adversely impacted.
- Construction traffic will utilize off-peak hours to minimize adverse traffic impacts.

H. Visual Resources

1. Impacts and Proposed Mitigation

The Proposed MBIA headquarters expansion is anticipated to visually impact the two remaining homes in the Cooney Hill area and impact motorists traveling on King Street. However, existing topography and the proposed creation of bermed buffers will limit views into the site as viewed from King Street. In order to further mitigate visual impacts, MBIA has proposed new structures, including the meeting house and the new parking structure, as far away as possible from the remaining residential homes.

For cars traveling south on King Street, the proposed parking structure will be visible. In an effort to reduce the visual impact of the structure, MBIA has proposed a heavily landscaped berm between the parking structure and King Street.

MBIA is also proposing a landscaped berm between the existing signalized entrance and Cooney Hill Road in order to reduce visual impacts in that area.

In addition, MBIA will preserve as much natural vegetation along King Street as possible, with particular attention paid to preserving existing Street Trees.

2. Discussion and Findings

The Town Board finds that:

- The Planning Board will confirm the acceptability of the proposed areas of disturbance as defined by Clearing and Grading Limit Lines.
- The Applicant will need to propose a detailed planting plan that screens the Proposed Action from King Street and neighboring properties to the maximum extent practicable.
- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle at the time of site plan review.
- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.

- In response to comments on the DEIS, the large Maple trees which exist along King Street will be preserved through the prohibition of grading adjacent to the trees. In addition, the Town of North Castle will require the Applicant to retain the services of an arborist or other qualified processional to assess the existing condition of those trees as well as offer specific mitigation measures aimed to protect the Sugar Maple trees.

- In response to comments on the DEIS, the Applicant has prepared a future conditions view from a vehicle traveling southbound on King Street and a future conditions view of a vehicle traveling Northbound on King Street.

- Any outdoor lighting proposed in the vicinity of neighboring residential properties will incorporate sharp cutoff fixtures which will not "spill" light beyond the property line. Proposed parking structure lighting will be shielded to prevent spillage onto King Street.

- Existing stone walls on the site will be retained in all areas not proposed for regrading or development, including all the stone walls along King Street and Cooney Hill Road. Existing stone walls will also be repaired and a new stone wall will be constructed as necessary in order to provide a continuous stone wall along the entire King Street and Cooney Hill Road rights-of-way with the exception of the Takeda frontage.

- Based upon the mitigation measures listed above, the Proposed Action will not have a significant adverse effect on visual resources.

I. Construction Impacts

1. Impacts and Proposed Mitigation

Potential impacts from construction activities will consist of noise associated with construction vehicles and construction activity, noise and vibrations associated with blasting activity, and sediment and erosion associated with the proposed construction activities.

Noise associated with construction vehicles, blasting, and other construction activity is an unavoidable impact of development. Noise will be mitigated by limiting hours of construction activity between the hours of 7:00 AM and 4:30 PM.

Short term impacts to air quality from dust will be mitigated through the use of crushed stone track pads, watering trucks and seeding exposed soil.

Construction traffic is proposed to occur throughout the day and occur between the hours of 6:30 AM and 4:30 PM, depending on the period of construction. It is anticipated that most traffic would access the site via Interstate 684.

Existing vegetation will not be removed from construction areas until as close to the actual scheduled work as possible to retain as much visual and noise buffer as practical. The existing topography has been utilized to the maximum extent practicable in order to reduce the need for blasting.

To minimize adverse effects from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

Erosion and sediment controls will be employed in accordance with the Westchester County Best management Practices throughout the construction period, and disturbed areas will be stabilized and revegetated immediately upon achieving final grade. Long-term erosion potential will be minimized by revegetating disturbed soils and implement the proposed stormwater management system.

In an effort to further reduce construction impacts, the Applicant is proposing phased development in which the meeting house and recreational structures would be constructed first and the new office building and parking structure would be constructed at a later time.

2. Discussion and Findings

The Town Board finds that:

- Noise associated with the construction activities is unavoidable and will be mitigated to the maximum extent practical by limiting hours of operation and by retaining as much vegetative buffer as possible throughout the construction period.

- Vibration associated with blasting will be minimized to the maximum extent practical through the review process associated with standards and requirements of the Town Code.

- Sediment and erosion of soils will be minimized to the maximum extent practicable through the use of sediment and erosion controls in accordance with the Westchester County Best Management Practices, and the immediate revegetation of disturbed areas.

- The maximum area to be disturbed at any one time shall not exceed 5 acres.

- The Town of North Castle will require that a qualified consultant monitor water quality during construction to assure full compliance with the SPPP and State water quality standards. MBIA shall be responsible for the reimbursement of any consultant services.

- In response to comments on the DEIS, the Applicant submitted a preliminary site safety program as part of the FEIS.

- Impacts to air quality will be adequately mitigated through the use of dust reducing techniques.

- Impacts from construction will be adequately mitigated by staggering construction traffic and the use of Interstate 684 rather than local roads.

- Construction impacts in general will be reduced through the use of construction phasing thereby reducing the total amount of construction activity on the site at any one time.

J. Utilities

1. Impacts and Proposed Mitigation

Electrical service for the MBIA headquarters expansion will be provided by Consolidated Edison. All construction will be in accordance with Con Ed requirements. The existing electric service will be extended underground into the site form existing overhead lines. Underground electric service will be provided in accordance with the requirements of Con Ed. Con Ed will need to determine whether the existing transformer is adequate or whether a new transformer would be required.

Telephone service will be provided by Verizon. Construction of upgraded telephone service will be in accordance with Verizon requirements. Underground service will be provided.

Gas service will be provided by Con Ed. Additional gas service will be installed in accordance with the requirements of Con Ed.

The Cooney Hill properties are not located within an existing sewer district. MBIA is petitioning the Town Board to expand Sewer District No. 3 to include the Cooney Hill properties. It is noted that the proposed 50,950 gallons per day design flow for the expansion of Sewer District No. 3 is 29,130 gpd greater than the allocation given at the creation of the District in 1992 of 21,820 gpd. However, the current infrastructure in Sewer District No. 3 has sufficient capacity to handle MBIA's increase in flows based upon its historic flow rates as well as future building expansion anticipated on the Swiss Re property.

MBIA is not located within any Town of North Castle water district and, therefore, all water will be provided by private wells located on the MBIA property.

The DEIS plan anticipated providing a water cooled air conditioning system requiring significant amounts of water. Based upon comments received during the FEIS review process, the Applicant has revised the plans to provide for an air cooled system thereby dramatically reducing the amount of water required for the MBIA headquarters expansion.

The MBIA headquarters expansion will create a total site water demand of 70,900 gallons per day (49.236 gallons per minute). MBIA will be able to provide 139,680 gallons per day (97 gallons per minute).

2. **Discussion and Findings**

The Town Board finds that:

- In response to comments on the DEIS, an air-cooled air conditioning system is proposed rather than originally proposed water intensive water-cooled system.

- The Applicant will provide an Engineer's Report and details of the proposed sewer connection to the Sewer District No. 3 pump station describing whether the current system can accommodate the proposed flows and whether there are any improvements or upgrades necessary to accommodate the proposed MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in electricity consumption resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with telephone service resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in natural gas consumption resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in sewage generation expected to result from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in water consumption expected to result from the MBIA headquarters expansion.

K. Community Services

1. Impacts and Proposed Mitigation

The proposed MBIA headquarters expansion is anticipated to result in a minor increase in the need for police, fire and ambulance services.

In addition, the Proposed Action is anticipated to result in additional waste.

Correspondence and discussions with the Police Department indicate that the Police Department has the capacity to accommodate the proposed MBIA expansion.

Furthermore, the Armonk Fire Department has indicated that it is prepared to accommodate the proposed MBIA office expansion.

The increase in waste generated is not expected to create significant impacts upon the private carter or upon local landfills.

Owing to the lack of significant impacts on community services, no mitigation measures other than those presently undertaken are proposed by the Applicant.

2. Discussion and Findings

The Town Board finds that there will be no significant adverse impacts to community services as a result of the development of the MBIA headquarters expansion.

VI. GENERAL FINDINGS

The Town Board finds that:

- The Town Board has given due consideration to the Final EIS.
- This Findings Statement has been prepared pursuant to and as required by 6 NYCRR Part 617.
- Based upon a review of the potential impacts associated with plans prepared for the Proposed Action, the Town Board has concluded that the MBIA headquarters expansion represented by the FEIS plan, when further revised as discussed in this Finding Statement, will mitigate environmental impacts to a greater extent than the other alternatives; will not result in significant impacts with respect to land use, planning and zoning, will result in the creation of a substantial area of open space, will reduce impervious surfaces as compared to existing conditions, not significantly impact soils and geology, surface and groundwater, wetland, vegetation, wildlife, traffic and transportation and visual resources, utilities and community character. Impacts associated with construction will be mitigated to the maximum extent practicable.
- Consistent with social, economic and other essential considerations from among the reasonable alternatives available, the Proposed Action assessed in the Final EISs, in conjunction with mitigation measures specified in the EIS and this Findings Statement, is an action that minimizes or avoids adverse environmental effects to the maximum extent practicable.
- Consistent with social, economic and other essential considerations, to the maximum extent practicable, adverse environmental effects revealed in the environmental impact statement process will be minimized or avoided by incorporating as conditions to the decision those mitigative measures that were identified as practicable in the EIS and this Findings Statement.

NOW THEREFORE, BE IT RESOLVED, that the above Findings Statement is hereby adopted.

VOTE: Ayes - All
Noes - None

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EXTRACT FROM THE MINUTES OF A REGULAR MEETING OF THE PLANNING BOARD OF THE TOWN OF NORTH CASTLE HELD AT TOWN HALL, ARMONK, NEW YORK ON MONDAY, AUGUST, 16, 2004 AT 7:30 P.M.

PRESENT: Doug Cassetta, Chairman, Town of North Castle Planning Board
Peg Michelman, Town of North Castle Planning Board
Art Adelman, Town of North Castle Planning Board
Hal Simonetti, Town of North Castle Planning Board
John Delano, Town of North Castle Planning Board

ALSO PRESENT: Roland Baroni, Town Attorney
Valerie Desimone, Planning Board Secretary
Nathaniel Holt, Consulting Town Engineer
Adam Kaufman, Consulting Town Planner

PLANNING BOARD FINDINGS STATEMENT
MBIA HEADQUARTERS EXPANSION

After due discussion and deliberation, on motion by Mr. Adelman, seconded by Ms. Michelman, and carried, the following Findings Statement was adopted by the Town of North Castle Planning Board:

I. INTRODUCTION

This document is a Findings Statement prepared pursuant to and as required by Part 617.11 of NYCRR Part 617, Title 6 (the Statewide regulations implementing the New York State Environmental Quality Review Act). This Findings Statement pertains to the environmental review of the proposed MBIA Corporate Headquarters Expansion (the "Proposed Action"). This Findings Statement draws upon the facts and conclusions in the Draft Environmental Impact Statement (DEIS) filed by the Town Board on October 9, 2002 and the Final Environmental Impact Statement (FEIS) accepted by the Town Board, as Lead Agency, on September 10, 2003.

This Findings Statement attests to the fact that the Town of North Castle Planning Board, has complied with all of the applicable procedural requirements of Part 617. in reviewing this matter, including but not limited to:

This Findings Statement also attests to the fact that the Planning Board has given due consideration to the Environmental Impact Statement (EIS) prepared in conjunction with this action and the public comments submitted on such document. Further, this Findings Statement contains the facts and conclusions in the Environmental Impact Statement relied upon by the Planning Board to support its decisions and "indicates the social, economic and other factors and standards" which form the basis for its decisions.[1]

A. Site Description

The existing MBIA headquarters site comprises ±15.95 acres, and consists of two separate tax lots known on the Tax Assessment Map of the Town of North Castle as Section 3, Block 4, Lot 3 B (±14.30 acres) and Section 3, Block 4, Lot 3A (±1.65 acres). The site is zoned DOB-20A "Designed Office Business 20A District." The site has a park-like corporate headquarters character consistent with the neighboring corporate headquarters uses.

The Cooney Hill area, located immediately to the north of the MBIA headquarters site, consists of 17 lots. To date, MBIA has acquired 15 of these 17 lots comprising approximately 20.1 acres

[1]Part 617.11(d)(5).

and has a 16th lot subject to a purchase right of first refusal. The Town Board previously approved a rezoning of the 17 lots from R-1A to DOB-20A. The following chart summarizes the tax lot designation of the Cooney Hill lots, all of which are shown on the Tax Assessment Map as Section 3, Block 4:

Cooney Hill Tax Lots

LOT DESIGNATION	TAX LOT	AREA (ACRES)
1	3A1	1.19
2	3-C	1.00
3	3-H	1.61
4	3-G1	1.03
5	3-G	2.43
6	3F	1.21
7*	3E	1.01
8	3	1.64
9	3D	1.17
10	3-6	1.53
11	3-7	1.04
12	3-8	1.03
13	3-9	1.00
14	3-4	2.06
15	3-3	1.19
16*	3-2	1.01
17	3-1	1.00
TOTAL	17	±22.15

* Not acquired by MBIA

2. Existing Site Character

The Cooney Hill lots contain single family residential homes constructed in the 1950's and 1960's. All but one of the homes owned by MBIA are presently vacant. All of the properties contain underground septic systems and residential wells. The properties are characterized by residential lawn areas, mature landscaping, and trees primarily along residential property lines. A ±0.39 acre portion of an isolated wetland exists in the southerly portion of the Cooney Hill area, north of the location of the proposed MBIA parking structure. The ±0.39 acre on-site wetland is a poorly drained meadow that has been maintained as a lawn. No disturbances are proposed to this wetland.

3. Easements and Private Agreements

As described in more detail below, a Conservation Easement covers Lot 3A1, to prevent any development on that lot. The purpose of the conservation easement was to protect and buffer some of the residential lots in the Cooney Hill area from the corporate development to the south. These lots are now owned by MBIA and no longer require such protection. The Town Board previously authorized the extinguishment of the conservation easement.

4. Surrounding Land Uses

The MBIA site is situated at 113 King Street (NY Route 120) in the Town of North Castle, Westchester County, New York. It borders the west side of King Street, within the southwesterly portion of the Town of North Castle. The existing site driveway provides access to King Street, opposite the Crompton Greenwich American Centre access driveway. This driveway intersection with King Street is signalized.

To the north, 17 residential properties lie within the area known as Cooney Hill. Cooney Hill Road lies adjacent to these properties to the north, and Weber Place provides access to the properties to the southwest of Cooney Hill Road. Cooney Hill Road intersects with King Street north of the existing MBIA site driveway.

Immediately north of the Cooney Hill properties, and across Cooney Hill Road, is the southerly portion of the property owned by Swiss Re America containing their 300,000 square foot U.S. headquarters building.

Located to the northeast of the MBIA property and across King Street from the Cooney Hill properties is the site of the Citigroup Executive Conference Center. IBM's world headquarters is located further to the northeast of the property, across King Street.

Located immediately to the south of the MBIA headquarters site is property owned by the New York City Department of Environmental Protection (NYCDEP). This property is vacant and unoccupied New York City watershed land and is being utilized by the City as a buffer for the Kensico Reservoir, situated to the west.

Located west of the MBIA headquarters site and the Cooney Hill properties is additional land also owned by the NYCDEP. Similarly, this property is vacant, undeveloped, and unoccupied, and is a buffer for the Kensico Reservoir.

NY Route 22, situated approximately one mile to the north, provides access to the City of White Plains to the west and the Armonk Hamlet to the northeast. King Street continues in a generally northerly direction to the Town of New Castle (Chappaqua) approximately 5 miles north of MBIA, and the Taconic State Parkway is approximately 10 miles to the north of the MBIA site.

Interstate 684 Interchange 2 is situated approximately one mile to the south of the site along King Street, as is the entranceway to the Westchester County Airport.

5. Project History Including Prior Approvals and Development

Prior to MBIA acquiring the property, the original office building was developed containing a 93,000 square foot building. MBIA purchased that existing building in April 1989 and occupied the building for its corporate headquarters.

Shortly thereafter, MBIA prepared and processed several related applications before the Town of North Castle, including an Amended Site Plan Application associated with a 60,000 square foot expansion. Following a complete zoning, environmental and engineering review process, on December 11, 1989, the Planning Board adopted an Environmental Findings Statement and granted amended site plan approval for the 60,000 square foot expansion including a 60,000 square foot transfer of density from what is now the Swiss Re parcel.

Also in 1989, and as part of the expansion of the original headquarters building, MBIA acquired a separate tax lot located immediately north of the existing headquarters, consisting of a parcel of approximately 1.6 acres in size, and known on the Tax Assessment Map as Section 3, Block 4, Lot 3A. At the time of acquisition, that additional lot was zoned R-1A (single family residential).

In order to construct the 60,000 square foot expansion, MBIA applied to the Zoning Board of Appeals of the Town of North Castle for several area variances. The Zoning Board of Appeals approved the requested variances. As part of this approval, MBIA agreed to place a Conservation Easement on Lot 3A, preventing any development on the northerly 90 feet of that lot. The purpose of the Conservation Easement was to protect and buffer some of the residential lots in the Cooney Hill area from the corporate development taking place to the south. As of the date of this findings statement, MBIA owns Cooney Hill lot numbers 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, and 17. Two lots, 7 and 16, remain under private residential ownership.

On April 5, 1996, MBIA submitted a Petition to the Town Board, seeking a rezoning of Lot 3A from R-1A to DOB-20A, which was the zoning designation of the headquarters parcel. In addition, the Petition submitted by MBIA requested certain text amendments to the Zoning Ordinance of the Town of North Castle to create a new special permit section to govern the development of DOB-20A sites. The Petition also requested PDCP (Preliminary Development Concept Plan) approval of a plan showing an expansion of MBIA's corporate headquarters to a total of approximately 235,000 square feet. Finally, the Petition sought an amendment to the Conservation Easement, which would permit certain limited development on the northerly portion of Lot 3A. On June 27, 1996, the Town Board granted the requested rezoning, adopted the special permit text amendments, approved the amendment to the Conservation Easement, and granted PDCP approval for the expansion.

On July 15, 1996, MBIA submitted an application for a Special Use Permit in accordance with the recently adopted Zone Text Amendments. On September 12, 1996, the Town Board granted the requested Special Use Permit, thereby allowing the Planning Board to grant site plan approval to expand the existing corporate headquarters to 235,000 square feet.

Following approval of the Special Permit by the Town Board, the Planning Board, on September 16, 1996, granted Amended Site Plan Approval to permit the expansion of the corporate headquarters to a total of 235,000 square feet. The site plan approval allowed construction of the recently completed new wing of the building as well as the parking garage on the southerly portion of the site. This Amended Site Plan Approval was readopted, with very minor amendments, on October 7, 1996.

On February 10, 1997, the Planning Board granted Second Amended Site Plan Approval to permit several canopies to be installed over the entrances to the headquarters building and the parking structure.

On May 5, 1997, the Planning Board granted Third Amended Site Plan Approval and amended wetlands permit approval to permit modest modifications to the parking plan as well as the installation of additional landscaping and a landscaped berm on the site.

On January 26, 1998, the Planning Board granted Fourth Amended Site Plan Approval associated with modifications to the building footprint, caused by certain revised internal layouts and structural considerations.

MBIA then sought the necessary approvals to construct a temporary 60 space parking area located immediately north of the existing parking lot, use of a second and temporary accessway located north of the existing site access on King Street, and other related matters. Those proposed modifications required three separate approvals from the Town. On July 16, 1998, the Town Board approved an amendment to the Conservation Easement on the northern portion of MBIA's property to accommodate the proposed gravel parking lot and secondary access. On June 27, 1998, the Zoning Board of Appeals granted MBIA's application for a temporary use variance to permit the secondary access to be located on a residentially zoned lot that had previously been purchased by MBIA (the Bolbrock lot, known as Section 3, Block 4, Lot 3A1). On August 10, 1998, the Planning Board granted Fifth Amended Site Plan Approval to MBIA to permit construction of the gravel parking lot, secondary access and related items, including approximately 25,000 square feet of amenity space in the basement of the expansion.

On April 26, 1999, the Planning Board granted Sixth Amended Site Plan Approval to add a new stairway below the existing bridge connecting the two buildings on the property.

Finally, on December 13, 1999, the Planning Board granted Seventh Amended Site Plan Approval associated with the construction of a salt storage structure on the premises, to modify the configuration of the previously approved land banked parking and to utilize the previously approved temporary construction access on Route 120 as a permanent emergency access drive only.

All of these approvals received by MBIA have conformed in every respect to the then applicable NYCDEP regulations to protect the adjacent watershed property.

II. PROPOSED ACTION

A. Project Description

1. Original Project - DEIS

The DEIS examined the potential impacts of the proposed expansion of MBIA's corporate headquarters located in Armonk, New York.

MBIA has grown rapidly through the acquisition of other companies and strong performance in the market place. According to the Applicant, the current facility is insufficient to accommodate its future needs. The proposed development is concentrated in and around the existing headquarters building, leaving large areas of open space and minimizing new impervious surface.

MBIA's current headquarters is located on two tax lots which total 15.95 acres and are zoned DOB-20A (Designed Office Business). This headquarters site contains the existing 261,000 square foot MBIA headquarters building, a five level parking structure at the southerly portion of the site, a stormwater management pond west of the parking structure and south of the MBIA office building and a house constructed in the 1820's located in the southerly portion of the site. There are currently 644 parking spaces on the site, including 315 in the existing parking structure and 329 in an at-grade parking lot to the west and north of the existing MBIA office building.

The DEIS Plan proposed an expansion consisting of 165,000 square feet of additional office space, 58,000 square feet of new amenity space, a 15,000 square foot corporate meeting house, a 5 level parking garage (with 2½ levels constructed below grade), recreational amenities for employees including a 1.6 mile walking/jogging trail, exercise benches along the trail, tennis and basketball courts and associated onsite improvements including a proposed decorative/stormwater management basin and two water quality basins.

To accommodate the proposed expansion, MBIA has acquired 15 of the 17 residential lots located adjacent to the MBIA site to the north. These lots are located in the Cooney Hill area and are now zoned DOB-20A. A 16th lot is subject to a right of first refusal in MBIA's favor. The remaining lot in the Cooney Hill Area is still owned by its individual owners. The Town Board previously rezoned of all 17 of the Cooney Hill lots from R-1A to DOB-20A, consistent with the existing MBIA site's zoning, and the Town's Comprehensive Plan.

The density of office space from the Cooney Hill lots will be developed largely on the existing MBIA headquarters site, in order that the additional 165,000 square foot expansion be physically proximate and connected to the existing headquarters building. According to the Applicant, this physical proximity and connection will permit MBIA to take advantage of economies of scale in constructing and operating the expanded headquarters buildings, and will also permit MBIA to utilize the existing impervious surface of the at-grade parking lot for the new building, thereby significantly reducing any increased impervious surface which might otherwise result from the proposed new development.

Under the DEIS plan, the existing parking structure situated to the south of the existing building will remain. A water quality basin and a decorative/storm water management basin are proposed to the east of the new office expansion, and a water quality basin and stormwater management basin are proposed within the Cooney Hill area.

MBIA will demolish the homes in the Cooney Hill area. This demolition, including the homes, driveways, walkways, and patios, will result in a decrease of impervious surface of approximately 77,000 square feet (1.77 acres) for the lots owned by MBIA. Given the demolitions to take place in the Cooney Hill area and the construction of the proposed 165,000 square foot office expansion and the new parking structure and roadway, the net increase in impervious surface under the DEIS plan would have been approximately 70,207 square feet (1.6 acres) for the entire project. The additional stormwater runoff generated by the overall increase in impervious surface will be mitigated by the proposed Stormwater Pollution Prevention Plan which will attenuate the peak rate of runoff from the site and treat the stormwater runoff in accordance with the requirements of the New York City Department of Environmental Protection (NYCDEP) and the New York State Department of Environmental Conservation (NYSDEC), thereby protecting the adjacent watershed.

The New York State Department of Transportation (NYSDOT) recently completed its environmental review of a series of proposed roadway improvements for I-684 Exits 2 and 3, as well as Routes 22 and 120 in the Town of North Castle. That review process included both a Draft Environmental Impact Statement and a Final Environmental Impact Statement. As part of that environmental review, NYSDOT reviewed the traffic impacts associated with a potential 165,000 s.f. of additional office space which could be developed from available density in the Cooney Hill area. The environmental review conducted by NYSDOT concluded that the traffic impacts associated with their proposed roadway improvements, including the additional traffic which would be generated by an additional 165,000 s.f. of office space, would not have a significant adverse impact upon the environment.

As part of the demolition of the homes in Cooney Hill, these individual septic systems and fuel oil tanks will be completely eliminated. The elimination of the septic systems and fuel tanks would remove the potential for pollutants leaching into the ground.

The Cooney Hill lots will be utilized largely for passive recreational use and the stormwater management features mentioned above. A corporate meeting house of approximately 15,000 square feet will also be constructed in this area. The properties remaining under private residential ownership will be screened from the MBIA property.

In terms of proposed buildings, the DEIS PDCP depicts the 165,000 MBIA headquarters expansion to the north and connected to the existing MBIA headquarters building. The expansion will be situated over an existing on-grade parking lot, minimizing additional proposed impervious surface. Also to the north of the proposed office expansion and connected to it will be a service/mechanical building, which in turn connects to the proposed multi-level parking structure. Therefore, access from the proposed parking structure to the MBIA headquarters building will be through a building connection.

The proposed corporate meeting house will be constructed on the Cooney Hill properties, adjacent to Cooney Hill Road. Access to the meeting house will be via the proposed MBIA access drive to Cooney Hill Road. The meeting house will be utilized by MBIA employees whose offices are in the headquarters building.

In addition to the proposed 165,000 square feet of office space, 58,000 square feet of amenity space and a 15,000 square foot corporate meeting house are proposed, bringing the overall MBIA development to 400,000 square feet of office space, 84,000 square feet of amenity space, plus the corporate meeting house. The existing parking structure situated to the south of the existing building will remain. The existing on-grade parking north of the existing office building will be replaced with a second parking structure. Under the DEIS plan, a total of 1,560 parking spaces will be provided at the site, of which 916 spaces will be provided to accommodate the proposed expansion.

Pedestrian access from the proposed parking structure is via a building connection to the proposed office expansion. The existing parking structure and adjacent at-grade parking lot to the east of the existing pond will remain, with the existing pedestrian walkways providing pedestrian access to the office building.

The existing site access drive will remain and connect with a proposed access drive to Cooney Hill Road, providing access to the corporate meeting house and associated parking as well as the proposed parking structure and office building expansion. A proposed 1.6 mile walking/jogging trail in the Cooney Hill area provides access to the proposed tennis and basketball courts as well as the corporate meeting house.

In terms of vehicular circulation, the existing site access driveway will remain and connect to the new access to Cooney Hill Road, providing a continuous accessway from King Street to Cooney Hill Road. Vehicles may thus access the site from either of these entryways.

In terms of site utilities, the electric service will be extended underground into the site from the existing overhead lines along King Street. Con Edison will determine if the existing transformer on the site is adequate or if an additional transformer is required. Likewise, telephone service will be expanded to serve the needs of the proposed facilities, and will be provided underground as is the existing service. Gas service will also be provided from King Street, and will be underground.

The proposed sanitary sewer connection for the proposed corporate meeting house will connect to the existing pump station on Cooney Hill Road, and be pumped up the existing sanitary sewer beneath Cooney Hill Road and thence to King Street. Likewise, a sanitary connection will be made from the proposed office building expansion to the existing sewer infrastructure beneath King Street.

MBIA is currently on a well system, which provides water for the site. MBIA expects to install additional wells in the area to the northwest of the existing MBIA facility, where groundwater yields of approximately 25 gpm from existing residential wells are potentially available. Up to three or more additional wells may be required to meet the proposed MBIA supplemental demand for domestic and building cooling systems.

The residential properties acquired by MBIA will be utilized for the most part for passive recreational use by MBIA employees. This includes construction of a four-foot wide mulched walking/jogging trail having a total length of 1.6 miles, exercise stations and trail benches along the trail, and a basketball court and tennis court.

The existing impervious surfaces and building structures on the Cooney Hill lots owned by MBIA plus the remaining fuel oil tanks will be removed, a mitigation measure of the proposed MBIA expansion. Those properties remaining under private residential ownership will be screened from the MBIA office use.

The existing access to Weber Place will remain as long as private residential properties exist along this roadway; however approximately ±9,000 square feet of impervious pavement is proposed to be removed from Weber Place since access to the Witherspoon property and the adjacent is not required since MBIA's acquisition of those lots.

The zoning of the existing site is DOB-20A. A rezoning of the Cooney Hill properties from R-1A to DOB-20A has been granted by the Town Board.

The present infrastructure will need to be expanded to accommodate the proposed development. As noted above, site access will be enhanced by a second proposed access to the site, from Cooney Hill Road. In addition, NYSDOT, as part of their approved improvements to King Street, will include a traffic signal at the intersection of Cooney Hill Road and King Street.

In addition, the Citigroup Executive Center Driveway will be realigned so access is provided directly opposite the Cooney Hill Road intersection with King Street. A left turn lane will be constructed by the NYSDOT on both northbound and southbound King Street to accommodate turning movements into Cooney Hill Road and the realigned Citigroup Executive Planning Center site. As detailed above, NYSDOT has included the 165,000 square feet office expansion proposed by MBIA in its SEQRA review.

With respect to water, the existing MBIA site is supplied by a well system. This well system will be supplemented with additional wells to accommodate the proposed expansion.

The applicant is petitioning the Town of North Castle to extend Town Sewer District No. 3 to include the Cooney Hill properties. The existing MBIA headquarters building site is currently within Sewer District No. 3. In addition, Westchester County is to be petitioned by the Town of North Castle for inclusion of the Cooney Hill properties into Sewer District No. 3. Westchester County owns and operates Blind Brook Wastewater Treatment Plant into which Sewer District No. 3 discharges. The Blind Brook Wastewater Treatment Plant has ample capacity to accommodate the Cooney Hill properties.

The proposed Stormwater Management Facilities include a proposed decorative/stormwater management pond immediately to the east of the proposed MBIA headquarters expansion, two proposed water quality basins, and a proposed stormwater management basin situated along the southerly portion of the Cooney Hill properties. The existing stormwater management basin situated on the southwesterly portion of the existing site will remain.

Proposed improvements will include earthwork and grading associated with construction of the building expansion, parking structure and driveways. Prior to commencing the clearing and grading activities in these areas, erosion control measures will be installed, including the erection of silt fencing, placement of baled filters and construction of water quality basins. Temporary control measures are to be implemented to prevent erosion from occurring during the construction process. Following completion of earth moving activities, disturbed areas will be stabilized with permanent erosion control measures including turf and landscaping.

With respect to visual impacts, the location of the project site and its surroundings limits potential visual impacts almost exclusively to the few remaining homes in the Cooney Hill area together with motorists traveling along King Street.

The project has been designed to provide significant screening in the area of the remaining Cooney Hill homes. In addition, the project has been designed to locate the new structures, including the meeting house and the new parking structure, as far away as possible from those remaining homes.

For motorists traveling north on King Street, the primary view of the site will be at the traffic light at the existing entrance to the MBIA headquarters. The view from that location will be largely the same as it is today. The existing headquarters structure will be the most prominent feature. The proposed expansion, by virtue of being set back from King Street substantially at that point, will be visible in the distance, behind an attractive, decorative pond, which will also serve as a stormwater management pond.

For cars traveling southbound on King Street, the initial view will take place just past the intersection with Cooney Hill Road, at which time a portion of the parking structure will be visible. In order to minimize visual impacts at this point, a heavily landscaped berm is planned between the parking structure and King Street, which will largely mitigate any visual impacts.

Traveling slightly further south, between the existing signalized entrance to MBIA and Cooney Hill Road, King Street is significantly below the level of the MBIA site. That change in topography, coupled with the typical vehicle speed on King Street, will largely preclude additional visual impacts. In addition, and as noted above, a substantial landscape berm is planned for the west side of King Street to further mitigate any remaining visual impacts.

2. Mitigation Plan - FEIS

The applicant presented a plan in the DEIS that raised a number of concerns from the Town and the public. For the most part, these concerns were associated with the proximity of the MBIA property to the Kensico Reservoir.

MBIA, in response to discussions with and at the direction of the NYCDEP and the Town of North Castle, revised the plans so as to address the major issues raised, while still achieving MBIA's objectives.

The most significant changes in the plan, as presented in the FEIS, are associated with a reduction in total impervious surfaces on the site. Many of the comments on the DEIS were related, either directly or indirectly, to this issue and its impact on stormwater quality and runoff into the Kensico Reservoir, which is in close proximity (±500 feet) to the site. In a "typical" development scenario, MBIA's DEIS proposal to construct the office expansion, parking garage and meeting house would have resulted in a significant overall increase in impervious surface. However, in the DEIS, MBIA presented a plan which took advantage of existing conditions to reduce additional impervious surface to 1.6 acres. Among other things, this was achieved by locating the office expansion upon what is now the site of an at-grade, paved parking lot. In addition, MBIA, having purchased 15 of the 17 lots in the Cooney Hill area, is able to remove those homes and their associated driveways, patios, etc, thereby reducing existing impervious surfaces in that area of the property. With the June 2003 acquisition of the Witherspoon property (Tax Assessment Map Lot Section 3, Block 4, Lot 3-4), MBIA will not only remove the residence and associated impervious surfaces, but will also remove ±9,000 square feet of impervious pavement from that portion of Weber Place that served the Witherspoon property and the adjacent lot owned by MBIA.

In response to those comments, the FEIS Mitigation Plan, at full build-out, achieves an overall net *reduction* in impervious surface from existing conditions of approximately 11,700 square feet. This overall reduction in impervious surface has been accomplished through a number of design changes, which are described below.

a. Perhaps most significantly, the proposed parking structure has been redesigned so as to eliminate a major portion of the west bay and the entire northernmost 30 foot wide portion of the structure. The loss of parking resulting from the garage redesign described above will be partially compensated for by adding a 6th floor onto the parking deck. This will not add any additional impervious surface because it is merely another floor on the proposed new parking structure. This additional floor will enable MBIA to reclaim 140 of the parking spaces that would otherwise be lost. Net, a total of 306 parking spaces have been lost over the entire site and a reduction in impervious surface of 20,000 square feet was achieved as a result of the parking structure redesign compared with the Proposed Action in the DEIS.

In addition to the substantial reduction in impervious surface caused by these changes to the plan, there are other benefits to the redesign of the garage. The most important benefit is that the redesign has moved the garage so that it is more than 75 feet from the property line and more than 100 feet from the wetland boundary. This design change eliminates the need for any impervious intrusion into either the wetland or the wetland buffer associated with the garage structure.

b. The second change to the DEIS plan to reduce impervious surface is associated with the 1820 House, which is located immediately to the north of the existing parking structure. The revised FEIS plan will eliminate the existing small garage adjacent to the 1820 House, which garage is currently used for the storage of certain materials and equipment. Those materials and equipment will be relocated to the service/mechanical building to be located between the proposed office expansion and the proposed new parking garage. In addition, two paved areas adjacent to the 1820 House and the existing frame garage will also be eliminated. These changes will reduce impervious surface by approximately 5,200 square feet.

c. The DEIS plan included a terraced sculpture garden to be located between the existing office building and the proposed office building expansion. The FEIS plan has replaced that terraced sculpture garden with a lawn sculpture garden, resulting in the elimination of approximately 5,500 square feet of impervious surface.

d. As part of the amenity package for its employees, MBIA had proposed in the DEIS plan to include a tennis court and a basketball court, to be located in the Cooney Hill Area near the proposed Meeting House. These two at-grade courts have now been combined into a multi-purpose athletic court and relocated to the roof of the proposed new parking structure, thereby resulting in the elimination of approximately 14,500 square feet of impervious area. In addition, this has enabled the elimination of the small associated court parking area, resulting in the elimination of an additional 1,300 square feet of impervious surface.

e. Two other significant changes to the DEIS plan, as reflected on the FEIS plan, are associated with the proposed Meeting House. First, the at-grade parking area for the Meeting House has been eliminated and relocated below the Meeting House itself, thereby resulting in a reduction of approximately 6,200 square feet of impervious surface. In addition, the patio on the south side of the Meeting House has been reduced in size, resulting in a reduction of approximately 2,525 square feet of impervious surface.

f. In addition to all of the foregoing revisions to the plan, changes were also made to the access roadway to the office expansion in an effort to further reduce impervious surface. The DEIS plan provided for an access drive from Cooney Hill Road which would provide two branches into the new parking structure and one branch directly to the entrance of the office building expansion. That third branch has now been eliminated and replaced with a 12 foot wide stabilized pervious gravel surface suitable for emergency access use only. Access from Cooney Hill Road to the front of the office building expansion will now be accomplished through the new parking structure itself. In addition to eliminating impervious surface, this proposed change also reduces the impact of activity within the 100 foot wetland buffer, which will now be limited to the installation of a pervious stabilized gravel surface, rather than impervious pavement.

g. Since the DEIS was accepted, MBIA has acquired the Witherspoon property (Tax Assessment Map lot Section 3, Block 4, Lot 3-4), enabling MBIA to further reduce existing impervious coverage by removing not only the residence and associated impervious surfaces, but also to remove approximately 9,000 square feet of impervious pavement from that portion of the Weber Pace that served the Witherspoon property and the adjacent lot owned by MBIA.

Following approval and after subsequent demolition of the residential structures, driveways, septic systems, underground fuel tanks, etc., MBIA proposed that the land will be reclaimed into open space consisting of landscaping, pervious walking/exercise paths, temporary multi-purpose tennis and basketball courts and a playing field. The courts and playing field will be removed with construction of the parking garage.

Cumulatively, the foregoing changes to the proposed project result in an overall net *decrease* in impervious surface of approximately 11,700 square feet over the existing conditions on the site, and a decrease of approximately 82,000 square feet over the DEIS Plan. According to the Applicant, MBIA will, by virtue of this new FEIS plan, be able to accomplish its goals of providing additional office space and amenities for its employees.

In addition to the foregoing changes, the revised plan addresses other issues raised during the DEIS comment period. For example, the proposed stormwater management infiltration basin and stormwater forebays, originally located south of the proposed Meeting House and immediately adjacent to the property line, have been relocated to the north and west away from the property line. As originally proposed, the infiltration basin and one of the forebays would have been at least partially located within the 100 foot wetland buffer. The relocation of these facilities eliminates all such activity within the buffer.

The mitigation plan included in the FEIS is significantly improved, addressing various concerns raised in the SEQRA process while still achieving the goals and objectives of the project sponsor.

B. Required Approvals

The Proposed Action requires the following approvals:

1. **Town of North Castle Planning Board**
   - Amended Site Plan Approval
   - Local Wetland Buffer Encroachment Permit
   - Tree Removal Permit
2. **Town of North Castle Architectural Review Board**
   - Architectural Aesthetics Review
3. **Town of North Castle Water & Sewer Department**
   - Sanitary Sewer Connection
4. **Town of North Castle Building Department**
   - Building Permit
5. **Westchester County Department of Health**
   - Well and Water System
6. **Westchester County Board of Legislators**
   - Blind Brook Sewer District Extension
7. **Town of North Castle Highway Department**
   - Driveway Permit (Cooney Hill Road)
8. **New York State Department of Transportation**
   - Highway Work Permit (Route 120)
9. **New York State Department Environmental Conservation (NYSDEC)**
   - SPDES General Permit (Stormwater)

10. New York City Department of Environmental Protection (NYCDEC)

- Stormwater Pollution Prevention Plan
- Sanitary Sewer Connection

IV. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

A. Land Use

1. Impacts and Proposed Mitigation

The proposed MBIA corporate headquarters expansion is compatible with surrounding land uses, although there will be potential land use impacts to the adjacent two residential properties not owned by MBIA. The neighborhood will become less residential in character with the proposed MBIA expansion and removal of the vacant homes owned by MBIA. In addition, construction, visual and traffic impacts will affect the two remaining private residential properties.

Mitigation for neighboring properties will include the following:

- Construction activities will be limited to weekdays between the hours of 7:00 AM and 4:00 PM.

- Dust from construction activities will be mitigated by implementing typical dust prevention methods including crushed stone truck pads, the us of watering trucks daily when the temperature is above freezing and seeding exposed areas with quick germinating turf grass and provision for appropriate mulching in these area to provide plant cover to retain soil and minimize dust.

- The majority of the proposed construction will occur at a significant distance from the remaining residential properties.

- The Applicant will implement a vegetative screening plan around the MBIA corporate meeting house to screen adjacent residential properties.

- On site amenities would be limited to 6:00 AM to 8:00 PM, Monday through Friday. The outside multi-use athletic court would be lit, with fixtures that would direct light down and avoid spillage onto adjacent properties and King Street.

- MBIA will forego any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA:

    - o Such restriction on development shall be memorialized, either prior to site plan approval or as a condition thereof, but in no event more than six (6) months from the date of adoption of this Findings Statement, in a conservation easement to an entity, mutually agreed upon by MBIA, the town , NRDC, and The Riverkeeper, which entity is committed to the preservation of open in perpetuity for the purpose of protecting the Kensico Reservoir;

- The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the DEP property. The balance of the conservation easement area shall be revocable, the easement as to the revocable area may only be revoked if the following two conditions are met:

    - MBIA has not constructed both the proposed office building ad the associated parking structure; and

    - MBIA sells the Cooney Hill lots to at third party for a standalone development.

- Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by NYCDEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonable be placed outside of the conservation easement area, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, no shall nay limitation so imposed reduce the lots area(s) for purposes of bulk and density requirements.

2. Discussion and Findings

Based upon implementation of the above-described mitigation measures, the Planning Board finds that potential impacts due to proposed land use changes will be adequately mitigated.

B. Planning and Zoning

1. Impacts and Proposed Mitigation

The MBIA property is zoned DOB-20A "Designed Office Business 20A District." The Cooney Hill properties to the north of the existing MBIA office site have been rezoned from R-1A to the DOB-20A Zoning District by the Town Board. This rezoning is consistent with the 1996 Town of North Castle Comprehensive Plan.

Specifically, the Town of North Castle 1996 Comprehensive Plan states that the "Area bounded by the Armonk retail center to the north, Westchester County Airport and the watershed lands to the south, I-684 on the east, and the RELIP District on the west should be rezoned from residential to office use with floor area ration (FAR) controls to regulate the intensity of development."

The rezoning of the Cooney Hill area from R-1A to DOB-20A permits the two remaining residence to continue in existence as legal non-conforming uses. Over time, these non-conforming uses would be expected to conform with the uses permitted in the DOB-20A zone.

Two homes in the Coney Hill area remain under private residential ownership.

Surrounding land uses include the Swiss Re U.S. Headquarters site, the Citigroup Executive Conference Center, IBM World Headquarters, New York City Department of Environmental Protection (NYCDEP) land as well as the residential properties in the Cooney Hill neighborhood.

In addition, to the rezoning of the Cooney Hill Area, the Town Board amended the special permit provisions of the DOB-20A district. Specifically, the Town Board modified the special permit requirements as follows:

i. At least 90% of the parking shall be provided in structured parking garages.

ii. The development site shall contain on-site amenities, such as cafeteria and/or exercise facilities, which limit the amount of traffic generated between the project site and the Armonk Hamlet area.

iii. Reduce the maximum permitted lot coverage from 60% to 35%.

iv. Permit the minimum 100 foot rear yard setback to be calculated on an average basis.

v. Establish a minimum front yard building setback of 100 feet.

vi. Parking areas and internal circulation roadways would be permitted within wetland buffers provided they are not within 10 feet of the property line.

Furthermore, the Town Board adopted two zoning text amendments relating to the height of buildings. The first change permits building height to be measured from the average level of the finished grade adjacent to the exterior walls of the building, if the building is more than ten feet from the property line. This language is consistent with how height is measured in other zoning districts within the Town.

The second change relates to projecting features above roof level, as governed by Section 213-14(E) of the Town Code. The Town Board amended the Town Code to permit the Planning Board to be given the responsibility for permitting additional height instead of the Zoning Board of Appeals.

In addition, the Westchester County Planning Board in its November 20, 2002 letter stated that the proposed MBIA expansion project is consistent with the polices and strategies of *Patterns for Westchester,* the County's long-range land use planning policy document with regard to density of development, relationship to surrounding development and visual impacts.

2. Discussion and Findings

The Planning Board finds that:

- All remaining single family homes would be permitted to remain as legal non-conforming uses.

- The previously approved rezoning of the Cooney Hill area is consistent with the Town of North Castle 1996 Comprehensive Plan.

- The previously approved amendments to the special permit requirements permit added flexibility on the odd shaped lot(s) owned by MBIA.

- The previously approved Comprehensive Map amendment is consistent with the Comprehensive Plan text which states that the "area bounded by the Armonk retail center to the north, Westchester County Airport and the watershed lands to the south, I-684 on the east, and the RELIP District on the west should be rezoned from residential to office use with floor area ration (FAR) controls to regulate the intensity of development."

- The previously approved zone text amendments permit the Applicant's desired corporate office development in an area that would have the least impact to adjacent property owners and permits the development in an area currently supplied with adequate infrastructure.

- The removal of the "Bolbrock" easement does not have any impact on neighboring residential properties given the acquisition of the additional residential lots by MBIA.

- MBIA will forego any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA:

    - o Such restriction on development shall be memorialized, either prior to site plan approval or as a condition thereof, but in no event more than six (6) months from the date of adoption of this Findings Statement, in a conservation easement to an entity, mutually agreed upon by MBIA, the town , NRDC, and The Riverkeeper, which entity is committed to the preservation of open in perpetuity for the purpose of protecting the Kensico Reservoir;

- o The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the DEP property. The balance of the conservation easement area shall be revocable, the easement as to the revocable area may only be revoked if the following two conditions are met:

  - ▪ MBIA has not constructed both the proposed office building ad the associated parking structure; and

  - ▪ MBIA sells the Cooney Hill lots to at third party for a standalone development.

- Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by NYCDEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonable be placed outside of the conservation easement area, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, no shall nay limitation so imposed reduce the lots area(s) for purposes of bulk and density requirements.

- The Westchester County Planning Board indicated that the proposed MBIA headquarters expansion is consistent with "Patterns for Westchester", the County's long-range land use planning policy document.

- Existing stone walls on the site will be retained in all areas not proposed for regrading or development, including all the stone walls along King Street and Cooney Hill Road. Existing stone walls will also be repaired and a new stone wall will be constructed as necessary in order to provide a continuous stone wall along the entire King Street and Cooney Hill Road rights-of-way with the exception of the Takeda frontage.

- Any outdoor lighting proposed in the vicinity of neighboring residential properties will incorporate sharp cutoff fixtures which will not "spill" light beyond the property line. Proposed parking structure lighting will be shielded to prevent spillage onto King Street.

- The Planning Board has confirmed the acceptability of the proposed areas of disturbance as defined by Clearing and Grading Limit Lines.

- The Applicant will need to propose a detailed planting plan that screens the Proposed Action from King Street and neighboring properties to the maximum extent practicable.

- Subject to the above referenced mitigation measures, the Proposed Action is consistent with applicable zoning and land use regulations of the Town. Accordingly, there will be no significant adverse impacts with regard to planning and zoning issues.

B. Soils and Geology

1. Impacts and Proposed Mitigation

Grading operations and clearing of vegetation will necessarily impact the soils on the site. All soils have an increased potential for erosion when vegetation is cleared and soils are exposed.

The potential for soil erosion impacts will be limited primarily to the period during and shortly after construction, and will be mitigated to the maximum extent practicable by implementing a soil erosion and sedimentation control plan to be approved by the Planning Board. Long-term erosion and sedimentation impacts will be mitigated due to the revegetation of disturbed soils and implementation of the proposed stormwater management system.

In order to reduce the amount of blasting required, the existing topography will be utilized to the maximum extent practicable in the proposed development plan. The plan will avoid large rock outcrops wherever possible.

To minimize adverse effects from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

2. Discussion and Findings

The Planning Board finds that:

- MBIA will redevelop the project site such that a net reduction in impervious surface of at least 11,700 sq. ft. is achieved on the project site.

- Disturbance on the site will be limited to the maximum extent practicable by establishing Clearing and Grading Limit Lines, beyond which clearing and regrading and entry of construction vehicles will not be permitted.

- By avoiding regrading to the maximum extent practicable, the amount of proposed disturbance has been minimized in the proposed plan. In order to explore opportunities to further reduce potential disturbance is required.

- The installation of erosion and sedimentation control practices, in accordance with the Westchester County Best Management Practices for Construction-related Activities will be required.

- A detailed erosion control plan has been prepared for the subject site. This plan provides as many safeguards as necessary to prevent erosion impacts, and includes a narrative which summarizes the materials to be used and the sequence of implementation. The Town Board will require that this plan be revised, as necessary, to reflect the design of the project that is approved.

- Extreme care will be taken during the entire construction process to leave as much existing vegetation as possible in place. Any movement of construction equipment beyond the designated construction area swill also be avoided by installing of orange snow fence along ht entire Clearing and Grading Limit Line (C&GLL).

- Construction sequencing techniques and proper storage of stockpiled soils are proposed to minimize the potential for erosion of disturbed soils associated with grading activity.

- Vegetation will not be removed from specific construction areas until as close to the actual scheduled work as possible.

- Stockpiled soils from cut operations and site preparation work will be mulched or otherwise covered and stabilized.

- Erosion control barriers will be installed around the entire perimeter of stockpiled soils.

- Permanent vegetative cover will be established immediately upon achieving the final grade in those areas which are not to be developed with roads, driveways or other impervious surfaces. Temporary seeding or mulching will be used if disturbed areas are left for two (2) weeks or linger between work operations. Contours and slopes in excess of 1:3 will be stabilized with stabilization fabric.

- To minimize adverse effects from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

- The estimated 1,250 truck loads of excess rock will be disposed of off-site by a contractor.

- Based upon implementation of the above-described mitigation measures, the Planning Board finds that potential impacts due to soil erosion associated with development of the Proposed Action, will be adequately mitigated.

C. Surface and Groundwater

1. Impacts and Proposed Mitigation

The entire MBIA property and land to be acquired by MBIA as part of the project are located in the drainage basin of the Kensico Reservoir and is located approximately 500 feet from the Kensico Reservoir separated by undeveloped, forested lands owned by New York City.

Impacts are not anticipated as a result of the proposed development with respect to existing hydrologic features since impervious surfaces are proposed to be reduced as compared to existing conditions under the FEIS plan.

The proposed FEIS plan proposes a reduction in impervious surfaces of 11,700 square feet. Even though impervious surfaces would be reduced under the FEIS plan, the Town and the City of New York will require the Applicant to prepare a Stormwater Pollution Prevention Plan (SPPP) since the project site lies completely within the New York City Kensico Reservoir Watershed.

The SPPP will specifically address erosion, sedimentation, stormwater volume, flow rates and pollutant loading. As a result of the SPPP implementation, it is expected that there will be no significant impact on downstream properties, wetlands, ponds and streams and watercourses including the

New York City Watershed and the Kensico Reservoir and its floodplain and related wetlands.

A hydrological study has been prepared by Leggette, Brashears & Graham and was submitted as part of the DEIS and supplemented in the FEIS. The groundwater supply will suffer no adverse impacts from development of the MBIA headquarters expansion, since there will be no significant reduction in recharge area.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS.

A de-icing plan was prepared as part of the DEIS and supplemented in the FEIS.

2. Discussion and Findings

The Town Board finds that:

- In response to comments on the DEIS, the Stormwater Management Basin has been relocated to the north and west of its former proposed location in order to eliminate any disturbance within the Town-regulated wetland adjacent area. In addition, the basin has been rotated to limit the amount of grading necessary to construct the basin.

- Due to the existence of the adjacent Kensico Reservoir, implementation and maintenance of erosion and sediment control measures will be essential, especially during the construction phase of the proposed development.

- All construction equipment shall be inspected periodically for fuel, oil and grease leaks. Fuel containers are to be located as far from wetlands and surface water as possible and are to be placed in fuel traps consisting of sand over impermeable materials such as plastic lining. These measures shall be enumerated in the contractor's contract.

- A Stormwater Pollution Prevention Plan is being prepared and will be approved by the New York City Department of Environmental Protection.

- The Proposed Action will be required to comply with all requirements of the SPDES General Permit for stormwater discharge associated with construction activity in connection with controlling the project's environmental impacts during all phases of construction.

- All residential wells on properties owned by MBIA will be abandoned as per the requirements listed in Bulletin 42, "Ten State Standards" (1997, Mississippi River Board of State and Provincial Public Health and Environmental Managers) and the Westchester County Department of Health.

- The Applicant shall be required to prepare a detailed Integrated Pest Management plan to the satisfaction of the Town Planning Consultants demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.

- In response to comments on the DEIS, the FEIS plan has been revised to eliminate the originally proposed water cooled air conditioning system and now proposes an air cooled system. The implementation of this change significantly reduces the water demand on the site (75,600 gallons per day).

- In response to comments on the DEIS, the Applicant will be required to provide a new well, if necessary, for any homeowner impacted by interference caused by MBIA's proposed wells.

- In response to comments on the DEIS, the proposed de-icing plan has been revised to discontinue the usage of sand for interior roadway maintenance. In addition, MBIA will utilize Ice B' Gone 2, the deicer noted in the Watershed Inspector General's report as having the lowest total phosphorus concentration of any deicer tested, in combination with salt.

- The Town of North Castle will require that a qualified consultant monitor water quality during construction to assure full compliance with the SPPP and State water quality standards. MBIA shall be responsible for the reimbursement of any consultant services.

- The management and maintenance of the Stormwater Treatment System shall be monitored by MBIA on an ongoing basis in accordance with a regular schedule (no less than twice each year) to be approved by the Town Planning Board and incorporated as a condition of site plan approval.

- MBIA will comply with the maintenance requirements set forth in the new York State Department of Environmental Conservation's Stormwater Design Manual's section covering Stormwater Ponds.

- Based on implementation of the above-described mitigation measures, the Planning Board finds that potential impacts on surface and groundwater resources associated with development of the MBIA headquarters expansion will be adequately mitigated.

D. Wetlands

1. Impacts and Proposed Mitigation

Based upon the proposed FEIS plan, it is anticipated that Town-regulated wetlands would not be disturbed and 10,120 square feet of Town-regulated wetland adjacent area would be impacted by a portion of the proposed walking trail and the installation of a 12-foot wide gravel access road for emergency use.

Potential impacts within regulated adjacent areas relate to proposed clearing and/or grading. Specifically, potential short-term indirect impacts to regulated wetland adjacent areas may occur during and, for a short time, after construction. These temporary impacts involve vegetation removals, soil disturbance and the related potential for soil erosion and sedimentation into wetlands areas. Possible short-term increases in nutrient loadings and stormwater runoff, and a temporary decrease in transpiration due to soil disturbance and vegetation removal, are less significant.

The potential for sedimentation impacts to the adjacent Kensico Reservoir is considered to be remote with the implementation of the proposed erosion and sedimentation control plan.

Temporary and permanent losses to wildlife habitat associated with wetlands adjacent area disturbance will result from the proposed development. The permanent functional losses relate to loss of vegetation.

As mitigation for the proposed Town-regulated wetland adjacent area impacts, MBIA is proposing a significant wetland buffer planting plan. The planting plan includes planting of native shrub and herbaceous species in areas that are currently lawn along the walking path. Some of the existing lawn area of the wetland adjacent area will also be removed and the area will be seeded with a native wildflower seed mix.

2. Discussion And Findings

The Planning Board finds that:

- In response to comments on the DEIS, the stormwater management infiltration basin and forebay have been moved out of the wetland buffer area.

- In response to comments on the DEIS, the proposed walking trail has been relocated to be 60 feet from the wetlands as its closest approach.

- In response to comments on the DEIS, the multi-level parking garage has been removed from the on-site wetland buffer.

- In response to comments on the DEIS, all off-site wetland areas with regulated buffers on the site are depicted on all plans. No disturbance is proposed to the associated wetland buffer that extends into the MBIA site.

- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.

- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of wetlands and their adjacent areas outside of these areas.

- A wetland buffer planting plan has been proposed. This plan will need to be prepared to the satisfaction of the Planning Consultant as a condition of site plan and wetlands permit approvals.

- The Town Board notes that the Proposed Action would affect 10,120 square feet of Town-regulated wetland adjacent area and 17,273 square feet of wetland buffer mitigation planting is proposed to mitigate the impacts associated with the proposed wetland buffer impacts.

- The Applicant will be required to secure a Wetlands Permit from the Planning Board.

- Based on the absence of direct impacts to Town-regulated wetlands, the proposed erosion and sedimentation control measures to be employed and the proposed wetland buffer mitigation planting plan, the Planning Board finds that there will be no significant impact to wetlands or adjacent areas.

E. Vegetation

1. Impacts and Proposed Mitigation

Nearly the entire project site has been developed for commercial or residential use. The south portion of the site contains the MBIA office complex that consists of buildings, parking lots, a parking deck and a constructed pond that are surrounded by lawn and landscaped areas. The northern portion of the site consists of residential lots with single family homes that are surrounded by maintained lawns and landscaped areas. Vegetative species present on the site are typical of maintained areas within a residential setting. There are no rare habitats on, or adjacent to, the site that may be expected to provide habitat for protected species.

The residential portion of the site will be modified as a result of the proposed project. The majority of the Cooney Hill area will be utilized for passive and active recreation. The proposed landscaping plan will incorporate natural meadow with shrub and tree planting to provide a naturalistic setting.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS. This plan will provide a method for minimizing the amount of pesticides and/or fertilizers applied to the site.

As depicted on the FEIS plan as well as on the preliminary planting plan, extensive areas of existing trees and vegetation will be maintained on the site and a significant amount of vegetation is proposed to reforest the site.

The primary mitigation technique for minimizing vegetative impacts associated with the development of the Proposed Action will be the implementation of a planting plan. In addition, the Applicant will be required to establish Clearing and Grading Limit Lines which define the maximum limits of disturbance. Furthermore, where trees to be preserved are located within the areas defined by the designated Clearing and Grading Limit Lines, the installation and maintenance of tree protection measures around such trees during construction will be required.

The Applicant will also implement a wetland adjacent area mitigation plan developed to the satisfaction of the Planning Board. The plan will include plants with wildlife value to mitigate for the loss of habitat.

2. Discussion and Findings

The Planning Board finds that:

- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of vegetation outside of the areas defined by these lines.

- A planting plan has been proposed that results in the revegetation of the site to the maximum extent practicable.

- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.

- In response to comments on the DEIS, tree armor to protect individual trees and a 4-foot high constriction fence at the drip line of all trees to be preserved will be required.

- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle.

- In response to comments on the DEIS, the Applicant will prepare a detailed Integrated Pest Management plan to the satisfaction of the Planning Board demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.

- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.

- As a result of these and other proposed mitigation measures, the Proposed Action will not have a significant adverse impact on vegetation.

F. Wildlife

1. Impacts and Proposed Mitigation

Nearly the entire project site has been developed for commercial or residential use. The south portion of the site contains the MBIA office complex that consists of buildings, parking lots, a parking deck and a constructed pond that are surrounded by lawn and landscaped areas. The northern portion of the site consists of residential lots with single family homes that are surrounded by maintained lawns and landscaped areas. Wildlife expected to occur within the habitats on the property include species typical to suburban settings that are relatively tolerant to humans.

The New York State Department of Environmental Conservation Natural Heritage Program (NYS NHP) was contacted regarding any known occurrences of endangered, threatened or special concern species of plants or animals or significant habitats on the site. The response letter from the NYS NHP indicated that the Kentucky warbler (Oporornis formosus) was spotted in the Town of North Castle in 1985. The Kentucky warbler is not a Federal or State listed Threatened or Endangered species and is not protected per the Federal Endangered Species Act nor per the New York State ECL Section 11-0535 (Endangered and Threatened Species). This species is also not listed as a State Special Concern species. The Kentucky warbler is protected per ECL Section 11-0103, under which all wild birds are protected (except for a few non-native invasive species, e.g., English sparrow). The Kentucky warbler is a southern species that is at the northern edge of its range in New York State (according to The Atlas of Breeding Birds of New York State). The Kentucky warbler is a ground nesting species with a breeding habitat of mixed hardwood forest with a dense understory of shrubs and vines near streams or wetlands. Given the habitat requirements of this species it is unlikely that it would utilize the habitats on the site for breeding.

The residential portion of the site will be modified as a result of the proposed project. The majority of the Cooney Hill area will be utilized for passive and active recreation. The proposed landscaping plan will incorporate natural meadow with shrub and tree planting to provide a naturalistic setting.

An integrated pest management plan has been prepared by Alpine Nursery Ltd. and was submitted as part of the FEIS.

This plan will provide a method for minimizing the amount of pesticides and/or fertilizers applied to the site.

As depicted on the FEIS plan as well as on the preliminary planting plan, extensive areas of existing trees and vegetation will be maintained on the site and a significant amount of vegetation is proposed to reforest the site.

The primary mitigation technique for minimizing wildlife impacts associated with the development of the Proposed Action will be the implementation of a planting plan. In addition, the Applicant will be required to establish Clearing and Grading Limit Lines which define the maximum limits of disturbance. Furthermore, where trees to be preserved are located within the areas defined by the designated Clearing and Grading Limit Lines, the installation and maintenance of tree protection measures around such trees during construction will be required.

The Applicant will also implement a wetland adjacent area mitigation plan developed to the satisfaction of the Planning Board. The plan will include plants with wildlife value to mitigate for the loss of habitat.

2. Discussion and Findings

The Planning Board finds that:

- The establishment of defined Clearing and Grading Limit Lines will prevent the disturbance of vegetation outside of the areas defined by these lines and thereby provide the maximum amount of wildlife habitat.

- A planting plan has been proposed that results in the revegetation of the site to the maximum extent practicable.

- Given the habitat requirements of Kentucky warbler it is unlikely that it would utilize the habitats on the site for breeding.

- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle.

- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.

- A net reduction of 125,000 square feet of lawn area will be achieved with replacement of existing residential lawns with a meadow, eliminating usage of fertilizers and pesticides that may have been used in these areas.

- In response to comments on the DEIS, the Town Board will require the preparation of a detailed Integrated Pest Management plan to the satisfaction of the Planning Board demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented.

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken , by location, during the preceding year.

- As a result of these and other proposed mitigation measures, the Proposed Action will not have a significant adverse impact on wildlife.

G. Traffic and Transportation

1. Impacts and Proposed Mitigation

It is anticipated that the Proposed Action would generate 222 vehicles utilizing the north entrance (Cooney Hill Road) during the morning rush hour, with some 165 vehicles using that same entrance during the evening rush hour. The existing MBIA entrance would accommodate some 219 vehicles entering or leaving the site during the morning rush hour, with some 236 during the evening rush hour.

The New York State Department of Transportation (NYSDOT) as part of its Draft and Final Environmental Impact Statements for the improvements from NY Route 22 to Interchange 2 on I-684 have indicated that the bridge over I-684 and the IBM (Swiss Re) driveway will remain a two-lane highway with turn lanes at the appropriate locations. MBIA is currently served by a left turn lane at the MBIA driveway and a left turn lane is provided at the Swiss Re/IBM driveway. The NYSDOT as part of its proposed program along Route 120 plans to construct a left turn lane at Cooney Hill Road, signalize that location and also relocate the current access road for Citigroup (Formerly Travelers).

It is noted that the NYSDOT plans anticipated the Proposed Action and the traffic generation associated with the MBIA headquarters expansion.

Level of Service (LOS) analyses performed showed satisfactory operations, with Levels of Service in the A to C range.

It is noted that the MBIA site is served by the Westchester County Bee-Line. In addition, MBIA provides its own, private mass transit van service to the White Plans Metro North station. Impacts to the Metro North train system and Bee-Line bus service are anticipated to be minimal.

During the on-site construction phase, construction truck traffic will be limited to off-peak hours.

2. Discussion and Findings

The Planning Board finds that:

- In response to comments on the DEIS, the Applicant has agreed to post a maintenance bond in the amount necessary to repair area roadways in the event that construction traffic creates impassable conditions.
- In response to comments on the DEIS, the Applicant has agreed to dedicate the amount of land necessary adjacent to Cooney Hill Road to provide a right-of-way at least 25-feet in width from the centerline of the road.
- As a result of the improvements to be implemented by the NYSDOT, traffic impacts to area roadways will be minimal and, therefore, additional off-site road improvement will not be needed.
- Impacts to public transportation systems will not be adversely impacted.
- Construction traffic will utilize off-peak hours to minimize adverse traffic impacts.

H. Visual Resources

1. Impacts and Proposed Mitigation

The Proposed MBIA headquarters expansion is anticipated to visually impact the two remaining homes in the Cooney Hill area and impact motorists traveling on King Street. However, existing topography and the proposed creation of bermed buffers will limit views into the site as viewed from King Street. In order to further mitigate visual impacts, MBIA has proposed new structures, including the meeting house and the new parking structure, as far away as possible from the remaining residential homes.

For cars traveling south on King Street, the proposed parking structure will be visible. In an effort to reduce the visual impact of the structure, MBIA has proposed a heavily landscaped berm between the parking structure and King Street.

MBIA is also proposing a landscaped berm between the existing signalized entrance and Cooney Hill Road in order to reduce visual impacts in that area.

In addition, MBIA will preserve as much natural vegetation along King Street as possible, with particular attention paid to preserving existing Street Trees.

2. Discussion and Findings

The Planning Board finds that:

- The Planning Board will confirm the acceptability of the proposed areas of disturbance as defined by Clearing and Grading Limit Lines.

- The Applicant will need to propose a detailed planting plan that screens the Proposed Action from King Street and neighboring properties to the maximum extent practicable.

- A Tree Removal Permit will be required to be secured from the Planning Board in accordance with Chapter 192 "Tree Preservation" of the Code of the Town of North Castle.

- In response to comments on the DEIS, the Applicant has prepared a Tree Location Plan depicting the surveyed location of each Town-regulated tree with a chart indicating the general health condition, size, species and removal status for each tree within the disturbance area.

- In response to comments on the DEIS, the Applicant has prepared a future conditions view from a vehicle traveling southbound on King Street and a future conditions view of a vehicle traveling Northbound on King Street.

- Any outdoor lighting proposed in the vicinity of neighboring residential properties will incorporate sharp cutoff fixtures which will not "spill" light beyond the property line. Proposed parking structure lighting will be shielded to prevent spillage onto King Street.

- Existing stone walls on the site will be retained in all areas not proposed for regrading or development, including all the stone walls along King Street and Cooney Hill Road. Existing stone walls will also be repaired and a new stone wall will be constructed as necessary in order to provide a continuous stone wall along the entire King Street and Cooney Hill Road rights-of-way with the exception of the Takeda frontage.

- Based upon the mitigation measures listed above, the Proposed Action will not have a significant adverse effect on visual resources.

I. Construction Impacts

1. Impacts and Proposed Mitigation

Potential impacts from construction activities will consist of noise associated with construction vehicles and construction activity, noise and vibrations associated with blasting activity, and sediment and erosion associated with the proposed construction activities.

Noise associated with construction vehicles, blasting, and other construction activity is an unavoidable impact of development. Noise will be mitigated by limiting hours of construction activity between the hours of 7:00 AM and 4:30 PM.

Short term impacts to air quality from dust will be mitigated through the use of crushed stone track pads, watering trucks and seeding exposed soil.

Construction traffic is proposed to occur throughout the day and occur between the hours of 6:30 AM and 4:30 PM, depending on the period of construction. It is anticipated that most traffic would access the site via Interstate 684.

Existing vegetation will not be removed from construction areas until as close to the actual scheduled work as possible to retain as much visual and noise buffer as practical. The existing topography has been utilized to the maximum extent practicable in order to reduce the need for blasting.

To minimize adverse effects from rock drilling, blasting, and excavation activities, a protection and monitoring program will be implemented in accordance with the Town of North Castle Code, Chapter 71, "Blasting and Explosives."

Erosion and sediment controls will be employed in accordance with the Westchester County Best management Practices throughout the construction period, and disturbed areas will be stabilized and revegetated immediately upon achieving final grade. Long-term erosion potential will be minimized by revegetating disturbed soils and implement the proposed stormwater management system.

In an effort to further reduce construction impacts, the Applicant is proposing phased development in which the meeting house and recreational structures would be constructed first and the new office building and parking structure would be constructed at a later time.

2. Discussion and Findings

The Planning Board finds that:

- Noise associated with the construction activities is unavoidable and will be mitigated to the maximum extent practicable by limiting hours of operation and by retaining as much vegetative buffer as possible throughout the construction period.

- Vibration associated with blasting will be minimized to the maximum extent practical through the review process associated with standards and requirements of the Town Code.

- Sediment and erosion of soils will be minimized to the maximum extent practicable through the use of sediment and erosion controls in accordance with the Westchester County Best Management Practices, and the immediate revegetation of disturbed areas.

- The maximum area to be disturbed at any one time shall not exceed 5 acres.

- The Town of North Castle will require that a qualified consultant monitor water quality during construction to assure full compliance with the SPPP and State water quality standards. MBIA shall be responsible for the reimbursement of any consultant services.

- In response to comments on the DEIS, the Applicant submitted a preliminary site safety program as part of the FEIS.

- Impacts to air quality will be adequately mitigated through the use of dust reducing techniques.

- Impacts from construction will be adequately mitigated by staggering construction traffic and the use of Interstate 684 rather than local roads.

- Construction impacts in general will be reduced through the use of construction phasing thereby reducing the total amount of construction activity on the site at any one time.

J. Utilities

1. Impacts and Proposed Mitigation

Electrical service for the MBIA headquarters expansion will be provided by Consolidated Edison. All construction will be in accordance with Con Ed requirements. The existing electric service will be extended underground into the site form existing overhead lines. Underground electric service will be provided in accordance with the requirements of Con Ed. Con Ed will need to determine whether the existing transformer is adequate or whether a new transformer would be required.

Telephone service will be provided by Verizon. Construction of upgraded telephone service will be in accordance with Verizon requirements. Underground service will be provided.

Gas service will be provided by Con Ed. Additional gas service will be installed in accordance with the requirements of Con Ed.

The Cooney Hill properties are not located within an existing sewer district. MBIA is petitioning the Town Board to expand Sewer District No. 3 to include the Cooney Hill properties. It is noted that the proposed 50,950 gallons per day design flow for the expansion of Sewer District No. 3 is 29,130 gpd greater than the allocation given at the creation of the District in 1992 of 21,820 gpd. However, the current infrastructure in Sewer District No. 3 has sufficient capacity to handle MBIA's increase in flows based upon its historic flow rates as well as future building expansion anticipated on the Swiss Re property.

MBIA is not located within any Town of North Castle water district and, therefore, all water will be provided by private wells located on the MBIA property.

The DEIS plan anticipated providing a water cooled air conditioning system requiring significant amounts of water. Based upon comments received during the FEIS review process, the Applicant has revised the plans to provide for an air cooled system thereby dramatically reducing the amount of water required for the MBIA headquarters expansion.

The MBIA headquarters expansion will create a total site water demand of 70,900 gallons per day (49.236 gallons per minute). MBIA will be able to provide 139,680 gallons per day (97 gallons per minute).

2. Discussion and Findings

The Planning Board finds that:

- In response to comments on the DEIS, an air-cooled air conditioning system is proposed rather than originally proposed water intensive water-cooled system.

- The Applicant will provide an Engineer's Report and details of the proposed sewer connection to the Sewer District No. 3 pump station describing whether the current system can accommodate the proposed flows and whether there are any improvements or upgrades necessary to accommodate the proposed MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in electricity consumption resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with telephone service resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in natural gas consumption resulting from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in sewage generation expected to result from the MBIA headquarters expansion.

- On the basis of the above considerations, there will be no significant adverse impact associated with the increase in water consumption expected to result from the MBIA headquarters expansion.

K. Community Services

1. Impacts and Proposed Mitigation

The proposed MBIA headquarters expansion is anticipated to result in a minor increase in the need for police, fire and ambulance services.

In addition, the Proposed Action is anticipated to result in additional waste.

Correspondence and discussions with the Police Department indicate that the Police Department has the capacity to accommodate the proposed MBIA expansion.

Furthermore, the Armonk Fire Department has indicated that it is prepared to accommodate the proposed MBIA office expansion.

The increase in waste generated is not expected to create significant impacts upon the private carter or upon local landfills.

Owing to the lack of significant impacts on community services, no mitigation measures other than those presently undertaken are proposed by the Applicant.

2. Discussion and Findings

The Planning Board finds that there will be no significant adverse impacts to community services as a result of the development of the MBIA headquarters expansion.

VI. GENERAL FINDINGS

The Planning Board finds that:

- The Planning Board has given due consideration to the Final EIS.

- This Findings Statement has been prepared pursuant to and as required by 6 NYCRR Part 617.

- Based upon a review of the potential impacts associated with plans prepared for the Proposed Action, the Planning Board has concluded that the MBIA headquarters expansion represented by the FEIS plan, when further revised as discussed in this Finding Statement, will not result in significant impacts with respect to land use, planning and zoning, will result in the creation of a substantial area of open space, will reduce impervious surfaces as compared to existing conditions, not significantly impact soils and geology, surface and groundwater, wetland, vegetation, wildlife, traffic and transportation and visual resources, utilities and community character. Impacts associated with construction will be mitigated to the maximum extent practicable.

- Consistent with social, economic and other essential considerations, the Proposed Action assessed in the Final EIS is an action that minimizes or avoids adverse environmental effects to the maximum extent practicable.

- Consistent with social, economic and other essential considerations, to the maximum extent practicable, adverse environmental effects revealed in the environmental impact statement process will be minimized or avoided by incorporating as conditions to the decision those mitigative measures that were identified as practicable in the EIS and this Findings Statement.

NOW THEREFORE, BE IT RESOLVED, that the above Findings Statement is hereby adopted.

VOTE: Ayes - 5 - Chairman Cassetta, Ms. Michelman,
Mr. Adelman, Mr. Simonetti, Mr. Delano

Noes - 0

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Appendix B-1
MBIA, NRDC, and Riverkeeper Agreement

AGREEMENT

Memorandum of Agreement ("Agreement") dated this 8th day of October 2003, by and between Natural Resources Defense Council ("NRDC"), Riverkeeper, Inc. ("Riverkeeper"), and MBIA Insurance Corp. ("MBIA"), collectively the "Parties."

WHEREAS, MBIA maintains its corporate headquarters at 113 King Street (NY Route 120) in the Town of North Castle ("Town"), Westchester County, New York and is an integral and vital part of the socioeconomic fabric of the Town; and

WHEREAS, NRDC is a national, non-profit legal and scientific organization committed to the protection and enhancement of the earth's natural resources, including the urban environment and in particular the protection of New York's drinking water supply; and

WHEREAS, Riverkeeper is a non-profit environmental organization dedicated to protecting the Hudson River, its tributaries, and the New York City drinking water supply watershed; and

WHEREAS, the existing MBIA headquarters site comprises ±15.95 acres, within the DOB-20A zoning district, and consists of two separate tax lots known on the Tax Assessment Map of the Town of North Castle as Section 3, Block 4, Lot 3 B (±14.30 acres) and Section 3, Block 4, Lot 3A (±1.65 acres) (the "Existing Site"); and

WHEREAS, the Existing Site is adjacent to the Kensico Reservoir (the "Reservoir"), which is owned by the New York City Department of Environmental Protection ("DEP"); and

WHEREAS, the Reservoir is an essential part of the potable water supply for the New York metropolitan area and Westchester County, and requires protection according to DEP regulations and responsible mitigation practices; and

WHEREAS, since acquiring the Existing Site in 1989, certain expansion projects and zoning applications have been reviewed and approved by the Town in accordance with the requirements of the State Environmental Quality Review Act ("SEQRA"), and with the input and participation of all appropriate involved and interested agencies including DEP, Westchester County and its Planning Department, the North Castle Town Board and North Castle Planning Board; and

WHEREAS, such prior approvals and expansions have met the DEP regulations applicable at the time of such approvals, with the intent of protecting the adjacent watershed property and so as not to negatively impact the Reservoir, and have conformed with the Town's Comprehensive Plan; and

WHEREAS, in connection with the potential need to further expand its available office and related space and uses, MBIA has acquired certain adjacent residential properties within the R-1A (single-family residential) zoning district; and

WHEREAS, said adjacent residential properties front on Town roads known as Cooney Hill Road and Weber Place, and a State highway known as King Street, and are referred to herein as the "Cooney Hill Lots;" and

WHEREAS, in particular, the Cooney Hill Lots consist of 15 of the 17 lots fronting on the referenced streets and comprise approximately 20.1 acres immediately to the north of the Existing Site, and

WHEREAS, MBIA has also acquired a right of first refusal with respect to a 16th lot (the Cooney Hill Lots and the Existing Site being, collectively, the "Project Site");

WHEREAS, the Town Board of the Town of North Castle encouraged and supported the acquisition of the Cooney Hill Lots in furtherance of its Comprehensive Plan for the Town, and to ensure the protection of the private owners of the Cooney Hill Lots and of the Reservoir in connection with the proposed expansion of the commercial use; and

WHEREAS, MBIA has made the necessary applications to the Town of North Castle for the re-development of the Existing Site and the Cooney Hill Lots consisting of 165,000 square feet of additional office space, 58,000 square feet of new amenity space, a 15,000 square foot corporate meeting house, a parking garage, recreational amenities for employees including a walking/jogging trail, exercise benches along the trail, a multi-purpose court on the roof of the parking garage, and associated on-site improvements including a proposed decorative/stormwater management basin and two water quality basins; and

WHEREAS, in connection with this proposed expansion, MBIA will demolish the homes on the Cooney Hill Lots and remove associated impervious surfaces, including driveways and patios; and

WHEREAS, after close coordination with involved and interested parties including NRDC and Riverkeeper, and in keeping with a shared desire by the Parties to protect and enhance the environment by incorporating innovative design characteristics and maximizing the use of existing impervious surfaces, the proposed expansion will result in a decrease of impervious surface on the project site of approximately 11,700 square feet below existing conditions; and

WHEREAS, the demolition of the houses on the Cooney Hill Lots will result in the elimination of the individual septic systems and fuel oil tanks utilized by each home, thus removing the potential for pollutants from these sources leaching into the ground; and

WHEREAS, the improvements to the Existing Site have been designed to be especially responsive to environmental concerns, which features are reflected on a plan attached hereto as **Exhibit A**, and include (i) the layout and design of the existing on-site improvements, (ii) the ability to assemble sufficient additional properties to permit significant on-site mitigation of impacts, and (iii) the ability to provide sufficient on-site parking to accommodate the proposed expansion without increasing the footprint of the development; and

WHEREAS, in accordance with SEQRA and the applicable ordinances of the Town, the following actions have been taken by the Town and certain involved and interested agencies in connection with the proposed expansion:

- Declaration by Town Board of the Town of North Castle of its intent to act as Lead Agency in Connection in with the Proposed Action on January 18, 2002;

- Circulation of Notice of Intent to be Lead Agency on January 19, 2002;

- Designation of the Town Board of the Town of North Castle as Lead Agency on March 7, 2002;

- Issuance of a Positive Declaration on March 7, 2002 and direction to prepare a DEIS;

- Preparation of a Draft DEIS Scope dated 5, 2002 by the Applicant and circulation of the Draft DEIS Scope to involved and interested agencies on March 8, 2002;

- Publication of the Notice of Positive Declaration in the Environmental Notice Bulletin on March 27, 2002;

- Adoption of a final DEIS Scope on May 8, 2002 and circulation of the adopted DEIS Scope to involved and interested agencies on May 10, 2002;

- Preparation of a DEIS by the Applicant;

- Review by the Lead Agency of multiple drafts of the proposed DEIS with respect to completeness;

- Acceptance of the DEIS and filing of the DEIS and Notice of Completion on October 9, 2002;

- Publication of the Notice of Completion of DEIS and Notice of SEQRA Hearing in the Environmental Notice Bulletin on October 30, 2002;

- Holding of a public hearing on the DEIS by the Lead Agency on November 20, 2002;

- Closing of the public hearing on the DEIS on November 20, 2002 and the establishment of a public comment period on the DEIS for submission of additional written comments ending on December 20, 2002;

- Preparation of an FEIS by the Applicant;

- Review by the Lead Agency of multiple drafts of the proposed FEIS with respect to completeness;

- Acceptance of the FEIS and filing of the FEIS and Notice of Completion on September 10, 2003;

- Publication of the Notice of Completion of FEIS in the Environmental Notice Bulletin on September 24, 2003;

- Review and consideration of comments submitted by involved agencies, interested agencies, and members of the public in writing and at public meeting throughout the course of the environmental review process, including consideration of additional discussions that have occurred between MBIA and DEP, as well as a coalition of environmental groups including NRDC, Riverkeeper, the New York Public Interest Research Group ("NYPIRG"), the Bronx Council for Environmental Quality, Federated Conservationists of Westchester County, Friends of Jerome Park Reservoir, and the Sierra Club – Lower Hudson Group; and

- Preparation and adoption of a Findings Statement by the Lead Agency; and

WHEREAS, throughout the review and approval process set forth above, MBIA has worked closely with the Town, NRDC, Riverkeeper, and other involved and interested agencies in order to solicit, receive, consider and incorporate practicable mitigation and design alternatives and concepts; and

WHEREAS, the Parties mutually desire that an approved project provide protection of the environment, including but not limited to the protection of the Kensico Reservoir and the New York City Watershed (the "Watershed") in general; and

WHEREAS, it is understood and agreed that the Kensico Reservoir and the 9.9 square mile watershed lands that surround it constitute a strategic point for New York's downstate water supply, that the Reservoir plays a pivotal role in providing safe drinking water to roughly 8 million downstate residents and that any development of the Existing Site must incorporate the protection and safety of this water supply as a primary objective; and

WHEREAS, it is recognized that MBIA has an opportunity and a desire to raise commercial development standards to a level that reflects an appropriate awareness of environmental impacts and addresses them in a responsible manner, consistent with the spirit of Watershed stewardship; and

WHEREAS, it is acknowledged that, in fact, MBIA's proposed action, as set forth in the FEIS, together with the obligations and commitments set forth herein, does incorporate practicable mitigation and design features and concepts and provides additional protection of the environment, including but not limited to the protection of the Kensico Reservoir and the Watershed in general; and

WHEREAS, MBIA desires that NRDC and Riverkeeper support the approval and implementation of its expansion proposal; and

WHEREAS, NRDC and Riverkeeper desire that MBIA should adhere to those mitigation and design components and protective measures set forth in the FEIS and in this Agreement;

NOW, THEREFORE, the Parties mutually agree as follows:

1. General Intent. In accordance with the terms set forth herein, the Parties agree that MBIA will continue to process an application for, and, upon receipt of Necessary Approvals (as defined herein), may undertake to construct all or some portion of the Project. MBIA will not oppose the inclusion of such obligations as set forth herein, in the Environmental Finding Statement, and in all appropriate resolutions associated with the approval of the project. In consideration of MBIA's promises herein, NRDC and Riverkeeper will support in writing the Necessary Approvals, and will refrain from commencing any action or proceeding as set forth in paragraph 3 below. "Necessary Approvals" shall include any approval identified in the Environmental Impact Statement or any permit or approval required as a prerequisite for, or ancillary to, such an approval and where such approval is specifically related to the environmental concerns addressed by the Parties in this Agreement. It is agreed that MBIA will not seek, nor shall it act upon, any materially adverse change in the conditions, obligations or approvals set forth or referenced herein without the prior written consent of NRDC and Riverkeeper.

2. Mitigation and Design Commitments by MBIA.

2.1 Reduction in Impervious Surface. MBIA will re-develop the Project Site such that a net reduction in impervious surface is achieved on the Project Site. This net reduction in impervious surface is achieved by taking advantage of the features of the Project Site, and the existing improvements, and by implementing changes in the proposed development plan. In particular, this reduction in impervious surface is achieved (i) by locating the office expansion upon what is now the site of an at-grade, paved parking lot, (ii) by demolishing the existing on-site at-grade parking lot, (iii) by removing guest parking and eliminating pavement in the guest parking area (iv) by eliminating the existing concrete sidewalk (v) by eliminating an existing storage garage building, (vi) by removing that portion of Weber Place that served the Witherspoon property and the adjacent lot owned by MBIA, (vii) by designing the proposed parking structure so as to eliminate a previously proposed portion of the west bay and the entire northernmost portion of the structure, (viii) by eliminating a proposed road through wetland buffer and replacing it with pervious surface (ix) by moving the proposed tennis court from an on grade to rooftop location, (x) by replacing a proposed terraced sculpture garden with a lawn sculpture garden, (xi) by removing the contemplated parking lot associated with the satellite conference building and locating parking under the building, and reducing the size of the proposed porch, and (xii) by removing the homes and associated driveways, patios, etc., on the Cooney Hill Lots. Various other mitigation measures which are described in the FEIS will also be incorporated. Attached as **Exhibit B** is a plan depicting the proposed development and reflecting the reductions in impervious surface as currently proposed. All of the foregoing design features will result in the net reduction of not less than 11,700 square feet of impervious surface of the site compared with present conditions.

2.2 Environmentally Sensitive Landscaping and Maintenance Program. Commencing upon execution of this Agreement, MBIA will implement an Integrated Pest Management Plan (IPM) and follow IPM practices at the Existing Site and the Cooney Hill Lots. MBIA will seek and obtain approval of the IPM Plan by the North Castle Planning Board before obtaining final site plan approval. Pursuant to this IPM, the health of landscape plantings would be assessed by a professional experienced in the practice of Integrated Pest Management, any deterioration in the health of the landscaping or pest infestations noted, and remedial action prescribed as necessary. Remedial action consistent with the most environmentally sensitive agents and maintenance as is practical shall be employed on the property. Since an IPM program, by its nature, requires some flexibility to address site specific needs, a detailed IPM action plan is not included in this Agreement. However, MBIA will comply with the following commitments:

(i) use only low-phosphorous fertilizers;

(ii) undertake appropriate treatment measures only when weed and/or pest damage has exceeded established threshold levels – low priority areas will tolerate 15% weeds or pest damage, medium areas 10%, and high priority areas 5% (*see*, **Exhibit C**);

(iii) except for ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meeting house, which area is shown as, and shall be maintained as, Zone 3B per Exhibit C, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico Reservoir (*see*, Exhibit C) unless such use is required to protect public health; and

(iv) in IPM management Zone 1 (*see*, Exhibit C), there shall be no use of pesticides or fertilizers or herbicides.

MBIA or its professional independent contractors will prepare and submit annual reports to the Town which will include periodic landscape inspection reports and a description of remedial action taken, by location, during the preceding year. Further, upon re-development of the Project Site, a significant portion of the Cooney Hill area will be converted and maintained as a natural meadow (*see*, Exhibit C), without formal landscaping intervention except mowing as necessary to maintain its character and size as defined in the FEIS plans.

2.3 Stormwater Treatment. All stormwater run-off from newly developed areas on the Project Site will be treated before discharge from the property. Because of seasonably high ground water noted by DEP, it has been determined that an infiltration basin is not feasible within this area of the site. MBIA has concluded that the elevation of the drainage inlets adjacent to the proposed parking structure dictate that a stormwater management practice be located on this portion of the site within the area of the deep hole test. As such, a micropool extended detention basin is now proposed in this area. In addition, the management and maintenance of the stormwater_treatment system shall be monitored by MBIA on an on-going basis in accordance with a regular schedule (no less than twice each year), approved by the Town Planning Board and incorporated as a condition of site plan approval. In addition, MBIA will comply with the maintenance requirements set forth in the New York State Department of Environmental Conservation's Stormwater Design Manual's section covering "stormwater ponds." Attached as **Exhibit D** is a plan depicting the stormwater treatment proposal.

2.4 De-icing. Commencing upon the execution of this Agreement, MBIA will implement, on an on-going basis, a de-icing program which will not utilize sand, and will utilize salt treated with "Icebgone", or equivalent as approved by the Town and consistent with the Environmental Findings Statement (EFS) adopted in connection with the project, which will increase the effectiveness of the salt as a melting agent and therefore require the use of less salt. It is noted that upon completion of the project the extent of areas on the site requiring de-icing for public safety will be significantly reduced as a result of elimination of extensive areas of paved surface parking, to be replaced by a new roofed over public garage where the driving, parking and pedestrian walkway surfaces will not be exposed to the elements. Adherence to this de-icing program will be a condition of Town approvals and may be the subject of inspections and enforcement by the Town.

2.5 Conservation Easement. MBIA will forego any future right to develop that portion of the Cooney Hill Area which is immediately adjacent to New York City-owned land (including the entire acreage of the lots on the west side of Weber Place, formerly owned by Witherspoon, Schrecke, and Murray, and portions of lots formerly owned by Mastroianni, McSpedon, and Popoli as well as the lot now owned by DeLago, as to which MBIA has a right of first refusal, if and when it is acquired by MBIA). Such restriction shall be memorialized, either prior to site plan approval or as a condition thereof, but in no event more than six (6) months from the date hereof, in a conservation easement to an entity, mutually agreed upon by the Parties and committed to the preservation of open space in perpetuity for the purpose of protecting the Reservoir. The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the DEP property. The balance of the conservation easement area shall be revocable. The easement as to the revocable area may only be revoked if the following two conditions are met: (i) MBIA has not constructed both the proposed office building and the associated parking structure; and (ii) MBIA sells the Cooney Hill lots to a third party for a standalone development. Attached as **Exhibit E** is a plan depicting the areas proposed for the conservation easement, which total approximately 7 acres. Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by DEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonably be placed outside of the conservation easement area, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, nor shall any limitation so imposed reduce the lot area(s) for purposes of bulk and density requirements.

3. Commitments as to Procedural and Substantive Review of Project by NRDC and Riverkeeper.

3.1 Satisfaction with Process. NRDC and Riverkeeper agree that in consideration of the obligations of MBIA as set forth herein: (i) the procedural and substantive requirements of SEQRA have been met with respect to the processing of the proposed action; (ii) they have each received such notices and participated in the public process associated with the environmental review of this project in a manner consistent with the requirements of SEQRA and satisfactory to each of them; (iii) the mitigation and design features described in the FEIS and within this Agreement sufficiently address their concerns with respect to the proposed action; (iv) the mitigation and design features described in the FEIS and within this Agreement are protective of the environment; and (v) they will affirmatively support, in writing to the North Castle Town Board or Planning Board, the approval of the Project as set forth in the FEIS and this Agreement.

3.2 Defense to Action by NRDC or Riverkeeper. In accordance with paragraph 3.1 immediately above, NRDC and Riverkeeper further agree that their execution of this Agreement shall constitute an absolute defense to any action or proceeding, related to the current environmental review of this project, commenced in any court, tribunal, or administrative forum, by either or both of them or by any person or part(y)(ies) affiliated or funded by them, whether such action or proceeding be based on an alleged procedural or substantive defect or error in the record, whether based upon federal, state, or local law, ordinance or rule, including but not limited to the environmental review and approval process and the environmental impact statement. This defense may be asserted by MBIA, the Town, or any other entity or agency named in such action or proceeding.

3.3 No Support for Third Parties. NRDC and Riverkeeper agree that they will not assist, recruit, fund, or support any person or entity to act contrary to any provision of this Agreement during the remaining approval process or with respect to any action or proceeding as set forth in paragraph 3.2.

3.4 Remedy for Breach of this Agreement. In the event that any party believes that another Party has materially breached a provision of this Agreement, such Party may seek specific performance of the provisions of this contract in any appropriate court.

4. Subject to Approvals. Except as otherwise explicitly set forth herein, all commitments and obligations of MBIA herein are contingent upon MBIA receiving the Necessary Approvals to permit the redevelopment of the Project Site consistent with the Mitigation and Design Commitments as set forth in paragraph 1 above.

5. Binding Upon Heirs, etc. This Agreement shall be binding upon the heirs, successors or assigns of the Parties.

6. Modification. No modification of this Agreement shall be valid unless such modification is represented in a writing referencing this Agreement and executed by the Parties as an amendment thereto.

Agreed this 8th day of October, 2003

MBIA

By:________________________

NRDC

By: Rob Moy

RIVERKEEPER

By:________________________

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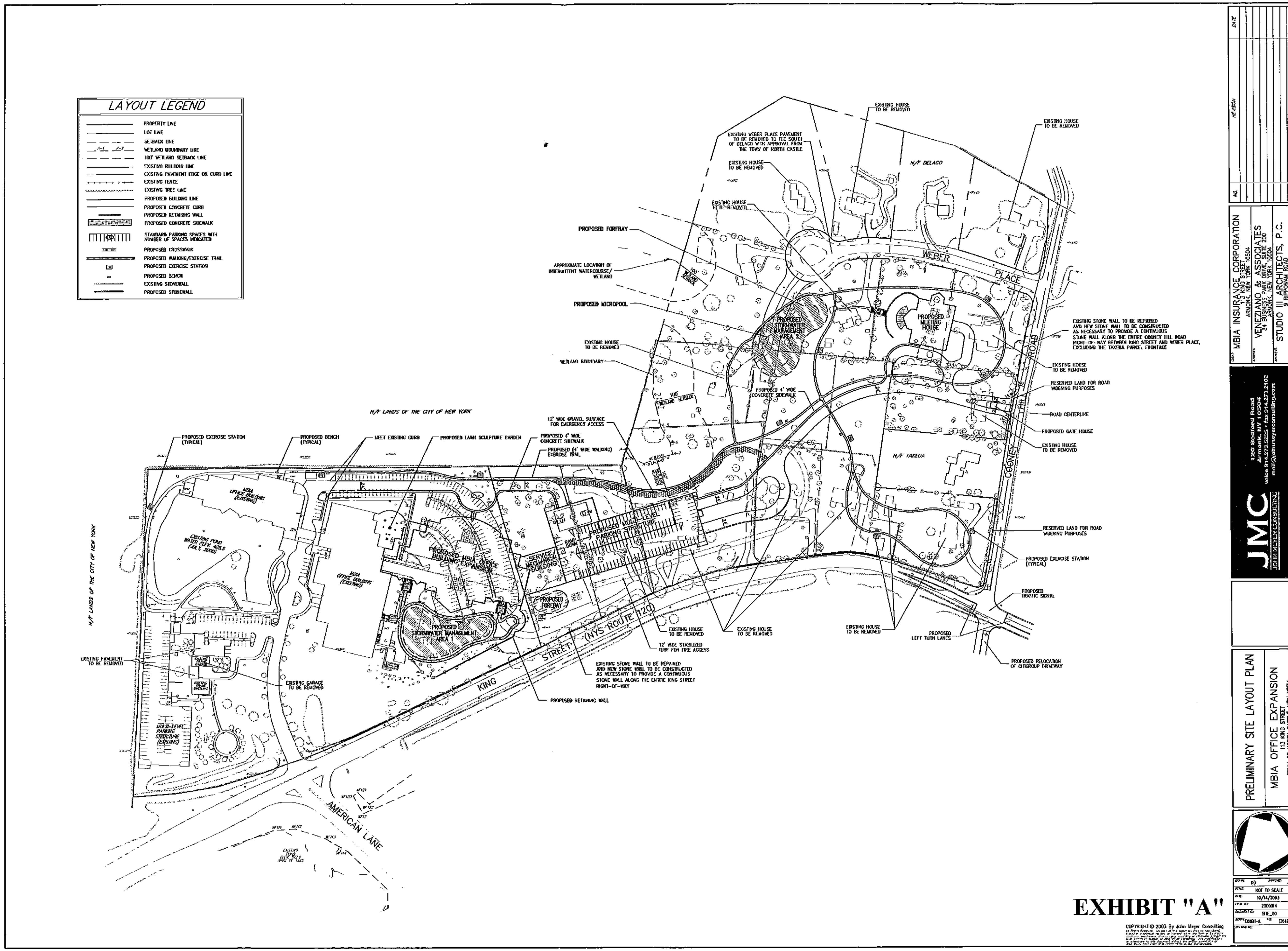
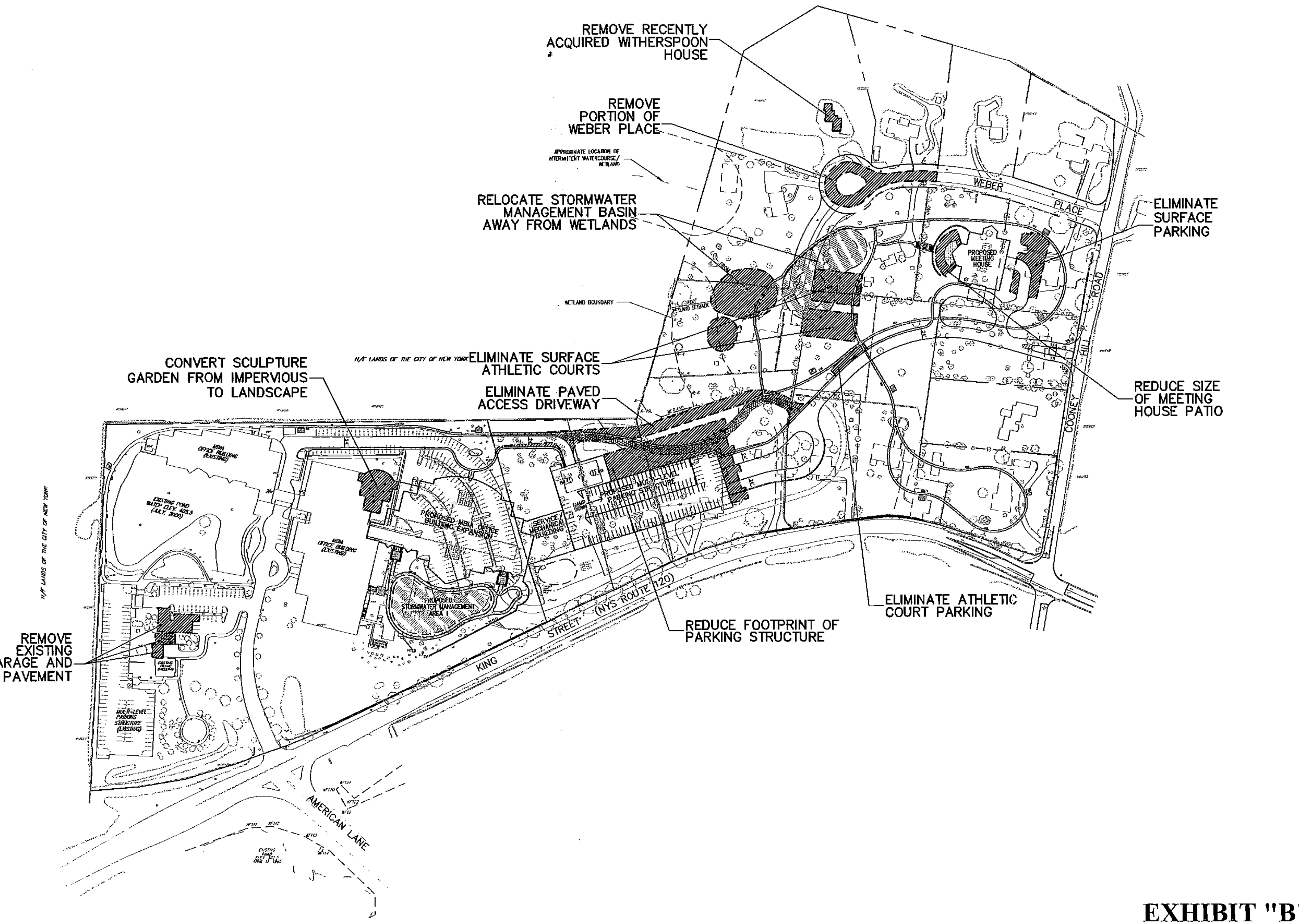


LAYOUT LEGEND
PROPERTY LINE
LOT LINE
SETBACK LINE
WETLAND BOUNDARY LINE
100' WETLAND SETBACK LINE
EXISTING BUILDING LINE
EXISTING PAVEMENT EDGE OR CURB LINE
EXISTING FENCE
EXISTING TREE LINE
PROPOSED BUILDING LINE
PROPOSED CONCRETE CURB
PROPOSED RETAINING WALL
PROPOSED CONCRETE SIDEWALK
STANDARD PARKING SPACES WITH NUMBER OF SPACES INDICATED
PROPOSED CROSSWALK
PROPOSED WALKING/EXERCISE TRAIL
PROPOSED EXERCISE STATION
PROPOSED BENCH
EXISTING STONEWALL
PROPOSED STONEWALL
WEBER PLACE
COONEY HILL ROAD
KING STREET (NYS ROUTE 120)
AMERICAN LANE
N/F LANDS OF THE CITY OF NEW YORK
N/F DELACO
N/F TAKEDA
PROPOSED MBIA BUILDING EXPANSION
PROPOSED MULTI-LEVEL PARKING STRUCTURE
PROPOSED MEETING HOUSE
PROPOSED STORMWATER MANAGEMENT AREA 1
PROPOSED STORMWATER MANAGEMENT AREA 2
PROPOSED FOREBAY
PROPOSED MICROPOOL
PROPOSED GATE HOUSE
PROPOSED TRAFFIC SIGNAL
PROPOSED LEFT TURN LANES
PROPOSED RELOCATION OF CITIGROUP DRIVEWAY
EXISTING HOUSE TO BE REMOVED
EXISTING GARAGE TO BE REMOVED
EXISTING PAVEMENT TO BE REMOVED
MBIA OFFICE BUILDING (EXISTING)
MULTI-LEVEL PARKING STRUCTURE (EXISTING)
PROPOSED LAWN SCULPTURE GARDEN
12' WIDE GRAVEL SURFACE FOR EMERGENCY ACCESS
12' WIDE STABILIZED TURF FOR FIRE ACCESS
PROPOSED RETAINING WALL
RESERVED LAND FOR ROAD WIDENING PURPOSES
ROAD CENTERLINE
MBIA INSURANCE CORPORATION
113 KING STREET
ARMONK, NEW YORK 10504
VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE, SUITE 200
ARMONK, NEW YORK 10504
STUDIO III ARCHITECTS, P.C.
9 RIPPOWAM ROAD
NEW CANAAN, CONNECTICUT 06840
JMC
JOHN MEYER CONSULTING
120 Bedford Road
Armonk, NY 10504
voice 914.273.5225 • fax 914.273.2102
mail@johnmeyerconsulting.com
PRELIMINARY SITE LAYOUT PLAN
MBIA OFFICE EXPANSION
113 KING STREET
TOWN OF NORTH CASTLE, NEW YORK
KD
JM
NOT TO SCALE
10/14/2003
2000014
SITE_80
EXHIBIT-A
EXHIBITS
COPYRIGHT © 2003 By John Meyer Consulting

EXHIBIT "A"



MBIA INSURANCE CORPORATION
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VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE SUITE 200
ARMONK, NEW YORK 10504

STUDIO III ARCHITECTS, P.C.
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mail@johnmeyerconsulting.com

MITIGATION PLAN

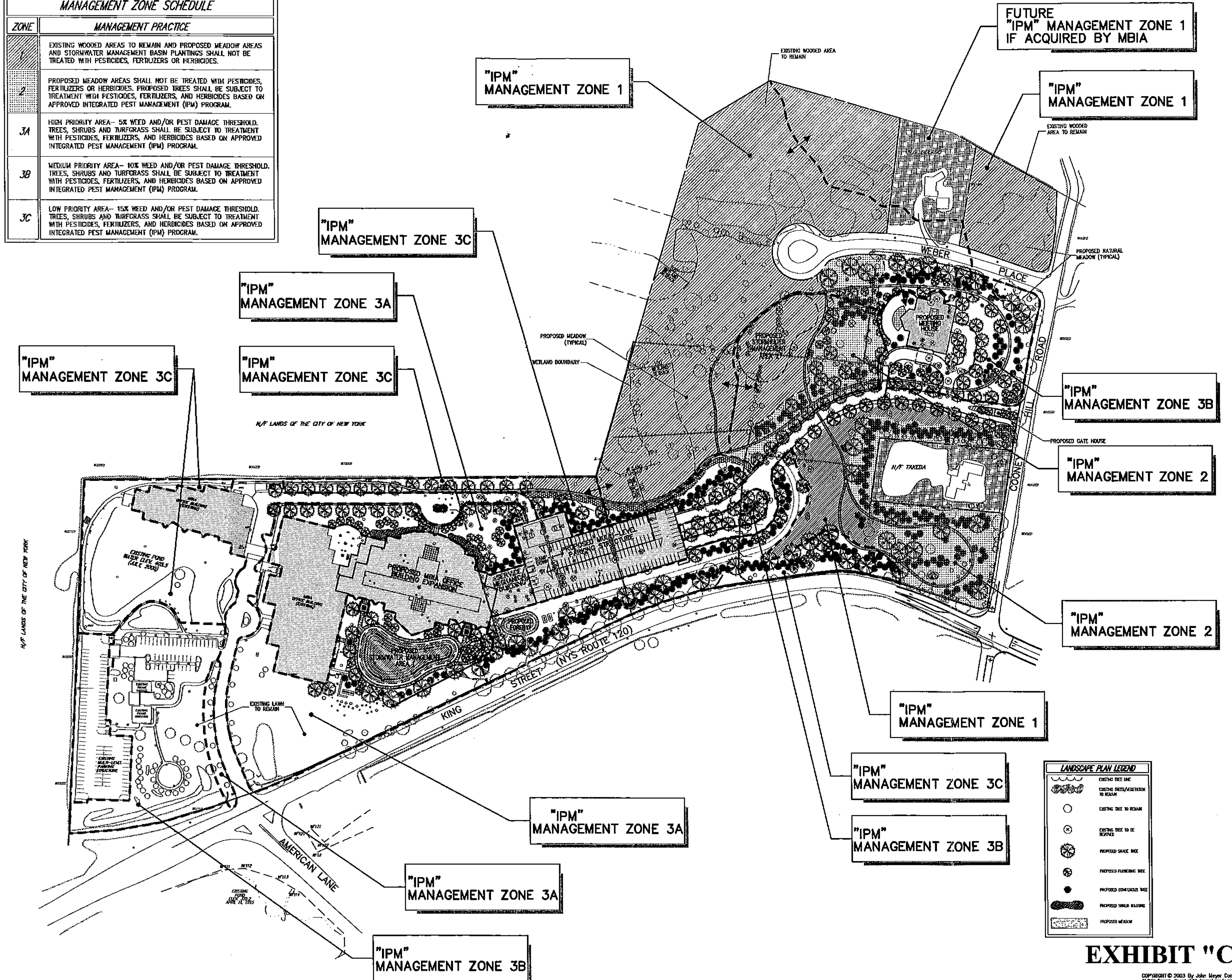
MBIA OFFICE EXPANSION
113 KING STREET
TOWN OF NORTH CASTLE, NEW YORK

NOT TO SCALE
10/14/2003
EXHIBIT-B
EXHIBITS

EXHIBIT "B"

MANAGEMENT ZONE SCHEDULE

ZONE	MANAGEMENT PRACTICE
1	EXISTING WOODED AREAS TO REMAIN AND PROPOSED MEADOW AREAS AND STORMWATER MANAGEMENT BASIN PLANTINGS SHALL NOT BE TREATED WITH PESTICIDES, FERTILIZERS OR HERBICIDES.
2	PROPOSED MEADOW AREAS SHALL NOT BE TREATED WITH PESTICIDES, FERTILIZERS OR HERBICIDES. PROPOSED TREES SHALL BE SUBJECT TO TREATMENT WITH PESTICIDES, FERTILIZERS, AND HERBICIDES BASED ON APPROVED INTEGRATED PEST MANAGEMENT (IPM) PROGRAM.
3A	HIGH PRIORITY AREA– 5% WEED AND/OR PEST DAMAGE THRESHOLD. TREES, SHRUBS AND TURFGRASS SHALL BE SUBJECT TO TREATMENT WITH PESTICIDES, FERTILIZERS, AND HERBICIDES BASED ON APPROVED INTEGRATED PEST MANAGEMENT (IPM) PROGRAM.
3B	MEDIUM PRIORITY AREA– 10% WEED AND/OR PEST DAMAGE THRESHOLD. TREES, SHRUBS AND TURFGRASS SHALL BE SUBJECT TO TREATMENT WITH PESTICIDES, FERTILIZERS, AND HERBICIDES BASED ON APPROVED INTEGRATED PEST MANAGEMENT (IPM) PROGRAM.
3C	LOW PRIORITY AREA– 15% WEED AND/OR PEST DAMAGE THRESHOLD. TREES, SHRUBS AND TURFGRASS SHALL BE SUBJECT TO TREATMENT WITH PESTICIDES, FERTILIZERS, AND HERBICIDES BASED ON APPROVED INTEGRATED PEST MANAGEMENT (IPM) PROGRAM.



LANDSCAPE PLAN LEGEND

MBIA INSURANCE CORPORATION
113 KING STREET
ARMONK, NEW YORK 10504

VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE, SUITE 200
ARMONK, NEW YORK 10504

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INTEGRATED PEST MANAGEMENT ZONE PLAN

MBIA OFFICE EXPANSION
113 KING STREET
TOWN OF NORTH CASTLE, NEW YORK

DRAWN: KD	APPROVED: JM
SCALE:	NOT TO SCALE
DATE:	10/14/2003
PROJECT NO:	2000014
DOCUMENT ID:	SITE_IBD
EXHIBIT-C	EXHIBITS

EXHIBIT "C"

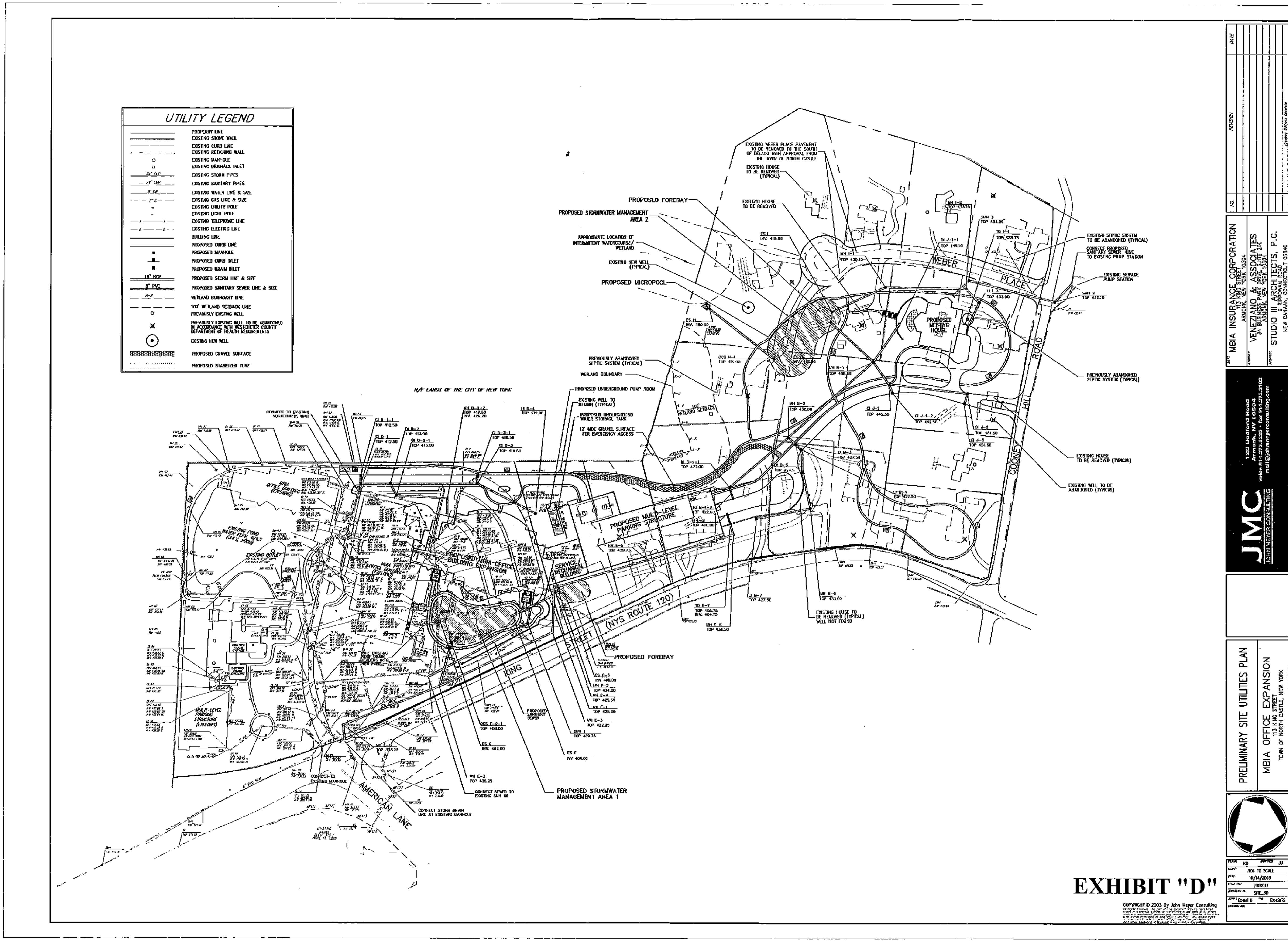
UTILITY LEGEND
PROPERTY LINE
EXISTING STONE WALL
EXISTING CURB LINE
EXISTING RETAINING WALL
EXISTING MANHOLE
EXISTING DRAINAGE INLET
EXISTING STORM PIPES
EXISTING SANITARY PIPES
EXISTING WATER LINE & SIZE
EXISTING GAS LINE & SIZE
EXISTING UTILITY POLE
EXISTING LIGHT POLE
EXISTING TELEPHONE LINE
EXISTING ELECTRIC LINE
BUILDING LINE
PROPOSED CURB LINE
PROPOSED MANHOLE
PROPOSED CURB INLET
PROPOSED DRAIN INLET
PROPOSED STORM LINE & SIZE
PROPOSED SANITARY SEWER LINE & SIZE
WETLAND BOUNDARY LINE
100' WETLAND SETBACK LINE
PREVIOUSLY EXISTING WELL
PREVIOUSLY EXISTING WELL TO BE ABANDONED IN ACCORDANCE WITH WESTCHESTER COUNTY DEPARTMENT OF HEALTH REQUIREMENTS
EXISTING NEW WELL
PROPOSED GRAVEL SURFACE
PROPOSED STABILIZED TURF
N/F LANDS OF THE CITY OF NEW YORK
PROPOSED FOREBAY
PROPOSED STORMWATER MANAGEMENT AREA 2
APPROXIMATE LOCATION OF INTERMITTENT WATERCOURSE/ WETLAND
EXISTING NEW WELL (TYPICAL)
PROPOSED MICROPOOL
PREVIOUSLY ABANDONED SEPTIC SYSTEM (TYPICAL)
WETLAND BOUNDARY
PROPOSED UNDERGROUND PUMP ROOM
EXISTING WELL TO REMAIN (TYPICAL)
PROPOSED UNDERGROUND WATER STORAGE TANK
12' WIDE GRAVEL SURFACE FOR EMERGENCY ACCESS
EXISTING WEBER PLACE PAVEMENT TO BE REMOVED TO THE SOUTH OF DELAGO WITH APPROVAL FROM THE TOWN OF NORTH CASTLE
EXISTING HOUSE TO BE REMOVED (TYPICAL)
EXISTING HOUSE TO BE REMOVED
WEBER PLACE
PROPOSED MEETING HOUSE
EXISTING SEPTIC SYSTEM TO BE ABANDONED (TYPICAL)
CONNECT PROPOSED SANITARY SEWER LINE TO EXISTING PUMP STATION
EXISTING SEWAGE PUMP STATION
PREVIOUSLY ABANDONED SEPTIC SYSTEM (TYPICAL)
COONEY HILL ROAD
EXISTING HOUSE TO BE REMOVED (TYPICAL)
EXISTING WELL TO BE ABANDONED (TYPICAL)
EXISTING HOUSE TO BE REMOVED (TYPICAL) WELL NOT FOUND
PROPOSED MULTI-LEVEL PARKING STRUCTURE
SERVICE/ MECHANICAL BUILDING
PROPOSED MBIA OFFICE BUILDING EXPANSION
MBIA OFFICE BUILDING (EXISTING)
EXISTING POND WATER ELEV. 403.5 (JULY, 2000)
MULTI-LEVEL PARKING STRUCTURE (EXISTING)
CONNECT TO EXISTING VORTECHNICS UNIT
KING STREET (NYS ROUTE 120)
PROPOSED FOREBAY
PROPOSED SANITARY SEWER
PROPOSED STORMWATER MANAGEMENT AREA 1
CONNECT SEWER TO EXISTING SMH 86
CONNECT STORM DRAIN LINE AT EXISTING MANHOLE
CONNECT TO EXISTING MANHOLE
AMERICAN LANE
MBIA INSURANCE CORPORATION
113 KING STREET
ARMONK, NEW YORK 10504
VENEZIANO & ASSOCIATES
STUDIO III ARCHITECTS, P.C.
NEW CANAAN, CONNECTICUT 06840
JMC
JOHN MEYER CONSULTING
120 Bedford Road
Armonk, NY 10504
PRELIMINARY SITE UTILITIES PLAN
MBIA OFFICE EXPANSION
113 KING STREET
TOWN OF NORTH CASTLE, NEW YORK
NOT TO SCALE
10/14/2003
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EXHIBIT "D"

MBIA INSURANCE CORPORATION
113 KING STREET
ARMONK, NEW YORK 10504

VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE, SUITE 200
ARMONK, NEW YORK 10504

STUDIO III ARCHITECTS, P.C.
NEW CANAAN, CONNECTICUT 06840

JMC
JOHN MEYER CONSULTING
120 Bedford Road
Armonk, NY 10504
voice 914.273.5225 • fax 914.273.2102
mail@johnmeyerconsulting.com

CONSERVATION EASEMENT AREA PLAN

MBIA OFFICE EXPANSION
113 KING STREET
TOWN OF NORTH CASTLE, NEW YORK

NOT TO SCALE
10/14/2003
2000014
EXHIBIT-E

EXHIBIT "E"

Appendix B-2
Conservation Easement with Westchester Land Trust

461140461EAS1

Control Number
461140461

Instrument Type
EAS

WESTCHESTER COUNTY RECORDING AND ENDORSEMENT PAGE
(THIS PAGE FORMS PART OF THE INSTRUMENT)
***** DO NOT REMOVE *****

THE FOLLOWING INSTRUMENT WAS ENDORSED FOR THE RECORD AS FOLLOWS:
TYPE OF INSTRUMENT: EAS - EASEMENT
FEE PAGES: 21 TOTAL PAGES: 21

RECORDING FEES

STATUTORY CHARGE	$6.00
RECORDING CHARGE	$63.00
RECORD MGT. FUND	$19.00
RP 5217	$0.00
TP-584	$5.00
CROSS REFERENCE	$0.00
MISCELLANEOUS	$0.00
TOTAL FEES PAID	$93.00

TRANSFER TAXES

CONSIDERATION	$0.00
TAX PAID	$0.00
TRANSFER TAX #	12597

RECORDING DATE: 5/1/2006
TIME: 14:34:00

MORTGAGE TAXES

MORTGAGE DATE	
MORTGAGE AMOUNT	$0.00
EXEMPT	
COUNTY TAX	$0.00
YONKERS TAX	$0.00
BASIC	$0.00
ADDITIONAL	$0.00
MTA	$0.00
SPECIAL	$0.00
TOTAL PAID	$0.00

SERIAL NUMBER:
DWELLING:

THE PROPERTY IS SITUATED IN
WESTCHESTER COUNTY, NEW YORK IN THE:
TOWN OF NORTH CASTLE

WITNESS MY HAND AND OFFICIAL SEAL

TIMOTHY C. IDONI
WESTCHESTER COUNTY CLERK

Record & Return to:
WESTCHESTER LAND TRUST INC
11 BABBITT RD

BEDFORD HILLS, NY 10507

20[

CONSERVATION EASEMENT

JANUARY, 2006

This conservation easement agreement is made this 11 day of ~~December, 2005~~, between MBIA Insurance Corp., with offices at 113 King Street, Armonk, New York 10504, hereinafter referred to as the "Grantor", and the Westchester Land Trust, Inc., a New York not-for-profit corporation with its offices located at 11 Babbitt Road, Bedford Hills, New York 10507, hereinafter referred to as the "Grantee".

WHEREAS the Grantor, is the owner in fee of real property located in the Town of North Castle, Westchester County, New York known and designated on the tax map of the Town of North Castle as Section 3, Block 4, Lots 3, 3H, 3.1, 3.3, 3.4, and 3.6, being the same as that Property conveyed to Grantor by deeds recorded in the Land Records of the Westchester County Clerk at Control; Number 400110812 (Lot 3), Control Number 400100976 (Lot 3H), Control Number 421640160 (Lot 3.1), Control Number 403400580 (Lot 3.3), Control Number 432600029 (Lot 3.4), and Control Number 400901361(Lot 3.6), hereinafter referred to as the "Lots", comprising approximately 7 acres; and

WHEREAS, the Grantor is the owner of the right of first refusal to purchase Section 3, Block 4, Lot 3.2, Control Number F04599196 duly recorded in the Office of the Westchester County Clerk in Liber 12330, page 285; and

WHEREAS the Grantee is a publicly supported tax exempt nonprofit organization, and is a qualified organization under Sections 501(c)(3), 509(a)(1), 170(b)(1)(A)(vi) and 170(h) of the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder (the "Code"), and is a New York not-for-profit corporation within the meaning of Article 49, Title 3, of the Environmental Conservation Law of the State of New York, organized for the purpose, among others, of conserving and preserving the agricultural, forest and open space resources of Westchester County, and is thereby qualified to be the grantee of conservation easements; and

WHEREAS Grantor plans to expand its existing facilities located on Section 3, Block 4, Lot 3 B and Section 3, Block 4, Lot 3A and the Lots, hereinafter referred to as the "Development Plan", on its property, which Development Plan has been reviewed and approved by the Town of North Castle Planning Board and Town Board with input from the DEP, the Westchester County Planning Board, and is shown on a map entitled "Conservation Area Plan" of " MBIA Office Expansion", by JMC Consulting, dated 10/14/2003, and

WHEREAS Grantor wishes to donate an irrevocable conservation easement on the Lots, as shown on a map entitled Conservation Easement Map by John Meyer Consulting, dated 2/14/2005, hereinafter referred to as the "Map", hereinafter referred to as Conservation Easement Area A-1, more particularly described in Schedule A, and Easement Area B-1, more particularly described in Schedule B, attached hereto and incorporated herein by reference, which shall be revocable only as provided in Section 4 (a) herein; and

WHEREAS Grantor wishes to donate a revocable conservation easement on land on the Lots, as shown the Map, hereinafter referred to as Conservation Easement Area A-2, more particularly described in Schedule C, and Easement Area B-2, more particularly described in Schedule D, attached hereto and incorporated herein by reference, which shall be revocable only as provided in Section 4 (a) herein; and

WHEREAS, if and when Grantor acquires Lot 3.2, which includes prospective Conservation Easement Area C-1, more particularly described in Schedule E, and Conservation Easement Area C-2, more particularly described in Schedule F, attached hereto and incorporated herein by reference, Grantor agrees to donate a permanent conservation easement on C-1 and a revocable easement on C-2, which shall be revocable only as provided in Section 4 (a) herein; and

WHEREAS the Conservation Easement Area, as herein defined, is adjacent to the Kensico Reservoir which is owned by the New York City Department of Environmental Protection, hereinafter referred to as the "DEP"; and

WHEREAS the Kensico Reservoir is an essential part of the potable water supply for the New York metropolitan area and Westchester County, and requires protection according to DEP regulations and responsible mitigation practices; and

WHEREAS the conservation values of the Conservation Easement Areas are documented in a Baseline Data Report dated September 20, 2005, which is on file in the office of the Westchester Land Trust, and is incorporated herein by reference, and which includes an inventory of the relevant conservation values, maps, photographs, reports and other documents that the parties agree provide an accurate representation of the Conservation Easement Areas at the time of the execution of this conservation easement, and which is intended to provide objective baseline information for purposes of future monitoring and enforcement; and

WHEREAS conservation of the Conservation Easement Areas, subject to the terms of this easement, will yield significant benefits to the public by helping to preserve the water quality of the Kensico Reservoir which provides drinking water to the people of the City of New York and much of Westchester County; and

WHEREAS the Grantor desires to donate and to convey to Grantee the right to preserve and protect the conservation values described herein by encumbering the Conservation Easement Areas with a conservation easement pursuant to the provisions of New York Conservation Law, Article 49, Title 3; and

WHEREAS the Grantee agrees to accept this conservation easement and to honor the intentions of the Grantor as stated herein and to preserve and protect the Conservation Easement Areas in perpetuity according to the terms of this easement for the benefit of this and future generations.

NOW THEREFORE, in consideration of the foregoing and the mutual covenants terms, conditions, and restrictions contained herein, the Grantor hereby voluntarily grants and conveys to Grantee a conservation easement, of the nature and character set forth herein, in perpetuity over Conservation Easement Areas A-1, B-1, and C-1 if and when it is acquired by Grantor, and a revocable conservation easement over Conservation Easement Areas A-2, B-2, and C-2 if and when it is acquired by Grantor, which easement shall be revocable only pursuant to conditions set forth in Section 4 (a) below.

1. Purpose. It is the purpose of this easement to preserve Conservation Easement Areas A-1, B-1 and C-1 if and when it is acquired by Grantor, forever as undeveloped open space in perpetuity, and to preserve Conservation Easement Areas A-2, B-2 and C-2 if and when it is acquired by Grantor, as undeveloped open space unless the conservation easement on A-2, B-2 and C-2 is revoked as under conditions set forth in Section 4 (a) herein. These areas are to be maintained to preserve and protect the water quality of the Kensico Reservoir. This easement shall prevent any use of the Conservation Easement Areas that will impair or interfere with the conservation values of the Conservation Easement Areas by restricting use of the Conservation Easement Areas as provided herein.

2. Prohibited Uses and Restrictions. Any activity on or use of the Conservation Easement Areas inconsistent with the purpose of this conservation easement is prohibited. Without limiting the generality of the foregoing provision, the following restrictions specifically apply to the Conservation Easement Areas;

a. There shall be no development of any structures and no disturbance of the Conservation Easement Areas except to maintain the areas as natural meadow and except as set forth to the contrary in Section 4 herein.

b. There shall be no quarry, gravel pit, surface or subsurface mining or drilling, or other mining or drilling activities permitted on or under the Conservation Easement Areas.

c. There shall be no dumping or storage of ashes, non-composted organic waste, sewage, garbage, or any toxic or offensive materials on the Conservation Easement Areas.

d. Notwithstanding any other restriction contained herein, the owner of the Conservation Easement Areas (or any relevant part thereof) may take such actions with respect to the Conservation Easement Areas as are necessary to protect the health and safety of the public and the persons using the Conservation Easement Areas; provided that if any such action is contrary to a restriction contained herein, the action shall be limited to the minimum variation necessary to afford the required protection.

3. Rights Conveyed to Grantee. To accomplish the purposes of this easement, the following rights are conveyed to the Grantee by this easement.

a. The right to preserve and protect the conservation values of the Conservation Easement Areas.

b. The right to enter upon the Conservation Easement Areas annually at a reasonable time in order to monitor compliance and otherwise enforce the terms of this easement. Grantee shall provide Grantor or Grantor's successors, reasonable written notice of such entry unless Grantee determines that immediate entry is required to prevent, terminate or mitigate violation of this easement. Grantee, its successors, assigns, agents, attorneys, representatives, and affiliates shall not in any case unreasonably interfere with the Grantor's use and quiet enjoyment of the Conservation Easement Area or the surrounding property. Grantee shall hold Grantor harmless and indemnify Grantor against any damages for any injuries to employees or agents of the Grantee that occur on the Property pursuant to Grantee's exercise of its rights to enter onto the Property pursuant to this Conservation Easement.

c. The right to prevent any activity on, incursion into, or use of the Conservation Easement Areas that is inconsistent with the purposes of this easement, and to require the restoration of such areas or features of the Conservation Easement Areas that are damaged by any inconsistent activity or use pursuant to the remedies set forth in section 7 herein except as specifically permitted herein.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Conservation Easement Areas, all rights accruing from its ownership of the Conservation Easement Areas, including, without limitation, the right to sell, transfer or encumber the Conservation Easement Areas, as owner, subject to the restrictions and covenants set forth in this easement; and the right to engage in, or permit others to engage in, all uses of the Conservation Easement Areas that are not expressly prohibited herein and are not inconsistent with the purposes of this conservation easement. In addition, any other provision of this easement to the contrary notwithstanding, Grantor specifically reserves for itself and its successors in interest with respect to the Conservation Easement Areas, and they shall enjoy, the following rights with respect to the Conservation Easement Areas:

a. Grantor shall have and specifically retains the right to revoke this easement as to Conservation Easement Areas A-2, B-2 and C-2 if and when it is acquired by Grantor, under the following conditions:

i. MBIA has not constructed the proposed office building and the associated parking structure;
ii. MBIA sells the Lots to a third party for stand alone development;

If revoked, all limitations of these Conservation Easements Areas shall be removed automatically and these Conservation easement Areas can be developed as if this Conservation Agreement never existed.

b. Grantor retains the rights to construct improved pervious access structures such as pedestrian walking paths or wheelchair accessible paths, for the use of Grantor or Grantor's invitees, to install security cameras and telephones or other security devices, to install fitness, benches, bird or bat houses, and to install such other passive recreational equipment for the use and appreciation of the open meadow area by the employees and invitees of the Grantor.

c. Grantor retains the right to conduct engineering investigations, and to construct and install water wells, utility lines, stormwater management outfalls and other stormwater mitigation devices required by DEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonably be placed outside of the Conservation Easement Areas, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development in all or any portion of the Conservation Easement Areas, to make other improvements approved by Grantee which promote the purposes of the easement or as otherwise specifically provided herein. Should any improvements be proposed by Grantor beyond those contemplated in the Development Plan, or specifically provided for in paragraph 4 b above, Grantor shall provide written notice to Grantee. Grantee shall grant or withhold its approval in writing within thirty (30) days of receipt of Grantors' written request therefor. Grantee's approval may be withheld only upon a reasonable determination by Grantee that the action as proposed would be inconsistent with the purpose of this Easement. If Grantee fails to respond to Grantor's request within the proscribed time herein, such failure to respond will be deemed an approval.

d. Grantor retains the right to maintain the Conservation Easement Areas as natural meadow, allowing only such maintenance and mowing as is necessary to maintain its character and size.

e. Grantor, its successors, assigns, agents, attorneys, representatives, and affiliates retain the right to develop the Property outside the Conservation Easement Areas without having the Property outside the Conservation Easement Areas be subject to any setback or buffer requirements from the Conservation Easement Areas. All setbacks or buffers shall be measured from the lot lines and are to be calculated without regard to this conservation easement agreement

f. Grantor specifically reserves the right to control access to the Conservation Easement Areas except that specifically granted to Grantee for purposes of monitoring compliance with this easement, and no right of access to the general public to any portion of the Conservation Easement Areas is conveyed by this easement.

g. Grantor specifically reserves the right to utilize the Conservation Easement Areas in the calculation of compliance with zoning and planning requirements, including both bulk and area requirements, as well as density.

5. Extinguishment of Development Rights. Except as specifically reserved in this conservation easement, Grantor extinguishes all development rights that are now or hereafter may be allocated to, implied, reserved or inherent in the Conservation Easement Areas other than those rights reserved to Grantor herein, and both parties agree that, subject to such reservations, such development rights are terminated and extinguished by this conservation easement, and may not be used or transferred to any other portion of this Property as it is now or hereafter described, or to any other property, whether adjacent or otherwise, or used for the purpose of calculating permissible lot yield or building density of the Property or any other property except to the extent the easement on Conservation Easement Areas B-1 and B-2 are extinguished as permitted by this easement.

6. Control. Nothing in this Easement shall be construed as giving rise, in the absence of a judicial decree, to any right or ability in Grantee to exercise physical or managerial control over the day-to-day operations of the Conservation Easement Areas, or any of Grantor's activities on the Conservation Easement Areas.

7. Enforcement.

a. Notice. If Grantee determines that a violation of this easement has occurred or is threatened, Grantee shall give written notice to Grantor of such violation and demand that corrective action sufficient to cure the violation be taken. Where the violation involves injury to the Conservation Easement Areas resulting from any use inconsistent with the terms or the purpose of this conservation easement, Grantee shall demand that Grantor restore the Conservation Easement Areas to their prior condition in accordance with a plan approved by the Grantee, which approval shall not be unreasonably withheld.

b. Injunctive Relief. If Grantor fails to cure the violation within 30 days after receipt of notice of a violation from Grantee, or, where the violation cannot reasonably be cured within a 30 day period, Grantor fails to begin curing such violation within a 30 day period, or Grantor fails to diligently continue to cure such violation until it is cured, Grantee may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this easement, to enjoin the violation by temporary or permanent injunction, and to require the restoration of the Conservation Easement Areas to the condition that existed prior to any such injury.

c. Damages. Grantee shall be entitled to recover damages for a violation of the terms of this easement or for injury to any of the conservation values protected by this easement, including, without limitation, damages for loss of conservation values as set forth in the base line report. Without limiting Grantor's liability therefor, Grantee may apply any damages recovered to the costs of undertaking any corrective action on the Conservation Easement Areas.

d. Emergency Enforcement. If Grantee determines that circumstances require immediate action to prevent or mitigate significant damage to the conservation values of the Conservation Easement Areas, Grantee may pursue its remedies under Section 7 without prior notice to Grantor or without waiting for the period for cure to expire.

e. Costs of Enforcement. All reasonable costs of enforcing the terms of this easement against Grantor, including but not limited to the costs and expenses of legal action, reasonable attorney's fees, and any costs involved in the restoration of the Conservation Easement Areas resulting from Grantor's violation of the terms of this easement, shall be borne by Grantor unless Grantor ultimately prevails in judicial enforcement, in which case each party shall bear its own costs, or Grantee is determined to have brought a frivolous action, in which case Grantee may be assessed Grantor's costs.

f. Forbearance. Forbearance or delay by Grantee in the exercise of any of its rights to enforce this easement or to exercise any right granted to it under this easement shall not be deemed a waiver of such rights or of any of the terms of the easement. Grantor hereby waives any defense of laches, estoppel or prescription.

g. Acts Beyond Grantor's Control. Grantee shall have no cause of action under this easement against Grantor for injury or damage to the Conservation Easement Areas which is beyond Grantor's control, including, without limitation, flood, fire, wind, storms, or earth movement, or from any prudent action taken by Grantor, under emergency conditions, to prevent, abate or mitigate significant injury to the Conservation Easement Areas or adjacent properties from such causes.

h. Mediation. If a dispute arises between the parties to this conservation easement concerning the consistency of any proposed use or activity with the purposes and conditions of this easement, and Grantors agree not to proceed with any disputed use or activities pending resolution of the dispute, Grantor and Grantee herein agree, should either party so request in writing within 30 days of Grantee's notice to Grantor of an alleged violation of the easement, to participate in mediation of the dispute with a mediator approved by both parties herein. Costs of such mediation shall be borne by Grantor.

8. Notices and Approvals. Grantor agrees to give Grantee written notice before exercising any reserved right, the exercise of which may have an adverse impact on the conservation interests of this conservation easement. Grantor further agrees to notify Grantee of any conveyance, lease or transfer of the Conservation Easement Areas, such notice to be given in writing at least twenty (20) days in advance of such conveyance, lease or transfer. The failure to give such notice shall not, however, invalidate the conveyance, lease or transfer. When Grantee's or Grantor's approval is required for any action or activity allowed by this easement to be taken only with approval, such approval shall be in writing and signed by both parties to this easement agreement or their successors. Withholding signature or approval can be based solely on a reasonable determination by either party that the action as proposed is inconsistent with the purpose of this Easement Agreement. Any notice required by this easement shall be deemed given when received or three days after being mailed by certified or registered mail, return receipt requested, postage prepaid, properly addressed as follows: (a) if to Grantee, at address set forth above; (b) if to Grantor, at the address set forth above and addressed to the chief administrative officer of Grantor; (c) if to any subsequent owner, at the address provided by notice to Grantee of transfer of the Conservation Easement

Areas as required by this paragraph. Any party may change the address to which notices are to be sent to him, her or it by duly giving notice pursuant to this paragraph.

9. Costs and Liabilities. Grantor shall retain all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Conservation Easement Areas. Grantor shall remain solely responsible for obtaining any applicable governmental permits and approvals for any construction or other activity or use permitted by this easement, and all such construction and other such activity or use shall be undertaken in accordance with all applicable federal, state, and local laws, regulations, and requirements.

10. Taxes. Grantor shall pay before delinquency all taxes, assessments, fees, and charges of whatever description levied on or assessed against the Conservation Easement Areas by competent authority, including any taxes imposed upon, or incurred as a result of, this easement.

11. Representations and Warranties. Grantor represents and warrants that, after reasonable investigation and to the best of its knowledge, the Conservation Easement Areas are in compliance with all federal, state and local laws, regulations and requirements applicable to the Conservation Easement Areas or their use, and there is no threatened or pending litigation in any way affecting, involving, or related to the Conservation Easement Areas.

12. Amendment. This conservation easement may be amended upon the written consent of Grantee and Grantor. Any such amendment, variance or waiver shall be consistent with this conservation easement and shall comply with Article 49, Title 3, of the Environmental Conservation Law, and Section 170(h) of the Internal Revenue Code. Any such amendment, variance or waiver that does not comply with Article 49 or Section 170(h) shall be void and of no force or effect. Any amendment shall be in writing and shall be recorded in the land records of the County of Westchester, State of New York.

13. Recordation. Grantee shall record this instrument in a timely fashion in the land records of Westchester County, New York State, and may re-record it at any time as may be required to preserve its rights in this easement.

14. Assignment. Grantee's rights and obligations under this conservation easement may be assigned only to an organization that is a qualified organization under Section 170(h) of the Internal Revenue Code (or any successor provision then applicable) and is a not-for-profit conservation corporation or other entity authorized to take title to a conservation easement under New York Environmental Conservation Law, Article 49, Title 3, and which agrees to continue to carry out the conservation purposes of this conservation easement. Any assignee other than a governmental unit must be an entity able to enforce this conservation easement, having purposes similar to those of Grantee and which encompass those of this conservation easement. Grantee agrees to provide Grantor notice of any assignment pursuant to paragraph 7 herein, 20 days prior to any assignment. Failure to provide such notice prior to assignment shall not affect the validity of the assignment, nor shall it impair the validity of this easement or limit its enforceability in any way.

15. Subsequent transfers. Except to the extent the conservation easement on Conservation Easement Areas A2, B2 and C-2 are revoked as permitted pursuant to provisions of this conservation easement, any subsequent conveyance of any interest in the Conservation Easement Areas, including, without limitation, transfer, lease or mortgage, shall be subject to this conservation easement, and any deed, lease, mortgage or other instrument evidencing or effecting such conveyance shall contain language providing that the conveyance, lease, mortgage or easement is subject to a conservation easement which runs with the land and which was granted to the Westchester Land Trust, Inc., by instrument dated JANUARY 11, 2006 and recorded in the office of the Clerk of Westchester County, and shall note the Control Number under which this Conservation Easement is recorded. The failure to include such language in any deed or instrument shall not affect the validity or enforceability of this conservation easement.

16. Binding Effect. Except to the extent the conservation easement on Conservation Easement Areas A-2, B-2 and C-2 are revoked as permitted pursuant to provisions of this conservation easement, the provisions of this conservation easement shall run with the Conservation Easement Areas in perpetuity and shall bind and be enforceable against the Grantor and all future owners and any party entitled to possession or use of the Conservation Easement Areas or any portion thereof while such party is the owner or entitled to possession or use thereof except to the extent this easement is revoked as provided for herein. As used in this conservation easement, the term "owner" includes the owner of any beneficial equitable interest in the Conservation Easement Areas or any portion thereof; the term "Grantor" includes the original Grantor, its successors and assigns, all future owners of all or any portion of the Conservation Easement Areas, and any party entitled to possession or use thereof; and the term "Grantee" includes the original Grantee and its successors and assigns. Notwithstanding the foregoing, upon any transfer of title, the transferor shall cease being a Grantor or owner for purposes of this conservation easement and shall have no further responsibility or liability hereunder for acts done or conditions arising thereafter, but the transferor shall remain liable for earlier acts and conditions.

17. Further Acts. Each party shall perform any further acts and execute and deliver any documents, including amendments to this conservation easement, which may be reasonably necessary to carry out its provisions or which are necessary to qualify this instrument as a conservation easement under Article 49, Title 3, of the Conservation Law.

18. Certificate of Compliance. Grantee shall provide Grantors, within 30 days of written request therefor, a written notice stating whether the Conservation Easement Areas are in compliance with the terms of this conservation easement, and if Grantee alleges they are not in compliance, stating the substance of the alleged violation and the proposed remedy.

19. Severability. Invalidation of any provision of this conservation easement by court judgment, order, statute or otherwise shall not affect any other provisions, which shall be and remain in force and effect.

20. Controlling Law. The interpretation and performance of this Easement shall be governed by the laws of the State of New York.

21. Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to the Easement, all of which are merged herein.

22. Authorization. Grantor warrants that donation of this conservation easement has been duly authorized by its Board of Directors and Grantee warrants that acceptance of this conservation easement has been duly authorized by the Grantee's Board of Directors.

IN WITNESS WHEREOF, the parties have executed this instrument as of the day and year first written above.

GRANTOR: MBIA Insurance Corp. ______________________
By: MELANIE HANIPH, DIRECTOR, FACILITIES MGMT.

GRANTEE: Westchester Land Trust, Inc. ______________________
By:Paul Gallay, Executive Director

ACKNOWLEDGMENTS

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On the 13th day of December, 2005, before me, the undersigned, a Notary Public in and for the State, personally appeared Paul Gallay, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed it in his/her capacity, and that by his/her signature on the instrument, the individual executed the instrument.

Susan E Carpenter
Notary Public

SUSAN E. CARPENTER
Notary Public, State of New York
No. 02CA6020510
Qualified in Westchester County
Term Expires March 1, 2007

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On the January day of 10th, 2006, before me, the undersigned, a Notary Public in and for the State, personally appeared , personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed it in his/her capacity, and that by his/her signature on the instrument, the individual executed the instrument.

Jennifer Andaloro
Notary Public

Record and Return:
Westchester Land Trust, Inc.
11 Babbitt Road
Bedford Hills, New York 10507

JENNIFER ANDALORO
NOTARY PUBLIC, State of New York
No. 02AN6098246
Qualified in Nassau County
Commission Expires Sept. 8, 2007

SCHEDULE A

50 FOOT WIDE IRREVOCABLE CONSERVATION EASEMENT LOCATED ON LANDS OF MBIA INSURANCE CORP.

A 50 foot wide irrevocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

BEGINNING at a point, said point being a northeasterly corner of lands of the City of New York and marked with a New York City monument, said point is further described as being the southeasterly corner of the herein described easement;

Running thence along the division line between lands of the City of New York on the south and west and lands of MBIA Insurance Corp. on the north and east the following three courses and distances;

1. North 89 degrees 24 minutes 10 seconds West 842.00 feet;
2. North 46 degrees 44 minutes 10 seconds West, 190.40 feet;
3. North 00 degrees 03 minutes 10 seconds West, 310.00 feet to a point where it intersects the division line between lands now or formerly of John and Edna De Lago on the north and lands of MBIA Insurance Corp. on the south;

Thence along said division line, North 81 degrees 18 minutes 10 seconds East, 50.57 feet;

Thence through said lands of MBIA Insurance Corp. the following four courses and distances:

1. South 00 degrees 03 minutes 10 seconds East, 296.02 feet;
2. South 46 degrees 44 minutes 10 seconds East, 149.29 feet;
3. South 89 degrees 24 minutes 10 seconds East, 807.25 feet;
4. South 16 degrees 20 minutes 10 seconds East, 52.27 feet to the POINT OF BEGINNING containing 1.4893 acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and dated February 14, 2005.

120 BEDFORD ROAD • ARMONK, NY 10504 • VOICE 914.273.5225 • FAX 914.273.2102 • MAIL@JOHNMEYERCONSULTING.COM

SCHEDULE B

50 FOOT WIDE IRREVOCABLE CONSERVATION EASEMENT LOCATED ON LANDS OF MBIA INSURANCE CORP. AND BEING PART OF TAX LOT 3-1

A 50 foot wide irrevocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

BEGINNING at a point on the southerly side of Cooney Hill Road where it intersects the division line between lands of the City of New York on the west and lands of MBIA Insurance Corp. on the east, said point being the northwesterly corner of the herein described easement;

Thence along the southerly side of said Cooney Hill Road, North 76 degrees 35 minutes 00 seconds East, 55.88 feet;

Thence through lands of MBIA Insurance Corp., South 13 degrees 05 minutes 50 seconds West, 218.12 feet to a point where it intersects the division line between aforesaid lands of MBIA Insurance Corp. on the north and lands now or formerly of John and Edna De Lago on the south;

Thence along said division line, South 84 degrees 13 minutes 00 seconds West, 52.84 feet to the aforesaid division line between lands of the City of New York on the west and lands of MBIA Insurance Corp. on the east;

Thence along said division line, North 13 degrees 05 minutes 50 seconds East, 210.28 to the POINT OF BEGINNING, containing 0.2459 acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and dated February 14, 2005.

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SCHEDULE C

REVOCABLE CONSERVATION EASEMENT
LOCATED ON LANDS OF MBIA INSURANCE CORP.

A revocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

COMMENCING at a point, said point being a northeasterly corner of lands of the City of New York and marked with a New York City monument;

Thence through lands of MBIA Insurance Corp., North 16 degrees 20 minutes 10 seconds West, 52.27 feet to the POINT OF BEGINNING;

Thence continuing through lands of MBIA Insurance Corp. on the following three courses and distances;

1. North 89 degrees 24 minutes 10 seconds West 807.25 feet;
2. North 46 degrees 44 minutes 10 seconds West, 149.29 feet;
3. North 00 degrees 03 minutes 10 seconds West, 296.02 feet to a point where it intersects the division line between lands now or formerly of John and Edna De Lago on the north and lands of MBIA Insurance Corp. on the south;

Thence along said division line North 81 degrees 18 minutes 10 seconds East, 214.02 feet to the westerly side of Weber Place at a point on a curve along said westerly side of Weber Place having a radius of 960.00 feet, to which point a radial line bears South 78 degrees 37 minutes 25 seconds West;

Thence along the westerly and southerly sides of Weber Place the following four courses and distances;

1. Southerly along said 960.00 foot radius curve, deflecting to the left through a central angle of 02 degrees 31 minutes 45 seconds, an arc distance of 42.38 feet;

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2. Southerly along a 275.00 foot radius curve, deflecting to the left through a central angle of 16 degrees 59 minutes 50 seconds, an arc distance of 81.58 feet;
3. Southerly along a 25.00 foot radius curve, deflecting to the right through a central angle of 63 degrees 54 minutes 40 seconds, an arc distance of 27.89 feet;
4. Southeasterly along a 65.00 foot radius curve, deflecting to the left through a central angle of 127 degrees 48 minutes 45 seconds, an arc distance of 145.00 feet;

Thence through lands of MBIA Insurance Corp. on the following four courses and distances;

1. South 00 degrees 35 minutes 50 seconds West, 39.67 feet;
2. South 89 degrees 24 minutes 10 seconds East, 487.18 feet;
3. Southeasterly along a 100.00 foot radius curve, deflecting to the right through a central angle of 73 degrees 04 minutes 00 seconds, an arc distance of 127.53 feet;
4. South 16 degrees 20 minutes 10 seconds East, 82.71 feet to the POINT OF BEGINNING, containing 4.4611acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and dated February 14, 2005.

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SCHEDULE D

REVOCABLE CONSERVATION EASEMENT
LOCATED ON LANDS OF MBIA INSURANCE CORP.
AND BEING PART OF TAX LOT 3-1

A revocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

COMMENCING at a point on the southerly side of Cooney Hill Road where it intersects the division line between land of the City of New York on the west and lands of MBIA Insurance Corp. on the east;

Thence along the southerly side of said Cooney Hill Road, North 76 degrees 35 minutes 00 seconds East, 55.88 feet to the POINT OF BEGINNING;

Thence along the southerly sides of Cooney Hill Road the following three courses and distances;

1. North 76 degrees 35 minutes 00 seconds East, 38.02 feet;
2. North 82 degrees 36 minutes 40 seconds East, 59.15 feet;
3. North 88 degrees 56 minutes 50 seconds East, 14.46 feet to the westerly side of Weber Place;

Thence along the westerly side of Weber Place the following three courses and distances;

1. Southeasterly along a 25.00 foot radius curve, deflecting to the right through a central angle of 94 degrees 13 minutes 10 seconds, an arc distance of 41.11 feet;
2. South 03 degrees 10 minutes 00 seconds West, 111.31 feet;
3. Southerly along a 960.00 foot radius curve, deflecting to the left through a central angle of 04 degrees 23 minutes 50 seconds, an arc distance of 73.68 feet to a point where it intersects the division line between aforesaid lands of MBIA Insurance Corp. on the north and lands now or formerly of John and Edna De Lago on the south;

Thence along said division line, South 84 degrees 13 minutes 00 seconds West, 178.46 feet;

Thence through lands of MBIA Insurance Corp., North 13 degrees 05 minutes 50 seconds East, 218.12 feet to the POINT OF BEGINNING, containing 0.7546 acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and dated February 14, 2005.

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SCHEDULE E

POSSIBLE FUTURE 50 FOOT WIDE IRREVOCABLE CONSERVATION EASEMENT LOCATED ON LANDS NOW OR FORMERLY OF DE LAGO AND BEING PART OF TAX LOT 3-2

A 50 foot wide irrevocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

COMMENCING at a point on the southerly side of Cooney Hill Road where it intersects the division line between lands of the City of New York on the west and lands of MBIA Insurance Corp. also being Tax Lot 3-1on the east;

Thence along said division line, South 13 degrees 05 minutes 50 seconds West, 210.28 feet to the division line between said Tax Lot 3-1 on the north and Tax Lot 3-2 on the South, said point also being the POINT OF BEGINNING;

Thence along said division line, North 84 degrees 13 minutes 00 seconds East, 52.84 feet;

Thence through said Tax Lot 3-2, South 13 degrees 05 minutes 50 seconds West, 68.26 feet and South 00 degrees 03 minutes 10 seconds East, 116.64 feet the division line between said Tax Lot 3-2 on the north and other lands of MBIA Insurance Corp. on the south;

Thence along said division line, South 81 degrees 18 minutes 10 seconds West, 50.57 feet to the division line between said lands of the City of New York on the west and said Tax Lot 3-2 on the east;

Thence along said division line, North 00 degrees 03 minutes 10 seconds West, 130.00 feet and North 13 degrees 05 minutes 50 seconds East, 56.92 feet to the POINT OF BEGINNING, containing 0.2134 acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and last dated November 29, 2005.

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SCHEDULE F

November 29, 2005

POSSIBLE FUTURE REVOCABLE CONSERVATION EASEMENT LOCATED ON LANDS NOW OR FORMERLY OF DE LAGO AND BEING PART OF TAX LOT 3-2

A revocable conservation easement over a parcel of land situate, lying and being in the Town of North Castle, County of Westchester and State of New York, more particularly bounded and described as follows:

COMMENCING at a point on the southerly side of Cooney Hill Road where it intersects the division line between lands of the City of New York on the west and lands of MBIA Insurance Corp. also being Tax Lot 3-1on the east;

Thence along said division line, South 13 degrees 05 minutes 50 seconds West, 210.28 feet to the division line between said Tax Lot 3-1 on the north and Tax Lot 3-2 on the south;

Thence along said division line, North 84 degrees 13 minutes 00 seconds East, 52.84 feet to the POINT OF BEGINNING;

Thence continuing along said division line, North 84 degrees 13 minutes 00 seconds East, 178.46 feet to the westerly side of Weber Place;

Thence southerly along said westerly side of Weber Place and along the arc of a curve to the left having a radius of 960.00 feet, a central angle of 10 degrees 08 minutes 45 seconds, an arc length of 169.99 feet and a chord bearing South 06 degrees 18 minutes 12 seconds East, 169.77 feet to the division line between said Tax Lot 3-2 on the north and other lands of MBIA Insurance Corp. on the south;

Thence along said division line, South 81 degrees 18 minutes 10 seconds West, 214.02 feet;

Thence through said Tax Lot 3-2, North 00 degrees 03 minutes 10 seconds West, 116.64 feet and North 13 degrees 05 minutes 50 seconds East, 68.26 feet to the POINT OF BEGINNING, containing 0.7977 acres of land more or less.

The above described easement being more fully shown on a map titled "Conservation Easement Map", prepared by John Meyer Consulting and last dated November 29, 2005.

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WESTCHESTER COUNTY CLERK RECORDING SHEET

110 Dr. Martin Luther King, Jr. Boulevard   White Plains, NY 10601

---------- THIS FORM MUST BE COMPLETED AND SUBMITTED WITH EACH DOCUMENT ----------

This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this document.
To the best of the submitter's knowledge the information contained on this Recording Sheet is consistent with the information contained in the attached document.

SUBMITTER INFORMATION: Title Number: ____

Company: Westchester Land Trust, Inc.
Address: 11 Babbitt Road
City Bedford Hills State: N.Y. Zip: 10507 Telephone: 914 241 6346 x25
Attention: Susan Carpenter

Document type: Conservation Easement   # of pages - 19

Mortgage Amount On page ____ of document
$ N/A
OR
Consideration/Conveyance Amt:
$ ____

Dwelling Type: For Mortgage Only On page ____ of document N/A
☐ 1 to 2 family
☐ 1 to 6 family
☐ Not 1 to 6 family

1st party name(s) (i.e. grantor/mortgagor) On page 1 of document   Business Entity
MBIA Inscurance Corp ☒

Check if submitted:
☐ RP-5217 - ☐ $75 ☐ $165
☒ TP-584 - Type of property conveyed [1 through 8] ____
☐ TP-584.1   ☐ IT-2663

2nd party name(s) (i.e. grantee/mortgagee) On page ____ of document   Business Entity
Westchester Land Trust Inc ☒

TAXES PAID:	Amount	Reference # Or Check #
Mortgage Tax	$ N/A	
Transfer Tax	$	
Mansion Tax	$	

RECORDING FEES PAID:	Amount	Reference # or Check #
	$	

Tax designation (Section, Block & Lot) On page 1 of document
§3, Blk 4, Lots 3, 3H, 3.1, 3.3, 3.4 And 3.6

MORTGAGE TAX AFFIDAVITS SUBMITTED:
☐ 252 ☐ 255 ☐ 280 Other: ____
☐ 253 ☐ 260 ☐ 339-ee

City(ies) or Town(s) for Property Description On page 1 of document
North Castle

Cross Reference(s): On page ____ of document

Property Description -- If required, check the one contained within the document. On page 12-19 of document
☒ Metes & bounds
☐ Lot number on map filed in the Office of the County Clerk
☐ Refer to deed recorded in the Office of the County Clerk

Record and Return To:
Westchester Land Trust, Inc.
11 Babbitt Road
Bedford Hills, N.Y
10507

Appendix B-3
Oil Tanks Closure Letter

NESBRO CORPORATION

January 30, 2004

FedEx # 837713377122

MBIA Insurance Corporation
113 King Street
Armonk, New York 10504
Attn Ms. Maryann Martini

Re: Oil Tank Removal Project:
129,131,133,135 King Street, 1,5,7 Cooney Hill Rd, 1,5,6,8,9 Weber Place, Armonk, N.Y.

Dear Ms. Martini,
We are pleased to inform you that the fuel oil storage tanks at the following properties have been permanently closed and removed:

Site	*Tank Size*	*Status*	*NYSDEC Spill Number*
129 King Street.	550	No Leak	N/A
131 King Street	1,000	Leak	03-11271
133 King Street	550	Leak	03-11272
135 King Street	1,000	No Leak	N/A
1 Cooney Hill Road	1,000	No Leak	N/A
5 Cooney Hill Road	275	No Leak	N/A
7 Cooney Hill Road	1,000	No Leak	N/A
1 Weber Place	1,000	Leak	03-11270
5 Weber Place	275	No Leak	N/A
6 Weber Place	550	Leak	03-11260
8 Weber Place	550	No Leak	N/A
9 Weber Place.	550	No Leak	N/A

In accordance with the Town of North Castle tank closure requirements, Code Enforcement Officer Mr. William Richardson conducted site inspections of the aforementioned sites on January 6, 2004. Copies of the Inspection Reports are attached. Contaminated soils generated by this project have been tested, removed for the site, and legally disposed. Excavated areas have been restore to original grade with clean fill and rough graded. Site remediation for the four (4) leaking tanks has also been completed. Formal closure reports will be provided within two weeks. As always, I am available to answer any questions or to provide you with additional information.

Very truly yours
Nesbro Corporation

H. Anthony Nester
President

cc: File ✓
John Meyer Consulting, Robert Roth, P.E. [w/o enclosures]
Enclosures (12)

P.O. BOX 7344 Newburgh, New York 12550-7344
Telephone: 1-845-565-5904 *Facsimile: 1-845-565-5904* *email: NESBRO@AOL.com*

Appendix B-4
Title Report

Tab 15

OWNER'S POLICY OF TITLE INSURANCE

ISSUED BY

First American Title Insurance Company

Any notice of claim and any other notice or statement in writing required to be given to the Company under this policy must be given to the Company at the address shown in Section 18 of the Conditions.

COVERED RISKS

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS, FIRST AMERICAN TITLE INSURANCE COMPANY, a Nebraska corporation (the "Company") insures, as of Date of Policy and, to the extent stated in Covered Risks 9 and 10, after Date of Policy, against loss or damage, not exceeding the Amount of Insurance, sustained or incurred by the Insured by reason of:

1. Title being vested other than as stated in Schedule A.
2. Any defect in or lien or encumbrance on the Title. This Covered Risk includes but is not limited to insurance against loss from
   (a) A defect in the Title caused by
      (i) forgery, fraud, undue influence, duress, incompetency, incapacity, or impersonation;
      (ii) failure of any person or Entity to have authorized a transfer or conveyance;
      (iii) a document affecting Title not properly created, executed, witnessed, sealed, acknowledged, notarized, or delivered;
      (iv) failure to perform those acts necessary to create a document by electronic means authorized by law;
      (v) a document executed under a falsified, expired, or otherwise invalid power of attorney;
      (vi) a document not properly filed, recorded, or indexed in the Public Records including failure to perform those acts by electronic means authorized by law; or
      (vii) a defective judicial or administrative proceeding.
   (b) The lien of real estate taxes or assessments imposed on the Title by a governmental authority due or payable, but unpaid.
   (c) Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
3. Unmarketable Title.
4. No right of access to and from the Land.
5. The violation or enforcement of any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (a) the occupancy, use, or enjoyment of the Land;
   (b) the character, dimensions, or location of any improvement erected on the Land;
   (c) the subdivision of land; or
   (d) environmental protection
   if a notice, describing any part of the Land, is recorded in the Public Records setting forth the violation or intention to enforce, but only to the extent of the violation or enforcement referred to in that notice.
6. An enforcement action based on the exercise of a governmental police power not covered by Covered Risk 5 if a notice of the enforcement action, describing any part of the Land, is recorded in the Public Records, but only to the extent of the enforcement referred to in that notice.
7. The exercise of the rights of eminent domain if a notice of the exercise, describing any part of the Land, is recorded in the Public Records.
8. Any taking by a governmental body that has occurred and is binding on the rights of a purchaser for value without Knowledge.
9. Title being vested other than as stated in Schedule A or being defective
   (a) as a result of the avoidance in whole or in part, or from a court order providing an alternative remedy, of a transfer of all or any part of the title to or any interest in the Land occurring prior to the transaction vesting Title as shown in Schedule A because that prior transfer constituted a fraudulent or preferential transfer under federal bankruptcy, state insolvency, or similar creditors' rights laws; or
   (b) because the instrument of transfer vesting Title as shown in Schedule A constitutes a preferential transfer under federal bankruptcy, state insolvency, or similar creditors' rights laws by reason of the failure of its recording in the Public Records
      (i) to be timely, or
      (ii) to impart notice of its existence to a purchaser for value or to a judgment or lien creditor.
10. Any defect in or lien or encumbrance on the Title or other matter included in Covered Risks 1 through 9 that has been created or attached or has been filed or recorded in the Public Records subsequent to Date of Policy and prior to the recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The Company will also pay the costs, attorneys' fees, and expenses incurred in defense of any matter insured against by this policy, but only to the extent provided in the Conditions.

First American Title Insurance Company

Dennis J. Gilmore
President

Jeffrey S. Robinson
Secretary

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risks 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

CONDITIONS

1. DEFINITION OF TERMS

The following terms when used in this policy mean:

(a) "Amount of Insurance": The amount stated in Schedule A, as may be increased or decreased by endorsement to this policy, increased by Section 8(b), or decreased by Sections 10 and 11 of these Conditions.
(b) "Date of Policy": The date designated as "Date of Policy" in Schedule A.
(c) "Entity": A corporation, partnership, trust, limited liability company, or other similar legal entity.
(d) "Insured": The Insured named in Schedule A.
   (i) The term "Insured" also includes
      (A) successors to the Title of the Insured by operation of law as distinguished from purchase, including heirs, devisees, survivors, personal representatives, or next of kin;
      (B) successors to an Insured by dissolution, merger, consolidation, distribution, or reorganization;
      (C) successors to an Insured by its conversion to another kind of Entity;
      (D) a grantee of an Insured under a deed delivered without payment of actual valuable consideration conveying the Title
         (1) if the stock, shares, memberships, or other equity interests of the grantee are wholly-owned by the named Insured,
         (2) if the grantee wholly owns the named Insured,
         (3) if the grantee is wholly-owned by an affiliated Entity of the named Insured, provided the affiliated Entity and the named Insured are both wholly-owned by the same person or Entity, or
         (4) if the grantee is a trustee or beneficiary of a trust created by a written instrument established by the Insured named in Schedule A for estate planning purposes.
   (ii) With regard to (A), (B), (C), and (D) reserving, however, all rights and defenses as to any successor that the Company would have had against any predecessor Insured.
(e) "Insured Claimant": An Insured claiming loss or damage.
(f) "Knowledge" or "Known": Actual knowledge, not constructive knowledge or notice that may be imputed to an Insured by reason of the Public Records or any other records that impart constructive notice of matters affecting the Title.
(g) "Land": The land described in Schedule A, and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is insured by this policy.
(h) "Mortgage": Mortgage, deed of trust, trust deed, or other security instrument, including one evidenced by electronic means authorized by law.
(i) "Public Records": Records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge. With respect to Covered Risk 5(d), "Public Records" shall also include environmental protection liens filed in the records of the clerk of the United States District Court for the district where the Land is located.
(j) "Title": The estate or interest described in Schedule A.
(k) "Unmarketable Title": Title affected by an alleged or apparent matter that would permit a prospective purchaser or lessee of the Title or lender on the Title to be released from the obligation to purchase, lease, or lend if there is a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE

The coverage of this policy shall continue in force as of Date of Policy in favor of an Insured, but only so long as the Insured retains an estate or interest in the Land, or holds an obligation secured by a purchase money Mortgage given by a purchaser from the Insured, or only so long as the Insured shall have liability by reason of warranties in any transfer or conveyance of the Title. This policy shall not continue in force in favor of any purchaser from the Insured of either (i) an estate or interest in the Land, or (ii) an obligation secured by a purchase money Mortgage given to the Insured.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT

The Insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in Section 5(a) of these Conditions, (ii) in case Knowledge shall come to an Insured hereunder of any claim of title or interest that is adverse to the Title, as insured, and that might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if the Title, as insured, is rejected as Unmarketable Title. If the Company is prejudiced by the failure of the Insured Claimant to provide prompt notice, the Company's liability to the Insured Claimant under the policy shall be reduced to the extent of the prejudice.

4. PROOF OF LOSS

In the event the Company is unable to determine the amount of loss or damage, the Company may, at its option, require as a condition of payment that the Insured Claimant furnish a signed proof of loss. The proof of loss must describe the defect, lien, encumbrance, or other matter insured against by this policy that constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage.

5. DEFENSE AND PROSECUTION OF ACTIONS

(a) Upon written request by the Insured, and subject to the options contained in Section 7 of these Conditions, the Company, at its own cost and without unreasonable delay, shall provide for the defense of an Insured in litigation in which any third party asserts a claim covered by this policy adverse to the Insured. This obligation is limited to only those stated causes of action alleging matters insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of the Insured to object for reasonable cause) to represent the Insured as to those stated causes of action. It shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs, or expenses incurred by the Insured in the defense of those causes of action that allege matters not insured against by this policy.
(b) The Company shall have the right, in addition to the options contained in

Section 7 of these Conditions, at its own cost, to institute and prosecute any action or proceeding or to do any other act that in its opinion may be necessary or desirable to establish the Title, as insured, or to prevent or reduce loss or damage to the Insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable to the Insured. The exercise of these rights shall not be an admission of liability or waiver of any provision of this policy. If the Company exercises its rights under this subsection, it must do so diligently.

(c) Whenever the Company brings an action or asserts a defense as required or permitted by this policy, the Company may pursue the litigation to a final determination by a court of competent jurisdiction, and it expressly reserves the right, in its sole discretion, to appeal any adverse judgment or order.

6. DUTY OF INSURED CLAIMANT TO COOPERATE

(a) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding and any appeals, the Insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, including the right to use, at its option, the name of the Insured for this purpose. Whenever requested by the Company, the Insured, at the Company's expense, shall give the Company all reasonable aid (i) in securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act that in the opinion of the Company may be necessary or desirable to establish the Title or any other matter as insured. If the Company is prejudiced by the failure of the Insured to furnish the required cooperation, the Company's obligations to the Insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

(b) The Company may reasonably require the Insured Claimant to submit to examination under oath by any authorized representative of the Company and to produce for examination, inspection, and copying, at such reasonable times and places as may be designated by the authorized representative of the Company, all records, in whatever medium maintained, including books, ledgers, checks, memoranda, correspondence, reports, e-mails, disks, tapes, and videos whether bearing a date before or after Date of Policy, that reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Insured Claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect, and copy all of these records in the custody or control of a third party that reasonably pertain to the loss or damage. All information designated as confidential by the Insured Claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Insured Claimant to submit for examination under oath, produce any reasonably requested information, or grant permission to secure reasonably necessary information from third parties as required in this subsection, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that claim.

7. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY

In case of a claim under this policy, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Insurance.
To pay or tender payment of the Amount of Insurance under this policy together with any costs, attorneys' fees, and expenses incurred by the Insured Claimant that were authorized by the Company up to the time of payment or tender of payment and that the Company is obligated to pay.
Upon the exercise by the Company of this option, all liability and obligations of the Company to the Insured under this policy, other than to make the payment required in this subsection, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation.

(b) To Pay or Otherwise Settle With Parties Other Than the Insured or With the Insured Claimant.
(i) To pay or otherwise settle with other parties for or in the name of an Insured Claimant any claim insured against under this policy. In addition, the Company will pay any costs, attorneys' fees, and expenses incurred by the Insured Claimant that were authorized by the Company up to the time of payment and that the Company is obligated to pay; or
(ii) To pay or otherwise settle with the Insured Claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees, and expenses incurred by the Insured Claimant that were authorized by the Company up to the time of payment and that the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in subsections (b)(i) or (ii), the Company's obligations to the Insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation.

8. DETERMINATION AND EXTENT OF LIABILITY

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the Insured Claimant who has suffered loss or damage by reason of matters insured against by this policy.

(a) The extent of liability of the Company for loss or damage under this policy shall not exceed the lesser of
(i) the Amount of Insurance; or
(ii) the difference between the value of the Title as insured and the value of the Title subject to the risk insured against by this policy.

(b) If the Company pursues its rights under Section 5 of these Conditions and is unsuccessful in establishing the Title, as insured,
(i) the Amount of Insurance shall be increased by 10%, and
(ii) the Insured Claimant shall have the right to have the loss or damage determined either as of the date the claim was made by the Insured Claimant or as of the date it is settled and paid.

(c) In addition to the extent of liability under (a) and (b), the Company will also pay those costs, attorneys' fees, and expenses incurred in accordance with Sections 5 and 7 of these Conditions.

9. LIMITATION OF LIABILITY

(a) If the Company establishes the Title, or removes the alleged defect, lien, or encumbrance, or cures the lack of a right of access to or from the Land, or cures the claim of Unmarketable Title, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused to the Insured.

(b) In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals, adverse to the Title, as insured.

(c) The Company shall not be liable for loss or damage to the Insured for liability voluntarily assumed by the Insured in settling any claim or suit without the prior written consent of the Company.

10. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY

All payments under this policy, except payments made for costs, attorneys' fees, and expenses, shall reduce the Amount of Insurance by the amount of the payment.

11. LIABILITY NONCUMULATIVE

The Amount of Insurance shall be reduced by any amount the Company pays under any policy insuring a Mortgage to which exception is taken in Schedule B or to which the Insured has agreed, assumed, or taken subject, or which is executed by an Insured after Date of Policy and which is a charge or lien on the Title, and the amount so paid shall be deemed a payment to the Insured under this policy.

12. PAYMENT OF LOSS

When liability and the extent of loss or damage have been definitely fixed in accordance with these Conditions, the payment shall be made within 30 days.

13. RIGHTS OF RECOVERY UPON PAYMENT OR SETTLEMENT

(a) Whenever the Company shall have settled and paid a claim under this policy, it shall be subrogated and entitled to the rights of the Insured Claimant in the Title and all other rights and remedies in respect to the claim that the Insured Claimant has against any person or property, to the extent of the amount of any loss, costs, attorneys' fees, and expenses paid by the Company. If requested by the Company, the Insured Claimant shall execute documents to evidence the transfer to the Company of these rights and remedies. The Insured Claimant shall permit the Company to sue, compromise, or settle in the name of the Insured Claimant and to use the name of the Insured Claimant in any transaction or litigation involving these rights and remedies.
If a payment on account of a claim does not fully cover the loss of the Insured Claimant, the Company shall defer the exercise of its right to recover until after the Insured Claimant shall have recovered its loss.

(b) The Company's right of subrogation includes the rights of the Insured to indemnities, guaranties, other policies of insurance, or bonds, notwithstanding any terms or conditions contained in those instruments that address subrogation rights.

14. ARBITRATION

Either the Company or the Insured may demand that the claim or controversy shall be submitted to arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association ("Rules"). Except as provided in the Rules, there shall be no joinder or consolidation with claims or controversies of other persons. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Insured arising out of or relating to this policy, any service in connection with its issuance or the breach of a policy provision, or to any other controversy or claim arising out of the transaction giving rise to this policy. All arbitrable matters when the Amount of Insurance is $2,000,000 or less shall be arbitrated at the option of either the Company or the Insured. All arbitrable matters when the Amount of Insurance is in excess of $2,000,000 shall be arbitrated only when agreed to by both the Company and the Insured. Arbitration pursuant to this policy and under the Rules shall be binding upon the parties. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court of competent jurisdiction.

15. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT

(a) This policy together with all endorsements, if any, attached to it by the Company is the entire policy and contract between the Insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage that arises out of the status of the Title or by any action asserting such claim shall be restricted to this policy.

(c) Any amendment of or endorsement to this policy must be in writing and authenticated by an authorized person, or expressly incorporated by Schedule A of this policy.

(d) Each endorsement to this policy issued at any time is made a part of this policy and is subject to all of its terms and provisions. Except as the endorsement expressly states, it does not (i) modify any of the terms and provisions of the policy, (ii) modify any prior endorsement, (iii) extend the Date of Policy, or (iv) increase the Amount of Insurance.

16. SEVERABILITY

In the event any provision of this policy, in whole or in part, is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision or such part held to be invalid, but all other provisions shall remain in full force and effect.

17. CHOICE OF LAW; FORUM

(a) Choice of Law: The Insured acknowledges the Company has underwritten the risks covered by this policy and determined the premium charged therefore in reliance upon the law affecting interests in real property and applicable to the interpretation, rights, remedies, or enforcement of policies of title insurance of the jurisdiction where the Land is located.
Therefore, the court or an arbitrator shall apply the law of the jurisdiction where the Land is located to determine the validity of claims against the Title that are adverse to the Insured and to interpret and enforce the terms of this policy. In neither case shall the court or arbitrator apply its conflicts of law principles to determine the applicable law.

(b) Choice of Forum: Any litigation or other proceeding brought by the Insured against the Company must be filed only in a state or federal court within the United States of America or its territories having appropriate jurisdiction.

18. NOTICES, WHERE SENT

Any notice of claim and any other notice or statement in writing required to be given to the Company under this policy must be given to the Company at 1 First American Way, Santa Ana, CA 92707, Attn: Claims Department.

POLICY OF TITLE INSURANCE

FIRST AMERICAN

SCHEDULE A

First American Title Insurance Company

Name and Address of Title Insurance Company:
First American Title Insurance Company
1 First American Way
Santa Ana, CA 92707

Policy No.: **Y 3020-657807**
Address Reference: 113 King Street, Armonk, NY 10504, 1 Weber Place, Armonk, NY 10504, 3 Weber Place, Armonk, NY 10504 **(For Information Only)**
Amount of Insurance: $23,000,000.00
Date of Policy: 5/4/2015

1. Name of Insured:

   Airport Campus I LLC, Airport Campus II LLC, Airport Campus III LLC, Airport Campus IV LLC and Airport Campus V LLC

2. The estate or interest in the Land that is insured by this policy is:

   Fee Simple

3. Title is vested in:

   Airport Campus I LLC, Airport Campus II LLC, Airport Campus III LLC, Airport Campus IV LLC and Airport Campus V LLC by means of a deed made by NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC dated 5/4/2015 and being duly recorded in the Office of the County Clerk, Westchester County.

4. The Land referred to in this policy is described as follows:

   Real property in the City of Armonk, County of Westchester, State of New York, described as follows:

   SURVEYOR'S DESCRIPTION

   ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

   BEGINNING AT A POINT ALONG WESTERLY SIDE OF KING STREET (NYS ROUTE 120) AT ITS POINT OF INTERSECTION WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED;

   THENCE ALONG SAID WESTERLY SIDE OF KING STREET THE FOLLOWING TWENTY-SEVEN (27) COURSES AND DISTANCES:

   1) SOUTH 37° 13' 50" EAST, 1.47 FEET;
   2) SOUTH 01° 50' 50" WEST, 162.76 FEET;
   3) SOUTH 02° 21' 10" WEST, 58.83 FEET;
   4) SOUTH 03° 12' 10" EAST, 42.25 FEET;
   5) SOUTH 04° 07' 50" EAST, 25.20 FEET;
   6) SOUTH 09° 35' 30" EAST, 44.06 FEET;
   7) SOUTH 22° 09' 00" EAST, 96.89 FEET;
   8) SOUTH 23° 14' 10" EAST, 91.75 FEET;

9) SOUTH 24° 45' 20" EAST, 115.78 FEET;
10) SOUTH 28° 17' 20" EAST, 25.37 FEET;
11) SOUTH 33° 04' 10" EAST, 47.45 FEET;
12) SOUTH 31° 55' 00" EAST, 36.97 FEET;
13) SOUTH 39° 40' 00" EAST, 25.86 FEET;
14) SOUTH 31° 44' 00" EAST, 18.49 FEET;
15) SOUTH 39° 37' 00" EAST, 33.23 FEET;
16) SOUTH 40° 12' 20" EAST, 55.23 FEET;
17) SOUTH 42° 45' 00" EAST, 76.49 FEET;
18) SOUTH 40° 02' 10" EAST, 117.28 FEET;
19) SOUTH 43° 54' 30" EAST, 61.75 FEET;
20) SOUTH 41° 30' 20" EAST, 504.00 FEET;
21) SOUTH 40° 06' 40" EAST, 87.17 FEET;
22) SOUTH 37° 51' 00" EAST, 44.29 FEET;
23) SOUTH 34° 42' 10" EAST, 60.87 FEET;
24) SOUTH 36° 33' 20" EAST, 55.48 FEET;
25) SOUTH 32° 33' 50" EAST, 116.97 FEET;
26) SOUTH 25° 32' 00" EAST, 102.70 FEET;
27) SOUTH 20° 29' 00" EAST, 109.60 FEET TO THE LANDS OF THE CITY OF NEW YORK;

THENCE ALONG SAID LANDS OF THE CITY OF NEW YORK THE FOLLOWING SIX (6) COURSES AND DISTANCES:

1) SOUTH 76° 44' 50" WEST, 808.10 FEET;
2) NORTH 16° 20' 10" WEST, 1170.66 FEET;
3) NORTH 89° 24' 10" WEST, 842.00 FEET;
4) NORTH 46° 44' 10" WEST, 190.40 FEET;
5) NORTH 00° 03' 10" WEST, 440.00 FEET;
6) NORTH 13° 05' 50" EAST, 267.20 FEET TO THE SOUTHERLY SIDE OF THE AFORESAID COONEY HILL ROAD;

THENCE ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD THE FOLLOWING NINE (9) COURSES AND DISTANCES:

1) NORTH 76° 35' 00" EAST, 93.90 FEET;
2) NORTH 82° 36' 40" EAST, 59.15 FEET;
3) NORTH 88° 56' 50" EAST, 14.46 FEET TO A POINT OF CURVATURE;
4) ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 80° 24' 14" AND AN ARC LENGTH OF 35.08 FEET TO A POINT OF REVERSE CURVATURE;
5) ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 55.00 FEET, A CENTRAL ANGLE OF 162° 30' 12" AND AN ARC LENGTH OF 155.99 FEET TO A POINT OF REVERSE CURVATURE;
6) ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 80° 09' 18" AND AN ARC LENGTH OF 34.97 FEET TO A POINT OF TANGENCY;
7) NORTH 87° 00' 10" EAST, 33.34 FEET;
8) NORTH 84° 29' 40" EAST, 81.35 FEET;
9) NORTH 84° 37' 10" EAST, 164.99 FEET TO THE LANDS NOW OR FORMERLY OF EURWEN AND KOICHI TAKEDA;

THENCE ALONG SAID LANDS NOW OR FORMERLY OF EURWEN AND KOICHI TAKEDA THE FOLLOWING THREE (3) COURSES AND DISTANCES:
1) SOUTH 10° 38' 05" EAST, 305.35 FEET;
2) NORTH 82° 20' 40" EAST, 144.88 FEET;
3) NORTH 10° 38' 05" WEST, 291.19 FEET TO THE AFORESAID SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED;

THENCE ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED, NORTH 82° 50' 00" EAST, 120.96 FEET AND NORTH 84° 42' 00" EAST, 103.07 FEET TO THE POINT OF BEGINNING.

BEING AND INTENDED TO BE THE SAME LANDS DESCRIBED IN A DEED FROM MBIA INSURANCE CORPORATION TO NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC BY A DEED DATED MARCH 1, 2010 AND RECORDED AS DEED CONTROL NO. 500543059, AS CORRECTED BY CORRECTION DEED DATED AS OF ____________, 2015 and DULY BEING RECORDED IN THE OFFICE OF THE COUNTY CLERK, WESTCHESTER COUNTY, AND A DEED FROM TOWN OF NORTH CASTLE TO MBIA INSURANCE CORP. BY A DEED DATED SEPTEMBER 6, 2007 AND RECORDED AS DEED CONTROL NO. 462750207 AND EXCEPTING AS MUCH AS CONVEYED BY A DEED DATED MAY 21, 2007 AND RECORDED AS DEED CONTROL NO. 471570184 AND A PARCEL OF LAND LABELED "PROPOSED RIGHT OF WAY TAKING AREA= 0.0621± ACRES OR 2,705± SQ. FT." AS SHOWN ON A MAP TITLED "PARCEL COMPILATION SURVEY DEPICTING LAND OF MBIA INSURANCE CORP." PREPARED BY JOHN MEYER CONSULTING P.C. LAST DATED FEBRUARY 4, 2005 AND RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE ON SEPTEMBER 30, 2005 ON MAP NO. 27645.

ALSO KNOWN AS THE FOLLOWING:

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE COUNTY OF WESTCHESTER, STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

FORMER LOT 3A (INFORMATION ONLY)

ALL THE CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, WHICH IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWEST SIDE OF KING STREET, MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND, NOW OF DANIEL BOLBROCK, SAID POINT OF BEGINNING BEING MARKED BY A CROSS CUT IN THE STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER OF SAID STONE WALL SOUTH 40° 39' 00" EAST 117.77 FEET;

THENCE SOUTH 44° 31' 20" EAST 61.75 FEET TO A POINT MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER, SAID POINT BEING MARKED BY A CROSS CUT IN THE STONE WALL;

THENCE SOUTHWESTERLY ALONG THE MEAN CENTER OF THE STONE WALL, DIVIDING THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF M. WEBER A DISTANCE OF 463.57 FEET TO A POINT IN THE STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK, SAID POINT BEING MARKED BY A CROSS CUT IN SAID STONE WALL;

THENCE NORTHWESTERLY ALONG THE MEAN CENTER OF SAID STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK, A DISTANCE OF 177.62 FEET TO A POINT MARKING THE INTERSECTION OF PARCEL HEREIN DESCRIBED AND LAND NOW OF DANIEL BOLBROCK, SAID POINT BEING MARKED BY A CROSS CUT IN SAID STONE WALL;

THENCE EASTERLY ALONG THE LINE DIVIDING PARCEL HEREIN DESCRIBED AND LAND OF DANIEL BOLBROCK NORTH 58° 17' 00" EAST A DISTANCE OF 388.28 FEET TO THE POINT OR PLACE OF BEGINNING.

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, WHICH IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWEST SIDE OF KING STREET, MARKING THE

INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND, NOW OF DANIEL BOLBROCK, SAID POINT OF BEGINNING MARKED BY A CROSS OUT IN THE STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER OF SAID STONE WALL SOUTH 40° 39' 00" EAST 103.95 FEET;

THENCE SOUTH 44° 31' 20" EAST 61.75 FEET TO A POINT MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER, SAID POINT BEING MARKED BY A CROSS CUT IN THE STONE WALL;

THENCE SOUTHWESTERLY ALONG THE MEAN CENTER OF A VERY IRREGULAR STONE WALL DIVIDING THE PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER THE FOLLOWING (3) COURSES AND DISTANCES:

1. SOUTH 56° 14' 30" WEST 156.57 FEET; THENCE

2. SOUTH 57° 10' 40" WEST 150.00 FEET; THENCE

3. SOUTH 58° 08' 40" WEST 156.94 FEET TO A POINT IN THE LINE OF LAND NOW OR FORMERLY OF CITY OF NEW YORK;

THENCE NORTHWESTERLY ALONG THE MEAN CENTER OF SAID STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK ON A COURSE OF NORTH 16° 57' 00" WEST, A DISTANCE OF 177.62 FEET TO A POINT MARKING THE INTERSECTION OF PARCEL HEREIN DESCRIBED AND LAND NOW OF DANIEL BOLBROCK;

THENCE EASTERLY ALONG THE LINE DIVIDING PARCEL HEREIN DESCRIBED AND LAND OF DANIEL BOLBROCK NORTH 58° 17' 00" EAST A DISTANCE OF 388.28 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3B (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWESTERLY SIDE OF KING STREET MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF C.H. JECKEL, SAID POINT OF BEGINNING BEING MARKED BY A CROSS CUT ON THE WALL;

RUNNING THENCE ALONG SAID DIVIDING LINE BETWEEN THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF C.H. JECKEL AND ALONG THE MEAN CENTER LINE OF A STONE WALL, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 56° 14' 30" WEST 156.63 FEET;

SOUTH 57° 21' 40" WEST 150 FEET; AND

SOUTH 58° 08' 40" WEST 156.94 FEET TO THE NORTHEASTERLY SIDE OF LAND OF THE CITY OF NEW YORK;

THENCE SOUTHERLY ALONG THE SAID NORTHEASTERLY SIDE OF LAND OF THE CITY OF NEW YORK AND THE MEAN EAST FACE OF A STONE WALL, SOUTH 16° 57' 00" EAST 839.82 FEET TO A MONUMENT;

THENCE EASTERLY STILL ALONG LAND OF THE CITY OF NEW YORK AND THE MEAN NORTH

FACE OF A STONE WALL, NORTH 76° 08' 00" EAST 808.10 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE NORTHERLY AND NORTHWESTERLY ALONG THE WESTERLY AND SOUTHWESTERLY SIDES OF KING STREET THE FOLLOWING COURSES AND DISTANCES:

NORTH 21° 05' 50" WEST 109.6 FEET;

NORTH 26° 08' 50" WEST 102.70 FEET;

NORTH 33° 10' 40" WEST 116.97 FEET;

NORTH 37° 10' 10" WEST 55.48 FEET;

NORTH 35° 19' 00" WEST 60.87 FEET;

NORTH 38° 27' 50" WEST 44.29 FEET;

NORTH 40° 43' 30" WEST 87.17 FEET; AND

NORTH 42° 07' 10" WEST 503.52 FEET TO THE POINT AND PLACE OF BEGINNING.

FORMER LOTS 3C AND 3H (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT MARKED BY A CROSS CUT ON A WALL ON THE WESTERLY SIDE OF KING STREET WHICH POINT MARKS THE NORTHEASTERLY CORNER OF LANDS OF CHARLES H. JECKEL AND THE SOUTHEASTERLY CORNER OF THE LANDS HEREIN CONVEYED;

RUNNING THENCE ALONG THE MEAN CENTER LINE OF A STONE WALL AND LANDS OF CHARLES H. JECKEL, THE FOLLOWING TWO (2) COURSES AND DISTANCES;

1) SOUTH 61° 34' 46" WEST, 35.49 FEET;

2) SOUTH 59° 25' 16" WEST, 169.71 FEET;

TO A CROSS ON A WALL WHICH MARKS THE POINT WHERE THE SOUTHWESTERLY CORNER OF THE PREMISES HEREIN CONVEYED MEET THE LANDS NOW OR FORMERLY OF BEATRICE AND DANIEL BOLBROCK;

THENCE ALONG LANDS OF BOLBROCK, SOUTH 59° 27' 40" WEST, 107.46 FEET AND SOUTH 63° 07' 10" WEST, 10.46 FEET TO THE LAND OF THE CITY OF NEW YORK;

THENCE ALONG THE LAND OF THE CITY OF NEW YORK, NORTH 89° 24' 10" WEST, 95 FEET TO LAND NOW OR FORMERLY OF MCSPEDON;

THENCE ALONG THE LAND OF MCSPEDON, NORTH 18° 52' 10" WEST, 329.71 FEET TO LAND NOW OR FORMERLY OF SENDLEIN;

THENCE EASTERLY PARTLY ALONG LAND OF SENDLEIN AND PARTLY ALONG LAND OF AVEDISSIAN THE FOLLOWING COURSES AND CURVES AND DISTANCES:

NORTH 84° 06' 40" EAST, 104.97 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 426.81 FEET AND A CENTRAL ANGLE OF 07° 45' 00" AND A DISTANCE OF 57.73 FEET TO A POINT OF TANGENCY;

THENCE NORTH 76° 21' 40" EAST, 161.35 FEET TO A POINT OF A CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 101° 07' 00", A DISTANCE OF 44.12 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF KING STREET, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES TO THE POINT OR PLACE OF BEGINNING:

1) SOUTH 24° 45' 20" EAST, 98.59 FEET;

2) SOUTH 81° 05' 00" EAST, 0.16 FEET;

3) SOUTH 28° 15' 33" EAST, 24.88 FEET (DEED 25.37 FEET);

4) SOUTH 33° 22' 23" EAST, 47.45 FEET;

5) SOUTH 31° 53' 08" EAST, 36.97 FEET;

6) SOUTH 39° 38' 19" EAST, 25.86 FEET;

7) SOUTH 31° 42' 21" EAST, 18.51 FEET;

8) SOUTH 39° 35' 07" EAST, 33.25 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3D (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERLY SIDE OF COONEY HILL ROAD DISTANT 371.76 FEET WESTERLY FROM A POINT WHERE THE SOUTHERLY SIDE OF COONEY HILL ROAD IS PROLONGED EASTERLY IN A STRAIGHT LINE WOULD INTERSECT THE WESTERLY SIDE OF KING STREET IF PROLONGED NORTHERLY IN A STRAIGHT LINE;

RUNNING THENCE SOUTH 10° 38' 05" EAST 305.35 FEET;

THENCE SOUTH 82° 20' 40" WEST 165 FEET;

THENCE NORTH 10° 33' 00" WEST 311.89 FEET TO THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE NORTH 84° 37' 10" EAST ALONG THE SOUTHERLY SIDE OF COONEY HILL ROAD 165 FEET TO THE PLACE OR POINT OF BEGINNING.

FORMER LOT 3F (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY KNOWN AND DESCRIBED AS FOLLOWS;

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF THE HIGHWAY KNOWN AS COONEY HILL ROAD WHERE SAID LINE IS INTERSECTED BY THE EASTERLY LINE OF PROPERTY HERETOFORE CONVEYED BY EDWIN WEBER TO CLAIRE AND ERWIN GRAMLICH; AND

RUNNING THENCE ALONG THE SAID SOUTHERLY LINE OF SAID COONEY HILL ROAD THE FOLLOWING COURSES AND DISTANCES;

NORTH 82° 50' 00" EAST 121.89 FEET;

NORTH 84° 42' 00" EAST 95.63 FEET AND SOUTH 37° 13' 50" EAST 15.90 FEET TO THE WESTERLY LINE OF THE HIGHWAY KNOWN AS KING STREET;

THENCE ALONG THE WESTERLY LINE OF KING STREET AS AFORESAID SOUTH 1° 50' 50" WEST 163.06 FEET AND SOUTH 2° 21' 10" WEST 58.83 FEET TO A POINT;

THENCE ALONG PROPERTY NOW OR FORMERLY OF EDWIN WEBER THE FOLLOWING COURSES AND DISTANCES;

SOUTH 85° 52' 10" WEST 92.02 FEET;

SOUTH 4° 07' 50" EAST 70.92 FEET AND SOUTH 81° 51' 10" WEST 76.23 FEET TO THE SOUTHEASTERLY CORNER OF PROPERTY NOW OR FORMERLY OF CLAIRE AND ERWIN GRAMLICH;

THENCE ALONG SAID PROPERTY NOW OR FORMERLY OF CLAIRE AND ERWIN GRAMLICH NORTH 10° 38' 05" WEST 303.46 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3G (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF KING STREET, DISTANT 221.89 FEET SOUTHERLY AS MEASURED ALONG THE WESTERLY SIDE OF KING STREET FROM THE SOUTHEASTERLY END OF AN ANGLE FORMING THE INTERSECTION THEREOF WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD;

RUNNING THENCE ALONG THE SOUTHERLY AND EASTERLY LINES OF LAND NOW OR FORMERLY OF JOSEPH AND FRANCIS EATON, ERWIN AND CLAIRE GRAMLICH AND CLINTON GARDENER, THE FOLLOWING COURSES AND DISTANCES;

SOUTH 85° 52' 10" WEST 92.02 FEET;

SOUTH 4° 07' 50" EAST 70.92 FEET;

SOUTH 81° 51' 10" WEST 76.23 FEET;

SOUTH 82° 20' 40" WEST 309.80 FEET TO A POINT ON THE EASTERLY SIDE OF LAND NOW OR FORMERLY OF EDWIN WEBER;

THENCE ALONG THE SAME AND THE MEAN CENTER LINE OF A STONE WALL, SOUTH 7° 45' 00" EAST 43.39 FEET; SOUTH 10° 08' 10" EAST 160.25 FEET AND SOUTH 11° 02' 30" EAST 83.25 FEET TO THE NORTHERLY SIDE OF A 50 FOOT EASEMENT;

THENCE ALONG THE SAME, NORTH 84° 06' 40" EAST 217.96 FEET TO A POINT ON THE WESTERLY SIDE OF LAND NOW OR FORMERLY OF JOSEPH J. KIRSCHNER;

THENCE ALONG THE WESTERLY AND NORTHERLY SIDES OF LAND, NORTH 10° 08' 10" WEST 146.12 FEET AND NORTH 77° 27' 30" EAST 276.53 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE ALONG THE SAME, NORTH 22° 09' 00" WEST 80.83 FEET; NORTH 9° 35' 30" WEST 44.06 FEET; NORTH 4° 07' 50" WEST 25.20 FEET AND NORTH 3° 12' 10" WEST 42.25 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3G-1 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF KING STREET (STATE HIGHWAY) DISTANT 427.75 FEET SOUTHERLY FROM THE POINT OF INTERSECTION OF THE WESTERLY SIDE OF KING STREET, IF CONTINUED IN A NORTHERLY DIRECTION AND THE SOUTHERLY SIDE OF COONEY HILL ROAD, IF CONTINUED IN AN EASTERLY DIRECTION;

RUNNING THENCE ALONG THE WESTERLY SIDE OF KING STREET IN A SOUTHERLY DIRECTION THE FOLLOWING COURSES AND DISTANCES;

SOUTH 22° 09' 00" EAST 16.06 FEET;

SOUTH 23° 14' 10" EAST 91.75 FEET;

SOUTH 24° 4' 20" EAST 17.19 FEET ON A CURVE TO THE RIGHT HAVING A RADIUS OF 25 FEET A CENTRAL ANGLE OF 101° 07' 00" AN ARC DISTANCE OF 44.12 FEET TO A POINT ON THE NORTHERLY LINE OF A RIGHT OF WAY (50 FEET WIDE) AND NOW OR FORMERLY OF EDWIN WEBER;

THENCE IN A WESTERLY DIRECTION AND ALONG THE NORTHERLY LINE OF THE RIGHT OF WAY (50 FEET) AND NOW OR FORMERLY OF EDWIN WEBER, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 76° 21' 40" WEST 161.35 FEET TO A POINT OF TANGENCY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 426.81 FEET, A CENTRAL ANGLE OF 7° 45' 00" AN ARC DISTANCE OF 57.73 FEET TO A POINT OF TANGENCY AND SOUTH 84° 06' 40" WEST A DISTANCE OF 63.57 FEET TO A POINT AND LANDS NOW OR FORMERLY OF GEORGE E. CHATHAM;

THENCE ALONG OTHER LANDS NOW OR FORMERLY OF GEORGE E. CHATHAM, THE FOLLOWING COURSES AND DISTANCES:

NORTH 10° 08' 10" WEST 146.12 FEET; AND NORTH 77° 27' 30" EAST A DISTANCE OF 276.53 FEET TO THE WESTERLY SIDE OF KING STREET (STATE HIGHWAY) AT THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3.A01 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWESTERLY SIDE OF KING STREET WHERE IT IS INTERSECTED BY THE SOUTHEASTERLY LINE OF LAND NOW OR FORMERLY OF E.J. WEBER, SAID POINT OF BEGINNING BEING MARKED BY A CROSS IN A STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER LINE OF THE STONE WALL ALONG THE SOUTHWESTERLY SIDE OF KING STREET THE FOLLOWING COURSES AND DISTANCES:

SOUTH 40° 49' 10" EAST 55.23 FEET; SOUTH 43° 21' 50" EAST 76.49 FEET; AND

SOUTH 40° 39' 00" EAST 13.33 FEET TO A CROSS CUT IN SAID STONE WALL MARKING THE DIVISION LINE BETWEEN THE PARCEL BEING DESCRIBED AND OTHER LAND NOW OR FORMERLY OF FELICITA SARRACO;

THENCE ON A COURSE OF SOUTH 58° 17' 00" EAST AND ALONG OTHER LAND NOW OR FORMERLY OF FELICITA SARRACO A DISTANCE OF 388.28 FEET TO A CROSS MARKED IN THE STONE WALL SEPARATING THE NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF THE CITY OF NEW YORK AND THE PARCEL BEING DESCRIBED;

THENCE ON A COURSE OF NORTH 16° 57' 00" WEST AND ALONG THE NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF THE CITY OF NEW YORK A DISTANCE OF 152.96 FEET TO THE SOUTHEASTERLY LINE OF LAND NOW OR FORMERLY OF E.J. WEBER THE FOLLOWING COURSES AND DISTANCES:

NORTH 62° 31' 20" EAST 10.46 FEET;

NORTH 58° 51' 50" EAST 277.17 FEET AND NORTH 61° 01' 20" EAST A DISTANCE OF 35.49 FEET TO THE SOUTHWESTERLY SIDE OF KING STREET AT THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE EASTERLY LINE OF WEBER PLACE DISTANT SOUTHERLY AS IT TURNS 591.86 FEET FROM THE INTERSECTION OF SAID EASTERLY LINE OF WEBER PLACE WITH THE SOUTHERLY LINE OF COONEY HILL ROAD, SAID POINT OF INTERSECTION BEING TAKEN AS THE EASTERLY END OF A CURVE HAVING A RADIUS OF 25.00 FEET, CONNECTING THE RESPECTIVE STREET LINES;

RUNNING THENCE FROM SAID POINT OF BEGINNING WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 66° 33' 30" EAST ALONG PROPERTY NOW OR FORMERLY OF PETER AND JOHANNA POPP IN A SOUTHEASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 40° 44' 00" A DISTANCE OF 35.55 FEET TO A POINT OF CHANGE OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 224.50 FEET AND A CENTRAL ANGLE OF 31° 42' 50" A DISTANCE OF 124.25 FEET TO A POINT OF TANGENCY;

THENCE CONTINUING ALONG SAID LAND OF CHARLES AND JOHANNA SENDLEIN, NORTH 84° 06' 40" EAST, 220.05 FEET;

THENCE ALONG OTHER LAND OF EDWIN J. WEBER AND PROPERTY NOW OR FORMERLY OF JAMES T. MARINARO, SOUTH 18° 52' 10" EAST, 329.71 FEET TO LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAND, NORTH 89° 24' 10" WEST, 228.39 FEET TO LAND NOW OR FORMERLY OF JOHN AND ELSE MASTRAIANNI;

THENCE ALONG SAID LANDS THE FOLLOWING COURSES AND DISTANCES:

NORTH 11° 22' 10" WEST, 61.05 FEET;

NORTH 13° 36' 10" WEST, 62.13 FEET;

NORTH 8° 07' 00" WEST, 82.71 FEET;

NORTH 11° 12' 50" WEST, 40.92 FEET;

SOUTH 84° 06' 40" WEST, 47.97 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 274.50 FEET AND A CENTRAL ANGLE OF 27° 52' 30" A DISTANCE OF 133.54 FEET TO A POINT OF REVERSE CURVE AND;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 52° 27' 30" A DISTANCE OF 46.65 FEET TO THE SOUTHERLY LINE OF A TURN AROUND AT THE END OF WEBER PLACE WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 31° 28' 20" WEST;

THENCE ALONG THE SOUTHERLY AND EASTERLY LINES OF SAID TURN AROUND ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 81° 58' 10" A DISTANCE OF 92.99 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-1 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF COONEY HILL ROAD WHERE THE SAME IS INTERSECTED BY THE DIVISION LINE BETWEEN PREMISES HEREINAFTER DESCRIBED AND LAND OF THE CITY OF NEW YORK;

RUNNING THENCE ALONG SAID DIVISION LINE AND THE EAST FACE OF A STONE WALL, SOUTH 13° 05' 50" WEST 210.28 FEET TO A POINT ON THE NORTHERLY SIDE OF OTHER LAND NOW OR FORMERLY OF
EDWIN J. WEBER;

THENCE ALONG THE SAME, NORTH 84° 13' 00" EAST 231.30 FEET TO A POINT ON THE WESTERLY SIDE OF A PROPOSED ROAD (PROPERTY OF EDWIN J. WEBER),

THENCE ALONG THE SAME, NORTHERLY ON A CURVE TO THE RIGHT WITH A RADIUS OF 960 FEET, A CENTRAL ANGLE OF 4° 23' 50" A DISTANCE OF 73.69 FEET AND NORTH 3° 10' 00" EAST 111.31 FEET TO A POINT OF CURVE;

THENCE NORTHWESTERLY ON A CURVE TO THE LEFT WITH A RADIUS OF 25 FEET, A CENTRAL ANGLE OF 94° 13' 10" CONNECTING SAID SIDE OF SAID PROPOSED ROAD WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD, A DISTANCE OF 41.11 FEET TO THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE ALONG THE SAME, SOUTH 88° 56' 50" WEST 14.46 FEET, SOUTH 82° 36' 40" WEST 59.15 FEET AND SOUTH 76° 35' 00" WEST 93.90 FEET TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING THEREFROM SO MUCH OF THE LAND THAT WAS CONVEYED TO THE TOWN OF NORTH CASTLE BY DEED MADE BY MBIA INSURANCE CORP., DATED MAY 21, 2007 AND RECORDED MAY 21, 2007 AS CONTROL NO. 471570184.

FORMER LOT 3-2 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF A PROPOSED ROAD 50 FEET WIDE AT THE SOUTHEAST CORNER OF LAND NOW OR FORMERLY OF MARY C. KISSICK AND WHICH SAID POINT OF BEGINNING IS DISTANT THE FOLLOWING COURSES AND DISTANCES FROM A POINT WHERE THE EASTERLY LINE OF LAND OF THE CITY OF NEW YORK IS INTERSECTED BY THE SOUTHERLY SIDE OF COONEY HILL ROAD, VIZ-NORTH 76° 35' 00" EAST ALONG THE

SOUTHERLY SIDE OF COONEY HILL ROAD 93.90 FEET; NORTH 82° 36' 40" EAST ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD 59.15 FEET; NORTH 88° 56' 50" EAST ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD 14.46 FEET TO A POINT OF CURVE CONNECTING SAID SOUTHERLY SIDE OF COONEY HILL ROAD AND THE WESTERLY SIDE OF SAID PROPOSED ROAD 50 FEET WIDE; SOUTHERLY ON A CURVE TO THE RIGHT TANGENT TO THE LAST MENTIONED COURSE AND HAVING A RADIUS OF 25 FEET A DISTANCE OF 41.11 FEET TO A POINT OF TANGENCY ON THE WESTERLY SIDE OF SAID PROPOSED ROAD; SOUTH 3° 10' 00" WEST 111.31 FEET ALONG THE WESTERLY SIDE OF SAID PROPOSED ROAD TO A POINT OF CURVE, SOUTHERLY STILL ALONG THE WESTERLY SIDE OF SAID PROPOSED ROAD ON A CURVE TO THE LEFT TANGENT TO THE PREVIOUS COURSE HAVING A RADIUS OF 960 FEET A DISTANCE OF 73.69 FEET;

RUNNING THENCE FROM SAID POINT OF BEGINNING AS LOCATED AND DEFINED ALONG THE SOUTHERLY LINE OF SAID LAND NOW OR FORMERLY OF MARY C. KISSICK SOUTH 84° 13' 00" WEST 231.30 FEET TO THE EASTERLY LINE OF LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAST MENTIONED LAND SOUTH 13° 05' 50" WEST 56.92 FEET AND SOUTH 0° 03' 10" EAST 130 FEET;

THENCE ALONG OTHER LAND OF EDWIN J. WEBER, NORTH 81° 18' 10" EAST 264.59 FEET TO THE WESTERLY SIDE OF SAID PROPOSED ROAD 50 FEET WIDE, OTHER LAND OF SAID EDWIN J. WEBER;

THENCE ALONG SAID WESTERLY SIDE OF SAID PROPOSED ROAD IN A NORTHERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS 0F 960 FEET A DISTANCE OF 170 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-3 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF THE TOWN HIGHWAY KNOWN AS WEBER PLACE DISTANT AS MEASURED ALONG SAME 355 FEET SOUTHERLY FROM THE SOUTHERLY END OF A CURVE HAVING A RADIUS OF 25 FEET CONNECTING SAID WESTERLY SIDE OF WEBER PLACE WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD;

RUNNING THENCE SOUTH 81° 18' 10" WEST 264.59 FEET TO LAND OF THE CITY OF NEW YORK AT A POINT DISTANT AS MEASURED ALONG THE EASTERLY LINE OF SAID LAND OF THE CITY OF NEW YORK SOUTH 13° 05' 50" WEST 267.20 FEET AND SOUTH 0° 03' 10" EAST 130 FEET FROM THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE ALONG SAID EASTERLY LINE OF THE LAND OF THE CITY OF NEW YORK SOUTH 0° 03' 10" EAST 243 FEET;

THENCE NORTH 58° 59' 15" EAST 241.93 FEET AND NORTH 80° 39' 50" EAST 95 FEET TO THE WESTERLY SIDE OF THE TOWN ROAD KNOWN AS WEBER PLACE;

THENCE ALONG SAID WESTERLY SIDE OF WEBER PLACE THE FOLLOWING COURSES AND DISTANCES:

NORTHERLY ON A CURVE TO THE LEFT HAVING A RADIUS OF 25 FEET A DISTANCE OF 27.89 FEET;

NORTHERLY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 275 FEET A DISTANCE OF 81.58 FEET; AND

NORTHERLY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 960 FEET A DISTANCE OF

42.36 FEET TO THE POINT OF BEGINNING.

FORMER LOT 3-4 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

PARCEL I

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN PROPERTY OF THE SELLER ON THE EAST AND THE CITY OF NEW YORK ON THE WEST, SOUTH 13° 05' 50" WEST 267.20 FEET AND SOUTH 0° 03' 10" EAST 373.00 FEET AS MEASURED ALONG SAID DIVIDING LINE FROM ITS INTERSECTION WITH THE SOUTHERLY LINE OF COONEY HILL ROAD; SAID POINT OF BEGINNING BEING, ALSO THE SOUTHWESTERLY CORNER OF LANDS HERETOFORE CONVEYED BY THE SELLER TO RICHARD KROMER, JR. AND ELEANOR KROMER, BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE IN LIBER 5672 CP 84;

RUNNING THENCE FROM SAID POINT OF BEGINNING AND RUNNING ALONG SAID LANDS CONVEYED TO KROMER, NORTH 58° 59' 15" EAST 241.93 FEET AND NORTH 80° 39' 50" EAST 95.00 FEET TO THE WESTERLY LINE OF PROPOSED ROAD WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS SOUTH 56° 59' 30" EAST;

THENCE IN A SOUTHERLY DIRECTION ALONG SAID WESTERLY LINE OF SAID PROPOSED ROAD ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 83° 44' 20" A DISTANCE OF 95.00 FEET;

THENCE ALONG OTHER LANDS OF THE SELLER SOUTH 41° 22' 10" WEST 75.00 FEET AND SOUTH 53° 15' 30" WEST 232.08 FEET TO LANDS OF THE CITY OF NEW YORK AFORESAID;

THENCE ALONG SAID LANDS OF THE CITY OF NEW YORK NORTH 46° 44' 10" WEST 108.00 FEET AND NORTH 0° 03' 10" WEST 67.00 FEET TO THE POINT OR PLACE OF BEGINNING.

PARCEL II:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN PROPERTY OF EDWIN J. WEBER ON THE EAST AND PROPERTY OF THE CITY OF NEW YORK ON THE WEST SOUTH 13° 05' 50" WEST 267.20 FEET, SOUTH 0° 03' 10" EAST 440.00 FEET AND SOUTH 46° 44' 10" EAST 108.00 FEET AS MEASURED ALONG SAID DIVIDING LINE FROM THE POINT WHERE IT INTERSECTS THE SOUTHERLY LINE OF COONEY HILL ROAD;

RUNNING THENCE FROM SAID POINT OF BEGINNING ALONG OTHER PROPERTY NOW OR FORMERLY OF EDWIN J. WEBER NORTH 53° 15' 30" EAST 232.08 FEET AND NORTH 41° 22' 10" EAST 75.00 FEET TO THE SOUTHERLY END OF A PROPOSED ROAD KNOWN AS WEBER PLACE WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS NORTH 39° 16' 10" EAST;

THENCE ALONG SAID SOUTHERLY END OF A PROPOSED ROAD IN A SOUTHEASTERLY DIRECTION AND EASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 44° 04' 25" A DISTANCE OF 50.00 FEET;

THENCE ALONG OTHER LAND OF WEBER SOUTH 0° 35' 50" WEST 239.67 FEET TO LAND OF THE CITY OF NEW YORK AFORESAID;

THENCE ALONG SAID LANDS NORTH 89° 24' 10" WEST 219.83 FEET AND NORTH 46° 44' 10" WEST 82.40 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-6 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY END OF A PRIVATE STREET KNOWN AS WEBER PLACE, LAID OUT OVER AND ACROSS PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART DISTANT SOUTHERLY 692.94 FEET MEASURED AS HEREINAFTER DESCRIBED ALONG THE WESTERLY LINE OF SAID STREET FROM ITS INTERSECTION WITH THE SOUTHERLY LINE OF COONEY HILL ROAD, SAID POINT OF INTERSECTION BEING DISTANT EASTERLY 167.51 FEET AS MEASURED ALONG THE SAID SOUTHERLY LINE OF COONEY HILL ROAD FROM LAND OF THE CITY OF NEW YORK (RYE LAKE RESERVATION) (THE AFORESAID DISTANCE OF 692.94 FEET ALONG THE WESTERLY LINE OF WEBER PLACE IS MEASURED AS FOLLOWS:

STARTING AT A POINT OF INTERSECTION WITH COONEY HILL ROAD WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS SOUTH 1° 03' 10" EAST; AND

RUNNING THENCE IN A SOUTHEASTERLY AND SOUTHERLY DIRECTION ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 94° 13' 10" A DISTANCE OF 41.11 FEET TO A POINT OF TANGENCY;

THENCE SOUTH 3° 10' 00" WEST 111.31 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 960.00 FEET AND A CENTRAL ANGLE OF 17° 04' 20" A DISTANCE OF 286.05 FEET TO A POINT OF CHANGE OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 275.00 FEET AND A CENTRAL ANGLE OF 16° 59' 50" A DISTANCE OF 81.58 FEET TO A POINT OF REVERSE CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 63° 54' 40" A DISTANCE OF 27.89 FEET TO A POINT OF REVERSE CURVE; AND

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 127° 48' 45" A DISTANCE OF 145.00 FEET TO THE POINT OF BEGINNING;

THENCE FROM SAID POINT OF BEGINNING WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 4° 48' 15" WEST ALONG THE SOUTHERLY END OF WEBER PLACE IN AN EASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 26° 40' 05" A DISTANCE OF 30.25 FEET TO A POINT OF REVERSE CURVE;

THENCE ALONG OTHER PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 53° 27' 30" A DISTANCE OF 46.65 FEET TO A POINT OF REVERSE CURVE;

THENCE CONTINUING ALONG SAID LANDS ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 274.50 FEET AND A CENTRAL ANGLE OF 27° 52' 30" A DISTANCE OF 133.54 FEET TO A POINT OF TANGENCY; AND

THENCE NORTH 84° 06' 40" EAST 47.97 FEET TO THE CENTER OF A STONE WALL;

THENCE ALONG THE CENTER OF STONE WALL AND OTHER LANDS OF THE PARTY OF THE FIRST PART THE FOLLOWING COURSES AND DISTANCES:

SOUTH 11° 12' 50" EAST 40.92 FEET; SOUTH 8° 07' 00" EAST 82.71 FEET; SOUTH 13° 36' 10" EAST 62.13 FEET; AND

SOUTH 11° 22' 10" EAST A DISTANCE OF 61.05 FEET TO LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAND OF THE CITY OF NEW YORK NORTH 89° 24' 10" WEST 300.78 FEET;

THENCE ALONG OTHER LANDS OF THE PARTY OF THE FIRST PART NORTH 0° 35' 50" EAST 239.67 FEET TO THE SOUTHERLY END OF WEBER PLACE AND THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-7 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF ROAD KNOWN AS WEBER PLACE WHERE THE SAME IS INTERSECTED BY THE SOUTHERLY BOUNDARY LINE OF LAND NOW OR FORMERLY BELONGING TO PASQUALE J. AND FLORENCE BRESHA AS ACQUIRED BY A DEED FROM EDWIN WEBER, DATED OCTOBER 11, 1956, AND RECORDED ON OCTOBER 15, 1956 IN THE COUNTY CLERK'S OFFICE DIVISION OF LAND RECORDS, WESTCHESTER COUNTY, N.Y. IN LIBER 5636 OF DEEDS AT PAGE 491, SAID POINT OF BEGINNING BEING DISTANT SOUTHERLY AS MEASURED ALONG THE EASTERLY SIDE OF SAID WEBER PLACE, 302.28 FEET FROM THE SOUTHERLY END OF A CURVE HAVING A RADIUS OF 25.00 FEET AND AN ARC LENGTH OF 36.97 FEET CONNECTING THE SOUTHERLY SIDE OF COONEY HILL ROAD WITH THE EASTERLY SIDE OF SAID WEBER PLACE;

RUNNING THENCE FROM SAID POINT OF BEGINNING ALONG THE LAST MENTIONED BOUNDARY LINE OF SAID FLORENCE BRESHA AS MARKED BY A STONE WALL, THE FOLLOWING COURSES AND DISTANCES:

NORTH 82° 33' 00" EAST 119.04 FEET TO A CROSS ON SAID WALL, AND NORTH 81° 29' 50" EAST 131.66 FEET TO A CROSS ON ANOTHER STONE WALL MARKING THE WESTERLY BOUNDARY LINE OF LAND NOW OR FORMERLY BELONGING TO HENRY J. HARDIN;

THENCE ALONG THE MEAN CENTER LINE OF A STONE WALL MARKING THE WESTERLY BOUNDARY LINE OF SAID LAND BELONGING TO HENRY J. HARDIN, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 10° 08' 10" EAST 142.73 FEET; AND

SOUTH 11° 02" 30" EAST 83.25 FEET TO A T CUT ON SAID WALL;

THENCE ALONG LAND NOW OR FORMERLY BELONGING TO EDWIN WEBER, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 84° 06' 40" WEST 43.31 FEET TO A POINT OF CURVE;

CONTINUING IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 224.50 FEET AND A CENTRAL ANGLE OF 31° 42' 50" A DISTANCE OF 124.26 FEET TO A POINT OF COMPOUND CURVE; AND

CONTINUING STILL IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 50.0 FEET AND A CENTRAL ANGLE OF 40° 44' A DISTANCE OF 35.55 FEET TO A POINT OF REVERSE CURVE ON THE EASTERLY SIDE OF SAID WEBER PLACE;

THENCE ALONG THE EASTERLY SIDE OF SAID WEBER PLACE, THE FOLLOWING COURSES AND DISTANCES:

IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE LEFT HAVING A RADIUS OF 65.00

FEET AND A CENTRAL ANGLE OF 54° 50' A DISTANCE OF 62.21 FEET TO A POINT OF REVERSE CURVE;

CONTINUING IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, AND A CENTRAL ANGLE OF 43° 11' A DISTANCE OF 18.84 FEET TO A POINT OF COMPOUND CURVE;

CONTINUING STILL IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 225.00 FEET AND CENTRAL ANGLE OF 21° 11' 10" A DISTANCE OF 83.20 FEET TO A POINT OF COMPOUND CURVE AND FINALLY STILL IN A NORTHWESTERLY, DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 1° 2.6' 10" A DISTANCE OF 22.84 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-8 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY LINE OF PROPERTY CONVEYED BY EDWIN WEBER BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE, DIVISION OF LAND RECORDS, IN LIBER 4820 AT PAGE 223, WHICH SAID POINT ON SAID LINE OF LANDS OF CLINTON GARDNER IS DISTANT SOUTHERLY 196.42 FEET AS MEASURED ALONG SAID WESTERLY LINE OF LAND OF SAID GARDNER FROM THE SOUTHERLY LINE OF COONEY HILL ROAD;

RUNNING THENCE FROM SAID POINT OF BEGINNING, ALONG THE WESTERLY LINE OF THE SAID GARDNER, SOUTH 10° 33' 00' EAST 115.47 FEET;

THENCE ALONG LANDS OF GEORGE CHATHAM, SOUTH 7° 45' 00" EAST 43.39 FEET AND SOUTH 10° 08' 10" EAST 17.52 FEET TO A POINT;

THENCE ALONG PROPERTY NOW OR FORMERLY OF SAID EDWIN WEBER AND ALONG A STONE WALL, SOUTH 81° 29' 50" WEST 131.66 FEET AND SOUTH 82° 33' 00" WEST 119.04 FEET TO THE EASTERLY LINE OF WEBER LANE, A ROAD LAID OUT 50.00 FEET WIDE OVER AND ACROSS PROPERTY NOW OR FORMERLY OF SAID EDWIN WEBER WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 77° 31' 58" EAST;

THENCE ALONG THE SAID EASTERLY LINE OF SAID WEBER LANE IN A NORTHERLY DIRECTION ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 11° 30' 32" A DISTANCE OF 182.79 FEET TO A POINT;

THENCE ALONG LAND NOW OR FORMERLY OF THE PARTY OF THE SECOND PART, NORTH 83° 28' 00" EAST 241.07 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-9 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF COONEY HILL ROAD, WHERE THE SAME IS INTERSECTED BY THE WESTERLY LINE OF PROPERTY CONVEYED BY THE PARTY OF THE FIRST PART TO CLINTON GARDNER BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE, DIVISION OF LAND RECORDS IN LIBER 4820 CP 223;

RUNNING THENCE ALONG SAID WESTERLY LINE OF LAND OF THE SAID GARDNER SOUTH 10° 33' 00" EAST 196.42 FEET TO A CORNER;

THENCE ALONG PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART SOUTH 83° 28' 00" WEST 241.07 FEET TO A POINT WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS NORTH 89° 02' 30" EAST;

THENCE CONTINUING ALONG LAND OF THE SAID PARTY OF THE FIRST PART ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 4° 07' 30" A DISTANCE OF 65.52 FEET TO A POINT OF TANGENCY;

THENCE CONTINUING ALONG SAID LAND OF THE PARTY OF THE FIRST PART NORTH 3° 10' 00" EAST 119.49 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 84° 43' 40" A DISTANCE OF 36.97 FEET TO A POINT OF TANGENCY AND THE SOUTHERLY LINE OF COONEY HILL ROAD AS AFORESAID;

THENCE ALONG THE SOUTHERLY LINE OF COONEY HILL ROAD AS AFORESAID THE FOLLOWING COURSES AND DISTANCES;

NORTH 87° 53' 40" EAST 27.13 FEET;

NORTH 87° 00' 10" EAST 63.64 FEET; AND

NORTH 84° 29' 40" EAST 81.35 FEET TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING THEREFROM SO MUCH OF THE LAND THAT WAS CONVEYED TO THE TOWN OF NORTH CASTLE BY DEED MADE BY MBIA INSURANCE CORP., DATED MAY 21, 2007 AND RECORDED MAY 21, 2007 AS CONTROL NO. 471570184.

DESCRIPTION OF ABANDONED WEBER PLACE

A PARCEL OF LAND LYING IN ARMONK AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE SOUTHERLY LINE OF COONEY HILL ROAD WHERE IT INTERSECTS THE DIVISION LINE BETWEEN LAND OF THE CITY OF NEW YORK ON THE WEST AND LANDS OF MBIA INSURANCE CORP. ON THE EAST;

THENCE ALONG THE SOUTHERLY LINE OF COONEY HILL ROAD THE FOLLOWING THREE COURSES AND DISTANCES TO THE POINT OF BEGINNING:

1. NORTH 76° 35' 00" EAST, 93.90 FEET;
2. NORTH 82° 36' 40" EAST, 59.15 FEET;
3. NORTH 88° 56' 50" EAST, 14.46 FEET TO THE WESTERLY LINE OF WEBER PLACE SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE DIVISION LINE BETWEEN COONEY HILL ROAD ON THE NORTH AND WEBER PLACE OF THE SOUTH THE FOLLOWING TWO COURSES AND DISTANCES:

1. NORTH 88° 56' 50" EAST, 56.30 FEET;
2. NORTH 87° 53' 40" EAST, 43.58 FEET TO THE EASTERLY LINE OF WEBER PLACE;

THENCE ALONG THE DIVISION LINE BETWEEN WEBER PLACE AND LANDS OF MBIA INSURANCE CORP. THE FOLLOWING ELEVEN COURSES AND DISTANCES:

1. SOUTHWESTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGEL OF 84° 43' 40", AN ARC LENGTH OF 36.97 FEET AND A CHORD BEARING SOUTH 45° 31' 50" WEST, 33.69 FEET;
2. SOUTH 03° 10' 00" WEST, 119.49 FEET;

3. SOUTHERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 910.00 FEET, A CENTRAL ANGLE OF 17° 04' 20" AND AN ARC LENGTH OF 271.15 FEET;
4. SOUTHEASTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 225.00 FEET, A CENTRAL ANGLE OF 21° 11' 10" AND AN ARC LENGTH OF 83.20 FEET;
5. SOUTHEASTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 43° 11' 00" AND AN ARC LENGTH OF OF 18.84 FEET;
6. WESTERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00 FEET, A CENTRAL ANGLE OF 291° 17' 00" AND AN ARC LENGTH OF 330.45 FEET;
7. NORTHERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 63° 54' 40" AND AN ARC LENGTH OF 27.89 FEET;
8. NORTHERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 275.00 FEET, A CENTRAL ANGLE OF 16° 59' 50" AND AN ARC LENGTH OF 81.58 FEET;
9. NORTHERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 960.00 FEET, A CENTRAL ANGLE OF 17° 04' 20" AND AN ARC LENGTH OF 286.05 FEET;
10. NORTH 03° 10' 00" EAST, 111.31 FEET;
11. NORTHWESTERLY ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 94° 13' 10" AND AN ARC LENGTH OF 41.11 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND BEING MORE FULLY SHOWN ON A MAP TITLED "WEBER PLACE ABANDONMENT MAP PREPARED FOR MBIA INSURANCE CORP. LOCATED IN THE HAMLET OF ARMONK, TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK" PREPARED BY JOHN MEYER CONSULTING, PC AND DATED MAY 12, 2006, NOT FILED ANNEXED TO DEED RECORDED IN CONTROL NO. 462750207.

SCHEDULE B

Policy No.: **Y 3020-657807**

EXCEPTIONS FROM COVERAGE

This Policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees, or expenses that arise by reason of:

1. Rights of tenants or persons in possession, if any.

2. Survey Reading herein.

3. Current tax map does not depict the abandonment of Weber Place. Policy excepts retroactive taxes and assessments of abandoned Weber Place.

4. Electric Utility Agreement recorded 6/9/1950 in (as) Liber 4865 cp 407 granting the right to maintain poles and wires with the right to lay guy wire and trim trees.

5. Electric and Telephone Utility Agreement recorded 8/15/1957 in (as) Liber 5729 cp 379 granting the right to maintain poles and wires along abutting streets with the right to lay guy wire and trim trees.

6. Terms, provisions and covenants as set forth in document entitled Declaration of Covenants and Restrictions made by and between Trafalgar House Real Estate, Inc. and Queensmead Associates, collectively as Declarant dated 6/22/1989 recorded 7/14/1989 in Liber 9580 cp 99, no restrictions contained therein.

   WITH REGARD THERETO:

   Document entitled Amended and Restated Declaration of Covenants and Restrictions and Transfer of Development Rights made by and between Trafalgar House Property, Inc., successor in interest to Trafalgar House Real Estate, Inc. and Queensmead Associates, collectively as Declarant dated 9/28/1990 recorded 10/11/1990 in Liber 9907 cp 307.

   Town Board approved a transfer of office space development rights for the expansion of the Kingsmead Office Building, no restrictions contained therein.

7. Terms, restrictions, covenants and conditions as set forth in Declaration of Covenants and Restrictions made by Municipal Bond Investors Assurance Corporation (MBIA), Declarant dated 9/28/1990 recorded 10/31/1990 in Liber 9920 cp 281.

   WITH REGARD THERETO:

   a) Amended Declaration of Covenants and Restrictions made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation (MBIA), Owner/Declarant dated 12/23/1996 recorded 1/13/1997 in Liber 11634 cp 284, as further amended by

   b) Amended Declaration of Covenants and Restrictions made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation (MBIA), Owner/Declarant dated 8/20/1998 recorded 9/18/1998 in Liber 12113 cp 196

8. Terms, conditions, easements, rights as set forth in Easement Agreement Kingshead Property made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 9/28/1990 recorded 10/11/1990 in Liber 9908 cp 21 re sewer and access

easements.

WITH REGARD THERETO:

a) Modification and Restatement of Easement Agreement made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 7/9/1992 recorded 10/8/1992 in Liber 10426 cp 119 as further modified by

b) Restated and Modified Easement Agreement made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 3/19/1993 recorded 5/5/1993 in Liber 10571 cp 109, as depicted on Map No. 27645.

9. Land-Banked Parking Agreement made by and between Municipal Bond Investors Assurance Corporation (MBIA), (Owner) and the Town of North Castle dated 11/12/1992 recorded 11/16/1992 in Liber 10451 cp 241 re: MBIA Parcel, Section 3 Block 4 Lot 3B.

10. Utility and Grading Easement made by and between MBIA Insurance Corporation (MBIA/Grantor) and Town of North Castle (Grantee) dated 12/23/1996 recorded 1/14/1997 in Liber 11635 cp 110 re: 20-foot wide easement along Route 120 for grading and storm water runoff.

11. Terms, restrictions, rights, reservations, easements, provisions, conditions as set forth in Conservation Easement made by and between MBIA Insurance Corp. (Grantor) and Westchester Land Trust, Inc. (Grantee) dated 1/11/2006 recorded 5/1/2006 in Control No. 461140461 re: irrevocable conservation easement on Section 3 Block 4 Lots 3,3H, 3.1,3.3,3.4,3.6 ("Lots")

12. Reservations for future roadway improvements, right of way taking, and proposed sight line easement as cited on Map No. 27645.

SURVEY READING

Survey dated 4/8/2015 made by JMC Site Development Consultants shows the following:

Sewer easement, utility and grading easement, conservation easement and manholes cross westerly, southerly and easterly portions of premises herein; policy excepts rights and easements of others by reason thereof.

Sight line easement on map #27647 at northeasterly portion of premises herein.

First American

STANDARD NEW YORK ENDORSEMENT
(OWNER'S POLICY)

Issued by

First American Title Insurance Company

Attached to and made part of Policy No.: Y 3020-657807

1. The following is added as a Covered Risk:

   "11. Any statutory lien arising under Article 2 of the New York Lien Law for services, labor or materials furnished prior to the date hereof, and which has now gained or which may hereafter gain priority over the estate or interest of the insured as shown in Schedule A of this policy."

2. Exclusion Number 5 is deleted, and the following is substituted:

   5. Any lien on the Title for real estate taxes, assessments, water charges or sewer rents imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as Shown in Schedule A.

This endorsement is issued as part of the policy. Except as it expressly states, it does not (i) modify any of the terms and provisions of the policy, (ii) modify any prior endorsements, (iii) extend the Date of Policy, or (iv) increase the Amount of Insurance. To the extent a provision of the policy or a previous endorsement is inconsistent with an express provision of this endorsement, this endorsement controls. Otherwise, this endorsement is subject to all of the terms and provisions of the policy and of any prior endorsements.

Dated: 05/04/2015

First American Title Insurance Company

Dennis J. Gilmore
President

Jeffrey S. Robinson
Secretary

CONTIGUITY ENDORSEMENT

Title No. **657807**

Attached to and made a part of First American Title Insurance Company Policy No.: **Y 3020-657807**

The Policy insures against loss or damage which the Insured may sustain by reason that the land described in the Policy as Lots 1, 13, 14 and abandoned Weber Place are not contiguous to each other along their common boundary line(s).

This endorsement is made a part of the Policy and is subject to all of the terms and provisions thereof and of any other endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the Policy and any other endorsements, nor does it extend the effective date of the Policy and any other endorsements, nor does it increase the face amount thereof.

IN WITNESS WHEREOF, First American Title Insurance Company has caused this Endorsement to be signed on its date of issue set forth herein.

Dated: 05/04/2015

First American Title Insurance Company

Dennis J. Gilmore
President

Jeffrey S. Robinson
Secretary

TIRSA CONTIGUITY ENDORSEMENT (12/27/00)

FIRST AMERICAN

First American Title Insurance Company

LAND SAME AS SURVEY ENDORSEMENT

Attached to and made part of First American Title Insurance Company Policy No. **Y 3020-657807**

The Company hereby assures the Insured that said Land is the same as that delineated on the plat of a survey dated 4/8/2015 made by JMC Site Development Consultants.

The Company hereby insures said Assured against loss which said Assured shall sustain in the event said assurances herein shall prove to be incorrect.

The total liability of the Company under said policy and any endorsement therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the Conditions thereof to pay.

This endorsement is made a part of the policy and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsements, nor does it extend the effective date of the policy and any prior endorsements, nor does it increase the face amount thereof.

IN WITNESS WHEREOF, First American Title Insurance Company has caused this Endorsement to be signed on its date of issue set forth herein.

Dated: 05/04/2015

First American Title Insurance Company

Dennis J. Gilmore
President

Jeffrey S. Robinson
Secretary

TIRSA LAND SAME AS SURVEY ENDORSEMENT (05/01/07)

Buyer

First American Title Insurance Company National Commercial Services
666 Third Avenue, 5th Floor
New York, NY 10017
(800)437-1234 - Fax (212)922-0881

TITLE NUMBER: 3020-657807
APPLICATION DATE: 03/05/2014
AMENDED DATE: 04/30/2015

SUBMITTED BY: Stephen Farber
REPORT DATE:

Jeffrey Mitzner
TYPED BY: Erin Dowling

APPLICANT:
Robin Levitt Topol, Esq.
Meister Seelig & Fein LLP
125 Park Ave Fl 7
New York , NY 10017
Phone #(212)655-3509
Fax #(212)655-3535
Email: rlt@msf-law.com
REF:

BANK ATTORNEY:

SELLER'S ATTORNEY:

ADDITIONAL COPIES:
Bleakley Platt & Schmidt, LLP
Peter Bassano Esq.
One North Lexington Ave, 7th Floor
White Plains , NY 10601
(914)287-6102
(914)683-6956
pbassano@bpslaw.com

TRANSACTION TYPE: Sale/Cash
AMOUNT OF INSURANCE: **FEE: $** 23,000,000.00 **MTGE: $** 0.00
INSURED MORTGAGEE: ,
INSURED FEE: ROECO., LLC
RECORD OWNER: NATIONAL REAL ESTATE HOLDINGS OF ARMONK,
PREMISES: 113 King Street,
Armonk, New York 10504
1 Weber Place, Armonk, New York
3 Weber Place,
Armonk, New York

DISTRICT:

SECTION:

BLOCK:

LOTS:

COUNTY OF: Westchester

TOWN:

Subdivision/Condo Name/Filed Map:
APP DESC:
UNIT #:
SURVEY INSTRUCTIONS: Will Advise

AMENDED **04/08/2015 (cz)**

Proposed Insured
Purchaser: ~~ROECO., LLC~~, Airport Campus I LLC
Mortgagee: Airport Campus II LLC
Airport Campus III LLC
Amount of Insurance: Airport Campus IV LLC
Fee: $23,000,000.00
Mortgage: Airport Campus V LLC

Title No.: 3020-657807
Effective Date: 02/28/2015
Redated: 5/4/15
by Lisa Stabile

THIS COMPANY CERTIFIES that a good and marketable title to the premises described in Schedule "A", subject to the liens, encumbrances and other matters, if any, set forth in this certificate may be conveyed and or mortgaged by:

NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC

Which acquired title under deed made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation dated as of 3/1/2010 recorded 3/8/2010 in Control No. 500543059.

Premises described in Schedule "A" are known as:

Address: 113 King Street,
Armonk, New York 10504
1, 3 Weber Place,
Armonk, New York

County: Westchester Town: North Castle

District:

Section:

Block:

Lot:

Recertify title to:
Airport Campus I LLC
Airport Campus II LLC
Airport Campus III LLC
Airport Campus IV LLC
Airport Campus V LLC.

by deed dated
5/4/15

For any Title Clearance Questions
on this Report please call
ZOY BALASKAS
COUNSEL
(212)850-0603
ZBalaskas@Firstam.com

FHO/jb

Title No. 3020-657807

PROPERTY PAGE

Section 118.02
Block 1
Lot 1
113 King Street

Section 113.04
Block 1
Lot 14
1 Weber Place

Section 113.04
Block 1
Lot 13
3 Weber Place

abandoned Weber Place

Title No. 3020-657807
AMENDED 04/15/2015 (fho) SURVEYOR'S DESCRIPTION ADDED

SCHEDULE "A"

SURVEYOR'S DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ALONG WESTERLY SIDE OF KING STREET (NYS ROUTE 120) AT ITS POINT OF INTERSECTION WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED;

THENCE ALONG SAID WESTERLY SIDE OF KING STREET THE FOLLOWING TWENTY-SEVEN (27) COURSES AND DISTANCES:

1) SOUTH 37° 13' 50" EAST, 1.47 FEET;
2) SOUTH 01° 50' 50" WEST, 162.76 FEET;
3) SOUTH 02° 21' 10" WEST, 58.83 FEET;
4) SOUTH 03° 12' 10" EAST, 42.25 FEET;
5) SOUTH 04° 07' 50" EAST, 25.20 FEET;
6) SOUTH 09° 35' 30" EAST, 44.06 FEET;
7) SOUTH 22° 09' 00" EAST, 96.89 FEET;
8) SOUTH 23° 14' 10" EAST, 91.75 FEET;
9) SOUTH 24° 45' 20" EAST, 115.78 FEET;
10) SOUTH 28° 17' 20" EAST, 25.37 FEET;
11) SOUTH 33° 04' 10" EAST, 47.45 FEET;
12) SOUTH 31° 55' 00" EAST, 36.97 FEET;
13) SOUTH 39° 40' 00" EAST, 25.86 FEET;
14) SOUTH 31° 44' 00" EAST, 18.49 FEET;
15) SOUTH 39° 37' 00" EAST, 33.23 FEET;
16) SOUTH 40° 12' 20" EAST, 55.23 FEET;
17) SOUTH 42° 45' 00" EAST, 76.49 FEET;
18) SOUTH 40° 02' 10" EAST, 117.28 FEET;
19) SOUTH 43° 54' 30" EAST, 61.75 FEET;
20) SOUTH 41° 30' 20" EAST, 504.00 FEET;
21) SOUTH 40° 06' 40" EAST, 87.17 FEET;
22) SOUTH 37° 51' 00" EAST, 44.29 FEET;
23) SOUTH 34° 42' 10" EAST, 60.87 FEET;
24) SOUTH 36° 33' 20" EAST, 55.48 FEET;
25) SOUTH 32° 33' 50" EAST, 116.97 FEET;
26) SOUTH 25° 32' 00" EAST, 102.70 FEET;
27) SOUTH 20° 29' 00" EAST, 109.60 FEET TO THE LANDS OF THE CITY OF NEW YORK;

CONTINUED...

Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

THENCE ALONG SAID LANDS OF THE CITY OF NEW YORK THE FOLLOWING SIX (6) COURSES AND DISTANCES:

1) SOUTH 76° 44' 50" WEST, 808.10 FEET;
2) NORTH 16° 20' 10" WEST, 1170.66 FEET;
3) NORTH 89° 24' 10" WEST, 842.00 FEET;
4) NORTH 46° 44' 10" WEST, 190.40 FEET;
5) NORTH 00° 03' 10" WEST, 440.00 FEET;
6) NORTH 13° 05' 50" EAST, 267.20 FEET TO THE SOUTHERLY SIDE OF THE AFORESAID COONEY HILL ROAD;

THENCE ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD THE FOLLOWING NINE (9) COURSES AND DISTANCES:

1) NORTH 76° 35' 00" EAST, 93.90 FEET;
2) NORTH 82° 36' 40" EAST, 59.15 FEET;
3) NORTH 88° 56' 50" EAST, 14.46 FEET TO A POINT OF CURVATURE;
4) ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 80° 24' 14" AND AN ARC LENGTH OF 35.08 FEET TO A POINT OF REVERSE CURVATURE;
5) ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 55.00 FEET, A CENTRAL ANGLE OF 162° 30' 12" AND AN ARC LENGTH OF 155.99 FEET TO A POINT OF REVERSE CURVATURE;
6) ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 80° 09' 18" AND AN ARC LENGTH OF 34.97 FEET TO A POINT OF TANGENCY;
7) NORTH 87° 00' 10" EAST, 33.34 FEET;
8) NORTH 84° 29' 40" EAST, 81.35 FEET;
9) NORTH 84° 37' 10" EAST, 164.99 FEET TO THE LANDS NOW OR FORMERLY OF EURWEN AND KOICHI TAKEDA;

THENCE ALONG SAID LANDS NOW OR FORMERLY OF EURWEN AND KOICHI TAKEDA THE FOLLOWING THREE (3) COURSES AND DISTANCES:
1) SOUTH 10° 38' 05" EAST, 305.35 FEET;
2) NORTH 82° 20' 40" EAST, 144.88 FEET;
3) NORTH 10° 38' 05" WEST, 291.19 FEET TO THE AFORESAID SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED;

THENCE ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD AS WIDENED, NORTH 82° 50' 00" EAST, 120.96 FEET AND NORTH 84° 42' 00" EAST, 103.07 FEET TO THE POINT OF BEGINNING.

BEING AND INTENDED TO BE THE SAME LANDS DESCRIBED IN A DEED FROM MBIA INSURANCE CORPORATION TO NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC BY A DEED DATED MARCH 1, 2010 AND RECORDED AS DEED CONTROL NO. 500543059, AS CORRECTED BY CORRECTION DEED DATED AS OF ____________, 2015 and DULY BEING RECORDED IN THE OFFICE OF THE COUNTY CLERK, WESTCHESTER COUNTY, AND A DEED FROM TOWN OF NORTH CASTLE TO MBIA INSURANCE CORP. BY A DEED DATED SEPTEMBER 6, 2007 AND RECORDED AS DEED CONTROL NO. 462750207 AND EXCEPTING AS MUCH AS CONVEYED BY A DEED DATED MAY 21, 2007 AND RECORDED AS DEED CONTROL NO. 471570184 AND A PARCEL OF LAND LABELED "PROPOSED RIGHT OF WAY TAKING AREA= 0.0621± ACRES OR 2,705± SQ. FT." AS SHOWN ON A MAP TITLED "PARCEL COMPILATION SURVEY DEPICTING LAND OF MBIA INSURANCE CORP." PREPARED BY JOHN MEYER CONSULTING P.C. LAST DATED FEBRUARY 4, 2005 AND RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE ON SEPTEMBER 30, 2005 ON MAP NO. 27645.

Insure

CONTINUED...

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

ALSO KNOWN AS THE FOLLOWING:

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE COUNTY OF WESTCHESTER, STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

FORMER LOT 3A (INFORMATION ONLY)

ALL THE CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, WHICH IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWEST SIDE OF KING STREET, MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND, NOW OF DANIEL BOLBROCK, SAID POINT OF BEGINNING BEING MARKED BY A CROSS CUT IN THE STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER OF SAID STONE WALL SOUTH 40° 39' 00" EAST 117.77 FEET;

THENCE SOUTH 44° 31' 20" EAST 61.75 FEET TO A POINT MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER, SAID POINT BEING MARKED BY A CROSS CUT IN THE STONE WALL;

THENCE SOUTHWESTERLY ALONG THE MEAN CENTER OF THE STONE WALL, DIVIDING THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF M. WEBER A DISTANCE OF 463.57 FEET TO A POINT IN THE STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK, SAID POINT BEING MARKED BY A CROSS CUT IN SAID STONE WALL;

THENCE NORTHWESTERLY ALONG THE MEAN CENTER OF SAID STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK, A DISTANCE OF 177.62 FEET TO A POINT MARKING THE INTERSECTION OF PARCEL HEREIN DESCRIBED AND LAND NOW OF DANIEL BOLBROCK, SAID POINT BEING MARKED BY A CROSS CUT IN SAID STONE WALL;

THENCE EASTERLY ALONG THE LINE DIVIDING PARCEL HEREIN DESCRIBED AND LAND OF DANIEL BOLBROCK NORTH 58° 17' 00" EAST A DISTANCE OF 388.28 FEET TO THE POINT OR PLACE OF BEGINNING.

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, WHICH IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWEST SIDE OF KING STREET, MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND, NOW OF DANIEL BOLBROCK, SAID POINT OF BEGINNING MARKED BY A CROSS OUT IN THE STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER OF SAID STONE WALL SOUTH 40° 39' 00" EAST 103.95 FEET;

THENCE SOUTH 44° 31' 20" EAST 61.75 FEET TO A POINT MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER, SAID POINT BEING MARKED BY A CROSS CUT IN THE STONE WALL;

CONTINUED... Inserve

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SCHEDULE "A" CONTINUED

THENCE SOUTHWESTERLY ALONG THE MEAN CENTER OF A VERY IRREGULAR STONE WALL DIVIDING THE PARCEL HEREIN DESCRIBED AND LAND FORMERLY OF M. WEBER THE FOLLOWING (3) COURSES AND DISTANCES:

1. SOUTH 56° 14' 30" WEST 156.57 FEET; THENCE

2. SOUTH 57° 10' 40" WEST 150.00 FEET; THENCE

3. SOUTH 58° 08' 40" WEST 156.94 FEET TO A POINT IN THE LINE OF LAND NOW OR FORMERLY OF CITY OF NEW YORK;

THENCE NORTHWESTERLY ALONG THE MEAN CENTER OF SAID STONE WALL DIVIDING PARCEL HEREIN DESCRIBED AND LAND NOW OF THE CITY OF NEW YORK ON A COURSE OF NORTH 16° 57' 00" WEST, A DISTANCE OF 177.62 FEET TO A POINT MARKING THE INTERSECTION OF PARCEL HEREIN DESCRIBED AND LAND NOW OF DANIEL BOLBROCK;

THENCE EASTERLY ALONG THE LINE DIVIDING PARCEL HEREIN DESCRIBED AND LAND OF DANIEL BOLBROCK NORTH 58° 17' 00" EAST A DISTANCE OF 388.28 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3B (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWESTERLY SIDE OF KING STREET MARKING THE INTERSECTION OF SAID SIDE OF SAID STREET AND THE DIVIDING LINE BETWEEN THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF C.H. JECKEL, SAID POINT OF BEGINNING BEING MARKED BY A CROSS CUT ON THE WALL;

RUNNING THENCE ALONG SAID DIVIDING LINE BETWEEN THE PARCEL HEREIN DESCRIBED AND LAND NOW OR FORMERLY OF C.H. JECKEL AND ALONG THE MEAN CENTER LINE OF A STONE WALL, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 56° 14' 30" WEST 156.63 FEET;

SOUTH 57° 21' 40" WEST 150 FEET; AND

SOUTH 58° 08' 40" WEST 156.94 FEET TO THE NORTHEASTERLY SIDE OF LAND OF THE CITY OF NEW YORK;

THENCE SOUTHERLY ALONG THE SAID NORTHEASTERLY SIDE OF LAND OF THE CITY OF NEW YORK AND THE MEAN EAST FACE OF A STONE WALL, SOUTH 16° 57' 00" EAST 839.82 FEET TO A MONUMENT;

THENCE EASTERLY STILL ALONG LAND OF THE CITY OF NEW YORK AND THE MEAN NORTH FACE OF A STONE WALL, NORTH 76° 08' 00" EAST 808.10 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE NORTHERLY AND NORTHWESTERLY ALONG THE WESTERLY AND SOUTHWESTERLY SIDES OF KING STREET THE FOLLOWING COURSES AND DISTANCES:

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SCHEDULE "A" CONTINUED

NORTH 21° 05' 50" WEST 109.6 FEET;

NORTH 26° 08' 50" WEST 102.70 FEET;

NORTH 33° 10' 40" WEST 116.97 FEET;

NORTH 37° 10' 10" WEST 55.48 FEET;

NORTH 35° 19' 00" WEST 60.87 FEET;

NORTH 38° 27' 50" WEST 44.29 FEET;

NORTH 40° 43' 30" WEST 87.17 FEET; AND

NORTH 42° 07' 10" WEST 503.52 FEET TO THE POINT AND PLACE OF BEGINNING.

FORMER LOTS 3C AND 3H (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT MARKED BY A CROSS CUT ON A WALL ON THE WESTERLY SIDE OF KING STREET WHICH POINT MARKS THE NORTHEASTERLY CORNER OF LANDS OF CHARLES H. JECKEL AND THE SOUTHEASTERLY CORNER OF THE LANDS HEREIN CONVEYED;

RUNNING THENCE ALONG THE MEAN CENTER LINE OF A STONE WALL AND LANDS OF CHARLES H. JECKEL, THE FOLLOWING TWO (2) COURSES AND DISTANCES;

1) SOUTH 61° 34' 46" WEST, 35.49 FEET;

2) SOUTH 59° 25' 16" WEST, 169.71 FEET;

TO A CROSS ON A WALL WHICH MARKS THE POINT WHERE THE SOUTHWESTERLY CORNER OF THE PREMISES HEREIN CONVEYED MEET THE LANDS NOW OR FORMERLY OF BEATRICE AND DANIEL BOLBROCK;

THENCE ALONG LANDS OF BOLBROCK, SOUTH 59° 27' 40" WEST, 107.46 FEET AND SOUTH 63° 07' 10" WEST, 10.46 FEET TO THE LAND OF THE CITY OF NEW YORK;

THENCE ALONG THE LAND OF THE CITY OF NEW YORK, NORTH 89° 24' 10" WEST, 95 FEET TO LAND NOW OR FORMERLY OF MCSPEDON;

THENCE ALONG THE LAND OF MCSPEDON, NORTH 18° 52' 10" WEST, 329.71 FEET TO LAND NOW OR FORMERLY OF SENDLEIN;

THENCE EASTERLY PARTLY ALONG LAND OF SENDLEIN AND PARTLY ALONG LAND OF AVEDISSIAN THE FOLLOWING COURSES AND CURVES AND DISTANCES:

NORTH 84° 06' 40" EAST, 104.97 FEET TO A POINT OF CURVE;

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SCHEDULE "A" CONTINUED

THENCE ALONG THE ARC OF A CURVE HAVING A RADIUS OF 426.81 FEET AND A CENTRAL ANGLE OF 07° 45' 00" AND A DISTANCE OF 57.73 FEET TO A POINT OF TANGENCY;

THENCE NORTH 76° 21' 40" EAST, 161.35 FEET TO A POINT OF A CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 101° 07' 00", A DISTANCE OF 44.12 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF KING STREET, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES TO THE POINT OR PLACE OF BEGINNING:

1) SOUTH 24° 45' 20" EAST, 98.59 FEET;

2) SOUTH 81° 05' 00" EAST, 0.16 FEET;

3) SOUTH 28° 15' 33" EAST, 24.88 FEET (DEED 25.37 FEET);

4) SOUTH 33° 22' 23" EAST, 47.45 FEET;

5) SOUTH 31° 53' 08" EAST, 36.97 FEET;

6) SOUTH 39° 38' 19" EAST, 25.86 FEET;

7) SOUTH 31° 42' 21" EAST, 18.51 FEET;

8) SOUTH 39° 35' 07" EAST, 33.25 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3D (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERLY SIDE OF COONEY HILL ROAD DISTANT 371.76 FEET WESTERLY FROM A POINT WHERE THE SOUTHERLY SIDE OF COONEY HILL ROAD IS PROLONGED EASTERLY IN A STRAIGHT LINE WOULD INTERSECT THE WESTERLY SIDE OF KING STREET IF PROLONGED NORTHERLY IN A STRAIGHT LINE;

RUNNING THENCE SOUTH 10° 38' 05" EAST 305.35 FEET;

THENCE SOUTH 82° 20' 40" WEST 165 FEET;

THENCE NORTH 10° 33' 00" WEST 311.89 FEET TO THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE NORTH 84° 37' 10" EAST ALONG THE SOUTHERLY SIDE OF COONEY HILL ROAD 165 FEET TO THE PLACE OR POINT OF BEGINNING.

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SCHEDULE "A" CONTINUED

FORMER LOT 3F (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY KNOWN AND DESCRIBED AS FOLLOWS;

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF THE HIGHWAY KNOWN AS COONEY HILL ROAD WHERE SAID LINE IS INTERSECTED BY THE EASTERLY LINE OF PROPERTY HERETOFORE CONVEYED BY EDWIN WEBER TO CLAIRE AND ERWIN GRAMLICH; AND

RUNNING THENCE ALONG THE SAID SOUTHERLY LINE OF SAID COONEY HILL ROAD THE FOLLOWING COURSES AND DISTANCES;

NORTH 82° 50' 00" EAST 121.89 FEET;

NORTH 84° 42' 00" EAST 95.63 FEET AND SOUTH 37° 13' 50" EAST 15.90 FEET TO THE WESTERLY LINE OF THE HIGHWAY KNOWN AS KING STREET;

THENCE ALONG THE WESTERLY LINE OF KING STREET AS AFORESAID SOUTH 1° 50' 50" WEST 163.06 FEET AND SOUTH 2° 21' 10" WEST 58.83 FEET TO A POINT;

THENCE ALONG PROPERTY NOW OR FORMERLY OF EDWIN WEBER THE FOLLOWING COURSES AND DISTANCES;

SOUTH 85° 52' 10" WEST 92.02 FEET;

SOUTH 4° 07' 50" EAST 70.92 FEET AND SOUTH 81° 51' 10" WEST 76.23 FEET TO THE SOUTHEASTERLY CORNER OF PROPERTY NOW OR FORMERLY OF CLAIRE AND ERWIN GRAMLICH;

THENCE ALONG SAID PROPERTY NOW OR FORMERLY OF CLAIRE AND ERWIN GRAMLICH NORTH 10° 38' 05" WEST 303.46 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3G (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF KING STREET, DISTANT 221.89 FEET SOUTHERLY AS MEASURED ALONG THE WESTERLY SIDE OF KING STREET FROM THE SOUTHEASTERLY END OF AN ANGLE FORMING THE INTERSECTION THEREOF WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD;

RUNNING THENCE ALONG THE SOUTHERLY AND EASTERLY LINES OF LAND NOW OR FORMERLY OF JOSEPH AND FRANCIS EATON, ERWIN AND CLAIRE GRAMLICH AND CLINTON GARDENER, THE FOLLOWING COURSES AND DISTANCES;

SOUTH 85° 52' 10" WEST 92.02 FEET;

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SCHEDULE "A" CONTINUED

SOUTH 4° 07' 50" EAST 70.92 FEET;

SOUTH 81° 51' 10" WEST 76.23 FEET;

SOUTH 82° 20' 40" WEST 309.80 FEET TO A POINT ON THE EASTERLY SIDE OF LAND NOW OR FORMERLY OF EDWIN WEBER;

THENCE ALONG THE SAME AND THE MEAN CENTER LINE OF A STONE WALL, SOUTH 7° 45' 00" EAST 43.39 FEET; SOUTH 10° 08' 10" EAST 160.25 FEET AND SOUTH 11° 02' 30" EAST 83.25 FEET TO THE NORTHERLY SIDE OF A 50 FOOT EASEMENT;

THENCE ALONG THE SAME, NORTH 84° 06' 40" EAST 217.96 FEET TO A POINT ON THE WESTERLY SIDE OF LAND NOW OR FORMERLY OF JOSEPH J. KIRSCHNER;

THENCE ALONG THE WESTERLY AND NORTHERLY SIDES OF LAND, NORTH 10° 08' 10" WEST 146.12 FEET AND NORTH 77° 27' 30" EAST 276.53 FEET TO THE WESTERLY SIDE OF KING STREET;

THENCE ALONG THE SAME, NORTH 22° 09' 00" WEST 80.83 FEET; NORTH 9° 35' 30" WEST 44.06 FEET; NORTH 4° 07' 50" WEST 25.20 FEET AND NORTH 3° 12' 10" WEST 42.25 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3G-1 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF KING STREET (STATE HIGHWAY) DISTANT 427.75 FEET SOUTHERLY FROM THE POINT OF INTERSECTION OF THE WESTERLY SIDE OF KING STREET, IF CONTINUED IN A NORTHERLY DIRECTION AND THE SOUTHERLY SIDE OF COONEY HILL ROAD, IF CONTINUED IN AN EASTERLY DIRECTION;

RUNNING THENCE ALONG THE WESTERLY SIDE OF KING STREET IN A SOUTHERLY DIRECTION THE FOLLOWING COURSES AND DISTANCES;

SOUTH 22° 09' 00" EAST 16.06 FEET;

SOUTH 23° 14' 10" EAST 91.75 FEET;

SOUTH 24° 4' 20" EAST 17.19 FEET ON A CURVE TO THE RIGHT HAVING A RADIUS OF 25 FEET A CENTRAL ANGLE OF 101° 07' 00" AN ARC DISTANCE OF 44.12 FEET TO A POINT ON THE NORTHERLY LINE OF A RIGHT OF WAY (50 FEET WIDE) AND NOW OR FORMERLY OF EDWIN WEBER;

CONTINUED... Insure

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SCHEDULE "A" CONTINUED

THENCE IN A WESTERLY DIRECTION AND ALONG THE NORTHERLY LINE OF THE RIGHT OF WAY (50 FEET) AND NOW OR FORMERLY OF EDWIN WEBER, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 76° 21' 40" WEST 161.35 FEET TO A POINT OF TANGENCY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 426.81 FEET, A CENTRAL ANGLE OF 7° 45' 00" AN ARC DISTANCE OF 57.73 FEET TO A POINT OF TANGENCY AND SOUTH 84° 06' 40" WEST A DISTANCE OF 63.57 FEET TO A POINT AND LANDS NOW OR FORMERLY OF GEORGE E. CHATHAM;

THENCE ALONG OTHER LANDS NOW OR FORMERLY OF GEORGE E. CHATHAM, THE FOLLOWING COURSES AND DISTANCES:

NORTH 10° 08' 10" WEST 146.12 FEET; AND NORTH 77° 27' 30" EAST A DISTANCE OF 276.53 FEET TO THE WESTERLY SIDE OF KING STREET (STATE HIGHWAY) AT THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3.A01 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWESTERLY SIDE OF KING STREET WHERE IT IS INTERSECTED BY THE SOUTHEASTERLY LINE OF LAND NOW OR FORMERLY OF E.J. WEBER, SAID POINT OF BEGINNING BEING MARKED BY A CROSS IN A STONE WALL;

RUNNING THENCE ALONG THE MEAN CENTER LINE OF THE STONE WALL ALONG THE SOUTHWESTERLY SIDE OF KING STREET THE FOLLOWING COURSES AND DISTANCES:

SOUTH 40° 49' 10" EAST 55.23 FEET; SOUTH 43° 21' 50" EAST 76.49 FEET; AND

SOUTH 40° 39' 00" EAST 13.33 FEET TO A CROSS CUT IN SAID STONE WALL MARKING THE DIVISION LINE BETWEEN THE PARCEL BEING DESCRIBED AND OTHER LAND NOW OR FORMERLY OF FELICITA SARRACO;

THENCE ON A COURSE OF SOUTH 58° 17' 00" EAST AND ALONG OTHER LAND NOW OR FORMERLY OF FELICITA SARRACO A DISTANCE OF 388.28 FEET TO A CROSS MARKED IN THE STONE WALL SEPARATING THE NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF THE CITY OF NEW YORK AND THE PARCEL BEING DESCRIBED;

THENCE ON A COURSE OF NORTH 16° 57' 00" WEST AND ALONG THE NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF THE CITY OF NEW YORK A DISTANCE OF 152.96 FEET TO THE SOUTHEASTERLY LINE OF LAND NOW OR FORMERLY OF E.J. WEBER THE FOLLOWING COURSES AND DISTANCES:

NORTH 62° 31' 20" EAST 10.46 FEET;

NORTH 58° 51' 50" EAST 277.17 FEET AND NORTH 61° 01' 20" EAST A DISTANCE OF 35.49 FEET TO THE SOUTHWESTERLY SIDE OF KING STREET AT THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

CONTINUED... Insure

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SCHEDULE "A" CONTINUED

BEGINNING AT THE EASTERLY LINE OF WEBER PLACE DISTANT SOUTHERLY AS IT TURNS 591.86 FEET FROM THE INTERSECTION OF SAID EASTERLY LINE OF WEBER PLACE WITH THE SOUTHERLY LINE OF COONEY HILL ROAD, SAID POINT OF INTERSECTION BEING TAKEN AS THE EASTERLY END OF A CURVE HAVING A RADIUS OF 25.00 FEET, CONNECTING THE RESPECTIVE STREET LINES;

RUNNING THENCE FROM SAID POINT OF BEGINNING WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 66° 33' 30" EAST ALONG PROPERTY NOW OR FORMERLY OF PETER AND JOHANNA POPP IN A SOUTHEASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 40° 44' 00" A DISTANCE OF 35.55 FEET TO A POINT OF CHANGE OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 224.50 FEET AND A CENTRAL ANGLE OF 31° 42' 50" A DISTANCE OF 124.25 FEET TO A POINT OF TANGENCY;

THENCE CONTINUING ALONG SAID LAND OF CHARLES AND JOHANNA SENDLEIN, NORTH 84° 06' 40" EAST, 220.05 FEET;

THENCE ALONG OTHER LAND OF EDWIN J. WEBER AND PROPERTY NOW OR FORMERLY OF JAMES T. MARINARO, SOUTH 18° 52' 10" EAST, 329.71 FEET TO LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAND, NORTH 89° 24' 10" WEST, 228.39 FEET TO LAND NOW OR FORMERLY OF JOHN AND ELSE MASTRAIANNI;

THENCE ALONG SAID LANDS THE FOLLOWING COURSES AND DISTANCES:

NORTH 11° 22' 10" WEST, 61.05 FEET;

NORTH 13° 36' 10" WEST, 62.13 FEET;

NORTH 8° 07' 00" WEST, 82.71 FEET;

NORTH 11° 12' 50" WEST, 40.92 FEET;

SOUTH 84° 06' 40" WEST, 47.97 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 274.50 FEET AND A CENTRAL ANGLE OF 27° 52' 30" A DISTANCE OF 133.54 FEET TO A POINT OF REVERSE CURVE AND;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 52° 27' 30" A DISTANCE OF 46.65 FEET TO THE SOUTHERLY LINE OF A TURN AROUND AT THE END OF WEBER PLACE WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 31° 28' 20" WEST;

THENCE ALONG THE SOUTHERLY AND EASTERLY LINES OF SAID TURN AROUND ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 81° 58' 10" A DISTANCE OF 92.99 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTINUED... Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

FORMER LOT 3-1 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY SIDE OF COONEY HILL ROAD WHERE THE SAME IS INTERSECTED BY THE DIVISION LINE BETWEEN PREMISES HEREINAFTER DESCRIBED AND LAND OF THE CITY OF NEW YORK;

RUNNING THENCE ALONG SAID DIVISION LINE AND THE EAST FACE OF A STONE WALL, SOUTH 13° 05' 50" WEST 210.28 FEET TO A POINT ON THE NORTHERLY SIDE OF OTHER LAND NOW OR FORMERLY OF EDWIN J. WEBER;

THENCE ALONG THE SAME, NORTH 84° 13' 00" EAST 231.30 FEET TO A POINT ON THE WESTERLY SIDE OF A PROPOSED ROAD (PROPERTY OF EDWIN J. WEBER),

THENCE ALONG THE SAME, NORTHERLY ON A CURVE TO THE RIGHT WITH A RADIUS OF 960 FEET, A CENTRAL ANGLE OF 4° 23' 50" A DISTANCE OF 73.69 FEET AND NORTH 3° 10' 00" EAST 111.31 FEET TO A POINT OF CURVE;

THENCE NORTHWESTERLY ON A CURVE TO THE LEFT WITH A RADIUS OF 25 FEET, A CENTRAL ANGLE OF 94° 13' 10" CONNECTING SAID SIDE OF SAID PROPOSED ROAD WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD, A DISTANCE OF 41.11 FEET TO THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE ALONG THE SAME, SOUTH 88° 56' 50" WEST 14.46 FEET, SOUTH 82° 36' 40" WEST 59.15 FEET AND SOUTH 76° 35' 00" WEST 93.90 FEET TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING THEREFROM SO MUCH OF THE LAND THAT WAS CONVEYED TO THE TOWN OF NORTH CASTLE BY DEED MADE BY MBIA INSURANCE CORP., DATED MAY 21, 2007 AND RECORDED MAY 21, 2007 AS CONTROL NO. 471570184.

FORMER LOT 3-2 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF A PROPOSED ROAD 50 FEET WIDE AT THE SOUTHEAST CORNER OF LAND NOW OR FORMERLY OF MARY C. KISSICK AND WHICH SAID POINT OF BEGINNING IS DISTANT THE FOLLOWING COURSES AND DISTANCES FROM A POINT WHERE THE EASTERLY LINE OF LAND OF THE CITY OF NEW YORK IS INTERSECTED BY THE SOUTHERLY SIDE OF COONEY HILL ROAD, VIZ-NORTH 76° 35' 00" EAST ALONG THE SOUTHERLY SIDE OF COONEY HILL ROAD 93.90 FEET; NORTH 82° 36' 40" EAST ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD 59.15 FEET; NORTH 88° 56' 50" EAST ALONG SAID SOUTHERLY SIDE OF COONEY HILL ROAD 14.46 FEET TO A POINT OF CURVE CONNECTING SAID SOUTHERLY SIDE OF COONEY HILL ROAD AND THE WESTERLY SIDE OF SAID PROPOSED ROAD 50 FEET WIDE; SOUTHERLY ON A CURVE TO THE RIGHT TANGENT TO THE LAST MENTIONED COURSE AND HAVING A RADIUS OF 25 FEET A DISTANCE OF 41.11 FEET TO A POINT OF TANGENCY ON THE WESTERLY SIDE OF SAID PROPOSED ROAD; SOUTH 3° 10' 00" WEST 111.31 FEET ALONG THE WESTERLY SIDE OF SAID PROPOSED ROAD TO A POINT OF CURVE, SOUTHERLY STILL ALONG THE WESTERLY SIDE OF SAID PROPOSED ROAD ON A CURVE TO THE LEFT TANGENT TO THE PREVIOUS COURSE HAVING A RADIUS OF 960 FEET A DISTANCE OF 73.69 FEET;

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SCHEDULE "A" CONTINUED

RUNNING THENCE FROM SAID POINT OF BEGINNING AS LOCATED AND DEFINED ALONG THE SOUTHERLY LINE OF SAID LAND NOW OR FORMERLY OF MARY C. KISSICK SOUTH 84° 13' 00" WEST 231.30 FEET TO THE EASTERLY LINE OF LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAST MENTIONED LAND SOUTH 13° 05' 50" WEST 56.92 FEET AND SOUTH 0° 03' 10" EAST 130 FEET;

THENCE ALONG OTHER LAND OF EDWIN J. WEBER, NORTH 81° 18' 10" EAST 264.59 FEET TO THE WESTERLY SIDE OF SAID PROPOSED ROAD 50 FEET WIDE, OTHER LAND OF SAID EDWIN J. WEBER;

THENCE ALONG SAID WESTERLY SIDE OF SAID PROPOSED ROAD IN A NORTHERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS 0F 960 FEET A DISTANCE OF 170 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-3 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF THE TOWN HIGHWAY KNOWN AS WEBER PLACE DISTANT AS MEASURED ALONG SAME 355 FEET SOUTHERLY FROM THE SOUTHERLY END OF A CURVE HAVING A RADIUS OF 25 FEET CONNECTING SAID WESTERLY SIDE OF WEBER PLACE WITH THE SOUTHERLY SIDE OF COONEY HILL ROAD;

RUNNING THENCE SOUTH 81° 18' 10" WEST 264.59 FEET TO LAND OF THE CITY OF NEW YORK AT A POINT DISTANT AS MEASURED ALONG THE EASTERLY LINE OF SAID LAND OF THE CITY OF NEW YORK SOUTH 13° 05' 50" WEST 267.20 FEET AND SOUTH 0° 03' 10" EAST 130 FEET FROM THE SOUTHERLY SIDE OF COONEY HILL ROAD;

THENCE ALONG SAID EASTERLY LINE OF THE LAND OF THE CITY OF NEW YORK SOUTH 0° 03' 10" EAST 243 FEET;

THENCE NORTH 58° 59' 15" EAST 241.93 FEET AND NORTH 80° 39' 50" EAST 95 FEET TO THE WESTERLY SIDE OF THE TOWN ROAD KNOWN AS WEBER PLACE;

THENCE ALONG SAID WESTERLY SIDE OF WEBER PLACE THE FOLLOWING COURSES AND DISTANCES:

NORTHERLY ON A CURVE TO THE LEFT HAVING A RADIUS OF 25 FEET A DISTANCE OF 27.89 FEET;

NORTHERLY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 275 FEET A DISTANCE OF 81.58 FEET; AND

NORTHERLY ON A CURVE TO THE RIGHT HAVING A RADIUS OF 960 FEET A DISTANCE OF 42.36 FEET TO THE POINT OF BEGINNING.

CONTINUED... Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

FORMER LOT 3-4 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

PARCEL I

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN PROPERTY OF THE SELLER ON THE EAST AND THE CITY OF NEW YORK ON THE WEST, SOUTH 13° 05' 50" WEST 267.20 FEET AND SOUTH 0° 03' 10" EAST 373.00 FEET AS MEASURED ALONG SAID DIVIDING LINE FROM ITS INTERSECTION WITH THE SOUTHERLY LINE OF COONEY HILL ROAD; SAID POINT OF BEGINNING BEING, ALSO THE SOUTHWESTERLY CORNER OF LANDS HERETOFORE CONVEYED BY THE SELLER TO RICHARD KROMER, JR. AND ELEANOR KROMER, BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE IN LIBER 5672 CP 84;

RUNNING THENCE FROM SAID POINT OF BEGINNING AND RUNNING ALONG SAID LANDS CONVEYED TO KROMER, NORTH 58° 59' 15" EAST 241.93 FEET AND NORTH 80° 39' 50" EAST 95.00 FEET TO THE WESTERLY LINE OF PROPOSED ROAD WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS SOUTH 56° 59' 30" EAST;

THENCE IN A SOUTHERLY DIRECTION ALONG SAID WESTERLY LINE OF SAID PROPOSED ROAD ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 83° 44' 20" A DISTANCE OF 95.00 FEET;

THENCE ALONG OTHER LANDS OF THE SELLER SOUTH 41° 22' 10" WEST 75.00 FEET AND SOUTH 53° 15' 30" WEST 232.08 FEET TO LANDS OF THE CITY OF NEW YORK AFORESAID;

THENCE ALONG SAID LANDS OF THE CITY OF NEW YORK NORTH 46° 44' 10" WEST 108.00 FEET AND NORTH 0° 03' 10" WEST 67.00 FEET TO THE POINT OR PLACE OF BEGINNING.

PARCEL II:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN PROPERTY OF EDWIN J. WEBER ON THE EAST AND PROPERTY OF THE CITY OF NEW YORK ON THE WEST SOUTH 13° 05' 50" WEST 267.20 FEET, SOUTH 0° 03' 10" EAST 440.00 FEET AND SOUTH 46° 44' 10" EAST 108.00 FEET AS MEASURED ALONG SAID DIVIDING LINE FROM THE POINT WHERE IT INTERSECTS THE SOUTHERLY LINE OF COONEY HILL ROAD;

RUNNING THENCE FROM SAID POINT OF BEGINNING ALONG OTHER PROPERTY NOW OR FORMERLY OF EDWIN J. WEBER NORTH 53° 15' 30" EAST 232.08 FEET AND NORTH 41° 22' 10" EAST 75.00 FEET TO THE SOUTHERLY END OF A PROPOSED ROAD KNOWN AS WEBER PLACE WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS NORTH 39° 16' 10" EAST;

THENCE ALONG SAID SOUTHERLY END OF A PROPOSED ROAD IN A SOUTHEASTERLY DIRECTION AND EASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 44° 04' 25" A DISTANCE OF 50.00 FEET;

THENCE ALONG OTHER LAND OF WEBER SOUTH 0° 35' 50" WEST 239.67 FEET TO LAND OF THE CITY OF NEW YORK AFORESAID;

CONTINUED... Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

THENCE ALONG SAID LANDS NORTH 89° 24' 10" WEST 219.83 FEET AND NORTH 46° 44' 10" WEST 82.40 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-6 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER, STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY END OF A PRIVATE STREET KNOWN AS WEBER PLACE, LAID OUT OVER AND ACROSS PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART DISTANT SOUTHERLY 692.94 FEET MEASURED AS HEREINAFTER DESCRIBED ALONG THE WESTERLY LINE OF SAID STREET FROM ITS INTERSECTION WITH THE SOUTHERLY LINE OF COONEY HILL ROAD, SAID POINT OF INTERSECTION BEING DISTANT EASTERLY 167.51 FEET AS MEASURED ALONG THE SAID SOUTHERLY LINE OF COONEY HILL ROAD FROM LAND OF THE CITY OF NEW YORK (RYE LAKE RESERVATION) (THE AFORESAID DISTANCE OF 692.94 FEET ALONG THE WESTERLY LINE OF WEBER PLACE IS MEASURED AS FOLLOWS:

STARTING AT A POINT OF INTERSECTION WITH COONEY HILL ROAD WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS SOUTH 1° 03' 10" EAST; AND

RUNNING THENCE IN A SOUTHEASTERLY AND SOUTHERLY DIRECTION ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 94° 13' 10" A DISTANCE OF 41.11 FEET TO A POINT OF TANGENCY;

THENCE SOUTH 3° 10' 00" WEST 111.31 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 960.00 FEET AND A CENTRAL ANGLE OF 17° 04' 20" A DISTANCE OF 286.05 FEET TO A POINT OF CHANGE OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 275.00 FEET AND A CENTRAL ANGLE OF 16° 59' 50" A DISTANCE OF 81.58 FEET TO A POINT OF REVERSE CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 63° 54' 40" A DISTANCE OF 27.89 FEET TO A POINT OF REVERSE CURVE; AND

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 127° 48' 45" A DISTANCE OF 145.00 FEET TO THE POINT OF BEGINNING;

THENCE FROM SAID POINT OF BEGINNING WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 4° 48' 15" WEST ALONG THE SOUTHERLY END OF WEBER PLACE IN AN EASTERLY DIRECTION ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 26° 40' 05" A DISTANCE OF 30.25 FEET TO A POINT OF REVERSE CURVE;

THENCE ALONG OTHER PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 53° 27' 30" A DISTANCE OF 46.65 FEET TO A POINT OF REVERSE CURVE;

CONTINUED...

InServe

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

THENCE CONTINUING ALONG SAID LANDS ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 274.50 FEET AND A CENTRAL ANGLE OF 27° 52' 30" A DISTANCE OF 133.54 FEET TO A POINT OF TANGENCY; AND

THENCE NORTH 84° 06' 40" EAST 47.97 FEET TO THE CENTER OF A STONE WALL;

THENCE ALONG THE CENTER OF STONE WALL AND OTHER LANDS OF THE PARTY OF THE FIRST PART THE FOLLOWING COURSES AND DISTANCES:

SOUTH 11° 12' 50" EAST 40.92 FEET; SOUTH 8° 07' 00" EAST 82.71 FEET; SOUTH 13° 36' 10" EAST 62.13 FEET; AND

SOUTH 11° 22' 10" EAST A DISTANCE OF 61.05 FEET TO LAND OF THE CITY OF NEW YORK;

THENCE ALONG SAID LAND OF THE CITY OF NEW YORK NORTH 89° 24' 10" WEST 300.78 FEET;

THENCE ALONG OTHER LANDS OF THE PARTY OF THE FIRST PART NORTH 0° 35' 50" EAST 239.67 FEET TO THE SOUTHERLY END OF WEBER PLACE AND THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-7 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF ROAD KNOWN AS WEBER PLACE WHERE THE SAME IS INTERSECTED BY THE SOUTHERLY BOUNDARY LINE OF LAND NOW OR FORMERLY BELONGING TO PASQUALE J. AND FLORENCE BRESHA AS ACQUIRED BY A DEED FROM EDWIN WEBER, DATED OCTOBER 11, 1956, AND RECORDED ON OCTOBER 15, 1956 IN THE COUNTY CLERK'S OFFICE DIVISION OF LAND RECORDS, WESTCHESTER COUNTY, N.Y. IN LIBER 5636 OF DEEDS AT PAGE 491, SAID POINT OF BEGINNING BEING DISTANT SOUTHERLY AS MEASURED ALONG THE EASTERLY SIDE OF SAID WEBER PLACE, 302.28 FEET FROM THE SOUTHERLY END OF A CURVE HAVING A RADIUS OF 25.00 FEET AND AN ARC LENGTH OF 36.97 FEET CONNECTING THE SOUTHERLY SIDE OF COONEY HILL ROAD WITH THE EASTERLY SIDE OF SAID WEBER PLACE;

RUNNING THENCE FROM SAID POINT OF BEGINNING ALONG THE LAST MENTIONED BOUNDARY LINE OF SAID FLORENCE BRESHA AS MARKED BY A STONE WALL, THE FOLLOWING COURSES AND DISTANCES:

NORTH 82° 33' 00" EAST 119.04 FEET TO A CROSS ON SAID WALL, AND NORTH 81° 29' 50" EAST 131.66 FEET TO A CROSS ON ANOTHER STONE WALL MARKING THE WESTERLY BOUNDARY LINE OF LAND NOW OR FORMERLY BELONGING TO HENRY J. HARDIN;

THENCE ALONG THE MEAN CENTER LINE OF A STONE WALL MARKING THE WESTERLY BOUNDARY LINE OF SAID LAND BELONGING TO HENRY J. HARDIN, THE FOLLOWING COURSES AND DISTANCES:

SOUTH 10° 08' 10" EAST 142.73 FEET; AND

SOUTH 11° 02" 30" EAST 83.25 FEET TO A T CUT ON SAID WALL;

THENCE ALONG LAND NOW OR FORMERLY BELONGING TO EDWIN WEBER, THE FOLLOWING COURSES AND DISTANCES:

CONTINUED... Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

SOUTH 84° 06' 40" WEST 43.31 FEET TO A POINT OF CURVE;

CONTINUING IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 224.50 FEET AND A CENTRAL ANGLE OF 31° 42' 50" A DISTANCE OF 124.26 FEET TO A POINT OF COMPOUND CURVE; AND

CONTINUING STILL IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 50.0 FEET AND A CENTRAL ANGLE OF 40° 44' A DISTANCE OF 35.55 FEET TO A POINT OF REVERSE CURVE ON THE EASTERLY SIDE OF SAID WEBER PLACE;

THENCE ALONG THE EASTERLY SIDE OF SAID WEBER PLACE, THE FOLLOWING COURSES AND DISTANCES:

IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE LEFT HAVING A RADIUS OF 65.00 FEET AND A CENTRAL ANGLE OF 54° 50' A DISTANCE OF 62.21 FEET TO A POINT OF REVERSE CURVE;

CONTINUING IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET, AND A CENTRAL ANGLE OF 43° 11' A DISTANCE OF 18.84 FEET TO A POINT OF COMPOUND CURVE;

CONTINUING STILL IN A NORTHWESTERLY DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 225.00 FEET AND CENTRAL ANGLE OF 21° 11' 10" A DISTANCE OF 83.20 FEET TO A POINT OF COMPOUND CURVE AND FINALLY STILL IN A NORTHWESTERLY, DIRECTION ON A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 1° 2.6' 10" A DISTANCE OF 22.84 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-8 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY LINE OF PROPERTY CONVEYED BY EDWIN WEBER BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE, DIVISION OF LAND RECORDS, IN LIBER 4820 AT PAGE 223, WHICH SAID POINT ON SAID LINE OF LANDS OF CLINTON GARDNER IS DISTANT SOUTHERLY 196.42 FEET AS MEASURED ALONG SAID WESTERLY LINE OF LAND OF SAID GARDNER FROM THE SOUTHERLY LINE OF COONEY HILL ROAD;

RUNNING THENCE FROM SAID POINT OF BEGINNING, ALONG THE WESTERLY LINE OF THE SAID GARDNER, SOUTH 10° 33' 00' EAST 115.47 FEET;

THENCE ALONG LANDS OF GEORGE CHATHAM, SOUTH 7° 45' 00" EAST 43.39 FEET AND SOUTH 10° 08' 10" EAST 17.52 FEET TO A POINT;

THENCE ALONG PROPERTY NOW OR FORMERLY OF SAID EDWIN WEBER AND ALONG A STONE WALL, SOUTH 81° 29' 50" WEST 131.66 FEET AND SOUTH 82° 33' 00" WEST 119.04 FEET TO THE EASTERLY LINE OF WEBER LANE, A ROAD LAID OUT 50.00 FEET WIDE OVER AND ACROSS PROPERTY NOW OR FORMERLY OF SAID EDWIN WEBER WHERE A RADIAL TO THE CURVE NEXT DESCRIBED BEARS NORTH 77° 31' 58" EAST;

CONTINUED...

Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

THENCE ALONG THE SAID EASTERLY LINE OF SAID WEBER LANE IN A NORTHERLY DIRECTION ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 11° 30' 32" A DISTANCE OF 182.79 FEET TO A POINT;

THENCE ALONG LAND NOW OR FORMERLY OF THE PARTY OF THE SECOND PART, NORTH 83° 28' 00" EAST 241.07 FEET TO THE POINT OR PLACE OF BEGINNING.

FORMER LOT 3-9 (INFORMATION ONLY):

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF COONEY HILL ROAD, WHERE THE SAME IS INTERSECTED BY THE WESTERLY LINE OF PROPERTY CONVEYED BY THE PARTY OF THE FIRST PART TO CLINTON GARDNER BY DEED RECORDED IN THE WESTCHESTER COUNTY CLERK'S OFFICE, DIVISION OF LAND RECORDS IN LIBER 4820 CP 223;

RUNNING THENCE ALONG SAID WESTERLY LINE OF LAND OF THE SAID GARDNER SOUTH 10° 33' 00" EAST 196.42 FEET TO A CORNER;

THENCE ALONG PROPERTY NOW OR FORMERLY OF THE PARTY OF THE FIRST PART SOUTH 83° 28' 00" WEST 241.07 FEET TO A POINT WHERE A RADIAL TO THE CURVE NEXT MENTIONED BEARS NORTH 89° 02' 30" EAST;

THENCE CONTINUING ALONG LAND OF THE SAID PARTY OF THE FIRST PART ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 910.00 FEET AND A CENTRAL ANGLE OF 4° 07' 30" A DISTANCE OF 65.52 FEET TO A POINT OF TANGENCY;

THENCE CONTINUING ALONG SAID LAND OF THE PARTY OF THE FIRST PART NORTH 3° 10' 00" EAST 119.49 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 84° 43' 40" A DISTANCE OF 36.97 FEET TO A POINT OF TANGENCY AND THE SOUTHERLY LINE OF COONEY HILL ROAD AS AFORESAID;

THENCE ALONG THE SOUTHERLY LINE OF COONEY HILL ROAD AS AFORESAID THE FOLLOWING COURSES AND DISTANCES;

NORTH 87° 53' 40" EAST 27.13 FEET;

NORTH 87° 00' 10" EAST 63.64 FEET; AND

NORTH 84° 29' 40" EAST 81.35 FEET TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING THEREFROM SO MUCH OF THE LAND THAT WAS CONVEYED TO THE TOWN OF NORTH CASTLE BY DEED MADE BY MBIA INSURANCE CORP., DATED MAY 21, 2007 AND RECORDED MAY 21, 2007 AS CONTROL NO. 471570184.

CONTINUED...

Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

DESCRIPTION OF ABANDONED WEBER PLACE

A PARCEL OF LAND LYING IN ARMONK AND BEING IN THE TOWN OF NORTH CASTLE, COUNTY OF WESTCHESTER AND STATE OF NEW YORK, MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE SOUTHERLY LINE OF COONEY HILL ROAD WHERE IT INTERSECTS THE DIVISION LINE BETWEEN LAND OF THE CITY OF NEW YORK ON THE WEST AND LANDS OF MBIA INSURANCE CORP. ON THE EAST;

THENCE ALONG THE SOUTHERLY LINE OF COONEY HILL ROAD THE FOLLOWING THREE COURSES AND DISTANCES TO THE POINT OF BEGINNING:

1. NORTH 76° 35' 00" EAST, 93.90 FEET;
2. NORTH 82° 36' 40" EAST, 59.15 FEET;
3. NORTH 88° 56' 50" EAST, 14.46 FEET TO THE WESTERLY LINE OF WEBER PLACE SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE DIVISION LINE BETWEEN COONEY HILL ROAD ON THE NORTH AND WEBER PLACE OF THE SOUTH THE FOLLOWING TWO COURSES AND DISTANCES:

1. NORTH 88° 56' 50" EAST, 56.30 FEET;
2. NORTH 87° 53' 40" EAST, 43.58 FEET TO THE EASTERLY LINE OF WEBER PLACE;

THENCE ALONG THE DIVISION LINE BETWEEN WEBER PLACE AND LANDS OF MBIA INSURANCE CORP. THE FOLLOWING ELEVEN COURSES AND DISTANCES:

1. SOUTHWESTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGEL OF 84° 43' 40", AN ARC LENGTH OF 36.97 FEET AND A CHORD BEARING SOUTH 45° 31' 50" WEST, 33.69 FEET;
2. SOUTH 03° 10' 00" WEST, 119.49 FEET;
3. SOUTHERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 910.00 FEET, A CENTRAL ANGLE OF 17° 04' 20" AND AN ARC LENGTH OF 271.15 FEET;
4. SOUTHEASTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 225.00 FEET, A CENTRAL ANGLE OF 21° 11' 10" AND AN ARC LENGTH OF 83.20 FEET;
5. SOUTHEASTERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 43° 11' 00" AND AN ARC LENGTH OF OF 18.84 FEET;
6. WESTERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 65.00 FEET, A CENTRAL ANGLE OF 291° 17' 00" AND AN ARC LENGTH OF 330.45 FEET;
7. NORTHERLY ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 63° 54' 40" AND AN ARC LENGTH OF 27.89 FEET;
8. NORTHERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 275.00 FEET, A CENTRAL ANGLE OF 16° 59' 50" AND AN ARC LENGTH OF 81.58 FEET;
9. NORTHERLY ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 960.00 FEET, A CENTRAL ANGLE OF 17° 04' 20" AND AN ARC LENGTH OF 286.05 FEET;
10. NORTH 03° 10' 00" EAST, 111.31 FEET;
11. NORTHWESTERLY ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 94° 13' 10" AND AN ARC LENGTH OF 41.11 FEET TO THE POINT OF BEGINNING.

CONTINUED...

Insure

TITLE NO. 3020-657807

SCHEDULE "A" CONTINUED

THE ABOVE DESCRIBED PARCEL OF LAND BEING MORE FULLY SHOWN ON A MAP TITLED "WEBER PLACE ABANDONMENT MAP PREPARED FOR MBIA INSURANCE CORP. LOCATED IN THE HAMLET OF ARMONK, TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK" PREPARED BY JOHN MEYER CONSULTING, PC AND DATED MAY 12, 2006, NOT FILED ANNEXED TO DEED RECORDED IN CONTROL NO. 462750207.

THE policy to be issued under this report will insure the title to such buildings and improvements erected on the premises, which by law constitute real property.

FOR CONVEYANCING ONLY: TOGETHER with all the right, title and interest of the party of the first part, of in and to the land lying in the street in front of and adjoining said premises.

Insure

Title No. 3020-657807
AMENDED 04/15/2015 (fho)

SCHEDULE "B-I"
(REQUIREMENTS)

THE FOLLOWING ARE REQUIREMENTS TO BE COMPLIED WITH FOR A TITLE POLICY TO ISSUE:

1. **AMENDED 04/15/2015 (fho)** Weber Place as depicted on Map No. 27645 was abandoned by deed made by the Town of North Castle to MBIA Insurance Corporation recorded 10/18/2006 in Control No. 462750207. (See Post)

Subsequent thereto, a proposed cul de sac (abutting Cooney Hill Road) was conveyed by MBIA Insurance Corp. to The Town of North Castle by deed dated 7/10/2006 recorded 12/12/2006 in Control NO. 462700387 as corrected by correction deed dated 5/21/2007 recorded 6/12/2007 in Control No. 471570184, with the unfiled Map of Lands to be conveyed to the Town of North Castle dated 5/12/2006 annexed thereto.

The current tax map depicts the dedication of the cul de sac, but not the abandonment of Weber Place. Said tax map must be amended accordingly. (See Exception 5 of B-II herein)

The deed made by MBIA Insurance Corporation to National Real Estate Holdings of Armonk, LLC, the certified owner herein, recorded in Control No. 500543059, is missing page A-19 which would cite the continuation of the description for Lot 3-7. Further, said deed does not contain a description for abandoned Weber Place as conveyed by Control No. 462750207 to said grantor. (Being investigated with Fidelity National Title Insurance Company, Title No. 09-213560-W)

WITH REGARD THERETO:

The Correction Deed made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation to National Real Estate Holdings of Armonk, LLC must be duly recorded.

JMI 2. Searches, including judgments, federal tax liens and bankruptcies have been run against NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC, the certified owner(s) herein and the following must be disposed of: NO RETURNS.

JMI 3. **Omitted 04/29/2015 (zb)** Re: NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC

(a) Proof is required of its formation and that it has not been dissolved. Proof is also required that there has been no change in the composition of the Limited Liability Company.

(b) A copy of its Articles of Organization and any amendments thereto, must be delivered to the Company for review in advance of closing.

(c) A copy of its Operating Agreement and any amendments thereto, must be delivered to the Company for review in advance of closing.

(d) Proof is required that the transaction to be insured has been duly authorized.

Title No. 3020-657807

SCHEDULE B-I Continued (REQUIREMENTS)

Requirement No. 3 Continued:

(e) If a foreign Limited Liability Company:

(i) A Certificate of Good Standing from the state of formation must be submitted.

(ii) Proof of its authority to acquire, convey, lease or mortgage the premises described in Schedule A, as applicable, under the laws of the state of formation, must be submitted in advance of closing. (Note: a foreign limited liability company can have no greater powers than a domestic limited liability company under section 805(b) of the New York Limited Liability Company Law)

(f) The name(s) of the managing member(s) must be furnished to this Company in advance of the closing so that federal tax lien and bankruptcy searches can be run. If the limited liability company does not have managing members, please contact Company Counsel to identify the names of the members as to whom said searches are to be run.

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NOTE: At least two-thirds in interest of the members at a duly called and noticed meeting are required to vote for or consent in writing to a sale, lease or mortgage, pursuant to Sections 402, 403, 405 and 407 of the New York Limited Liability Company Law. Counsel must be advised in advance of the closing if less than two-thirds have voted for or consented in writing to the proposed transaction (or that such a vote or consent is anticipated) to determine if there is or will be due authority to convey.

Conveyances by a Limited Liability Company formed on and after August 31, 1999, and a previously formed Limited Liability Company having amended its Operating Agreement to so provide, may proceed on the vote of a majority in interest of its members.

4. **Omitted 04/29/2015 (zb)** Re: NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC

(a) Proof is required of its formation and that it has not been dissolved. Proof is also required that there has been no change in the composition of the Limited Liability Company.

(b) A copy of its Articles of Organization and any amendments thereto, must be delivered to the Company for review in advance of closing.

MI

(c) A copy of its Operating Agreement and any amendments thereto, must be delivered to the Company for review in advance of closing.

(d) Proof is required that the transaction to be insured has been duly authorized.

(e) A Certificate of Good Standing from the state of formation must be submitted.

(f) Proof of its authority to acquire, convey, lease or mortgage the premises described in Schedule A, as applicable, under the laws of the state of formation, must be submitted in advance of closing. (Note: a foreign limited liability company can have no greater powers than a domestic limited liability company under section 805(b) of the New York Limited Liability Company Law).

Title No. 3020-657807
AMENDED 04/29/2015 (slp)

SCHEDULE B-I Continued
(REQUIREMENTS)

Requirement No. 4 Continued:

omit

(g) **AMENDED 04/29/2015 (slp)** Federal tax lien and bankruptcy searches have been run against Public Finance Guarantee Corporation, the managing member(s). Such searches disclose the following: NO RETURNS. The names of any additional managing member(s) must be submitted to this company in advance of the closing so that searches can be made against their names.

omit

5. **OMITTED 04/08/2015 (cz)** If the proposed mortgagor is an entity, the Certificate (Articles) and Agreements relating to its formation and operation and any amendments thereto and proof of its good standing and authority to acquire or lease and mortgage under the laws of the state (country) of its formation must be furnished the Company in advance of the closing.

omit

6. **OMITTED 04/08/2015 (cz)** The name of the proposed mortgagor must be disclosed to the Company <u>in advance of closing</u> so that the appropriate bankruptcy and lien searches can be run.

omit

7. A copy of the Contract of Sale must be submitted for consideration prior to closing.

NOTE: When applicable, a copy of the Contract of Sale must be submitted with the New York City Real Property Transfer Tax Return (RPT) when the consideration is $400,000.00 or more.

omit

8. Note: Commencing January 1st, 2010, the Westchester County Clerk will require that the following forms submitted in connection with the transfer of real property in Westchester County be completed on the Internet using the Property Records Electronic Portal (PREP) System: i) The New York State Real Estate Transfer Tax Return ("TP-584") and the New York State Real Property Transfer Report ("RP-5217"). These forms must be printed from PREP and submitted to the recording office with the closing instruments. A Cover Page created on the PREP System must be prepared by the submitting title company. This cannot be accomplished unless any required tax forms, if prepared by other than the title company, are assigned in PREP to the title company in advance of closing. Please contact the underwriter assigned to the transaction prior to closing.

omit

9. NOTE: Westchester County has imposed a mortgage recording tax of .0025 (1/4%) of the principal amount of the mortgage, in addition to the New York State portion of the tax, for an aggregate mortgage recording tax in Westchester County (outside of the City of Yonkers) of 1.30 %.

omit

10. Note: Commencing January 1st, 2010, the Westchester County Clerk will require that the following forms submitted in connection with the transfer of real property in Westchester County be completed on the Internet using the Property Records Electronic Portal (PREP) System: i) The New York State Real Estate Transfer Tax Return ("TP-584") and the New York State Real Property Transfer Report ("RP-5217"). These forms must be printed from PREP and submitted to the recording office with the closing instruments. A Cover Page created on the PREP System must be prepared by the submitting title company. This cannot be accomplished unless any required tax forms, if prepared by other than the title company, are assigned in PREP to the title company in advance of closing. Please contact the underwriter assigned to the transaction prior to closing.

omit

11. To verify at closing the identity of the persons who are executing closing documents, two forms of identification, at least one of which is to contain a photograph, is required to be presented.

Title No. 3020-657807
AMENDED 04/08/2015 (cz)

SCHEDULE B-I Continued (REQUIREMENTS)

init 12. Note: Payment at closing of any amount exceeding $5,000.00 must be made by a bank or certified check, by a check issued from an attorney's escrow account, or by wired funds.

13. FOR INFORMATION ONLY:

init info only

RE: Real Property Tax Payments

NOTE: The recording of documents has been significantly delayed by many county recording offices in New York State. When real estate tax payments become due prior to the recording of a deed, the local tax assessor may not have sufficient information as to where tax bills are to be sent. Where this is an issue, it may be advisable to contact the office of your local tax assessor with a copy of the closing deed. First American is not responsible for the failure to receive real estate tax bills or for any additional charges that may result from the failure to timely pay such amounts. The prompt payment of real estate taxes is the responsibility of the property owner and its mortgage lender.

14. Note: Contact Counsel for the Company in advance of closing if a document is to be executed pursuant to a power of attorney.

15. **ADDED 04/08/2015 (cz)** ~~Re: ROECO., LLC~~ Airport Campus I, II, III, IV, V LLC

(a) Proof is required of its formation and that it has not been dissolved. Proof is also required that there has been no change in the composition of the Limited Liability Company.

(b) A copy of its Articles of Organization and any amendments thereto, must be delivered to the Company for review in advance of closing.

(c) A copy of its Operating Agreement and any amendments thereto, must be delivered to the Company for review in advance of closing.

amit

(d) Proof is required that the transaction to be insured has been duly authorized.

(e) The name(s) of the managing member(s) must be furnished to this Company in advance of the closing so that federal tax lien and bankruptcy searches can be run. If the limited liability company does not have managing members, please contact Company Counsel to identify the names of the members as to whom said searches are to be run.

NOTE: At least two-thirds in interest of the members at a duly called and noticed meeting are required to vote for or consent in writing to a sale, lease or mortgage, pursuant to Sections 402, 403, 405 and 407 of the Limited Liability Company Law. Counsel must be advised in advance of the closing if less than two-thirds have voted for or consented in writing to the proposed transaction (or that such a vote or consent is anticipated) to determine if there is or will be due authority to convey.

Conveyances by a Limited Liability Company formed on and after August 31, 1999, and a previously formed Limited Liability Company having amended its Operating Agreement to so provide, may proceed on the vote of a majority in interest of its members.

SCHEDULE B-I Continued
(REQUIREMENTS)

16. **ADDED 04/08/2015 (cz)** FOR INFORMATION ONLY: Searches for federal tax liens, bankruptcies and judgments have been run against ROECO., LLC, the proposed purchaser(s)/mortgagor(s) and such searches disclose the following: NO RETURNS. (Note - If the mortgage to be insured is not a purchase money mortgage these items must be disposed of)

nit info only

FIRST AMERICAN

Title No. 3020-657807
AMENDED 04/08/2014 (zb) & 04/15/2015 (fho)

SCHEDULE "B-II"
(EXCEPTIONS)

THE POLICY WILL INCLUDE AS EXCEPTIONS TO TITLE THE FOLLOWING MATTERS UNLESS THEY ARE DISPOSED OF TO THE SATISFACTION OF THE COMPANY:

1. Rights of tenants or persons in possession, if any.

2. Taxes, tax liens, tax sales, water rates, sewer rents and assessments set forth herein.

3. **AMENDED 04/15/2015 (fho)** Survey Reading herein.

4. **AMENDED 04/08/2014 (zb)** a) There (is) are zero open mortgage(s) of record. (See Mortgage Schedule herein)

   NOTE: Mortgage(s) 'herein' may have been fully paid in connection with an earlier transaction. This exception may be omitted or affirmative insurance may be provided on review of the prior title policy of Fidelity National Title Insurance Company, Title #09-21356-W. Promptly contact the clearance officer assigned to this title.

   OMITTED 04/08/2014 (zb) b) Satisfaction of Mortgage made by Cooney Hill Corp. dated 2/4/2004 recorded 8/12/2004 in Control No. 441901143 certifies that the mortgage is paid and consents that it be discharged of record (Mortgage 'C' herein). The Office of the County Clerk, Land Records, Westchester County has determined that the mortgage is not dischargeable. A further request to discharge mortgage has been ordered on 3/12/2014.

5. Policy excepts retroactive taxes and assessments of abandoned Weber Place.

   NOTE: See Requirement 1 of BI herein.

6. Electric Utility Agreement recorded 6/9/1950 in (as) Liber 4865 cp 407 (See Post) granting the right to maintain poles and wires with the right to lay guy wire and trim trees. (FOR MORTGAGE POLICY ONLY: Policy insures that said easement / right of way / agreement(s) will not prohibit the existing use of the improvements on the premises.)

7. Electric and Telephone Utility Agreement recorded 8/15/1957 in (as) Liber 5729 cp 379 (See Post) granting the right to maintain poles and wires along abutting streets with the right to lay guy wire and trim trees. (FOR MORTGAGE POLICY ONLY: Policy insures that said easement / right of way / agreement(s) will not prohibit the existing use of the improvements on the premises.)

Title No. 3020-657807

SCHEDULE B-II Continued
(EXCEPTIONS)

8. Terms, provisions, conditions, agreements and covenants as set forth in Armonk Area Traffic/Roadway Improvement Impact Agreement made by and between Town of North Castle and Trafalgar House Real Estate, Inc. ("Developer") dated 11/10/1987 recorded 11/18/1987 in Liber 9031 cp 294 (See post).

omit

9. Terms, provisions and covenants as set forth in document entitled Declaration of Covenants and Restrictions made by and between Trafalgar House Real Estate, Inc. and Queensmead Associates, collectively as Declarant dated 6/22/1989 recorded 7/14/1989 in Liber 9580 cp 99 (See post), no restrictions contained therein.

except

WITH REGARD THERETO:

Document entitled Amended and Restated Declaration of Covenants and Restrictions and Transfer of Development Rights made by and between Trafalgar House Property, Inc., successor in interest to Trafalgar House Real Estate, Inc. and Queensmead Associates, collectively as Declarant dated 9/28/1990 recorded 10/11/1990 in Liber 9907 cp 307 (See post).

Town Board approved a transfer of office space development rights for the expansion of the Kingsmead Office Building, no restrictions contained therein.

10. Terms, restrictions, covenants and conditions as set forth in Declaration of Covenants and Restrictions made by Municipal Bond Investors Assurance Corporation (MBIA), Declarant dated 9/28/1990 recorded 10/31/1990 in Liber 9920 cp 281 (See post).

except

WITH REGARD THERETO:

a) Amended Declaration of Covenants and Restrictions made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation (MBIA), Owner/Declarant dated 12/23/1996 recorded 1/13/1997 in Liber 11634 cp 284 (See post), as further amended by

b) Amended Declaration of Covenants and Restrictions made by MBIA Insurance Corporation f/k/a Municipal Bond Investors Assurance Corporation (MBIA), Owner/Declarant dated 8/20/1998 recorded 9/18/1998 in Liber 12113 cp 196 (See post).

11. Terms, conditions, easements, rights as set forth in Easement Agreement Kingshead Property made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 9/28/1990 recorded 10/11/1990 in Liber 9908 cp 21 (See post) re sewer and access easements.

except

WITH REGARD THERETO:

a) Modification and Restatement of Easement Agreement made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 7/9/1992 recorded 10/8/1992 in Liber 10426 cp 119 (See post) as further modified by

b) Restated and Modified Easement Agreement made by and between Municipal Bond Investors Assurance Corporation (Grantor/MBIA) and Queensmead Associates (Grantee/Queensmead) dated 3/19/1993 recorded 5/5/1993 in Liber 10571 cp 109 (See post), as depicted on Map No. 27645.

Title No. 3020-657807
AMENDED 04/01/2015 (cz)

SCHEDULE B-II Continued
(EXCEPTIONS)

xcept 12. Land-Banked Parking Agreement made by and between Municipal Bond Investors Assurance Corporation (MBIA), (Owner) and the Town of North Castle dated 11/12/1992 recorded 11/16/1992 in Liber 10451 cp 241 (See post) re: MBIA Parcel, Section 3 Block 4 Lot 3B.

xcept 13. Utility and Grading Easement made by and between MBIA Insurance Corporation (MBIA/Grantor) and Town of North Castle (Grantee) dated 12/23/1996 recorded 1/14/1997 in Liber 11635 cp 110 (See post) re: 20-foot wide easement along Route 120 for grading and storm water runoff.

xcept 14. Terms, restrictions, rights, reservations, easements, provisions, conditions as set forth in Conservation Easement made by and between MBIA Insurance Corp. (Grantor) and Westchester Land Trust, Inc. (Grantee) dated 1/11/2006 recorded 5/1/2006 in Control No. 461140461 (See post) re: irrevocable conservation easement on Section 3 Block 4 Lots 3,3H, 3.1,3.3,3.4,3.6 ("Lots")

xcept 15. Reservations for future roadway improvements, right of way taking, and proposed sight line easement as cited on Map No. 27645 (See post)

m info 16. **ADDED 04/01/2015 (cz) (AS TO LOT 1)** FOR INFORMATION: Policy does not insure against water charges and sewer rents entered and/or billed subsequent to closing for periods prior to closing.

xcept 17. **ADDED 04/01/2015 (cz) (AS TO LOT 1)** The tax search indicates that no information is available regarding water charges. A request for a final reading should be made in advance of closing from the appropriate authority. Otherwise, the policy will except any water charges and sewer rents billed and/or entered prior to closing.

om date of 1st reading

Title No. 3020-657807
AMENDED 04/15/2015 (fho)

SURVEY READING

Survey dated 4/8/2015 made by JMC Site Development Consultants shows the following:

Sewer easement, utility and grading easement, conservation easement and manholes cross westerly, southerly and easterly portions of premises herein; policy excepts rights and easements of others by reason thereof.

Sight line easement on map #27647 at northeasterly portion of premises herein.

Except

Title No. 3020-657807
AMENDED 04/08/2014 (zb)

MORTGAGE SCHEDULE

Omitted 04/08/2014 (zb) MORTGAGE 'A' (AFFECTS FORMER LOT 3-2)

MORTGAGE made by JOHN J. DE LAGO AND EDNA MAY DE LAGO to THE LONG ISLAND SAVINGS BANK FSB in the amount of $135,000.00 dated 1/29/1986, recorded 2/20/1986 in (as) Liber 9714 mp 317. (Mortgage Tax Paid: $1,325.00)

ASSIGNMENT OF MORTGAGE made by THE LONG ISLAND SAVINGS BANK FSB to SALOMON BROTHERS MORTGAGE SECURITIES VII INC. dated 11/27/1987, recorded 3/4/1988 in (as) Liber 12075 mp 256. Assigns Mortgage(s) 'A'.

ASSIGNMENT OF MORTGAGE made by SALOMON BROTHERS MORTGAGE SECURITIES VII INC. to SECURITY PACIFIC NATIONAL BANK, AS TRUSTEE dated 11/27/1987, recorded 3/4/1988 in (as) Liber 12074 mp 313. Assigns Mortgage(s) 'A'.

(however, see Exception 4b of BII herein)

Mortgage 'A' may be assigned and/or satisfied by:

BANK OF AMERICA, NATIONAL ASSOCIATION (SUCCESSOR BY MERGER TO SECURITY PACIFIC NATIONAL BANK), AS TRUSTEE

Omitted 04/08/2014 (zb) MORTGAGE 'B' (AFFECTS FORMER LOT 3B)

MORTGAGE made by KINGSMEAD NEW YORK INVESTORS INC. to TXL PROPERTIES LIMITED 87-102 in the amount of $16,880,000.00 dated as of 6/1/1987, recorded 6/30/1987 in (as) Liber 11337 mp 68. (Mortgage Tax Paid: $168,800.00)

ASSIGNMENT OF MORTGAGE made by TXL PROPERTIES LIMITED 87-102 to DEUTSCHE BANK AKTIENGESELLSCHAFT (AG), ACTING THROUGH ITS LONDON BRANCH dated as of 6/26/1987, recorded 6/30/1987 in (as) Liber 11337 mp 42. Assigns Mortgage(s) 'B'.

(however, see Exception 4b of BII herein)

Mortgage 'B' may be assigned and/or satisfied by:

DEUTSCHE BANK AKTIENGESELLSCHAFT (AG), ACTING THROUGH ITS LONDON BRANCH

Omitted 04/08/2014 (zb) MORTGAGE 'C' (AFFECTS FORMER LOT 3-8)

PURCHASE MONEY MORTGAGE made by MBIA INSURANCE CORP. to COONEY HILL CORP. in the amount of $500,000.00 dated 1/28/1999, recorded 6/1/1999 in (as) Liber 25698 mp 253. (Mortgage Tax Paid: $5,000.00)

(however, see Exception 4b of BII herein)

Mortgage 'C' may be assigned and/or satisfied by:

COONEY HILL CORP.

Title No. 3020-657807
AMENDED 04/08/2014 (zb)

MORTGAGE SCHEDULE

(Continued)

Omitted 04/08/2014 (zb) MORTGAGE 'D' (AFFECTS FORMER LOT 3-4)

MORTGAGE made by GARAN L. OTLEY to MORTGAGE ELECTRONIC REGISTRATION SYSTEMS INC., AS NOMINEE FOR AMERICA'S WHOLESALE LENDER (THE D/B/A OF COUNTRYWIDE FINANCIAL CORP.) in the amount of $520,000.00 dated 12/31/2001, recorded 5/30/2002 in (as) Control No. 421430150. (Mortgage Tax Paid: $5,175.00)

(however, see Exception 4b of BII herein)

Mortgage 'D' may be assigned and/or satisfied by:

MORTGAGE ELECTRONIC REGISTRATION SYSTEMS INC., AS NOMINEE FOR AMERICA'S WHOLESALE LENDER (THE D/B/A OF COUNTRYWIDE FINANCIAL CORP.)

MIN: 1000157-0000784881-1

This title report does not show all the terms and provisions of the mortgage(s) set forth herein. Interested parties should contact the holder(s) thereof to ascertain the terms, covenants and conditions contained therein, and to determine if there are any unrecorded amendments or modifications thereto.

ID-8131063-022

ABSTRACTERS' INFORMATION SERVICE

1111 MARCUS AVE, SUITE MZ214 LAKE SUCCESS NY 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

TAX CONTINUATION - 04/28/15

Prepared For: First American Title

County : WESTCHESTER

TITLE NO. 0250-3020657807C
PREMISES: 113 KING STREET, NORTH CASTLE

DATE: 3/30/2015

5/4/15

TOWN OF NORTH CASTLE

ACREAGE: 35.91 LOT SIZE: NA

ASSESSED OWNER: NAT'L R/E HDGS OF ARMORK LLC.

TAX CLASSIFICATION: 464

ASSESSED VALUE: TOWN 191500/1135400

SD: BYRAM HILLS SECTION: 118.2 BLOCK: 1 LOT: 1 SWIS CODE: 553800

RETURNS

OLD SEC: 3 BLOCK: 4 LOT: 3.B
SEC: 118.2 BLOCK: 1 LOT: 1

2015 TOWN/COUNTY TAX PERIOD 01/01/15 - 12/31/15
FULL TAX DUE 04/01/15 - $441,085.54 ~~OPEN~~ pd 4/21/15

2014/2015 SCHOOL TAX PERIOD 07/01/14 - 06/30/15
1 1/2 TAX DUE 09/01/14 - $400,808.64 PAID
2 1/2 TAX DUE 01/01/15 - $400,808.63 PAID
BASED ON ASSESSMENT OF 191500/1185400

WATER DISTRICT - EXCEPT
WATER INFORMATION WAS NOT AVAILABLE AT THE TIME OF RESEARCH.

omit pd

NOTE: UP-TO-DATE BILL OR RECEIPT MUST BE PRODUCED AT CLOSING.
SUBJECT TO PRIOR WATER CHARGES NOT ENTERED AND SUBSEQUENT WATER CHARGES SINCE DATE OF LAST READING.

SUBJECT TO CONTINUATION PRIOR TO CLOSING.

Note: A separate $5.00 check is required for all tax payments to the Town of North Castle Receiver of Taxes if being paid without original bill.

FOR TAX PAYMENT INFORMATION GO TO: http://orpts.tax.ny.gov/cfapps/MuniPro/swis/

Abstracters' Information Service
1111 MARCUS AVENUE - SUITE MZ214 LAKE SUCCESS, N.Y. 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

WESTCHESTER MUNICIPAL TAX PAGE

TITLE NO. 0250-3020657807C

DATE: 3/30/2015

NORTH CASTLE - TOWN
17 BEDFORD ROAD
ARMONK, NY 10504
TX DEPT: (914) 273-6620
(914) 273-8625

VILLAGE NONE:

ID-8131065-024

ABSTRACTERS' INFORMATION SERVICE

1111 MARCUS AVE, SUITE MZ214 LAKE SUCCESS NY 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

TAX CONTINUATION - 04/28/15

Prepared For: First American Title

County : WESTCHESTER

TITLE NO. 0250-3020657807E
PREMISES: 3 WEBER PLACE, NORTH CASTLE

DATE: 3/30/2015

TOWN OF NORTH CASTLE

ACREAGE: 1.01 LOT SIZE: NA

ASSESSED OWNER: NAT'L R/E HDGS OF ARMORK LLC.

TAX CLASSIFICATION: 311

ASSESSED VALUE: TOWN 5300/5300

SD: BYRAM HILLS SECTION: 113.4 BLOCK: 1 LOT: 13 SWIS CODE: 553800

RETURNS

```
OLD SEC: 3       BLOCK: 4  LOT: 3.2
    SEC: 113.4   BLOCK: 1  LOT: 13

2015 TOWN/COUNTY TAX PERIOD 01/01/15 - 12/31/15
FULL TAX DUE 04/01/15 - $1,923.32 OPEN

2014/2015 SCHOOL TAX PERIOD 07/01/14 - 06/30/15
1 1/2 TAX DUE 09/01/14 - $1,792.04 PAID
2 1/2 TAX DUE 01/01/15 - $1,792.04 PAID

WATER - VACANT

SUBJECT TO CONTINUATION PRIOR TO CLOSING.
```

pd 4/21/15

amt pd

Note: A separate $5.00 check is required for all tax payments to the Town of North Castle Receiver of Taxes if being paid without original bill.

FOR TAX PAYMENT INFORMATION GO TO: http://orpts.tax.ny.gov/cfapps/MuniPro/swis/

Abstracters' Information Service
1111 MARCUS AVENUE - SUITE MZ214 LAKE SUCCESS, N.Y. 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

WESTCHESTER MUNICIPAL TAX PAGE

TITLE NO. 0250-3020657807E

DATE: 3/30/2015

NORTH CASTLE - TOWN
17 BEDFORD ROAD
ARMONK, NY 10504
TX DEPT: (914) 273-6620
(914) 273-8625

VILLAGE NONE:

THE ABOVE IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
THERE IS NO LIABILITY ASSUMED.

ID-8131064-023

ABSTRACTERS' INFORMATION SERVICE

1111 MARCUS AVE, SUITE MZ214 LAKE SUCCESS NY 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

TAX CONTINUATION - 04/28/15

Prepared For: First American Title

County : WESTCHESTER

TITLE NO. 0250-3020657807D
PREMISES: 1 WEBER PLACE, NORTH CASTLE

DATE: 3/30/2015

TOWN OF NORTH CASTLE

ACREAGE: 1 LOT SIZE: NA

ASSESSED OWNER: NAT'L R/E HDGS OF ARMONK LLC.

TAX CLASSIFICATION: 330

ASSESSED VALUE: TOWN 5300/5300

SD: BYRAM HILLS SECTION: 113.4 BLOCK: 1 LOT: 14 SWIS CODE: 553800

RETURNS

```
OLD SEC: 3      BLOCK: 4  LOT: 3-1
    SEC: 113.4  BLOCK: 1  LOT: 14

2015 TOWN/COUNTY TAX PERIOD 01/01/15 - 12/31/15
FULL TAX DUE 04/01/15 - $1,914.05 OPEN

2014/2015 SCHOOL TAX PERIOD 07/01/14 - 06/30/15
1 1/2 TAX DUE 09/01/14 - $1,792.04 PAID
2 1/2 TAX DUE 01/01/15 - $1,792.04 PAID

WATER - VACANT

SUBJECT TO CONTINUATION PRIOR TO CLOSING.
```

paid 4/21/15

omit pd

Note: A separate $5.00 check is required for all tax payments to the Town of North Castle Receiver of Taxes if being paid without original bill.

FOR TAX PAYMENT INFORMATION GO TO: http://orpts.tax.ny.gov/cfapps/MuniPro/swis/

Abstracters' Information Service
1111 MARCUS AVENUE - SUITE MZ214 LAKE SUCCESS, N.Y. 11042
PHONE:(516) 918-4600 FAX:(516) 918-4540

WESTCHESTER MUNICIPAL TAX PAGE

TITLE NO. 0250-3020657807D

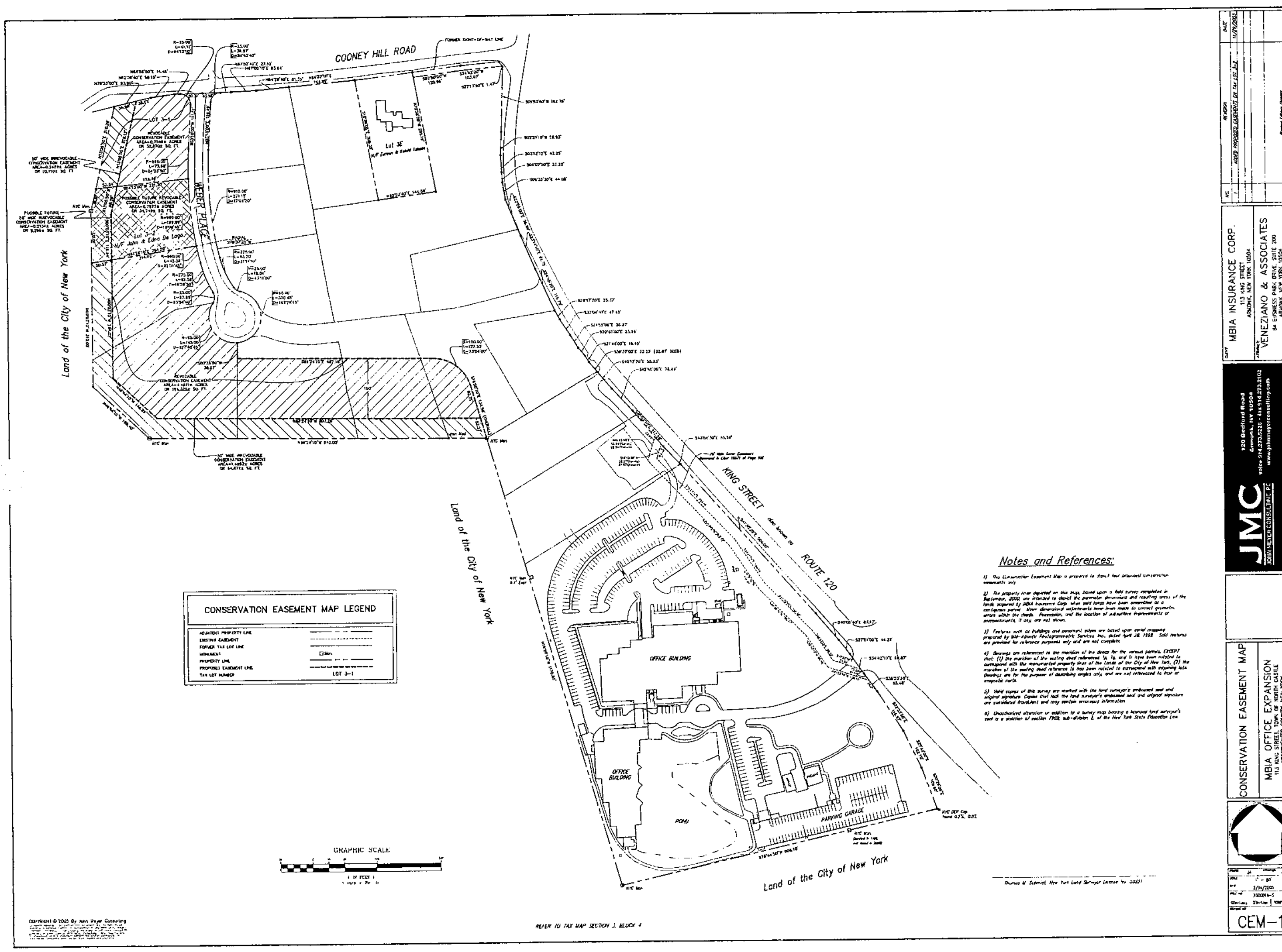
DATE: 3/30/2015

NORTH CASTLE - TOWN
17 BEDFORD ROAD
ARMONK, NY 10504
TX DEPT: (914) 273-6620
(914) 273-8625

VILLAGE NONE:

Survey

Intentionally Left Out
(Too Large to Scan)


COONEY HILL ROAD
FORMER RIGHT-OF-WAY LINE
WEBER PLACE
Lot 3-2
N/F John & Edna De Lago
LOT 3-1
Lot 3E
KING STREET
ROUTE 120
Land of the City of New York
Land of the City of New York
Land of the City of New York
OFFICE BUILDING
OFFICE BUILDING
POND
PARKING GARAGE
CONSERVATION EASEMENT MAP LEGEND
ADJACENT PROPERTY LINE
EXISTING EASEMENT
FORMER TAX LOT LINE
MONUMENT
PROPERTY LINE
PROPOSED EASEMENT LINE
TAX LOT NUMBER
LOT 3-1
GRAPHIC SCALE
Notes and References:
REFER TO TAX MAP SECTION 3, BLOCK 4
ADDED PROPOSED EASEMENTS ON TAX LOT 3-2
11/29/2005
MBIA INSURANCE CORP.
113 KING STREET
ARMONK, NEW YORK 10504
VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE, SUITE 200
ARMONK, NEW YORK 10504
JMC
JOHN MEYER CONSULTING, PC
120 Bedford Road
Armonk, NY 10504
voice 914.273.5225 · fax 914.273.2102
www.johnmeyerconsulting.com
CONSERVATION EASEMENT MAP
MBIA OFFICE EXPANSION
113 KING STREET, TOWN OF NORTH CASTLE
WESTCHESTER COUNTY, NEW YORK
1" = 80'
CEM-1

First American Title

First American Title Insurance Company

GENERAL AFFIDAVIT
(Outside of New York City, Nassau and Suffolk Counties)

STATE OF NEW YORK } ss: TITLE NO.: NCS-657807 (the "Report")

COUNTY OF Westchester } Date: May 1, 2015

Andrea Randolph, being duly sworn deposes and says:

1. I am the Managing Director-CTO of National Real Estate Holdings of Armonk, LLC, the grantor executing the deed of the property known as 113 King Street, 1 Weber Place, 3 Weber Place, and abandoned Weber Place (the "Property")

2. There are presently 1 tenants in said premises. Each of said tenants either (a) is in possession under a lease containing a standard subordination clause fully and unconditionally subordinating said lease to all existing and future mortgages, or (b) is a statutory tenant. All persons in possession are in possession pursuant to written leases as tenants only. There are no options to purchase or rights of first refusal either pursuant to written leases or by separate agreements.

3. That your deponent(s)(has/have) not been known by any other name(s), married or single, during the past ten years except N/A.

4. That the bankruptcies, judgments, federal tax Liens, State and City Tax Warrants, and other liens, if any, set forth in the above captioned report of title are not against your deponent(s) but against other(s) having the same or similar name(s), and that your deponent(s) (has/have) never resided at or done business, maintained an office, or registered a motor vehicle at any of the addresses listed in connection therewith.

5. That National Real Estate Holdings or Armonk, LLC is the same entity acquired title to the premises herein by deed recorded in the Westchester County Clerk's office on 3/1/2010, recorded 3/8/2010 in Control No. 50053059.

6. That there has been no change in the membership of the limited liability company known as National Real Estate Holdings of Armonk, LLC since its organization, nor has there been any change in its operating agreement. That the person executing the closing instruments have the authority to bind the limited liability company.

7. Real estate taxes, water charges, sewer rents and other assessments, if any, shown in the tax search as "subject to collection" have been paid.

8. That during our ownership, there have been no lawsuits, administrative hearings or court proceedings involving the property in which the boundaries of the property have been in issue.

9. That during our ownership of the property, no person has at any time claimed any rights to use any portion of the property for any purpose.

10. We will after the date hereof be residing at One Manhattanville Road, Ste. 301 Purchase, New York 10577.

That We make this affidavit to induce the First American Title Insurance Company to insure title free and clear of the aforesaid, knowing that it will rely on the truth of the statements herein made.

x Andrea E Randolph

Sworn to before me this 29th day of April, 2015

Robin A. Levitt-Topol

Notary Public

ROBIN A. LEVITT-TOPOL
NOTARY PUBLIC - STATE OF NEW YORK
NO. 02TO4983937
QUALIFIED IN NEW YORK COUNTY
MY COMMISSION EXPIRES: 7/8/2015

(Note: A Supplemental Affidavit is required for issuance of an EAGLE Owner's Policy).

National Real Estate Holdings or Armonk, LLC agrees to indemnify and hold harmless First American Title Insurance Company of New York which is insuring title under its Title No. NCS-657807 in reliance on the representations contained in the above affidavit.

National Real Estate Holdings or Armonk, LLC

By: Andrea E Randolph [Name]

Its: ~~[illegible]~~ MD-CTO [Title]

Dated: ____________________

BLEAKLEY PLATT
NEW YORK CONNECTICUT

BLEAKLEY PLATT & SCHMIDT, LLP

PETER N. BASSANO
914.287.6102
PBASSANO@BPSLAW.COM

ONE NORTH LEXINGTON AVENUE
WHITE PLAINS, NEW YORK 10601
914.949.2700
FAX: 914.683.6956
BPSLAW.COM

As of May 4, 2015

Via Electronic Mail & UPS

First American Title Insurance Company
National Commercial Services
666 Third Avenue, 5th Floor
New York, New York 10017

Attention: Zoy Balaskas, Esq. (ZBalaskas@firstam.com>)

Re: Seller's Closing Instructions re: Sale by NATIONAL REAL ESTATE HOLDINGS OF ARMONK, LLC ("Seller") to Airport Campus I LLC, Airport Campus II LLC, Airport Campus III LLC, Airport Campus IV LLC, Airport Campus V LLC, (as assignees of ROECO, L.L.C. ("Purchaser"), regarding that certain property located at 113 King Street, Armonk, New York (the "Property")
Title No. 3020-657807

Dear Zoy:

We represent the Purchaser in the above-referenced matter. This letter contains instructions to you concerning your authority to deliver funds and certain documents on behalf of Purchaser. Purchaser hereby delivers to you, in escrow, the following original Closing documents executed by Purchaser (the "Closing Documents"):

1. General Assignment;
2. Assignment and Assumption of Lease;
5. RP-5217 Real Property Transfer Report;
6. Form TP584;
7. Tenant Notice Letter;
8. Bill of Sale;
9. Purchaser Certification.

Purchaser will wire you the Closing proceeds as set forth in the Final Settlement Statement executed by the parties (collectively, the "Closing Proceeds).

You may date all Closing Documents as of the Date of Closing. You may disburse the Closing Proceeds in accordance with the Settlement Statement only when you have secured the signatures of the remaining parties to the closing Settlement Statement and all relevant Closing Documents and are in a position to (i) record the Deed in the Land Records of Westchester County, New York, and (ii) issue to Purchaser the policy of title insurance in the form approved by the undersigned. Notwithstanding anything contained herein to the contrary, Closing is to occur on or before close of business on **May 5, 2015**, and if such Closing does not occur by said date and time, you are not authorized to release the Closing Documents without further authorization from the undersigned.

If, and only if, you can comply with the foregoing instruction, then you may release the Closing Proceeds.

Please execute the original of this letter and return the same to the undersigned ***via electronic mail***. Otherwise, you have no authority to release the Closing Proceeds and must return same to the undersigned.

Sincerely,

Peter Bassano

/tb

Agreed to this 4th day of May, 2016
First American Title Insurance Company

By: ______________________

cc: Robin Topol, Esq

Appendix C-1
Preliminary Geotechnical Engineering Report

CARLIN • SIMPSON & ASSOCIATES
Consulting Geotechnical and Environmental Engineers

61 Main Street, Sayreville, New Jersey 08872
Tel. (732) 432-5757
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Principal:
Robert B. Simpson, P.E.

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Meredith R. Anke, P.E.
Stephen Rossi, P.E.
Kurt W. Anke
Eric J. Shaw
Catherine Simpson, E.I.T.

17 January 2020
Revised 17 September 2020

Airport Campus I-V LLC
46 Westchester Ave.
Pound Ridge, NY 10576

Attn: Mr. Geoff Ringler

Re: Report on Subsurface Soil and Foundation Investigation
Proposed Building Complex
113 King St.
North Castle, NY (CSA Job #19-215)

Dear Mr. Ringler:

In accordance with our proposal dated 10 October 2019, supplemental stormwater proposal, and your subsequent authorization, we have reviewed our Subsurface Soil and Foundation Investigation from 2002 for the referenced site and completed a series of test pits for the proposed project. The purpose of this study was to determine the nature and engineering properties of the subsurface soil and the groundwater conditions for the new construction, to recommend a practical foundation scheme, to determine the allowable bearing capacity of the site soils, and to determine the on-site soil permeability.

We understand that the planned construction will consist of a new apartment and townhome complex. This will include a 5-story building with a 3-story parking garage and a townhome development to the northwest of the proposed multistory building. The townhome development, was beyond the scope of this report. Other site developments will include new utilities, stormwater management systems, and new driveway and parking lots. To guide us in our study, you have provided us with plans that indicate the locations of the proposed construction.

Our scope of work for this project included the following:

1. Reviewed the proposed layout, the existing site conditions, the expected soil conditions, and proposed construction.

2. Reviewed a Carlin-Simpson & Associates geotechnical investigation at the referenced site in 2002 for a prior proposed development.

3. Observed ADI East Contractor advance twelve (12) test pits at selected locations on the subject site.

4. Performed five (5) infiltration tests in the proposed stormwater management areas.

5. Visually identified the soil layers encountered, and prepared detailed test pit logs and a Boring & Test Pit Location Plan.

6. Analyzed the data and prepared this report containing the results of this study.

1.0 SITE DESCRIPTION

The site is located to the west of King Street (NYS Route 120) between Cooney Hill Road to the north and American Lane to the south. This property has an existing 3-story office building. The site was previously occupied by single family residential homes, however, around 2005 the residential homes were demolished, this can be concluded by satellite imagery.

The new 5-story building with a 3-story parking garage will be constructed on the north side of the existing office building. Existing site grades range between elevation +470, near the intersection of King Street and Cooney Hill Road, and elevation +390, along the southwestern property line in the residential portion of the site. In general, site grades slope down from King Street to the west and southwest.

2.0 PROPOSED CONSTRUCTION

We understand that the planned construction will consist of a 5-story building with a 3-story parking garage below the multi-story building. It is our understanding that the proposed lower level of the parking garage will have a finished floor of +416.33. We expect a cut ranging from 10 to 20-feet will be required to achieve the lower level subgrade elevation. Some of these excavations will consist of completely weathered rock or intact bedrock that may require the use of hydraulic hammering to achieve the proposed depths.

The site development will also include new utilities, new stormwater management areas, and new driveways and parking lots. The following evaluation is based on information that has been provided to our office as of the date of this report. Once the plans have been further developed, a copy should be forwarded to our office so that we can review it along with the recommendations in this report. At that time, any changes or additional recommendations can be provided, if required.

3.0 SUBSURFACE CONDITIONS

To determine the subsurface soil and groundwater conditions at the site, we reviewed fourteen (14) test borings that were advanced by General Borings Inc. at the locations shown on the enclosed Boring Location Plan. In addition, we observed twelve (12) test pits that were excavated by ADI East Contractor. Detailed boring and test pit logs have been prepared and are included in this report. The borings were completed in April 2002 and the test pits were completed in July under the full-time inspection of Carlin-Simpson & Associates. Our field engineer visually identified all of the soil samples obtained during the boring operations.

3.1 Soils and Bedrock

The soil descriptions shown on the boring logs are based on the Burmister Classification System. In this system, the soil is divided into three components: Sand (S), Silt ($) and Gravel (G). The major component is indicated in all capital letters, the lesser in lower case letters. The following modifiers indicate the quantity of each lesser component:

Modifier	Quantity
trace (t)	0 -10%
little (l)	10% - 20%
some (s)	20% - 35%
and (a)	35% - 50%

The subsurface soil conditions encountered in the test borings can be summarized as follows:

Stratum 1A
Topsoil
The surface layer in borings B-1 to B-9 and each of the test pits is brown topsoil approximately 6 to 15 inches in thickness.

Stratum 1B
Asphalt
The surface layer in borings B-10, to B-14 is asphalt pavement. The asphalt is 3 to 5 inches in thickness.

Stratum 2
Existing Fill
Below the surface layer in boring B-14 and in test pits TP-101 to 104, and TP-201 to TP-207 is soft to medium stiff gray SILT some, coarse to fine Sand, trace medium to fine Gravel or dark brown, gray coarse to fine Sand, some (to and) Silt, some coarse to fine Gravel. This stratum continues to depths ranging from 2’0” to 8’0” below the existing ground surface. Test pit TP-203 was terminated in this layer on a concrete slab at a depth of 4’3” below the existing ground surface.

Stratum 3
Sandy Silt
Underlying the surface layer in boring B-1 to B-8 is medium stiff to stiff brown SILT little (to and), coarse to fine Sand, little medium to fine Gravel. This stratum continues to depths ranging from 2’0” to 8’0” below the existing ground surface.

Stratum 4
Silty Sand
Beneath the sandy silt and underlying the existing fill in B-14 and test pits is dense to very dense brown, gray brown, gray coarse to fine SAND, little (to and) of Silt, trace medium to fine Gravel. This stratum continues to depths ranging from 4’0” to 30’0” below the existing ground surface. Test pits TP-101 to TP-103, TP-201, TP-202 and TP-204 to TP-207 were terminated in this stratum at depths ranging from 8’0” to 13’0” below the existing ground surface.

Stratum 5 Completely Weathered Gneiss

Below the Sandy Silt or Silty Sand in borings B-2, B-3, B-5, B-7 to B-14, TP-104, and TP-105 is the natural soils transition to completely weathered Gneiss bedrock in a very dense "soil like" or soft rock state. This layer is soil like in state, however there are denser pockets that likely cannot be conventionally excavated. Completely weathered Gneiss was encountered throughout the site beginning at depths ranging from 10'0" to 30'0" below the surface.

Stratum 6 Gneiss Bedrock

Harder Gneiss bedrock was encountered throughout the site. The upper bedrock was cored for a vertical distance of 5'0" to 30'0" in borings B-1, B-2, B-4, B-6, and B-7. The rock core recoveries varied from 30% to 100% and the rock quality designation (RQD) of the cores ranged from 0% to 83%. Based on the RQD and visual inspection, the recovered cores ranged of bedrock is poor to good quality rock.

3.2 Bedrock

Completely weathered rock to massive, moderately jointed Gneiss bedrock was encountered at the site at elevations ranging from +430.0 to +386.0. The proposed lower level parking, P-1, finished floor elevation is +416.33. We anticipate rock cuts up to 12-feet in this area. When excavating for level P-1, the "rippability" of the bedrock will be variable and limited. The use of hydraulic hammers and/or blasting will be required to excavate the harder, intact rock. The bedrock observations are summarized in Table 1 below. Additional issues related to foundations bearing on rock are discussed in Sections 5.2 of this report.

3.3 Groundwater

Groundwater was encountered in borings B-3, B-7 to B-10, B-12 to B-14 and in test pits TP-101, TP-104, TP-105, TP-201, and TP-203 at depths ranging from 1'6" to 23'0" (elevations +425.5 to +396.0). Evidence of seasonal high groundwater was encountered in test pits TP-101, TP-102, TP-103, and TP-202 at depths ranging from 2'6" to 7'0" below the existing ground surface (elevations +405.8 to +401.5).

During construction, we expect that groundwater will be encountered, especially when excavating for the lower level of the parking garage. The lower level finished floor elevation of the parking garage is +416.33. Test pits TP-104 and TP-105 were performed with in the building footprint. Groundwater was encountered in both test pits at depths of 8'6" and 11'0" below the existing ground surface, respectively (elevations +425.5 and +424.0). The anticipated lower level will extend 7 to 9 feet below the groundwater table. A supplemental groundwater study should be performed to further evaluate the groundwater conditions in the building footprint.

Groundwater on the subject site will be controlled by the topography and the underlying bedrock surface. As surface water infiltrates the ground, the water will travel along the soil/rock interface and through fractures in the bedrock. Proper groundwater control measures may be required where water is encountered in the site excavations. Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

4.0 SUMMARY OF DESIGN RECOMMENDATIONS

Below is a summary of the major design and construction considerations for this project. Additional recommendations are provided in the following sections of this report.

- *Subsurface Conditions (Section 3.0)*
  - Existing fill at the site was encountered in B-14 and in test pits TP-101 to 104, and TP-201 to TP-207 to depths ranging from 2'0" to 8'0" below the existing ground surface (elevation +430.0 to +401.0).
  - Most of the existing fill is present in the proposed stormwater management areas.
  - Groundwater was encountered at the site to depths ranging from 1'6" to 23'0" below the existing ground surface (elevations +425.5 to +396.0).
  - Evidence of seasonal high groundwater was encountered in test pits TP-101, TP-102, TP-103, and TP-202 at depths ranging from 2'6" to 7'0" below the existing ground surface (elevations +405.8 to +401.5).
  - Bedrock was encountered at depths ranging from 6'0" to 26'0" below the existing ground surface (approximate elevations +430.0 to +386.0).
  - A summary of the subsurface observations is provided in Table 1 and Table 6 below.

- *Building Area Preparation (Section 5.1)*
  - Existing structures must be demolished and surface materials must be stripped from the proposed construction area.
  - The existing fill shall be completely removed from the new building footprint.
  - There may be isolated areas of debris from the demolished homes that will need to be removed from the building footprint.
  - The sandy silt (Stratum 3) is also not suitable for support of the new foundation.
  - Groundwater was encountered within the building footprint in test pits TP-104 and TP-105 at depths of 8'6" and 11'0" below the existing ground surface, respectively (elevations +425.5 and +424.0). The proposed lower level will extend 7 to 9 feet below the groundwater table.
  - A supplemental groundwater study should be performed to further evaluate the groundwater situation in the building footprint.
  - Stabilization of wet subgrades with geotextile filter fabric and clean crushed stone may be necessary.
  - New backfill shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D-1557).

- *New Foundations Recommendations (Section 5.2)*
  - We recommend that additional borings be completed in the building footprint to better evaluate the soil, rock, and groundwater conditions.
  - Existing fill is not suitable for support of the new foundations or floor slabs.
  - The existing fill shall be completely removed from the building areas.
  - The sandy silt (Stratum 3) is also not suitable for support of the new foundation, if this stratum is present at the foundation bearing elevation it shall be over excavated 18-inches and replaced with DGA.
  - Use of hydraulic hammers may be required in order to achieve deeper excavations.

- The new foundations may be designed as spread footing type foundations bearing on virgin soil (Stratum 4), DGA, completely weathered rock or bedrock with the following net design bearing pressured:
  - Dense Graded Aggregate (DGA) = 6,000 psf
  - Virgin Soil (Stratum 4) = 6,000 psf
  - Completely Weathered Gneiss = 8,000 psf
- Minimum depth for frost protection = 42 inches.
- Seismic Site Class = C Very Dense Soil/Soft Rock.

5.0 BUILDING EVALUATION

We understand that the planned construction will consist of a 5-story building with a 3-story parking garage. The northern half of the proposed building has a lower level (level P-1) with a finished floor elevation of +416.33. The first floor of the building has an elevation +427.0 and the third level, P-3, is at elevation +437.67. The current ground surface elevations in the multistory building with the parking garage footprint range from +422.0 on the southern end to +438.0 on the north end.

It is our understanding that the proposed building will have a footprint of approximately 52,000 ft^2. During our 2002 and 2020 study, six (6) borings and two (2) test pits were performed in the vicinity of the proposed multistory building. However, only two (2) of those borings and the two (2) test pits were performed in the proposed building footprint. We recommend that additional borings be performed in the new building footprint to further evaluate the soil, rock, and groundwater conditions and finalize the design recommendations.

Lower Level Building Excavation

For level P-1 (a finished floor elevation of +416.33) we anticipate a twenty (20) foot cut on the northern end of the building and a ten (10) cut on the southern end. We expect cuts for P-1 will consist of approximately 16-feet of overburden soils and 4-feet of completely to highly weathered rock. Excavating the 4-feet of rock will require the use of hydraulic hammers and/or blasting. If blasting is required, additional recommendations can be provided.

Groundwater Considerations

Groundwater was encountered higher in the additional test pits (TP-104 and TP-105) at depths of 8’6” and 11’0” below the existing ground surface, respectively (elevations +425.5 and +424.0). We anticipate that the lower level, P-1, will extend 7 to 9 feet below the groundwater table. ***We recommend that a supplemental groundwater study with monitoring wells be performed to further evaluate the groundwater conditions throughout the building footprint.***

Existing Fill and Silty Subgrades

Existing fill was encountered at B-14 and TP-104 to a depth of 3’6” and 4’0” below the existing ground surface, respectively (elevation +416.5 and +430.0). Existing fill was not encountered in the remaining borings or test pits near the building footprint. There may be isolated areas of debris from the demolished homes in the footprint of the proposed building. The consistency and density of the existing fill is not predictable. Certain areas may contain clean dense soils while other areas may contain loose material, void spaces, and/or debris. The existing soil fill creates the possibility of intolerable differential settlements under loading. To eliminate the potential for damaging differential settlements, the existing fill shall be completely removed from the multistory building footprint.

Medium stiff to stiff Sandy Silt (Stratum 3) was encountered near and in the building footprint at borings B-6 to B-8 to depths ranging from 3'0" to 4'0" below the existing ground surface (elevations +433.0 to +426.0). Stratum 3, is an unsuitable bearing stratum for the proposed building in its natural state. We understand that the proposed finished floor elevation is +416.33, and most of Sandy Silt (Stratum 3) will be removed during excavation for the proposed building. However, in the event that this stratum is located below the foundation bearing elevation, 18-inches of the sandy silt (Stratum 3) material shall be removed and replaced with a dense graded aggregate (DGA).

Provided that the existing fill, Sandy Silt (Stratum 3) and any other unsuitable materials encountered during construction are remediated, it is our opinion that the dense graded aggregate (DGA), or the virgin soils/bedrock (Stratum 4, 5, or 6) can adequately support the new building foundations and floor slab. Recommendations for building area preparation are provided in Sections 5.1 below. Foundation recommendations are provided in Section 5.2 below. In addition, the proposed building floor slab may be designed as slab on grade bearing on new compacted fill or virgin soils. Floor slab recommendations can be found in Section 5.3 below.

Table 1 – Summary of Building Boring and Test Pit Observations

Boring/ Test Pit No.	Approximate Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Bottom of Existing Fill (Elevation)	Depth to Gneiss Bedrock or CWR (Elevation)
TP-104	+434.0	8'6" (+425.5)	4'0" (+430.0)	AR @ 16'6" (+417.5)
TP-105	+435.0	11'0" (+424.0)	NE	AR @ 18'6" (+416.5)
B-1	+ 402.0	NE to 16'0"	NE	C @ 6'0" (+396.0)
B-2	+ 414.0	NE to 14'0"	NE	CWR @ 10'0" (+404.0) C @ 14'0" (+400.0)
B-3	+ 420.0	5'6" (+414.5)	NE	CWR @ 10'0" (+410.0) AR @ 14'6" (+405.5)
B-4	+ 430.0	NE to 4'0"	NE	C @ 4'0" (+426.0)
B-5	+ 432.0	NE to 8'0"	NE	CWR @ 8'0" (+424.0) AR @ 12'0" (+420.0)
B-6	+ 437.0	NE to 8'0"	NE	C @ 8'0" (+429.0)
B-7	+ 431.0	10'0" (+421.0)	NE	CWR @ 11'0" (+420.0) C @ 14'0" (+417.0)
B-8	+ 430.0	24'0" (+406.0)	NE	CWR @ 30'0" (+400.0) AR @ 38'0" (+392.0)

Boring/ Test Pit No.	Approximate Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Bottom of Existing Fill (Elevation)	Depth to Gneiss Bedrock or CWR (Elevation)
B-9	+ 430.0	15’6” (+414.5)	NE	CWR @ 13’0” (+417.0) AR @ 35’3” (+394.8)
B-10	+ 423.0	23’0” (+400.0)	NE	CWR @ 22’0” (+401.0) AR @ 30’0” (+393.0)
B-11	+416.0	NE to 16’0”	NE	CWR @ 16’0” (+400.0) AR @ 20’6” (+395.5)
B-12	+ 417.0	20’6” (+396.5)	NE	CWR @ 26’0” (+391.0) AR @ 30’6” (+386.5)
B-13	+ 420.0	15’6” (+404.5)	NE	CWR @ 18’0” (+402.0) AR @ 20’6” (+399.5)
B-14	+ 420.0	20’0” (+400.0)	3’6” (+416.5)	CWR @ 26’0” (+394.0) AR @ 30’6” (+389.5)

NE – Not Encountered
C- Cored Bedrock
CWR – Completely Weathered Rock
AR – Auger or Bucket Refusal on Probable Intact Bedrock

5.1 Building Area Preparation

In order to prepare the site for construction, all surface materials such as asphalt and topsoil shall be removed from the planned building areas, extending at least ten (10) feet beyond the new construction limits, where practical.

Rock Removal

In order to develop the site, rock or weathered rock cuts may be required particularly in the northern portion of the building area. Based on our experience, the in-situ bedrock and weathered bedrock will be variable, ranging from a completely weathered to an intact bedrock. To excavate the rock, the top 1 to 5 feet of rock may be “rippable” by using large construction equipment. We anticipate that the “rippability” of the bedrock will be variable and limited. The use of hydraulic hammers and/or blasting will be required to excavate the harder, intact rock.

Densification of Subgrade Soils (Proofrolling)

After the surface materials have been removed, the building area can be excavated to the required subgrade elevation. The exposed subgrade shall be proofrolled by several passes of a vibratory drum roller. The proofrolling is necessary to densify the underlying soils. The proofrolling must be performed prior to the excavation for new foundations and the placement of new fill in the building area.

A representative from Carlin-Simpson & Associates or a qualified geotechnical engineer shall observe the proofrolling operation. If any excessive movement is noted during the proofrolling, the soft soil shall be removed and replaced with new compacted fill. The Carlin-Simpson & Associates or the qualified geotechnical engineer representative shall be responsible for determining what material, if any, is to be removed and will direct the Contractor during this operation. The subgrade proofrolling may be eliminated, if in the opinion of the geotechnical engineer, the proofrolling will cause pumping or otherwise disturb the stability of the subgrade.

Handling Groundwater and Silty Subgrades

Groundwater was encountered in the additional test pits (TP-104 and TP-105) at depths of 8’6” and 11’0” below the existing ground surface, respectively (elevations +425.5 and +424.0). We expect that the excavations for the proposed lower level parking will extend 7 to 9 feet below the groundwater table. Based on the proposed construction temporary groundwater control measures will be required to achieve desired lower level subgrade elevations. Due to the possible extent of dewatering for this project. An additional groundwater study is recommended for design of the dewatering system.

Based on the boring information medium stiff to stiff sandy silt (Stratum 3) was encountered near and in the building footprint at borings B-6 to B-8 to depths ranging from 3’0” to 4’0” below the existing ground surface (elevations +433.0 to +426.0). Stratum 3, is an unsuitable bearing stratum for the proposed building in its natural state. We understand that the proposed finished floor elevation is +427.0, and most of sandy silty (Stratum 3) will be removed during excavation for the proposed building. However, in the event that this stratum is located below the foundation bearing elevation, 18-inches of the sandy silt (Stratum 3) material shall be removed and replaced with a dense graded aggregate (DGA). The gradation for the DGA can be found in the section below “Installation of New Structural Fill”.

In addition, the exposed silty clayey soils will be moisture sensitive and may become destabilized when exposed to weather or poor site drainage. In the event that water has softened the subgrade soil, stabilization with geotextile filter fabric and crushed stone may be required. This determination will be made by Carlin-Simpson & Associates or a qualified geotechnical engineer during the excavation process. Where needed, the subgrade should be stabilized with geotextile fabric, such as Mirafi 500X or equivalent, and 3/4-inch clean crushed stone.

To prepare the subgrade surface for the geotextile fabric and crushed stone, all surface water, loose soil, and mud must be removed from the area. After the subgrade is prepared, a layer of geotextile fabric (Mirafi 500X or equivalent) shall be laid out on the subgrade surface. Adjacent layers of geotextile fabric should be overlapped a minimum of 6 inches. The excavation shall then be filled with 12 inches of 3/4-inch clean crushed stone. The crushed stone shall be placed in maximum 12-inch layers and compacted by several passes of a small vibratory drum roller. The crushed stone can then be used to support the proposed building foundations and floor slab.

The crushed stone should be spread across the geotextile filter fabric and densified with lightweight tracked equipment. Care should be taken to avoid contact of the tracked equipment with the geotextile fabric. Alternatively, the placement of the stone fill could be achieved by placing the material with the bucket of a large excavator and densifying the material with a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent). If subgrade pumping does occur, the filling operation should be halted until Carlin-Simpson & Associates or a qualified geotechnical engineer can evaluate the cause of the instability and make further recommendations.

Installation of New Structural Fill

New fill required to achieve final grades in the building area shall consist of dense graded aggregate (DGA). DGA shall contain less than 10% by weight passing a No. 200 sieve. The new fill shall be placed in layers not exceeding one (1) foot in thickness and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D1557). Each layer must be compacted, tested, and approved the Carlin-Simpson & Associates field representative prior to placing subsequent layers. The suitability of the excavated soil for reuse as compacted structural fill is discussed in Section 6.5 below. An example DGA gradation specification is provided below:

US Standard Sieve Size	Percent Finer By Weight
2 inch	100
¼ inch	30-65
No. 40	5-40
No. 200	0-10

After the installation of compacted fill has been completed to the required building foundation subgrade elevation, the virgin soil and new engineer-approved compacted fill may be used to support the floor slab.

5.2 New Building Foundations

Once the planned building subgrade have been prepared as described Section 5.1 above, the new foundations may be constructed on the virgin site soils, new structural fill (DGA), or completely weathered bedrock. The new building foundations may be designed as shallow spread footings bearing on virgin soil/rock, or new compacted fill using a net design bearing pressure as listed in the Table 2 below.

Bedrock Special Construction Procedures

Where rock is encountered, particularly in the lower level, P-1, the foundation excavations, "Special Construction Procedures" must be employed. When continuous wall footings or closely spaced column footings (20 feet or less) bear on dissimilar material (i.e. rock and soil) the potential for differential movement exists. A footing bearing in rock will not move, whereas a footing bearing on soil will settle slightly due to the compressive nature of all soils when subjected to new loads. The area between movement and non-movement will develop a (shear) stress point. Cracks in foundations and walls will be the result from such movement. Therefore, continuous wall footings must bear either entirely on rock or entirely on soil for any individual structure. Alternatively, for larger structures, transition zones can be constructed to create a gradual transition from a soil to a rock bearing subgrade.

Where rock and soil both exist at the bearing elevation in a foundation excavation, the footings must either be lowered to bear entirely on rock, or a minimum of 18 inches of rock must be removed from below planned footing bottom. The over-excavated 18 inches must then be filled with a granular material having a maximum particle size of 1/2-inch and containing at least 10% but not more than 30% material by weight passing a No. 200 sieve. The fill shall be placed in six (6) inch layers and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D-1557). This procedure will create a "cushion" atop the rock and reduce the potential for differential movement. For soft, rippable rock, this procedure will not be required.

Adjacent column footings greater than 20 feet apart may bear on dissimilar material (i.e. soil and rock). Any individual column footing must bear entirely on the same type bearing material (i.e. all soil or all rock). In addition, new footings constructed on sloping bedrock must be keyed into the bedrock surface.

If during the excavation for continuous foundations, the transition from soil to rock is gradual (i.e. from medium dense soil to dense weathered rock to very dense rock) over a distance of 20 feet or more, the "Special Construction Procedures" may not be required. This would have to be evaluated in the field on a case-by-case basis by the representative from Carlin-Simpson & Associates or a qualified geotechnical engineer at the time of construction.

Where the transition from rock to soil is abrupt within the excavation for continuous wall foundations, transition zones can be constructed by over-excavating the rock in steps and increasing the "soil cushion" thickness over a distance of 24 feet or more. To construct the transition zone, the bedrock is over-excavated in a series of steps, each step being six (6) inches in depth and at least eight (8) feet in length. The first step is six (6) inches deep, the second step is 12 inches deep, and the final step is 18 inches deep. The over-excavation is then backfilled with the soil cushion material described above.

Prior to the placement of formwork, reinforcement steel, and concrete, the bearing subgrade soil shall be cleaned of all loose soil and where soil is encountered at the subgrade elevation, it shall be compacted with several passes of a small vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or "jumping jack" style tamper (i.e. Wacker Model BS 600). This must be performed under the observation of Carlin-Simpson & Associates or a qualified geotechnical engineer. If instability is observed during the compaction of the bearing subgrade, the soft soil shall be removed and replaced with new compacted fill.

Foundation Design Parameters

Once the planned building subgrade has been prepared as described Section 5.1 above, the new foundations may be constructed on the virgin site soils (Stratum 4), completely weathered bedrock (Stratum 5), or DGA. The new building foundations may be designed as a shallow spread footing using a net design bearing pressure as listed in the Table 2 below.

Table 2 – Building Foundation Design Parameters

Description	Value
Foundation Bearing Material	Virgin Soil New Compacted Fill (DGA) Bedrock
Net Design Bearing Pressures: *New DGA or Virgin Soil (Stratum 4)* *Weathered bedrock or Intact Gneiss (Stratum 5, 6)*	 6,000 psf 8,000 psf
Minimum Frost Depth	42 inches
Minimum Wall Dimension	24 inches

The excavations for the new foundations shall be performed under the full-time inspection of Carlin-Simpson & Associates or a qualified geotechnical engineering firm. The on-site representative shall confirm that the foundation bearing material is capable of supporting the design bearing pressure.

Prior to the installation of the reinforcement steel and concrete, the bottoms of the foundation excavations should be cleaned of all loose material. The foundation subgrade shall be compacted with a small vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or a “jumping jack” style tamper (i.e. Wacker Model BS 600). The preparation of the footing bearing subgrade should be performed under the observation of a representative from Carlin-Simpson & Associates or the qualified geotechnical engineer. If instability is observed during the compaction of the bearing subgrade, the soft soil shall be removed and replaced with new compacted fill.

5.3 Floor Slab on Grade

Additional groundwater information is needed from the supplemental study to finalize the floor slab design. Our floor slab design is preliminary.

The floor may be designed as a slab on grade bearing on densified virgin soil, completely weathered rock, bedrock, or new engineer-approved structural fill. Floor slab design parameters are provided in Table 3 below. A layer of 3/4-inch crushed stone is recommended beneath the concrete slab for additional support and drainage. Provisions for sump pits and pumps are recommended for lower levels that are bearing on bedrock.

Table 3 –Floor Slab Design Parameters

Description	Value
Slab Subgrade Material	Densified Virgin Soils/ Bedrock / New Structural Fill
Modulus of Subgrade Reaction (k)	200 pci
Crushed Stone Cushion Thickness	12 inches

New fill for the floor slabs shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel shall contain less than 20% material by weight passing a No. 200 sieve. The new fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Fill layers shall be compacted, tested, and approved before placing subsequent layers.

5.4 Foundation Walls

Additional groundwater information is needed from the supplemental study to finalize the foundation wall design. Our foundation walls design is preliminary.

Where foundation walls are required, the soil adjacent to the building walls will exert a horizontal pressure against the wall. This pressure is based on the soil density and Coefficient of Earth Pressure at Rest (k_o), which is applicable to non-yielding building walls. Foundation wall design parameters are listed in Table 4 below.

Where foundation walls are required, we recommend that a footing drain be placed around the exterior of the new building to prevent water from accumulating against the foundation wall. This drain may consist of a minimum 4-inch diameter, rigid wall perforated PVC pipe surrounded by at least 12 inches of 3/4-inch clean crushed stone. The stone shall be wrapped in a geotextile fabric, such as Mirafi 140N or equivalent. The foundation drainpipe should be extended to daylight, if possible, or to the stormwater collection system. The outside face of the foundation wall, where it extends below grade, must be damp proofed or waterproofed.

Table 4 – Foundation Wall Design Parameters

Soil Type	On-Site Soils	Imported Structural Fill
Moist Unit Weight (γ)	130 pcf	130 pcf
Coefficient of Earth Pressure at Rest (k_o)	0.5	0.47
Equivalent Fluid Pressure	65 psf/ft	61.1 psf/ft
Foundation Sliding Coefficient. Virgin Soils or New Structural Fill: Clean Sound Rock:	 0.45 0.55	

Outside the building, the backfill placed adjacent to the foundation walls and above the footing drain shall consist of either clean crushed stone or an imported sand and gravel mixture containing less than 10% by weight passing a No. 200 sieve and placed in layers not exceeding 12 inches in thickness. This clean sand and gravel or crushed stone backfill shall extend a minimum of 12 inches horizontally from the back face of the foundation walls, and shall extend vertically up the wall face to 2 feet below the finished ground surface elevation. Where retained soils are not covered by concrete or pavement and are exposed to weather, the top 2 feet of backfill should consist of low permeable soil. This will help to minimize water infiltration behind the wall. Surface grades should be sloped away from the building to prevent water from accumulating adjacent to the wall.

Beyond this point, the foundation walls should be backfilled with suitable soil placed in layers up to 12 inches in thickness. The suitability of the on-site soil for reuse as compacted fill is discussed in a separate section below. The new fill should be compacted with a vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or "jumping jack" style tamper (i.e. Wacker Model BS 600) to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Heavy equipment should not be operated near the building walls as damage to the walls could occur.

5.5 Building Settlement

Settlement of individual footings, designed in accordance with recommendations presented in this report, is expected to be within tolerable limits for the proposed buildings. For footings placed on natural soils or new compacted fill approved by Carlin-Simpson & Associates and constructed in accordance with the requirements outlined in this report, maximum total settlement is expected to be on the order of 1-inch or less. Maximum differential settlement between adjacent columns or load bearing walls is expected to be half the total settlement.

The above settlement values are based on our engineering experience with similar soil conditions and the anticipated structural loading, and are to guide the structural engineer with his design. To minimize difficulties during the foundation installation phase, it is critical that Carlin-Simpson & Associates be retained to observe the foundation bearing surfaces and to confirm the recommended bearing pressures and that the existing fill and unsuitable materials have been removed from beneath the new foundations.

5.6 Seismic Design Considerations

From site-specific test boring data, the Site Class was determined from Table 1613.5.2 of the New York State Building Code. The site-specific data used to determine the Site Class typically includes soil test borings to determine Standard Penetration resistances (N-values). Based on estimated average N-values in the upper 100 feet of soil profile, the site can be classified as Site Class C – Very Dense Soil and Soft Rock Profile.

New buildings should be designed to resist stress produced by lateral forces computed in accordance with Section 1613 of the New York State Building Code. The values in Table 5 shall be used for this project.

Table 5 – Seismic Design Values

Mapped Spectral Response Acceleration for Short Periods, [Fig 1613.5 (1)]	S_S=0.287g
Mapped Spectral Response Acceleration at 1-Second Period, [Fig 1613.5 (2)]	S_1=0.061g
Site Coefficient [Table 1613.5.3 (1)]	F_a= 1.30
Site Coefficient [Table 1613.5.3 (2)]	F_v= 1.50
Max Considered Earthquake Spectral Response for Short Periods [Eq 16-37]	S_{MS}=0.373g
Max Considered Earthquake Spectral Response at 1-Second Period [Eq 16-38]	S_{M1}=0.091g
Design Spectral Response Acceleration for Short Periods [Eq 16-39]	S_{DS}=0.249g
Design Spectral Response Acceleration for 1-Second Period [Eq 16-40]	S_{D1}=0.061g

6.0 SITE EVALUATION

Our recommendations for the proposed site development including the new utilities, stormwater management, temporary excavation and bracing, pavement, and suitability of the existing site soils for reuse are provided below.

6.1 Utilities

Existing fill is present near B-14 to depth of 3'6" below the existing ground surface. Existing fill was not encountered in the remaining borings, however, there were several residential residences, mainly in the area of the proposed townhome development that were demolished around 2005 (this can be concluded by satellite imagery). There may be buried debris in the footprints of these demolished homes that are not apparent at the time of this report. For areas where existing fill is encountered within the utility excavations, the subgrade at bottom of the utility excavation shall be compacted in place with a vibratory drum trench compactor or "jumping jack" style tamper. Carlin-Simpson & Associates must evaluate these areas for the presence of soft or unsuitable material within the existing fill matrix. If instability is observed, portions of this fill may have to be removed and replaced with new compacted fill. Carlin-Simpson & Associates will determine this during construction.

New utilities may bear in the densified existing fill, virgin soils, or new compacted fill. The bottom of all trenches shall be excavated clean so a hard bottom is provided for pipe support. If any soft areas or unsuitable existing fill conditions are encountered during the construction operation, these materials must be removed and replaced with new compacted fill.

In the event that water is encountered within the utility trench excavation or if the trench bottom becomes soft due to the inflow of surface water or trapped water, a layer of geotextile filter fabric and a minimum of six (6) inches of crushed stone shall be placed on the bearing soil to provide a firm base for support of the pipe. Sump pits and pumps should be used to keep the excavations dry.

6.2 Stormwater Management System

As a part of this study, ten (10) test pits were performed for the new stormwater management areas. The test pit locations are shown on the attached Boring and Test Pit Location Plan and are summarized below in Table 6.

Table 6 –Summary of Test Pit Observations for Stormwater Management System

Test Pit No.	Approximate Existing Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Seasonal High Groundwater (Elevation)	Depth to Bedrock (Elevation)
TP-101	+408.0	3'6" (+404.5)	2'6" (+405.5)	NE to 12'0"
TP-102	+407.0	NE to 10'6"	5'0" (+402.0)	NE to 10'6"
TP-103	+408.5	NE to 12'0"	7'0" (+401.5)	NE to 12'0"

Test Pit No.	Approximate Existing Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Seasonal High Groundwater (Elevation)	Depth to Bedrock (Elevation)
TP-201	+408.0	2'6" (+405.5)	NE	NE to 13'0"
TP-202	+410.0	NE to 8'0"	4'3" (+405.8)	NE to 8'0"
TP-203	+410.0	1'6" (+408.5)	NE	NE to 4'3"
TP-204	+403.0	NE to 10'6"	NE to 10'6"	NE to 10'6"
TP-205	+404.0	NE to 11'0"	NE to 11'0"	NE to 11'0"
TP-206	+417.0	NE to 12'0"	NE to 12'0"	NE to 12'0"
TP-207	+417.0	NE to 12'0"	NE to 12'0"	NE to 12'0"

NE – Not Encountered

To determine the site soils permeability, five (5) in situ infiltration test were completed at test pit locations TP-103, TP-204, TP-205, TP-206, and TP-207 to evaluate the permeability rates of the site soils. The percolation tests were performed in accordance with NYSDEC procedures, Appendix D. The results of field infiltration rates and calculated vertical permeability rate are shown in Table 7 below.

$$K_m = 1.142R_t \times \frac{\left[Ln\left(\frac{h_1}{h_2}\right)\right]}{(t_2 - t_1)}$$

Table 7 - Permeability Test Results

Infiltration Test No.	Approx. Ground Surface Elevation	Depth to Top of Test Below Existing Ground Surface (Elevation)	Field Infiltration Rate	Calculated Vertical Permeability Rate, K_m
TP-103	+408.5	4'0" (+404.5)	19.5 in/hr	1.54 in/hr
TP-204	+403.0	9'0" (+394.0)	> 20 in/hr	>10.0 in/hr
TP-205	+404.0	8'6" (+395.5)	> 20 in/hr	>10.0 in/hr
TP-206	+417.0	8'0" (+409.0)	10.5 in/hr	0.53 in/hr
TP-207	+417.0	8'0" (+409.0)	20 in/hr	1.65 in/hr

6.3 Temporary Construction Excavations and Excavation Protection

Temporary construction excavations should be conducted in accordance with the most recent OSHA guidelines or applicable federal, state or local codes. A qualified person should evaluate the excavations at the time of construction to determine the appropriate soil type and allowable slope configuration. Based on the boring data, we believe the site soils and rock would have the following classifications as defined by the OSHA guidelines.

Soil/Rock Type	Possible Classification	Maximum Slope or Bench
Existing Fill	Type "C"	1½H:1V
Virgin Soil	Type "B"	1H:1V
Weathered Rock	Type "B"	1H:1V
Intact Gneiss	Type "A"	3/4H:1V

Temporary support (i.e. trench boxes, sheeting and shoring, etc.) should be used for any excavation that cannot be sloped or benched in accordance with the applicable regulations, where necessary to protect adjacent utilities and structures, or where saturated soils or water seepage is encountered within the excavation.

A New York State licensed professional engineer must design all temporary and permanent support systems. The contractor will select the shoring type and submit design calculations for the proposed shoring method to Carlin-Simpson & Associates for review. The soil adjacent to the temporary support system will exert a horizontal pressure against the system. This pressure is based on the soil unit weight, coefficient of active earth pressure, and depth of the excavation. Support of Excavation design parameters are listed in Table 8 below.

Table 8 – Temporary Sheeting and Shoring Design Parameters

Description	Value
Moist Unit Weight (pcf)	130
Friction Angle (ϕ, deg)	30
Cohesion (c, psf)	0
Active Earth Pressure Coefficient (k_a)[1]	0.33
Equivalent Fluid Pressure (pcf)	40.3
Passive Earth Pressure Coefficient (k_p)[1]	3.0

6.4 Pavement

We understand that the proposed construction will also include new asphalt paved parking areas and driveways. We expect that varying cuts and fills will be required to achieve the planned subgrade elevations in the new pavement areas. Densified existing fill or virgin site soils, and new compacted fill may be used to support the pavement.

To prepare the new pavement areas, the existing surface materials (i.e. topsoil, vegetation, etc.) must be removed from the planned pavement areas. In the proposed pavement areas, the existing structures and debris resulting from the demolition of these structures must be completely removed from the new pavement area, extending at least five (5) feet beyond the new paving limits, where practical. The excavations resulting from the removal of existing structures shall be backfilled using controlled compacted fill. New fill shall consist of either suitable on-site soil or imported sand and gravel placed in one (1) foot loose layers and compacted to at least 92% of its Maximum Modified Dry Density (ASTM D-1557).

Existing fill was present at the site from depths ranging depth from 2’0” to 7’0” below the existing ground surface. Areas where existing fill is encountered shall be compacted in place. Carlin-Simpson & Associates must evaluate these areas for the presence of soft or unsuitable material within the existing fill matrix. Portions of this fill may have to be removed and replaced with new compacted fill. Carlin-Simpson & Associates will determine this during construction.

After all surface materials have been removed, the area can be excavated to the planned subgrade elevation. Where soil is encountered at the subgrade elevation, the subgrade shall be proofrolled with a large vibratory drum roller (i.e. Dynapac 250 or equivalent) to densify the underlying soils. The on-site representative from Carlin-Simpson & Associates shall witness the proofrolling operation. If any excessive movement is noted during the proofrolling, the soft or unsuitable soil shall be removed and replaced with new compacted fill.

Where new fill is required to achieve final grades, it shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel shall contain less than 20% by weight passing a No. 200 sieve. New fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D-1557). After the planned subgrade has been proofrolled and new compacted fill has been placed as required, the new pavement subbase may be placed on the existing site soils, bedrock, and new compacted fill.

A minimum of six (6) inches of dense graded aggregate (DGA) or crushed stone is recommended for sub-pavement drainage and additional pavement support. We recommend that the following pavement sections be used for the parking lots and driveways. This pavement section is subject to local government approval.

6.5 Suitability of the In-Situ Soils for Use as Compacted Fill

The suitability of each soil stratum for use as compacted fill is discussed below.

Stratum 2
Existing Fill

The existing fill generally consists of sandy silt. This material will be very moisture sensitive. The existing fill has a moderate to high percentage of silt, however, as long as it remains relatively dry for optimum compaction, the existing fill may be difficult but suitable for reuse as compacted fill.

Stratum 3/4
Sandy Silt or Silty Sand

This material will be very moisture sensitive. The existing fill has a moderate to high percentage of silt, however, as long as it remains relatively dry for optimum compaction, the existing fill may be difficult but suitable for reuse as compacted fill.

Note that some of this stratum is below the groundwater table. Soil located below the groundwater table will be completely saturated and therefore not usable as compacted fill.

Stratum 4/5 Weathered Rock/ Bedrock	Excavated rock may be used as fill material provided that the material conforms to the required gradation, is well graded, and has been approved prior to use by Carlin-Simpson & Associates. All rock fill must be well blended with smaller rock fragments and/or soil. The maximum particle size for rock placed as fill in the building area shall be three (3) inches in diameter. In other areas of the site, the maximum particle size shall be six (6) inches in diameter. Most of the excavated rock will be too large for use as compacted fill in structural areas. The excavated rock must therefore be processed through a crusher to provide suitable fill material. Rock fill should not be used where it will interfere with the installation of foundations or utilities. Also, it shall not be used as backfill directly against concrete walls or utilities.

The boring observations indicate that the on-site soils contain a moderate to very high percentage of silt (20% to >50%). The high silt content soils will be moisture sensitive. If the soil becomes too wet, it will be difficult to achieve adequate compaction. Proper moisture conditioning of the soil will be required. New compacted fill should be within 2% (+/-) of its optimum moisture content at the time of placement. In the event that the on-site material is too wet at the time of placement and cannot be adequately compacted, the soil should be aerated and allowed to dry or the material removed and a drier cleaner fill material used. In the event that the on-site material is too dry at the time of placement and cannot be adequately compacted, water may be needed to increase the soil moisture content for proper compaction.

The in-situ soils which exist throughout the site may become soft and weave if exposed to excessive moisture and construction traffic. The instability will occur quickly when exposed to these elements and it will be difficult to stabilize the subgrade. We recommend that adequate site drainage be implemented early in the construction schedule and if the subgrade becomes wet, the contractor should limit construction activity until the soil has dried.

The minimum compaction requirements for the various areas of the site are summarized in Table 9 below.

Table 9 – Minimum Compaction Requirements

Area	**Maximum Modified Dry Density (ASTM D-1557)**
Building (below foundations)	**95%**
Building Slab (above foundations)	92%
Pavement Areas	92%
Exterior Slabs and Sidewalks	92%
Utility Trenches	92%
Landscape Areas	90%

7.0 GENERAL

The findings, conclusions and recommendations presented in this report represent our professional opinions concerning subsurface conditions at the site. The opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at later dates or at locations not explored. The opinions included herein are based on information provided to us, the data obtained at specific locations during the study and our past experience. If additional information becomes available that might impact our geotechnical opinions, it will be necessary for Carlin-Simpson & Associates to review the information, reassess the potential concerns, and re-evaluate our conclusions and recommendations.

Regardless of the thoroughness of a geotechnical exploration, there is the possibility that conditions between borings and test pits will differ from those encountered at specific boring or test pit locations, that conditions are not as anticipated by the designers and/or the contractors, or that either natural events or the construction process have altered the subsurface conditions. These variations are an inherent risk associated with subsurface conditions in this region and the approximate methods used to obtain the data. These variations may not be apparent until construction.

The professional opinions presented in this geotechnical report are not final. Field observations and foundation installation monitoring by the geotechnical engineer, as well as soil density testing and other quality assurance functions associated with site earthwork and foundation construction, are an extension of this report. Therefore, Carlin-Simpson & Associates should be retained by the Owner to observe all earthwork and foundation construction, to document that the conditions anticipated in this study actually exist, and to finalize or amend our conclusions and recommendations Carlin-Simpson & Associates is not responsible or liable for the conclusions and recommendations presented in this report if Carlin-Simpson & Associates does not perform the observation and testing services.

Therefore, in order to preserve continuity in this project, the Owner must retain the services of Carlin-Simpson & Associates to provide full time geotechnical related monitoring and testing during construction. At a minimum, this shall include the observation and testing of the following: 1) the removal of unsuitable soil, where required; 2) the proofrolling of the subgrade soil prior to the placement of new compacted fill; 3) the placement and compaction of controlled fill; 4) the excavation for the structure foundations; and 5) the preparation of the subgrade for the floor slabs.

This report has been prepared in accordance with generally accepted geotechnical engineering practice. No other warranty is expressed or implied. The evaluations and recommendations presented in this report are based on the available project information, as well as on the results of the exploration. Carlin-Simpson & Associates should be given the opportunity to review the final drawings and site plans for this project to determine if changes to the recommendations outlined in this report are needed. Should the nature of the project change, these recommendations should be re-evaluated.

This report is provided for the exclusive use Airport Campus I-V, LLC and the project specific design team and may not be used or relied upon in connection with other projects or by other third parties. Carlin-Simpson & Associates disclaims liability for any such third party use or reliance without express written permission. Use of this report or the findings, conclusions or recommendations by others will be at the sole risk of the user. Carlin-Simpson & Associates is not responsible or liable for the interpretation by others of the data in this report, nor their conclusions, recommendations or opinions.

If the conditions encountered during construction vary significantly from those stated in this report, this office should be notified immediately so that additional recommendations can be made.

Thank you for allowing us to assist you with this project. Should you have any questions or comments, please contact this office.

Very truly yours,

CARLIN-SIMPSON & ASSOCIATES

CATHERINE K. SIMPSON
Project Engineer

ROBERT B. SIMPSON, P.E.

CARLIN – SIMPSON & ASSOCIATES
Consulting Engineers
Geotechnical & Environmental

Proposed Building Complex
113 King St.
North Castle, NY
19-215

23 July 2020

TEST PIT LOGS

TP-101 (Elev. +408.0)

0'0"-1'3"	Topsoil	
1'3"-5'6"	FILL (Brown, dark gray coarse to fine SAND, and (+) Silt, little (-) coarse to fine Gravel) slightly mottled @ 2’6”	loose, moist
5'6"-12'0"	Brown, gray coarse to fine SAND, some (-) Silt, some coarse to fine Gravel	medium dense, moist

Groundwater encountered @ 3’6” (slow inflow)
Seasonal High Groundwater @ 2’6”

TP-102 (Elev. +407.0)

0'0"-0'10"	Topsoil	
0'10"-2'0"	FILL (Dark gray coarse to fine SAND, and Silt, little coarse to fine Gravel)	medium dense, moist
2'0"-10'6"	Brown coarse to fine SAND, little (+) Silt, some coarse to fine Gravel mottled @ 5’0”	medium dense, moist

Seasonal High Groundwater @ 5’0”

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TP-103 (Elev. +408.5)

0'0"-1'0"	Topsoil	
1'0"-4'0"	FILL (Dark brown, black coarse to fine Sand, and (+) Silt, little (-) coarse to fine Gravel)	medium dense, moist
4'0"-12'0"	Orange brown, brown coarse to fine SAND, little (+) Silt, some coarse to fine Gravel	medium dense, moist

Seasonal High Groundwater Encountered @ 7'0"
No Groundwater Encountered

TP-104 (Elev. +434.0)

0'0"-1'3"	Topsoil	
1'3"-4'0"	FILL (Brown coarse to fine Sand, some Silt, some (+) coarse to fine Gravel with shot rock fill)	medium dense, moist
4'0"-8’0"	Brown coarse to fine Sand, some Silt some coarse to fine Gravel	medium dense, moist
8'0"-16’6"	Brown coarse to fine Sand, some Silt some coarse to fine Gravel with cobbles and boulders	dense, wet

Groundwater Encountered @ 8'6"
Bucket Refusal on Probable Bedrock @ 16’6”

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TP-105 (Elev. +435.0)

0'0"-1'0"	Topsoil	
1'0"-18’6"	Brown coarse to fine Sand, some (-) Silt some coarse to fine Gravel with many cobbles and boulders	medium dense 1’ to 8’ dense 8’ to 18’6” moist to wet

Groundwater Encountered @ 11'0" (slow inflow)
Bucket Refusal on Probable Bedrock @ 18’6”

CARLIN – SIMPSON & ASSOCIATES

Consulting Engineers
Geotechnical & Environmental

Proposed Building Complex
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TEST PIT LOGS

TP-201 (Elev. +408.0)

0’0” - 0’10”	Topsoil with grass	
0’10”– 2'6”	FILL (Dark brown coarse to fine SAND, some Silt, little (+) medium to fine Gravel, with wood debris)	loose, moist
2'6” – 7’0”	FILL (Dark gray coarse to fine SAND, little (+) Silt, some (-) medium to fine Gravel)	very dense, moist
7’0” – 13’0”	Brown coarse to fine SAND, littleSilt, little (+) medium to fine Gravel, with cobbles	medium dense, moist

Groundwater Encountered @ 2’6”

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TP-202 (Elev. +410.0)

0'0"- 0'8"	Topsoil with grass	
0'8"-2'3"	FILL (Dark brown coarse to fine SAND, some (+) Silt)	loose, moist
2'3"-4'3"	FILL (Dark gray coarse to fine SAND, little (+) Silt, some coarse to fine Gravel, with wood debris)	dense, moist
4'3"-5'6"	Mottled gray, orange brown coarse to fine SAND, some (+) Silt,	medium dense, moist
5'6"-8'0"	Brown coarse to fine SAND, little Silt, little (+) medium to fine Gravel	medium dense, moist

Seasonal High Groundwater @ 4'3"
No Groundwater Encountered

TP-203 (Elev. +410.0)

0'0"- 0'10"	Topsoil with grass	
0'10"- 4'3"	FILL (Dark brown coarse to fine SAND, and Silt, little (-) medium to fine Gravel)	loose, moist to wet
4'3"	Refusal on concrete	

Groundwater encountered @ 1'6"

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TP-204 (Elev. +403.0)

0'0"-0'10"	Topsoil with grass	
0'10"-2'6"	FILL (Dark gray coarse to fine SAND, and (-) Silt, little (-) medium to fine Gravel, with wood and debris)	loose, moist
2'6"-6'0"	Brown coarse to fine SAND, some Silt, trace (+) fine Gravel	medium dense, moist
6'0"-10'6"	Gray coarse to fine SAND, little (-) Silt, little medium to fine Gravel, with cobbles and boulders	dense, moist

No Groundwater Encountered

TP-205 (Elev. +404.0)

0'0"-0'10"	Topsoil with grass	
0'10"-4'9"	FILL (Dark brown, gray coarse to fine SAND, some (+) Silt, little medium to fine Gravel, with a couple large asphalt pieces and debris)	loose, moist
4'9"-11'0"	Brown, gray coarse to fine SAND, little (+) Silt, little (+) medium to fine Gravel, with cobbles	medium dense, moist

No Groundwater Encountered

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TP-206 (Elev. +417.0)

0'0"-0'10"	Topsoil with grass	
0'10"-2'0"	FILL (Gray coarse to fine SAND, and (-) Silt)	loose, moist
2'0"-5'6"	FILL (Brown coarse to fine SAND, little (+) Silt, little (+) medium to fine Gravel)	medium dense, moist
5'6"-8'0"	FILL (Dark gray coarse to fine SAND, and (-) Silt, little (+) medium to fine Gravel, with organics, wood debris, organic odor)	loose, moist
8'0"-12'0"	Brown coarse to fine SAND, little (+) Silt, little medium to fine Gravel	medium dense, moist
	No Groundwater Encountered	

TP-207 (Elev. +417.0)

0'0"-0'8"	Topsoil with grass	
0'8"-8'0"	FILL (Brown, gray coarse to fine SAND, some (+) Silt, some (-) medium to fine Gravel)	medium dense, moist
8'0"-12'0"	Brown coarse to fine SAND, little (+) Silt, little medium to fine Gravel	medium dense, moist
	No Groundwater Encountered	

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-1

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+402.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**	**NX**		**START DATE:**	05 Apr 02
				DIA.	**3/14"**	**2"**	**2 1/8"**		**FINISH DATE:**	05 Apr 02
No Water Encountered				**WGHT**		**140#**			**DRILLER:**	E. Delpriore
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	**Casing Blows per Foot**	**Sample Number**	**Blows on Sample Spoon per 6"**	**Sym**	**IDENTIFICATION**	**REMARKS**
			2		**Brown Silty Topsoil** 0'7"	
1		**S-1**	2		Br $ a, cf S, t (+) mf G	Rec = 17"
			3			very moist
2			5		**Brown SILT and, coarse to fine**	
			5		same **Sand, trace (+) medium fine Gravel**	
3		**S-2**	9		3'0"	
			27		Br cf S, s $, l mf G	weathered Gneiss
4			37			
					Brown coarse to fine SAND, some	Rec = 15"
5					**Silt, little medium to fine Gravel**	moist
			50		same	
6		**S-3**	50/3"		6'0"	
7						
		Run #1				Run #1
8						6'0"-11'0"
						Run = 60"
9						Rec = 18", 30%
						RQD = 0
10						
					Gneiss, Crushed, highly weathered	
11						
12						
13		**Run #2**				Run #2
						11'0"-16'0"
14						Run = 60"
						Rec = 24", 40%
15						RQD = 22%
16					16'0"	
					End of Boring @ 16'0"	
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-2

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+414.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**	**NX**		**START DATE:**	05 Apr 02
				DIA.	**3/14"**	**2"**	**2 1/8"**		**FINISH DATE:**	05 Apr 02
No Water Encountered				**WGHT**		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			3		**Brown Silty Topsoil** 0'8"	
1		**S-1**	4		Br $ a, cf S, t mf G	Rec = 15"
			6			moist
2			26			
			12		same	
3		**S-2**	16		**Brown SILT and, coarse to fine**	Rec = 16"
			14		**Sand, trace (+) medium to fine Gravel**	moist
4			29			
5					5'0"	
			18		Br cf S, l (+) $, s (-) cf G	
6		**S-3**	25			Rec = 16"
			23			moist
7			23		**Brown coarse to fine SAND, little (+) Silt, some (-) coarse to fine Gravel**	
8						
9						
10					10'0"	
		S-4	50/2"		Completely weathered Gneiss	Rec = 2"
11						moist
12						
					Completely weathered Gneiss	
13						
14					14'0"	Auger refusal 14'0"
15						
16						
		Run #1			**Brown Gneiss, Crushed, moderately weathered and fractured**	Run #1
17						14'0"-19'0"
						Run = 60"
18						Rec = 49", 82%
						RQD = 0
19						
20		**Run #2**				Run #2
						19'0"-24'0"
21						Run = 60"
						Rec = 36", 60%
22						RQD = 0

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-2
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23		Run #2 cont'd			Brown Gneiss, Crushed, moderately weathered and fractured	
24					24'0"	
					End of Boring @ 24'0"	
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-3

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+420.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	05 Apr 02
5 Apr 02	**0315**	**5'6"**	**Auger**	**DIA.**	**3/14"**	**2"**			**FINISH DATE:**	05 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL					**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		**Brown Silty Topsoil** 0'7"	
1		**S-1**	3		Br $ l a, cf S, t cf G	Rec = 14"
			6			very moist
2			7			
			9		same, a (+) cf S, l (-) mf G	
3		**S-2**	17			Rec = 14"
			27			moist
4			38		**Brown SILT and, coarse to fine**	
					Sand, little (-) coarse to fine Gravel	
5						
			5		same	
6		**S-3**	6			Rec = 16"
			9			wet
7			14			
			8		same	
8		**S-4**	7		8'0"	Rec = 18"
			15		Br cf S, s $, l mf G	wet
9			20		**Brown coarse to fine SAND, some**	
					Silt, little medium to fine Gravel	
10					10'0"	
		S-5	50/1"			Rec = 0
11						
12						
13					**Completely weathered, Gneiss**	
14						
					14'6"	Auger refusal @ 14'6"
15					**End of Boring @ 14'6"**	
16						
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-4
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		SHEET NO.: 1 of 1
Client: Airport Campu I-V, LLC		JOB NUMBER: 01-27
Drilling Contractor: General Borings Inc.		ELEVATION: +430.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	DATUM:	Topo
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	NX		START DATE:	08 Apr 02
				DIA.	4"	2"	2 1/8"		FINISH DATE:	08 Apr 02
No Water Encountered				WGHT		140#			DRILLER:	J. Muccino
				FALL		30"			INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			3		**Brown Silty Topsoil** 0'6"	
1		S-1	5		Br $ a, cf S, t (+) cf G	Rec = 12"
			6		**Brown SILT and, coarse to fine**	moist
2			23		**Sand, trace (+) coarse to fine Gravel** 2'0"	
			30		Br cf S, s $, l cf G	
3		S-2	50/3"		**Brown coarse to fine SAND, some**	Rec = 6"
					Silt, little coarse to fine Gravel,	moist
4					4'0"	
5						
6		Run #1				Run #1
					Gneiss, Crushed, Highly Weathered	4'0"-9'0"
7						Run = 60"
						Rec = 30", 50%
8						RQD = 0
9					9'0"	
10						
11		Run #2				Run #2
						9'0" - 14'0"
12					**Gneiss, Shattered, very blocky and seamy**	Run = 60"
					moderately weathered	Rec = 60", 100%
13						RQD = 40%
14					14'0"	
					End of Boring @ 14'0"	
15						
16						
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-5

Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:**	1 of 1
Client:	Airport Campu I-V, LLC	**JOB NUMBER:**	01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:**	+432.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
									DATUM:	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**START DATE:**	08 Apr 02
				DIA.	4"	2"			**FINISH DATE:**	08 Apr 02
	No Water Encountered			**WGHT**		140#			**DRILLER:**	J. Muccino
				FALL		30"			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			3		**Brown Silty Topsoil** 0'6"	
1		S-1	4		Br $ l a, cf S, t (+) cf G	Rec = 14"
			12			moist
2			50			
3					**Brown SILT and, coarse to fine Sand, trace (+) coarse to fine Gravel**	
4						
5					5'0"	
			25		Br cf S, l $, l (+) mf G	
6		S-2	48			Rec = 10"
7					**Brown coarse to fine SAND, little (+) Silt, little (+) coarse to fine Gravel**	moist
8					8'0"	
9						
10					**Completely Weathered Gneiss**	
		S-3	50/3"		Completely Weathered Gneiss	Rec = 2"
11						moist
12					12'0"	
					End of Boring @ 12'0"	
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-6
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 1 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27
Drilling Contractor: General Borings Inc.		**ELEVATION:** +438.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS	NX		**DATUM:** Topo
				DIA.	4"	2"	2 1/8"		**START DATE:** 08 Apr 02
No Water Encountered				**WGHT**		140#			**FINISH DATE:** 09 Apr 02
				FALL		30"			**DRILLER:** J. Muccino
									INSPECTOR: EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	IDENTIFICATION	REMARKS
			2	**Brown Silty Topsoil** 0'8"	
1		S-1	2	Br $ a,, cf S, t (+) cf G	Rec = 14"
			2	**Brown SILT and, coarse to fine**	moist
2			4	**Sand, trace (+) coarse to fine Gravel**	
			10	Br cf S, a (-) $, l (+) mf G	
3		S-2	13		Rec = 16"
			12		moist
4			16	4'0"	
5					
			49	Br cf S, s (-) $, l (-) cf G,	
6		S-3	30		Rec = 12"
			33	**Brown coarse to fine SAND, little (+)**	very moist-wet
7				**Silt, some (+) medium to fine Gravel,**	
8				8'0"	
9					
10					
		Run #1		**Brown Gneiss, shattered very**	Run #1
11				**blocky and seamy, highly weathered**	8'0"-13'0"
					Run = 60"
12					Rec = 30", 50%
					RQD = 42%
13				13'0"	completely weathered seam - 13'0"-15'0"
14				**Completely Weathered Gneiss**	
15				15'0"	
		Run #2			Run #2
16					15'0"-20'0"
					Run = 60"
17					Rec = 30", 50%
					RQD = 0
18				**Gneiss, crushed, highly weathered**	
19					
20		Run #3			Run #3
					20'0"-25'0"
21					Run = 60"
					Rec = 58", 97%
22					RQD = 17%

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-6
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23		Run #3				
24						
25						
26						
27					**Gray Gneiss, crushed, highly weathered**	
28		Run #4				Run #4
						25'-30'
29						Run = 60"
						Rec = 58", 97%
30					30'0"	RQD = 12%
31						
32						
33		Run #5				Run #5
						30'-35'
34						Run = 60"
						Rec = 60", 100%
						RQD = 83%
35					**Gray Gneiss, massive moderly jointed slightly weathered**	
36						
37						
38		Run #6				Run #6
						35'-40'
39						Run = 60"
						Rec = 60", 100%
40					40'0"	RQD = 77%
41					**End of Boring @ 40'0"**	
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-7

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+431.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**	**NX**		**START DATE:**	10 Apr 02
10 Apr 02	**0930**	**10'**	**Auger**	**DIA.**	**3 1/4"**	**2"**	**2 1/8"**		**FINISH DATE:**	10 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		**Brown Silty Topsoil**	
1		**S-1**	3		0'11"	Rec = 15"
			3		Br $ l (+), cf S, l (-) f G	very moist
2			9		**Brown SILT little (+), coarse to fine Sand, little (-) fine Gravel**	
3					3'0"	
4					**Brown coarse to fine SAND, some Silt, little (-) coarse to fine Gravel**	
5						
			6		Br cf S, s $, l (-) cf G	
6		**S-2**	8			Rec = 15"
			14		6'6"	moist
7			25			
8					**Brown coarse to fine SAND, little Silt, little coarse to fine Gravel**	
9						
10						
			10			
11		**S-3**	30		11'0"	Rec = 16"
			50/3"			very moist-wet
12						
13					**Gneiss, completely weathered**	
14					14'0"	
15						
16						
17		**Run #1**			**Gneiss, crushed, Highly Weathered**	Run #1 14'0"-19'0" Run = 60" Rec = 59" RQD = 25%
18						
19					19'0"	
20					**End of Boring @ 19'0"**	
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-8

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+430.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	10 Apr 02
10 Apr 02	**1200**	**24'**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	10 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	**Casing Blows per Foot**	**Sample Number**	**Blows on Sample Spoon per 6"**	**Sym**	**IDENTIFICATION**	**REMARKS**
			7		**Gravel and Sand Fill** 0'6"	
1		**S-1**	5		Br $ s (+), cf S, l (-) cf G	Rec = 16"
			5			moist
2			8		**Brown SILT some (+), coarse to fine**	
			12		**Sand, little (-) coarse to fine Gravel**	
3		**S-2**	25		same	Rec = 15"
			29			moist
4			32		4'0"	
5						
			11		Br cf S, l (+) $, t mf G	
6		**S-3**	13			Rec = 17"
			17		**Brown coarse to fine SAND, little (+)**	moist
7			21		**Silt, trace medium to fine Gravel**	
8					8'0"	
9						
10						
			28		Br cf S, s $, l (-) cf G	
11		**S-4**	34			Rec = 14"
			31			moist
12			52			
					Brown coarse to fine SAND, some	
13					**Silt, little (-) medium to fine Gravel**	
14						
15						
		S-5	50/4"		same	Rec = 0"
16						
17						
18						
19						
20						
			24			
21		**S-6**	32		same	Rec = 10"
			25			very moist
22			34			

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-8
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24						
25						
			21		Br cf S, l (+) $, l cf G	
26		**S-7**	37			Rec = 17"
			32			wet
27			50/4"		**Brown coarse to fine SAND, little (+)**	
					Silt, little coarse to fine Gravel	
28						
29						
30					30'0"	
		S-8	50/3"		Completely weathered Gneiss	Rec = 2"
31						moist
32						
					Completely weathered Gneiss	
33						
34						
35						
		S-9	50/4"		same	Rec = 2"
36						
37						
38					38'0"	auger refusal @ 38'0"
					End of Boring @ 38'0"	
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-9
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 1 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27
Drilling Contractor: General Borings Inc.		**ELEVATION:** +430.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**DATUM:**	Topo
10 Apr 02	1200	15'6"	HSA	**DIA.**	4"	2"			**START DATE:**	10 Apr 02
				WGHT		140#			**FINISH DATE:**	10 Apr 02
				FALL		30"			**DRILLER:**	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			9		**Brown Silty Topsoil** 0'7"	
1		**S-1**	21		Br $ s (+), cf S, l (-) cf G	Rec = 12"
			18			moist
2			30			
3					**Brown SILT some (+), coarse to fine Sand, little (-) coarse to fine Gravel**	
4						
5						
		S-2	100/5"		same	Rec = 3"
6						moist
7						
8						
9						
10						
		S-3	40		same	Rec = 8"
11			52			moist
12						
13					13'0"	
14						
15						
		S-4	50/0"		Completely Weathered Gneiss	Rec = 0"
16						Water
					Completely Weathered Gneiss	
17						
18						
19						
20						
		S-5	50/5"		same	Rec = 3"
21						wet
22						

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-9
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
						Drilled with core barrel to 26'
23						
24						
25						
26						
					Completely weathered, Gneiss	
27						
28						
29						
30						
		S-5	50/6"		Completely weathered Gneiss	Rec = 4"
31						wet
32						
33						
34						
35						
		S-6	50/3"		same 35'3"	Rec = 3"
36					**End of Boring @ 35'3"**	wet
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-10

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+423.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
									DATUM:	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	11 Apr 02
11 Apr 02	**1455**	**23'0"**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	11 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
					Asphalt and Stone Base	3" Asphalt
1					0'11"	7" Crushed stone
			16		Br cf S, l $, l cf G	
2		**S-1**	25			Rec = 17"
			26			moist
3			35		**Brown coarse to fine SAND, little Silt, little coarse to fine Gravel**	
4						
5						
			18			
6		**S-2**	22		same 6'0"	Rec = 15"
			30		Br $ s, cf S, l (-) cf G	moist
7			31			
8					**Brown SILT some, coarse to fine Sand, little (-) coarse to fine Gravel**	
9						
10						
			19			
11		**S-3**	50/4"		same	Rec = 8"
12						moist
13						
					13'6"	
14						
15						
			35		Br gr cf S, l $, l (-) cf G	
16		**S-4**	49			Rec = 10"
17					**Brown gray coarse to fine SAND, little Silt, little (-) coarse to fine Gravel**	very moist
18						
19						
20						
			24			
21		**S-5**	50/4"		same, s (+) $	Rec = 8"
						moist
22					22'0"	

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-10
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24						
25						Rec = 2"
		S-6	50/3"		Completely Weathered Gneiss	wet
26						
					Gneiss, completely weathered	
27						hard drilling from 27'0"-30'0"
28						
29						
30		**S-7**	50/0"		completely weathered Gneiss 30'0"	Rec = 0"
					End of Boring @ 30'0"	wet
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-11

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+416.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	12 Apr 02
				DIA.	**3 1/4"**	**2"**			**FINISH DATE:**	12 Apr 02
No Water Encountered				**WGHT**		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	**Casing Blows per Foot**	**Sample Number**	**Blows on Sample Spoon per 6"**	**Sym**	**IDENTIFICATION**	**REMARKS**
			13		**Asphalt and Stone Base** 0'8"	3" asphalt; 5" stone base
1		**S-1**	22		Br cf S, l $, l (-) cf G	Rec = 15"
			19			moist
2			33			
3						
4						
5						
		S-2	50/3"		same, s S	Rec = 2"
6						moist
7					**Brown coarse to fine SAND, some Silt, little (-) coarse to fine Gravel**	
8						
9						
10						
			20			
11		**S-3**	38		same w/weathered Gneiss	Rec = 10"
			30			moist
12			24			
13						
14						
15						
			57			
16		**S-4**	50/1"		same, s $ 16'0"	Rec = 5"
						very moist-wet
17						
18					**Completely Weather Gneiss**	
19						
20						
		S-5	86		Completely weathered Gneiss 20'6"	Rec = 4"
21					**End of Boring @ 20'6"**	very moist
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-12

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+417.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	12 Apr 02
12 Apr 02	**1145**	**20'6"**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	12 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			18		**Asphalt and Stone Base** 0'11"	5" asphalt; 6" stone base
1		**S-1**	24		Br cf S, s $, l cf G	Rec = 14"
			24			moist
2			24			
			18			
3		**S-2**	24		same	Rec = 13"
			35			moist
4						
5						
			28			
6		**S-3**	25		same	Rec = 17"
			26			moist
7			32			
8					**Brown coarse to fine SAND, some**	
					Silt, little medium to fine Gravel	
9						
10						
			17			
11		**S-4**	20		same, s $, l mf G	Rec = 16"
			15			very moist
12			16			
13						
14						
15						
			27			
16		**S-5**	71		same, s (-) $	Rec = 8"
						very moist
17						
18						
19						
20						
			35			
21		**S-6**	36		Br cf S,, s $, l mf G	Rec = 19"
						moist
22						

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-12
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24					**Brown coarse to fine SAND, some Silt, little coarse to fine Gravel**	
25						
26		S-7	36 60/5"		Br cf S, s $, l cf G 26'0"	Rec = 10" wet
27						
28					**Completely Weathered Gneiss**	
29						
30						
31		S-8	60/5"		Completely weathered Gneiss 30'5"	Rec = 3" wet
					End of Boring @ 30'5"	
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-13

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+420.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	15 Apr 02
15 Apr 02		**15'6"**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	15 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
					Asphalt and Stone Base 0'9"	4" asphalt; 5" stone base
1						
			9		Br cf S, l (+) $, l cf G	
2		S-1	12			Rec = 12"
			16			moist
3			18			
			12			
4		S-2	24		same	Rec = 14"
			27			moist
5			23			
			15			
6		S-3	32		Br cf S, s (+) $, l mf G	Rec = 15"
			30			moist
7			50/2"			
					Brown coarse to fine SAND, some (+)	
8					**Silt, little medium to fine Gravel**	
9						
10						
			29			
11		S-4	51		Br cf S, s (+) $, t (+) mf G	Rec = 11"
						moist
12						
13						
14						
15						
			40		Br cf S, s (+) $, t mf G	
16		S-5	64			Rec = 10"
						wet
17						
18					18'0"	
19					**Completely Weathered Gneiss**	
20						
		S-6	61		Completely Weathered Rock 20'6"	Rec = 5"
21					**End of Boring @ 20'6"**	wet
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-14

Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:**	1 of 2
Client:	Airport Campu I-V, LLC	**JOB NUMBER:**	01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:**	+420.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**DATUM:**	Topo
15 Apr 02	1335	20'	Auger	**DIA.**	3 1/4"	2"			**START DATE:**	15 Apr 02
				WGHT		140#			**FINISH DATE:**	15 Apr 02
				FALL		30"			**DRILLER:**	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
1					**Asphalt and Stone** 0'9"	4" Asphalt 5" Stone
2		S-1	5 / 11		FILL (Gr $ s (-), cf S, t mf G w/wood)	Rec = 10"
3			45 / 49		**Fill (Gray Silt some (-), coarse to fine Sand, trace medium to fine Gravel with wood** 3'6"	moist
4						
5						
6		S-2	23 / 30		Br cf S, a $, t mf G	Rec = 14"
7			32 / 32			moist
8						
9					**Brown coarse to fine Sand, and Silt, trace medium to fine Gravel**	
10						
11		S-3	12 / 25		same	Rec = 10"
12			50/5"			moist
13						
14						
15						
16		S-4	14 / 26		same	Rec = 12"
17			50/3"			moist
18						
19						
20						
21		S-5	21 / 46		same	Rec = 9"
22					22'0"	wet

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-14
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23					**Gray coarse to fine SAND, some (-) Silt, little (+) coarse to fine Gravel**	
24						
25			49		Gr cf S, s (-) $, l (+) cf G	
26		**S-6**	50/3"		26'0"	Rec = 7" wet
27						
28					**Completely Weathered Gneiss**	
29						
30		**S-7**	62		Completely Weathered Gneiss 30'6"	Rec = 4"
31					**End of Boring @ 30'6"**	wet
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

GENERAL NOTES:

1. GENERAL LAYOUT WAS OBTAINED FROM A DRAWING PREPARED BY JMC PLLC, ENTITLED "OVERALL GRADING PLAN", DATED 31 JULY 2019.
2. BORING LOCATIONS WERE LAID OUT IN THE FIELD BY CARLIN-SIMPSON & ASSOCIATES (CSA). BORINGS WERE PERFORMED BY GENERAL BORINGS INC. IN APRIL 2002 UNDER THE FULL TIME INSPECTION OF CSA.
3. TEST PIT LOCATIONS WERE LAID OUT IN THE FIELD BY JOHN MEYER CONSULTING (JMC). TEST PITS WERE ADVANCED BY ADI EAST CONTRACTING IN JULY AND AUGUST 2020.
4. LOCATIONS ARE APPROXIMATE.

LEGEND:

- BORING LOCATION COMPLETED IN 2002 (14 LOCATIONS)
- TEST PIT LOCATIONS COMPLETED IN JULY AND AUGUST 2020 (12 LOCATIONS)

ROBERT B. SIMPSON, P.E.
PROFESSIONAL ENGINEER

LICENSE NO. SIGNATURE DATE

BORING LOCATION PLAN

PROPOSED DEVELOPMENT
AIRPORT CAMPUS
113 KING STREET
NORTH CASTLE, NEW YORK

DRAWN	SCALE
MW	1" = 80'
CHECKED	DATE
RBS	8 SEPT 20
PROJECT NO.	DWG NO.
19-215	FIG -1
APPROVED	

CARLIN-SIMPSON AND ASSOCIATES
61 Main Street
Sayreville, NJ 08872

Consulting Geotechnical and Environmental Engineers

Appendix D-1
Natural Resources Report

Natural Resources Survey/Assessment

Airport Campus Site
113 King Street
Town of North Castle
Westchester County, New York

August 27, 2019

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
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(203) 910-4716

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1.0 INTRODUCTION

Ecological Solutions, LLC completed a natural resources survey on a site located at 113 King Street totaling about 37.78 acres in the Town of North Castle (*Figure 1*). The data contained in this report was gathered on August 21 and 23, 2018, April 16, May 16, 22, June 6, and August 15, 2019. The entire site was reviewed during each of the field visits.

The "Applicant," proposes to repurpose and redevelop the approximately 38-acre site known as 113 King Street within the Town of North Castle (the "Project Site"), which is currently improved with approximately 261,000 sf of office space in two buildings. The Applicant proposes to re-use the northernmost existing office building as a hotel, construct a new 151-unit multi-family building, construct 22 townhouse units, and re-occupy the southernmost existing office building with office tenants (the "Proposed Project"). The 5-story multi-family residential building is proposed to be located to the north of the existing northern office building and would be built on top of 3-stories of structured parking, one of which would be below grade. In the northern portion of the Project Site, the Applicant proposes to construct 22 townhouses and affordable housing. Vehicular access to the office, hotel, and multifamily uses would be from the existing signalized driveway intersection with King Street. Vehicular access for the townhouses would be from Cooney Hill Road.

2.0 METHODS

2.1 Agency Inquiry

As part of the environmental review for the subject site, Ecological Solutions, LLC, reviewed the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper regarding the status of rare, threatened, or endangered species on the site (*Attached*). In addition correspondence from the NYSDEC dated July 25, 2018 indicates that potential habitat for the State listed bald eagle (*Haliaeetus leucocephalus*) exists in close proximity to the site (*Attached*).

The US Fish and Wildlife Service (USFWS) website search lists the Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*) as threatened or endangered species that could occur on or in the vicinity of the site (*Attached*).

In addition the field work sought to determine if NYSDEC designated “species of special concern” occur on the site.

2.2 Ecological Community and Habitat Field Inventory

The vegetation inventory on the site included identification of previous ecological communities or habitat cover types that existed on the site prior to existing site activities as well as current conditions. Cover types were accounted for by reviewing aerial photographs of the site and adjacent properties and subsequently by investigating the habitats on the site to identify and classify each. Within each cover type, visual searches for herbaceous and woody plant species or parts thereof, including leaves, bark, twigs, seeds, flowers, fruits, or other identifiable plant structures were conducted to identify and document vegetation on the site. Trees, shrubs, and fall flowering plants were identified to species levels where possible. A list of dominant or representative species observed in each habitat cover type is included in the Findings section of this report.

2.2.1 Rare Plants/Species of Special Concern

Specific surveys for rare plants and species of special concern were conducted during My, June and August 2019 in the proposed development areas. There were no rare species or species of special concern identified on the site.

2.3 Wildlife Field Inventory

Field surveys were conducted for wildlife species including mammals, birds, and herpetiles (reptiles and amphibians).

A. **Mammals**. The following survey methods were utilized during the field survey:

1. Sign search, in which the observer records any recognizable signs (tracks, droppings, hair, bones, etc.) of mammal species.

2. Opportunistic mammal sightings, in which the observer identifies mammals encountered in the field at random.

Mammals were identified based on visual encounters, vocalizations, tracks, fur, bones, rubs, scrapes, droppings, and other recognizable signs in habitats throughout the site. Mammal species observed are included in the Findings section of this report.

B. **Birds.** Field methods used to survey for avian species included:

1. Walking transects where the observer records all species encountered (seen/heard) along a trail.

2. Opportunistic bird sighting, where the observer records birds encountered randomly.

3. Sign search, where the observer records signs (feathers, nests, droppings, tracks, etc.) of birds encountered in the field.

Birds were detected and identified by visual encounter with individuals, vocalizations, tracks, feathers, bones, droppings, castings, nests, drillings, or other recognizable signs.

Bird species observed in each habitat cover type are included in the Findings section of this report.

C. **Herptiles (Reptiles and Amphibians)**. Field methods used to survey for herptile species included:

1. Log rolling (overturning logs, large stones, and other debris to reveal herptiles underneath).

2. Aural surveys were conducted for vocal herptiles. Herptiles were detected and identified by visual encounter, vocalizations, spermatophores, egg masses, and remains.

Herpetile species observed in each habitat cover type are included in the Findings section of this report.

3.0 FINDINGS

3.1 Habitat

Previous and existing cover types identified on the site are described in Table 1 and shown in *Figure 2*. The habitat on the site was previously impacted and functions as many suburban properties that have been previously impacted by serving as a refuge for common wildlife species typically found in close proximity to human habitation. The site offers no unique or critical habitat for any species. Species that utilize the site also will utilize neighboring properties including the Swiss RE site as part of there foraging, breeding territory. Based on aerial mapping and reviews from offsite locations the Swiss RE site has similar habitat types to those found on the subject site.

Table 1
Habitat Cover Types

NO.		ACRES IDENTIFIED	PROPOSED IMPACTS
1	Mixed Upland Forest/Field	**21.75**	**6**
2	Previously Developed Area	**16**	**0**
3	Wet Meadow	**0.25**	**0**

3.1-1 Terrestrial System

The terrestrial system on the site consists of upland habitats and previously developed area some of which remains and some of which has been allowed to revert back to more natural conditions. The habitat has well-drained soils that are dry to mesic (never hydric), and vegetative cover that is never predominantly hydrophytic, even if the soil surface is occasionally saturated.

<u>Mixed Upland Forest/Previously Developed Area</u>

The site was previously developed with commercial office buildings and residential dwellings. The residential dwellings were removed from the site several years ago and this area that contained landscpaing was allowed to revert to scrub/shrub and mixed forest area. This forest type also occurs on moist, well-drained areas of the site and is differentiated by the species observed. The dominant trees include a mixture of tulip tree (*Liriodendron tulipifera)*, sugar maple (*Acer saccharum*), red oak (*Quercus* *rubra),* black birch (*Betula lenta)*, beech (*Fagus grandifolia),* sassafras (*Sassafras albidum*), American basswood (*Tilia cordata*), red maple *(Acer rubrum),* white pine (*Pinus strobus*)*,* Norway spruce (*Picea abies*)*,* White Ash *(Fraxinus americana*), and white oak *(Quercus alba).* The shrub layer includes flowering dogwood (*Cornus florida)*, witch-hazel (*Hamamelis virginiana),* black cherry *(Prunus serotina)*, maple leafed viburnum (*Viburnum acerifolium)*. A tree survey was completed on the site and the complete list of trees and sizes is attached.

Open Uplands

This subsystem includes upland communities with less than 25% canopy cover of trees; the dominant species in these communities are shrubs, herbs, or cryptogammic plants (mosses, lichens, etc.). Three distinctive physiognomic types are included in this subsystem. Grasslands include communities that are dominated by grasses and sedges; they may include scattered shrubs (never more than 50% cover of shrubs), and scattered trees (usually less than one tree per acre, or 3 trees per hectare). Meadows include communities with forbs, grasses, sedges, and shrubs codominant; they may include scattered trees. Shrublands include communities that are dominated by shrubs (more than 50% cover of shrubs); they may include scattered trees.

Successional Old Field

The old-field or meadow areas on the site are dominated by forbs and grasses. Characteristic herbs include goldenrods (*Solidago altissima, S. nemoralis, S. rugosa, S. juncea, S. canadensis,* and *Euthamia graminifolia*), bluegrasses (*Poa pratensis, P. compressa*), timothy (*Phleum pratense*), quackgrass (*Agropyron repens*), smooth brome (*Bromus inermis*), sweet vernal grass (*Anthoxanthum odoratum*), orchard grass (*Dactylis glomerata*), common chickweed (*Cerastium arvense*), common evening primrose (*Oenothera biennis*), oldfield cinquefoil (*Potentilla simplex*), calico aster (*Aster lateriflorus*), wild strawberry (*Fragaria virginiana*), Queen-Anne's lace (*Daucus carota*), ragweed (*Ambrosia artemisiifolia*), hawkweeds (*Hieracium* spp.), dandelion (*Taraxacum officinale*), and ox-tongue (*Picris hieracioides*). Shrubs are present, but collectively they have less than 50% cover in the community. Characteristic shrubs include gray dogwood (*Cornus foemina* ssp. *racemosa*), silky dogwood (*Cornus amomum*), arrowwood (*Viburnum recognitum*), raspberries (*Rubus* spp.), and sumac (*Rhus typhina, R. glabra*. This is a relatively short-lived community that will succeed to a shrubland, woodland, or forest community if not maintained.

3.1-2 PALUSTRINE SYSTEM

The palustrine system consists of non-tidal, perennial wetlands characterized by emergent vegetation. The system includes wetlands permanently saturated by seepage, permanently flooded wetlands, and wetlands that are seasonally or intermittently flooded (these may be seasonally dry) with vegetative cover that is predominantly hydrophytic with hydric soils. Wetland communities on the site are distinguished by their plant composition (hydrophytes), substrate (hydric soils), and hydrologic regime (frequency of flooding).

OPEN MINERAL SOIL WETLANDS

This subsystem includes wetlands with less than 50% canopy cover of trees. In this classification, a tree is defined as a woody plant usually having one principal stem or trunk, a definite crown shape, and characteristically reaching a mature height of at least 16 ft (5 m). The dominant vegetation may include shrubs or herbs. Substrates range from mineral soils or bedrock to well-decomposed organic soils (muck). Fluctuating water levels allow enough aeration of the substrate to allow plant litter to decompose, so there is little or no accumulation of peat.

Wet Meadow

A wet meadow community that occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat); the substrate is saturated; water levels fluctuate seasonally, but the substrate is rarely dry, and there is usually standing water in the swale that drains the wet meadow. The most abundant emergent aquatic plants are cattails (*Typha angustifolia*), bulrush (*Scirpus americanus*), purple loosestrife (*Lythrum salicaria*), rice cutgrass (*Leersia oryzoides*), and soft rush (*Juncus effusus*).

3.2 Wildlife

3.2.1 Breeding Birds

A review of the 2nd New York State Breeding Bird Atlas (*Figure 3*) was conducted and the following is a list of breeding birds identified on the site during the field work. The list of observed species includes: turkey (*Meleagris gallopavo*), mourning dove (*Zenaida macroura*), Ruby throated hummingbird (*Archilochus colubris*), northern flicker (*Colaptes auratus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), house wren (*Troglodytes aedon*), veery (*Catharus fuscescens*), American robin (*Turdus migratorius*), gray catbird (*Dumetella carolinensis*), northern mockingbird (*Mimus polyglottos*), Eastern Phoebe (Sayornis phoebe), Downy Woodpecker (Picoides pubescens), northern cardinal (*Cardinalis cardinalis*), common grackle (*Quiscalus quiscula*), house finch (*Carpodacus mexicanus*), and brown thrasher (*Toxostoma rufum*).

3.2.2 Mammals

The following is a list mammals identified on the site during the field work. The list of observed species includes: deer mouse (*Peromyscus maniculatus*), gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), raccoon (*Procyon lotor*), red fox (*vulpes vulpes*), and white-tailed deer (*Odocoileus virginiana*).

3.2.3 Amphibian/Reptiles

There were no amphibians or reptiles identified on the site during the field work.

4.0 POTENTIAL THREATENED/ENDANGERED SPECIES

4.1 Indiana bats

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating or defoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum diameter of roost trees observed to date is 2.5 inches for males and 4.3 inches for females. However, maternity colonies generally use trees greater than or equal to 9 inches dbh. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees.

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.,* old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Conclusion - The Applicant will only conduct tree clearing activities between October 1 and April 1. A note has been placed on the plan "To avoid impacts to Indiana and Northern long eared bats during construction tree-clearing will be completed between October 1st and April 1st so that the project is not likely to adversely affect these species". Also, as recommended by the USFWS, the Applicant will ensure that no artificial dyes, coloring, insecticide, or algaecide such as copper sulfate will be placed in stormwater control structures on the site. No hibernacula are noted on the site.

4.2 Northern long-eared bat

Winter Habitat: Same as the Indiana bat northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Specific areas where they hibernate have very high humidity, so much so that droplets of water are often seen on their fur. Within hibernacula, surveyors find them in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds.

Feeding Habits: Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. This bat also feeds by gleaning motionless insects from vegetation and water surfaces.

Conclusion - The northern long eared bat requires/occupies practically the same habitat niche as the Indiana bat. Impacts to habitat and mitigation would be consistent with the recommendations for the Indiana bat.

4.3 Bald eagle

Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees) and with increasing frequency on man-made structures such as power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water where the eagles usually forage. Shoreline trees or snags located in reservoirs provide the visibility and accessibility needed to locate aquatic prey.

The NYSDEC-NHP correspondence indicated that an active nest is located about 0.5 miles or approximately 2,500 feet from the site boundary. There is no nesting or breeding activity observed on the site or within 660 feet of the site.

Bald eagles are sensitive to a variety of human activities during various stages of the breeding season including courtship and nest building which is the most sensitive period for eagles and in New York occurs from December through the beginning of March. Egg laying, incubation, and early nesting are very sensitive periods and in New York occur from February through early May. The nestling period (4-8 weeks old) is a moderately sensitive period that in New York typically occurs from March to July. Nestlings from 8 weeks old through fledging is again a very sensitive period that in New York occurs from mid May to September.

The nest location is buffered from the site by the adjacent New York City Department of Environmental Protection (NYCDEP) wooded site that is approximately 40 acres in size. The nest is not visible from the subject site. No proposed development activity on the subject site is within 0.5 mile of the nest which is on the Reservoir shoreline.

Chronology of Bald Eagle Reproductive Activities

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.
NORTHERN U.S. (ME, NH, MA, RI, CT, NY, northern 2 of NJ, western 2 of PA, OH, WV exc. panhandle, IN, IL, MI, WI, MN, IA, MO, ND, SD, NB, KS, CO, UT)											
			Nest Building								
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			

Conclusion - The known bald eagle nest is located on Kensico Reservoir. The nest is 0.5 miles from the edge of the developed area on the site and therefore proposed work area on the site is more than 0.5 miles from the known nest location. During the breeding season, bald eagles are sensitive to a variety of human activities during various stages of the breeding season including courtship and nest building which is the most sensitive period for eagles and in New York occurs from December through the beginning of March. Egg laying, incubation, and early nesting are very sensitive periods and in New York occur from February through early May. The nestling period (4-8 weeks old) is a moderately sensitive period that in New York typically occurs from March to July. Nestlings from 8 weeks old through fledging is again a very sensitive period that in New York occurs from mid May to September.

Limited blasting may be required for development of the northeast corner of the proposed parking structure which may be about 10 feet into a rocky area of the site. There is no other potential rock removal required. In as much as possible blasting or the use of explosives for site development will occur between October 1 and December 1 to avoid impacts to nest building and other yearly bald eagle activities.

The construction activity that will generate more than ambient noise levels on the site is limited to excavation/grading activities. All other noise expected to be generated at the site will be in conformance with the current site use. The existing buildings on the site buffer any potential noise emanating from normal use of the site.

5.0 ANTICIPATED IMPACTS

The proposed development and its appurtenant features will necessarily require clearing habitat as shown in Table 1.

Earth moving (excavation, filling, and grading), operation of heavy machinery, construction, alteration of existing drainage patterns, addition of impervious surfaces, changes in traffic patterns, and increased human activity will occur on the subject site.

Anticipated impacts from these activities are outlined below.

5.1 Impacts to Vegetation and Cover Types

1. **Mixed Upland Forest/Field Loss.** The proposed activities will require the removal of approximately 6 acres or 28 percent of this cover type from the site.

2. **Wet Meadow.** There will be no loss of this habitat type.

3. **Forest Fragmentation.** The site contains only open canopy mixed forest area which be minimally impacted or cleared. The majority of the forest/field, however, will be preserved leaving protection for forest interior species. Potential additional fragmentation of forest habitat on this site is not anticipated to alter site biodiversity since the forest area is already fragmented form previous site activities.

4. **Habitat Fragmentation.** Habitat fragmentation differs from forest fragmentation in that forest fragmentation is the practice of opening up closed forest canopy, allowing edge-oriented species to penetrate into areas of the forest that they probably would not reach before. While this adversely impacts forest interior species, it potentially benefits edge species.

   Habitat fragmentation is the separation and isolation of habitats and wildlife populations by placing impenetrable barriers between habitats that prevent mixing formerly connected or adjacent wildlife populations creating "habitat islands". Development barriers can be as minor as a 6-inch curb on a road that prevents movement of amphibians, reptiles, or any small sized wildlife. Private fences around homes or lots if proposed can prevent wildlife movement to and from breeding, nesting, or feeding areas such as the watercourse.

   Extensive concentrated clearing of overhead vegetation can also hinder summer movement of some wildlife, most notably amphibians, because of possible exposure to direct sunlight at midday in cleared areas, making it difficult for some species to travel without the risk of becoming desiccated.

5.2 Impacts to Wildlife

A. All Species. All wildlife species require food, water, and cover. Trees and woody plants provide two of these directly. Many wildlife species, particularly birds, shift their food habits seasonally. Many winter seedeaters switch to insects in summer. Some wildlife species are resident (they are present in the same general area all year). Many others are migratory. The main migratory periods in our area are: spring (April 15 through June 1); fall (August 15 through October 1). Migratory species are present only when passing through, or during part of the year. Some species are here only in the summer and leave for warmer climates during the winter. Others breed north of us and are present only during winter. A few species exhibit altitudinal migrations. That is, they spend part of the year at high elevations (summer, usually) and part of the year at low elevations (winter, usually). Direct impacts to wildlife biodiversity from the proposed development will primarily be displacement and some direct loss especially to species that spend a large percentage of their life cycle underground. Most species found on the site are typically found in suburban settings especially in North Castle and may have already adapted to proximal human habitation. These species will remain on the developed portion of the site, though possibly in fewer numbers, as availability of basic habitat features (food, cover, and space) may be decreased in the developed areas.

B. General Species Migration Patterns. The impact of habitat modification is most relevant for forest species, which includes most of the key species (forest interior birds, large mammals, amphibians and most reptiles. Of these species classes the less mobile amphibians and reptiles are more vulnerable to migratory barriers. Impacts to a site on a local level will not significantly affect large mammal, or migratory bird species movements since these species are highly mobile and not typically confined to small corridors within a site. The proposed project will impact about 6 acres with the largest impact associated with the mixed forest/field habitat.

Regulated wetlands on the site are left intact and are considered the most likely migratory corridors for wildlife species on the site, especially the more sensitive species of amphibians and reptiles although none were observed during the field work. The prime migratory corridors and wildlife destinations for breeding found in the regulated wetland will remain.

6.0 MITIGATION MEASURES

Impacts relating to the development have been reduced as much as practicable by utilizing the previously impacted areas of the site for the development. In addition, mitigation measures for the potential impacts are outlined below.

6.1 Mitigation For Impacts to Vegetation and Cover Type

The Applicant will minimize impacts by establishing undisturbed, naturally vegetated zones demarcated in the field by orange construction fencing and by clearing only necessary areas within the Limit of Disturbance area or within building envelopes.

The upland forest areas impacted by the development will not be fully replaced but will be enhanced by revegetating some areas within the development after construction with native plant material. The wetland area will continue to provide natural habitat and migratory corridors for species. Native plantings may provide wildlife with some habitat and food source.

Other habitat aspects of the site should be preserved and include existing stonewalls and standing dead trees (snags). Old stonewalls provide microhabitats for small mammals, herptiles, and invertebrates. Snags provide perching, nesting, and feeding areas for a wide variety of wildlife. These elements or parts thereof should be protected where possible. Impacts from habitat and forest fragmentation can be minimized by maintaining substantial corridors between natural habitat areas. Connecting corridors do not have to be entirely unbroken, as long as breaks in the natural vegetation are not excessive.

The site provides year-round habitat for most of the species located there. The site will continue to be “connected” to adjacent undeveloped properties so that potential wildlife migratory routes remain.

6.2 Mitigation for Wildlife Impacts

Temporary wildlife displacement during construction is a short-term impact that will occur. In as much as possible earth moving and tree clearing activities should occur after the spring breeding season (April and May) to allow species to migrate and return unhindered to home areas and should be limited to the (October 1 to March 31) time period to avoid any direct impacts to Indiana bats potentially utilizing the site. In addition, the US Fish and Wildlife Service in conjunction with the NYSDEC suggest that no dyes or chemicals be placed in stormwater detention facilities that could result in wildlife impacts. This will be incorporated into the development plan.

The wetland including some of the microhabitats in the wetland remain on the site for breeding amphibians. The stormwater basin once developed may also be utilized by some amphibians if hydrology is persistent.

In addition, no curbs should exist on roads or driveways to allow herpetiles to migrate through the site and over these areas without obstruction. No other mitigation measure is required.

Although not mitigation for impacts, general amphibian microhabitat requirements that will remain intact on the site include:

• Breeding locations that hold water at least through July,
• Woody debris in adjacent forested areas,
• Canopy cover over breeding and foraging areas, and
• Deciduous leaf litter for moisture retention and feeding,

General reptile microhabitat requirements that will remain intact on the site include:

• Woody debris (standing and down),
• Small open patches for basking, mixed with well shaded areas during drought periods,
• Undisturbed areas in and around wetlands for feeding and breeding, and
• Access to safe den areas.

The habitat requirements listed above will remain intact with this proposed development plan and because large contiguous portions of the site particularly adjacent to wetlands will remain in a naturalized state.

7.0 PHOTOGRAPHS

Wetland area on the site

General site photograph

6.0 REFERENCES

Habitat Cover Types:

Edinger, G.J. et,al. 2014. Ecological Communities of New York State. New York Natural Heritage Program.

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Gleason, H.A. and A. Cronquist. 1991. Manual of vascular plants of northeastern United States and adjacent Canada. Second edition. The New York Botanical Garden, Bronx, NY. 910 p.

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Vertebrates:

Banks, R.C., R.W. McDiarmid, and A.L. Gardner. 1987. Checklist of Vertebrates of the United States, the U.S. Territories, and Canada. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Menzel, Michael A.; Menzel, Jennifer M.; Carter, Timothy C.; Ford, W. Mark; Edwards, John W. 2001. Review of the forest habitat relationships of the Indiana bat (Myotis sodalis). http://www.nrs.fs.fed.us/pubs/5934.

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Baicich, P.J. and C.J.O. Harrison. 1997. A Guide to the Nests, Eggs and Nestlings of North American Birds, 2nd Ed.

The Second Atlas of Breeding Birds in New York State. 2008.

US Fish and Wildlife Service May2007. National Bald Eagle Management Guidelines. 23 p.

Amphibians and Reptiles:

Calhoun, A. J. K. and M. W. Klemens. 2002. Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

Collins, J.T. 1990. Standard Common and Current Scientific Names for North American Amphibians and Reptiles. Third edition. Society for the Study of Amphibians and Reptiles. Herpetological circular no. 19. Lawrence, KS.

Figure 1 Location Map

Figure 2 Habitat Map

Figure 3 Breeding Bird Atlas - Block 6054A

Species Recorded in This Block:
Swans, Geese, & Ducks (Anatidae)
Canada Goose (Branta canadensis)
Wood Duck (Aix sponsa)
Mallard (Anas platyrhynchos)
Green-winged Teal (Anas crecca)
Partridges, Grouse, & Turkeys (Phasianidae)
Wild Turkey (Meleagris gallopavo)
New World Quail (Odontophoridae)
NONE
Loons (Gaviidae)
NONE
Grebes (Podicipedidae)
NONE
Pelicans (Pelicanidae)
NONE
Cormorants (Phalacrocoracidae)
NONE
Bitterns, Herons, & Allies (Ardeidae)
Great Blue Heron (Ardea herodias)
Ibises & Spoonbills (Threskiornithidae)
NONE
Vultures (Cathartidae)
NONE
Kites, Eagles, Hawks, & Allies (Accipitridae)
Red-tailed Hawk (Buteo jamaicensis)
Caracaras & Falcons (Falconidae)
NONE
Rails, Gallinules, & Coots (Rallidae)
Virginia Rail (Rallus limicola)
Cranes (Gruidae)
NONE
Plovers & Lapwings (Charidriidae)
NONE
Oystercatchers (Haematopodidae)
NONE
Sandpipers, Phalaropes, & Allies (Scolopacidae)
Spotted Sandpiper (Actitis macularius)

Species Recorded in This Block:
Skuas, Gulls, Terns, & Skimmers (Laridae)
NONE
Pigeons & Doves (Columbidae)
Rock Pigeon (Columba livia)
Mourning Dove (Zenaida macroura)
Parrots (Psittacidae)
NONE
Cuckoos, Roadrunners, & Anis (Cuculidae)
NONE
Barn Owls (Tytonidae)
NONE
Typical Owls(Strigidae)
Eastern Screech-Owl (Megascops asio)
Goatsuckers (Caprimulgidae)
NONE
Swifts (Apodidae)
Chimney Swift (Chaetura pelagica)
Hummingbirds (Trochilidae)
NONE
Kingfishers (Alcedinidae)
Belted Kingfisher (Megaceryle alcyon)
Woodpeckers & Allies (Picidae)
Red-bellied Woodpecker (Melanerpes carolinus)
Downy Woodpecker (Picoides pubescens)
Hairy Woodpecker (Picoides villosus)
Northern Flicker (Colaptes auratus)
Pileated Woodpecker (Dryocopus pileatus)
Tyrant Flycatchers (Tyrannidae)
Eastern Wood-Pewee (Contopus virens)
Least Flycatcher (Empidonax minimus)
Eastern Phoebe (Sayornis phoebe)
Great Crested Flycatcher (Myiarchus crinitus)
Eastern Kingbird (Tyrannus tyrannus)
Shrikes (Laniidae)
NONE
Vireos (Vireonidae)
Yellow-throated Vireo (Vireo flavifrons)
Blue-headed Vireo (Vireo solitarius)
Warbling Vireo (Vireo gilvus)
Red-eyed Vireo (Vireo olivaceus)

Species Recorded in This Block:
Jays, Magpies, & Crows (Corvidae)
Blue Jay (Cyanocitta cristata)
American Crow (Corvus brachyrhynchos)
Larks (Alaudidae)
NONE
Swallows (Hirundinidae)
Tree Swallow (Tachycineta bicolor)
Northern Rough-winged Swallow (Stelgidopteryx serripennis)
Bank Swallow (Riparia riparia)
Cliff Swallow (Petrochelidon pyrrhonota)
Barn Swallow (Hirundo rustica)
Chickadees & Titmice (Paridae)
Black-capped Chickadee (Poecile atricapillus)
Tufted Titmouse (Baeolophus bicolor)
Nuthatches (Sittidae)
White-breasted Nuthatch (Sitta carolinensis)
Creepers (Certhiidae)
NONE
Wrens (Troglodytidae)
Carolina Wren (Thryothorus ludovicianus)
House Wren (Troglodytes aedon)
Kinglets (Regulidae)
NONE
Old World Warblers & Gnatcatchers (Sylviidae)
NONE
Thrushes (Turdidae)
Veery (Catharus fuscescens)
Hermit Thrush (Catharus guttatus)
Wood Thrush (Hylocichla mustelina)
American Robin (Turdus migratorius)
Mockingbirds, Thrashers, & Allies (Mimidae)
Gray Catbird (Dumetella carolinensis)
Northern Mockingbird (Mimus polyglottos)
Starlings & Allies (Sturnidae)
European Starling (Sturnus vulgaris)
Waxwings (Bombycillidae)
Cedar Waxwing (Bombycilla cedrorum)
Wood Warblers (Parulidae)
Yellow Warbler (Dendroica petechia)
Chestnut-sided Warbler (Dendroica pensylvanica)

Species Recorded in This Block:
Pine Warbler (Dendroica pinus)
Black-and-white Warbler (Mniotilta varia)
American Redstart (Setophaga ruticilla)
Worm-eating Warbler (Helmitheros vermivorum)
Ovenbird (Seiurus aurocapilla)
Louisiana Waterthrush (Seiurus motacilla)
Common Yellowthroat (Geothlypis trichas)
Tanagers (Thraupidae)
Scarlet Tanager (Piranga olivacea)
Towhees, Buntings, Sparrows, & Allies (Emberizidae)
Eastern Towhee (Pipilo erythrophthalmus)
Chipping Sparrow (Spizella passerina)
Song Sparrow (Melospiza melodia)
Grosbeaks & Buntings (Cardinalidae)
Northern Cardinal (Cardinalis cardinalis)
Rose-breasted Grosbeak (Pheucticus ludovicianus)
Indigo Bunting (Passerina cyanea)
Blackbirds (Icteridae)
Red-winged Blackbird (Agelaius phoeniceus)
Common Grackle (Quiscalus quiscula)
Brown-headed Cowbird (Molothrus ater)
Baltimore Oriole (Icterus galbula)
Finches (Fringillidae)
House Finch (Carpodacus mexicanus)
American Goldfinch (Carduelis tristis)
Old World Sparrows (Passeridae)
NONE

Attachment - USFWS LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: August 09, 2018
Consultation Code: 05E1LI00-2018-SLI-0798
Event Code: 05E1LI00-2018-E-01704
Project Name: Airport Campus

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1LI00-2018-SLI-0798

Event Code: 05E1LI00-2018-E-01704

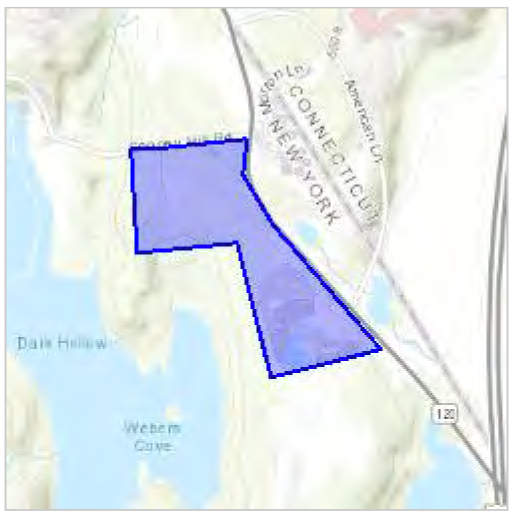
Project Name: Airport Campus

Project Type: DEVELOPMENT

Project Description: Residential Development

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.09293651440321N73.72496494334807W



Counties: Westchester, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2018-SLI-2981
Event Code: 05E1NY00-2018-E-08924
Project Name: Airport Campus

August 09, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq*.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

Project Summary

Consultation Code: 05E1NY00-2018-SLI-2981

Event Code: 05E1NY00-2018-E-08924

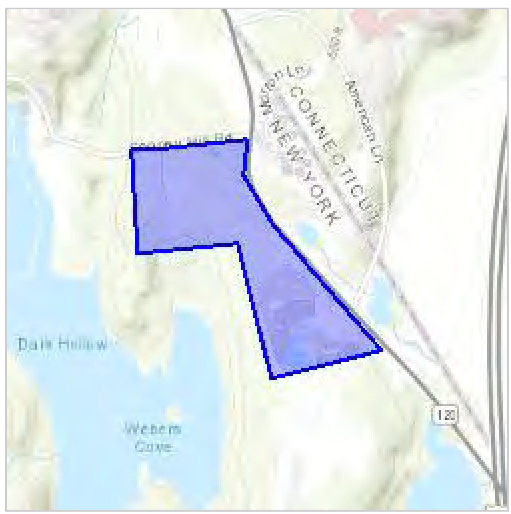
Project Name: Airport Campus

Project Type: DEVELOPMENT

Project Description: Residential Development

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.09293651440321N73.72496494334807W



Counties: Westchester, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Attachment - NYSDEC Resource Mapper/Correspondence

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, NY 12561
Phone: (845) 256-3054 • **FAX:** (845) 255-3042
Website: www.dec.ny.gov

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

July 25, 2018

Town of North Castle
17 Bedford Road
Armonk, NY 10504

Re: LEAD AGENCY DESIGNATION
113 King Street, North Castle, Westchester county
Town of North Castle, Westchester County
DEC ID: CH# 7579

Dear Mr. Kaufman,

The New York State Department of Environmental Conservation (Department or DEC) has reviewed the Town of North Castle Town Board's State Environmental Quality Review (SEQR) notice of intent to serve as lead agency on the above-referenced project, received by the Department on June 18, 2018.

According to the information submitted, the applicant is seeking a zoning petition and proposes the reconstruction/repurposing of the former MBIA site located on 38 acres, including the removal of a portion of an at-grade parking lot; repurpose the northern building as a 125 room hotel with associated accessory uses, including a spa, fitness center and restaurant; construction of a 5 level apartment building with 151 units with 3 levels of parking beneath; and the construction of 22 townhomes located within 6 separate buildings.

According to the Full EAF, 17 acres of the site will be physically disturbed. The Full EAF indicates that potable water will be supplied from groundwater wells; and the Blind Brook Wastewater Treatment Facility will handle the facility's sanitary wastewater.

The DEC has no objection to the Town of North Castle Town Board serving as lead agency for this proposed action.

Based on our review of the circulated documents, the Department offers the following comments based on DEC jurisdiction:

Freshwater Wetlands – The proposed project site is within or in proximity to New York State Freshwater Wetland G-20 and G-13, both Class 1. A Freshwater Wetlands permit is required for any physical disturbance within these boundaries or within the 100-foot adjacent area. To have this boundary delineated, please contact Josh Fisher, DEC Bureau of Habitat biologist, Joshua.Fisher@dec.ny.gov.

Protection of Waters – There are not waterbodies that appear on our regulatory maps.

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.

Threatened & Endangered Species - DEC has reviewed the State's Master Natural Heritage records. We have determined that the site is located within or near record(s) of the following state-listed species: **Bald Eagle** (Haliaeetus leucacephalus), a New York State **Threatened** species. A permit is required for the incidental taking of any species identified as "endangered" or "threatened", which can include the removal of habitat.

Bald Eagles nests have been documented in proximity to the project location. Impacts to this species should be assessed following the National Bald Eagle Management Guidelines (https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf). If the project related impacts cannot be fully avoided or minimized, a permit for incidental take may be needed. The acceptable work window that would not result in any impacts to breeding eagles in the area would be October 1st to December 31st. For work proposed outside of this window, additional information is needed including when construction activities are proposed to take place, what equipment would be used, noise levels from construction and operational activities as compared to ambient noise levels. The information on eagle nests could be documented with each breeding season and would at that point, need to be addressed as well. It is best to check in each year to see if any new nests have been established.

The potential impacts of the proposed project on **Bald Eagle** should be fully evaluated during the review of the project pursuant to SEQR. Project modifications may be needed to adequately mitigate any potential impacts identified.

The absence of data does not necessarily mean that other rare or state-listed species, natural communities or other 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.

Water Withdrawal – According to the Full EAF, the proposed facility will generate a demand for water. The proposed source of potable water supply for the facility will be from on-site wells, although the demand and/or pumping capacity was not provided on the Full EAF.

An Article 15, Water Withdrawal Permit may be required to undertake such activities pursuant to 6 NYCRR Part 601.6, such as the construction, operation and maintenance of a water withdrawal system. Please be aware that wells with the capacity to withdraw more than 100,000 gallons per day require a Water Withdrawal permit. Please note that the threshold volume of one hundred thousand gallons per day is determined by the limiting maximum capacity of the water withdrawal system, and not the demand of the system (6 NRCRR Part 601.6c). Additional information regarding the water withdrawal program and application procedures can be found at the following DEC website at http://www.dec.ny.gov/lands/86935.html.

Please be aware of the Department's pumping test procedures for water withdrawal permitting. Information on pumping procedures can be found at the following link: http://www.dec.ny.gov/lands/86950.html.

SPDES (State Pollutant Discharge Elimination System) Sanitary Permit – Total anticipated liquid waste generation was not provided on the Full EAF, however, the Full EAF, states that the Blink Brook Wastewater Treatment Facility/North Castle Sewer District No. 3 will handle the facility's wastewater. For information on sanitary permits, see the DEC website at http://www.dec.ny.gov/permits/6054.html or contact DEC Division of Water, at 914-428-2505.

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. For more information, please visit the New York State Office of Historic Preservation website at http://www.nysparks.com/shpo/.

Compliance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-15-002): Compliance with this SPDES General Permit is required for construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed or for proposed disturbance of 1 acre or more of land outside the NYC DEP Watershed. For construction permits, if this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

Re: **LEAD AGENCY DESIGNATION**
113 King Street, North Castle, Westchester county
Town of North Castle, Westchester County
DEC ID: CH# 7579

Please note that this letter only addresses the requirements for the following permits from the Department: Protection of Waters, State-listed Species, Freshwater Wetlands, SPDES Sanitary, SPDES Stormwater, and Water Withdrawal. 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.

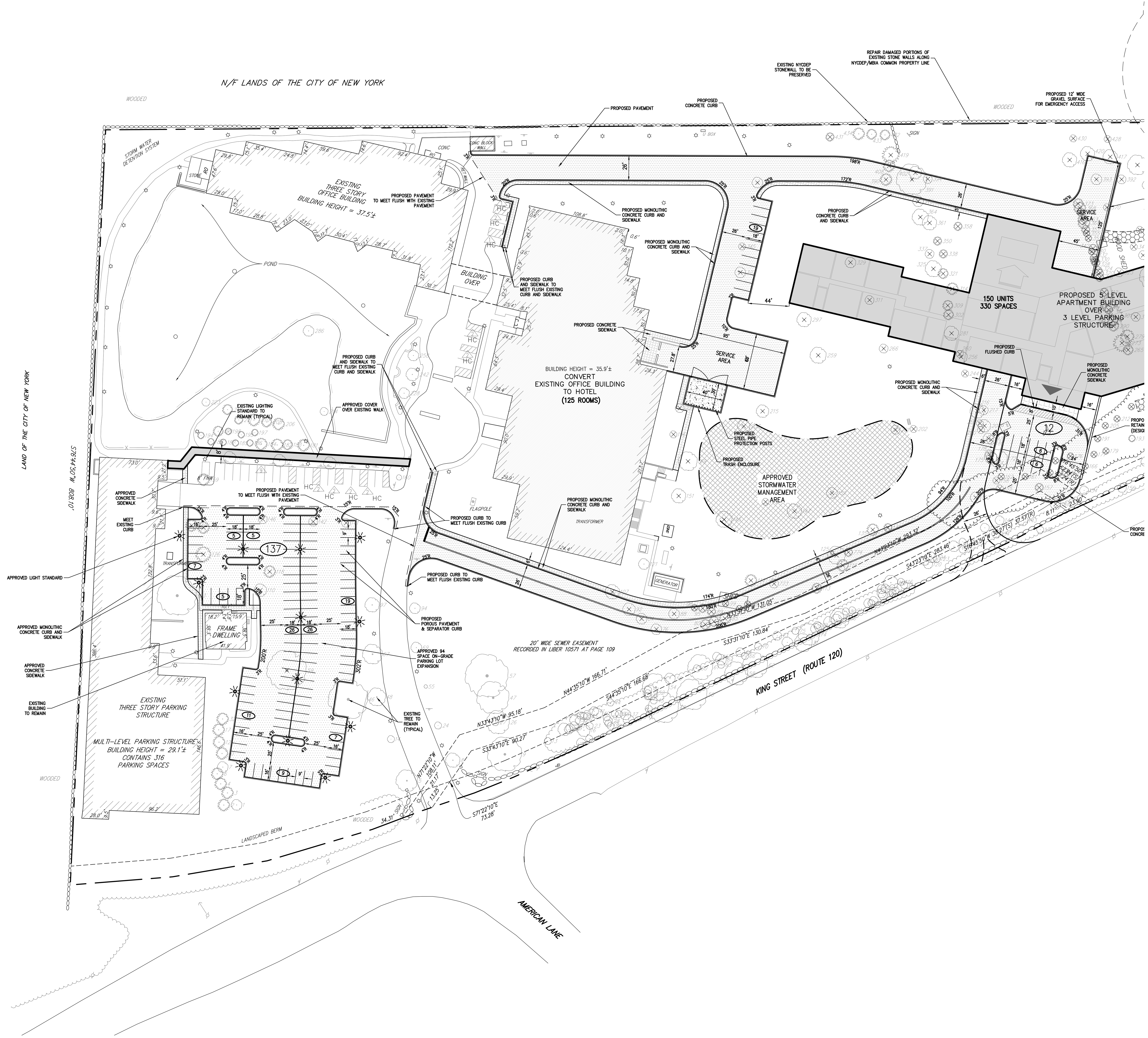
By copy of this letter we are advising project representatives of the above referenced resources and potential approvals/permits. It is possible that the DEC permit requirements may change based upon additional information received or as project modifications occur. If you have any additional comments or questions regarding the above, please contact me at (845) 256-3059.

Sincerely,

Tracey O'Malley
Division of Environmental Permits

Ecc. Airport Campus I-V, LLC; swassociates@optonline.net
Anthony Guccione, Jr., RLA; aguccione@jmcpllc.com

Attachment - Tree Survey List



APPLICANT/OWNERS:
AIRPORT CAMPUS I–V LLC
46 WESTCHESTER AVENUE
POUND RIDGE, NY 10576

ARCHITECT:
PERKINGS–EASTMAN
115 FIFTH AVENUE
NEW YORK, NY 10003

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC
JMC Site Development Consultants, LLC
John Meyer Consulting, Inc.
120 BEDFORD ROAD • ARMONK, NY 10504
voice 914.273.5225 • fax 914.273.2102
www.jmcpllc.com

TREE PROTECTION PLAN

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

PROGRESS PLOTTING

Drawing: 15072-TREE-PROTECTION
Date: 2019-08-30
Time: 2:32 PM
By:

Drawn: JJ	Approved: AG
Scale: 1" = 40'	
Date: –	
Project No: 15072	
15072-TREE-PROTECTION TREE-A	LAY.scr
Drawing No: TP–1	

NOT FOR CONSTRUCTION

APPLICANT/OWNERS:
AIRPORT CAMPUS I–V LLC
46 WESTCHESTER AVENUE
POUND RIDGE, NY 10576

ARCHITECT:
PERKINS–EASTMAN
115 FIFTH AVENUE
NEW YORK, NY 10003

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC
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voice 914.273.5225 • fax 914.273.2102
www.jmcpllc.com

TREE PROTECTION PLAN

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

PROGRESS PLOTTING

Drawing: 15072-TREE-PROTECTION
Date: 2019-08-30
Time: 1:25 PM
By:

Drawn:	JJ	Approved:	AG
Scale:	1" = 40'		
Date:	–		
Project No:	15072		
15072-TREE-PROTECTION	TREE-B	LAY.scr	

Drawing No: TP-2

TREE TABLE – PART A

744 TREES DEPICTED HAVING A DIAMETER AT DBH OF 8" OR GREATER

TREE NO.	COMMON NAME	DIAMETER	CONDITION	REMAIN OR REMOVE
1	CHERRY	12"	POOR	REMAIN
2	SPRUCE	14"	FAIR	REMAIN
3	SPRUCE	14"	FAIR	REMAIN
4	SPRUCE	14"	FAIR	REMAIN
5	MAPLE	24"	GOOD	REMAIN
6	SPRUCE	14"	FAIR	REMAIN
7	CHERRY	12"	FAIR	REMAIN
8	MAPLE	16"	GOOD	REMAIN
9	MAPLE	38"	GOOD	REMAIN
10	SPRUCE	14"	FAIR	REMAIN
11	MAPLE	10"	GOOD	REMAIN
12	SPRUCE	14"	FAIR	REMAIN
13	ASH	8"	GOOD	REMAIN
14	MAPLE	8"	GOOD	REMAIN
15	MAPLE	8"	GOOD	REMAIN
16	ASH	14"	GOOD	REMAIN
17	SPRUCE	14"	FAIR	REMAIN
18	ASH	10"	GOOD	REMAIN
19	ASH	14"	GOOD	REMAIN
20	ASH	10"	GOOD	REMAIN
21	ASH	10"	GOOD	REMAIN
22	MAPLE	8"	GOOD	REMAIN
23	MAPLE	8"	GOOD	REMAIN
24	MAPLE	8"	GOOD	REMAIN
25	MAPLE	8"	GOOD	REMAIN
26	MAPLE	26"	GOOD	REMAIN
27	MAPLE	8"	GOOD	REMAIN
28	MAPLE	10"	GOOD	REMAIN
29	MAPLE	10" 6"	GOOD	REMAIN
30	ASH	12"	GOOD	REMAIN
31	MAPLE	12"	GOOD	REMAIN
32	SPRUCE	14"	FAIR	REMAIN
33	ASH	8"	GOOD	REMAIN
34	ASH	8"	GOOD	REMAIN
35	MAPLE	8"	GOOD	REMAIN
36	ASH	8"	FAIR	REMAIN
37	CHERRY	12"	GOOD	REMAIN
38	CHERRY	8"	POOR	REMAIN
39	MAPLE	8"	POOR	REMAIN
40	ASH	12" TW	FAIR	REMAIN
41	MAPLE	10"	GOOD	REMAIN
42	CHERRY	8"	POOR	REMAIN
43	MAPLE	34"	GOOD	REMAIN
44	ASH	8"	GOOD	REMAIN
45	MAPLE	8"	GOOD	REMAIN
46	MAPLE	44"	FAIR	REMAIN
47	MAPLE	36"	GOOD	REMAIN
48	MAPLE	20"	FAIR	REMAIN
49	MAPLE	8"	GOOD	REMAIN
50	MAPLE	34"	GOOD	REMAIN
51	MAPLE	8"	GOOD	REMAIN
52	MAPLE	16"	GOOD	REMAIN
53	MAPLE	8"	GOOD	REMAIN
54	OAK	30"	GOOD	REMAIN
55	MAPLE	4"	GOOD	REMAIN
56	MAPLE	12"	GOOD	REMAIN
57	MAPLE	48"	GOOD	REMAIN
58	MAPLE	26"	FAIR	REMAIN
59	MAPLE	44"	POOR	REMOVE
60	MAPLE	8"	GOOD	REMAIN
61	OAK	28"	GOOD	REMAIN
62	CHERRY	28"	GOOD	REMAIN
63	CHERRY	8"	FAIR	REMAIN
64	MAPLE	12"	GOOD	REMAIN
65	CHERRY	10"	FAIR	REMAIN
66	MAPLE	8"	GOOD	REMAIN
67	MAPLE	22"	FAIR	REMAIN
68	CHERRY	10"	GOOD	REMAIN
69	MAPLE	12"	GOOD	REMAIN
70	MAPLE	8"	GOOD	REMAIN
71	MAPLE	20" 12"	FAIR	REMAIN
72	MAPLE	12"	GOOD	REMAIN
73	MAPLE	10"	GOOD	REMAIN
74	ASH	24"	FAIR	REMAIN
75	MAPLE	8"	GOOD	REMAIN
76	MAPLE	12"	GOOD	REMOVE
77	MAPLE	12"	GOOD	REMAIN
78	MAPLE	10"	GOOD	REMAIN
79	MAPLE	8" 6"	GOOD	REMAIN
80	SPRUCE	12"	FAIR	REMOVE
81	MAPLE	12"	GOOD	REMAIN
82	SPRUCE	12"	FAIR	REMOVE
83	MAPLE	12"	GOOD	REMAIN
84	MAPLE	12"	GOOD	REMOVE
85	SPRUCE	14"	GOOD	REMOVE
86	ASH	22"	POOR	REMAIN
87	MAPLE	12"	GOOD	REMAIN
88	DECIDUOUS	12"	FAIR	REMOVE
89	SPRUCE	10"	FAIR	REMOVE
90	MAPLE	8"	FAIR	REMAIN
91	MAPLE	8"	FAIR	REMAIN
92	BIRCH	14" TR	GOOD	REMOVE
93	SPRUCE	8"	FAIR	REMOVE
94	MAPLE	12"	POOR	REMAIN
95	PINE	10"	GOOD	REMOVE
96	PINE	8"	GOOD	REMOVE
97	MAPLE	16"	GOOD	REMAIN
98	SPRUCE	8"	FAIR	REMOVE
99	SPRUCE	8"	POOR	REMOVE
100	MAPLE	10"	GOOD	REMAIN
101	HICKORY	8"	GOOD	REMAIN
102	MAPLE	10"	GOOD	REMAIN
103	MAPLE	44"	GOOD	REMAIN
104	MAPLE	10"	GOOD	REMAIN
105	MAPLE	10"	GOOD	REMAIN
106	MAPLE	8"	GOOD	REMAIN
107	BIRCH	16" TR	GOOD	REMOVE
108	ASH	8"	FAIR	REMAIN
110	MAGNOLIA	14"	GOOD	REMOVE
111	MAPLE	10"	GOOD	REMAIN
112	MAPLE	10"	GOOD	REMAIN
113	PINE	12"	GOOD	REMOVE
114	MAPLE	8"	GOOD	REMAIN
115	MAPLE	16"	GOOD	REMAIN
116	MAPLE	8"	GOOD	REMAIN
117	PINE	14" 8"	GOOD	REMOVE
118	SPRUCE	14"	POOR	REMOVE
119	PINE	14"	FAIR	REMOVE
120	MAPLE	10"	GOOD	REMAIN
121	BIRCH	12" MU	GOOD	REMAIN
122	MAPLE	10"	GOOD	REMAIN
123	MAPLE	8"	FAIR	REMAIN
124	MAPLE	12" 8"	FAIR	REMAIN
125	OAK	20"	FAIR	REMOVE
126	SPRUCE	18" TW	POOR	REMOVE
127	MAPLE	8"	GOOD	REMAIN
129	MAPLE	12"	GOOD	REMAIN
130	MAPLE	8"	GOOD	REMAIN
132	MAPLE	8"	GOOD	REMAIN
134	MAPLE	10"	GOOD	REMAIN
135	PINE	14"	GOOD	REMOVE
136	MAPLE	8"	GOOD	REMAIN
137	PINE	10"	POOR	REMOVE
138	MAPLE	10"	GOOD	REMAIN
139	SPRUCE	14"	FAIR	REMOVE
140	SPRUCE	14"	FAIR	REMOVE
141	OAK	10"	GOOD	REMOVE
142	OAK	10"	FAIR	REMOVE
143	MAPLE	12"	GOOD	REMAIN
144	HICKORY	10"	GOOD	REMAIN
145	OAK	18"	GOOD	REMOVE
146	OAK	10"	GOOD	REMOVE
147	ASH	16"	FAIR	REMOVE
148	MAPLE	12"	GOOD	REMOVE
149	BIRCH	8"	GOOD	REMOVE
150	OAK	12"	GOOD	REMOVE
151	PEAR	16"	FAIR	REMOVE
152	OAK	12"	GOOD	REMOVE
154	MAPLE	10"	GOOD	REMAIN
155	OAK	8"	GOOD	REMOVE
156	ASH	10"	GOOD	REMAIN
157	PINE	10"	GOOD	REMOVE
158	OAK	8"	GOOD	REMOVE
159	SPRUCE	14"	GOOD	REMAIN
160	LOCUST	6"	GOOD	REMAIN
161	PINE	8"	POOR	REMOVE
162	PINE	8"	FAIR	REMOVE
163	SPRUCE	10"	GOOD	REMOVE
164	PINE	8"	FAIR	REMOVE
166	SPRUCE	8"	FAIR	REMOVE
167	OAK	14"	GOOD	REMAIN
168	MAPLE	10"	GOOD	REMAIN
169	PEAR	21"	FAIR	REMOVE
170	SPRUCE	8"	GOOD	REMOVE
171	OAK	14"	FAIR	REMAIN
172	OAK	20"	GOOD	REMOVE
173	OAK	14"	GOOD	REMAIN
174	MAPLE	12"	GOOD	REMOVE
175	MAPLE	14"	GOOD	REMOVE
176	SPRUCE	8"	GOOD	REMOVE
177	SPRUCE	8"	FAIR	REMOVE
178	MAPLE	10"	GOOD	REMOVE
179	SPRUCE	8"	FAIR	REMOVE
180	MAPLE	8"	GOOD	REMAIN
181	SPRUCE	14"	GOOD	REMAIN
182	SPRUCE	14"	FAIR	REMAIN
183	SPRUCE	12"	GOOD	REMAIN
184	SPRUCE	14"	FAIR	REMAIN
185	SPRUCE	8"	FAIR	REMAIN
186	SPRUCE	8"	FAIR	REMAIN
187	SPRUCE	8"	FAIR	REMAIN
188	SPRUCE	8"	FAIR	REMAIN
189	MAPLE	10"	GOOD	REMOVE
190	MAPLE	10"	GOOD	REMAIN
191	SPRUCE	8"	GOOD	REMOVE
192	MAPLE	12"	GOOD	REMOVE
193	SPRUCE	8"	GOOD	REMOVE
194	SPRUCE	8"	FAIR	REMAIN
195	SPRUCE	8"	FAIR	REMAIN
196	SPRUCE	8"	GOOD	REMOVE
197	SPRUCE	8"	FAIR	REMAIN
198	SPRUCE	8"	GOOD	REMAIN
199	SPRUCE	12"	FAIR	REMAIN
200	MAPLE	8"	GOOD	REMOVE
201	ASH	10"	GOOD	REMOVE
202	ASH	8"	GOOD	REMOVE
203	OAK	14"	FAIR	REMOVE
204	MAPLE	14"	GOOD	REMOVE
205	SPRUCE	8"	GOOD	REMOVE
206	PINE	14"	GOOD	REMAIN
207	MAPLE	8"	GOOD	REMOVE
208	PINE	12"	FAIR	REMAIN
209	MAPLE	10"	GOOD	REMAIN
210	PINE	14"	FAIR	REMAIN
211	PINE	10"	FAIR	REMAIN
212	SPRUCE	8"	GOOD	REMAIN
213	SPRUCE	8"	FAIR	REMAIN
214	CHERRY	9"	FAIR	REMAIN
215	OAK	14"	FAIR	REMOVE
216	MAPLE	16"	FAIR	REMOVE
217	MAPLE	10"	FAIR	REMOVE
218	SPRUCE	12"	GOOD	REMAIN
219	MAPLE	8"	GOOD	REMAIN
220	PEAR	10"	GOOD	REMOVE
221	SPRUCE	8"	GOOD	REMOVE
222	SPRUCE	8"	FAIR	REMAIN
223	MAPLE	9" TW	GOOD	REMAIN
224	MAPLE	8"	GOOD	REMAIN
225	SPRUCE	8"	FAIR	REMAIN
226	MAPLE	10"	GOOD	REMAIN
227	PINE	8"	FAIR	REMAIN
228	LOCUST	12"	GOOD	REMAIN
229	PINE	10"	GOOD	REMAIN
230	PINE	10"	FAIR	REMOVE
231	PINE	10"	FAIR	REMAIN
232	MAPLE	10"	GOOD	REMAIN
233	MAPLE	10"	GOOD	REMOVE
234	PINE	10"	POOR	REMAIN
235	PINE	10"	FAIR	REMOVE
236	MAPLE	12" TR	FAIR	REMAIN
237	SPRUCE	12"	GOOD	REMAIN
238	SPRUCE	12"	GOOD	REMAIN
239	SPRUCE	8"	FAIR	REMAIN
240	SPRUCE	8"	GOOD	REMOVE
242	LOCUST	14"	GOOD	REMAIN
243	SPRUCE	8"	FAIR	REMAIN
244	MAPLE	8"	FAIR	REMOVE
245	SPRUCE	12"	GOOD	REMAIN
246	MAPLE	8"	FAIR	REMAIN
247	SPRUCE	8"	FAIR	REMAIN
248	SPRUCE	8"	GOOD	REMOVE
249	MAPLE	12"	FAIR	REMAIN
250	MAPLE	12" 8" 6"	FAIR	REMAIN
251	MAPLE	10"	FAIR	REMAIN
252	SPRUCE	8"	GOOD	REMOVE
253	MAPLE	8"	GOOD	REMAIN
254	OAK	36"	GOOD	REMAIN
255	SPRUCE	8"	GOOD	REMAIN
256	MAPLE	14"	FAIR	REMOVE
257	MAPLE	12" 8" 6"	FAIR	REMAIN
258	LOCUST	12"	GOOD	REMAIN
259	ASH	18"	GOOD	REMOVE
260	MAPLE	8"	GOOD	REMOVE
261	SPRUCE	8"	FAIR	REMAIN
263	OAK	12"	GOOD	REMOVE
264	SPRUCE	8"	GOOD	REMOVE
265	PINE	12"	FAIR	REMOVE
266	ASH	10"	GOOD	REMOVE
268	SPRUCE	8"	FAIR	REMAIN
269	SPRUCE	8"	GOOD	REMOVE
270	SPRUCE	8"	FAIR	REMAIN
271	SPRUCE	12"	POOR	REMAIN
272	DOGWOOD	10"	POOR	REMOVE
273	PINE	20"	FAIR	REMOVE
274	OAK	10"	GOOD	REMOVE
275	SPRUCE	14"	POOR	REMAIN
276	SPRUCE	8"	FAIR	REMOVE
277	SWEET GUM	24"	GOOD	REMAIN
278	SPRUCE	16"	GOOD	REMAIN
279	PINE	16"	FAIR	REMOVE
280	CEDAR	12"	GOOD	REMAIN
281	MAPLE	16"	GOOD	REMOVE
282	PINE	10"	FAIR	REMAIN
283	SPRUCE	14"	POOR	REMAIN
284	OAK	14"	GOOD	REMAIN
285	SPRUCE	8"	GOOD	REMOVE
286	BIRCH	12"	GOOD	REMAIN
287	BIRCH	8"	POOR	REMAIN
288	SPRUCE	10"	POOR	REMAIN
289	MAPLE	12"	GOOD	REMAIN
290	PINE	12"	FAIR	REMOVE
291	PINE	8"	FAIR	REMAIN
293	SPRUCE	12" TW	GOOD	REMAIN
294	PINE	12"	FAIR	REMOVE
295	PINE	10"	FAIR	REMOVE
296	CEDAR	24" TW	FAIR	REMOVE
297	ASH	16"	GOOD	REMOVE
298	MAPLE	10"	GOOD	REMOVE
299	PINE	10"	FAIR	REMAIN
300	BIRCH	10"	POOR	REMOVE
301	PINE	28"	FAIR	REMOVE
302	SPRUCE	12"	GOOD	REMOVE
303	MAPLE	8"	GOOD	REMAIN
304	SPRUCE	12"	POOR	REMAIN
305	SPRUCE	8"	GOOD	REMAIN
306	PINE	10"	POOR	REMOVE
307	SPRUCE	14"	POOR	REMAIN
308	SPRUCE	8"	GOOD	REMAIN
309	SPRUCE	12"	GOOD	REMOVE
310	PINE	18"	FAIR	REMOVE
311	ASH	10"	FAIR	REMOVE
312	CEDAR	10"	GOOD	REMOVE
313	MAPLE	22"	GOOD	REMAIN
314	SPRUCE	14"	GOOD	REMOVE
315	PINE	26"	GOOD	REMOVE
316	CEDAR	10"	FAIR	REMOVE
317	MAPLE	30"	POOR	REMOVE
318	PINE	24"	FAIR	REMAIN
319	PINE	14"	FAIR	REMOVE
320	CEDAR	12"	FAIR	REMOVE
321	SPRUCE	12"	GOOD	REMOVE
322	OAK	12"	GOOD	REMOVE
323	DECIDUOUS	10"	POOR	REMOVE
324	CEDAR	10"	FAIR	REMOVE
325	MAPLE	18"	GOOD	REMOVE
326	PINE	14"	FAIR	REMAIN
327	PINE	28"	GOOD	REMOVE
328	CEDAR	10"	FAIR	REMOVE
329	ASH	12"	FAIR	REMOVE
330	CEDAR	10"	FAIR	REMOVE
331	MAPLE	20"	GOOD	REMAIN
332	CEDAR	10"	FAIR	REMOVE
333	PINE	14"	FAIR	REMAIN
334	DECIDUOUS	12"	GOOD	REMOVE
335	CHERRY	10"	GOOD	REMOVE
336	MAPLE	14"	FAIR	REMAIN
337	MAPLE	10"	GOOD	REMOVE
338	SPRUCE	10"	GOOD	REMOVE
339	MAPLE	14"	GOOD	REMAIN
340	CEDAR	8" TW	FAIR	REMOVE
341	PEAR	22"	GOOD	REMAIN
342	CEDAR	10" TW	FAIR	REMOVE
343	PINE	36"	GOOD	REMOVE
344	APPLE	8"	GOOD	REMOVE
345	OAK	8"	FAIR	REMOVE
346	CEDAR	10"	GOOD	REMAIN
347	OAK	34"	GOOD	REMAIN
348	MAGNOLIA	8"	FAIR	REMAIN
349	MAGNOLIA	12"	FAIR	REMAIN
350	SPRUCE	10"	FAIR	REMOVE
351	CEDAR	12" TW	GOOD	REMAIN
352	CEDAR	8"	FAIR	REMOVE
353	MAPLE	24"	POOR	REMAIN
354	SPRUCE	16"	GOOD	REMOVE
355	CEDAR	8"	FAIR	REMOVE
356	APPLE	8"	FAIR	REMOVE
357	CEDAR	10"	GOOD	REMOVE
358	SPRUCE	10"	GOOD	REMOVE
359	DECIDUOUS	16"	GOOD	REMOVE
360	CEDAR	14"	FAIR	REMOVE
361	MAPLE	16"	GOOD	REMOVE
362	OAK	40"	GOOD	REMAIN
363	CEDAR	12"	FAIR	REMOVE
364	MAPLE	18"	GOOD	REMOVE
366	CEDAR	10"	FAIR	REMOVE
367	HEMLOCK	18"	POOR	REMAIN
368	CEDAR	14"	FAIR	REMOVE
369	APPLE	8"	FAIR	REMOVE
370	APPLE	8"	GOOD	REMOVE
371	SPRUCE	14"	GOOD	REMOVE
372	SYCAMORE	16"	FAIR	REMAIN
373	CEDAR	12"	FAIR	REMOVE
374	HEMLOCK	8"	POOR	REMAIN
375	MAPLE	12"	GOOD	REMOVE
376	HEMLOCK	8"	POOR	REMAIN
377	MAPLE	12"	POOR	REMAIN
378	SPRUCE	14"	FAIR	REMOVE
380	MAPLE	12"	GOOD	REMAIN
381	BIRCH	14"	GOOD	REMOVE
382	BIRCH	14"	GOOD	REMOVE
383	PINE	28"	FAIR	REMAIN
384	SPRUCE	20"	GOOD	REMAIN
385	APPLE	10"	GOOD	REMOVE
386	OAK	30"	GOOD	REMAIN
387	HEMLOCK	8" TW	FAIR	REMAIN
388	OAK	12"	FAIR	REMOVE
389	APPLE	12" TR	POOR	REMOVE
390	SPRUCE	14"	FAIR	REMOVE
391	MAPLE	34"	GOOD	REMOVE
392	APPLE	10"	GOOD	REMOVE
393	APPLE	12"	GOOD	REMOVE
394	CHERRY	10"	POOR	REMOVE
395	ASH	16"	FAIR	REMAIN
396	CHERRY	10"	POOR	REMAIN
397	OAK	22"	FAIR	REMAIN
398	MAPLE	14"	FAIR	REMAIN
399	OAK	28"	GOOD	REMOVE

APPLICANT/OWNER: AIRPORT CAMPUS I-V LLC
46 WESTCHESTER AVENUE
POUND RIDGE, NY 10576

ARCHITECT: PERKINS-EASTMAN
115 FIFTH AVENUE
NEW YORK, NY 10003

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC
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TREE PROTECTION TABLE

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

PROGRESS PLOTTING

Drawing: 15072-TREE-PROTECTION
Date: 2019-08-30
Time: 1:26 PM

Drawn: JJ Approved: AG
Scale: N.T.S.
Project No: 15072

Drawing No: TP-3

NOT FOR CONSTRUCTION

TREE TABLE – PART B

744 TREES DEPICTED HAVING A DIAMETER AT DBH OF 8" OR GREATER

TREE NO.	COMMON NAME	DIAMETER	CONDITION	REMAIN OR REMOVE
400	SPRUCE	12"	POOR	REMOVE
401	CHERRY	22"	POOR	REMAIN
402	MAPLE	14"	GOOD	REMOVE
403	MAPLE	24"	FAIR	REMOVE
404	OAK	16"	FAIR	REMAIN
405	MAPLE	12"	GOOD	REMOVE
406	MAPLE	22"	FAIR	REMOVE
407	CHERRY	10"	POOR	REMOVE
408	SPRUCE	14"	FAIR	REMOVE
409	SPRUCE	10"	POOR	REMOVE
410	OAK	22"	GOOD	REMOVE
411	OAK	24"	FAIR	REMAIN
412	CHERRY	18"	FAIR	REMAIN
413	OAK	20"	GOOD	REMOVE
414	SPRUCE	10"	POOR	REMOVE
415	SPRUCE	12"	FAIR	REMOVE
416	DECIDUOUS	16"	GOOD	REMOVE
417	DECIDUOUS	16"	GOOD	REMOVE
419	SPRUCE	20"	FAIR	REMOVE
420	LINDEN	16"	GOOD	REMOVE
421	SPRUCE	8"	FAIR	REMAIN
422	HEMLOCK	8"	FAIR	REMOVE
423	APPLE	12"	GOOD	REMOVE
424	SPRUCE	10"	POOR	REMAIN
425	OAK	8"	GOOD	REMOVE
426	SPRUCE	12"	FAIR	REMOVE
427	SPRUCE	8"	FAIR	REMAIN
428	APPLE	8"	FAIR	REMOVE
429	OAK	12"	GOOD	REMOVE
430	APPLE	8"	POOR	REMOVE
431	SPRUCE	10"	GOOD	REMOVE
432	SPRUCE	12"	POOR	REMAIN
433	SPRUCE	12"	FAIR	REMAIN
434	SPRUCE	14"	FAIR	REMAIN
435	OAK	22"	FAIR	REMAIN
436	MAPLE	26"	GOOD	REMAIN
437	SPRUCE	12"	POOR	REMOVE
438	BIRCH	12" MU	FAIR	REMOVE
439	SPRUCE	12"	POOR	REMOVE
440	BIRCH	12" MU	FAIR	REMOVE
441	BIRCH	18" TR	FAIR	REMOVE
442	SPRUCE	10"	POOR	REMOVE
443	SPRUCE	10"	POOR	REMOVE
444	MAPLE	14"	GOOD	REMOVE
445	SPRUCE	8"	POOR	REMOVE
446	HEMLOCK	8"	FAIR	REMOVE
447	LOCUST	10"	FAIR	REMOVE
448	CEDAR	10"	FAIR	REMOVE
449	HEMLOCK	10"	POOR	REMOVE
451	HEMLOCK	12"	FAIR	REMOVE
452	SPRUCE	20"	POOR	REMOVE
454	CEDAR	10"	FAIR	REMOVE
455	MAPLE	18"	FAIR	REMOVE
456	LOCUST	12"	DEAD	REMOVE
457	CHERRY	20"	GOOD	REMOVE
458	MAPLE	10" MU	POOR	REMOVE
460	CEDAR	20"	POOR	REMOVE
461	CHERRY	16"	FAIR	REMOVE
465	MAPLE	8"	FAIR	REMAIN
466	MAPLE	18"	GOOD	REMOVE
467	MAPLE	12"	FAIR	REMOVE
470	OAK	24"	FAIR	REMAIN
471	MAPLE	12"	GOOD	REMAIN
472	PINE	16"	FAIR	REMAIN
473	PINE	24"	FAIR	REMAIN
474	MAPLE	16"	FAIR	REMAIN
475	OAK	14"	FAIR	REMAIN
476	PINE	24"	FAIR	REMAIN
477	PINE	16"	FAIR	REMAIN
478	MAPLE	30"	POOR	REMAIN
479	PINE	16"	FAIR	REMAIN
480	PINE	8"	DEAD	REMAIN
481	MAPLE	10"	POOR	REMAIN
482	MAPLE	10"	GOOD	REMAIN
483	PINE	28"	FAIR	REMAIN
484	MAPLE	12"	POOR	REMAIN
485	MAPLE	18"	GOOD	REMAIN
486	PINE	28"	FAIR	REMAIN
487	PINE	8"	DEAD	REMAIN
488	PINE	16"	FAIR	REMAIN
489	LOCUST	26"	POOR	REMAIN
490	PINE	16"	FAIR	REMAIN
491	ASH	14"	POOR	REMAIN
492	CHERRY	12"	POOR	REMAIN
493	ASH	12"	POOR	REMAIN
494	CHERRY	10"	POOR	REMAIN
495	CHERRY	10"	POOR	REMAIN
496	CHERRY	8"	FAIR	REMAIN
497	LOCUST	14"	POOR	REMAIN
498	ELM	16"	GOOD	REMAIN
499	MAPLE	10" TW	GOOD	REMAIN

TREE NO.	COMMON NAME	DIAMETER	CONDITION	REMAIN OR REMOVE
500	CHERRY	20"	POOR	REMOVE
501	DECIDUOUS	16"	FAIR	REMAIN
502	TREE OF HEAVEN	18"	FAIR	REMOVE
503	MAPLE	18"	GOOD	REMOVE
504	ASH	16"	FAIR	REMAIN
505	SYCAMORE	16"	GOOD	REMAIN
506	MAPLE	16"	FAIR	REMAIN
507	BIRCH	8"	POOR	REMAIN
508	CHERRY	8"	GOOD	REMAIN
509	MAPLE	16"	GOOD	REMAIN
510	ASH	40"	POOR	REMAIN
511	CHERRY	10"	DEAD	REMOVE
512	APPLE	12"	DEAD	REMAIN
513	CHERRY	10"	FAIR	REMOVE
514	APPLE	16"	DEAD	REMOVE
515	LOCUST	14"	POOR	REMOVE
516	CHERRY	16"	FAIR	REMOVE
517	ASH	14"	POOR	REMOVE
518	LOCUST	12"	DEAD	REMOVE
519	SPRUCE	24"	FAIR	REMAIN
520	CHERRY	14"	DEAD	REMOVE
521	CHERRY	12"	FAIR	REMOVE
523	MAPLE	22" TW	FAIR	REMOVE
524	ASH	16"	POOR	REMOVE
525	CHERRY	10"	FAIR	REMOVE
527	CHERRY	10"	FAIR	REMOVE
528	CEDAR	10"	GOOD	REMOVE
529	CEDAR	10" 8"	GOOD	REMOVE
530	MAPLE	28"	GOOD	REMOVE
531	PINE	18"	POOR	REMOVE
532	MAPLE	20"	FAIR	REMAIN
533	ASH	12"	FAIR	REMOVE
535	PINE	16"	FAIR	REMOVE
536	CHERRY	12"	POOR	REMOVE
537	CHERRY	10"	POOR	REMOVE
538	MAPLE	48"	POOR	REMOVE
539	MAPLE	26"	FAIR	REMOVE
540	CHERRY	12"	POOR	REMOVE
541	CHERRY	12"	FAIR	REMOVE
544	CHERRY	8"	FAIR	REMOVE
545	LOCUST	22"	POOR	REMOVE
546	MAPLE	18"	FAIR	REMOVE
547	ASH	10" TW	POOR	REMOVE
548	PINE	12"	POOR	REMOVE
549	ASH	14"	POOR	REMOVE
550	BIRCH	8"	GOOD	REMAIN
551	CHERRY	8"	DEAD	REMOVE
552	SYCAMORE	8"	GOOD	REMOVE
553	PINE	16"	FAIR	REMOVE
554	CHERRY	18"	POOR	REMOVE
555	APPLE	18"	DEAD	REMOVE
556	WALNUT	16"	POOR	REMAIN
557	MAPLE	20"	FAIR	REMOVE
558	ASH	12"	DEAD	REMOVE
560	LOCUST	20"	FAIR	REMOVE
561	DOGWOOD	8"	FAIR	REMAIN
562	CHERRY	10"	FAIR	REMOVE
563	PINE	16"	DEAD	REMOVE
564	ASH	10"	FAIR	REMAIN
565	LOCUST	18"	FAIR	REMOVE
566	CHERRY	10"	FAIR	REMOVE
567	LOCUST	18"	FAIR	REMOVE
568	MAPLE	22" TW	FAIR	REMOVE
569	PINE	16"	POOR	REMOVE
570	PINE	14"	POOR	REMOVE
571	SPRUCE	18"	GOOD	REMAIN
572	LOCUST	14"	FAIR	REMOVE
573	MAPLE	12"	FAIR	REMOVE
574	TREE OF HEAVEN	14"	FAIR	REMOVE
575	CHERRY	10"	FAIR	REMOVE
576	CHERRY	14"	FAIR	REMOVE
577	MAPLE	18"	FAIR	REMOVE
578	CHERRY	14"	POOR	REMOVE
579	CHERRY	16"	FAIR	REMOVE
580	HEMLOCK	8"	FAIR	REMOVE
581	PINE	16"	DEAD	REMOVE
582	ASH	20"	POOR	REMOVE
583	LOCUST	30"	FAIR	REMAIN
584	ASH	16"	FAIR	REMOVE
585	LOCUST	14"	FAIR	REMOVE
586	BIRCH	12"	POOR	REMAIN
587	LOCUST	10"	FAIR	REMOVE
588	BIRCH	26"	POOR	REMAIN
589	TREE OF HEAVEN	20"	GOOD	REMOVE
591	PINE	16"	POOR	REMOVE
592	MAPLE	30"	GOOD	REMAIN
593	CHERRY	14"	POOR	REMOVE
594	OAK	28"	FAIR	REMOVE
595	CHERRY	12"	POOR	REMOVE
596	CHERRY	8"	GOOD	REMOVE
598	ASH	18"	POOR	REMOVE
599	WALNUT	16"	FAIR	REMAIN

TREE NO.	COMMON NAME	DIAMETER	CONDITION	REMAIN OR REMOVE
600	CHERRY	14"	POOR	REMOVE
602	ASH	18"	POOR	REMOVE
603	CHERRY	12"	POOR	REMOVE
604	CHERRY	12"	DEAD	REMOVE
605	TREE OF HEAVEN	24" TW	FAIR	REMAIN
606	CHERRY	14"	POOR	REMAIN
607	MAPLE	16"	DEAD	REMOVE
608	CHERRY	14"	POOR	REMOVE
609	TREE OF HEAVEN	8" MU	FAIR	REMOVE
610	OAK	38"	GOOD	REMAIN
611	ASH	12" TW	DEAD	REMOVE
612	ASH	20"	POOR	REMOVE
614	LOCUST	20"	POOR	REMAIN
616	PINE	10"	DEAD	REMAIN
617	WILLOW	60"	POOR	REMAIN
618	OAK	12"	FAIR	REMOVE
619	CHERRY	8"	POOR	REMOVE
620	CHESTNUT	18" 6"	GOOD	REMAIN
621	PINE	20"	GOOD	REMAIN
622	PINE	10"	POOR	REMAIN
623	PINE	24"	FAIR	REMAIN
624	CHESTNUT	32"	GOOD	REMAIN
625	PINE	18"	FAIR	REMAIN
626	SPRUCE	14"	POOR	REMAIN
627	CHESTNUT	20"	FAIR	REMAIN
628	PINE	16"	FAIR	REMAIN
629	OAK	26"	GOOD	REMAIN
630	APPLE	18" TR	POOR	REMAIN
631	OAK	22"	FAIR	REMOVE
632	OAK	20"	FAIR	REMOVE
633	PINE	22"	POOR	REMAIN
634	CHERRY	18"	FAIR	REMAIN
635	MAPLE	16"	FAIR	REMAIN
636	OAK	16"	GOOD	REMOVE
637	CHERRY	12"	FAIR	REMAIN
638	PINE	18"	POOR	REMAIN
639	ASH	12"	POOR	REMAIN
641	ASH	24"	POOR	REMAIN
642	OAK	28"	FAIR	REMOVE
643	OAK	30"	FAIR	REMOVE
644	ASH	12"	POOR	REMAIN
645	ASH	12"	POOR	REMAIN
646	PINE	16" MU	POOR	REMAIN
647	APPLE	20"	DEAD	REMAIN
648	PINE	16"	GOOD	REMAIN
649	OAK	24"	FAIR	REMOVE
650	ASH	10"	POOR	REMOVE
651	ASH	8"	POOR	REMOVE
652	OAK	16" TW	POOR	REMAIN
653	OAK	26"	GOOD	REMAIN
654	SPRUCE	24"	FAIR	REMOVE
655	MAPLE	24"	FAIR	REMAIN
656	PINE	30" MU	FAIR	REMOVE
657	SPRUCE	10" MU	FAIR	REMAIN
658	PINE	22"	FAIR	REMOVE
659	MAPLE	8"	FAIR	REMAIN
660	SPRUCE	28"	FAIR	REMOVE
661	CHERRY	22"	POOR	REMAIN
662	CHERRY	14"	POOR	REMAIN
663	PINE	20"	FAIR	REMOVE
664	ASH	12"	POOR	REMAIN
665	MAPLE	14"	GOOD	REMAIN
667	PINE	18"	FAIR	REMOVE
668	SPRUCE	18"	GOOD	REMOVE
669	BIRCH	12"	FAIR	REMAIN
671	MAPLE	10"	FAIR	REMAIN
672	PINE	20"	FAIR	REMOVE
673	ASH	8"	FAIR	REMAIN
674	ASH	10"	POOR	REMAIN
675	MAPLE	50"	FAIR	REMAIN
676	HICKORY	10"	GOOD	REMAIN
677	APPLE	12"	GOOD	REMAIN
678	MAPLE	24"	GOOD	REMOVE
679	MAPLE	12"	GOOD	REMAIN
680	ASH	10"	FAIR	REMAIN
681	ASH	10"	FAIR	REMAIN
682	PINE	18"	GOOD	REMAIN
683	DECIDOUS	8"	FAIR	REMAIN
684	ASH	8"	POOR	REMAIN
685	TREE OF HEAVEN	16"	GOOD	REMAIN
690	MAPLE	10"	FAIR	REMAIN
691	CEDAR	16"	FAIR	REMAIN
692	PINE	16"	FAIR	REMAIN
693	CEDAR	14" MU	FAIR	REMAIN
697	ASH	16"	DEAD	REMAIN
698	WILLOW	50"	POOR	REMAIN
699	BIRCH	16"	POOR	REMOVE

TREE NO.	COMMON NAME	DIAMETER	CONDITION	REMAIN OR REMOVE
700	APPLE	12"	DEAD	REMOVE
702	ASH	14"	POOR	REMAIN
703	SASSAFRAS	18"	FAIR	REMAIN
704	ASH	10"	FAIR	REMAIN
705	APPLE	28"	POOR	REMAIN
707	PINE	48"	GOOD	REMAIN
709	MAPLE	50"	GOOD	REMAIN
710	MAPLE	18"	FAIR	REMAIN
712	CHERRY	18"	FAIR	REMAIN
713	CHERRY	18"	FAIR	REMAIN
715	MAPLE	48"	GOOD	REMAIN
716	SASSAFRAS	18"	FAIR	REMAIN
717	ASH	18"	POOR	REMAIN
718	MAPLE	10"	FAIR	REMAIN
719	MAPLE	10" TW	FAIR	REMAIN
720	MAPLE	12" TW	FAIR	REMAIN
721	BIRCH	14" TR	FAIR	REMAIN
722	TREE OF HEAVEN	16"	GOOD	REMAIN
723	OAK	18"	FAIR	REMAIN
724	SASSAFRAS	18"	FAIR	REMAIN
725	APPLE	16"	POOR	REMAIN
726	OAK	20"	FAIR	REMAIN
728	MAPLE	20"	FAIR	REMOVE
729	CHERRY	8"	DEAD	REMAIN
730	FIR	16"	POOR	REMOVE
731	OAK	28"	FAIR	REMAIN
732	MAPLE	32"	GOOD	REMAIN
733	CHERRY	16" TW	FAIR	REMAIN
735	SPRUCE	12"	GOOD	REMOVE
736	MULBERRY	16"	GOOD	REMOVE
737	SPRUCE	16"	GOOD	REMOVE
739	WALNUT	12"	GOOD	REMOVE
740	HEMLOCK	12" 10"	GOOD	REMOVE
741	MAPLE	8" TR	POOR	REMOVE
742	HEMLOCK	14"	GOOD	REMOVE
743	APPLE	24"	POOR	REMOVE
744	PINE	22"	GOOD	REMOVE
745	PINE	22"	GOOD	REMOVE
746	BIRCH	22"	GOOD	REMAIN
748	MAPLE	24" 8"	FAIR	REMAIN
752	BIRCH	10" 4"	GOOD	REMAIN
753	SASSAFRAS	10"	GOOD	REMOVE
754	MAPLE	22" 14"	GOOD	REMAIN
755	SASSAFRAS	8"	GOOD	REMAIN
756	OAK	28"	GOOD	REMAIN
757	MAPLE	10"	GOOD	REMAIN
758	DECIDUOUS	8"	POOR	REMOVE
759	HICKORY	16"	GOOD	REMAIN
760	CHERRY	8"	GOOD	REMAIN
761	CHERRY	8"	POOR	REMAIN
762	MAPLE	8"	GOOD	REMAIN
763	MAPLE	10" 6"	GOOD	REMAIN
764	MAPLE	12"	GOOD	REMAIN
765	MAPLE	8"	GOOD	REMAIN
766	ASH	22"	GOOD	REMAIN
767	MAPLE	12"	GOOD	REMAIN
768	MAPLE	10"	GOOD	REMAIN
770	HICKORY	26"	GOOD	REMAIN
771	CHERRY	8"	POOR	REMOVE
772	LOCUST	10"	POOR	REMOVE
773	BIRCH	10"	POOR	REMOVE
774	SPRUCE	10"	FAIR	REMOVE
775	MAPLE	10"	FAIR	REMAIN
776	MAPLE	8"	FAIR	REMAIN
777	SPRUCE	10"	POOR	REMAIN
778	SPRUCE	10"	POOR	REMAIN
779	DECIDUOUS	10"	DEAD	REMAIN
780	PINE	14"	DEAD	REMOVE
781	HEMLOCK	14"	POOR	REMAIN
782	OAK	38"	GOOD	REMAIN
783	DECIDUOUS	18"	DEAD	REMAIN
784	DECIDUOUS	12"	POOR	REMAIN
785	MAPLE	10"	FAIR	REMAIN
786	MAPLE	10"	FAIR	REMAIN
787	DECIDUOUS	14"	POOR	REMAIN
788	DECIDUOUS	14"	FAIR	REMAIN
789	DECIDUOUS	22"	POOR	REMAIN
790	OAK	24"	GOOD	REMAIN
791	OAK	20"	GOOD	REMAIN
792	OAK	20"	FAIR	REMAIN
793	DECIDUOUS	12"	DEAD	REMAIN
794	DECIDUOUS	8"	POOR	REMAIN
795	DECIDUOUS	10"	POOR	REMAIN
796	DECIDUOUS	10"	DEAD	REMAIN
797	DECIDUOUS	12" 10"	POOR	REMAIN
798	DECIDUOUS	10"	POOR	REMAIN
799	OAK	12"	GOOD	REMAIN

No. | Revision | Date | By

Previous Editions Obsolete

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JMC

TREE PROTECTION TABLE

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

PROGRESS PLOTTING

Drawing: 15072-TREE-PROTECTION
Date: 2019-08-30
Time: 1:27 PM
By:

Drawn: JJ Approved: AG
Scale: N.T.S.
Date: –
Project No: 15072
15072-TREE-PROTECTION TABLE-B
Drawing No: TP-4

Appendix D-2
Wetlands Report

Wetland Report

Airport Campus Site
113 King Street
Town of North Castle
Westchester County, New York

September 8, 2020

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
1248 Southford Road
Southbury, CT 06488
(203) 910-4716

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1.0 INTRODUCTION

The Airport Campus site located at 113 King Street in the Town of North Castle (*Figure 1*) is 37.78 acres and contains two large executive office buildings and associated man made pond feature, parking structure, parking lot, athletic courts, and paved trail system through the vacant section of the site. The proposed project is the establishment of a residential subdivision on the vacant area of the northern portion of the site adjacent to Cooney Hill Road. The vacant land on the north end of the site is generally mixed upland forest that was previously developed as part of a residential subdivision and is now young forest and field area that is mowed. One wetland segment that is 0.247 acres is located at the western corner of the site and a separate wetland area (swale) was observed off the site to the west on New York City Department of Environmental Protection (NYCDEP) property draining toward open water (Weber's Cove).

1.1 Wetland Delineation

The wetland delineation was completed in accordance with the Army Corps of Engineers (USACE) Wetlands Delineation Manual (January 1987), Routine Determination Method and Northcentral/Northeast supplement and Town of North Castle - Chapter 137.

Wetlands were delineated based upon the identification of the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual and supplement: dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. The Routine Methodology procedure for wetland determination was used. Transects consisting of at several sample points were walked. Dominant vegetation around each sample point was identified and its percent cover quantified. The areas were checked in detail for the presence of wetland hydrologic indicators. Soil profiles were then observed and characterized at each point.

The detailed field investigation included:

1. Identification of vegetation species to determine whether there was a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.

2. Determination of soil features for hydric (poorly and very poorly drained) natural soils.

3. Observation of site features displaying evidence of wetland hydrology based on the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic/hydric soil conditions.

Wetlands and watercourses within 1,000 feet of the site based on aerial mapping include two ponded areas and connecting tributary on the east side of King Street across from the site that drain south and based on the NYSDEC Environmental Resource Mapper/aerial mapping there are NYSDEC wetlands designated (G-20) on the North side of Cooney Hill Road on the Swiss RE that drains to the south/southwest to Rye Lake away from the project site (*Figure 2*).

The wetland on the site (*Figure 3*) is a wet meadow community that occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat); the substrate is saturated; water levels fluctuate seasonally, but the substrate is rarely dry, and there is usually standing water in the swale that drains the wet meadow. The Soil Survey indicates that the soil in the wetland delineation area is Paxton fine sandy loam which has inclusions of the hydric soil known as Ridgebury Loam. The most abundant emergent aquatic plants are cattails (*Typha angustifolia*), bulrush (*Scirpus americanus*), purple loosestrife (*Lythrum salicaria*), rice cutgrass (*Leersia oryzoides*), and soft rush (*Juncus effusus*). The wetland is shown on a map entitled, "*Airport Campus Wetland Map*" prepared by John Meyer Consulting and is regulated by the USACE and Town of North Castle. The USACE does not institute a regulated buffer however the Town of North Castle has a 100 foot regulated wetland buffer and there is 1.814 acres of Town buffer on the site. Total wetland and buffer area on the site is 2.061 acres or 5.44 percent of the site. There is a New York State Department of Environmental Conservation (NYSDEC) wetland located southwest of the site adjacent to Weber's Cove and a field walk with Josh Fisher - Biologist with the NYSDEC indicated that there was no NYSDEC regulated wetland or 100 foot Adjacent Area on the site (*Figure 3*).

The federal and Town wetland was delineated on July 10, 2018 in accordance with the Town of North Castle Code and USACE Wetland Delineation manual and Northeast supplement.

There are no proposed impacts to the wetland and the use of fertilizers, pesticides, herbicides, and fungicides, and other chemicals will be prohibited from use by the Applicant in the wetland and buffer. However an emergency gravel drive access will impact 0.28 acres of the 100 foot Town regulated buffer. The impact is generally in an area of previously impacted exercise stations and connecting drive/walkway. The proposed impact will require approval from the Town of North Castle only. No USACE or NYSDEC wetland permits are required.

2.0 WETLAND FUNCTIONAL EVALUATION

An assessment of the wetland functions and values was conducted for the delineated wetland. Freshwater wetlands provide:

1. Flood and storm control by the hydrologic absorption and storage capacity;
2. Wildlife habitat (breeding, nesting and feeding grounds and cover for wildlife, waterfowl, and shore birds including migratory waterfowl and rare species such as the bald eagle and osprey);
3. Protection of subsurface water resources and ground water recharge;
4. Recreation – hunting, fishing, boating, hiking, bird watching, photography, camping and other uses;
5. Pollution treatment by serving as biological and chemical oxidation basins;
6. Erosion control by serving as sedimentation areas, filtering basins;
7. Protection of channels and harbors by absorbing silt and organic matter;
8. Education and scientific research by providing readily accessible outdoor bio-physical laboratories, living classrooms and vast training and education resources;
9. Open space and aesthetic appreciation derived from the fact that they are often the only remaining open areas along crowded river fronts and coastal Great Lakes regions;
10. Sources of nutrients in freshwater food cycles and nursery grounds and sanctuaries for freshwater fish.

2.1 Methods

The functions and values assessment conducted on the property was based on the method outlined in the Hollands and Magee[1] Functional Evaluation Methodology which was utilized to determine and quantify the functions provided by the wetland on the subject property. This methodology is a semi-quantitative model that was developed to analyze wetland systems in the Northeast. The data obtained from this Pre – Development assessment was compared to data obtained from a theoretical Post - Development dry run of the methodology after considering the proposed wetland impacts on the site. The Hollands and Magee Method provides for assessment of the wetland wetland functions and values and is consistent with the Town of North Castle statement of findings. For this study, the Hollands and Magee method was used to evaluate 6 wetland functions which incorporate a range of biological, hydrologic, and socio-cultural interests.

The wetland on the subject site was evaluated for biological functions, hydrologic support functions, groundwater protection functions, storm and floodwater storage functions, water quality maintenance functions, and aesthetic functions.

1. **Groundwater Recharge/Discharge –** the potential for a wetland to serve as a recharge area for an aquifer or as a surface discharge point for groundwater.

[1] Hollands and Magee Wetland Functional Evaluation Methodology.

2. **Floodflow Attenuation –** A wetland's ability to store and attenuate floodwaters during prolonged precipitation events, thereby reducing or preventing flood damage.

3. **Fish and Shellfish Habitat –** The ability of permanent or temporary water bodies to provide suitable habitat for fish or shellfish.

4. **Sediment/Toxicant/Pathogen Retention –** The effectiveness of the wetland in trapping sediments, toxicants or pathogens, thereby protecting water quality.

5. **Nutrient Removal/Retention/Transformation –** The effectiveness of the wetland at absorbing, retaining, and transforming or binding excess nutrients, thereby protecting water quality.

6. **Production Export –** The wetland's ability to produce food or usable products for humans or other living organisms.

7. **Sediment/Shoreline Stabilization –** The wetland's ability to prevent erosion and sedimentation by stabilizing soils along stream banks or the shorelines of water bodies.

8. **Wildlife Habitat** – The ability of wetlands to provide food, water, cover, or space for wildlife populations typically associated with wetlands or their adjacent areas, both resident and migratory. *

9. **Recreation –** The value placed on a wetland by society for providing consumptive and non-consumptive as well as active or passive recreational opportunities such as canoeing/boating, fishing, hunting, bird/wildlife watching, hiking, etc.

10. **Education/Scientific Value –** The value placed on a wetland by society for providing subjects for scientific study or research or providing a teaching resource for schools.

11. **Uniqueness/Heritage –** The value placed on a wetland by society for having unique characteristics such as archaeological sites or sites of historical events, unusual aesthetic qualities, or unique plants, animals, or geologic features, etc.

12. **Visual Quality/Aesthetics –** The value placed on a wetland by society for having visual and/or other aesthetic qualities.

13. **Threatened or Endangered Species Habitat –** The value placed on a wetland by society for effectively harboring or providing habitat for threatened or endangered species.

Each function or value in the list has a set list of qualifiers for identifying which functions and values are performed or provided by each wetland. Wetland data and observations for this functions and values assessment were collected during two field visits during 2017 and 2018. Observations and other published data were used to assess the functions and values of the wetland.

2.2 Assessment Results

There is no direct wetland impact so there will be no decrease in wetland function. The existing site area where residential dwellings are proposed seems to drain to the delineated on site wetland where drainage enters a swale in the wetland and discharges off the site toward Weber's Cove. Offsite drainage swales also appear to collect overland runoff from precipitation that falls on the site and drains to Weber's Cove.

Major functions and values provided by this linear ditch/wetland meadow is: sediment trapping and some minor wildlife habitat. Impact to the 100 foot buffer area will occur in previously impacted area approximately 70 feet from the wetland boundary which is now maintained by mowing and can be mitigated by planting native shrubs and trees between the proposed impact and wetland. A summary of results of functional assessment is provided. There is no change is pre versus post conditions of wetland functions because there is no wetland impact proposed.

TABLE 1 FUNCTIONAL MODEL VALUES – PRE- and POST DISTURBANCE

FUNCTION	RANGE	MEAN	VALUE
Biological	29-158	93	110
Hydrologic Support	6-70	36	55
Groundwater	20-68	44	56
Flood Water Storage	31-123	77	95
Water Quality Maintenance	18-98	58	75
Aesthetic	9-66	37	55

2.3 Mitigation

The proposed impact area (gravel emergency access) of the 100 foot wetland buffer is about 70 feet from the wetland boundary which is down slope. Since this area was previously impacted it is reasonable to suggest that the addition of native plantings along the proposed gravel emergency access will increase the functional capacity of the buffer and better protect the wetland over current conditions. Existing site drainage patterns will be required by the NYCDEP to remain in their current condition through the use of stormwater management techniques that are approved by the NYCDEP.

Figure 1 Location Map

Figure 2 NYSDEC Map

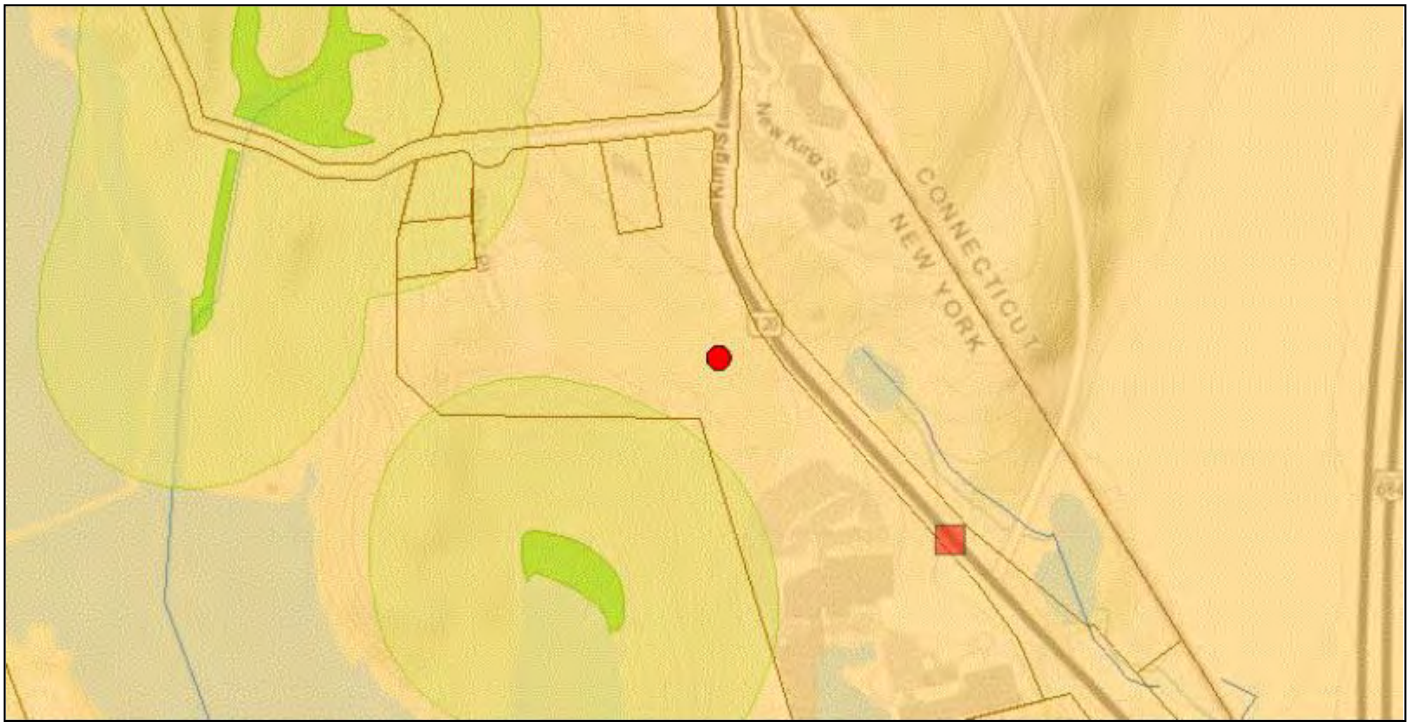

Figure 3 Wetland Map

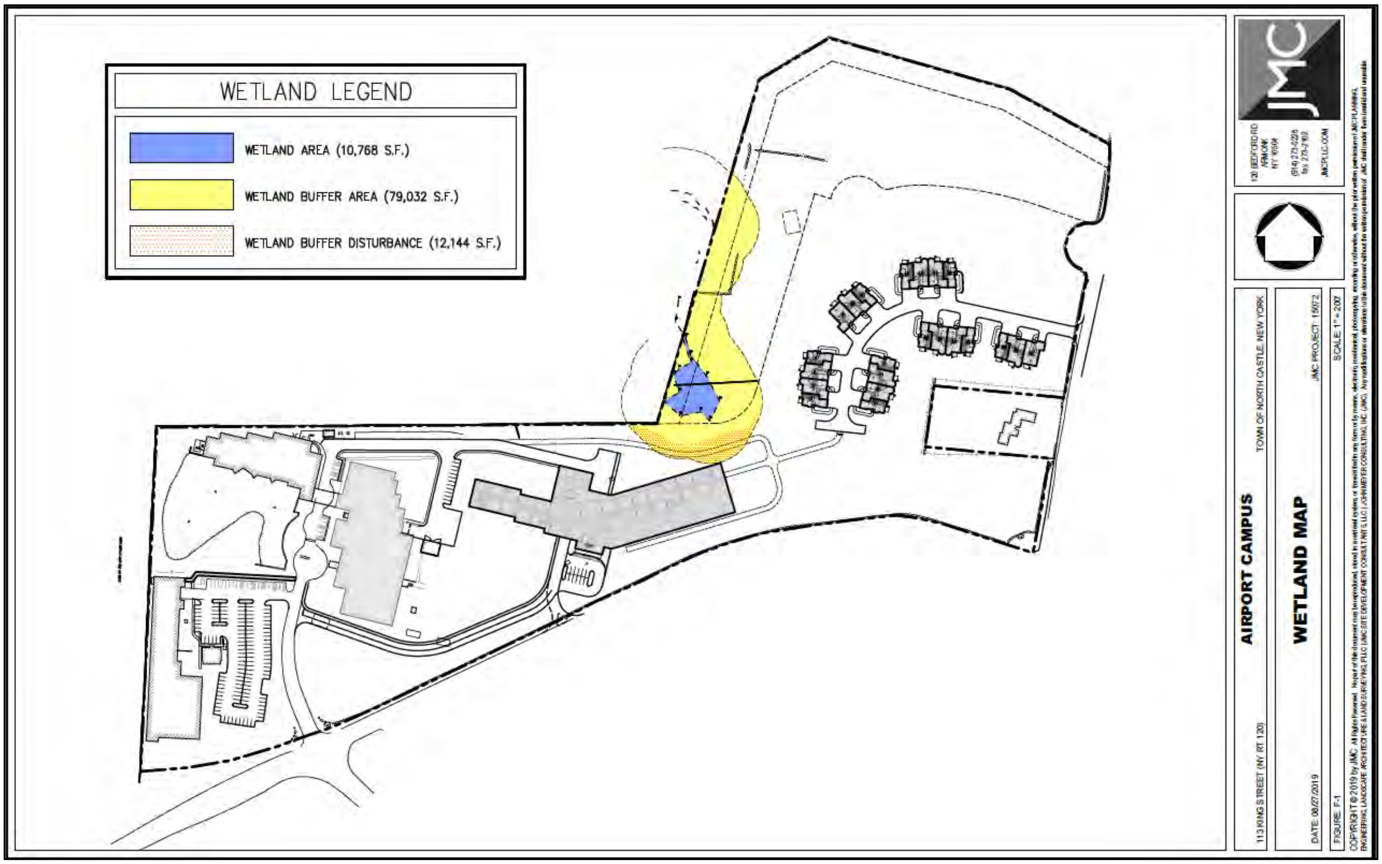

Figure 4 NYSDEC Correspondence

From: Fisher, Joshua M (DEC) <Joshua.Fisher@dec.ny.gov>
To: Michael Nowicki <ecolsol@aol.com>
Subject: RE: CH# 7579 SEQR LA - 113 KING ST - NORTH CASTLE - WESTCHESTER COUNTY [JMC Project 15072]
Date: Thu, Aug 9, 2018 10:56 am

Mike,

The wetlands you flagged at 113 King St in North Castle are not part of a New York State freshwater wetland. Article 24 regulations do not apply to the wetlands on that property.

Josh Fisher

Biologist, Bureau of Ecosystem Health

New York State Department of Environmental Conservation

21 South Putt Corners Rd., New Paltz, NY 12561

Office: (845) 256-3113 | joshua.fisher@dec.ny.gov

Cell: (845) 220-8570

www.dec.ny.gov | |

3.0 PHOTOGRAPHS

Ditch/Wetland area

Wetland area draining toward property line

Appendix E-1
Preliminary Stormwater Pollution Prevention Plan

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

AIRPORT CAMPUS

113 KING STREET
TOWN OF NORTH CASTLE, NY

Owner: **Airport Campus I-V LLC**
46 Westchester Avenue
Pound Ridge, NY 10576
Contact: Geoff Ringler
Phone: (914)764-1000

Prepared by: JMC

JMC Project 15072

Dated: **March 20, 2020**
Revised: **September 17, 2020**
February 18, 2021
April 22, 2021

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APPENDICES

FIGURES	DESCRIPTION
1.	Site Location Map
2.	Off-Site Drainage Area Map
8.	Proposed Phasing Plan

APPENDIX	**DESCRIPTION**
A.	Existing Hydrologic Calculations
B.	Proposed Hydrologic Calculations
C.	Soil Testing Data
D.	Stormwater Pollutant Loading Calculations – Existing Conditions
E.	Stormwater Pollutant Loading Calculations – Proposed Conditions
F.	NYSDEC Stormwater Sizing Calculations
G.	Sediment Basin Calculations
H.	StormTech Design Manual and Isolator Row O&M Manual
I.	Temporary Erosion and Sediment Control Inspection and Maintenance Checklist & Permanent Stormwater Management Practice Inspection and Maintenance Checklist
J.	Operation and Maintenance Manual – First Defense and First Defense High Capacity
K.	Contractor's Certification
L.	Integrated Pest Management Plan
M.	Project Modification Letter from DEP
N.	Drawings DA-1 "Existing Drainage Area Map" DA-2 "Proposed Drainage Area Map"

REFERENCED DRAWINGS FOR SWPPP DESIGN AND DETAILS

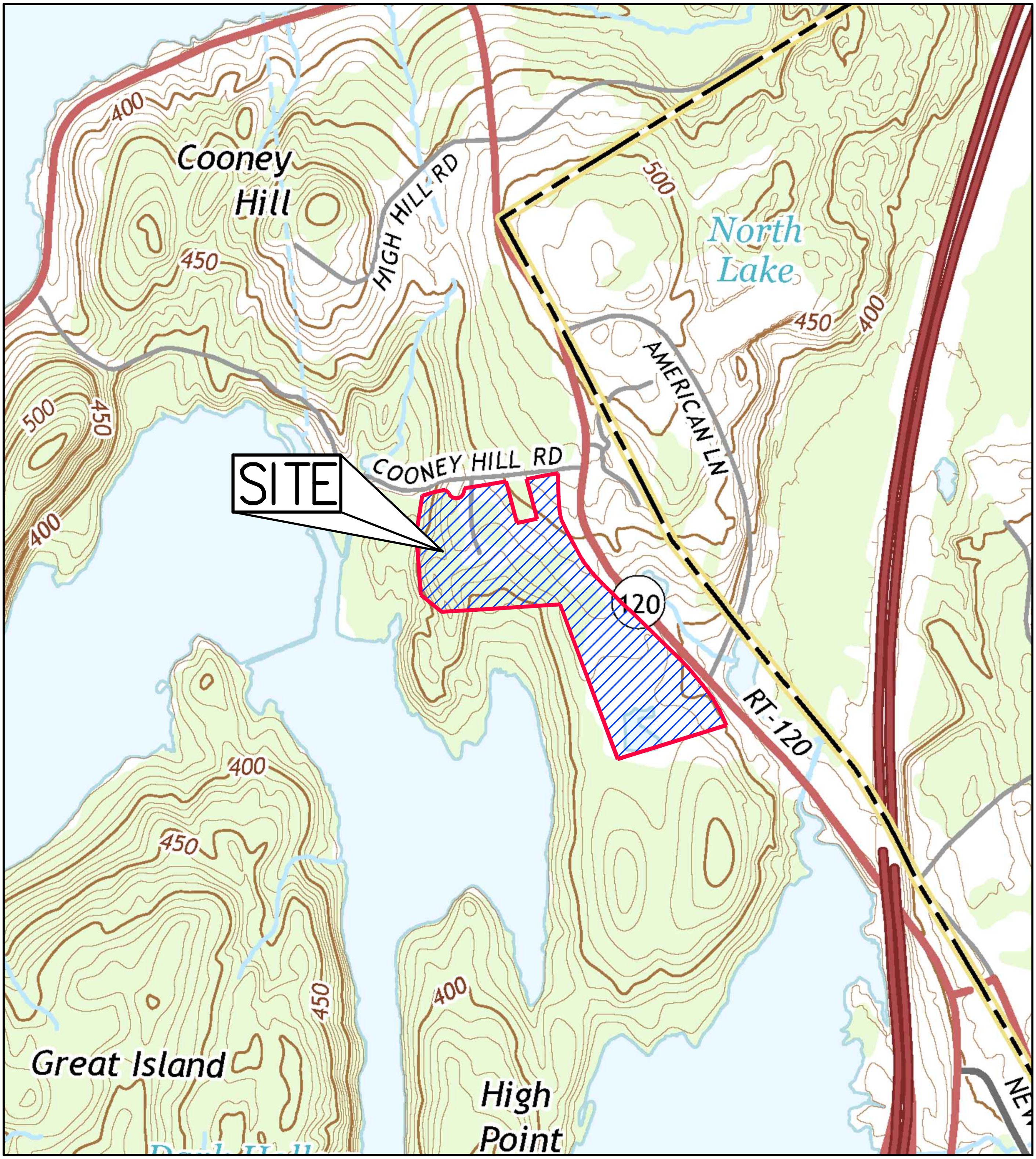
JMC Dwg. No.	Title
C-000	"Cover Sheet"
C-010	"Existing Conditions Plan"
C-052	"EAF Steep Slope Analysis"
C-100	"Overall Preliminary Layout Plan"
C-101	"Preliminary Layout Plan"
C-102	"Preliminary Layout Plan"
C-151	"Tree Protection Plan"
C-152	"Tree Protection Plan"
C-153	"Tree Protection Table"
C-154	"Tree Protection Table"
C-201	"Preliminary Grading Plan"
C-202	"Preliminary Grading Plan"
C-210	"Preliminary Cut and Fill Summary"
C-301	"Preliminary Utilities Plan"
C-302	"Preliminary Utilities Plan"
C-401	"Preliminary Erosion and Sediment Control Plan"
C-402	"Preliminary Erosion and Sediment Control Plan"
L-101	"Preliminary Landscape Plan"
L-102	"Preliminary Landscape Plan"

I. SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the proposed business park expansion and residential development project at the 37.78-acre Airport Campus site formally known and approved as the MBIA Headquarters Expansion. This project is an amendment to the MBIA Headquarters Expansion project and this SWPPP is an amendment to this site's SWPPP approved by the Town of North Castle and NYCDEP on August 22, 2005 and amended on July 14, 2006. This SWPPP also references the Airport Campus Parking Improvement Project, which has been designed under a SWPPP Supplement and has been included as proposed development in the hydrologic analysis. This portion of the project has been included in hydrologic analysis only and is not covered under this SWPPP. The site is bordered by Cooney Hill Road to the north, Lands of the City of New York to the south and west, and King Street (NYS Route 120) to the east.

Based on meeting with NYCDEP on November 9, 2018, this amended SWPPP is based on the same design criteria as the original SWPPP utilizing the most current storms, the amended SWPPP was based on the same design criteria as the original SWPPP (Appendix M). However, the New York State Department of Environmental Conservation is looking at this as a new project. We have supplemented the approved SWPPP with additional standard and green infrastructure practices to provide Runoff Reduction volume. This preliminary Stormwater Pollution Prevention Plan has been designed in accordance with the requirements of the Town of North Castle, the New York City Department of Environmental Protection (NYCDEP) "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources" and the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001 for Stormwater Discharges from Construction Activity. The erosion and sediment controls have been designed in accordance with NYS Standards and Specifications for Erosion and Sediment Control (Blue Book), last revised November 2016.

The SWPPP has been designed to ensure that the quantity and quality of stormwater runoff during and after development are not substantially altered from pre-development conditions.



AIRPORT CAMPUS OFFICE EXPANSION

113 KING STREET TOWN OF NORTH CASTLE, NY

USGS SITE LOCATION MAP

DATE: 07/31/2017 JMC PROJECT: 15072

FIGURE: 1 SCALE: 1"=1000'

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15072-SLM.dwg; SLM.tab

Existing and proposed peak rates of runoff are shown on the table below:

Summary of Peak Rates of Runoff
(All Flows in Cubic Feet per Second)

Storm Recurrence Interval	DP-1A		DP-1B		DL-2		DL-3	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
1 year	1.36	0.82	6.26	4.41	10.94	3.23	1.00	0.58
2 year	2.02	1.33	8.91	6.66	17.32	5.26	1.89	1.29
5 year	3.25	2.47	13.26	10.26	28.25	9.03	3.56	2.74
10 year	5.48	3.48	17.26	13.97	38.73	15.67	5.23	4.27
25 year	11.98	7.97	24.21	21.29	57.53	33.41	8.34	7.20
50 year	17.27	14.05	30.32	27.64	74.45	49.68	11.22	9.97
100 year	20.56	18.95	37.96	35.32	96.44	71.90	14.96	13.62

Existing and proposed annual pollutant loads are shown on the table below. The removal rates for each stormwater management practice have been provided in parentheses.

Summary of Annual Pollutant Loading (lbs./year)

DRAINAGE AREA Existing Conditions	POLLUTANT				
	TSS	TP	TN	BOD	FC (no./yr.)
DP-1A	1,406	2.79	27.1	666	4.1 E+10
DP-1B	2,208	2.58	19.7	567	1.6 E+11
DL-2	4,730	3.92	56.2	802	5.0 E+11
DL-3	670	0.87	8.0	158	4.7 E+10

DRAINAGE AREA Proposed Conditions	POLLUTANT				
	TSS	TP	TN	BOD	FC (no./yr.)
DP-1A	1,089	2.38	20.0	530	3.0 E+10
DP-1B	1,906	2.83	21.8	543	1.7 E+11
DL-2	2,520	2.90	51.0	491	3.2 E+11
DL-3	637	0.57	8.7	99	7.0 E+10

II. INTRODUCTION

This report addresses the Stormwater Pollution Prevention Plan for the proposed office conversion and residential development at Airport Campus, which is a modification to the approved MBIA Headquarters Expansion project. The proposed project includes the conversion of the existing three-story office building into a 125-room hotel, the construction of 22 townhomes, and the construction of a 150-unit multifamily building with a parking garage. The existing 37.78-acre site is bordered by Cooney Hill Road to the north, Lands of the City of New York to the south and west and King Street (New York State Route 120) to the east.

The site is approximately 500 feet from the Kensico Reservoir, and is separated from the reservoir by undeveloped, forested land. These lands are owned by the City of New York to help protect the Kensico Reservoir. These lands help provide an effective vegetated buffer that will remain forever undeveloped.

III. STUDY METHODOLOGY

A study of the stormwater drainage characteristics was conducted and peak rates of runoff were calculated based on the standards of the United States Department of Agriculture Soil Conservation Service publication "Urban Hydrology for Small Watersheds" (Technical Release No. 55 "TR-55"), dated June, 1986. The methodology of TR-55 considers a variety of characteristics for watershed areas, including soil types, soil permeability, vegetative cover, time of concentration, topography, rainfall intensity, ponding areas, etc.

Site and upstream tributary and downstream outfall facilities were reviewed to confirm existing conditions in the immediate drainage areas. A drainage area map was then developed from a topographical survey.

A time of concentration for each drainage area in the existing condition was calculated using the methods described in Chapter 3 of TR-55. Soil types were delineated on the site according to the boundaries shown on maps of the project area contained in the "Soil Survey of Westchester and Putnam Counties, New York" prepared by the Soil Conservation Service/U.S. Department of Agriculture, issued September, 1994. Land cover types were determined within each hydrologic group soil. The computer program PondPack by Haestad Methods was used to calculate runoff curve numbers and times of concentration for each drainage area using TR-55 methodology. A maximum reach length of 150 feet was used for sheet flow in accordance with the practice of the Westchester County Soil and Water Conservations Service. Manning's kinematic solution was used to determine the travel time of sheet flow. The 2-year, 24-hour precipitation amount of 3.43 inches was used in the equation. The travel time for shallow concentrated flow was computed using Figure 3-1 and Equation 3-1 of TR-55. Hydrologic calculations were performed using the PondPack program.

The peak rates of runoff for the 1, 2, 10, 25, 50- and 100-year recurrence interval storms were analyzed for the entire project area. The Type III distribution design storm for a 24-hour duration was used and the mass rainfall for each design storm was taken from the Extreme Precipitation in New York & New England developed by the Natural Resource Conservation Service (NRCS) and the Northeast Regional Climate Center (NRCC) as follows:

24 Hour Rainfall Amounts

Design Storm Recurrence Interval	Inches of Rainfall
1 Year	**2.80**
2 Year	**3.43**
5 Year	**4.31**
10 Year	**5.13**
25 Year	**6.46**
50 Year	**7.69**
100 Year	**9.17**

IV. STORMWATER POLLUTION PREVENTION PLANNING CRITERIA

A Stormwater Pollution Prevention Plan report will be submitted to the Town of North Castle and the NYCDEP for approval. The report will be prepared in accordance with the requirements of the NYSDEC SPDES General Permit No. GP-02-01 for Stormwater Discharges from Construction Activity (including the new phase 2 regulations) and the NYCDEP "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources." The Stormwater Pollution Prevention Plan includes stormwater management practices from the publications "New York State Stormwater Management Manual", revised January 2015 and "Reducing the Impacts of Stormwater Runoff from New Development", dated April 1993.

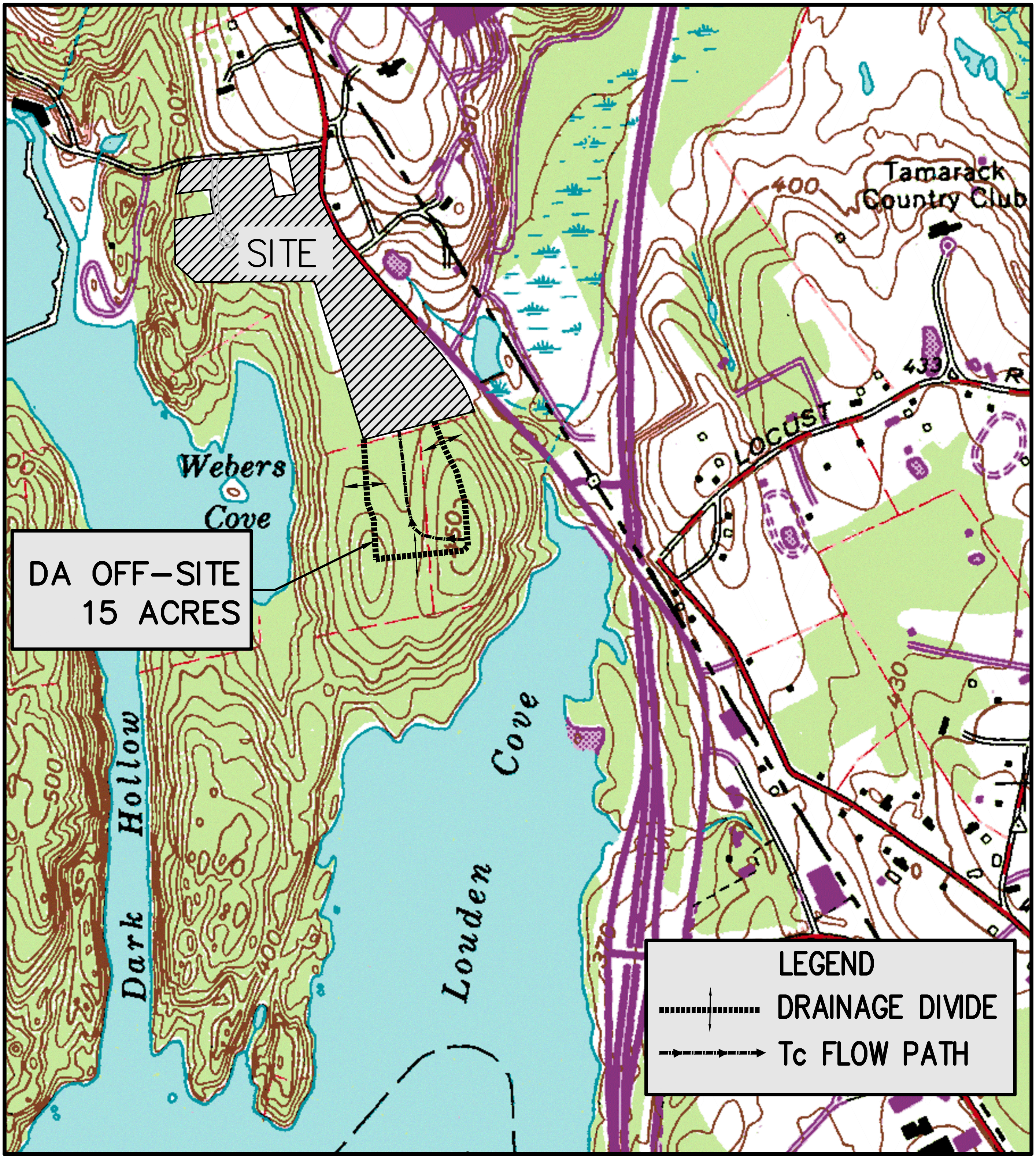
A full Stormwater Pollution Prevention Plan has been prepared for this project because disturbance to the site will be in excess of five acres. The Phase 2 regulations have been followed in the design of the plan. Stormwater facilities have been designed to ensure that the quantity and quality of stormwater runoff during and after development are not substantially altered from pre-development conditions.

V. EXISTING HYDROLOGIC CONDITIONS

This project is located in the drainage basin of the Kensico Reservoir. The majority of the project area is developed as commercial and residential uses. The remainder of the project area is covered by areas of woods, meadow and lawn. The topography of the project area is generally moderately sloped. Soils on the site are predominately hydrologic groups B and C, which are well drained to somewhat excessively drained soils as classified by the USDA Soil Conservation Service.

For purposes of analysis, the project area was divided into seven major drainage areas (EDA-1A, EDA-1B, EDA-2A, EDA-2B, EDA-2C, EDA-3 and EDA-Offsite) draining to four design points/lines (DP-1A, DP-1B, DL-2, and DL-3), which are depicted on Figure DA-1 "Existing Drainage Area Map". Design Point 1A (DP-1A) is located at the existing pond outlet, near the south end of the site. Design Point 1B (DP-1B) is located at existing curb inlet, CI-84, along the King Street site entrance. Design Line 2 (DL-2) is located south of the property along the adjacent property (Lands of the City of New York). Design Line 3 (DL-3) is located along the property's northeast property line. The numbers included in the name of each drainage area correspond to the Design Point/Design Line they drain towards.

Drainage Area EDA-1A consists of the majority of the existing commercial property including the parking structure, the existing southerly office building, approximately half of the northerly office building, all parking and associated driveways and landscaped and lawn areas. Runoff from the 9.84-acre drainage area is collected by catch basins and underground pipes and is discharged to the existing pond where it is detained. Stormwater runoff is then conveyed via underground pipes to DP-1A.



AIRPORT CAMPUS

113 KING STREET (NY RT 120) TOWN OF NORTH CASTLE, NEW YORK

OFF-SITE DRAINAGE AREA MAP

DATE: 12/02/2019 JMC PROJECT: 15072

FIGURE: 2 SCALE: 1"=1000'

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Drainage Area EDA-Offsite is located to the south of the property and is all wooded (Figure 2 "Off-Site Drainage Area Map"). Runoff from the 15-acre drainage area flows in a northerly direction to a low area to the south of the existing pond, which discharges to the existing pond (similar to EDA-1A) through an 18-inch culvert. Runoff from EDA-Offsite combines with EDA-1A. As discussed, stormwater runoff is then conveyed via underground pipes to DP-1A.

Drainage Area EDA-1B is located in the eastern portion of the commercial development of the property. The 6.45 acre drainage area consists of the eastern half of the northerly office building, the main driveway, a parking area and landscaped and lawn areas and some woods. Runoff from the office and driveway is collected by roof drain leaders, catch basins and underground pipes and is discharged to Design Point 1B. The remainder of the drainage area flows overland and is collected by catch basins along the west side of King Street which discharge to the Design Point 1B.

Drainage Areas EDA-2A, EDA-2B and EDA-2C with areas of 5.45, 10.75 and 3.32 acres, respectively are located to the north of the property and consist of residential homes and associated driveways, landscaped areas, lawn areas, as well as areas of meadow and woods. Runoff from these drainage areas flows overland in a southwesterly direction towards Design Line 2. The runoff from EDA-2B flows off the site at Junction 2B to the stream, which begins just to the south of the property line. The runoff travels in a southerly direction for approximately 700 feet through lands of the City of New York to Webers Cove of the Kensico Reservoir.

Drainage Area EDA-3 is to the west of Weber Place and to the south of Cooney Hill Road and consists of four existing residences and associated driveways, landscaped/lawn areas and woods. Runoff from this is 3.50 acre drainage area flows overland in a westerly direction to Design Line 3.

There are numerous storm drainage facilities on the exiting property. Within EDA-1A there are five major storm pipe systems. The first flush runoff from the parking structure is diverted to a water quality basin to the east of the existing pond and the excess flows bypass to the existing pond. There is also a water quality basin to the west of the existing pond which treats the first-flush runoff from the southerly office building and then conveys the excess flows to the existing pond. A storm pipe system collects the runoff from the parking area to the north of the parking structure and conveys it to the existing pond. There is a large storm pipe system which collects the runoff from the parking area to the north of the northerly office building and the westerly half of the northerly office building roof and conveys it to the existing pond. The existing pond has a water surface area of approximately 1.2 acres and has a storage capacity of approximately 200,000 cubic feet. Discharge from the pond is controlled by one 12-inch culvert at elevation 405.40 and three 12-inch culverts at elevation 406.75. Outflow from the pond is conveyed by a 24-inch storm pipe.

Within EDA-1B there is one major storm drainage pipe which collects the roof-top runoff from the easterly half of the northerly office building and the driveway runoff. This pipe system connects to the outflow pipe from the existing pond. Two catch basins along the west side of King Street collect the majority of the overland flow from the eastern portion of EDA-1B.

Runoff from Cooney Hill Road is directed to swales on each side of road. A drain inlet conveys the runoff from the south side of Cooney Hill Road under Weber Place through a 15-inch culvert which discharges to another swale.

The peak rate of runoff to the four design points for each storm is shown on the table below:

Table 1
Summary of Existing Peak Rates of Runoff
(All Flows in Cubic Feet Per Second)

Storm Recurrence Interval	DP-1A	DP-1B	DL-2	DL-3
1 year	1.36	6.26	10.94	1.00
2 year	2.02	8.91	17.32	1.89
5 year	3.25	13.26	28.25	3.56
10 year	5.48	17.26	38.73	5.23
25 year	11.98	24.21	57.53	8.34
50 year	17.27	30.32	74.45	11.22
100 year	20.56	37.96	96.44	14.96

The peak volumes of runoff to the four design points for each storm is shown on the table below:

Table 2
Summary of Existing Peak Runoff Volumes
(Cubic Feet)

Storm Recurrence Interval	DP-1 A&B	DL-2	DL-3
1 year	99,348	51,473	5,806
2 year	137,378	77,302	9,487
5 year	208,121	122,148	16,210
10 year	276,282	165,731	22,997
25 year	400,368	245,356	35,790
50 year	514,102	318,368	47,814
100 year	640,254	412,928	63,661

VI. FUTURE HYDROLOGIC CONDITIONS

Impacts are anticipated as a result of the proposed development with respect to existing hydrologic features. The proposed development will increase impervious surfaces by approximately 0.03 acres. This preliminary Stormwater Pollution Prevention Plan has been designed to ensure that the quantity and quality of stormwater runoff during and after development are not substantially altered from pre-development conditions. As a result of its implementation, it is expected that there will be no significant impact on downstream properties, wetlands, ponds, and streams and watercourses including the New York City Watershed and the Kensico Reservoir and its floodplain and related wetlands.

In order to determine the post-development rates of runoff generated on-site, the following drainage areas were analyzed in the post-development conditions. These areas are graphically depicted on Drawing DA-2 "Proposed Drainage Area Map" located in Appendix 'N.'

As previously discussed, four separate Design Points/Design Lines (DP-1A, DP-1B, DL-2 and DL-3) were identified for comparing peak rates of runoff in existing and proposed conditions. Under proposed conditions thirteen drainage areas (PDA-1A-1, PDA-1A-2, PDA-1A-3, PDA-1B-1, PDA-1B-2, PDA-1B-3, PDA-1B-4, PDA-1B-5, PDA-2A, PDA-2B, PDA-2C, PDA-2D, PDA-3 and PDA-Offsite) were identified based on proposed drainage divides. The numbers included in the name of each drainage area correspond to the Design Point/Line they drain towards. Similar to existing conditions, the numbers included in the name of each drainage area correspond to the Design Point/Design Line they drain towards.

Under proposed conditions four drainage areas (PDA-Offsite, PDA-1A-1, PDA-1A-2 and PDA-1A-3) drain towards Design Point 1A.

Drainage Area PDA-Offsite remains unchanged under future conditions. As discussed under existing conditions, this drainage area is located to the south of the property and is all wooded (Figure 2 "Off-Site Drainage Area Map"). Runoff from the 15-acre drainage area flows in a northerly direction to a low area to the south of the existing pond, which discharges to the existing pond through an 18-inch culvert. Runoff from PDA-Offsite combines with PDA-1A. As discussed, stormwater runoff is then conveyed via underground pipes to DP-1A.

Drainage Area PDA-1A-1 is 7.19 acres in size and is located on the southwestern portion of the site. It is similar to EDA-1A and consists mainly of the portion of the site to remain. This drainage area consists of the existing parking structure, the existing southerly office building and approximately half of the northerly office building. This drainage area also consists of the existing stormwater pond, landscape area, and some parking. Additionally, this drainage area consists of a portion of the existing driveway west of the northerly office building to be redeveloped and adjacent parking area. A portion of the road behind the multi-family building will be directed toward a swale while a portion of the road along the south side of the multi-family building will be directed to a bioretention area. Similar to existing conditions, runoff along this drainage area will be collected via by catch basins and underground pipes and is discharged to the existing pond where it is detained and eventually conveyed via underground pipes to DP-1A.

Drainage Area PDA-1A-2 is 0.39 acres in size and is located along the western side of the existing parking lot to be redeveloped. This area consists mostly of redeveloped impervious area (parking area), some new impervious area (created due to shift in landscaped islands) and some landscaped area. Redevelopment along this portion of the site will result in no net increase in impervious area draining towards Design Point 1A. Stormwater runoff from this drainage area will be collected via a trench drain, conveyed to through a hydrodynamic separator for treatment and discharged into a bypass manhole. This bypass manhole will divert a portion of the flow towards a subsurface infiltration system consisting of 12 MC-3500 StormTech Chambers for further treatment and the remaining portion of the runoff to the existing underground drainage system discharging into the existing pond, which discharges to DP-1A. Development along this drainage area as well as proposed stormwater management has been included within this SWPPP in order to provide a complete hydrologic analysis of the site draining towards DP-1A. The design and sizing of the stormwater management measures located along this drainage area are not included within the design sheets of this SWPPP and are not covered under this SWPPP. The design for these measures is located within the SWPPP Supplement - Airport Campus Parking Improvement.

Drainage Area PDA-1A-3 is 0.25 acres in size and is located along the western portion of the existing parking lot. This area is just east of the existing pond. This area consists of existing parking area and landscape area. There will be no new development within this area. Stormwater runoff similar to existing conditions will overland flow towards the west and be collected via the existing catch basin and be piped into the pond. Similar to PDA-1A-2 development along this drainage area has been included within this SWPPP in order to provide a complete hydrologic analysis of the site draining towards DP-1A. This drainage area is not covered under this SWPPP, it is a part of the SWPPP Supplement - Airport Campus Parking Improvement.

Drainage Area PDA-1B-1 is 4.64 acres in size and is located along the eastern portion of the property and consists of the main driveway, landscaped/lawn areas and some woods. This drainage area also consists of a portion of King Street that is collected at Design Point 1B. Similar to existing conditions, stormwater runoff along the driveway is collected via roadside drain inlets and is conveyed to Design Point 1B, while the remainder of the drainage area flows overland and is collected by catch basins along the west side of King Street which discharge to Design Point 1B.

Drainage Area PDA-1B-2 is 0.13 acres and consists of the lower portion of driveway to the proposed multifamily building. Stormwater runoff from this drainage area will be collected by a storm sewer system and directed to a grated top hydrodynamic structure WQS-A-3 (FD-3HC by HydroInternational) where pretreatment of 100% of the water quality flow is provided. The pretreated runoff is conveyed to the proposed subsurface infiltration system #1B-3 consisting of 9 MC-4500 StormTech chambers. The bottom of the stone will be at elevation 395.75 and the bottom of the chambers will be at 396.50. Based on deep hole test pits observed by JMC, it is anticipated that this system will meet the separation required between bedrock and groundwater. The runoff reduction volume will be retained within the chambers and infiltrated. Outlet control structure OCS-A-1 with a three-inch long weir at elevation 399.25 will slowly release the detained runoff from the higher storm events into an outlet pipe that will connect to existing DMH f-1. An infiltration rate of >20 in/hr was observed during field testing, a conservative infiltration rate of 10 in/hr is used in this design.

Drainage Area PDA-1B-3 is 0.27 acres and consists of the lower portion of driveway to the proposed building. Stormwater runoff from this drainage area will be collected by a storm sewer system and directed to a grated top hydrodynamic structure WQS-E-3 (FD-3HC by HydroInternational) where pretreatment of 100% of the water quality flow is provided. The pretreated runoff is conveyed to the proposed subsurface infiltration system #1B-3 consisting of 18 MC-4500 StormTech chambers. The bottom of the stone will be at elevation 404.75 and the bottom of the chambers will be at 405.50. Based on deep hole test pits observed by JMC, it is anticipated that this system will meet the separation required between bedrock and groundwater. The runoff reduction volume will be retained within the chambers 408.75 will slowly release the detained runoff from the higher storm events into an outlet pipe that will connect to DMH E-1. An infiltration rate of >20 in/hr was observed during field testing, a conservative infiltration rate of 10 in/hr is used in this design.

Drainage Area PDA-1B-4 is 3.70 acres and consists of the eastern half of the northerly building to be converted into a hotel, the southern portion of the proposed apartment building, and associated driveway, sidewalks, parking area and lawn/landscape area. This drainage area also consists of Stormwater Management Area 1 (SMA1) which will consist of a wet pond. Stormwater from this drainage area will be conveyed to the forebay of SMA 1. The proposed pond will have a water surface elevation of 405.50 and provide approximately 23,500 cubic feet of wet storage. Outlet control structure OCS-B-4 will control the outflow from the pond. A 2.5-inch reverse slope pipe at elevation 405.50 and a 12" vertical rectangular weir at 406.70 will control the outflow from the pond. The proposed storm pipes downstream of SMA1 have been sized to convey the 100-year flow. The required water quality volume for the area entering the wet pond, which is the runoff from the 1-year, 24-hour storm, is 18,283 cubic feet. The proposed wet pond will provide approximately 1.16 times the required water quality volume. The 1-year, 24-hour storm will be detained for 25.25 hours. Other stormwater treatment methods used in this drainage area include a bioretention area to treat the driveway area behind the hotel, proposed permeable interlocking concrete pavers in the parking area in front of the multi-family building, and green roof area on the multifamily building. These practices provide runoff reduction before being directed into SMA 1.

Drainage Area PDA-1B-5 is 0.61 acres in size and is comprised of the eastern portion of the expanded parking lot area. This area consists of parking lot area, some landscaped area and a portion of the existing frame building**.** The runoff from this drainage area flows to the proposed grated top hydrodynamic structure WQS-K-4 (FD-4HC by HydroInternational), where pretreatment of 100% of the water quality flow is provided. The pretreated runoff is conveyed to the proposed subsurface infiltration system 2A consisting of 33 MC-3500 StormTech chambers. Development along this drainage area as well as proposed stormwater management has been included within this SWPPP in order to provide a complete hydrologic analysis of the site draining towards DP-1B. The design and sizing of the stormwater management measures located along this drainage area are not included within the design sheets of this SWPPP and are not covered under this SWPPP. The design for these measures is located within the SWPPP Supplement - Airport Campus Parking Improvement.

Drainage Area PDA-2A is 4.10 acres and is to the south of the proposed townhouses, along the property line. This area consist mainly of meadow with some woods, grass, and a portion of the proposed emergency access drive. Runoff from the drainage area flows overland in a southwesterly direction to Design Line 2.

Drainage Area PDA-2B is 11.46 acres and is located along the northern portion of the property. This area is comprised on the northern portion of the proposed apartment building, the proposed townhouse development (townhouses, roadway, sidewalks, driveways, landscape/lawn area), meadow area, woods and the existing residential property to remain (roof, landscape/lawn, driveway). This area also includes Stormwater Management Area 2 (SMA 2). Stormwater runoff from the proposed building and townhouses will be collected via roof drain leaders and conveyed towards the proposed forebay of SMA 2. Stomwater runoff along the proposed roadways, sidewalks and lawn/meadow area east of the development will be collected via catch basins and be conveyed with the other collected runoff to the forebay. Stormwater runoff west of the development will flow overland directly into Stormwater Management Basin

2. The runoff from PDA-2B will be discharged to a level spreader within PDA-2D. Stormwater Management Area 2 will consist of a micropool and forebay connected by a rip-rap pilot channel. The proposed forebay will provide 12% of the required water quality volume, the micropool will provide 35% and the remaining volume will be provided by extended detention. The required water quality volume for PDA-2B is 35,671 cubic feet. The 1 year, 24-hour storm will be detained for 35.17 hours. The water quality volume provided by the forebay, micropool and extended detention is 46,675 cubic feet. The proposed micropool will have a water surface elevation of 406.50 and a 12 foot wide, 18-inch deep aquatic bench. Stormwater Management Area 2 will be planted with trees, shrubs, herbaceous plants and wild flowers as depicted on Drawing WB-3 "Detention Basin Planting Plan". Outlet control structure OCS J will control the outflow from the micropool extended detention basin. A 2-inch orifice at elevation 406.50 and two, 2.25-foot vertical rectangular weirs at elevation 409.15 will control the outflow from the basin. Prior to being directed to SMA 2, the road and a majority of the buildings are directed to bioretention areas for treatment. In addition, townhomes 9-15 are directed to SMA 2 using sheet flow through a grass filter strip to provide treatment.

Drainage Area PDA-2C is 1.57 acres and consists mainly of woods with some meadow and grass areas to the west of Stormwater Management Area 2. Runoff from the drainage area flows overland in a southerly direction to an existing swale.

Drainage Area PDA-2D is 1.27 acres and consists of meadow and grass areas south of Stormwater Management Area 2. Runoff from the drainage area flows overland in a southwesterly direction to Design Line 2.

Drainage Area PDA-3 is 3.52 acres and is located west of the proposed townhouse development. This area consists of lawn and meadow. Runoff from the drainage area will flow overland in a westerly direction to Design Line 3.

The preliminary Stormwater Pollution Prevention Plan for the project is designed to control the increased rate of runoff from the project area and thus eliminate any adverse downstream impacts. Stormwater Management Basins will reduce the peak rate of runoff from the developed site to a rate of flow as not to exceed that which presently runs off the project area in its present condition. The Stormwater Pollution Prevention Plan has been designed to meet the requirements of the Town of North Castle, the NYSDEC and the New York City Department of Environmental Protection (NYCDEP).

In order to determine the volume of storage required to detain the 100-year storm recurrence interval event, hydrographs were developed for the proposed drainage areas. Hydrographs are also developed for the 1, 2, 5, 10, 25- and 50-year storms. Existing and proposed peak rates of runoff are shown on the tables below.

Table 3
Summary of Peak Rates of Runoff
(All Flows in Cubic Feet per Second)

Storm Recurrence Interval	DP-1A	DP-1B	DL-2	DL-3
1 year	0.82	4.41	3.23	0.58
2 year	1.33	6.66	5.26	1.29
5 year	2.47	10.26	9.03	2.74
10 year	3.48	13.97	15.67	4.27
25 year	7.97	21.29	33.41	7.20
50 year	14.05	27.64	49.68	9.97
100 year	18.95	35.32	71.90	13.62

The percent reductions in peak rates of runoff from proposed to existing conditions are shown on the table below.

Table 4

Percent Reductions in Peak Rates of Runoff (%)

Storm Recurrence Interval	DP-1A	DP-1B	DL-2	DL-3
1 Year	40	30	70	42
2 Year	34	25	70	32
5 Year	24	23	68	23
10 Year	36	19	60	18
25 Year	33	12	42	14
50 Year	19	9	33	11
100 Year	8	7	25	9

The peak volumes of runoff to the four design points for each storm is shown on the table below:

Table 5

Summary of Proposed Peak Runoff Volumes (Cubic Feet)

Storm Recurrence Interval	DP-1 A&B	DL-2	DL-3
1 Year	81,088	51,382	4,217
2 Year	117,539	76,122	7,378
5 Year	178,819	119,062	13,380
10 Year	238,217	160,582	19,607
25 Year	352,524	236,149	31,613
50 Year	461,970	305,253	43,100
100 Year	601,893	394,608	58,430

The percent reductions in peak runoff volumes from proposed to existing conditions are shown on the table below.

Table 6

Percent Change in Peak Runoff Volumes (%)

Storm Recurrence Interval	DP-1 A&B	DL-2	DL-3
1 Year	-18	0	-27
2 Year	-14	-2	-22
5 Year	-14	-3	-17
10 Year	-14	-3	-15
25 Year	-12	-4	-12
50 Year	-10	-4	-10
100 Year	-6	-4	-8

The maximum water surface elevation in each of the stormwater detention basins for each storm is shown on the table below.

Table 7

Summary of Maximum Water Surface Elevations

STORM RECURRENCE INTERVAL	ELEVATION	
	STORMWATER MANAGEMENT AREA 1	STORMWATER MANAGEMENT AREA 2
1 Year	406.77	408.99
2 Year	406.94	409.26
5 Year	407.26	409.58
10 Year	407.58	409.99
25 Year	408.09	410.62
50 Year	408.51	411.12
100 Year	408.78	411.57

VII. STORMWATER POLLUTANT LOADING ANALYSIS

A stormwater pollutant loading analysis was performed for each drainage area under existing conditions. The pollutants analyzed were Total Suspended Solids (TSS) total phosphorus (TP), total nitrogen (TN), Biochemical Oxygen Demand (BOD) and Fecal Coliform (FC). Pollutant loading rates from Table 2.6 of the publication "Fundamentals of Urban Runoff Management" dated August 1994 were utilized to calculate the estimated loads in pounds per year. The Pollutant Loading Coefficient Method was utilized to calculate the estimated loads. The estimated annual load from each of the existing drainage areas is shown on the table below.

Table 8
Stormwater Pollutant Summary (lbs./yr.)
Existing Conditions

DRAINAGE AREA Existing Conditions	POLLUTANT				
	TSS	TP	TN	BOD	FC (no./yr.)
DP-1A	1,406	2.79	27.1	666	4.1 E+10
DP-1B	2,208	2.58	19.7	567	1.6 E+11
DP-2	4,730	3.92	56.2	802	5.0 E+11
DP-3	670	0.87	8.0	158	4.7 E+10

A stormwater pollutant loading analysis was performed for each drainage area under proposed conditions. The runoff volume from a 1-year 24-hour event was used as the design basis for water quality because in each instance the volume was greater than the proposed NYSDEC requirement of treating 90% of the average annual runoff. The NYSDEC requirement of providing 24-hour detention of the 1-year, 24-hour storm event is satisfied by the NYCDEP water quality requirement. The pollutants analyzed were Total Suspended Solids (TSS) total phosphorus (TP), total nitrogen (TN), Biochemical Oxygen Demand (BOD) and Fecal Coliform (FC). The Pollutant Loading Coefficient Method was utilized to calculate the estimated loads. Pollutant loading rates from Table 2.6 of the publication "Fundamentals of Urban Runoff Management" dated August 1994 were utilized to calculate the estimated loads in pounds per year. The lower range of the removal efficiencies from Figure 15 of "Reducing the Impacts of Stormwater Runoff from New Development" was utilized in the pollutant loading calculations. The estimated annual load from each of the proposed drainage areas is shown on the table below.

Table 9
Stormwater Pollutant Summary (lbs./yr.)
Proposed Conditions

DRAINAGE AREA Proposed Conditions	POLLUTANT				
	TSS	TP	TN	BOD	FC (no./yr.)
DP-1A	1,089	2.38	20.0	530	3.0 E+10
DP-1B	1,906	2.83	21.8	543	1.7 E+11
DL-2	2,520	2.90	51.0	491	3.2 E+11
DL-3	637	0.57	8.7	99	7.0 E+10

The estimated percent reduction in annual stormwater pollutant loading is shown on the tables below.

Table 10
Percent Change in Annual Stormwater Pollutant Loading (%)

	POLLUTANT				
	TSS	TP	TN	BOD	FC
DP-1A	-22.5	-14.7	-26.2	-20.4	-26.8
DP-1B	-13.7	+9.7	+10.7	-4.2	+6.3
DL-2	-46.7	-26.0	-9.3	-38.8	-38.3
DL-3	-4.9	-34.5	+8.8	-37.3	+48.9

VIII. SOIL EROSION & SEDIMENT CONTROL

A potential impact of the proposed development on any soils or slopes will be that of erosion and transport of sediment during construction. An Erosion and Sediment Control Management Program will be established for the proposed development, beginning at the start of construction and continuing throughout its course, as outlined in the "New York State Standards and Specifications for Erosion and Sediment Control," November 2016. A continuing maintenance program will be implemented for the control of sediment transport and erosion control after construction and throughout the useful life of the project.

The Operator shall have a qualified professional conduct an assessment of the site prior to the commencement of construction and certify that the appropriate erosion and sediment controls, as shown on the Sediment & Erosion Control Plans, have been adequately installed to ensure overall preparedness of the site for the commencement of construction. In addition, the Operator shall have a qualified professional conduct at least two site inspections every seven calendar days due to the Site being located within the Kensico Reservoir Basins. Inspections must be separated by a minimum of two full calendar days.

Prior to the commencement of construction activity, the owner or operator must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The owner or operator shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor. The owner or operator shall ensure that at least one trained contractor is on site on a daily basis when soil disturbance activities are being performed.
The owner or operator shall have each of the contractors and subcontractors identified above sign a copy of the certification statement provided in Appendix K before they commence any construction activity.

<u>Soil Description</u>

As provided by the "Soil Survey of Putnam and Westchester Counties, New York" prepared by the Soil Conservation Service/U.S. Department of Agriculture, issued September 1994 soil classifications which exist on the subject site are described below.

Soils are placed into four hydrologic groups: A, B, C, and D. In the definitions of the classes, infiltration rate is the rate at which water enters the soil at the surface and is controlled by the surface conditions. Transmission rate is the rate at which water moves in the soil and is controlled by soil properties. Definitions of the classes are as follows:

A. (Low runoff potential). The soils have a high infiltration rate even when thoroughly wetted. They chiefly consist of deep, well drained to excessively drained sands or gravels. They have a high rate of water transmission.

B. The soils have a moderate infiltration rate when thoroughly wetted. They chiefly are moderately deep to deep, moderately well drained to well drained soils that have moderately fine to moderately coarse textures. They have a moderate rate of water transmission.

C. The soils have a slow infiltration rate when thoroughly wetted. They chiefly have a layer that impedes downward movement of water or have moderately fine to fine texture. They have a slow rate of water transmission.

D. (High runoff potential). The soils have a very slow infiltration rate when thoroughly wetted. They chiefly consist of clay soils that have a high swelling potential, soils that have a permanent high-water table, soils that have a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. They have a very slow rate of water transmission.

A soil's tendency to erode is also described in the USDA web soil survey. The ratings in this interpretation indicate the hazard of soil loss from unsurfaced areas. The ratings are based on soil erosion factor K, slope, and content of rock fragments. The hazard is described as "slight," "moderate," or "SEVERE." A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the temporarily unsurfaced / unstabilized during construction may require occasional maintenance, and that simple erosion-control measures are needed; and "SEVERE" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that erosion-control measures are needed.

Per the Soil Survey, the following soils listed below are present at the site. Following this list is a detailed description of each soil type found on the property:

SYMBOL	DESCRIPTION
ChB	Charlton loam, 2 to 8 percent slopes
ChC	Charlton loam, 8 to 15 percent slopes
CrC	Charlton-Chatfield complex, rolling, very rocky
CsD	Chatfield-Charlton complex, hilly, very rocky
PnB	Paxton fine sandy loam, 2 to 8 percent slopes
PnC	Paxton fine sandy loam, 8 to 15 percent slope

Table 11 "Soil Characteristics", provides information on erodibility of the soil surface, hydrologic group, runoff potential, depth to bedrock and depth to seasonal water table.

Table 11
Soil Characteristics

Symbol	Soil Name and (Slope)	Erosion Hazard	Hydrologic Group	Surface Runoff Potential	Depth to Bedrock (in)	Depth to Seasonal Watertable (ft)
ChB	Charlton-loam (2-8%)	Slight	B	Medium	60+	6+
ChC	Charlton loam (8-15%)	Slight	B	Medium	60+	6+
CrC*	Charlton-Chatfield, rolling	Moderate*	B	Medium	60+	6+
CsD**	Charlton-Chatfield, hilly	Severe**	B	Rapid	60+	6+
PnB	Paxton fine sandy loam (2-8%)	Slight	C	Medium	60+	1.5-2.5
PnC	Paxton fine sandy loam (8-15%)	Slight	C	Medium	60+	1.5-2.5

Table 12, "Soil Limitations" provides the construction limitations for each soil type that exists on the project site.

Table 12
Soil Limitations

Symbol	Soil Name and (Slope)	Construction Limitations			
		Shallow Excavations	Dwellings without Basements	Dwellings With Basements	Local Roads and Streets
ChB	Charlton-loam (2-8%)	Slight	Slight	Slight	Slight
ChC	Charlton loam (8-15%)	Moderate, Slope	Moderate, Slope	Moderate, Slope	Moderate, Slope
CrC*	Charlton-Chatfield, rolling	Moderate, Slope	Moderate, Slope	Moderate, Slope	Moderate, Slope
CsD**	Charlton-Chatfield, hilly	Severe, Depth to Rock, Slope	Severe, Slope	Severe, Depth to Rock, Slope	Severe, Slope
PnB	Paxton fine sandy loam (2-8%)	Moderate, Dense Layer, Wetness	Moderate, Wetness	Moderate, Wetness	Moderate, Wetness, Frost Action
PnC	Paxton fine sandy loam (8-15%)	Moderate, Dense Layer, Wetness, Slope	Moderate, Wetness, Slope	Moderate, Wetness, Slope	Moderate, Wetness, Slope, Frost Action

* The CrC soil type is situated in the westerly portion of the Cooney Hill area. No development is proposed in this area other than a portion of a walking trail.

**The CsD soil type is situated along the westerly boundary of the Cooney Hill area. No development is proposed in this area.

On-Site Pollution Prevention

There are temporary pollution prevention measures used to control litter and construction debris on site, such as:

- Temporary Riser and Anti-Vortex Device

- Silt Fence
- Silt Sack
- Excavated Drop Inlet Protection
- Stone & Block Drop Inlet Protection

There will be inlet protection provided for all storm drains and inlets with the use of curb gutter inlet protection structures and stone & block drop inlet protection, which keep silt, sediment and construction litter and debris out of the on-site stormwater drainage system.

<u>Temporary Control Measures</u>

Temporary control measures and facilities will include silt fences, interceptor swales, stabilized construction access, temporary seeding, mulching and sediment traps with temporary riser and anti-vortex devices.

Throughout the construction of the proposed redevelopment, temporary control facilities will be implemented to control on-site erosion and sediment transfer. Interceptor swales, if required, will be used to direct stormwater runoff to temporary sediment traps for settlement. The sediment traps will be constructed as part of this project will serve as temporary sediment basins to remove sediment and pollutants from the stormwater runoff produced during construction. Descriptions of the temporary sediment & erosion controls that will be used during the development of the site including silt fence, stabilized construction access, seeding, mulching and inlet protection are as follows:

1. <u>Silt Fence</u> is constructed using a geotextile fabric. The fence will be either 18 inches or 30 inches high. The height of the fence can be increased in the event of placing these devices on uncompacted fills or extremely loose undisturbed soils. The fences will not be placed in areas which receive concentrated flows such as ditches, swales and channels nor will the filter fabric material be placed across the entrance to pipes, culverts, spillway structures, sediment traps or basins.

2. <u>Stabilized Construction Access</u> consists of AASHTO No. 1 rock. The rock entrance will be a minimum of 50 feet in length by 24 feet in width by 8 inches in depth.

3. Seeding will be used to create a vegetative surface to stabilize disturbed earth until at least 80% of the disturbed area has a perennial vegetative cover. This amount is required to adequately function as a sediment and erosion control facility. Grass lining will also be used to line temporary channels and the surrounding disturbed areas.

4. Mulching is used as an anchor for seeding and disturbed areas to reduce soil loss due to storm events. These areas will be mulched with straw at a rate of 3 tons per acre such that the mulch forms a continuous blanket. Mulch must be placed after seeding or within 48 hours after seeding is completed.

5. Inlet Protection will be provided for all stormwater basins and inlets with the use of curb & gutter inlet protection and stone & block inlet protection structures, which will keep silt, sediment and construction debris out of the storm system. Existing structures within existing paved areas will be protected using "Silt Sacks" inside the structures.

6. Erosion Control Matting will be utilized on slopes and within swales, where applicable, to provide stabilization in advance of vegetation being established. Such matting will be biodegradable to facilitate long term growth of vegetation in swales, on slopes and within stormwater management facilities.

7. Sediments Traps will be used with the permanent SMP's until their contributing areas drainage are stabilized. Once stabilized, the temporary risers will be removed, and final grading/planting of the basins will be completed for permanent use as Stormwater Management basins.

8. Temporary Sediment Basins will be constructed to intercept sediment laden runoff and trap and retain the sediment. The sediment basins are sized to provide a sediment storage volume of 3,600 cubic feet per acre draining to the basin. The Sediment Basins will be used with the permanent SMP's until their contributing drainage areas are stabilized. Once stabilized, the temporary risers will be removed, permanent outlet control structures will be installed and final grading/planting of the sediment basins will be completed for permanent use

as Stormwater Management basins. Sediment Basin sizing standards, details and calculations are provided in Appendix "G."

9. Temporary Riser and Anti-Vortex Devices are placed at the bottom of the temporary sediment basins where they intercept and collect debris and litter from the pond before they can enter the off-site storm drainage system.

10. Stone Check Dams are small barriers of crushed stone which will be laid across the grass swales which are approximately 12 inches high, located every one foot of elevation change along the swales so that the crest elevation of the downstream dam is at the same elevation of the toe of the upstream dam.

The contractor shall be responsible for maintaining the temporary sediment and erosion control measures throughout construction. This maintenance will include, but not be limited to, the following tasks:

1. For dust control purposes, moisten all exposed graded areas with water at least twice a day in those areas where soil is exposed and cannot be planted with a temporary cover due to construction operations or the season (December through March).

2. Inspection of erosion and sediment control measures shall be performed at the end of each construction day and immediately following each rainfall event. All required repairs shall be immediately executed by the contractor.

3. Sediment deposits shall be removed when they reach approximately ⅓ the height of the silt fence. All such sediment shall be properly disposed of in fill areas on the site, as directed by the Owner's Field Representative. Fill shall be protected following disposal with mulch, temporary and/or permanent vegetation and be completely circumscribed on the downhill side by silt fence.

4. Rake all exposed areas parallel to the slope during earthwork operations.

5. Following final grading, the disturbed area shall be stabilized with a permanent surface treatment (i.e. turf grass, pavement or sidewalk). During rough grading, areas which are not

to be disturbed for fourteen or more days shall be stabilized with the temporary seed mixture, as defined on the plans. Seed all piles of dirt in exposed soil areas that will not receive a permanent surface treatment.

Concrete Material and Equipment Management

Concrete washouts shall be used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. The washout facilities consolidate solid for easier disposal and prevent runoff of liquids. The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drain pipes and cause flooding. Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

Prefabricated concrete washout containers can be delivered to the site to provide maintenance and disposal of materials. Regular pick-ups of solid and liquid waste materials will be necessary. To prevent leaks on the job site, ensure that prefabricated washout containers are watertight. A self installed concrete washout facility can be utilized although they are much less reliable than prefabricated containers and are prone to leaks. There are many design options for the washout, but they are preferably built below-grade to prevent breaches and reduce the likelihood of runoff. Above-grade structures can also be used if they are sized and constructed correctly and are diligently maintained. One of the most common problems with self-installed concrete washout facilities is that they can leak or be breached as a result of constant use, therefore the contractor shall be sure to use quality materials and inspect the facilities on a daily basis.

Washouts must be sized to handle solids, wash water, and rainfall to prevent overflow. Concrete Washout Systems, Inc. estimates that 7 gallons of wash water are used to wash one truck chute and 50 gallons are used to wash out the hopper of a concrete pump truck.

For larger sites, a below-grade washout should be at least 10 feet wide and sized to contain all liquid and solid waste expected to be generated in between cleanout periods. A minimum of 12-inches of freeboard must be provided. The pit must be lined with plastic sheeting of at least 10-

mil thickness without holes or tears to prevent leaching of liquids into the ground. Concrete wash water should never be placed in a pit that is connected to the storm drain system or that drains to nearby waterways.

An above-grade washout can be constructed at least 10 feet wide by 10 feet long and sized to contain all liquid and solid waste expected to be generated in between cleanout periods. A minimum of 4-inches of freeboard must be provided. The washout structures can be constructed with staked straw bales or sandbags double-or triple lined with plastic sheeting of at least 10-mil thickness without holes or tears.

Concrete washout facilities shall not be located within 50 feet of storm drains, open ditches, or water bodies and should be placed in locations that allow for convenient access for concrete trucks. The contractor shall check all concrete washout facilities daily to determine if they have been filled to 75 percent capacity, which is when materials need to be removed. Both above-and below-ground self-installed washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Prefabricated washout containers should be inspected daily as well as to ensure the container is not leaking or nearing 75 percent capacity. Inspectors should also note whether the facilities are being used regularly. Additional signage for washouts may be needed in more convenient locations if concrete truck operators are not utilizing them.

The washout structures must be drained or covered prior to predicted rainstorms to prevent overflows. Hardened solids either whole or broken must be removed and then they may be reused onsite or hauled away for recycling.

Once materials are removed from the concrete washout, a new structure must be built or excavated, or if the previous structure is still intact, inspect it for signs of weakening or damage and make any necessary repairs. Line the structure with new plastic that is free of holes or tears and replace signage if necessary. It is very important that new plastic be used after every cleaning because pumps and concrete removal equipment can damage the existing liner.

Construction Site Chemical Control

The purpose of this management measure is to prevent the generation of nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

Many potential pollutants other than sediment are associated with construction activities. These pollutants include pesticides; fertilizers used for vegetative stabilization; petrochemicals; construction chemicals such as concrete products, sealers, and paints; wash water associated with these products; paper; wood; garbage; and sanitary waste.

Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers set forth in applicable Federal, State and local regulations that govern their usage, handling, storage, and disposal.

Pesticides should be disposed of through either a licensed waste management firm or a treatment, storage and disposal (TSD) facility. Containers should be triple-rinsed before disposal, and rinse waters should be reused as product.

Other practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage areas, and notifying neighboring property owners prior to spraying.

When storing petroleum products, follow these guidelines:

- Create a shelter around the area with cover and wind protection;
- Line the storage area with a double layer of plastic sheeting or similar material;
- Create an impervious berm around the perimeter with a capacity of 110 percent greater than that of the largest container;
- Clearly label all products;
- Keep tanks off the ground; and
- Keep lids securely fastened.

Post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff.

Thinners or solvents should not be discharged into sanitary or storm systems when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes, or steam cleaning. Equipment-washing detergents can be used, and wash water may be discharged into sanitary sewers if solids are removed from the solution first. (This practice should be verified with the local sewer authority.) Small parts can be cleaned with degreasing solvents, which can then be reused or recycled.

Solid Waste Management and Portable Sanitary Management

The purpose of this management measure is to prevent the potential for solid waste such as construction debris, trash, etc. from construction sites due to improper handling and storage. Debris and litter should be removed periodically from the BMP's and surrounding areas to prevent clogging of pipes and structures. All construction material shall be stored in designated staging areas. Roll-off containers shall be placed on site and all empty containers, construction debris and litter shall be placed in the containers.

Portable sanitary units may be utilized on-site or bathrooms will be provided within construction trailers. A sanitation removal company will be hired to pump/remove any sanitary waste. In the event that portable sanitary units are used and then cleaned after being emptied, the rinse water may not be disposed of to the storm drain system. It shall be contained for later disposal if it can't be disposed of on-site. Remove paper and trash before cleaning the portable sanitary units. The portable sanitary units shall be located away from the storm drain system if possible. Provide over head cover for wash areas if possible. Maintain spill response material and equipment on site to eliminate the potential for contaminants and wash water from entering the storm drain system.

Permanent Control Measures and Facilities for Long Term Protection

Towards the completion of construction, permanent sediment and erosion control measures will be developed for long term erosion protection. The following permanent control measures and facilities have been proposed to be implemented for the project:

1. Vegetated Swales will function to provide additional treatment of stormwater runoff by removal of pollutants and will promote a reduction of peak flows and provide runoff infiltration.

2. Micropool Extended Detention Ponds (P-1) which are standard SMP's that treat the majority of the water quality volume through extended detention and incorporate a micropool at the outlet of the pond to prevent sediment resuspension. Each Micropool Extended Detention Pond has a forebay for pretreatment, an aquatic bench and micropool for treatment, a 12 foot wide maintenance access path, 4 foot horizontal to 1 foot vertical side slopes for added safety and ease for maintenance and outlet control structures to slowly release the water quantity storms to reduce the peak flow rates and for channel protection.

3. Biofilters are a shallow depression that treats stormwater as it flows through a soil matrix, and is returned to the storm drain system. This practice will consist of a stone diaphragm, grass strip at 2% slope and a layer of mulch, which will enable removal of pollutants and sediment generated by the parking areas.

4. Pocket-Ponds (NYS DEC Standard Practice P-5) will be used to treat the runoff volume generated from the developed area and provide improvement to water quality control. The proposed basins will provide water quality for 90% of the average annual stormwater runoff volume. The stormwater will be detained and released gradually. The extended detention time will enable sediment and various pollutants to settle out. Refer to "Water Quality Volume Calculations," in Appendix 'F'.

5. First Defense High Capacity Water Quality Structure will be used to provide treatment of the water quality flow rate for separating sediment, debris, floatables, etc. from the runoff prior to discharge to bioretention area. The First Defense High Capacity Water Quality Structure has been designed to treat up to the required water quality volume and appropriately handle all storm frequencies without the resuspension of solids.

6. Infiltration System (I-2) which is a standard SMP that will be used to treat the runoff volume generated from a portion of the developed area and provide additional water quality and runoff volume reduction. The smaller storms will be retained and the higher storms will be released gradually. Refer to the Proposed Hydrologic Calculations and Runoff Reduction and Water Quality Volume Sizing Calculations, in Appendix 'F'.

   The StormTech MC-3500/MC-4500 Recharge Chambers are domed shaped fully opened bottom corrugated chambers with perforated side walls. Chambers allow stormwater to be stored within the dome void until it can infiltrate into the ground. They are able to be used for residential, commercial or industrial applications and provide an easy way to treat and dispose of stormwater runoff underground. Water is infiltrated into the ground through the chambers and surrounding crushed stone and will replenish the groundwater as a natural condition.

   The Isolator Row is a row of StormTech chambers that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as stormwater rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls allow stormwater to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage access of the adjacent stone and chambers from sediment accumulation.

   The Isolator Row is designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but includes a high flow weir such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row overtop the over flow weir and discharge through a manifold to the other standard chambers. By treating stormwater prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured.

7. Catch Basins will be used to remove some of the coarse sand and grit sediment before entering the drainage system. Each catch basin will be constructed with an 18-inch-deep sump.

8. Rip-Rap Energy Dissipators at discharge points from the stormwater drainage system into the stormwater management basins, rip-rap pads consisting of angular rocks will be placed to dissipate velocity and reduce the risk of erosion.

9. Seeding of at least 70% perennial vegetative cover will be used to produce a permanent uniform erosion resistant surface. The seeded areas will be mulched with straw at a rate of 2 tons per acre such that the mulch forms a continuous blanket.

10. Green Roof - The proposed building will be constructed with an extensive green roof which will provide hydrologic source control and water quality volume for the rooftop runoff. The green roof must provide volume reduction equal to or greater than the required minimum RRv. This reduction is achieved when runoff is captured, routed through green infrastructure, infiltrated to the ground, reused, reduced by evapotranspiration and eventually removed from the stormwater discharge from the site. After determining the minimum RRv required, which depends on factors such as the Hydrologic Soil Group (HSG) and the amount of impervious area within the targeted drainage area, the remaining water quality volume is directed to a standard practice.

Specifications for Soil Restoration

Prior to the final stabilization of the disturbed areas, soil restoration will be required for all vegetated areas to recover the original properties and porosity of the soil. Soil Restoration Requirements are provided on Table 13 below:

Table 13
Soil Restoration Requirements

<table>
<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* 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">Clearing and grubbing</td></tr>
<tr><td>Aerate and apply 6 inches of topsoil</td><td>Apply full Soil Restoration**</td></tr>
<tr><td>Heavy traffic areas on site (especially) in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)</td><td colspan="2">Apply full Soil Restoration (decompaction and compost enhancement)</td><td></td></tr>
<tr><td>Areas where Runoff Reduction and/or Infiltration practices are applied</td><td colspan="2">Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.</td><td>Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area.</td></tr>
<tr><td>Redevelopment projects</td><td colspan="2">Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.</td><td></td></tr>
</table>

* 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.

** Per "Deep Ripping and De-compaction, DEC 2008."

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following full soil restoration steps applied:

1. Apply 3 inches of compost over subsoil.

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.

3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site.

Specifications for Final Stabilization of Graded Areas

Final stabilization of graded areas consists of the placement of topsoil and installation of landscaping (unless the area is to be paved, or a building is to be constructed in the location). Topsoil is to be spread as soon as grading operations are completed. Topsoil is to be placed to a minimum depth of six inches on all embankments, planting areas and seeding/sod areas. The subgrade is to be scarified to a depth of two inches to provide a bond of the topsoil with the subsoil. Topsoil is to be raked to an even surface and cleared of all debris, roots, stones and other unsatisfactory material.

Planting operations shall be conducted under favorable weather conditions as follows:

- Permanent Lawns - April 15 (provided soil is frost-free and not excessively moist) to May 15; August 15 to October 15.
- Temporary Lawn Seeding - if outside of the time periods noted above, the areas shall be seeded immediately on completion of topsoil operations with annual ryegrass (Italian rye) at a rate of six pounds per 1,000 square feet. Temporary lawn installation is permitted provided the soil is frost-free and not excessively moist. The permanent lawn is to be installed the next planting season.

On slopes with a grade of 3 horizontal to 1 vertical or greater, and in swales, a geotextile netting or mat shall be installed for stabilization purposes as shown on the Plans. Seeded areas are to be mulched with straw or hay at an application rate of 70-90 pounds per 1,000 s.f. Straw or hay mulch must be spread uniformly and anchored immediately after spreading to prevent wind blowing. Mulches must be inspected periodically and in particular after rainstorms to check for erosion. If erosion is observed, additional mulch must be applied. Netting shall be inspected after rainstorms for dislocation or failure; any damage shall be repaired immediately.

All denuded surfaces which will be exposed for a period of over two months or more shall be temporarily hydroseeded with (a) perennial ryegrass at a rate of 40 lbs per acre (1.0 lb per 1000 square feet); (b) Certified "Aroostook" winter rye (cereal rye) @ 100 lb per acre (2.5 lb/1000 s.f.) to be used in the months of October and November.

Permanent turfgrass cover is to consist of a seed mixture as follows:

(a) Sunny sites

Kentucky Bluegrass	2.0-2.6 pounds/1000 square feet
Perennial Ryegrass	0.6-0.7 pounds/1000 square feet
Fine Fescue	0.4-0.6 pounds/1000 square feet

(b) Shady sites

Kentucky Bluegrass	0.8-1.0 pounds/1000 square feet
Perennial Ryegrass	0.6-0.7 pounds/1000 square feet
Fine Fescue	2.6-3.3 pounds/1000 square feet

All plant materials shall comply with the standards of the American Association Of Nurserymen with respect to height and caliper as described in its publication American Standard for Nursery Stock, latest edition.

IX. CONSTRUCTION PHASE AND POST-CONSTRUCTION MAINTENANCE

During the construction phase and following construction of the project, a number of maintenance measures will be taken with respect to the site maintenance. Measures to be taken included the following:

1. During Construction

A comprehensive sediment and erosion control plan will be in place during the construction period. Maintenance measures for sediment and erosion controls will include:

A qualified professional acceptable to the municipality will be hired by the owner or operator to monitor the installation and maintenance of the sediment and erosion control plans. The qualified professional shall report directly to the Engineering Consultant and shall be responsible for ensuring compliance with the design of the sediment and erosion control plans.

The qualified professional so hired will inspect all sediment and erosion control measures at least twice every seven calendar days, with inspections separated by a minimum of two (2) full calendar days. In the event that there has been a variance with the design of the sediment and erosion control measures so that the ability of the measures to adequately perform the intended function is lessened or compromised and/or the facilities are not adequately maintained, the qualified professional shall be required to report such variance to the Engineering Consultant within 48 hours and shall be empowered to order immediate repairs to the sediment and erosion control measures.

The qualified professional will also be responsible for observing the adequacy of the vegetation growth (trees, shrubs, groundcovers and turfgrasses) in newly graded areas and for ordering additional plantings in the event that the established plant materials do not adequately protect the ground surface from erosion.

2. Following Construction

Site maintenance activities on the property will include:

- Grounds maintenance, including mowing of lawns;
- Planting of trees, shrubs and groundcovers; pruning of trees and shrubs;
- Application of fertilizer and herbicides;
- Maintenance of stormwater management area;

Grounds maintenance on the site will be performed by landscaping contractor.

All applications of fertilizers shall be in accordance with the Nutrient Runoff Law – ECL Article 17, Title 21 and the Fertilizer Application Standard in the NYS Blue Book. Therefore, under NY Law, fertilizer containing phosphorus may only be applied to lawn or non-agricultural turf when a soil test indicates that additional phosphorus is needed for growth of lawn or non-agricultural turf, or the fertilizer is used for newly established lawn or non-agricultural turf during the first growing season.

Fertilizer applications shall meet the following specifications:

1. In no case shall fertilizer be applied between December 1 and April 1 annually.
2. Fertilizer shall not be spread within 20 feet of a surface water.
3. Any fertilizer falling or spilled into impervious surface such as parking lots, roadways and sidewalks should be immediately contained and legally applied or placed in an appropriate container.
4. Incorporate the fertilizer, and lime if specified, into the top 2-4 inched of topsoil or soil profile.
5. When applying fertilizer by hydro seeding care should be taken to apply mix only to seed bed areas at an appropriate flow rate to prevent erosion and spraying onto impervious areas.

Since this project is located within the NYCEP watershed, where enhanced phosphorus removal standards are required as part of its post-construction stormwater management plan, the use of any fertilizer containing more than 0.67 percent phosphate (P_2O_5) content shall be done only with a valid soil test demonstrating the need for that information.

Fertilizer is typically applied twice in the year - once in the spring and once in the fall. The application of fertilizer is usually necessary to maintain healthy lawn growth due to competition for nutrients with trees and shrubs and since the clippings are often removed. It is not recommended that fertilizer be applied during the summer. It is at this time that lawns are typically dormant.

Fertilizers come in three basic types: (1) Organic; (2) Soluble synthetic and (3) Slow release.

Organic fertilizers are derived from plant or animal waste. Since they are heavier and bulkier than other fertilizers, it is necessary to apply a much greater amount at one time. Soluble synthetic fertilizers are predictable with determining the exact impact on a lawn. However, more applications are necessary since their effect is often short term. Slow release fertilizers have a high percentage of nitrogen so quantities that need be handled at one time are smaller. Slow release fertilizers will be utilized by the project.

A complete fertilizer contains all three of the primary nutrients - nitrogen (N), phosphorus (P) and potassium in the form of potash (K). Typically, a 3-1-2 ratio of nutrients (N-P-K) is used for lawn applications.

Fertilizer shall be applied by the landscape contractor in accordance with the manufacturer's instructions. The application of fertilizer does require some skill on the part of the operator. Should there be a spill of fertilizer, the landscape contractor shall be required to scrape or vacuum it up. The area will then be watered in accordance with the manufacturer's instructions to ensure that the fertilizer becomes soluble and available to plants and does not run off.

Airport Campus I-V LLC will be responsible for the long-term operation and maintenance of the permanent stormwater management practices. The permanent stormwater management practices shall be maintained in accordance with the Maintenance Inspection Checklists provided in Appendix I.

X. DISTURBANCE AUTHORIZATION, PROJECT PHASING & SEQUENCE OF CONSTRUCITON

The following section describes the construction phasing proposed for this project and the sequencing of the installation of erosion and sediment controls and the proposed construction.

The plan divides the site into the following four phases:

Phase I (Completed)

The demolition of the impervious surfaces at the vacant residential properties in the Cooney Hill area and the construction of the mulched walking/exercise trails, tennis courts and a sand volleyball court, was completed following the MBIA environmental review, site plan approval process and issuance of other related permits and approvals.

Hotel Phase

The conversion of the existing northern office building to a 125-room hotel and related infrastructure improvements. This phase is estimated to take 8 – 12 months.

Townhomes Phase

The construction of the 22 townhomes on the northern portion of the property, along with the access driveway from Cooney Hill Road and installation of related infrastructure. This phase will include the construction of a temporary stormwater sediment basin on the southwest side of the proposed townhouses for erosion and sediment control purposes. The temporary basin will be converted to a permanent stormwater pond at the end of Phase III for stormwater management. This phase is estimated to take 18 – 24 months.

Multifamily Phase

The construction of the 150-unit multifamily building with a 3-level parking structure beneath the multifamily units. This phase will include the construction of access drives on the east and west sides of this building. This phase will also include the construction of a temporary stormwater sediment basin on the east side of the proposed building for erosion and sediment control purposes. The temporary basin will be converted to a permanent stormwater pond at the end of Phase IV for stormwater management. This phase is estimated to take 18 – 24 months.

The area of proposed ground disturbance within all three phases of the remaining phases to be constructed will at times exceed five (5) acres. Construction will be conducted in accordance with the NYSDEC SPDES General Permit GP-0-20-001. It is proposed, as described below, to stabilize each of these areas less than five acres in size prior to the commencement of construction of the next area. By constructing the Project in this manner, the potential for a large "shock load" of nutrient-laden sediment to be discharged into the on-site and off-site wetlands and/or the Kensico Reservoir is much reduced.

Therefore, and in accordance with NYSDEC SPDES General Permit No. GP-0-20-001 effective January 29, 2020 written authorization by the MS4 (Town of North Castle) to disturb greater than five (5) acres of soil at any one time is hereby requested, subject to the following provisions:

i. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

ii. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, last revised November 2016.

iii. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

iv. The owner or operator shall install any additional site-specific practices needed to protect water quality.

v. The owner or operator shall include the requirements above in their SWPPP.

The minimum number of required weekly inspections will be two (2) erosion control inspections shall be made at the site every seven (7) calendar days.

In the circumstance of greater than five (5) acres of soil be disturbed at any one time, and the activity be temporarily or permanently ceased, then soil stabilization measures shall be initiated by the end of the next business day and completed within seven (7) days from ceasing activity.

The phasing of construction activities for the project is referenced on JMC Figure F-8 "Proposed Phasing Plan". Each phase of construction shall be fully stabilized prior to moving onto the next phase, except as approved by Town Engineer and under full time supervision of the owner's field representative.

Approximately 13,500 cubic yards of excess would be generated by the proposed excavation work involved in Phases III and IV. The excavation would occur over a period of approximately

6 to 12 months dispersed within the combined phasing of Phases III and IV. Utilizing a typically sized excavation truck with a capacity of 20 cubic yards per truck, approximately 3 to 6 trucks per day would access the site from Cooney Hill Road, receive their material, and depart King Street for I-684 to the south. Some truck traffic may utilize King Street to the north to access NY Route 22.

CONSTRUCTION ACCESS AND VEHICLE TRAVEL ON SITE

Throughout the project there will be different stabilized construction accesses to the site. During construction all vehicles and equipment leaving the site under active construction shall utilize construction access depicted on the project Erosion & Sediment Control Plans. Construction staging areas will be established and located for each phase/work area as shown on Erosion & Sediment Control Plans. Construction vehicles shall not disturb any areas beyond the construction phase being worked on at the time except under the strict supervision of the owner's field representative.

The proposed project would generate trips from workers traveling to and from the site, as well as the movement of goods and equipment. The estimated average number of construction workers on-site at any one time would vary depending on the phase of construction. Over the life of the project, it is estimated that approximately 200 workers would be utilized.

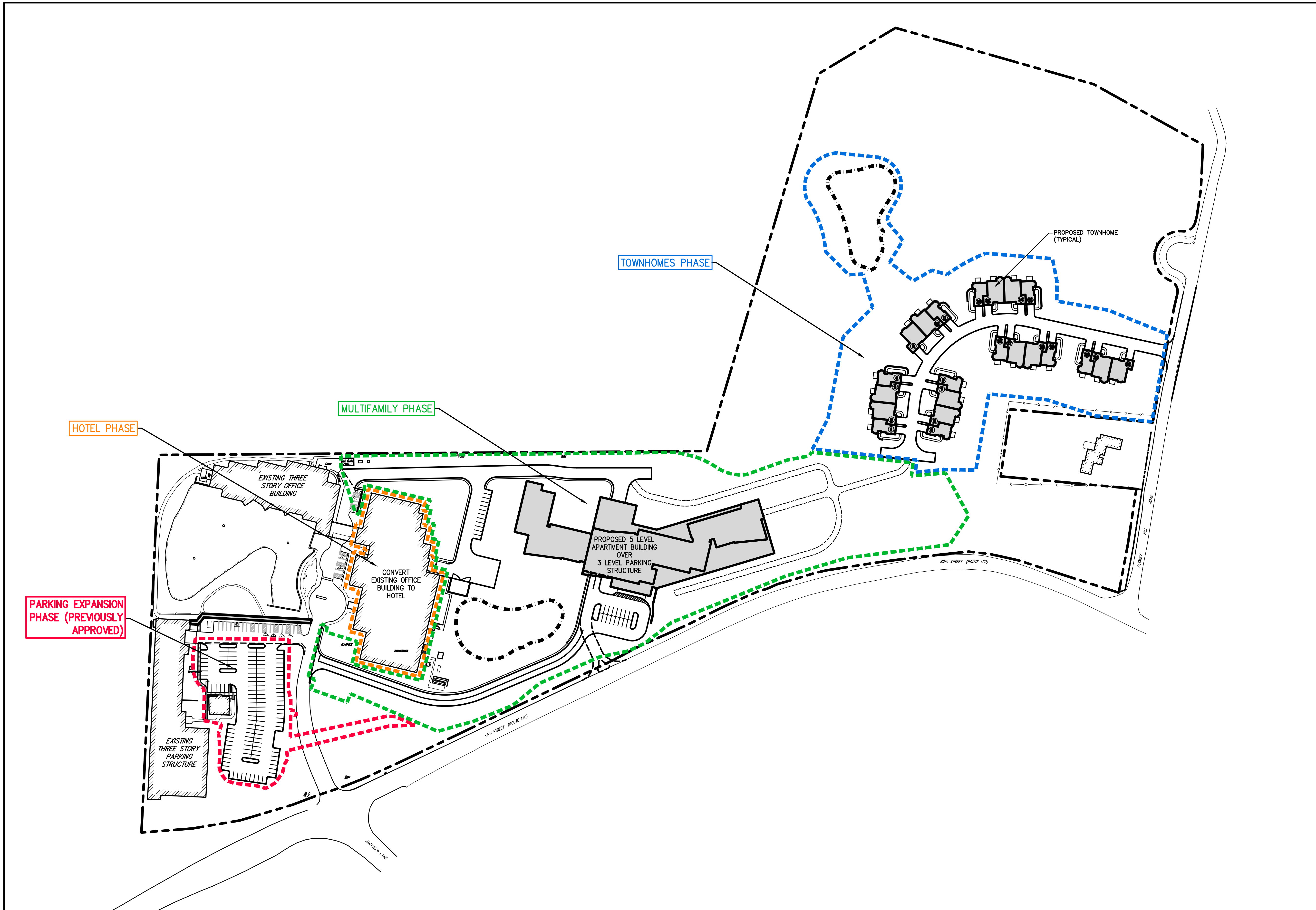
Truck movements would be spread throughout the day and would generally occur between the hours of 6:30 AM and 4:30 PM, depending on the period of construction. It is anticipated that most traffic would access the site via Interstate 684 and King Street to the south, while some may access the site via NY Route 22 and King Street to the north.

SEQUENCE OF CONSTRUCTION

Construction shall be sequenced in such a manner that any area which is disturbed shall be first protected with erosion and sedimentation controls as indicated on Erosion and Sediment Control plans.

Hotel Phase

The Sequence of Construction is as follows:



JMC
120 BEDFORD RD
ARMONK
NY 10504
(914) 273-5225
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JMCPLLC.COM

AIRPORT CAMPUS

113 KING STREET (NY RT 120)

TOWN OF NORTH CASTLE, NEW YORK

PROPOSED PHASING PLAN

DATE: 11/12/2019

JMC PROJECT: 15072

FIGURE: F-8

SCALE: 1" = 200'

15072–DEIS–FIGURES.dwg; F–8.tab ls.PHASING

1. Pre-construction meeting shall be held with representatives of the Town of North Castle and NYCEP.

2. Establish stabilized construction access and staging areas in locations indicated on the plan.

3. Install silt fence and inlet protection as shown on plan.

4. Clear areas to be developed.

5. Strip topsoil. Stockpile where indicated on plan and cover.

6. Begin building and driveway construction, rough grading.

7. Install storm structures and associated storm system piping complete. Convert/adjust all existing storm structures to remain. Immediately install inlet protection on all structures as indicated on the erosion and sediment control plans.

8. Install site lighting and conduits as required.

9. Install sidewalk and new sidewalk cover along existing sidewalk.

10. Finish grading.

11. Provide soil restoration in areas that will be landscaped.

12. Redistribute top soil and establish vegetation and/or landscaping.

13. Install asphalt subbase and binder course on roadways and parking areas.

14, Install bioretention area.

15. Install all site signage.

16. Install final asphalt top course pavement complete.

17. Clean pavement and storm system of all accumulated sediment in conjunction with the removal of all temporary erosion and sediment controls.

18. Install all paint striping.

Townhomes Phase

The Sequence of Construction is as follows:

1. Pre-construction meeting shall be held with representatives of the Town of North Castle and NYCEP.

2. Establish stabilized construction access and staging areas in locations indicated on the plan.

3. Install silt fence, inlet protection, and tree protection fence as shown on plan.

4. Clear and grub for stormwater management area #2. Strip and stockpile soil.

5. Begin excavation of stormwater management area #2 as temporary sediment basin 2.

6. Install level spreader, outlet control structure, temporary riser and anti-vortex device and emergency spillway.

7. Establish temporary diversion ditches prior to any other clearing or grading.

8. Clear areas to be developed. Strip topsoil. Stockpile where indicated on plan and cover.

9. Rough grade the site and establish swales.

10. Begin building and roadway construction.

11. Install storm structures and associated storm system piping complete. Immediately install inlet protection on all structures as indicated on the sediment and erosion control plans.

12. Install sanitary sewer, gas, electric and telephone services.

13. Install curbing and sidewalks.

14. Install pavement subbase and binder course.

15. Install bioretention areas, redistribute topsoil, install landscaping and permanent ground covers.

16. The contributing drainage area shall be completely stabilized prior to removing the erosion control devices and converting the temporary sediment basin to a permanent stormwater management basin.

17. Clean pavement and storm system of all accumulated sediment in conjunction with the removal of all temporary sedimentation and erosion controls.

18. Install pavement top course

19. Remove the sediment from the temporary sediment basin and complete grading and landscaping for the permanent stormwater management basin.

Multi-Family Phase

The Sequence of Construction is as follows:

1. Pre-construction meeting shall be held with representatives of the Town of North Castle and NYCEP.

2. Stake out limits of the proposed stormwater infiltration areas with orange construction fence.

3. Establish stabilized construction access and staging area in locations indicated on the plan.

4. Install silt fence and inlet protection as shown on plan.

5. Excavate for temporary sediment basin and install temporary riser and anti-vortex device and outlet pipes.

6. Establish temporary diversion ditches prior to any other clearing or grading.

7. Clear areas to be developed. Strip topsoil. Stockpile where indicated on plan and cover.

8. Rough grade driveway and install storm structures. Immediately install inlet protection.

9. Establish swales and install stone check dams.

10. Begin building and driveway construction, rough grading.

11. Seed and mulch all disturbed slopes.

12. Install all utilities to service building.

13. Install curbing and sidewalks.

14. Install pavement subbase and binder course for driveways and subbase and gravel for emergency access.

15. Install bioretention areas, redistribute topsoil, install landscaping, stabilized turf and permanent ground covers.

16. The contributing drainage area shall be completely stabilized prior to removing the erosion control devices and temporary sediment basin(s).

17. Install pavement top course.

18. Remove the sediment from the temporary sediment basins and complete grading and landscaping for the permanent stormwater management basin(s).

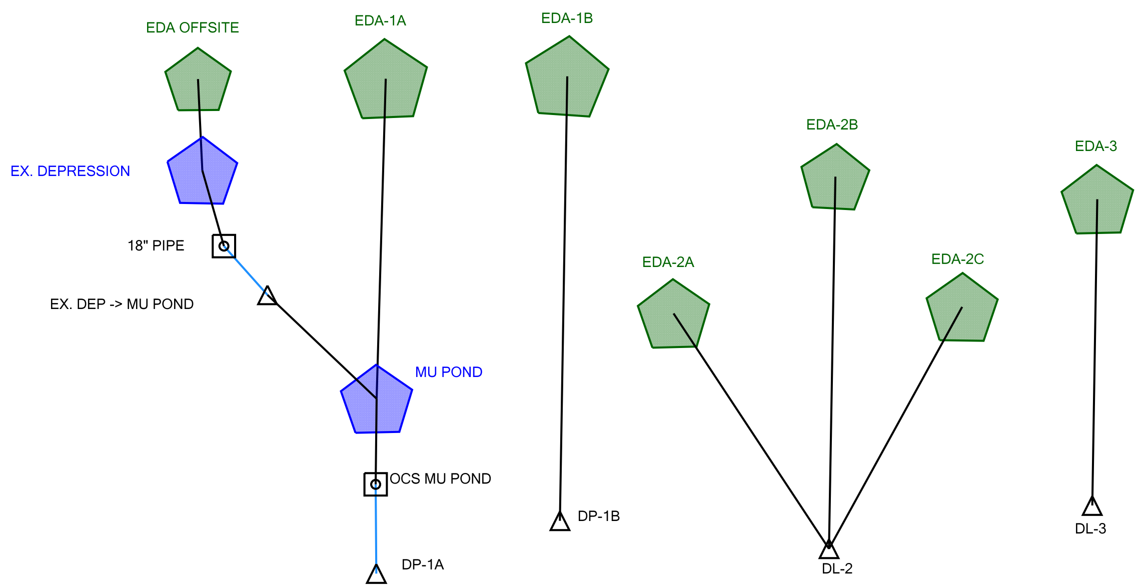
XI. CONCLUSIONS

The proposed Stormwater Pollution Prevention Plan for the MBIA Headquarters Expansion will reduce the peak rate of runoff from the developed site to a rate of flow as not to exceed that which presently runs off the project area in its present condition as per the regulations of the Town of North Castle, the NYCDEP and the NYSDEC SPDES General Permit No. GP-02-01 for Stormwater Discharges from Construction Activity. The proposed Stormwater Pollution Prevention Plan provides for water quality in accordance with the regulations of the NYCDEP and the proposed NYSDEC SPDES General Permit No. GP-02-01 for Stormwater Discharges from Construction Activity. In addition, the proposed Stormwater Pollution Prevention Plan provides for stream channel protection in accordance with the proposed NYSDEC SPDES General Permit No. GP-02-01 for Stormwater Discharges from Construction Activity.

APPENDIX A

HYDROLOGIC CALCULATIONS -EXISTING CONDITIONS

Scenario: Pre-Development-1 yr



Existing Hydrologic Calculations

Project Summary	
Title	Airport Campus
Engineer	David Lombardi, PE
Company	JMC Planning Engineering Landscape Architecture & Land Surveying, PLLC
Date	2/3/2020

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Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA OFFSITE	Pre-Development-1 yr	1	14,581.000	12.500	1.52
EDA OFFSITE	Pre-Development-2 yr	2	26,625.000	12.400	3.63
EDA OFFSITE	Pre-Development-5 yr	5	50,015.000	12.350	8.23
EDA OFFSITE	Pre-Development-10 yr	10	74,665.000	12.350	13.22
EDA OFFSITE	Pre-Development-25 yr	25	122,791.000	12.300	22.95
EDA OFFSITE	Pre-Development-50 yr	50	169,285.000	12.300	32.42
EDA OFFSITE	Pre-Development-100 yr	100	231,774.000	12.300	45.01
EDA-1A	Pre-Development-1 yr	1	61,644.000	12.300	11.85
EDA-1A	Pre-Development-2 yr	2	80,753.000	12.300	15.45
EDA-1A	Pre-Development-5 yr	5	111,066.000	12.300	21.03
EDA-1A	Pre-Development-10 yr	10	138,582.000	12.300	26.00
EDA-1A	Pre-Development-25 yr	25	186,140.000	12.300	34.42
EDA-1A	Pre-Development-50 yr	50	227,919.000	12.300	41.70
EDA-1A	Pre-Development-100 yr	100	280,475.000	12.300	50.73
EDA-1B	Pre-Development-1 yr	1	25,487.000	12.150	6.26
EDA-1B	Pre-Development-2 yr	2	35,780.000	12.150	8.91
EDA-1B	Pre-Development-5 yr	5	52,851.000	12.150	13.26
EDA-1B	Pre-Development-10 yr	10	68,872.000	12.150	17.26
EDA-1B	Pre-Development-25 yr	25	97,302.000	12.150	24.21
EDA-1B	Pre-Development-50 yr	50	122,781.000	12.150	30.32
EDA-1B	Pre-Development-100 yr	100	155,261.000	12.150	37.96
EDA-2A	Pre-Development-1 yr	1	14,698.000	12.200	3.03
EDA-2A	Pre-Development-2 yr	2	22,017.000	12.200	4.80

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA-2A	Pre-Development-5 yr	5	34,691.000	12.200	7.84
EDA-2A	Pre-Development-10 yr	10	46,982.000	12.200	10.75
EDA-2A	Pre-Development-25 yr	25	69,395.000	12.200	15.97
EDA-2A	Pre-Development-50 yr	50	89,913.000	12.200	20.66
EDA-2A	Pre-Development-100 yr	100	116,455.000	12.200	26.63
EDA-2B	Pre-Development-1 yr	1	30,829.000	12.200	6.77
EDA-2B	Pre-Development-2 yr	2	45,710.000	12.200	10.45
EDA-2B	Pre-Development-5 yr	5	71,308.000	12.200	16.70
EDA-2B	Pre-Development-10 yr	10	96,006.000	12.200	22.63
EDA-2B	Pre-Development-25 yr	25	140,853.000	12.150	33.24
EDA-2B	Pre-Development-50 yr	50	181,772.000	12.150	42.92
EDA-2B	Pre-Development-100 yr	100	234,580.000	12.150	55.23
EDA-2C	Pre-Development-1 yr	1	5,946.000	12.200	1.13
EDA-2C	Pre-Development-2 yr	2	9,575.000	12.200	2.06
EDA-2C	Pre-Development-5 yr	5	16,149.000	12.200	3.72
EDA-2C	Pre-Development-10 yr	10	22,742.000	12.150	5.39
EDA-2C	Pre-Development-25 yr	25	35,108.000	12.150	8.54
EDA-2C	Pre-Development-50 yr	50	46,683.000	12.150	11.45
EDA-2C	Pre-Development-100 yr	100	61,893.000	12.150	15.22
EDA-3	Pre-Development-1 yr	1	5,806.000	12.250	1.00
EDA-3	Pre-Development-2 yr	2	9,487.000	12.200	1.89
EDA-3	Pre-Development-5 yr	5	16,210.000	12.200	3.56
EDA-3	Pre-Development-10 yr	10	22,997.000	12.200	5.23

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA-3	Pre-Development-25 yr	25	35,790.000	12.200	8.34
EDA-3	Pre-Development-50 yr	50	47,814.000	12.200	11.22
EDA-3	Pre-Development-100 yr	100	63,661.000	12.200	14.96

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
DP-1A	Pre-Development-1 yr	1	73,861.000	14.050	1.36
DP-1A	Pre-Development-2 yr	2	101,598.000	13.650	2.02
DP-1A	Pre-Development-5 yr	5	155,270.000	14.550	3.25
DP-1A	Pre-Development-10 yr	10	207,410.000	13.850	5.48
DP-1A	Pre-Development-25 yr	25	303,066.000	13.250	11.98
DP-1A	Pre-Development-50 yr	50	391,321.000	13.100	17.27
DP-1A	Pre-Development-100 yr	100	484,993.000	12.700	20.56
DL-2	Pre-Development-1 yr	1	51,473.000	12.200	10.94
DL-2	Pre-Development-2 yr	2	77,302.000	12.200	17.32
DL-2	Pre-Development-5 yr	5	122,148.000	12.200	28.25
DL-2	Pre-Development-10 yr	10	165,731.000	12.200	38.73
DL-2	Pre-Development-25 yr	25	245,356.000	12.200	57.53
DL-2	Pre-Development-50 yr	50	318,368.000	12.200	74.45
DL-2	Pre-Development-100 yr	100	412,928.000	12.150	96.44
DL-3	Pre-Development-1 yr	1	5,806.000	12.250	1.00
DL-3	Pre-Development-2 yr	2	9,487.000	12.200	1.89
DL-3	Pre-Development-5 yr	5	16,210.000	12.200	3.56

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
DL-3	Pre-Development-10 yr	10	22,997.000	12.200	5.23
DL-3	Pre-Development-25 yr	25	35,790.000	12.200	8.34
DL-3	Pre-Development-50 yr	50	47,814.000	12.200	11.22
DL-3	Pre-Development-100 yr	100	63,661.000	12.200	14.96
DP-1B	Pre-Development-1 yr	1	25,487.000	12.150	6.26
DP-1B	Pre-Development-2 yr	2	35,780.000	12.150	8.91
DP-1B	Pre-Development-5 yr	5	52,851.000	12.150	13.26
DP-1B	Pre-Development-10 yr	10	68,872.000	12.150	17.26
DP-1B	Pre-Development-25 yr	25	97,302.000	12.150	24.21
DP-1B	Pre-Development-50 yr	50	122,781.000	12.150	30.32
DP-1B	Pre-Development-100 yr	100	155,261.000	12.150	37.96

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
EX. DEPRESSION (IN)	Pre-Development-1 yr	1	14,581.000	12.500	1.52	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-1 yr	1	13,260.000	35.600	0.04	408.61	13,112.000
EX. DEPRESSION (IN)	Pre-Development-2 yr	2	26,625.000	12.400	3.63	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-2 yr	2	22,048.000	16.750	0.45	409.02	17,662.000
EX. DEPRESSION (IN)	Pre-Development-5 yr	5	50,015.000	12.350	8.23	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
EX. DEPRESSION (OUT)	Pre-Development-5 yr	5	45,408.000	13.200	2.29	409.12	19,011.000
EX. DEPRESSION (IN)	Pre-Development-10 yr	10	74,665.000	12.350	13.22	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-10 yr	10	70,034.000	12.750	6.72	409.35	22,248.000
EX. DEPRESSION (IN)	Pre-Development-25 yr	25	122,791.000	12.300	22.95	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-25 yr	25	118,133.000	12.550	17.88	409.68	26,863.000
EX. DEPRESSION (IN)	Pre-Development-50 yr	50	169,285.000	12.300	32.42	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-50 yr	50	164,609.000	12.450	28.09	409.95	30,559.000
EX. DEPRESSION (IN)	Pre-Development-100 yr	100	231,774.000	12.300	45.01	(N/A)	(N/A)
EX. DEPRESSION (OUT)	Pre-Development-100 yr	100	227,079.000	12.450	40.24	410.20	34,784.000
MU POND (IN)	Pre-Development-1 yr	1	74,905.000	12.300	11.87	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-1 yr	1	73,861.000	14.050	1.36	406.06	35,245.000
MU POND (IN)	Pre-Development-2 yr	2	102,801.000	12.300	15.47	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-2 yr	2	101,598.000	13.650	2.02	406.23	45,241.000
MU POND (IN)	Pre-Development-5 yr	5	156,474.000	12.300	21.06	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-5 yr	5	155,270.000	14.550	3.25	406.65	69,130.000

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
MU POND (IN)	Pre-Development-10 yr	10	208,616.000	12.300	26.03	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-10 yr	10	207,410.000	13.850	5.48	407.07	93,574.000
MU POND (IN)	Pre-Development-25 yr	25	304,273.000	12.400	46.16	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-25 yr	25	303,066.000	13.250	11.98	407.70	130,996.000
MU POND (IN)	Pre-Development-50 yr	50	392,528.000	12.350	65.25	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-50 yr	50	391,321.000	13.100	17.27	408.28	167,374.000
MU POND (IN)	Pre-Development-100 yr	100	507,555.000	12.350	87.78	(N/A)	(N/A)
MU POND (OUT)	Pre-Development-100 yr	100	484,993.000	12.700	20.56	408.80	200,988.000

Time-Depth Curve: 1 YR	
Label	1 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	1 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.0	0.0	0.0	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.1	0.1	0.1	0.1
4.500	0.1	0.1	0.1	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.2	0.2	0.2	0.2
6.500	0.2	0.2	0.2	0.2	0.2
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.3	0.3	0.3	0.3
8.000	0.3	0.3	0.3	0.3	0.4
8.500	0.4	0.4	0.4	0.4	0.4
9.000	0.4	0.4	0.4	0.4	0.5
9.500	0.5	0.5	0.5	0.5	0.5
10.000	0.5	0.5	0.6	0.6	0.6
10.500	0.6	0.6	0.6	0.7	0.7
11.000	0.7	0.7	0.7	0.8	0.8
11.500	0.8	0.9	1.0	1.0	1.2
12.000	1.4	1.6	1.8	1.9	1.9
12.500	2.0	2.0	2.0	2.1	2.1
13.000	2.1	2.1	2.1	2.2	2.2
13.500	2.2	2.2	2.2	2.3	2.3
14.000	2.3	2.3	2.3	2.3	2.3
14.500	2.3	2.4	2.4	2.4	2.4
15.000	2.4	2.4	2.4	2.4	2.4
15.500	2.4	2.5	2.5	2.5	2.5
16.000	2.5	2.5	2.5	2.5	2.5
16.500	2.5	2.5	2.5	2.5	2.5

Subsection: Time-Depth Curve | Return Event: 1 years
Label: Westchester | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	2.6	2.6	2.6	2.6	2.6
17.500	2.6	2.6	2.6	2.6	2.6
18.000	2.6	2.6	2.6	2.6	2.6
18.500	2.6	2.6	2.6	2.6	2.6
19.000	2.7	2.7	2.7	2.7	2.7
19.500	2.7	2.7	2.7	2.7	2.7
20.000	2.7	2.7	2.7	2.7	2.7
20.500	2.7	2.7	2.7	2.7	2.7
21.000	2.7	2.7	2.7	2.7	2.7
21.500	2.7	2.7	2.7	2.7	2.8
22.000	2.8	2.8	2.8	2.8	2.8
22.500	2.8	2.8	2.8	2.8	2.8
23.000	2.8	2.8	2.8	2.8	2.8
23.500	2.8	2.8	2.8	2.8	2.8
24.000	2.8	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 10 years
Label: Westchester | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Time-Depth Curve: 10 YR	
Label	10 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.4	0.4
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.5
7.000	0.5	0.5	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.6	0.6
8.000	0.6	0.6	0.6	0.6	0.6
8.500	0.7	0.7	0.7	0.7	0.7
9.000	0.7	0.8	0.8	0.8	0.8
9.500	0.8	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.2	1.2	1.2
11.000	1.3	1.3	1.4	1.4	1.5
11.500	1.5	1.6	1.7	1.9	2.1
12.000	2.6	3.0	3.2	3.4	3.5
12.500	3.6	3.7	3.7	3.8	3.8
13.000	3.8	3.9	3.9	3.9	4.0
13.500	4.0	4.0	4.1	4.1	4.1
14.000	4.2	4.2	4.2	4.2	4.2
14.500	4.3	4.3	4.3	4.3	4.4
15.000	4.4	4.4	4.4	4.4	4.4
15.500	4.5	4.5	4.5	4.5	4.5
16.000	4.5	4.5	4.6	4.6	4.6
16.500	4.6	4.6	4.6	4.6	4.6

Subsection: Time-Depth Curve
Label: Westchester
Scenario: Pre-Development-10 yr

Return Event: 10 years
Storm Event: 10 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.7	4.7	4.7	4.7	4.7
17.500	4.7	4.7	4.7	4.7	4.7
18.000	4.8	4.8	4.8	4.8	4.8
18.500	4.8	4.8	4.8	4.8	4.8
19.000	4.8	4.8	4.8	4.9	4.9
19.500	4.9	4.9	4.9	4.9	4.9
20.000	4.9	4.9	4.9	4.9	4.9
20.500	4.9	4.9	4.9	5.0	5.0
21.000	5.0	5.0	5.0	5.0	5.0
21.500	5.0	5.0	5.0	5.0	5.0
22.000	5.0	5.0	5.0	5.0	5.0
22.500	5.0	5.1	5.1	5.1	5.1
23.000	5.1	5.1	5.1	5.1	5.1
23.500	5.1	5.1	5.1	5.1	5.1
24.000	5.1	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 100 years
Label: Westchester | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Time-Depth Curve: 100 YR	
Label	100 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.1	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.2	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.3	0.3	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.4	0.4	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.5	0.5	0.5	0.5	0.5
5.000	0.5	0.5	0.5	0.6	0.6
5.500	0.6	0.6	0.6	0.6	0.6
6.000	0.7	0.7	0.7	0.7	0.7
6.500	0.7	0.8	0.8	0.8	0.8
7.000	0.8	0.9	0.9	0.9	0.9
7.500	0.9	1.0	1.0	1.0	1.0
8.000	1.0	1.1	1.1	1.1	1.2
8.500	1.2	1.2	1.2	1.3	1.3
9.000	1.3	1.4	1.4	1.4	1.5
9.500	1.5	1.6	1.6	1.7	1.7
10.000	1.7	1.8	1.8	1.9	1.9
10.500	2.0	2.0	2.1	2.2	2.2
11.000	2.3	2.4	2.5	2.5	2.6
11.500	2.7	2.9	3.1	3.4	3.8
12.000	4.6	5.4	5.8	6.1	6.3
12.500	6.5	6.6	6.7	6.7	6.8
13.000	6.9	7.0	7.0	7.1	7.2
13.500	7.2	7.3	7.3	7.4	7.4
14.000	7.5	7.5	7.5	7.6	7.6
14.500	7.7	7.7	7.8	7.8	7.8
15.000	7.9	7.9	7.9	8.0	8.0
15.500	8.0	8.0	8.1	8.1	8.1
16.000	8.2	8.2	8.2	8.2	8.2
16.500	8.3	8.3	8.3	8.3	8.3

Subsection: Time-Depth Curve
Return Event: 100 years
Label: Westchester
Storm Event: 100 YR
Scenario: Pre-Development-100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	8.4	8.4	8.4	8.4	8.4
17.500	8.5	8.5	8.5	8.5	8.5
18.000	8.5	8.6	8.6	8.6	8.6
18.500	8.6	8.6	8.6	8.7	8.7
19.000	8.7	8.7	8.7	8.7	8.7
19.500	8.7	8.8	8.8	8.8	8.8
20.000	8.8	8.8	8.8	8.8	8.9
20.500	8.9	8.9	8.9	8.9	8.9
21.000	8.9	8.9	8.9	9.0	9.0
21.500	9.0	9.0	9.0	9.0	9.0
22.000	9.0	9.0	9.0	9.1	9.1
22.500	9.1	9.1	9.1	9.1	9.1
23.000	9.1	9.1	9.1	9.1	9.2
23.500	9.2	9.2	9.2	9.2	9.2
24.000	9.2	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 2 years
Label: Westchester | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Time-Depth Curve: 2 YR	
Label	2 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.4
8.500	0.4	0.4	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.5
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.7	0.7	0.7	0.7
10.500	0.7	0.8	0.8	0.8	0.8
11.000	0.8	0.9	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.3	1.4
12.000	1.7	2.0	2.1	2.2	2.3
12.500	2.4	2.4	2.5	2.5	2.5
13.000	2.5	2.6	2.6	2.6	2.6
13.500	2.7	2.7	2.7	2.7	2.7
14.000	2.8	2.8	2.8	2.8	2.8
14.500	2.8	2.9	2.9	2.9	2.9
15.000	2.9	2.9	2.9	2.9	3.0
15.500	3.0	3.0	3.0	3.0	3.0
16.000	3.0	3.0	3.0	3.0	3.0
16.500	3.1	3.1	3.1	3.1	3.1

Subsection: Time-Depth Curve | Return Event: 2 years
Label: Westchester | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.1	3.1	3.1	3.1	3.1
17.500	3.1	3.1	3.1	3.1	3.1
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.2	3.2	3.2	3.2	3.2
19.000	3.2	3.2	3.2	3.2	3.2
19.500	3.2	3.2	3.2	3.2	3.2
20.000	3.3	3.3	3.3	3.3	3.3
20.500	3.3	3.3	3.3	3.3	3.3
21.000	3.3	3.3	3.3	3.3	3.3
21.500	3.3	3.3	3.3	3.3	3.3
22.000	3.3	3.3	3.3	3.3	3.3
22.500	3.4	3.4	3.4	3.4	3.4
23.000	3.4	3.4	3.4	3.4	3.4
23.500	3.4	3.4	3.4	3.4	3.4
24.000	3.4	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 25 years
Label: Westchester | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Time-Depth Curve: 25 YR	
Label	25 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	25 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.3	0.3	0.3
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.4	0.4
5.000	0.4	0.4	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.5
6.000	0.5	0.5	0.5	0.5	0.5
6.500	0.5	0.5	0.5	0.6	0.6
7.000	0.6	0.6	0.6	0.6	0.6
7.500	0.7	0.7	0.7	0.7	0.7
8.000	0.7	0.8	0.8	0.8	0.8
8.500	0.8	0.9	0.9	0.9	0.9
9.000	0.9	1.0	1.0	1.0	1.1
9.500	1.1	1.1	1.1	1.2	1.2
10.000	1.2	1.3	1.3	1.3	1.4
10.500	1.4	1.4	1.5	1.5	1.6
11.000	1.6	1.7	1.7	1.8	1.9
11.500	1.9	2.0	2.2	2.4	2.7
12.000	3.2	3.8	4.1	4.3	4.5
12.500	4.6	4.6	4.7	4.8	4.8
13.000	4.9	4.9	5.0	5.0	5.1
13.500	5.1	5.1	5.2	5.2	5.2
14.000	5.3	5.3	5.3	5.4	5.4
14.500	5.4	5.4	5.5	5.5	5.5
15.000	5.6	5.6	5.6	5.6	5.6
15.500	5.7	5.7	5.7	5.7	5.7
16.000	5.8	5.8	5.8	5.8	5.8
16.500	5.8	5.9	5.9	5.9	5.9

Subsection: Time-Depth Curve | Return Event: 25 years
Label: Westchester | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	5.9	5.9	5.9	6.0	6.0
17.500	6.0	6.0	6.0	6.0	6.0
18.000	6.0	6.0	6.1	6.1	6.1
18.500	6.1	6.1	6.1	6.1	6.1
19.000	6.1	6.1	6.1	6.2	6.2
19.500	6.2	6.2	6.2	6.2	6.2
20.000	6.2	6.2	6.2	6.2	6.3
20.500	6.3	6.3	6.3	6.3	6.3
21.000	6.3	6.3	6.3	6.3	6.3
21.500	6.3	6.3	6.4	6.4	6.4
22.000	6.4	6.4	6.4	6.4	6.4
22.500	6.4	6.4	6.4	6.4	6.4
23.000	6.4	6.4	6.5	6.5	6.5
23.500	6.5	6.5	6.5	6.5	6.5
24.000	6.5	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 5 years
Label: Westchester | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Time-Depth Curve: 5 YR	
Label	5 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	5 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.4	0.4	0.4	0.4
7.000	0.4	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.5	0.5	0.5
8.000	0.5	0.5	0.5	0.5	0.5
8.500	0.6	0.6	0.6	0.6	0.6
9.000	0.6	0.6	0.7	0.7	0.7
9.500	0.7	0.7	0.8	0.8	0.8
10.000	0.8	0.8	0.9	0.9	0.9
10.500	0.9	1.0	1.0	1.0	1.0
11.000	1.1	1.1	1.1	1.2	1.2
11.500	1.3	1.4	1.5	1.6	1.8
12.000	2.2	2.5	2.7	2.8	3.0
12.500	3.0	3.1	3.1	3.2	3.2
13.000	3.2	3.3	3.3	3.3	3.4
13.500	3.4	3.4	3.4	3.5	3.5
14.000	3.5	3.5	3.5	3.6	3.6
14.500	3.6	3.6	3.6	3.6	3.7
15.000	3.7	3.7	3.7	3.7	3.7
15.500	3.8	3.8	3.8	3.8	3.8
16.000	3.8	3.8	3.8	3.9	3.9
16.500	3.9	3.9	3.9	3.9	3.9

Subsection: Time-Depth Curve
Return Event: 5 years
Label: Westchester
Storm Event: 5 YR
Scenario: Pre-Development-5 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.9	3.9	3.9	3.9	4.0
17.500	4.0	4.0	4.0	4.0	4.0
18.000	4.0	4.0	4.0	4.0	4.0
18.500	4.0	4.0	4.0	4.1	4.1
19.000	4.1	4.1	4.1	4.1	4.1
19.500	4.1	4.1	4.1	4.1	4.1
20.000	4.1	4.1	4.1	4.1	4.1
20.500	4.2	4.2	4.2	4.2	4.2
21.000	4.2	4.2	4.2	4.2	4.2
21.500	4.2	4.2	4.2	4.2	4.2
22.000	4.2	4.2	4.2	4.2	4.2
22.500	4.2	4.3	4.3	4.3	4.3
23.000	4.3	4.3	4.3	4.3	4.3
23.500	4.3	4.3	4.3	4.3	4.3
24.000	4.3	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 50 years
Label: Westchester | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Time-Depth Curve: 50 YR	
Label	50 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	50 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.3
4.000	0.3	0.3	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.4	0.4
5.000	0.4	0.4	0.5	0.5	0.5
5.500	0.5	0.5	0.5	0.5	0.5
6.000	0.6	0.6	0.6	0.6	0.6
6.500	0.6	0.6	0.7	0.7	0.7
7.000	0.7	0.7	0.7	0.7	0.8
7.500	0.8	0.8	0.8	0.8	0.9
8.000	0.9	0.9	0.9	0.9	1.0
8.500	1.0	1.0	1.0	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.4	1.4
10.000	1.5	1.5	1.5	1.6	1.6
10.500	1.7	1.7	1.8	1.8	1.9
11.000	1.9	2.0	2.1	2.1	2.2
11.500	2.3	2.4	2.6	2.9	3.2
12.000	3.8	4.5	4.8	5.1	5.3
12.500	5.4	5.5	5.6	5.6	5.7
13.000	5.8	5.8	5.9	5.9	6.0
13.500	6.0	6.1	6.1	6.2	6.2
14.000	6.2	6.3	6.3	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.7	6.7
15.500	6.7	6.7	6.8	6.8	6.8
16.000	6.8	6.8	6.9	6.9	6.9
16.500	6.9	6.9	7.0	7.0	7.0

Subsection: Time-Depth Curve
Return Event: 50 years
Label: Westchester
Storm Event: 50 YR
Scenario: Pre-Development-50 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	7.0	7.0	7.0	7.0	7.1
17.500	7.1	7.1	7.1	7.1	7.1
18.000	7.1	7.2	7.2	7.2	7.2
18.500	7.2	7.2	7.2	7.2	7.3
19.000	7.3	7.3	7.3	7.3	7.3
19.500	7.3	7.3	7.3	7.3	7.4
20.000	7.4	7.4	7.4	7.4	7.4
20.500	7.4	7.4	7.4	7.4	7.5
21.000	7.5	7.5	7.5	7.5	7.5
21.500	7.5	7.5	7.5	7.5	7.5
22.000	7.6	7.6	7.6	7.6	7.6
22.500	7.6	7.6	7.6	7.6	7.6
23.000	7.6	7.6	7.6	7.7	7.7
23.500	7.7	7.7	7.7	7.7	7.7
24.000	7.7	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA OFFSITE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.050 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.13 ft/s
Segment Time of Concentration	0.328 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	230.00 ft
Is Paved?	False
Slope	0.054 ft/ft
Average Velocity	3.75 ft/s
Segment Time of Concentration	0.017 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	240.00 ft
Is Paved?	False
Slope	0.021 ft/ft
Average Velocity	2.34 ft/s
Segment Time of Concentration	0.029 hours

Segment #4: TR-55 Shallow Concentrated Flow	
Hydraulic Length	400.00 ft
Is Paved?	False
Slope	0.038 ft/ft
Average Velocity	3.12 ft/s
Segment Time of Concentration	0.036 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.409 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA OFFSITE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Existing Hydrologic Calculations

Subsection: Time of Concentration Calculations	Return Event: 1 years
Label: EDA-1A	Storm Event: 1 YR
Scenario: Pre-Development-1 yr	

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.033 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.11 ft/s
Segment Time of Concentration	0.387 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	90.00 ft
Is Paved?	False
Slope	0.025 ft/ft
Average Velocity	2.55 ft/s
Segment Time of Concentration	0.010 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	80.00 ft
Is Paved?	True
Slope	0.020 ft/ft
Average Velocity	2.87 ft/s
Segment Time of Concentration	0.008 hours

Segment #4: TR-55 Channel Flow	
Flow Area	3.140 ft²
Hydraulic Length	790.00 ft
Manning's n	0.013
Slope	0.018 ft/ft
Wetted Perimeter	6.20 ft
Average Velocity	9.77 ft/s
Segment Time of Concentration	0.022 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.427 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-1A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.240
Slope	0.050 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.158 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	180.00 ft
Is Paved?	False
Slope	0.050 ft/ft
Average Velocity	3.61 ft/s
Segment Time of Concentration	0.014 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	360.00 ft
Is Paved?	True
Slope	0.050 ft/ft
Average Velocity	4.55 ft/s
Segment Time of Concentration	0.022 hours

Segment #4: TR-55 Channel Flow	
Flow Area	1.200 ft²
Hydraulic Length	130.00 ft
Manning's n	0.011
Slope	0.050 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	13.73 ft/s
Segment Time of Concentration	0.003 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.196 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-1B | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Existing Hydrologic Calculations

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: EDA-2A — Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow

Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.060 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.203 hours

Segment #2: TR-55 Shallow Concentrated Flow

Hydraulic Length	590.00 ft
Is Paved?	False
Slope	0.062 ft/ft
Average Velocity	4.02 ft/s
Segment Time of Concentration	0.041 hours

Segment #3: TR-55 Channel Flow

Flow Area	1.800 ft²
Hydraulic Length	145.00 ft
Manning's n	0.120
Slope	0.110 ft/ft
Wetted Perimeter	5.16 ft
Average Velocity	2.04 ft/s
Segment Time of Concentration	0.020 hours

Time of Concentration (Composite)

Time of Concentration (Composite)	0.263 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-2A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours n= Manning's n Lf= Flow length, feet P= 2yr, 24hr Rain depth, inches Sf= Slope, %

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-2B | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.240
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.16 ft/s
Segment Time of Concentration	0.172 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,000.00 ft
Is Paved?	False
Slope	0.077 ft/ft
Average Velocity	4.48 ft/s
Segment Time of Concentration	0.062 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.234 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-2B | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Subsection: Time of Concentration Calculations
Label: EDA-2C
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	130.00 ft
Manning's n	0.400
Slope	0.130 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.200 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	230.00 ft
Is Paved?	False
Slope	0.150 ft/ft
Average Velocity	6.25 ft/s
Segment Time of Concentration	0.010 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.210 hours

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Subsection: Time of Concentration Calculations | Return Event: 1 years

Label: EDA-3 | Storm Event: 1 YR

Scenario: Pre-Development-1 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.100 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.17 ft/s
Segment Time of Concentration	0.249 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.249 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA-3 | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

Existing Hydrologic Calculations

Subsection: Runoff CN-Area
Label: EDA OFFSITE
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Existing Hydrologic Calculations

Subsection: Runoff CN-Area
Label: EDA-1A
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Runoff CN-Area
Label: EDA-1B
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Runoff CN-Area
Label: EDA-2A
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Runoff CN-Area
Label: EDA-2B
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Existing Hydrologic Calculations

Subsection: Runoff CN-Area
Label: EDA-2C
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Runoff CN-Area
Label: EDA-3
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.494 hours
Flow (Peak, Computed)	1.52 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.500 hours
Flow (Peak Interpolated Output)	1.52 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	14,580.107 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	14,581.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA OFFSITE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft^3/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.440 hours
Flow (Peak, Computed)	3.65 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	3.63 ft³/s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	26,629.241 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	26,625.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 2 years

Label: EDA OFFSITE
Storm Event: 2 YR

Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.385 hours
Flow (Peak, Computed)	8.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	8.23 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.9 in
Runoff Volume (Pervious)	50,030.078 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	50,015.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA OFFSITE | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	13.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	13.22 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	74,689.112 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	74,665.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA OFFSITE | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: EDA OFFSITE | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	23.12 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	22.95 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	122,832.016 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	122,791.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: EDA OFFSITE | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	32.48 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	32.42 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	169,342.768 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	169,285.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: EDA OFFSITE | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA OFFSITE | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.276 hours
Flow (Peak, Computed)	45.08 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	45.01 ft^3/s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	231,853.785 ft^3

Hydrograph Volume (Area under Hydrograph curve)	
Volume	231,774.000 ft^3

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA OFFSITE | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-1A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	11.89 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	11.85 ft³/s

Drainage Area	
SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.7 in
Runoff Volume (Pervious)	61,632.259 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	61,644.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-1A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft^3/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	15.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	15.45 ft³/s

Drainage Area

SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	80,736.745 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	80,753.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-1A | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft^3/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-1A | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	21.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	21.03 ft³/s

Drainage Area	
SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	111,044.327 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	111,066.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary Return Event: 5 years
Label: EDA-1A Storm Event: 5 YR
Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft^3/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA-1A | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	26.04 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	26.00 ft³/s

Drainage Area	
SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	138,555.436 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	138,582.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years

Label: EDA-1A | Storm Event: 10 YR

Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft^3/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	34.46 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	34.42 ft³/s

Drainage Area

SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	186,105.120 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	186,140.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 25 years

Label: EDA-1A — Storm Event: 25 YR

Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft^3/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: EDA-1A | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	41.73 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	41.70 ft³/s

Drainage Area

SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.4 in
Runoff Volume (Pervious)	227,876.805 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	227,919.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 50 years
Label: EDA-1A — Storm Event: 50 YR
Scenario: Pre-Development-50 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft³/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.427 hours
Area (User Defined)	9.820 acres

Computational Time Increment	0.057 hours
Time to Peak (Computed)	12.309 hours
Flow (Peak, Computed)	50.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	50.73 ft³/s

Drainage Area

SCS CN (Composite)	89.000
Area (User Defined)	9.820 acres
Maximum Retention (Pervious)	1.2 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.9 in
Runoff Volume (Pervious)	280,424.062 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	280,475.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.427 hours
Computational Time Increment	0.057 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 100 years

Label: EDA-1A — Storm Event: 100 YR

Scenario: Pre-Development-100 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	26.03 ft³/s
Unit peak time, Tp	0.285 hours
Unit receding limb, Tr	1.140 hours
Total unit time, Tb	1.425 hours

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	6.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	6.26 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.1 in
Runoff Volume (Pervious)	25,491.140 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	25,487.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-1B | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft³/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-1B | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	8.97 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	8.91 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	35,785.955 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	35,780.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 2 years

Label: EDA-1B
Storm Event: 2 YR

Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft^3/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-1B | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	13.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	13.26 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	52,860.461 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	52,851.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-1B | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft^3/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	17.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	17.26 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.0 in
Runoff Volume (Pervious)	68,883.361 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	68,872.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 10 years

Label: EDA-1B — Storm Event: 10 YR

Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft^3/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	24.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	24.21 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	97,318.165 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	97,302.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: EDA-1B | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft³/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	30.34 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	30.32 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.3 in
Runoff Volume (Pervious)	122,801.488 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	122,781.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Return Event: 50 years
Label: EDA-1B
Storm Event: 50 YR
Scenario: Pre-Development-50 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft^3/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 100 years
Label: EDA-1B — Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.196 hours
Area (User Defined)	6.330 acres

Computational Time Increment	0.026 hours
Time to Peak (Computed)	12.133 hours
Flow (Peak, Computed)	37.96 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	37.96 ft³/s

Drainage Area

SCS CN (Composite)	80.000
Area (User Defined)	6.330 acres
Maximum Retention (Pervious)	2.5 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.8 in
Runoff Volume (Pervious)	155,285.477 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	155,261.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.196 hours
Computational Time Increment	0.026 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA-1B | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	36.57 ft^3/s
Unit peak time, Tp	0.131 hours
Unit receding limb, Tr	0.523 hours
Total unit time, Tb	0.654 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-2A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.214 hours
Flow (Peak, Computed)	3.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	3.03 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	14,698.246 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	14,698.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-2A | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft^3/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-2A | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.214 hours
Flow (Peak, Computed)	4.84 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	4.80 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.1 in
Runoff Volume (Pervious)	22,017.785 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	22,017.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft^3/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 5 years
Label: EDA-2A — Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.214 hours
Flow (Peak, Computed)	7.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	7.84 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.8 in
Runoff Volume (Pervious)	34,692.638 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	34,691.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: EDA-2A
Scenario: Pre-Development-5 yr

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft^3/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.214 hours
Flow (Peak, Computed)	10.75 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	10.75 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	46,984.355 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	46,982.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 10 years
Label: EDA-2A — Storm Event: 10 YR
Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft³/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.179 hours
Flow (Peak, Computed)	16.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	15.97 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.5 in
Runoff Volume (Pervious)	69,398.253 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	69,395.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: EDA-2A
Scenario: Pre-Development-25 yr

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft³/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.179 hours
Flow (Peak, Computed)	20.76 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	20.66 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.5 in
Runoff Volume (Pervious)	89,917.294 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	89,913.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft³/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.263 hours
Area (User Defined)	5.450 acres

Computational Time Increment	0.035 hours
Time to Peak (Computed)	12.179 hours
Flow (Peak, Computed)	26.82 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	26.63 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	5.450 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.9 in
Runoff Volume (Pervious)	116,460.210 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	116,455.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.263 hours
Computational Time Increment	0.035 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA-2A | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	23.46 ft³/s
Unit peak time, Tp	0.175 hours
Unit receding limb, Tr	0.702 hours
Total unit time, Tb	0.877 hours

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.188 hours
Flow (Peak, Computed)	6.80 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	6.77 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.8 in
Runoff Volume (Pervious)	30,829.593 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	30,829.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-2B | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft^3/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.188 hours
Flow (Peak, Computed)	10.53 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	10.45 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.2 in
Runoff Volume (Pervious)	45,711.395 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	45,710.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-2B | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft^3/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 5 years
Label: EDA-2B — Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.188 hours
Flow (Peak, Computed)	16.87 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	16.70 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.8 in
Runoff Volume (Pervious)	71,309.842 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	71,308.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 5 years

Label: EDA-2B | Storm Event: 5 YR

Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft^3/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA-2B | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.188 hours
Flow (Peak, Computed)	22.90 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	22.63 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	96,008.747 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	96,006.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA-2B | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft³/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Existing Hydrologic Calculations

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.188 hours
Flow (Peak, Computed)	33.66 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	33.24 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.6 in
Runoff Volume (Pervious)	140,857.109 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	140,853.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 25 years

Label: EDA-2B | Storm Event: 25 YR

Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft^3/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.157 hours
Flow (Peak, Computed)	43.35 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	42.92 ft³/s

Drainage Area

SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	181,777.263 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	181,772.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 50 years

Label: EDA-2B — Storm Event: 50 YR

Scenario: Pre-Development-50 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft³/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.234 hours
Area (User Defined)	10.750 acres

Computational Time Increment	0.031 hours
Time to Peak (Computed)	12.157 hours
Flow (Peak, Computed)	55.73 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	55.23 ft³/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	10.750 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.0 in
Runoff Volume (Pervious)	234,587.262 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	234,580.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.234 hours
Computational Time Increment	0.031 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary	Return Event: 100 years
Label: EDA-2B	Storm Event: 100 YR
Scenario: Pre-Development-100 yr	

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.96 ft³/s
Unit peak time, Tp	0.156 hours
Unit receding limb, Tr	0.625 hours
Total unit time, Tb	0.781 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-2C | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.201 hours
Flow (Peak, Computed)	1.13 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.13 ft^3/s

Drainage Area	
SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	5,945.824 ft^3

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,946.000 ft^3

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 1 years
Label: EDA-2C — Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: EDA-2C — Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.201 hours
Flow (Peak, Computed)	2.06 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	2.06 ft^3/s

Drainage Area

SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.8 in
Runoff Volume (Pervious)	9,574.993 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	9,575.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary Return Event: 2 years
Label: EDA-2C Storm Event: 2 YR
Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft³/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-2C | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	3.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	3.72 ft³/s

Drainage Area

SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.3 in
Runoff Volume (Pervious)	16,148.750 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	16,149.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 5 years
Label: EDA-2C — Storm Event: 5 YR
Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	5.47 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	5.39 ft³/s

Drainage Area	
SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	22,742.461 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	22,742.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA-2C | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary — Return Event: 25 years

Label: EDA-2C — Storm Event: 25 YR

Scenario: Pre-Development-25 yr

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	8.60 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	8.54 ft³/s

Drainage Area

SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.9 in
Runoff Volume (Pervious)	35,108.406 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	35,108.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: EDA-2C | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: EDA-2C | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	11.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	11.45 ft³/s

Drainage Area

SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	46,683.458 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	46,683.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: EDA-2C
Scenario: Pre-Development-50 yr

Return Event: 50 years
Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA-2C | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	3.320 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	15.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	15.22 ft³/s

Drainage Area

SCS CN (Composite)	67.000
Area (User Defined)	3.320 acres
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.1 in
Runoff Volume (Pervious)	61,893.745 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	61,893.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA-2C | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	17.92 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.233 hours
Flow (Peak, Computed)	1.00 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	1.00 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	5,805.741 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	5,806.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: EDA-3 | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft^3/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-3 | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.233 hours
Flow (Peak, Computed)	1.90 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.89 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	9,485.768 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	9,487.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: EDA-3 | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft³/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-3 | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.200 hours
Flow (Peak, Computed)	3.56 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	3.56 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.3 in
Runoff Volume (Pervious)	16,208.848 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	16,210.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA-3 | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft^3/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 10 years
Label: EDA-3 — Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.200 hours
Flow (Peak, Computed)	5.23 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	5.23 ft³/s

Drainage Area	
SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.8 in
Runoff Volume (Pervious)	22,994.715 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	22,997.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA-3 | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft³/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: EDA-3 | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.200 hours
Flow (Peak, Computed)	8.34 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	8.34 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.8 in
Runoff Volume (Pervious)	35,787.154 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	35,790.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 25 years

Label: EDA-3

Storm Event: 25 YR

Scenario: Pre-Development-25 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft^3/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.200 hours
Flow (Peak, Computed)	11.22 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	11.22 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	47,810.679 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	47,814.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Existing Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years

Label: EDA-3 | Storm Event: 50 YR

Scenario: Pre-Development-50 yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft^3/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.249 hours
Area (User Defined)	3.500 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.167 hours
Flow (Peak, Computed)	14.97 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	14.96 ft³/s

Drainage Area

SCS CN (Composite)	66.000
Area (User Defined)	3.500 acres
Maximum Retention (Pervious)	5.2 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.0 in
Runoff Volume (Pervious)	63,656.515 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	63,661.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.249 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.95 ft^3/s
Unit peak time, Tp	0.166 hours
Unit receding limb, Tr	0.663 hours
Total unit time, Tb	0.829 hours

Subsection: Addition Summary
Label: DL-2
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	30,828.845	12.200	6.77
Flow (From)	EDA-2C	5,946.045	12.200	1.13
Flow (From)	EDA-2A	14,697.801	12.200	3.03
Flow (In)	DL-2	51,472.691	12.200	10.94

Subsection: Addition Summary | Return Event: 2 years
Label: DL-2 | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	45,710.164	12.200	10.45
Flow (From)	EDA-2C	9,575.161	12.200	2.06
Flow (From)	EDA-2A	22,017.014	12.200	4.80
Flow (In)	DL-2	77,302.339	12.200	17.32

Subsection: Addition Summary | Return Event: 5 years
Label: DL-2 | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	71,307.800	12.200	16.70
Flow (From)	EDA-2C	16,148.804	12.200	3.72
Flow (From)	EDA-2A	34,691.292	12.200	7.84
Flow (In)	DL-2	122,147.896	12.200	28.25

Subsection: Addition Summary | Return Event: 10 years
Label: DL-2 | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	96,005.894	12.200	22.63
Flow (From)	EDA-2C	22,742.388	12.150	5.39
Flow (From)	EDA-2A	46,982.444	12.200	10.75
Flow (In)	DL-2	165,730.725	12.200	38.73

Subsection: Addition Summary
Label: DL-2
Scenario: Pre-Development-25 yr

Return Event: 25 years
Storm Event: 25 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	140,852.814	12.150	33.24
Flow (From)	EDA-2C	35,108.023	12.150	8.54
Flow (From)	EDA-2A	69,395.324	12.200	15.97
Flow (In)	DL-2	245,356.160	12.200	57.53

Subsection: Addition Summary | Return Event: 50 years
Label: DL-2 | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	181,771.665	12.150	42.92
Flow (From)	EDA-2C	46,682.758	12.150	11.45
Flow (From)	EDA-2A	89,913.421	12.200	20.66
Flow (In)	DL-2	318,367.845	12.200	74.45

Subsection: Addition Summary
Label: DL-2
Scenario: Pre-Development-100 yr

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-2B
<Catchment to Outflow Node>	EDA-2C
<Catchment to Outflow Node>	EDA-2A

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-2B	234,580.007	12.150	55.23
Flow (From)	EDA-2C	61,892.606	12.150	15.22
Flow (From)	EDA-2A	116,455.121	12.200	26.63
Flow (In)	DL-2	412,927.734	12.150	96.44

Subsection: Addition Summary | Return Event: 1 years
Label: DL-3 | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	5,806.260	12.250	1.00
Flow (In)	DL-3	5,806.260	12.250	1.00

Subsection: Addition Summary | Return Event: 2 years

Label: DL-3 | Storm Event: 2 YR

Scenario: Pre-Development-2 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	9,486.623	12.200	1.89
Flow (In)	DL-3	9,486.623	12.200	1.89

Subsection: Addition Summary | Return Event: 5 years
Label: DL-3 | Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	16,210.251	12.200	3.56
Flow (In)	DL-3	16,210.251	12.200	3.56

Subsection: Addition Summary

Return Event: 10 years

Label: DL-3

Storm Event: 10 YR

Scenario: Pre-Development-10 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	22,996.638	12.200	5.23
Flow (In)	DL-3	22,996.638	12.200	5.23

Subsection: Addition Summary | Return Event: 25 years
Label: DL-3 | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	35,789.999	12.200	8.34
Flow (In)	DL-3	35,789.999	12.200	8.34

Subsection: Addition Summary | Return Event: 50 years
Label: DL-3 | Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	47,814.354	12.200	11.22
Flow (In)	DL-3	47,814.354	12.200	11.22

Subsection: Addition Summary | Return Event: 100 years
Label: DL-3 | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Summary for Hydrograph Addition at 'DL-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-3	63,661.252	12.200	14.96
Flow (In)	DL-3	63,661.252	12.200	14.96

Subsection: Addition Summary
Label: DP-1B
Scenario: Pre-Development-1 yr

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1B	25,486.573	12.150	6.26
Flow (In)	DP-1B	25,486.573	12.150	6.26

Subsection: Addition Summary | Return Event: 2 years
Label: DP-1B | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1B	35,779.606	12.150	8.91
Flow (In)	DP-1B	35,779.606	12.150	8.91

Subsection: Addition Summary | Return Event: 5 years

Label: DP-1B | Storm Event: 5 YR

Scenario: Pre-Development-5 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-1B	52,851.285	12.150	13.26
Flow (In)	DP-1B	52,851.285	12.150	13.26

Subsection: Addition Summary | Return Event: 10 years
Label: DP-1B | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1B	68,871.597	12.150	17.26
Flow (In)	DP-1B	68,871.597	12.150	17.26

Subsection: Addition Summary | Return Event: 25 years

Label: DP-1B | Storm Event: 25 YR

Scenario: Pre-Development-25 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	EDA-1B	97,301.990	12.150	24.21
Flow (In)	DP-1B	97,301.990	12.150	24.21

Subsection: Addition Summary — Return Event: 50 years
Label: DP-1B — Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1B	122,781.451	12.150	30.32
Flow (In)	DP-1B	122,781.451	12.150	30.32

Subsection: Addition Summary | Return Event: 100 years
Label: DP-1B | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EDA-1B	155,260.666	12.150	37.96
Flow (In)	DP-1B	155,260.666	12.150	37.96

Existing Hydrologic Calculations

Subsection: Elevation-Area Volume Curve | Return Event: 1 years
Label: EX. DEPRESSION | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
405.90	0.000	0.000	0.000	0.000	0.000
407.00	0.000	0.055	0.055	880.000	880.000
408.00	0.000	0.213	0.377	5,475.000	6,355.000
409.00	0.000	0.294	0.758	11,004.000	17,358.000
410.00	0.000	0.344	0.956	13,885.000	31,244.000
411.00	0.000	0.459	1.201	17,440.000	48,684.000

Existing Hydrologic Calculations

Subsection: Elevation-Area Volume Curve | Return Event: 1 years
Label: MU POND | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
405.40	0.000	1.170	0.000	0.000	0.000
406.00	0.000	1.285	3.681	32,070.000	32,070.000
407.00	0.000	1.344	3.943	57,255.000	89,325.000
408.00	0.000	1.404	4.122	59,854.000	149,179.000
408.80	0.000	1.571	4.460	51,809.000	200,988.000

Existing Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.20	0.00
406.40	0.02	405.20	0.00
406.90	0.03	405.20	0.00
407.40	0.03	405.20	0.00
407.90	0.04	405.20	0.00
408.40	0.04	405.20	0.00
408.80	0.04	405.20	0.00
408.90	0.04	405.20	0.00
409.00	0.04	405.20	0.00
409.40	7.63	405.20	0.00
409.90	25.66	405.20	0.00
410.40	49.74	405.20	0.00
410.90	78.62	405.20	0.00
411.00	84.90	405.20	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.40	0.00
406.40	0.02	405.40	0.00
406.90	0.03	405.40	0.00
407.40	0.03	405.40	0.00
407.90	0.03	405.40	0.00
408.40	0.04	405.40	0.00
408.80	0.04	405.40	0.00
408.90	0.04	405.40	0.00
409.00	0.04	405.40	0.00
409.40	7.63	405.40	0.00
409.90	25.66	405.40	0.00
410.40	49.74	405.40	0.00
410.90	78.62	405.40	0.00
411.00	84.90	405.40	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Existing Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.90	0.00
406.40	0.02	405.90	0.00
406.90	0.02	405.90	0.00
407.40	0.03	405.90	0.00
407.90	0.03	405.90	0.00
408.40	0.03	405.90	0.00
408.80	0.04	405.90	0.00
408.90	0.04	405.90	0.00
409.00	0.04	405.90	0.00
409.40	7.63	405.90	0.00
409.90	25.66	405.90	0.00
410.40	49.74	405.90	0.00
410.90	78.62	405.90	0.00
411.00	84.90	405.90	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	406.40	0.00
406.40	0.00	406.40	0.00
406.90	0.02	406.40	0.00
407.40	0.02	406.40	0.00
407.90	0.03	406.40	0.00
408.40	0.03	406.40	0.00
408.80	0.03	406.40	0.00
408.90	0.03	406.40	0.00
409.00	0.04	406.40	0.00
409.40	7.63	406.40	0.00
409.90	25.66	406.40	0.00
410.40	49.74	406.40	0.00
410.90	78.62	406.40	0.00
411.00	84.90	406.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	406.90	0.00
406.40	0.00	406.90	0.00
406.90	0.00	406.90	0.00
407.40	0.02	406.90	0.00
407.90	0.02	406.90	0.00
408.40	0.03	406.90	0.00
408.80	0.03	406.90	0.00
408.90	0.03	406.90	0.00
409.00	0.03	406.90	0.00
409.40	7.62	406.90	0.00
409.90	25.65	406.90	0.00
410.40	49.74	406.90	0.00
410.90	78.61	406.90	0.00
411.00	84.90	406.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Existing Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	407.40	0.00
406.40	0.00	407.40	0.00
406.90	0.00	407.40	0.00
407.40	0.00	407.40	0.00
407.90	0.02	407.40	0.00
408.40	0.02	407.40	0.00
408.80	0.03	407.40	0.00
408.90	0.03	407.40	0.00
409.00	0.03	407.40	0.00
409.40	7.62	407.40	0.00
409.90	25.65	407.40	0.00
410.40	49.73	407.40	0.00
410.90	78.61	407.40	0.00
411.00	84.89	407.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Existing Hydrologic Calculations

Subsection: Composite Rating Curve
Return Event: 1 years
Label: 18" PIPE
Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	407.90	0.00
406.40	0.00	407.90	0.00
406.90	0.00	407.90	0.00
407.40	0.00	407.90	0.00
407.90	0.00	407.90	0.00
408.40	0.02	407.90	0.00
408.80	0.02	407.90	0.00
408.90	0.02	407.90	0.00
409.00	0.02	407.90	0.00
409.40	7.62	407.90	0.00
409.90	25.65	407.90	0.00
410.40	49.73	407.90	0.00
410.90	78.61	407.90	0.00
411.00	84.89	407.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve — Return Event: 1 years
Label: 18" PIPE — Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	408.40	0.00
406.40	0.00	408.40	0.00
406.90	0.00	408.40	0.00
407.40	0.00	408.40	0.00
407.90	0.00	408.40	0.00
408.40	0.00	408.40	0.00
408.80	0.01	408.40	0.00
408.90	0.02	408.40	0.00
409.00	0.02	408.40	0.00
409.40	7.61	408.40	0.00
409.90	25.64	408.40	0.00
410.40	49.73	408.40	0.00
410.90	78.60	408.40	0.00
411.00	84.89	408.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Existing Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	408.80	0.00
406.40	0.00	408.80	0.00
406.90	0.00	408.80	0.00
407.40	0.00	408.80	0.00
407.90	0.00	408.80	0.00
408.40	0.00	408.80	0.00
408.80	0.00	408.80	0.00
408.90	0.01	408.80	0.00
409.00	0.01	408.80	0.00
409.40	7.61	408.80	0.00
409.90	25.64	408.80	0.00
410.40	49.72	408.80	0.00
410.90	78.60	408.80	0.00
411.00	84.89	408.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-MU-POND | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	399.00	0.00
405.90	0.76	399.00	0.00
406.40	2.67	399.00	0.00
406.75	3.49	399.00	0.00
406.90	4.01	399.00	0.00
407.40	8.33	399.00	0.00
407.90	14.49	399.00	0.00
408.40	18.14	399.00	0.00
408.80	20.56	399.00	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	399.50	0.00
405.90	0.76	399.50	0.00
406.40	2.67	399.50	0.00
406.75	3.49	399.50	0.00
406.90	4.01	399.50	0.00
407.40	8.33	399.50	0.00
407.90	14.49	399.50	0.00
408.40	18.14	399.50	0.00
408.80	20.56	399.50	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-MU-POND | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	400.00	0.00
405.90	0.76	400.00	0.00
406.40	2.67	400.00	0.00
406.75	3.49	400.00	0.00
406.90	4.01	400.00	0.00
407.40	8.33	400.00	0.00
407.90	14.49	400.00	0.00
408.40	18.14	400.00	0.00
408.80	20.56	400.00	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Existing Hydrologic Calculations

Subsection: Composite Rating Curve	Return Event: 1 years
Label: OCS-MU-POND	Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	405.40	0.00
405.90	0.76	405.40	0.00
406.40	2.67	405.40	0.00
406.75	3.49	405.40	0.00
406.90	4.01	405.40	0.00
407.40	8.33	405.40	0.00
407.90	14.49	405.40	0.00
408.40	18.14	405.40	0.00
408.80	20.56	405.40	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Existing Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: OCS-MU-POND — Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	-3.49	406.75	0.00
405.90	-3.49	406.75	0.00
406.40	-2.24	406.75	0.00
406.75	0.00	406.75	0.00
406.90	1.69	406.75	0.00
407.40	6.74	406.75	0.00
407.90	13.20	406.75	0.00
408.40	17.02	406.75	0.00
408.80	19.53	406.75	0.00

Contributing Structures
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Subsection: Interconnected Pond Routing Summary | Return Event: 1 years
Label: EX. DEPRESSION | Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
24.400	408.61	13,112.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.500	1.52	0.000	0.00
Pond Outflow...	35.600	0.04	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	14,581.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	13,260.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	14,581.000 ft³
Volume (Total Out ICPM)	13,260.000 ft³
Volume (Ending)	1,318.000 ft³
Elevation (Ending)	407.08 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary
Label: EX. DEPRESSION
Scenario: Pre-Development-2 yr

Return Event: 2 years
Storm Event: 2 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
16.750	409.02	17,662.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.400	3.63	0.000	0.00
Pond Outflow...	16.750	0.45	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	26,625.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	22,048.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	26,625.000 ft³
Volume (Total Out ICPM)	22,048.000 ft³
Volume (Ending)	4,573.000 ft³
Elevation (Ending)	407.67 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Starting Water Surface Computed)	405.90	ft
Volume (Starting)	0.000	ft³
Outflow (Starting)	0.00	ft³/s

Calculation Tolerances

Flow Tolerance (Minimum)	0.000	ft³/s
Maximum Iterations	35	
ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.200	409.12	19,011.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.350	8.23	0.000	0.00
Pond Outflow...	13.200	2.29	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	50,015.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	45,408.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	50,015.000 ft³
Volume (Total Out ICPM)	45,408.000 ft³
Volume (Ending)	4,604.000 ft³
Elevation (Ending)	407.68 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary — Return Event: 10 years
Label: EX. DEPRESSION — Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.750	409.35	22,248.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.350	13.22	0.000	0.00
Pond Outflow...	12.750	6.72	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	74,665.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	70,034.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	74,665.000 ft³
Volume (Total Out ICPM)	70,034.000 ft³
Volume (Ending)	4,628.000 ft³
Elevation (Ending)	407.68 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary | Return Event: 25 years
Label: EX. DEPRESSION | Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.550	409.68	26,863.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	22.95	0.000	0.00
Pond Outflow...	12.550	17.88	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	122,791.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	118,133.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	122,791.000 ft³
Volume (Total Out ICPM)	118,133.000 ft³
Volume (Ending)	4,655.000 ft³
Elevation (Ending)	407.69 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary — Return Event: 50 years
Label: EX. DEPRESSION — Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.450	409.95	30,559.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	32.42	0.000	0.00
Pond Outflow...	12.450	28.09	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	169,285.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	164,609.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	169,285.000 ft³
Volume (Total Out ICPM)	164,609.000 ft³
Volume (Ending)	4,672.000 ft³
Elevation (Ending)	407.69 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 100 years
Label: EX. DEPRESSION | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.450	410.20	34,784.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	45.01	0.000	0.00
Pond Outflow...	12.450	40.24	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	231,774.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	227,079.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	231,774.000 ft³
Volume (Total Out ICPM)	227,079.000 ft³
Volume (Ending)	4,691.000 ft³
Elevation (Ending)	407.70 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 1 years
Label: MU POND — Storm Event: 1 YR
Scenario: Pre-Development-1 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
14.050	406.06	35,245.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.300	11.87	0.000	0.00
Pond Outflow...	14.050	1.36	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	74,905.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	73,861.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	74,905.000 ft³
Volume (Total Out ICPM)	73,861.000 ft³
Volume (Ending)	1,041.000 ft³
Elevation (Ending)	405.42 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 2 years
Label: MU POND | Storm Event: 2 YR
Scenario: Pre-Development-2 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.650	406.23	45,241.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	15.47	0.000	0.00
Pond Outflow...	13.650	2.02	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	102,801.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	101,598.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	102,801.000 ft³
Volume (Total Out ICPM)	101,598.000 ft³
Volume (Ending)	1,200.000 ft³
Elevation (Ending)	405.42 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary — Return Event: 5 years
Label: MU POND — Storm Event: 5 YR
Scenario: Pre-Development-5 yr

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Outflow (Starting)	0.00	ft^3/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft^3)
14.550	406.65	69,130.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft^3/s)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Pond Inflow....	12.300	21.06	0.000	0.00
Pond Outflow...	14.550	3.25	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft^3)	Direction	Volume (ft^3)	Direction
Pond Inflow....	156,474.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	155,270.000	Forward

Mass Balance (ft^3)

Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	156,474.000 ft^3
Volume (Total Out ICPM)	155,270.000 ft^3
Volume (Ending)	1,201.000 ft^3
Elevation (Ending)	405.42 ft
Difference	3.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary | Return Event: 10 years
Label: MU POND | Storm Event: 10 YR
Scenario: Pre-Development-10 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.850	407.07	93,574.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	26.03	0.000	0.00
Pond Outflow...	13.850	5.48	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	208,616.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	207,410.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	208,616.000 ft³
Volume (Total Out ICPM)	207,410.000 ft³
Volume (Ending)	1,203.000 ft³
Elevation (Ending)	405.42 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 25 years
Label: MU POND — Storm Event: 25 YR
Scenario: Pre-Development-25 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.250	407.70	130,996.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.400	46.16	0.000	0.00
Pond Outflow...	13.250	11.98	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	304,273.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	303,066.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	304,273.000 ft³
Volume (Total Out ICPM)	303,066.000 ft³
Volume (Ending)	1,204.000 ft³
Elevation (Ending)	405.42 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 50 years
Label: MU POND — Storm Event: 50 YR
Scenario: Pre-Development-50 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
13.100	408.28	167,374.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.350	65.25	0.000	0.00
Pond Outflow...	13.100	17.27	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	392,528.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	391,321.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	392,528.000 ft³
Volume (Total Out ICPM)	391,321.000 ft³
Volume (Ending)	1,205.000 ft³
Elevation (Ending)	405.42 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Existing Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 100 years
Label: MU POND | Storm Event: 100 YR
Scenario: Pre-Development-100 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.700	408.80	200,988.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.350	87.78	0.000	0.00
Pond Outflow...	12.700	20.56	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	507,555.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	484,993.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	507,555.000 ft³
Volume (Total Out ICPM)	484,993.000 ft³
Volume (Ending)	1,206.000 ft³
Elevation (Ending)	405.42 ft
Difference	21,356.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	4.2 %

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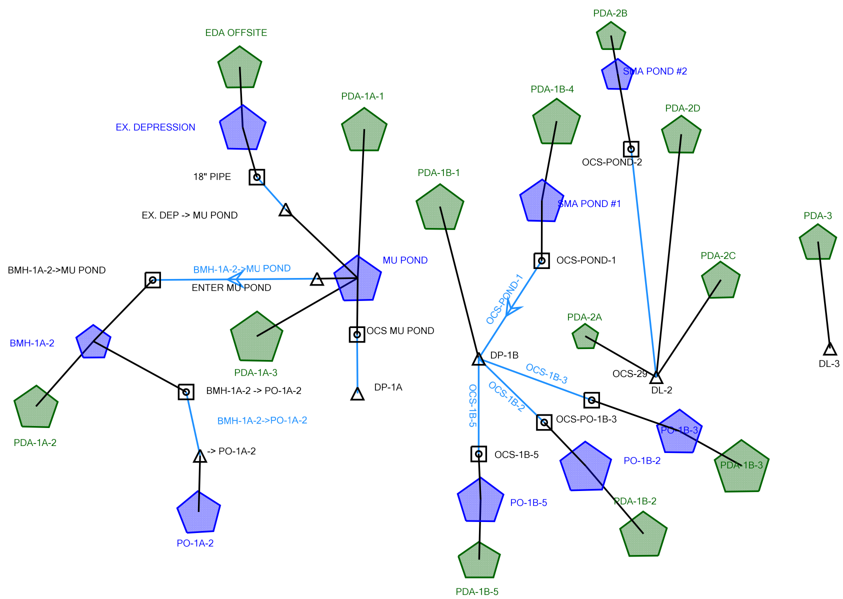
APPENDIX B

HYDROLOGIC CALCULATIONS -PROPOSED CONDITIONS

Scenario: POST-DEVELOPMENT-1 YR



Proposed Hydrologic Calculations

Project Summary	
Title	Airport Campus
Engineer	David Lombardi, PE
Company	JMC Planning Engineering Landscape Architecture & Land Surveying, PLLC
Date	4/22/2021

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Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
EDA OFFSITE	POST-DEVELOPMENT -1 YR	1	14,581.000	12.500	1.52
EDA OFFSITE	POST-DEVELOPMENT -2 YR	2	26,625.000	12.400	3.63
EDA OFFSITE	POST-DEVELOPMENT -5 YR	5	50,015.000	12.350	8.23
EDA OFFSITE	POST-DEVELOPMENT -10 YR	10	74,665.000	12.350	13.22
EDA OFFSITE	POST-DEVELOPMENT -25 YR	25	122,791.000	12.300	22.95
EDA OFFSITE	POST-DEVELOPMENT -50 YR	50	169,285.000	12.300	32.42
EDA OFFSITE	POST-DEVELOPMENT -100 YR	100	231,774.000	12.300	45.01
PDA-1A-1	POST-DEVELOPMENT -1 YR	1	43,018.000	12.100	11.76
PDA-1A-1	POST-DEVELOPMENT -2 YR	2	56,764.000	12.100	15.42
PDA-1A-1	POST-DEVELOPMENT -5 YR	5	78,666.000	12.100	21.12
PDA-1A-1	POST-DEVELOPMENT -10 YR	10	98,609.000	12.100	26.20
PDA-1A-1	POST-DEVELOPMENT -25 YR	25	133,162.000	12.100	34.82
PDA-1A-1	POST-DEVELOPMENT -50 YR	50	163,569.000	12.100	42.27
PDA-1A-1	POST-DEVELOPMENT -100 YR	100	201,865.000	12.100	51.51
PDA-1B-1	POST-DEVELOPMENT -1 YR	1	16,733.000	12.150	4.10
PDA-1B-1	POST-DEVELOPMENT -2 YR	2	23,897.000	12.150	5.98
PDA-1B-1	POST-DEVELOPMENT -5 YR	5	35,915.000	12.150	9.10
PDA-1B-1	POST-DEVELOPMENT -10 YR	10	47,293.000	12.150	11.99
PDA-1B-1	POST-DEVELOPMENT -25 YR	25	67,630.000	12.150	17.07
PDA-1B-1	POST-DEVELOPMENT -50 YR	50	85,958.000	12.150	21.55
PDA-1B-1	POST-DEVELOPMENT -100 YR	100	109,410.000	12.150	27.18
PDA-1B-4	POST-DEVELOPMENT -1 YR	1	21,141.000	12.150	5.24
PDA-1B-4	POST-DEVELOPMENT -2 YR	2	28,103.000	12.150	6.94

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-1B-4	POST-DEVELOPMENT -5 YR	5	39,245.000	12.150	9.62
PDA-1B-4	POST-DEVELOPMENT -10 YR	10	49,423.000	12.150	12.01
PDA-1B-4	POST-DEVELOPMENT -25 YR	25	67,103.000	12.150	16.07
PDA-1B-4	POST-DEVELOPMENT -50 YR	50	82,692.000	12.150	19.59
PDA-1B-4	POST-DEVELOPMENT -100 YR	100	102,349.000	12.150	23.96
PDA-1A-3	POST-DEVELOPMENT -1 YR	1	1,881.000	12.100	0.49
PDA-1A-3	POST-DEVELOPMENT -2 YR	2	2,394.000	12.100	0.62
PDA-1A-3	POST-DEVELOPMENT -5 YR	5	3,196.000	12.100	0.81
PDA-1A-3	POST-DEVELOPMENT -10 YR	10	3,916.000	12.100	0.99
PDA-1A-3	POST-DEVELOPMENT -25 YR	25	5,151.000	12.100	1.28
PDA-1A-3	POST-DEVELOPMENT -50 YR	50	6,229.000	12.100	1.53
PDA-1A-3	POST-DEVELOPMENT -100 YR	100	7,581.000	12.100	1.84
PDA-1A-2	POST-DEVELOPMENT -1 YR	1	3,287.000	12.100	0.86
PDA-1A-2	POST-DEVELOPMENT -2 YR	2	4,124.000	12.100	1.07
PDA-1A-2	POST-DEVELOPMENT -5 YR	5	5,425.000	12.100	1.38
PDA-1A-2	POST-DEVELOPMENT -10 YR	10	6,589.000	12.100	1.65
PDA-1A-2	POST-DEVELOPMENT -25 YR	25	8,578.000	12.100	2.12
PDA-1A-2	POST-DEVELOPMENT -50 YR	50	10,312.000	12.100	2.53
PDA-1A-2	POST-DEVELOPMENT -100 YR	100	12,482.000	12.100	3.03
PDA-2A	POST-DEVELOPMENT -1 YR	1	11,057.000	12.150	2.52
PDA-2A	POST-DEVELOPMENT -2 YR	2	16,563.000	12.150	3.98
PDA-2A	POST-DEVELOPMENT -5 YR	5	26,097.000	12.150	6.49
PDA-2A	POST-DEVELOPMENT -10 YR	10	35,343.000	12.150	8.89

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-2A	POST-DEVELOPMENT -25 YR	25	52,204.000	12.150	13.20
PDA-2A	POST-DEVELOPMENT -50 YR	50	67,639.000	12.150	17.07
PDA-2A	POST-DEVELOPMENT -100 YR	100	87,605.000	12.150	21.99
PDA-2B	POST-DEVELOPMENT -1 YR	1	36,994.000	12.200	8.53
PDA-2B	POST-DEVELOPMENT -2 YR	2	53,798.000	12.150	12.70
PDA-2B	POST-DEVELOPMENT -5 YR	5	82,336.000	12.150	19.91
PDA-2B	POST-DEVELOPMENT -10 YR	10	109,604.000	12.150	26.70
PDA-2B	POST-DEVELOPMENT -25 YR	25	158,716.000	12.150	38.74
PDA-2B	POST-DEVELOPMENT -50 YR	50	203,243.000	12.150	49.46
PDA-2B	POST-DEVELOPMENT -100 YR	100	260,453.000	12.150	62.99
PDA-2D	POST-DEVELOPMENT -1 YR	1	3,013.000	12.200	0.64
PDA-2D	POST-DEVELOPMENT -2 YR	2	4,613.000	12.200	1.04
PDA-2D	POST-DEVELOPMENT -5 YR	5	7,423.000	12.200	1.74
PDA-2D	POST-DEVELOPMENT -10 YR	10	10,177.000	12.150	2.43
PDA-2D	POST-DEVELOPMENT -25 YR	25	15,244.000	12.150	3.69
PDA-2D	POST-DEVELOPMENT -50 YR	50	19,915.000	12.150	4.84
PDA-2D	POST-DEVELOPMENT -100 YR	100	25,986.000	12.150	6.30
PDA-2C	POST-DEVELOPMENT -1 YR	1	961.000	12.450	0.08
PDA-2C	POST-DEVELOPMENT -2 YR	2	1,968.000	12.350	0.25
PDA-2C	POST-DEVELOPMENT -5 YR	5	4,034.000	12.200	0.74
PDA-2C	POST-DEVELOPMENT -10 YR	10	6,292.000	12.200	1.32
PDA-2C	POST-DEVELOPMENT -25 YR	25	10,827.000	12.200	2.47
PDA-2C	POST-DEVELOPMENT -50 YR	50	15,305.000	12.150	3.59

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-2C	POST-DEVELOPMENT -100 YR	100	21,417.000	12.150	5.15
PDA-3	POST-DEVELOPMENT -1 YR	1	4,217.000	12.300	0.58
PDA-3	POST-DEVELOPMENT -2 YR	2	7,378.000	12.250	1.29
PDA-3	POST-DEVELOPMENT -5 YR	5	13,380.000	12.200	2.74
PDA-3	POST-DEVELOPMENT -10 YR	10	19,607.000	12.200	4.27
PDA-3	POST-DEVELOPMENT -25 YR	25	31,613.000	12.200	7.20
PDA-3	POST-DEVELOPMENT -50 YR	50	43,100.000	12.200	9.97
PDA-3	POST-DEVELOPMENT -100 YR	100	58,430.000	12.200	13.62
PDA-1B-5	POST-DEVELOPMENT -1 YR	1	5,220.000	12.100	1.37
PDA-1B-5	POST-DEVELOPMENT -2 YR	2	6,503.000	12.100	1.68
PDA-1B-5	POST-DEVELOPMENT -5 YR	5	8,491.000	12.100	2.16
PDA-1B-5	POST-DEVELOPMENT -10 YR	10	10,267.000	12.100	2.58
PDA-1B-5	POST-DEVELOPMENT -25 YR	25	13,298.000	12.100	3.29
PDA-1B-5	POST-DEVELOPMENT -50 YR	50	15,938.000	12.100	3.92
PDA-1B-5	POST-DEVELOPMENT -100 YR	100	19,241.000	12.100	4.69
PDA-1B-2	POST-DEVELOPMENT -1 YR	1	1,217.000	12.100	0.30
PDA-1B-2	POST-DEVELOPMENT -2 YR	2	1,494.000	12.100	0.37
PDA-1B-2	POST-DEVELOPMENT -5 YR	5	1,923.000	12.100	0.47
PDA-1B-2	POST-DEVELOPMENT -10 YR	10	2,304.000	12.100	0.56
PDA-1B-2	POST-DEVELOPMENT -25 YR	25	2,955.000	12.100	0.71
PDA-1B-2	POST-DEVELOPMENT -50 YR	50	3,521.000	12.100	0.84
PDA-1B-2	POST-DEVELOPMENT -100 YR	100	4,228.000	12.100	1.01
PDA-1B-3	POST-DEVELOPMENT -1 YR	1	2,528.000	12.100	0.63

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
PDA-1B-3	POST-DEVELOPMENT -2 YR	2	3,104.000	12.100	0.77
PDA-1B-3	POST-DEVELOPMENT -5 YR	5	3,993.000	12.100	0.98
PDA-1B-3	POST-DEVELOPMENT -10 YR	10	4,786.000	12.100	1.16
PDA-1B-3	POST-DEVELOPMENT -25 YR	25	6,137.000	12.100	1.48
PDA-1B-3	POST-DEVELOPMENT -50 YR	50	7,312.000	12.100	1.75
PDA-1B-3	POST-DEVELOPMENT -100 YR	100	8,781.000	12.100	2.09

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
DP-1A	POST-DEVELOPMENT -1 YR	1	43,040.000	14.400	0.82
DP-1A	POST-DEVELOPMENT -2 YR	2	64,876.000	13.500	1.33
DP-1A	POST-DEVELOPMENT -5 YR	5	102,163.000	14.300	2.47
DP-1A	POST-DEVELOPMENT -10 YR	10	139,213.000	14.050	3.48
DP-1A	POST-DEVELOPMENT -25 YR	25	214,069.000	13.350	7.97
DP-1A	POST-DEVELOPMENT -50 YR	50	287,598.000	13.050	14.05
DP-1A	POST-DEVELOPMENT -100 YR	100	381,390.000	13.000	18.95
DL-2	POST-DEVELOPMENT -1 YR	1	51,382.000	12.200	3.23
DL-2	POST-DEVELOPMENT -2 YR	2	76,122.000	12.150	5.26
DL-2	POST-DEVELOPMENT -5 YR	5	119,062.000	12.150	9.03
DL-2	POST-DEVELOPMENT -10 YR	10	160,582.000	12.400	15.67
DL-2	POST-DEVELOPMENT -25 YR	25	236,149.000	12.300	33.41
DL-2	POST-DEVELOPMENT -50 YR	50	305,253.000	12.250	49.68
DL-2	POST-DEVELOPMENT -100 YR	100	394,608.000	12.250	71.90

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)
DL-3	POST-DEVELOPMENT -1 YR	1	4,217.000	12.300	0.58
DL-3	POST-DEVELOPMENT -2 YR	2	7,378.000	12.250	1.29
DL-3	POST-DEVELOPMENT -5 YR	5	13,380.000	12.200	2.74
DL-3	POST-DEVELOPMENT -10 YR	10	19,607.000	12.200	4.27
DL-3	POST-DEVELOPMENT -25 YR	25	31,613.000	12.200	7.20
DL-3	POST-DEVELOPMENT -50 YR	50	43,100.000	12.200	9.97
DL-3	POST-DEVELOPMENT -100 YR	100	58,430.000	12.200	13.62
DP-1B	POST-DEVELOPMENT -1 YR	1	38,048.000	12.150	4.41
DP-1B	POST-DEVELOPMENT -2 YR	2	52,663.000	12.150	6.66
DP-1B	POST-DEVELOPMENT -5 YR	5	76,656.000	12.150	10.26
DP-1B	POST-DEVELOPMENT -10 YR	10	99,004.000	12.150	13.97
DP-1B	POST-DEVELOPMENT -25 YR	25	138,455.000	12.150	21.29
DP-1B	POST-DEVELOPMENT -50 YR	50	174,372.000	12.150	27.64
DP-1B	POST-DEVELOPMENT -100 YR	100	220,503.000	12.150	35.32

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
EX. DEPRESSION (IN)	POST-DEVELOPMENT-1 YR	1	14,581.000	12.500	1.52	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-1 YR	1	13,352.000	34.050	0.04	408.61	13,080.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-2 YR	2	26,625.000	12.400	3.63	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-2 YR	2	22,117.000	16.750	0.45	409.02	17,661.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-5 YR	5	50,015.000	12.350	8.23	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-5 YR	5	45,479.000	13.200	2.29	409.12	19,010.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-10 YR	10	74,665.000	12.350	13.22	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-10 YR	10	70,112.000	12.750	6.72	409.35	22,248.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-25 YR	25	122,791.000	12.300	22.95	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-25 YR	25	118,215.000	12.550	17.88	409.68	26,863.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-50 YR	50	169,285.000	12.300	32.42	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-50 YR	50	164,694.000	12.450	28.09	409.95	30,558.000
EX. DEPRESSION (IN)	POST-DEVELOPMENT-100 YR	100	231,774.000	12.300	45.01	(N/A)	(N/A)
EX. DEPRESSION (OUT)	POST-DEVELOPMENT-100 YR	100	227,165.000	12.450	40.24	410.20	34,784.000
MU POND (IN)	POST-DEVELOPMENT-1 YR	1	45,711.000	12.100	12.97	(N/A)	(N/A)
MU POND (Reverse)	POST-DEVELOPMENT-1 YR	1	-14,074.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-1 YR	1	43,040.000	14.400	0.82	405.92	27,572.000
MU POND (IN)	POST-DEVELOPMENT-2 YR	2	67,629.000	12.100	16.91	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft^3)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft^3)
MU POND (Reverse)	POST-DEVELOPMENT-2 YR	2	-12,764.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-2 YR	2	64,877.000	13.500	1.33	406.05	34,853.000
MU POND (IN)	POST-DEVELOPMENT-5 YR	5	105,060.000	12.100	23.24	(N/A)	(N/A)
MU POND (Reverse)	POST-DEVELOPMENT-5 YR	5	-12,496.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-5 YR	5	102,163.000	14.300	2.47	406.35	51,925.000
MU POND (IN)	POST-DEVELOPMENT-10 YR	10	142,200.000	12.100	28.50	(N/A)	(N/A)
MU POND (Reverse)	POST-DEVELOPMENT-10 YR	10	-12,212.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-10 YR	10	139,213.000	14.050	3.48	406.75	74,953.000
MU POND (IN)	POST-DEVELOPMENT-25 YR	25	217,349.000	12.100	37.63	(N/A)	(N/A)
MU POND (Reverse)	POST-DEVELOPMENT-25 YR	25	-11,834.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-25 YR	25	214,069.000	13.350	7.97	407.36	110,796.000
MU POND (IN)	POST-DEVELOPMENT-50 YR	50	291,513.000	12.150	47.45	(N/A)	(N/A)
MU POND (Reverse)	POST-DEVELOPMENT-50 YR	50	-12,014.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-50 YR	50	287,598.000	13.050	14.05	407.86	141,047.000
MU POND (IN)	POST-DEVELOPMENT-100 YR	100	386,231.000	12.150	71.04	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
MU POND (Reverse)	POST-DEVELOPMENT-100 YR	100	-12,511.000	0.000	-0.39	(N/A)	(N/A)
MU POND (OUT)	POST-DEVELOPMENT-100 YR	100	381,391.000	13.000	18.95	408.53	183,816.000
SMA POND #1 (IN)	POST-DEVELOPMENT-1 YR	1	21,141.000	12.150	5.24	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-1 YR	1	20,763.000	16.050	0.24	406.77	38,622.000
SMA POND #1 (IN)	POST-DEVELOPMENT-2 YR	2	28,103.000	12.150	6.94	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-2 YR	2	27,716.000	14.150	0.54	406.94	40,882.000
SMA POND #1 (IN)	POST-DEVELOPMENT-5 YR	5	39,245.000	12.150	9.62	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-5 YR	5	38,849.000	12.900	1.43	407.26	45,181.000
SMA POND #1 (IN)	POST-DEVELOPMENT-10 YR	10	49,423.000	12.150	12.01	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-10 YR	10	49,021.000	12.700	2.42	407.58	49,720.000
SMA POND #1 (IN)	POST-DEVELOPMENT-25 YR	25	67,103.000	12.150	16.07	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-25 YR	25	66,693.000	12.600	4.11	408.09	57,550.000
SMA POND #1 (IN)	POST-DEVELOPMENT-50 YR	50	82,692.000	12.150	19.59	(N/A)	(N/A)
SMA POND #1 (OUT)	POST-DEVELOPMENT-50 YR	50	82,276.000	12.550	5.59	408.51	64,432.000
SMA POND #1 (IN)	POST-DEVELOPMENT-100 YR	100	102,349.000	12.150	23.96	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
SMA POND #1 (OUT)	POST-DEVELOPMENT-100 YR	100	101,927.000	12.450	11.09	408.78	69,098.000
BMH-1A-2 (IN)	POST-DEVELOPMENT-1 YR	1	3,287.000	12.100	0.86	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-1 YR	1	3,298.000	12.100	0.83	405.91	42.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-1 YR	1	-70.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-2 YR	2	4,124.000	12.100	1.07	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-2 YR	2	4,269.000	12.100	1.03	406.04	48.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-2 YR	2	-80.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-5 YR	5	5,425.000	12.100	1.38	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-5 YR	5	5,398.000	12.100	1.33	406.32	60.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-5 YR	5	-104.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-10 YR	10	6,589.000	12.100	1.65	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-10 YR	10	6,609.000	12.100	1.61	406.70	76.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-10 YR	10	-100.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-25 YR	25	8,578.000	12.100	2.12	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-25 YR	25	8,606.000	12.100	2.06	407.30	102.000

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-25 YR	25	-97.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-50 YR	50	10,312.000	12.100	2.53	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-50 YR	50	10,344.000	12.100	2.45	407.79	124.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-50 YR	50	-97.000	0.000	-0.39	(N/A)	(N/A)
BMH-1A-2 (IN)	POST-DEVELOPMENT-100 YR	100	12,482.000	12.100	3.03	(N/A)	(N/A)
BMH-1A-2 (OUT)	POST-DEVELOPMENT-100 YR	100	11,401.000	12.100	2.94	408.25	144.000
BMH-1A-2 (Reverse)	POST-DEVELOPMENT-100 YR	100	-2,787.000	13.050	-1.14	(N/A)	(N/A)
PO-1A-2 (IN)	POST-DEVELOPMENT-1 YR	1	29,883.000	6.300	0.16	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-1 YR	1	0.000	0.000	0.00	405.87	2,392.000
PO-1A-2 (IN)	POST-DEVELOPMENT-2 YR	2	30,644.000	12.150	0.19	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-2 YR	2	0.000	0.000	0.00	406.00	2,429.000
PO-1A-2 (IN)	POST-DEVELOPMENT-5 YR	5	40,118.000	14.300	0.53	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-5 YR	5	0.000	0.000	0.00	406.00	2,429.000
PO-1A-2 (IN)	POST-DEVELOPMENT-10 YR	10	49,197.000	14.100	0.79	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-10 YR	10	0.000	0.000	0.00	406.00	2,429.000

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
PO-1A-2 (IN)	POST-DEVELOPMENT-25 YR	25	59,562.000	13.400	1.07	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-25 YR	25	0.000	0.000	0.00	406.00	2,429.000
PO-1A-2 (IN)	POST-DEVELOPMENT-50 YR	50	65,284.000	13.100	1.26	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-50 YR	50	0.000	0.000	0.00	406.00	2,429.000
PO-1A-2 (IN)	POST-DEVELOPMENT-100 YR	100	71,560.000	12.650	1.41	(N/A)	(N/A)
PO-1A-2 (OUT)	POST-DEVELOPMENT-100 YR	100	0.000	0.000	0.00	406.00	2,429.000
SMA POND #2 (IN)	POST-DEVELOPMENT-1 YR	1	36,994.000	12.200	8.53	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-1 YR	1	36,351.000	24.050	0.16	408.99	44,209.000
SMA POND #2 (IN)	POST-DEVELOPMENT-2 YR	2	53,798.000	12.150	12.70	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-2 YR	2	52,978.000	15.000	1.02	409.26	48,355.000
SMA POND #2 (IN)	POST-DEVELOPMENT-5 YR	5	82,336.000	12.150	19.91	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-5 YR	5	81,507.000	12.750	4.02	409.58	53,510.000
SMA POND #2 (IN)	POST-DEVELOPMENT-10 YR	10	109,604.000	12.150	26.70	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-10 YR	10	108,769.000	12.550	9.87	409.99	60,458.000
SMA POND #2 (IN)	POST-DEVELOPMENT-25 YR	25	158,716.000	12.150	38.74	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
SMA POND #2 (OUT)	POST-DEVELOPMENT-25 YR	25	157,874.000	12.400	21.16	410.62	71,629.000
SMA POND #2 (IN)	POST-DEVELOPMENT-50 YR	50	203,243.000	12.150	49.46	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-50 YR	50	202,395.000	12.350	30.93	411.12	81,046.000
SMA POND #2 (IN)	POST-DEVELOPMENT-100 YR	100	260,453.000	12.150	62.99	(N/A)	(N/A)
SMA POND #2 (OUT)	POST-DEVELOPMENT-100 YR	100	259,600.000	12.300	44.79	411.57	90,059.000
PO-1B-5 (IN)	POST-DEVELOPMENT-1 YR	1	5,220.000	12.100	1.37	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-1 YR	1	552.000	12.250	0.34	401.11	1,117.000
PO-1B-5 (IN)	POST-DEVELOPMENT-2 YR	2	6,503.000	12.100	1.68	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-2 YR	2	1,051.000	12.200	0.65	401.24	1,321.000
PO-1B-5 (IN)	POST-DEVELOPMENT-5 YR	5	8,491.000	12.100	2.16	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-5 YR	5	1,893.000	12.200	1.08	401.41	1,604.000
PO-1B-5 (IN)	POST-DEVELOPMENT-10 YR	10	10,267.000	12.100	2.58	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-10 YR	10	2,690.000	12.200	1.44	401.55	1,837.000
PO-1B-5 (IN)	POST-DEVELOPMENT-25 YR	25	13,298.000	12.100	3.29	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-25 YR	25	4,133.000	12.150	2.21	401.76	2,178.000

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
PO-1B-5 (IN)	POST-DEVELOPMENT-50 YR	50	15,938.000	12.100	3.92	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-50 YR	50	5,478.000	12.150	2.81	401.92	2,437.000
PO-1B-5 (IN)	POST-DEVELOPMENT-100 YR	100	19,241.000	12.100	4.69	(N/A)	(N/A)
PO-1B-5 (OUT)	POST-DEVELOPMENT-100 YR	100	7,277.000	12.150	3.46	402.11	2,747.000
PO-1B-2 (IN)	POST-DEVELOPMENT-1 YR	1	1,217.000	12.100	0.30	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-1 YR	1	0.000	0.000	0.00	396.96	349.000
PO-1B-2 (IN)	POST-DEVELOPMENT-2 YR	2	1,494.000	12.100	0.37	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-2 YR	2	0.000	0.000	0.00	397.23	461.000
PO-1B-2 (IN)	POST-DEVELOPMENT-5 YR	5	1,923.000	12.100	0.47	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-5 YR	5	0.000	0.000	0.00	397.68	642.000
PO-1B-2 (IN)	POST-DEVELOPMENT-10 YR	10	2,304.000	12.100	0.56	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-10 YR	10	0.000	0.000	0.00	398.11	810.000
PO-1B-2 (IN)	POST-DEVELOPMENT-25 YR	25	2,955.000	12.100	0.71	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-25 YR	25	0.000	0.000	0.00	398.91	1,118.000
PO-1B-2 (IN)	POST-DEVELOPMENT-50 YR	50	3,521.000	12.100	0.84	(N/A)	(N/A)

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
PO-1B-2 (OUT)	POST-DEVELOPMENT-50 YR	50	161.000	12.550	0.09	399.42	1,302.000
PO-1B-2 (IN)	POST-DEVELOPMENT-100 YR	100	4,228.000	12.100	1.01	(N/A)	(N/A)
PO-1B-2 (OUT)	POST-DEVELOPMENT-100 YR	100	554.000	12.400	0.27	399.76	1,417.000
PO-1B-3 (IN)	POST-DEVELOPMENT-1 YR	1	2,528.000	12.100	0.63	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-1 YR	1	0.000	0.000	0.00	406.15	715.000
PO-1B-3 (IN)	POST-DEVELOPMENT-2 YR	2	3,104.000	12.100	0.77	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-2 YR	2	0.000	0.000	0.00	406.48	948.000
PO-1B-3 (IN)	POST-DEVELOPMENT-5 YR	5	3,993.000	12.100	0.98	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-5 YR	5	0.000	0.000	0.00	407.03	1,324.000
PO-1B-3 (IN)	POST-DEVELOPMENT-10 YR	10	4,786.000	12.100	1.16	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-10 YR	10	0.000	0.000	0.00	407.56	1,675.000
PO-1B-3 (IN)	POST-DEVELOPMENT-25 YR	25	6,137.000	12.100	1.48	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-25 YR	25	0.000	0.000	0.00	408.60	2,319.000
PO-1B-3 (IN)	POST-DEVELOPMENT-50 YR	50	7,312.000	12.100	1.75	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-50 YR	50	500.000	12.500	0.22	409.16	2,639.000

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
PO-1B-3 (IN)	POST-DEVELOPMENT-100 YR	100	8,781.000	12.100	2.09	(N/A)	(N/A)
PO-1B-3 (OUT)	POST-DEVELOPMENT-100 YR	100	1,335.000	12.350	0.62	409.62	2,877.000

Subsection: Time-Depth Curve | Return Event: 1 years
Label: Westchester | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time-Depth Curve: 1 YR	
Label	1 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	1 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.0	0.0	0.0	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.1	0.1	0.1	0.1
4.500	0.1	0.1	0.1	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.2	0.2	0.2	0.2
6.500	0.2	0.2	0.2	0.2	0.2
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.3	0.3	0.3	0.3
8.000	0.3	0.3	0.3	0.3	0.4
8.500	0.4	0.4	0.4	0.4	0.4
9.000	0.4	0.4	0.4	0.4	0.5
9.500	0.5	0.5	0.5	0.5	0.5
10.000	0.5	0.5	0.6	0.6	0.6
10.500	0.6	0.6	0.6	0.7	0.7
11.000	0.7	0.7	0.7	0.8	0.8
11.500	0.8	0.9	1.0	1.0	1.2
12.000	1.4	1.6	1.8	1.9	1.9
12.500	2.0	2.0	2.0	2.1	2.1
13.000	2.1	2.1	2.1	2.2	2.2
13.500	2.2	2.2	2.2	2.3	2.3
14.000	2.3	2.3	2.3	2.3	2.3
14.500	2.3	2.4	2.4	2.4	2.4
15.000	2.4	2.4	2.4	2.4	2.4
15.500	2.4	2.5	2.5	2.5	2.5
16.000	2.5	2.5	2.5	2.5	2.5
16.500	2.5	2.5	2.5	2.5	2.5

Subsection: Time-Depth Curve
Label: Westchester
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	2.6	2.6	2.6	2.6	2.6
17.500	2.6	2.6	2.6	2.6	2.6
18.000	2.6	2.6	2.6	2.6	2.6
18.500	2.6	2.6	2.6	2.6	2.6
19.000	2.7	2.7	2.7	2.7	2.7
19.500	2.7	2.7	2.7	2.7	2.7
20.000	2.7	2.7	2.7	2.7	2.7
20.500	2.7	2.7	2.7	2.7	2.7
21.000	2.7	2.7	2.7	2.7	2.7
21.500	2.7	2.7	2.7	2.7	2.8
22.000	2.8	2.8	2.8	2.8	2.8
22.500	2.8	2.8	2.8	2.8	2.8
23.000	2.8	2.8	2.8	2.8	2.8
23.500	2.8	2.8	2.8	2.8	2.8
24.000	2.8	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 10 years
Label: Westchester | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Time-Depth Curve: 10 YR	
Label	10 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.4	0.4
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.5
7.000	0.5	0.5	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.6	0.6
8.000	0.6	0.6	0.6	0.6	0.6
8.500	0.7	0.7	0.7	0.7	0.7
9.000	0.7	0.8	0.8	0.8	0.8
9.500	0.8	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.2	1.2	1.2
11.000	1.3	1.3	1.4	1.4	1.5
11.500	1.5	1.6	1.7	1.9	2.1
12.000	2.6	3.0	3.2	3.4	3.5
12.500	3.6	3.7	3.7	3.8	3.8
13.000	3.8	3.9	3.9	3.9	4.0
13.500	4.0	4.0	4.1	4.1	4.1
14.000	4.2	4.2	4.2	4.2	4.2
14.500	4.3	4.3	4.3	4.3	4.4
15.000	4.4	4.4	4.4	4.4	4.4
15.500	4.5	4.5	4.5	4.5	4.5
16.000	4.5	4.5	4.6	4.6	4.6
16.500	4.6	4.6	4.6	4.6	4.6

Subsection: Time-Depth Curve | Return Event: 10 years
Label: Westchester | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.7	4.7	4.7	4.7	4.7
17.500	4.7	4.7	4.7	4.7	4.7
18.000	4.8	4.8	4.8	4.8	4.8
18.500	4.8	4.8	4.8	4.8	4.8
19.000	4.8	4.8	4.8	4.9	4.9
19.500	4.9	4.9	4.9	4.9	4.9
20.000	4.9	4.9	4.9	4.9	4.9
20.500	4.9	4.9	4.9	5.0	5.0
21.000	5.0	5.0	5.0	5.0	5.0
21.500	5.0	5.0	5.0	5.0	5.0
22.000	5.0	5.0	5.0	5.0	5.0
22.500	5.0	5.1	5.1	5.1	5.1
23.000	5.1	5.1	5.1	5.1	5.1
23.500	5.1	5.1	5.1	5.1	5.1
24.000	5.1	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve | Return Event: 100 years
Label: Westchester | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Time-Depth Curve: 100 YR	
Label	100 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.1	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.2	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.3	0.3	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.4	0.4	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.5	0.5	0.5	0.5	0.5
5.000	0.5	0.5	0.5	0.6	0.6
5.500	0.6	0.6	0.6	0.6	0.6
6.000	0.7	0.7	0.7	0.7	0.7
6.500	0.7	0.8	0.8	0.8	0.8
7.000	0.8	0.9	0.9	0.9	0.9
7.500	0.9	1.0	1.0	1.0	1.0
8.000	1.0	1.1	1.1	1.1	1.2
8.500	1.2	1.2	1.2	1.3	1.3
9.000	1.3	1.4	1.4	1.4	1.5
9.500	1.5	1.6	1.6	1.7	1.7
10.000	1.7	1.8	1.8	1.9	1.9
10.500	2.0	2.0	2.1	2.2	2.2
11.000	2.3	2.4	2.5	2.5	2.6
11.500	2.7	2.9	3.1	3.4	3.8
12.000	4.6	5.4	5.8	6.1	6.3
12.500	6.5	6.6	6.7	6.7	6.8
13.000	6.9	7.0	7.0	7.1	7.2
13.500	7.2	7.3	7.3	7.4	7.4
14.000	7.5	7.5	7.5	7.6	7.6
14.500	7.7	7.7	7.8	7.8	7.8
15.000	7.9	7.9	7.9	8.0	8.0
15.500	8.0	8.0	8.1	8.1	8.1
16.000	8.2	8.2	8.2	8.2	8.2
16.500	8.3	8.3	8.3	8.3	8.3

Subsection: Time-Depth Curve | Return Event: 100 years
Label: Westchester | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	8.4	8.4	8.4	8.4	8.4
17.500	8.5	8.5	8.5	8.5	8.5
18.000	8.5	8.6	8.6	8.6	8.6
18.500	8.6	8.6	8.6	8.7	8.7
19.000	8.7	8.7	8.7	8.7	8.7
19.500	8.7	8.8	8.8	8.8	8.8
20.000	8.8	8.8	8.8	8.8	8.9
20.500	8.9	8.9	8.9	8.9	8.9
21.000	8.9	8.9	8.9	9.0	9.0
21.500	9.0	9.0	9.0	9.0	9.0
22.000	9.0	9.0	9.0	9.1	9.1
22.500	9.1	9.1	9.1	9.1	9.1
23.000	9.1	9.1	9.1	9.1	9.2
23.500	9.2	9.2	9.2	9.2	9.2
24.000	9.2	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 2 YR	
Label	2 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.4
8.500	0.4	0.4	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.5
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.7	0.7	0.7	0.7
10.500	0.7	0.8	0.8	0.8	0.8
11.000	0.8	0.9	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.3	1.4
12.000	1.7	2.0	2.1	2.2	2.3
12.500	2.4	2.4	2.5	2.5	2.5
13.000	2.5	2.6	2.6	2.6	2.6
13.500	2.7	2.7	2.7	2.7	2.7
14.000	2.8	2.8	2.8	2.8	2.8
14.500	2.8	2.9	2.9	2.9	2.9
15.000	2.9	2.9	2.9	2.9	3.0
15.500	3.0	3.0	3.0	3.0	3.0
16.000	3.0	3.0	3.0	3.0	3.0
16.500	3.1	3.1	3.1	3.1	3.1

Subsection: Time-Depth Curve
Return Event: 2 years
Label: Westchester
Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.1	3.1	3.1	3.1	3.1
17.500	3.1	3.1	3.1	3.1	3.1
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.2	3.2	3.2	3.2	3.2
19.000	3.2	3.2	3.2	3.2	3.2
19.500	3.2	3.2	3.2	3.2	3.2
20.000	3.3	3.3	3.3	3.3	3.3
20.500	3.3	3.3	3.3	3.3	3.3
21.000	3.3	3.3	3.3	3.3	3.3
21.500	3.3	3.3	3.3	3.3	3.3
22.000	3.3	3.3	3.3	3.3	3.3
22.500	3.4	3.4	3.4	3.4	3.4
23.000	3.4	3.4	3.4	3.4	3.4
23.500	3.4	3.4	3.4	3.4	3.4
24.000	3.4	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 25 YR	
Label	25 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	25 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.3	0.3	0.3
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.4	0.4
5.000	0.4	0.4	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.5
6.000	0.5	0.5	0.5	0.5	0.5
6.500	0.5	0.5	0.5	0.6	0.6
7.000	0.6	0.6	0.6	0.6	0.6
7.500	0.7	0.7	0.7	0.7	0.7
8.000	0.7	0.8	0.8	0.8	0.8
8.500	0.8	0.9	0.9	0.9	0.9
9.000	0.9	1.0	1.0	1.0	1.1
9.500	1.1	1.1	1.1	1.2	1.2
10.000	1.2	1.3	1.3	1.3	1.4
10.500	1.4	1.4	1.5	1.5	1.6
11.000	1.6	1.7	1.7	1.8	1.9
11.500	1.9	2.0	2.2	2.4	2.7
12.000	3.2	3.8	4.1	4.3	4.5
12.500	4.6	4.6	4.7	4.8	4.8
13.000	4.9	4.9	5.0	5.0	5.1
13.500	5.1	5.1	5.2	5.2	5.2
14.000	5.3	5.3	5.3	5.4	5.4
14.500	5.4	5.4	5.5	5.5	5.5
15.000	5.6	5.6	5.6	5.6	5.6
15.500	5.7	5.7	5.7	5.7	5.7
16.000	5.8	5.8	5.8	5.8	5.8
16.500	5.8	5.9	5.9	5.9	5.9

Subsection: Time-Depth Curve | Return Event: 25 years
Label: Westchester | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	5.9	5.9	5.9	6.0	6.0
17.500	6.0	6.0	6.0	6.0	6.0
18.000	6.0	6.0	6.1	6.1	6.1
18.500	6.1	6.1	6.1	6.1	6.1
19.000	6.1	6.1	6.1	6.2	6.2
19.500	6.2	6.2	6.2	6.2	6.2
20.000	6.2	6.2	6.2	6.2	6.3
20.500	6.3	6.3	6.3	6.3	6.3
21.000	6.3	6.3	6.3	6.3	6.3
21.500	6.3	6.3	6.4	6.4	6.4
22.000	6.4	6.4	6.4	6.4	6.4
22.500	6.4	6.4	6.4	6.4	6.4
23.000	6.4	6.4	6.5	6.5	6.5
23.500	6.5	6.5	6.5	6.5	6.5
24.000	6.5	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: Westchester
Scenario: POST-DEVELOPMENT-5 YR

Return Event: 5 years
Storm Event: 5 YR

Time-Depth Curve: 5 YR	
Label	5 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	5 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.4	0.4	0.4	0.4
7.000	0.4	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.5	0.5	0.5
8.000	0.5	0.5	0.5	0.5	0.5
8.500	0.6	0.6	0.6	0.6	0.6
9.000	0.6	0.6	0.7	0.7	0.7
9.500	0.7	0.7	0.8	0.8	0.8
10.000	0.8	0.8	0.9	0.9	0.9
10.500	0.9	1.0	1.0	1.0	1.0
11.000	1.1	1.1	1.1	1.2	1.2
11.500	1.3	1.4	1.5	1.6	1.8
12.000	2.2	2.5	2.7	2.8	3.0
12.500	3.0	3.1	3.1	3.2	3.2
13.000	3.2	3.3	3.3	3.3	3.4
13.500	3.4	3.4	3.4	3.5	3.5
14.000	3.5	3.5	3.5	3.6	3.6
14.500	3.6	3.6	3.6	3.6	3.7
15.000	3.7	3.7	3.7	3.7	3.7
15.500	3.8	3.8	3.8	3.8	3.8
16.000	3.8	3.8	3.8	3.9	3.9
16.500	3.9	3.9	3.9	3.9	3.9

Subsection: Time-Depth Curve | Return Event: 5 years
Label: Westchester | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.9	3.9	3.9	3.9	4.0
17.500	4.0	4.0	4.0	4.0	4.0
18.000	4.0	4.0	4.0	4.0	4.0
18.500	4.0	4.0	4.0	4.1	4.1
19.000	4.1	4.1	4.1	4.1	4.1
19.500	4.1	4.1	4.1	4.1	4.1
20.000	4.1	4.1	4.1	4.1	4.1
20.500	4.2	4.2	4.2	4.2	4.2
21.000	4.2	4.2	4.2	4.2	4.2
21.500	4.2	4.2	4.2	4.2	4.2
22.000	4.2	4.2	4.2	4.2	4.2
22.500	4.2	4.3	4.3	4.3	4.3
23.000	4.3	4.3	4.3	4.3	4.3
23.500	4.3	4.3	4.3	4.3	4.3
24.000	4.3	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: Westchester
Scenario: POST-DEVELOPMENT-50 YR

Return Event: 50 years
Storm Event: 50 YR

Time-Depth Curve: 50 YR	
Label	50 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	50 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.3
4.000	0.3	0.3	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.4	0.4
5.000	0.4	0.4	0.5	0.5	0.5
5.500	0.5	0.5	0.5	0.5	0.5
6.000	0.6	0.6	0.6	0.6	0.6
6.500	0.6	0.6	0.7	0.7	0.7
7.000	0.7	0.7	0.7	0.7	0.8
7.500	0.8	0.8	0.8	0.8	0.9
8.000	0.9	0.9	0.9	0.9	1.0
8.500	1.0	1.0	1.0	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.4	1.4
10.000	1.5	1.5	1.5	1.6	1.6
10.500	1.7	1.7	1.8	1.8	1.9
11.000	1.9	2.0	2.1	2.1	2.2
11.500	2.3	2.4	2.6	2.9	3.2
12.000	3.8	4.5	4.8	5.1	5.3
12.500	5.4	5.5	5.6	5.6	5.7
13.000	5.8	5.8	5.9	5.9	6.0
13.500	6.0	6.1	6.1	6.2	6.2
14.000	6.2	6.3	6.3	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.7	6.7
15.500	6.7	6.7	6.8	6.8	6.8
16.000	6.8	6.8	6.9	6.9	6.9
16.500	6.9	6.9	7.0	7.0	7.0

Subsection: Time-Depth Curve — Return Event: 50 years
Label: Westchester — Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	7.0	7.0	7.0	7.0	7.1
17.500	7.1	7.1	7.1	7.1	7.1
18.000	7.1	7.2	7.2	7.2	7.2
18.500	7.2	7.2	7.2	7.2	7.3
19.000	7.3	7.3	7.3	7.3	7.3
19.500	7.3	7.3	7.3	7.3	7.4
20.000	7.4	7.4	7.4	7.4	7.4
20.500	7.4	7.4	7.4	7.4	7.5
21.000	7.5	7.5	7.5	7.5	7.5
21.500	7.5	7.5	7.5	7.5	7.5
22.000	7.6	7.6	7.6	7.6	7.6
22.500	7.6	7.6	7.6	7.6	7.6
23.000	7.6	7.6	7.6	7.7	7.7
23.500	7.7	7.7	7.7	7.7	7.7
24.000	7.7	(N/A)	(N/A)	(N/A)	(N/A)

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA OFFSITE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.050 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.13 ft/s
Segment Time of Concentration	0.328 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	230.00 ft
Is Paved?	False
Slope	0.054 ft/ft
Average Velocity	3.75 ft/s
Segment Time of Concentration	0.017 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	240.00 ft
Is Paved?	False
Slope	0.021 ft/ft
Average Velocity	2.34 ft/s
Segment Time of Concentration	0.029 hours

Segment #4: TR-55 Shallow Concentrated Flow	
Hydraulic Length	400.00 ft
Is Paved?	False
Slope	0.038 ft/ft
Average Velocity	3.12 ft/s
Segment Time of Concentration	0.036 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.409 hours

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: EDA OFFSITE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations
Label: PDA-1A-1
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	60.00 ft
Manning's n	0.240
Slope	0.083 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.19 ft/s
Segment Time of Concentration	0.086 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	60.00 ft
Is Paved?	False
Slope	0.017 ft/ft
Average Velocity	2.10 ft/s
Segment Time of Concentration	0.008 hours

Segment #3: TR-55 Channel Flow	
Flow Area	3.140 ft²
Hydraulic Length	690.00 ft
Manning's n	0.013
Slope	0.011 ft/ft
Wetted Perimeter	6.28 ft
Average Velocity	7.57 ft/s
Segment Time of Concentration	0.025 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.119 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-1A-1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations   Return Event: 1 years
Label: PDA-1A-2   Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	44.00 ft
Manning's n	0.240
Slope	0.051 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.082 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	56.00 ft
Manning's n	0.011
Slope	0.018 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	1.22 ft/s
Segment Time of Concentration	0.013 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	60.00 ft
Is Paved?	True
Slope	0.030 ft/ft
Average Velocity	3.54 ft/s
Segment Time of Concentration	0.005 hours

Segment #4: TR-55 Channel Flow	
Flow Area	0.220 ft²
Hydraulic Length	71.00 ft
Manning's n	0.012
Slope	0.005 ft/ft
Wetted Perimeter	1.18 ft
Average Velocity	2.87 ft/s
Segment Time of Concentration	0.007 hours

Segment #5: TR-55 Channel Flow	
Flow Area	0.790 ft²
Hydraulic Length	24.00 ft
Manning's n	0.012
Slope	0.005 ft/ft

Subsection: Time of Concentration Calculations
Label: PDA-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Segment #5: TR-55 Channel Flow	
Wetted Perimeter	3.14 ft
Average Velocity	3.50 ft/s
Segment Time of Concentration	0.002 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.108 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations	Return Event: 1 years
Label: PDA-1A-3	Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR	

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.240
Slope	0.117 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.25 ft/s
Segment Time of Concentration	0.113 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	177.00 ft
Is Paved?	True
Slope	0.020 ft/ft
Average Velocity	2.87 ft/s
Segment Time of Concentration	0.017 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.130 hours

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-1A-3 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-1B-1 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.080 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.181 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	130.00 ft
Is Paved?	False
Slope	0.080 ft/ft
Average Velocity	4.56 ft/s
Segment Time of Concentration	0.008 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.189 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-1B-1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-1B-4 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.240
Slope	0.090 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.22 ft/s
Segment Time of Concentration	0.125 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	880.00 ft
Is Paved?	False
Slope	0.041 ft/ft
Average Velocity	3.27 ft/s
Segment Time of Concentration	0.075 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.770 ft²
Hydraulic Length	110.00 ft
Manning's n	0.012
Slope	0.010 ft/ft
Wetted Perimeter	4.71 ft
Average Velocity	6.47 ft/s
Segment Time of Concentration	0.005 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.204 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-1B-4 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-1B-5 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.011
Slope	0.040 ft/ft
2 Year 24 Hour Depth	2.8 in
Average Velocity	1.70 ft/s
Segment Time of Concentration	0.016 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	32.00 ft
Is Paved?	True
Slope	0.030 ft/ft
Average Velocity	3.52 ft/s
Segment Time of Concentration	0.003 hours

Segment #3: TR-55 Channel Flow	
Flow Area	0.790 ft²
Hydraulic Length	48.00 ft
Manning's n	0.012
Slope	0.010 ft/ft
Wetted Perimeter	3.14 ft
Average Velocity	4.95 ft/s
Segment Time of Concentration	0.003 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-1B-5 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-2A — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	6.00 ft
Manning's n	0.011
Slope	0.020 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.82 ft/s
Segment Time of Concentration	0.002 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	144.00 ft
Manning's n	0.240
Slope	0.070 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.22 ft/s
Segment Time of Concentration	0.184 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	25.00 ft
Is Paved?	False
Slope	0.080 ft/ft
Average Velocity	4.56 ft/s
Segment Time of Concentration	0.002 hours

Segment #4: TR-55 Channel Flow	
Flow Area	1.800 ft²
Hydraulic Length	145.00 ft
Manning's n	0.012
Slope	0.110 ft/ft
Wetted Perimeter	5.16 ft
Average Velocity	20.41 ft/s
Segment Time of Concentration	0.002 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.190 hours

Subsection: Time of Concentration Calculations
Label: PDA-2A
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours n= Manning's n Lf= Flow length, feet P= 2yr, 24hr Rain depth, inches Sf= Slope, %

Subsection: Time of Concentration Calculations | Return Event: 1 years

Label: PDA-2B | Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.240
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.16 ft/s
Segment Time of Concentration	0.172 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	455.00 ft
Is Paved?	False
Slope	0.075 ft/ft
Average Velocity	4.42 ft/s
Segment Time of Concentration	0.029 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.800 ft²
Hydraulic Length	185.00 ft
Manning's n	0.012
Slope	0.049 ft/ft
Wetted Perimeter	5.16 ft
Average Velocity	13.62 ft/s
Segment Time of Concentration	0.004 hours

Segment #4: TR-55 Channel Flow	
Flow Area	4.910 ft²
Hydraulic Length	450.00 ft
Manning's n	0.012
Slope	0.026 ft/ft
Wetted Perimeter	7.85 ft
Average Velocity	14.64 ft/s
Segment Time of Concentration	0.009 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.213 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-2B | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc =	(0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:	Tc= Time of concentration, hours n= Manning's n Lf= Flow length, feet P= 2yr, 24hr Rain depth, inches Sf= Slope, %

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-2C | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	130.00 ft
Manning's n	0.400
Slope	0.130 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.18 ft/s
Segment Time of Concentration	0.200 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	230.00 ft
Is Paved?	False
Slope	0.150 ft/ft
Average Velocity	6.25 ft/s
Segment Time of Concentration	0.010 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.210 hours

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Proposed Hydrologic Calculations

Subsection: Time of Concentration Calculations — Return Event: 1 years
Label: PDA-2D — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.060 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.203 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	315.00 ft
Is Paved?	False
Slope	0.118 ft/ft
Average Velocity	5.54 ft/s
Segment Time of Concentration	0.016 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.218 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-2D | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =
Unpaved surface:
V = 16.1345 * (Sf**0.5)

Paved Surface:
V = 20.3282 * (Sf**0.5)

(Lf / V) / 3600

Where:
V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	150.00 ft
Manning's n	0.400
Slope	0.100 ft/ft
2 Year 24 Hour Depth	3.5 in
Average Velocity	0.17 ft/s
Segment Time of Concentration	0.249 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	50.00 ft
Is Paved?	False
Slope	0.200 ft/ft
Average Velocity	7.22 ft/s
Segment Time of Concentration	0.002 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.251 hours

Subsection: Time of Concentration Calculations | Return Event: 1 years
Label: PDA-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Subsection: Runoff CN-Area
Label: EDA OFFSITE
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Woods (B)	55.000	10.300	0.0	0.0	55.000
Woods (C)	70.000	4.700	0.0	0.0	70.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	15.000	(N/A)	(N/A)	59.700

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-1A-1
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	4.390	0.0	0.0	98.000
Lawn (B)	61.000	0.250	0.0	0.0	61.000
Lawn (C)	74.000	2.440	0.0	0.0	74.000
Woods - good - Soil C	70.000	0.030	0.0	0.0	70.000
Gravel (C)	89.000	0.070	0.0	0.0	89.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	7.180	(N/A)	(N/A)	88.351

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	0.360	0.0	0.0	98.000
Lawn (B)	61.000	0.020	0.0	0.0	61.000
Lawn (C)	74.000	0.020	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	0.400	(N/A)	(N/A)	94.950

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-1A-3
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	0.210	0.0	0.0	98.000
Lawn (B)	61.000	0.020	0.0	0.0	61.000
Lawn (C)	74.000	0.020	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	0.250	(N/A)	(N/A)	93.120

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area | Return Event: 1 years
Label: PDA-1B-1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	0.930	0.0	0.0	98.000
Woods (C)	70.000	0.160	0.0	0.0	70.000
Lawn (B)	61.000	0.280	0.0	0.0	61.000
Lawn (C)	74.000	3.180	0.0	0.0	74.000
Gravel (C)	89.000	0.080	0.0	0.0	89.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	4.630	(N/A)	(N/A)	78.156

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-1B-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil A	98.000	0.130	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	0.130	(N/A)	(N/A)	98.000

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-1B-3
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	0.270	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	0.270	(N/A)	(N/A)	98.000

Subsection: Runoff CN-Area | Return Event: 1 years
Label: PDA-1B-4 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	1.960	0.0	0.0	98.000
Lawn (C)	74.000	1.740	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	3.700	(N/A)	(N/A)	86.714

Subsection: Runoff CN-Area | Return Event: 1 years
Label: PDA-1B-5 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	0.573	0.0	0.0	98.000
Grass (C)	61.000	0.035	0.0	0.0	61.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	0.608	(N/A)	(N/A)	95.870

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-2A
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Lawn (C)	74.000	1.130	0.0	0.0	74.000
Woods (C)	70.000	0.220	0.0	0.0	70.000
Meadow (C)	71.000	2.550	0.0	0.0	71.000
Gravel (C)	89.000	0.200	0.0	0.0	89.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	4.100	(N/A)	(N/A)	72.651

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area | Return Event: 1 years
Label: PDA-2B | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	2.390	0.0	0.0	98.000
Meadow (B)	58.000	0.930	0.0	0.0	58.000
Meadow (C)	71.000	3.870	0.0	0.0	71.000
Lawn (C)	74.000	3.060	0.0	0.0	74.000
Woods (B)	55.000	0.350	0.0	0.0	55.000
Woods (C)	70.000	0.810	0.0	0.0	70.000
Impervious Areas - Gravel (w/ right-of-way) - Soil C	89.000	0.050	0.0	0.0	89.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	11.460	(N/A)	(N/A)	75.896

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-2C
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Lawn (B)	61.000	0.200	0.0	0.0	61.000
Meadow (B)	58.000	0.090	0.0	0.0	58.000
Woods (B)	55.000	1.280	0.0	0.0	55.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	1.570	(N/A)	(N/A)	55.936

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area | Return Event: 1 years
Label: PDA-2D | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Lawn (C)	74.000	0.190	0.0	0.0	74.000
Meadow (C)	71.000	1.030	0.0	0.0	71.000
Woods (B)	55.000	0.010	0.0	0.0	55.000
Woods (C)	70.000	0.040	0.0	0.0	70.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	1.270	(N/A)	(N/A)	71.291

Proposed Hydrologic Calculations

Subsection: Runoff CN-Area
Label: PDA-3
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Impervious	98.000	0.050	0.0	0.0	98.000
Meadow (B)	58.000	0.320	0.0	0.0	58.000
Meadow (C)	71.000	1.130	0.0	0.0	71.000
Woods (B)	55.000	1.870	0.0	0.0	55.000
Woods (C)	70.000	0.200	0.0	0.0	70.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	3.570	(N/A)	(N/A)	61.776

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.494 hours
Flow (Peak, Computed)	1.52 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.500 hours
Flow (Peak Interpolated Output)	1.52 ft³/s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	14,580.107 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	14,581.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 1 years
Label: EDA OFFSITE — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft^3/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.440 hours
Flow (Peak, Computed)	3.65 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.400 hours
Flow (Peak Interpolated Output)	3.63 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	26,629.241 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	26,625.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 2 years

Label: EDA OFFSITE | Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA OFFSITE | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.385 hours
Flow (Peak, Computed)	8.24 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	8.23 ft³/s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.9 in
Runoff Volume (Pervious)	50,030.078 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	50,015.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: EDA OFFSITE | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: EDA OFFSITE | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	13.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	13.22 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	74,689.112 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	74,665.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years

Label: EDA OFFSITE | Storm Event: 10 YR

Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	23.12 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	22.95 ft^3/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	122,832.016 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	122,791.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Return Event: 25 years
Label: EDA OFFSITE
Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.331 hours
Flow (Peak, Computed)	32.48 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	32.42 ft³/s

Drainage Area

SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	169,342.768 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	169,285.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: EDA OFFSITE | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft^3/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: EDA OFFSITE | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.409 hours
Area (User Defined)	15.000 acres

Computational Time Increment	0.055 hours
Time to Peak (Computed)	12.276 hours
Flow (Peak, Computed)	45.08 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	45.01 ft³/s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	15.000 acres
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	231,853.785 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	231,774.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.409 hours
Computational Time Increment	0.055 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: EDA OFFSITE
Scenario: POST-DEVELOPMENT-100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	41.53 ft³/s
Unit peak time, Tp	0.273 hours
Unit receding limb, Tr	1.091 hours
Total unit time, Tb	1.364 hours

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	11.88 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	11.76 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.7 in
Runoff Volume (Pervious)	43,012.968 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	43,018.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-1A-1
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1A-1 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	15.55 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	15.42 ft³/s

Drainage Area

SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	56,758.149 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	56,764.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1A-1 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1A-1 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	21.25 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	21.12 ft^3/s

Drainage Area

SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.0 in
Runoff Volume (Pervious)	78,657.545 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	78,666.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 5 years
Label: PDA-1A-1 — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1A-1 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	26.34 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	26.20 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	98,598.611 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	98,609.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 10 years
Label: PDA-1A-1 — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	34.95 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	34.82 ft³/s

Drainage Area

SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.1 in
Runoff Volume (Pervious)	133,147.512 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	133,162.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-1A-1 | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1A-1 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	42.39 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	42.27 ft³/s

Drainage Area

SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	163,552.061 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	163,569.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1A-1 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.119 hours
Area (User Defined)	7.180 acres

Computational Time Increment	0.016 hours
Time to Peak (Computed)	12.114 hours
Flow (Peak, Computed)	51.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	51.51 ft³/s

Drainage Area

SCS CN (Composite)	88.000
Area (User Defined)	7.180 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.7 in
Runoff Volume (Pervious)	201,843.567 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	201,865.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.119 hours
Computational Time Increment	0.016 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1A-1 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	68.50 ft³/s
Unit peak time, Tp	0.079 hours
Unit receding limb, Tr	0.317 hours
Total unit time, Tb	0.396 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.111 hours
Flow (Peak, Computed)	0.86 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.86 ft³/s

Drainage Area

SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	3,287.552 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	3,287.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft³/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.111 hours
Flow (Peak, Computed)	1.07 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.07 ft³/s

Drainage Area

SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.8 in
Runoff Volume (Pervious)	4,125.011 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	4,124.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1A-2 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft³/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1A-2 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.111 hours
Flow (Peak, Computed)	1.38 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.38 ft³/s

Drainage Area	
SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.7 in
Runoff Volume (Pervious)	5,426.084 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,425.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-1A-2
Scenario: POST-DEVELOPMENT-5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft^3/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1A-2 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.111 hours
Flow (Peak, Computed)	1.66 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.65 ft³/s

Drainage Area

SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.5 in
Runoff Volume (Pervious)	6,589.776 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	6,589.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: PDA-1A-2
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft^3/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.096 hours
Flow (Peak, Computed)	2.12 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.12 ft³/s

Drainage Area

SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.9 in
Runoff Volume (Pervious)	8,579.062 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	8,578.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: PDA-1A-2
Scenario: POST-DEVELOPMENT-25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft³/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.096 hours
Flow (Peak, Computed)	2.53 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.53 ft^3/s

Drainage Area

SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.1 in
Runoff Volume (Pervious)	10,312.876 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	10,312.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1A-2 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft³/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1A-2 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.108 hours
Area (User Defined)	0.400 acres

Computational Time Increment	0.014 hours
Time to Peak (Computed)	12.096 hours
Flow (Peak, Computed)	3.03 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.03 ft³/s

Drainage Area	
SCS CN (Composite)	95.000
Area (User Defined)	0.400 acres
Maximum Retention (Pervious)	0.5 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.6 in
Runoff Volume (Pervious)	12,483.153 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	12,482.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.108 hours
Computational Time Increment	0.014 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1A-2 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.20 ft^3/s
Unit peak time, Tp	0.072 hours
Unit receding limb, Tr	0.288 hours
Total unit time, Tb	0.360 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1A-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.124 hours
Flow (Peak, Computed)	0.50 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.49 ft³/s

Drainage Area	
SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	1,881.075 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,881.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1A-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft³/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1A-3 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	0.62 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.62 ft³/s

Drainage Area

SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	2,394.286 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	2,394.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1A-3 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft^3/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	0.82 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.81 ft³/s

Drainage Area

SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.5 in
Runoff Volume (Pervious)	3,196.313 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	3,196.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 5 years

Label: PDA-1A-3
Storm Event: 5 YR

Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft³/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1A-3 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	0.99 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.99 ft³/s

Drainage Area	
SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	3,916.573 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,916.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1A-3 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft^3/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-1A-3 | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	1.28 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.28 ft³/s

Drainage Area	
SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	5,151.464 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,151.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-1A-3 | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft^3/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Subsection: Unit Hydrograph Summary | Return Event: 50 years

Label: PDA-1A-3 | Storm Event: 50 YR

Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	1.53 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.53 ft^3/s

Drainage Area

SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.9 in
Runoff Volume (Pervious)	6,230.000 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	6,229.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1A-3 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft^3/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.130 hours
Area (User Defined)	0.250 acres

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.106 hours
Flow (Peak, Computed)	1.85 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.84 ft³/s

Drainage Area	
SCS CN (Composite)	93.000
Area (User Defined)	0.250 acres
Maximum Retention (Pervious)	0.8 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.4 in
Runoff Volume (Pervious)	7,581.774 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7,581.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.130 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1A-3 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.17 ft^3/s
Unit peak time, Tp	0.087 hours
Unit receding limb, Tr	0.347 hours
Total unit time, Tb	0.434 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.169 hours
Flow (Peak, Computed)	4.11 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	4.10 ft³/s

Drainage Area	
SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.0 in
Runoff Volume (Pervious)	16,732.737 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	16,733.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary — Return Event: 1 years

Label: PDA-1B-1 — Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft^3/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-1B-1 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	5.99 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	5.98 ft³/s

Drainage Area	
SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	23,896.139 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	23,897.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-1B-1
Scenario: POST-DEVELOPMENT-2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 5 years
Label: PDA-1B-1 — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	9.11 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	9.10 ft³/s

Drainage Area	
SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	35,914.631 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	35,915.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1B-1 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-1 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	12.02 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	11.99 ft³/s

Drainage Area

SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.8 in
Runoff Volume (Pervious)	47,292.304 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	47,293.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-1B-1
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	17.13 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	17.07 ft³/s

Drainage Area

SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	67,629.212 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	67,630.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-1 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	21.64 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	21.55 ft³/s

Drainage Area	
SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.1 in
Runoff Volume (Pervious)	85,957.157 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	85,958.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-1 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft^3/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	4.630 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	27.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	27.18 ft³/s

Drainage Area

SCS CN (Composite)	78.000
Area (User Defined)	4.630 acres
Maximum Retention (Pervious)	2.8 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.5 in
Runoff Volume (Pervious)	109,409.251 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	109,410.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1B-1 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	27.82 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.503 hours
Total unit time, Tb	0.629 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.30 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	1,217.082 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,217.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.37 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.37 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	1,494.408 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	1,494.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-1B-2
Scenario: POST-DEVELOPMENT-2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.47 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.47 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.1 in
Runoff Volume (Pervious)	1,922.715 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	1,923.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1B-2 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-2 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.56 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.56 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	2,304.281 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	2,304.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-2 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years

Label: PDA-1B-2 — Storm Event: 25 YR

Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.71 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.71 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	2,954.732 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	2,955.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-1B-2 | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-2 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.84 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.84 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.5 in
Runoff Volume (Pervious)	3,520.562 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	3,521.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-2 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 100 years
Label: PDA-1B-2 — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.130 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.01 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.130 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	9.0 in
Runoff Volume (Pervious)	4,228.012 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	4,228.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1B-2 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	1.77 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.63 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.63 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	2,527.785 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2,528.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-1B-3 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.77 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	3,103.771 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	3,104.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-1B-3 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.98 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.98 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.1 in
Runoff Volume (Pervious)	3,993.332 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	3,993.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-3 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.16 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	4,785.814 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	4,786.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 10 years

Label: PDA-1B-3
Storm Event: 10 YR

Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-1B-3 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.48 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.48 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	6,136.752 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,137.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-1B-3 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-3 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.75 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.75 ft³/s

Drainage Area

SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.5 in
Runoff Volume (Pervious)	7,311.937 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	7,312.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 50 years
Label: PDA-1B-3 — Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1B-3 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.270 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	2.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.09 ft³/s

Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	0.270 acres
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	9.0 in
Runoff Volume (Pervious)	8,781.256 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8,781.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1B-3 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	3.67 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 1 years
Label: PDA-1B-4 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.168 hours
Flow (Peak, Computed)	5.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	5.24 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	21,144.982 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	21,141.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-4 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.168 hours
Flow (Peak, Computed)	6.95 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	6.94 ft³/s

Drainage Area

SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	28,108.012 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	28,103.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-1B-4 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1B-4 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	9.62 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	9.62 ft³/s

Drainage Area

SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.9 in
Runoff Volume (Pervious)	39,251.568 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	39,245.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: PDA-1B-4
Scenario: POST-DEVELOPMENT-5 YR

Return Event: 5 years
Storm Event: 5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft^3/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-4 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	12.03 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	12.01 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.7 in
Runoff Volume (Pervious)	49,432.039 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	49,423.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-4 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	16.11 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	16.07 ft³/s

Drainage Area

SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.0 in
Runoff Volume (Pervious)	67,115.286 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	67,103.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-1B-4 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-4 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	19.64 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	19.59 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.2 in
Runoff Volume (Pervious)	82,706.783 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	82,692.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 50 years

Label: PDA-1B-4
Storm Event: 50 YR

Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Subsection: Unit Hydrograph Summary — Return Event: 100 years

Label: PDA-1B-4 — Storm Event: 100 YR

Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.204 hours
Area (User Defined)	3.700 acres

Computational Time Increment	0.027 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	24.04 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	23.96 ft³/s

Drainage Area

SCS CN (Composite)	87.000
Area (User Defined)	3.700 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.6 in
Runoff Volume (Pervious)	102,366.824 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	102,349.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.204 hours
Computational Time Increment	0.027 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-1B-4 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	20.53 ft³/s
Unit peak time, Tp	0.136 hours
Unit receding limb, Tr	0.544 hours
Total unit time, Tb	0.681 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-1B-5 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.37 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.37 ft³/s

Drainage Area	
SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	5,220.159 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	5,220.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 1 years

Label: PDA-1B-5
Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-1B-5 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.68 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.68 ft³/s

Drainage Area	
SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.9 in
Runoff Volume (Pervious)	6,503.048 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,503.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 2 years
Label: PDA-1B-5 — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1B-5 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	2.16 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.16 ft³/s

Drainage Area	
SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	8,491.342 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	8,491.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-1B-5 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft^3/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-5 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	2.58 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.58 ft³/s

Drainage Area	
SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	10,266.788 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	10,267.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-1B-5 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary
Return Event: 25 years
Label: PDA-1B-5
Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	3.29 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.29 ft³/s

Drainage Area

SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	6.0 in
Runoff Volume (Pervious)	13,298.313 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	13,298.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-1B-5 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	3.92 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	3.92 ft³/s

Drainage Area

SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	7.2 in
Runoff Volume (Pervious)	15,938.385 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	15,938.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-1B-5 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	0.608 acres

Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	4.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	4.69 ft³/s

Drainage Area

SCS CN (Composite)	96.000
Area (User Defined)	0.608 acres
Maximum Retention (Pervious)	0.4 in
Maximum Retention (Pervious, 20 percent)	0.1 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	8.7 in
Runoff Volume (Pervious)	19,241.440 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	19,241.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.27 ft³/s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2A | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	2.55 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.52 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	11,057.382 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11,057.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft³/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	4.02 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	3.98 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.1 in
Runoff Volume (Pervious)	16,563.839 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	16,563.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 2 years

Label: PDA-2A | Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft^3/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	6.53 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	6.49 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.8 in
Runoff Volume (Pervious)	26,099.049 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	26,097.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2A | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft^3/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 10 years
Label: PDA-2A — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	8.93 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	8.89 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	35,346.028 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	35,343.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-2A | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft^3/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-2A | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	13.23 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	13.20 ft³/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	3.5 in
Runoff Volume (Pervious)	52,207.871 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	52,204.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-2A | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft^3/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	17.09 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	17.07 ft³/s

Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.5 in
Runoff Volume (Pervious)	67,644.211 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	67,639.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-2A | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft^3/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-2A | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.190 hours
Area (User Defined)	4.100 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	12.159 hours
Flow (Peak, Computed)	21.99 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	21.99 ft^3/s

Drainage Area

SCS CN (Composite)	73.000
Area (User Defined)	4.100 acres
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.9 in
Runoff Volume (Pervious)	87,612.271 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	87,605.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.190 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-2A | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	24.45 ft³/s
Unit peak time, Tp	0.127 hours
Unit receding limb, Tr	0.507 hours
Total unit time, Tb	0.633 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2B | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	8.61 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	8.53 ft³/s

Drainage Area	
SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.9 in
Runoff Volume (Pervious)	36,994.178 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	36,994.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2B | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft³/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	12.92 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	12.70 ft³/s

Drainage Area

SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.3 in
Runoff Volume (Pervious)	53,798.577 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	53,798.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-2B | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft^3/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	20.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	19.91 ft³/s

Drainage Area

SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	82,336.433 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	82,336.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2B | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft^3/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	26.93 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	26.70 ft³/s

Drainage Area

SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	109,603.958 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	109,604.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-2B | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft³/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	38.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	38.74 ft³/s

Drainage Area	
SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	158,716.942 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	158,716.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-2B
Scenario: POST-DEVELOPMENT-25 YR

Return Event: 25 years
Storm Event: 25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft³/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-2B | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	49.60 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	49.46 ft³/s

Drainage Area

SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	203,243.611 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	203,243.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-2B | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft³/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-2B | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.213 hours
Area (User Defined)	11.460 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.170 hours
Flow (Peak, Computed)	63.06 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	62.99 ft³/s

Drainage Area	
SCS CN (Composite)	76.000
Area (User Defined)	11.460 acres
Maximum Retention (Pervious)	3.2 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	260,454.115 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	260,453.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.213 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-2B | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	60.89 ft³/s
Unit peak time, Tp	0.142 hours
Unit receding limb, Tr	0.569 hours
Total unit time, Tb	0.711 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2C | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.453 hours
Flow (Peak, Computed)	0.08 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	0.08 ft³/s

Drainage Area	
SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.2 in
Runoff Volume (Pervious)	961.195 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	961.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2C | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-2C | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.341 hours
Flow (Peak, Computed)	0.25 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.350 hours
Flow (Peak Interpolated Output)	0.25 ft³/s

Drainage Area	
SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	1,967.427 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,968.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-2C | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft³/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2C | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.201 hours
Flow (Peak, Computed)	0.74 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	0.74 ft³/s

Drainage Area

SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	4,033.892 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	4,034.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2C | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 10 years
Label: PDA-2C — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.201 hours
Flow (Peak, Computed)	1.32 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.32 ft³/s

Drainage Area	
SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.1 in
Runoff Volume (Pervious)	6,292.028 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,292.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-2C | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft³/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-2C — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	2.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	2.47 ft³/s

Drainage Area	
SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	10,827.381 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	10,827.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years

Label: PDA-2C — Storm Event: 25 YR

Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-2C
Scenario: POST-DEVELOPMENT-50 YR

Return Event: 50 years
Storm Event: 50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	3.65 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	3.59 ft³/s

Drainage Area

SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	15,305.241 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	15,305.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary

Label: PDA-2C

Scenario: POST-DEVELOPMENT-50 YR

Return Event: 50 years

Storm Event: 50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft³/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Subsection: Unit Hydrograph Summary — Return Event: 100 years
Label: PDA-2C — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.210 hours
Area (User Defined)	1.570 acres

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.173 hours
Flow (Peak, Computed)	5.21 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	5.15 ft³/s

Drainage Area	
SCS CN (Composite)	56.000
Area (User Defined)	1.570 acres
Maximum Retention (Pervious)	7.9 in
Maximum Retention (Pervious, 20 percent)	1.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	21,417.142 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	21,417.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.210 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 100 years
Label: PDA-2C | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	8.48 ft^3/s
Unit peak time, Tp	0.140 hours
Unit receding limb, Tr	0.560 hours
Total unit time, Tb	0.700 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 1 years
Label: PDA-2D — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.206 hours
Flow (Peak, Computed)	0.64 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	0.64 ft³/s

Drainage Area	
SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	3,013.252 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,013.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-2D | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft^3/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-2D | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	1.05 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.04 ft³/s

Drainage Area

SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.0 in
Runoff Volume (Pervious)	4,613.414 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	4,613.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-2D
Scenario: POST-DEVELOPMENT-2 YR

Return Event: 2 years
Storm Event: 2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft³/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2D | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	1.77 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.74 ft³/s

Drainage Area	
SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	7,423.352 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	7,423.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years
Label: PDA-2D | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft³/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-2D | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	2.46 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.43 ft³/s

Drainage Area	
SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	10,177.356 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	10,177.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-2D
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft^3/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-2D | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	3.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	3.69 ft³/s

Drainage Area	
SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	15,243.777 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	15,244.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary | Return Event: 25 years
Label: PDA-2D | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft³/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	4.85 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	4.84 ft³/s

Drainage Area

SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	19,914.368 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	19,915.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-2D | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft³/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Proposed Hydrologic Calculations

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.218 hours
Area (User Defined)	1.270 acres

Computational Time Increment	0.029 hours
Time to Peak (Computed)	12.177 hours
Flow (Peak, Computed)	6.31 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	6.30 ft^3/s

Drainage Area

SCS CN (Composite)	71.000
Area (User Defined)	1.270 acres
Maximum Retention (Pervious)	4.1 in
Maximum Retention (Pervious, 20 percent)	0.8 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	5.6 in
Runoff Volume (Pervious)	25,985.823 ft^3

Hydrograph Volume (Area under Hydrograph curve)

Volume	25,986.000 ft^3

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.218 hours
Computational Time Increment	0.029 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 100 years
Label: PDA-2D — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	6.59 ft^3/s
Unit peak time, Tp	0.146 hours
Unit receding limb, Tr	0.583 hours
Total unit time, Tb	0.728 hours

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Storm Event	1 YR
Return Event	1 years
Duration	120.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.328 hours
Flow (Peak, Computed)	0.58 ft^3/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	0.58 ft^3/s

Drainage Area	
SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	4,216.532 ft^3

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4,217.000 ft^3

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 1 years
Label: PDA-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft^3/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Subsection: Unit Hydrograph Summary | Return Event: 2 years

Label: PDA-3 | Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

Storm Event	2 YR
Return Event	2 years
Duration	120.000 hours
Depth	3.4 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.261 hours
Flow (Peak, Computed)	1.29 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	1.29 ft³/s

Drainage Area

SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	0.6 in
Runoff Volume (Pervious)	7,377.759 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	7,378.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 2 years
Label: PDA-3 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft³/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Storm Event	5 YR
Return Event	5 years
Duration	120.000 hours
Depth	4.3 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.228 hours
Flow (Peak, Computed)	2.75 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	2.74 ft³/s

Drainage Area	
SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.0 in
Runoff Volume (Pervious)	13,379.702 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	13,380.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 5 years

Label: PDA-3 | Storm Event: 5 YR

Scenario: POST-DEVELOPMENT-5 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft^3/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 10 years
Label: PDA-3 | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Storm Event	10 YR
Return Event	10 years
Duration	120.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.195 hours
Flow (Peak, Computed)	4.28 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	4.27 ft³/s

Drainage Area

SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff

Cumulative Runoff Depth (Pervious)	1.5 in
Runoff Volume (Pervious)	19,606.607 ft³

Hydrograph Volume (Area under Hydrograph curve)

Volume	19,607.000 ft³

SCS Unit Hydrograph Parameters

Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-3
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft³/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary — Return Event: 25 years
Label: PDA-3 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Storm Event	25 YR
Return Event	25 years
Duration	120.000 hours
Depth	6.5 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.195 hours
Flow (Peak, Computed)	7.22 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	7.20 ft³/s

Drainage Area	
SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	31,612.533 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	31,613.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft^3/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary | Return Event: 50 years
Label: PDA-3 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Storm Event	50 YR
Return Event	50 years
Duration	120.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.195 hours
Flow (Peak, Computed)	10.01 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	9.97 ft³/s

Drainage Area	
SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	43,098.735 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	43,100.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Return Event: 50 years
Label: PDA-3
Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft^3/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Storm Event	100 YR
Return Event	100 years
Duration	120.000 hours
Depth	9.2 in
Time of Concentration (Composite)	0.251 hours
Area (User Defined)	3.570 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.195 hours
Flow (Peak, Computed)	13.69 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	13.62 ft³/s

Drainage Area	
SCS CN (Composite)	62.000
Area (User Defined)	3.570 acres
Maximum Retention (Pervious)	6.1 in
Maximum Retention (Pervious, 20 percent)	1.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.5 in
Runoff Volume (Pervious)	58,429.196 ft³

Hydrograph Volume (Area under Hydrograph curve)	
Volume	58,430.000 ft³

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.251 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Proposed Hydrologic Calculations

Subsection: Unit Hydrograph Summary
Label: PDA-3
Scenario: POST-DEVELOPMENT-100 YR

Return Event: 100 years
Storm Event: 100 YR

SCS Unit Hydrograph Parameters	
Unit peak, qp	16.14 ft^3/s
Unit peak time, Tp	0.167 hours
Unit receding limb, Tr	0.668 hours
Total unit time, Tb	0.835 hours

Subsection: Addition Summary
Return Event: 1 years
Label: DL-2
Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		36,350.638	24.050	0.16
Flow (From)	PDA-2A	11,056.640	12.150	2.52
Flow (From)	PDA-2D	3,013.290	12.200	0.64
Flow (From)	PDA-2C	961.176	12.450	0.08
Flow (In)	DL-2	51,381.744	12.200	3.23

Subsection: Addition Summary | Return Event: 2 years
Label: DL-2 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		52,978.262	15.000	1.02
Flow (From)	PDA-2A	16,562.640	12.150	3.98
Flow (From)	PDA-2D	4,613.469	12.200	1.04
Flow (From)	PDA-2C	1,967.608	12.350	0.25
Flow (In)	DL-2	76,121.979	12.150	5.26

Subsection: Addition Summary | Return Event: 5 years
Label: DL-2 | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		81,507.286	12.750	4.02
Flow (From)	PDA-2A	26,097.040	12.150	6.49
Flow (From)	PDA-2D	7,423.436	12.200	1.74
Flow (From)	PDA-2C	4,034.042	12.200	0.74
Flow (In)	DL-2	119,061.805	12.150	9.03

Subsection: Addition Summary

Return Event: 10 years

Label: DL-2

Storm Event: 10 YR

Scenario: POST-DEVELOPMENT-10 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		108,768.747	12.550	9.87
Flow (From)	PDA-2A	35,343.253	12.150	8.89
Flow (From)	PDA-2D	10,177.466	12.150	2.43
Flow (From)	PDA-2C	6,292.167	12.200	1.32
Flow (In)	DL-2	160,581.633	12.400	15.67

Subsection: Addition Summary
Label: DL-2
Scenario: POST-DEVELOPMENT-25 YR

Return Event: 25 years
Storm Event: 25 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		157,873.627	12.400	21.16
Flow (From)	PDA-2A	52,203.705	12.150	13.20
Flow (From)	PDA-2D	15,243.933	12.150	3.69
Flow (From)	PDA-2C	10,827.448	12.200	2.47
Flow (In)	DL-2	236,148.713	12.300	33.41

Subsection: Addition Summary | Return Event: 50 years
Label: DL-2 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		202,394.758	12.350	30.93
Flow (From)	PDA-2A	67,638.775	12.150	17.07
Flow (From)	PDA-2D	19,914.561	12.150	4.84
Flow (From)	PDA-2C	15,305.221	12.150	3.59
Flow (In)	DL-2	305,253.315	12.250	49.68

Subsection: Addition Summary | Return Event: 100 years
Label: DL-2 | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Summary for Hydrograph Addition at 'DL-2'

Upstream Link	Upstream Node
	SMA POND #2
<Catchment to Outflow Node>	PDA-2A
<Catchment to Outflow Node>	PDA-2D
<Catchment to Outflow Node>	PDA-2C

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)		259,599.573	12.300	44.79
Flow (From)	PDA-2A	87,605.233	12.150	21.99
Flow (From)	PDA-2D	25,986.063	12.150	6.30
Flow (From)	PDA-2C	21,416.981	12.150	5.15
Flow (In)	DL-2	394,607.850	12.250	71.90

Subsection: Addition Summary | Return Event: 1 years

Label: DP-1B | Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	16,733.073	12.150	4.10
Flow (From)	OCS-1B-2	0.000	0.000	0.00
Flow (From)	OCS-1B-5	551.957	12.250	0.34
Flow (From)	OCS-1B-3	0.000	0.000	0.00
Flow (From)	OCS-POND-1	20,762.847	16.050	0.24
Flow (In)	DP-1B	38,047.877	12.150	4.41

Subsection: Addition Summary

Return Event: 2 years

Label: DP-1B

Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	23,896.540	12.150	5.98
Flow (From)	OCS-1B-2	0.000	0.000	0.00
Flow (From)	OCS-1B-5	1,050.821	12.200	0.65
Flow (From)	OCS-1B-3	0.000	0.000	0.00
Flow (From)	OCS-POND-1	27,715.834	14.150	0.54
Flow (In)	DP-1B	52,663.194	12.150	6.66

Subsection: Addition Summary | Return Event: 5 years
Label: DP-1B | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	35,915.110	12.150	9.10
Flow (From)	OCS-1B-2	0.000	0.000	0.00
Flow (From)	OCS-1B-5	1,892.581	12.200	1.08
Flow (From)	OCS-1B-3	0.000	0.000	0.00
Flow (From)	OCS-POND-1	38,848.533	12.900	1.43
Flow (In)	DP-1B	76,656.223	12.150	10.26

Subsection: Addition Summary — Return Event: 10 years
Label: DP-1B — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	47,292.858	12.150	11.99
Flow (From)	OCS-1B-2	0.000	0.000	0.00
Flow (From)	OCS-1B-5	2,689.747	12.200	1.44
Flow (From)	OCS-1B-3	0.000	0.000	0.00
Flow (From)	OCS-POND-1	49,021.098	12.700	2.42
Flow (In)	DP-1B	99,003.703	12.150	13.97

Subsection: Addition Summary | Return Event: 25 years
Label: DP-1B | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	67,629.870	12.150	17.07
Flow (From)	OCS-1B-2	0.000	0.000	0.00
Flow (From)	OCS-1B-5	4,132.603	12.150	2.21
Flow (From)	OCS-1B-3	0.000	0.000	0.00
Flow (From)	OCS-POND-1	66,693.008	12.600	4.11
Flow (In)	DP-1B	138,455.480	12.150	21.29

Subsection: Addition Summary
Return Event: 50 years

Label: DP-1B
Storm Event: 50 YR

Scenario: POST-DEVELOPMENT-50 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	85,957.890	12.150	21.55
Flow (From)	OCS-1B-2	160.681	12.550	0.09
Flow (From)	OCS-1B-5	5,477.603	12.150	2.81
Flow (From)	OCS-1B-3	499.606	12.500	0.22
Flow (From)	OCS-POND-1	82,276.069	12.550	5.59
Flow (In)	DP-1B	174,371.848	12.150	27.64

Subsection: Addition Summary | Return Event: 100 years
Label: DP-1B | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Summary for Hydrograph Addition at 'DP-1B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-1
OCS-1B-2	PO-1B-2
OCS-1B-5	PO-1B-5
OCS-1B-3	PO-1B-3
OCS-POND-1	SMA POND #1

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-1	109,410.050	12.150	27.18
Flow (From)	OCS-1B-2	554.264	12.400	0.27
Flow (From)	OCS-1B-5	7,277.212	12.150	3.46
Flow (From)	OCS-1B-3	1,334.984	12.350	0.62
Flow (From)	OCS-POND-1	101,926.851	12.450	11.09
Flow (In)	DP-1B	220,503.362	12.150	35.32

Proposed Hydrologic Calculations

Subsection: Elevation-Area Volume Curve | Return Event: 1 years
Label: BMH-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft^3)	Volume (Total) (ft^3)
404.95	0.000	0.001	0.000	0.000	0.000
408.25	0.000	0.001	0.003	144.000	144.000

Proposed Hydrologic Calculations

Subsection: Elevation-Area Volume Curve　　Return Event: 1 years

Label: EX. DEPRESSION　　Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft^3)	Volume (Total) (ft^3)
405.90	0.000	0.000	0.000	0.000	0.000
407.00	0.000	0.055	0.055	880.000	880.000
408.00	0.000	0.213	0.377	5,475.000	6,355.000
409.00	0.000	0.294	0.758	11,004.000	17,358.000
410.00	0.000	0.344	0.956	13,885.000	31,244.000
411.00	0.000	0.459	1.201	17,440.000	48,684.000

Proposed Hydrologic Calculations

Subsection: Elevation-Area Volume Curve | Return Event: 1 years

Label: MU POND | Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
405.40	0.000	1.170	0.000	0.000	0.000
406.00	0.000	1.285	3.681	32,070.000	32,070.000
407.00	0.000	1.344	3.943	57,255.000	89,325.000
408.00	0.000	1.404	4.122	59,854.000	149,179.000
408.80	0.000	1.571	4.460	51,809.000	200,988.000

Subsection: Elevation vs. Volume Curve | Return Event: 1 years
Label: PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft^3)
400.50	0.000
401.25	216.000
401.50	369.000
401.75	522.000
402.00	672.000
402.25	820.000
402.50	966.000
402.75	1,109.000
403.00	1,249.000
403.25	1,385.000
403.50	1,516.000
403.75	1,642.000
404.00	1,762.000
404.25	1,875.000
404.50	1,978.000
404.75	2,066.000
405.00	2,142.000
406.00	2,429.000

Subsection: Elevation vs. Volume Curve | Return Event: 1 years
Label: PO-1B-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft^3)
395.75	0.000
396.50	157.000
396.75	261.000
397.00	364.000
397.25	467.000
397.50	569.000
397.75	669.000
398.00	768.000
398.25	866.000
398.50	963.000
398.75	1,057.000
399.00	1,150.000
399.25	1,241.000
399.50	1,329.000
399.75	1,415.000
400.00	1,499.000
400.25	1,579.000
400.50	1,655.000
400.75	1,728.000
401.00	1,794.000
401.25	1,852.000
401.50	1,906.000
402.50	2,116.000

Subsection: Elevation vs. Volume Curve — Return Event: 1 years
Label: PO-1B-3 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft^3)
404.75	0.000
405.50	256.000
405.75	433.000
406.00	610.000
406.25	785.000
406.50	959.000
406.75	1,131.000
407.00	1,301.000
407.25	1,468.000
407.50	1,633.000
407.75	1,795.000
408.00	1,954.000
408.25	2,110.000
408.50	2,261.000
408.75	2,409.000
409.00	2,551.000
409.25	2,688.000
409.50	2,819.000
409.75	2,941.000
410.00	3,054.000
410.25	3,150.000
410.50	3,238.000
411.50	3,579.000

Subsection: Elevation vs. Volume Curve | Return Event: 1 years
Label: PO-1B-5 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft^3)
400.05	0.000
400.80	590.000
401.05	1,012.000
401.30	1,429.000
401.55	1,842.000
401.80	2,248.000
402.05	2,648.000
402.30	3,040.000
402.55	3,423.000
402.80	3,795.000
403.05	4,155.000
403.30	4,501.000
403.55	4,829.000
403.80	5,139.000
404.05	5,422.000
404.30	5,662.000
404.55	5,870.000
405.55	6,657.000

Proposed Hydrologic Calculations

Subsection: Elevation-Area Volume Curve | Return Event: 1 years
Label: SMA POND #1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft³)	Volume (Total) (ft³)
400.00	0.000	0.023	0.000	0.000	0.000
402.00	0.000	0.064	0.125	3,628.000	3,628.000
404.00	0.000	0.113	0.261	7,587.000	11,214.000
404.01	0.000	0.126	0.358	52.000	11,266.000
405.00	0.000	0.205	0.492	7,078.000	18,344.000
405.50	0.000	0.270	0.711	5,165.000	23,509.000
406.00	0.000	0.260	0.796	5,779.000	29,288.000
408.00	0.000	0.357	0.923	26,794.000	56,082.000
409.00	0.000	0.425	1.172	17,013.000	73,095.000

Proposed Hydrologic Calculations

Subsection: Elevation-Area Volume Curve — Return Event: 1 years
Label: SMA POND #2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ft^3)	Volume (Total) (ft^3)
402.00	0.000	0.015	0.000	0.000	0.000
403.00	0.000	0.030	0.066	957.000	957.000
404.00	0.000	0.050	0.119	1,727.000	2,684.000
405.00	0.000	0.071	0.180	2,610.000	5,294.000
405.01	0.000	0.110	0.269	39.000	5,333.000
406.00	0.000	0.139	0.372	5,353.000	10,686.000
406.50	0.000	0.155	0.441	3,200.000	13,886.000
407.00	0.000	0.245	0.595	4,319.000	18,206.000
407.50	0.000	0.273	0.776	5,636.000	23,842.000
408.00	0.000	0.304	0.866	6,286.000	30,128.000
410.00	0.000	0.397	1.049	30,449.000	60,577.000
412.00	0.000	0.487	1.323	38,415.000	98,992.000

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.20	0.00
406.40	0.02	405.20	0.00
406.90	0.03	405.20	0.00
407.40	0.03	405.20	0.00
407.90	0.04	405.20	0.00
408.40	0.04	405.20	0.00
408.80	0.04	405.20	0.00
408.90	0.04	405.20	0.00
409.00	0.04	405.20	0.00
409.40	7.63	405.20	0.00
409.90	25.66	405.20	0.00
410.40	49.74	405.20	0.00
410.90	78.62	405.20	0.00
411.00	84.90	405.20	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: 18" PIPE
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.40	0.00
406.40	0.02	405.40	0.00
406.90	0.03	405.40	0.00
407.40	0.03	405.40	0.00
407.90	0.03	405.40	0.00
408.40	0.04	405.40	0.00
408.80	0.04	405.40	0.00
408.90	0.04	405.40	0.00
409.00	0.04	405.40	0.00
409.40	7.63	405.40	0.00
409.90	25.66	405.40	0.00
410.40	49.74	405.40	0.00
410.90	78.62	405.40	0.00
411.00	84.90	405.40	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	405.90	0.00
406.40	0.02	405.90	0.00
406.90	0.02	405.90	0.00
407.40	0.03	405.90	0.00
407.90	0.03	405.90	0.00
408.40	0.03	405.90	0.00
408.80	0.04	405.90	0.00
408.90	0.04	405.90	0.00
409.00	0.04	405.90	0.00
409.40	7.63	405.90	0.00
409.90	25.66	405.90	0.00
410.40	49.74	405.90	0.00
410.90	78.62	405.90	0.00
411.00	84.90	405.90	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	406.40	0.00
406.40	0.00	406.40	0.00
406.90	0.02	406.40	0.00
407.40	0.02	406.40	0.00
407.90	0.03	406.40	0.00
408.40	0.03	406.40	0.00
408.80	0.03	406.40	0.00
408.90	0.03	406.40	0.00
409.00	0.04	406.40	0.00
409.40	7.63	406.40	0.00
409.90	25.66	406.40	0.00
410.40	49.74	406.40	0.00
410.90	78.62	406.40	0.00
411.00	84.90	406.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	406.90	0.00
406.40	0.00	406.90	0.00
406.90	0.00	406.90	0.00
407.40	0.02	406.90	0.00
407.90	0.02	406.90	0.00
408.40	0.03	406.90	0.00
408.80	0.03	406.90	0.00
408.90	0.03	406.90	0.00
409.00	0.03	406.90	0.00
409.40	7.62	406.90	0.00
409.90	25.65	406.90	0.00
410.40	49.74	406.90	0.00
410.90	78.61	406.90	0.00
411.00	84.90	406.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	407.40	0.00
406.40	0.00	407.40	0.00
406.90	0.00	407.40	0.00
407.40	0.00	407.40	0.00
407.90	0.02	407.40	0.00
408.40	0.02	407.40	0.00
408.80	0.03	407.40	0.00
408.90	0.03	407.40	0.00
409.00	0.03	407.40	0.00
409.40	7.62	407.40	0.00
409.90	25.65	407.40	0.00
410.40	49.73	407.40	0.00
410.90	78.61	407.40	0.00
411.00	84.89	407.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: 18" PIPE
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	407.90	0.00
406.40	0.00	407.90	0.00
406.90	0.00	407.90	0.00
407.40	0.00	407.90	0.00
407.90	0.00	407.90	0.00
408.40	0.02	407.90	0.00
408.80	0.02	407.90	0.00
408.90	0.02	407.90	0.00
409.00	0.02	407.90	0.00
409.40	7.62	407.90	0.00
409.90	25.65	407.90	0.00
410.40	49.73	407.90	0.00
410.90	78.61	407.90	0.00
411.00	84.89	407.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: 18" PIPE | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	408.40	0.00
406.40	0.00	408.40	0.00
406.90	0.00	408.40	0.00
407.40	0.00	408.40	0.00
407.90	0.00	408.40	0.00
408.40	0.00	408.40	0.00
408.80	0.01	408.40	0.00
408.90	0.02	408.40	0.00
409.00	0.02	408.40	0.00
409.40	7.61	408.40	0.00
409.90	25.64	408.40	0.00
410.40	49.73	408.40	0.00
410.90	78.60	408.40	0.00
411.00	84.89	408.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: 18" PIPE — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.90	0.00	408.80	0.00
406.40	0.00	408.80	0.00
406.90	0.00	408.80	0.00
407.40	0.00	408.80	0.00
407.90	0.00	408.80	0.00
408.40	0.00	408.80	0.00
408.80	0.00	408.80	0.00
408.90	0.01	408.80	0.00
409.00	0.01	408.80	0.00
409.40	7.61	408.80	0.00
409.90	25.64	408.80	0.00
410.40	49.72	408.80	0.00
410.90	78.60	408.80	0.00
411.00	84.89	408.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1
Culvert - 1 + Weir - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	405.00	0.00
405.00	0.00	405.00	0.00
405.40	0.39	405.00	0.00
405.45	0.49	405.00	0.00
405.50	0.61	405.00	0.00
405.60	0.87	405.00	0.00
405.70	1.16	405.00	0.00
405.80	1.47	405.00	0.00
405.90	1.80	405.00	0.00
405.95	1.98	405.00	0.00
406.00	2.14	405.00	0.00
406.10	2.49	405.00	0.00
406.20	2.82	405.00	0.00
406.30	3.12	405.00	0.00
406.40	3.40	405.00	0.00
406.45	3.52	405.00	0.00
406.50	3.66	405.00	0.00
406.60	3.87	405.00	0.00
406.70	4.15	405.00	0.00
406.80	4.41	405.00	0.00
406.90	4.64	405.00	0.00
406.95	4.76	405.00	0.00
407.00	4.87	405.00	0.00
407.10	5.09	405.00	0.00
407.20	5.28	405.00	0.00
407.30	5.50	405.00	0.00
407.40	5.70	405.00	0.00
407.45	5.80	405.00	0.00
407.50	5.89	405.00	0.00
407.60	6.08	405.00	0.00
407.70	6.25	405.00	0.00
407.80	6.41	405.00	0.00
407.90	6.56	405.00	0.00
407.95	6.63	405.00	0.00
408.00	6.71	405.00	0.00
408.10	6.85	405.00	0.00
408.20	6.99	405.00	0.00
408.25	7.06	405.00	0.00

Contributing Structures
Culvert - 1
None Contributing
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.39	405.40	0.00
405.00	-0.39	405.40	0.00
405.40	0.00	405.40	0.00
405.45	0.40	405.40	0.00
405.50	0.57	405.40	0.00
405.60	0.87	405.40	0.00
405.70	1.16	405.40	0.00
405.80	1.47	405.40	0.00
405.90	1.80	405.40	0.00
405.95	1.98	405.40	0.00
406.00	2.14	405.40	0.00
406.10	2.49	405.40	0.00
406.20	2.82	405.40	0.00
406.30	3.12	405.40	0.00
406.40	3.40	405.40	0.00
406.45	3.52	405.40	0.00
406.50	3.66	405.40	0.00
406.60	3.87	405.40	0.00
406.70	4.15	405.40	0.00
406.80	4.41	405.40	0.00
406.90	4.64	405.40	0.00
406.95	4.76	405.40	0.00
407.00	4.87	405.40	0.00
407.10	5.09	405.40	0.00
407.20	5.28	405.40	0.00
407.30	5.50	405.40	0.00
407.40	5.70	405.40	0.00
407.45	5.80	405.40	0.00
407.50	5.89	405.40	0.00
407.60	6.08	405.40	0.00
407.70	6.25	405.40	0.00
407.80	6.41	405.40	0.00
407.90	6.56	405.40	0.00
407.95	6.63	405.40	0.00
408.00	6.71	405.40	0.00
408.10	6.85	405.40	0.00
408.20	6.99	405.40	0.00
408.25	7.06	405.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.61	405.50	0.00
405.00	-0.61	405.50	0.00
405.40	-0.57	405.50	0.00
405.45	-0.46	405.50	0.00
405.50	0.00	405.50	0.00
405.60	0.78	405.50	0.00
405.70	1.15	405.50	0.00
405.80	1.47	405.50	0.00
405.90	1.80	405.50	0.00
405.95	1.98	405.50	0.00
406.00	2.14	405.50	0.00
406.10	2.49	405.50	0.00
406.20	2.82	405.50	0.00
406.30	3.12	405.50	0.00
406.40	3.40	405.50	0.00
406.45	3.52	405.50	0.00
406.50	3.66	405.50	0.00
406.60	3.87	405.50	0.00
406.70	4.15	405.50	0.00
406.80	4.41	405.50	0.00
406.90	4.64	405.50	0.00
406.95	4.76	405.50	0.00
407.00	4.87	405.50	0.00
407.10	5.09	405.50	0.00
407.20	5.28	405.50	0.00
407.30	5.50	405.50	0.00
407.40	5.70	405.50	0.00
407.45	5.80	405.50	0.00
407.50	5.89	405.50	0.00
407.60	6.08	405.50	0.00
407.70	6.25	405.50	0.00
407.80	6.41	405.50	0.00
407.90	6.56	405.50	0.00
407.95	6.63	405.50	0.00
408.00	6.71	405.50	0.00
408.10	6.85	405.50	0.00
408.20	6.99	405.50	0.00
408.25	7.06	405.50	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.87	405.60	0.00
405.00	-0.87	405.60	0.00
405.40	-0.87	405.60	0.00
405.45	-0.85	405.60	0.00
405.50	-0.78	405.60	0.00
405.60	0.00	405.60	0.00
405.70	0.99	405.60	0.00
405.80	1.43	405.60	0.00
405.90	1.80	405.60	0.00
405.95	1.98	405.60	0.00
406.00	2.14	405.60	0.00
406.10	2.49	405.60	0.00
406.20	2.82	405.60	0.00
406.30	3.12	405.60	0.00
406.40	3.40	405.60	0.00
406.45	3.52	405.60	0.00
406.50	3.66	405.60	0.00
406.60	3.87	405.60	0.00
406.70	4.15	405.60	0.00
406.80	4.41	405.60	0.00
406.90	4.64	405.60	0.00
406.95	4.76	405.60	0.00
407.00	4.87	405.60	0.00
407.10	5.09	405.60	0.00
407.20	5.28	405.60	0.00
407.30	5.50	405.60	0.00
407.40	5.70	405.60	0.00
407.45	5.80	405.60	0.00
407.50	5.89	405.60	0.00
407.60	6.08	405.60	0.00
407.70	6.25	405.60	0.00
407.80	6.41	405.60	0.00
407.90	6.56	405.60	0.00
407.95	6.63	405.60	0.00
408.00	6.71	405.60	0.00
408.10	6.85	405.60	0.00
408.20	6.99	405.60	0.00
408.25	7.06	405.60	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-1.16	405.70	0.00
405.00	-1.16	405.70	0.00
405.40	-1.16	405.70	0.00
405.45	-1.16	405.70	0.00
405.50	-1.15	405.70	0.00
405.60	-0.99	405.70	0.00
405.70	0.00	405.70	0.00
405.80	1.18	405.70	0.00
405.90	1.70	405.70	0.00
405.95	1.92	405.70	0.00
406.00	2.12	405.70	0.00
406.10	2.49	405.70	0.00
406.20	2.82	405.70	0.00
406.30	3.12	405.70	0.00
406.40	3.40	405.70	0.00
406.45	3.52	405.70	0.00
406.50	3.66	405.70	0.00
406.60	3.87	405.70	0.00
406.70	4.15	405.70	0.00
406.80	4.41	405.70	0.00
406.90	4.64	405.70	0.00
406.95	4.76	405.70	0.00
407.00	4.87	405.70	0.00
407.10	5.09	405.70	0.00
407.20	5.28	405.70	0.00
407.30	5.50	405.70	0.00
407.40	5.70	405.70	0.00
407.45	5.80	405.70	0.00
407.50	5.89	405.70	0.00
407.60	6.08	405.70	0.00
407.70	6.25	405.70	0.00
407.80	6.41	405.70	0.00
407.90	6.56	405.70	0.00
407.95	6.63	405.70	0.00
408.00	6.71	405.70	0.00
408.10	6.85	405.70	0.00
408.20	6.99	405.70	0.00
408.25	7.06	405.70	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-1.47	405.80	0.00
405.00	-1.47	405.80	0.00
405.40	-1.47	405.80	0.00
405.45	-1.47	405.80	0.00
405.50	-1.47	405.80	0.00
405.60	-1.43	405.80	0.00
405.70	-1.18	405.80	0.00
405.80	0.00	405.80	0.00
405.90	1.36	405.80	0.00
405.95	1.67	405.80	0.00
406.00	1.94	405.80	0.00
406.10	2.39	405.80	0.00
406.20	2.78	405.80	0.00
406.30	3.11	405.80	0.00
406.40	3.40	405.80	0.00
406.45	3.52	405.80	0.00
406.50	3.66	405.80	0.00
406.60	3.87	405.80	0.00
406.70	4.15	405.80	0.00
406.80	4.41	405.80	0.00
406.90	4.64	405.80	0.00
406.95	4.76	405.80	0.00
407.00	4.87	405.80	0.00
407.10	5.09	405.80	0.00
407.20	5.28	405.80	0.00
407.30	5.50	405.80	0.00
407.40	5.70	405.80	0.00
407.45	5.80	405.80	0.00
407.50	5.89	405.80	0.00
407.60	6.08	405.80	0.00
407.70	6.25	405.80	0.00
407.80	6.41	405.80	0.00
407.90	6.56	405.80	0.00
407.95	6.63	405.80	0.00
408.00	6.71	405.80	0.00
408.10	6.85	405.80	0.00
408.20	6.99	405.80	0.00
408.25	7.06	405.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-1.81	405.90	0.00
405.00	-1.81	405.90	0.00
405.40	-1.81	405.90	0.00
405.45	-1.81	405.90	0.00
405.50	-1.81	405.90	0.00
405.60	-1.80	405.90	0.00
405.70	-1.70	405.90	0.00
405.80	-1.36	405.90	0.00
405.90	0.00	405.90	0.00
405.95	1.04	405.90	0.00
406.00	1.49	405.90	0.00
406.10	2.11	405.90	0.00
406.20	2.59	405.90	0.00
406.30	2.97	405.90	0.00
406.40	3.30	405.90	0.00
406.45	3.46	405.90	0.00
406.50	3.61	405.90	0.00
406.60	3.88	405.90	0.00
406.70	4.15	405.90	0.00
406.80	4.41	405.90	0.00
406.90	4.64	405.90	0.00
406.95	4.76	405.90	0.00
407.00	4.87	405.90	0.00
407.10	5.09	405.90	0.00
407.20	5.28	405.90	0.00
407.30	5.50	405.90	0.00
407.40	5.70	405.90	0.00
407.45	5.80	405.90	0.00
407.50	5.89	405.90	0.00
407.60	6.08	405.90	0.00
407.70	6.25	405.90	0.00
407.80	6.41	405.90	0.00
407.90	6.56	405.90	0.00
407.95	6.63	405.90	0.00
408.00	6.71	405.90	0.00
408.10	6.85	405.90	0.00
408.20	6.99	405.90	0.00
408.25	7.06	405.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-2.15	406.00	0.00
405.00	-2.15	406.00	0.00
405.40	-2.15	406.00	0.00
405.45	-2.15	406.00	0.00
405.50	-2.15	406.00	0.00
405.60	-2.15	406.00	0.00
405.70	-2.12	406.00	0.00
405.80	-1.94	406.00	0.00
405.90	-1.49	406.00	0.00
405.95	-1.07	406.00	0.00
406.00	0.00	406.00	0.00
406.10	1.51	406.00	0.00
406.20	2.14	406.00	0.00
406.30	2.62	406.00	0.00
406.40	3.03	406.00	0.00
406.45	3.21	406.00	0.00
406.50	3.38	406.00	0.00
406.60	3.71	406.00	0.00
406.70	4.00	406.00	0.00
406.80	4.28	406.00	0.00
406.90	4.54	406.00	0.00
406.95	4.66	406.00	0.00
407.00	4.79	406.00	0.00
407.10	5.02	406.00	0.00
407.20	5.24	406.00	0.00
407.30	5.45	406.00	0.00
407.40	5.66	406.00	0.00
407.45	5.76	406.00	0.00
407.50	5.86	406.00	0.00
407.60	6.05	406.00	0.00
407.70	6.24	406.00	0.00
407.80	6.41	406.00	0.00
407.90	6.56	406.00	0.00
407.95	6.63	406.00	0.00
408.00	6.71	406.00	0.00
408.10	6.85	406.00	0.00
408.20	6.99	406.00	0.00
408.25	7.06	406.00	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-2.49	406.10	0.00
405.00	-2.49	406.10	0.00
405.40	-2.49	406.10	0.00
405.45	-2.49	406.10	0.00
405.50	-2.49	406.10	0.00
405.60	-2.49	406.10	0.00
405.70	-2.49	406.10	0.00
405.80	-2.40	406.10	0.00
405.90	-2.11	406.10	0.00
405.95	-1.86	406.10	0.00
406.00	-1.51	406.10	0.00
406.10	0.00	406.10	0.00
406.20	1.51	406.10	0.00
406.30	2.14	406.10	0.00
406.40	2.62	406.10	0.00
406.45	2.83	406.10	0.00
406.50	3.02	406.10	0.00
406.60	3.39	406.10	0.00
406.70	3.71	406.10	0.00
406.80	4.00	406.10	0.00
406.90	4.28	406.10	0.00
406.95	4.41	406.10	0.00
407.00	4.54	406.10	0.00
407.10	4.78	406.10	0.00
407.20	5.02	406.10	0.00
407.30	5.24	406.10	0.00
407.40	5.46	406.10	0.00
407.45	5.56	406.10	0.00
407.50	5.66	406.10	0.00
407.60	5.86	406.10	0.00
407.70	6.05	406.10	0.00
407.80	6.24	406.10	0.00
407.90	6.42	406.10	0.00
407.95	6.51	406.10	0.00
408.00	6.60	406.10	0.00
408.10	6.77	406.10	0.00
408.20	6.93	406.10	0.00
408.25	7.02	406.10	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-2.82	406.20	0.00
405.00	-2.82	406.20	0.00
405.40	-2.82	406.20	0.00
405.45	-2.82	406.20	0.00
405.50	-2.82	406.20	0.00
405.60	-2.82	406.20	0.00
405.70	-2.82	406.20	0.00
405.80	-2.78	406.20	0.00
405.90	-2.59	406.20	0.00
405.95	-2.39	406.20	0.00
406.00	-2.14	406.20	0.00
406.10	-1.51	406.20	0.00
406.20	0.00	406.20	0.00
406.30	1.51	406.20	0.00
406.40	2.14	406.20	0.00
406.45	2.40	406.20	0.00
406.50	2.62	406.20	0.00
406.60	3.02	406.20	0.00
406.70	3.39	406.20	0.00
406.80	3.70	406.20	0.00
406.90	4.00	406.20	0.00
406.95	4.15	406.20	0.00
407.00	4.28	406.20	0.00
407.10	4.54	406.20	0.00
407.20	4.79	406.20	0.00
407.30	5.02	406.20	0.00
407.40	5.24	406.20	0.00
407.45	5.35	406.20	0.00
407.50	5.46	406.20	0.00
407.60	5.66	406.20	0.00
407.70	5.86	406.20	0.00
407.80	6.05	406.20	0.00
407.90	6.24	406.20	0.00
407.95	6.33	406.20	0.00
408.00	6.42	406.20	0.00
408.10	6.60	406.20	0.00
408.20	6.77	406.20	0.00
408.25	6.85	406.20	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve Return Event: 1 years
Label: BMH-1A-2->MU POND Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
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Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-3.12	406.30	0.00
405.00	-3.12	406.30	0.00
405.40	-3.12	406.30	0.00
405.45	-3.12	406.30	0.00
405.50	-3.12	406.30	0.00
405.60	-3.12	406.30	0.00
405.70	-3.12	406.30	0.00
405.80	-3.11	406.30	0.00
405.90	-2.96	406.30	0.00
405.95	-2.82	406.30	0.00
406.00	-2.62	406.30	0.00
406.10	-2.14	406.30	0.00
406.20	-1.51	406.30	0.00
406.30	0.00	406.30	0.00
406.40	1.51	406.30	0.00
406.45	1.85	406.30	0.00
406.50	2.14	406.30	0.00
406.60	2.62	406.30	0.00
406.70	3.03	406.30	0.00
406.80	3.39	406.30	0.00
406.90	3.71	406.30	0.00
406.95	3.86	406.30	0.00
407.00	4.00	406.30	0.00
407.10	4.28	406.30	0.00
407.20	4.54	406.30	0.00
407.30	4.79	406.30	0.00
407.40	5.02	406.30	0.00
407.45	5.13	406.30	0.00
407.50	5.24	406.30	0.00
407.60	5.46	406.30	0.00
407.70	5.66	406.30	0.00
407.80	5.86	406.30	0.00
407.90	6.05	406.30	0.00
407.95	6.15	406.30	0.00
408.00	6.24	406.30	0.00
408.10	6.42	406.30	0.00
408.20	6.60	406.30	0.00
408.25	6.68	406.30	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-3.40	406.40	0.00
405.00	-3.40	406.40	0.00
405.40	-3.40	406.40	0.00
405.45	-3.40	406.40	0.00
405.50	-3.40	406.40	0.00
405.60	-3.40	406.40	0.00
405.70	-3.40	406.40	0.00
405.80	-3.40	406.40	0.00
405.90	-3.30	406.40	0.00
405.95	-3.18	406.40	0.00
406.00	-3.03	406.40	0.00
406.10	-2.62	406.40	0.00
406.20	-2.14	406.40	0.00
406.30	-1.51	406.40	0.00
406.40	0.00	406.40	0.00
406.45	1.07	406.40	0.00
406.50	1.52	406.40	0.00
406.60	2.14	406.40	0.00
406.70	2.62	406.40	0.00
406.80	3.02	406.40	0.00
406.90	3.38	406.40	0.00
406.95	3.55	406.40	0.00
407.00	3.71	406.40	0.00
407.10	4.01	406.40	0.00
407.20	4.28	406.40	0.00
407.30	4.54	406.40	0.00
407.40	4.78	406.40	0.00
407.45	4.90	406.40	0.00
407.50	5.02	406.40	0.00
407.60	5.24	406.40	0.00
407.70	5.46	406.40	0.00
407.80	5.66	406.40	0.00
407.90	5.86	406.40	0.00
407.95	5.96	406.40	0.00
408.00	6.05	406.40	0.00
408.10	6.24	406.40	0.00
408.20	6.42	406.40	0.00
408.25	6.51	406.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-3.66	406.50	0.00
405.00	-3.66	406.50	0.00
405.40	-3.66	406.50	0.00
405.45	-3.66	406.50	0.00
405.50	-3.66	406.50	0.00
405.60	-3.66	406.50	0.00
405.70	-3.66	406.50	0.00
405.80	-3.66	406.50	0.00
405.90	-3.61	406.50	0.00
405.95	-3.52	406.50	0.00
406.00	-3.39	406.50	0.00
406.10	-3.03	406.50	0.00
406.20	-2.62	406.50	0.00
406.30	-2.14	406.50	0.00
406.40	-1.51	406.50	0.00
406.45	-1.07	406.50	0.00
406.50	0.00	406.50	0.00
406.60	1.51	406.50	0.00
406.70	2.14	406.50	0.00
406.80	2.62	406.50	0.00
406.90	3.03	406.50	0.00
406.95	3.21	406.50	0.00
407.00	3.38	406.50	0.00
407.10	3.70	406.50	0.00
407.20	4.00	406.50	0.00
407.30	4.28	406.50	0.00
407.40	4.54	406.50	0.00
407.45	4.66	406.50	0.00
407.50	4.79	406.50	0.00
407.60	5.02	406.50	0.00
407.70	5.24	406.50	0.00
407.80	5.46	406.50	0.00
407.90	5.66	406.50	0.00
407.95	5.76	406.50	0.00
408.00	5.86	406.50	0.00
408.10	6.05	406.50	0.00
408.20	6.24	406.50	0.00
408.25	6.33	406.50	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-3.87	406.60	0.00
405.00	-3.87	406.60	0.00
405.40	-3.87	406.60	0.00
405.45	-3.87	406.60	0.00
405.50	-3.87	406.60	0.00
405.60	-3.87	406.60	0.00
405.70	-3.87	406.60	0.00
405.80	-3.87	406.60	0.00
405.90	-3.87	406.60	0.00
405.95	-3.83	406.60	0.00
406.00	-3.71	406.60	0.00
406.10	-3.39	406.60	0.00
406.20	-3.03	406.60	0.00
406.30	-2.62	406.60	0.00
406.40	-2.14	406.60	0.00
406.45	-1.86	406.60	0.00
406.50	-1.51	406.60	0.00
406.60	0.00	406.60	0.00
406.70	1.51	406.60	0.00
406.80	2.14	406.60	0.00
406.90	2.62	406.60	0.00
406.95	2.83	406.60	0.00
407.00	3.03	406.60	0.00
407.10	3.39	406.60	0.00
407.20	3.71	406.60	0.00
407.30	4.01	406.60	0.00
407.40	4.28	406.60	0.00
407.45	4.41	406.60	0.00
407.50	4.54	406.60	0.00
407.60	4.79	406.60	0.00
407.70	5.02	406.60	0.00
407.80	5.24	406.60	0.00
407.90	5.46	406.60	0.00
407.95	5.56	406.60	0.00
408.00	5.66	406.60	0.00
408.10	5.86	406.60	0.00
408.20	6.05	406.60	0.00
408.25	6.15	406.60	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-4.15	406.70	0.00
405.00	-4.15	406.70	0.00
405.40	-4.15	406.70	0.00
405.45	-4.15	406.70	0.00
405.50	-4.15	406.70	0.00
405.60	-4.15	406.70	0.00
405.70	-4.15	406.70	0.00
405.80	-4.15	406.70	0.00
405.90	-4.15	406.70	0.00
405.95	-4.11	406.70	0.00
406.00	-4.01	406.70	0.00
406.10	-3.71	406.70	0.00
406.20	-3.39	406.70	0.00
406.30	-3.03	406.70	0.00
406.40	-2.62	406.70	0.00
406.45	-2.40	406.70	0.00
406.50	-2.14	406.70	0.00
406.60	-1.51	406.70	0.00
406.70	0.00	406.70	0.00
406.80	1.51	406.70	0.00
406.90	2.14	406.70	0.00
406.95	2.39	406.70	0.00
407.00	2.62	406.70	0.00
407.10	3.03	406.70	0.00
407.20	3.38	406.70	0.00
407.30	3.71	406.70	0.00
407.40	4.01	406.70	0.00
407.45	4.14	406.70	0.00
407.50	4.28	406.70	0.00
407.60	4.54	406.70	0.00
407.70	4.79	406.70	0.00
407.80	5.02	406.70	0.00
407.90	5.24	406.70	0.00
407.95	5.35	406.70	0.00
408.00	5.45	406.70	0.00
408.10	5.66	406.70	0.00
408.20	5.86	406.70	0.00
408.25	5.96	406.70	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-4.42	406.80	0.00
405.00	-4.42	406.80	0.00
405.40	-4.42	406.80	0.00
405.45	-4.42	406.80	0.00
405.50	-4.42	406.80	0.00
405.60	-4.42	406.80	0.00
405.70	-4.42	406.80	0.00
405.80	-4.42	406.80	0.00
405.90	-4.41	406.80	0.00
405.95	-4.37	406.80	0.00
406.00	-4.28	406.80	0.00
406.10	-4.01	406.80	0.00
406.20	-3.71	406.80	0.00
406.30	-3.39	406.80	0.00
406.40	-3.03	406.80	0.00
406.45	-2.83	406.80	0.00
406.50	-2.62	406.80	0.00
406.60	-2.14	406.80	0.00
406.70	-1.51	406.80	0.00
406.80	0.00	406.80	0.00
406.90	1.52	406.80	0.00
406.95	1.86	406.80	0.00
407.00	2.14	406.80	0.00
407.10	2.62	406.80	0.00
407.20	3.03	406.80	0.00
407.30	3.38	406.80	0.00
407.40	3.71	406.80	0.00
407.45	3.86	406.80	0.00
407.50	4.00	406.80	0.00
407.60	4.28	406.80	0.00
407.70	4.54	406.80	0.00
407.80	4.79	406.80	0.00
407.90	5.02	406.80	0.00
407.95	5.13	406.80	0.00
408.00	5.24	406.80	0.00
408.10	5.46	406.80	0.00
408.20	5.66	406.80	0.00
408.25	5.76	406.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-4.64	406.90	0.00
405.00	-4.64	406.90	0.00
405.40	-4.64	406.90	0.00
405.45	-4.64	406.90	0.00
405.50	-4.64	406.90	0.00
405.60	-4.64	406.90	0.00
405.70	-4.64	406.90	0.00
405.80	-4.64	406.90	0.00
405.90	-4.64	406.90	0.00
405.95	-4.62	406.90	0.00
406.00	-4.54	406.90	0.00
406.10	-4.28	406.90	0.00
406.20	-4.01	406.90	0.00
406.30	-3.71	406.90	0.00
406.40	-3.39	406.90	0.00
406.45	-3.21	406.90	0.00
406.50	-3.03	406.90	0.00
406.60	-2.62	406.90	0.00
406.70	-2.14	406.90	0.00
406.80	-1.51	406.90	0.00
406.90	0.00	406.90	0.00
406.95	1.06	406.90	0.00
407.00	1.52	406.90	0.00
407.10	2.14	406.90	0.00
407.20	2.62	406.90	0.00
407.30	3.03	406.90	0.00
407.40	3.39	406.90	0.00
407.45	3.55	406.90	0.00
407.50	3.71	406.90	0.00
407.60	4.00	406.90	0.00
407.70	4.28	406.90	0.00
407.80	4.54	406.90	0.00
407.90	4.79	406.90	0.00
407.95	4.90	406.90	0.00
408.00	5.02	406.90	0.00
408.10	5.24	406.90	0.00
408.20	5.46	406.90	0.00
408.25	5.56	406.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-4.87	407.00	0.00
405.00	-4.87	407.00	0.00
405.40	-4.87	407.00	0.00
405.45	-4.87	407.00	0.00
405.50	-4.87	407.00	0.00
405.60	-4.87	407.00	0.00
405.70	-4.87	407.00	0.00
405.80	-4.87	407.00	0.00
405.90	-4.87	407.00	0.00
405.95	-4.85	407.00	0.00
406.00	-4.79	407.00	0.00
406.10	-4.54	407.00	0.00
406.20	-4.28	407.00	0.00
406.30	-4.01	407.00	0.00
406.40	-3.71	407.00	0.00
406.45	-3.55	407.00	0.00
406.50	-3.39	407.00	0.00
406.60	-3.03	407.00	0.00
406.70	-2.62	407.00	0.00
406.80	-2.14	407.00	0.00
406.90	-1.51	407.00	0.00
406.95	-1.07	407.00	0.00
407.00	0.00	407.00	0.00
407.10	1.51	407.00	0.00
407.20	2.14	407.00	0.00
407.30	2.62	407.00	0.00
407.40	3.03	407.00	0.00
407.45	3.21	407.00	0.00
407.50	3.38	407.00	0.00
407.60	3.71	407.00	0.00
407.70	4.01	407.00	0.00
407.80	4.28	407.00	0.00
407.90	4.54	407.00	0.00
407.95	4.66	407.00	0.00
408.00	4.79	407.00	0.00
408.10	5.02	407.00	0.00
408.20	5.24	407.00	0.00
408.25	5.35	407.00	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-5.09	407.10	0.00
405.00	-5.09	407.10	0.00
405.40	-5.09	407.10	0.00
405.45	-5.09	407.10	0.00
405.50	-5.09	407.10	0.00
405.60	-5.09	407.10	0.00
405.70	-5.09	407.10	0.00
405.80	-5.09	407.10	0.00
405.90	-5.09	407.10	0.00
405.95	-5.08	407.10	0.00
406.00	-5.02	407.10	0.00
406.10	-4.79	407.10	0.00
406.20	-4.54	407.10	0.00
406.30	-4.28	407.10	0.00
406.40	-4.01	407.10	0.00
406.45	-3.86	407.10	0.00
406.50	-3.71	407.10	0.00
406.60	-3.39	407.10	0.00
406.70	-3.03	407.10	0.00
406.80	-2.62	407.10	0.00
406.90	-2.14	407.10	0.00
406.95	-1.86	407.10	0.00
407.00	-1.51	407.10	0.00
407.10	0.00	407.10	0.00
407.20	1.51	407.10	0.00
407.30	2.14	407.10	0.00
407.40	2.63	407.10	0.00
407.45	2.84	407.10	0.00
407.50	3.02	407.10	0.00
407.60	3.38	407.10	0.00
407.70	3.71	407.10	0.00
407.80	4.00	407.10	0.00
407.90	4.28	407.10	0.00
407.95	4.41	407.10	0.00
408.00	4.54	407.10	0.00
408.10	4.79	407.10	0.00
408.20	5.02	407.10	0.00
408.25	5.13	407.10	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-5.28	407.20	0.00
405.00	-5.28	407.20	0.00
405.40	-5.28	407.20	0.00
405.45	-5.28	407.20	0.00
405.50	-5.28	407.20	0.00
405.60	-5.28	407.20	0.00
405.70	-5.28	407.20	0.00
405.80	-5.28	407.20	0.00
405.90	-5.28	407.20	0.00
405.95	-5.29	407.20	0.00
406.00	-5.24	407.20	0.00
406.10	-5.02	407.20	0.00
406.20	-4.79	407.20	0.00
406.30	-4.54	407.20	0.00
406.40	-4.28	407.20	0.00
406.45	-4.14	407.20	0.00
406.50	-4.01	407.20	0.00
406.60	-3.71	407.20	0.00
406.70	-3.39	407.20	0.00
406.80	-3.03	407.20	0.00
406.90	-2.62	407.20	0.00
406.95	-2.40	407.20	0.00
407.00	-2.14	407.20	0.00
407.10	-1.51	407.20	0.00
407.20	0.00	407.20	0.00
407.30	1.51	407.20	0.00
407.40	2.14	407.20	0.00
407.45	2.39	407.20	0.00
407.50	2.62	407.20	0.00
407.60	3.02	407.20	0.00
407.70	3.38	407.20	0.00
407.80	3.70	407.20	0.00
407.90	4.00	407.20	0.00
407.95	4.14	407.20	0.00
408.00	4.28	407.20	0.00
408.10	4.54	407.20	0.00
408.20	4.78	407.20	0.00
408.25	4.90	407.20	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-5.50	407.30	0.00
405.00	-5.50	407.30	0.00
405.40	-5.50	407.30	0.00
405.45	-5.50	407.30	0.00
405.50	-5.50	407.30	0.00
405.60	-5.50	407.30	0.00
405.70	-5.50	407.30	0.00
405.80	-5.50	407.30	0.00
405.90	-5.50	407.30	0.00
405.95	-5.50	407.30	0.00
406.00	-5.46	407.30	0.00
406.10	-5.24	407.30	0.00
406.20	-5.02	407.30	0.00
406.30	-4.79	407.30	0.00
406.40	-4.54	407.30	0.00
406.45	-4.41	407.30	0.00
406.50	-4.28	407.30	0.00
406.60	-4.01	407.30	0.00
406.70	-3.71	407.30	0.00
406.80	-3.39	407.30	0.00
406.90	-3.03	407.30	0.00
406.95	-2.83	407.30	0.00
407.00	-2.62	407.30	0.00
407.10	-2.14	407.30	0.00
407.20	-1.51	407.30	0.00
407.30	0.00	407.30	0.00
407.40	1.51	407.30	0.00
407.45	1.85	407.30	0.00
407.50	2.14	407.30	0.00
407.60	2.62	407.30	0.00
407.70	3.03	407.30	0.00
407.80	3.39	407.30	0.00
407.90	3.71	407.30	0.00
407.95	3.86	407.30	0.00
408.00	4.00	407.30	0.00
408.10	4.28	407.30	0.00
408.20	4.54	407.30	0.00
408.25	4.67	407.30	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-5.70	407.40	0.00
405.00	-5.70	407.40	0.00
405.40	-5.70	407.40	0.00
405.45	-5.70	407.40	0.00
405.50	-5.70	407.40	0.00
405.60	-5.70	407.40	0.00
405.70	-5.70	407.40	0.00
405.80	-5.70	407.40	0.00
405.90	-5.70	407.40	0.00
405.95	-5.70	407.40	0.00
406.00	-5.66	407.40	0.00
406.10	-5.46	407.40	0.00
406.20	-5.24	407.40	0.00
406.30	-5.02	407.40	0.00
406.40	-4.79	407.40	0.00
406.45	-4.67	407.40	0.00
406.50	-4.54	407.40	0.00
406.60	-4.28	407.40	0.00
406.70	-4.01	407.40	0.00
406.80	-3.71	407.40	0.00
406.90	-3.39	407.40	0.00
406.95	-3.21	407.40	0.00
407.00	-3.03	407.40	0.00
407.10	-2.62	407.40	0.00
407.20	-2.14	407.40	0.00
407.30	-1.51	407.40	0.00
407.40	0.00	407.40	0.00
407.45	1.07	407.40	0.00
407.50	1.51	407.40	0.00
407.60	2.14	407.40	0.00
407.70	2.63	407.40	0.00
407.80	3.03	407.40	0.00
407.90	3.39	407.40	0.00
407.95	3.55	407.40	0.00
408.00	3.71	407.40	0.00
408.10	4.01	407.40	0.00
408.20	4.28	407.40	0.00
408.25	4.41	407.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-5.89	407.50	0.00
405.00	-5.89	407.50	0.00
405.40	-5.89	407.50	0.00
405.45	-5.89	407.50	0.00
405.50	-5.89	407.50	0.00
405.60	-5.89	407.50	0.00
405.70	-5.89	407.50	0.00
405.80	-5.89	407.50	0.00
405.90	-5.89	407.50	0.00
405.95	-5.89	407.50	0.00
406.00	-5.86	407.50	0.00
406.10	-5.66	407.50	0.00
406.20	-5.46	407.50	0.00
406.30	-5.24	407.50	0.00
406.40	-5.02	407.50	0.00
406.45	-4.91	407.50	0.00
406.50	-4.79	407.50	0.00
406.60	-4.54	407.50	0.00
406.70	-4.28	407.50	0.00
406.80	-4.01	407.50	0.00
406.90	-3.71	407.50	0.00
406.95	-3.55	407.50	0.00
407.00	-3.39	407.50	0.00
407.10	-3.03	407.50	0.00
407.20	-2.62	407.50	0.00
407.30	-2.14	407.50	0.00
407.40	-1.51	407.50	0.00
407.45	-1.07	407.50	0.00
407.50	0.00	407.50	0.00
407.60	1.51	407.50	0.00
407.70	2.14	407.50	0.00
407.80	2.62	407.50	0.00
407.90	3.03	407.50	0.00
407.95	3.21	407.50	0.00
408.00	3.39	407.50	0.00
408.10	3.71	407.50	0.00
408.20	4.01	407.50	0.00
408.25	4.14	407.50	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.08	407.60	0.00
405.00	-6.08	407.60	0.00
405.40	-6.08	407.60	0.00
405.45	-6.08	407.60	0.00
405.50	-6.08	407.60	0.00
405.60	-6.08	407.60	0.00
405.70	-6.08	407.60	0.00
405.80	-6.08	407.60	0.00
405.90	-6.08	407.60	0.00
405.95	-6.08	407.60	0.00
406.00	-6.05	407.60	0.00
406.10	-5.86	407.60	0.00
406.20	-5.66	407.60	0.00
406.30	-5.46	407.60	0.00
406.40	-5.24	407.60	0.00
406.45	-5.13	407.60	0.00
406.50	-5.02	407.60	0.00
406.60	-4.79	407.60	0.00
406.70	-4.54	407.60	0.00
406.80	-4.28	407.60	0.00
406.90	-4.01	407.60	0.00
406.95	-3.86	407.60	0.00
407.00	-3.71	407.60	0.00
407.10	-3.39	407.60	0.00
407.20	-3.03	407.60	0.00
407.30	-2.62	407.60	0.00
407.40	-2.14	407.60	0.00
407.45	-1.86	407.60	0.00
407.50	-1.51	407.60	0.00
407.60	0.00	407.60	0.00
407.70	1.51	407.60	0.00
407.80	2.14	407.60	0.00
407.90	2.63	407.60	0.00
407.95	2.83	407.60	0.00
408.00	3.03	407.60	0.00
408.10	3.38	407.60	0.00
408.20	3.71	407.60	0.00
408.25	3.86	407.60	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.26	407.70	0.00
405.00	-6.26	407.70	0.00
405.40	-6.26	407.70	0.00
405.45	-6.26	407.70	0.00
405.50	-6.26	407.70	0.00
405.60	-6.26	407.70	0.00
405.70	-6.26	407.70	0.00
405.80	-6.26	407.70	0.00
405.90	-6.26	407.70	0.00
405.95	-6.26	407.70	0.00
406.00	-6.24	407.70	0.00
406.10	-6.05	407.70	0.00
406.20	-5.86	407.70	0.00
406.30	-5.66	407.70	0.00
406.40	-5.46	407.70	0.00
406.45	-5.35	407.70	0.00
406.50	-5.24	407.70	0.00
406.60	-5.02	407.70	0.00
406.70	-4.79	407.70	0.00
406.80	-4.54	407.70	0.00
406.90	-4.28	407.70	0.00
406.95	-4.14	407.70	0.00
407.00	-4.01	407.70	0.00
407.10	-3.71	407.70	0.00
407.20	-3.39	407.70	0.00
407.30	-3.03	407.70	0.00
407.40	-2.62	407.70	0.00
407.45	-2.40	407.70	0.00
407.50	-2.14	407.70	0.00
407.60	-1.51	407.70	0.00
407.70	0.00	407.70	0.00
407.80	1.51	407.70	0.00
407.90	2.14	407.70	0.00
407.95	2.40	407.70	0.00
408.00	2.62	407.70	0.00
408.10	3.03	407.70	0.00
408.20	3.39	407.70	0.00
408.25	3.55	407.70	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.44	407.80	0.00
405.00	-6.44	407.80	0.00
405.40	-6.44	407.80	0.00
405.45	-6.44	407.80	0.00
405.50	-6.44	407.80	0.00
405.60	-6.44	407.80	0.00
405.70	-6.44	407.80	0.00
405.80	-6.44	407.80	0.00
405.90	-6.44	407.80	0.00
405.95	-6.44	407.80	0.00
406.00	-6.42	407.80	0.00
406.10	-6.24	407.80	0.00
406.20	-6.05	407.80	0.00
406.30	-5.86	407.80	0.00
406.40	-5.66	407.80	0.00
406.45	-5.56	407.80	0.00
406.50	-5.46	407.80	0.00
406.60	-5.24	407.80	0.00
406.70	-5.02	407.80	0.00
406.80	-4.79	407.80	0.00
406.90	-4.54	407.80	0.00
406.95	-4.41	407.80	0.00
407.00	-4.28	407.80	0.00
407.10	-4.01	407.80	0.00
407.20	-3.71	407.80	0.00
407.30	-3.39	407.80	0.00
407.40	-3.03	407.80	0.00
407.45	-2.83	407.80	0.00
407.50	-2.62	407.80	0.00
407.60	-2.14	407.80	0.00
407.70	-1.51	407.80	0.00
407.80	0.00	407.80	0.00
407.90	1.51	407.80	0.00
407.95	1.85	407.80	0.00
408.00	2.14	407.80	0.00
408.10	2.62	407.80	0.00
408.20	3.03	407.80	0.00
408.25	3.21	407.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.62	407.90	0.00
405.00	-6.62	407.90	0.00
405.40	-6.62	407.90	0.00
405.45	-6.62	407.90	0.00
405.50	-6.62	407.90	0.00
405.60	-6.62	407.90	0.00
405.70	-6.62	407.90	0.00
405.80	-6.62	407.90	0.00
405.90	-6.62	407.90	0.00
405.95	-6.62	407.90	0.00
406.00	-6.60	407.90	0.00
406.10	-6.42	407.90	0.00
406.20	-6.24	407.90	0.00
406.30	-6.05	407.90	0.00
406.40	-5.86	407.90	0.00
406.45	-5.76	407.90	0.00
406.50	-5.66	407.90	0.00
406.60	-5.46	407.90	0.00
406.70	-5.24	407.90	0.00
406.80	-5.02	407.90	0.00
406.90	-4.79	407.90	0.00
406.95	-4.67	407.90	0.00
407.00	-4.54	407.90	0.00
407.10	-4.28	407.90	0.00
407.20	-4.01	407.90	0.00
407.30	-3.71	407.90	0.00
407.40	-3.39	407.90	0.00
407.45	-3.21	407.90	0.00
407.50	-3.03	407.90	0.00
407.60	-2.62	407.90	0.00
407.70	-2.14	407.90	0.00
407.80	-1.51	407.90	0.00
407.90	0.00	407.90	0.00
407.95	1.06	407.90	0.00
408.00	1.52	407.90	0.00
408.10	2.14	407.90	0.00
408.20	2.62	407.90	0.00
408.25	2.83	407.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.79	408.00	0.00
405.00	-6.79	408.00	0.00
405.40	-6.79	408.00	0.00
405.45	-6.79	408.00	0.00
405.50	-6.79	408.00	0.00
405.60	-6.79	408.00	0.00
405.70	-6.79	408.00	0.00
405.80	-6.79	408.00	0.00
405.90	-6.79	408.00	0.00
405.95	-6.79	408.00	0.00
406.00	-6.77	408.00	0.00
406.10	-6.60	408.00	0.00
406.20	-6.42	408.00	0.00
406.30	-6.24	408.00	0.00
406.40	-6.05	408.00	0.00
406.45	-5.96	408.00	0.00
406.50	-5.86	408.00	0.00
406.60	-5.66	408.00	0.00
406.70	-5.46	408.00	0.00
406.80	-5.24	408.00	0.00
406.90	-5.02	408.00	0.00
406.95	-4.91	408.00	0.00
407.00	-4.79	408.00	0.00
407.10	-4.54	408.00	0.00
407.20	-4.28	408.00	0.00
407.30	-4.01	408.00	0.00
407.40	-3.71	408.00	0.00
407.45	-3.55	408.00	0.00
407.50	-3.39	408.00	0.00
407.60	-3.03	408.00	0.00
407.70	-2.62	408.00	0.00
407.80	-2.14	408.00	0.00
407.90	-1.51	408.00	0.00
407.95	-1.07	408.00	0.00
408.00	0.00	408.00	0.00
408.10	1.51	408.00	0.00
408.20	2.14	408.00	0.00
408.25	2.39	408.00	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-6.95	408.10	0.00
405.00	-6.95	408.10	0.00
405.40	-6.95	408.10	0.00
405.45	-6.95	408.10	0.00
405.50	-6.95	408.10	0.00
405.60	-6.95	408.10	0.00
405.70	-6.95	408.10	0.00
405.80	-6.95	408.10	0.00
405.90	-6.95	408.10	0.00
405.95	-6.95	408.10	0.00
406.00	-6.94	408.10	0.00
406.10	-6.77	408.10	0.00
406.20	-6.60	408.10	0.00
406.30	-6.42	408.10	0.00
406.40	-6.24	408.10	0.00
406.45	-6.15	408.10	0.00
406.50	-6.05	408.10	0.00
406.60	-5.86	408.10	0.00
406.70	-5.66	408.10	0.00
406.80	-5.46	408.10	0.00
406.90	-5.24	408.10	0.00
406.95	-5.13	408.10	0.00
407.00	-5.02	408.10	0.00
407.10	-4.79	408.10	0.00
407.20	-4.54	408.10	0.00
407.30	-4.28	408.10	0.00
407.40	-4.01	408.10	0.00
407.45	-3.86	408.10	0.00
407.50	-3.71	408.10	0.00
407.60	-3.39	408.10	0.00
407.70	-3.03	408.10	0.00
407.80	-2.62	408.10	0.00
407.90	-2.14	408.10	0.00
407.95	-1.86	408.10	0.00
408.00	-1.51	408.10	0.00
408.10	0.00	408.10	0.00
408.20	1.52	408.10	0.00
408.25	1.85	408.10	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.11	408.20	0.00
405.00	-7.11	408.20	0.00
405.40	-7.11	408.20	0.00
405.45	-7.11	408.20	0.00
405.50	-7.11	408.20	0.00
405.60	-7.11	408.20	0.00
405.70	-7.11	408.20	0.00
405.80	-7.11	408.20	0.00
405.90	-7.11	408.20	0.00
405.95	-7.11	408.20	0.00
406.00	-7.10	408.20	0.00
406.10	-6.94	408.20	0.00
406.20	-6.77	408.20	0.00
406.30	-6.60	408.20	0.00
406.40	-6.42	408.20	0.00
406.45	-6.33	408.20	0.00
406.50	-6.24	408.20	0.00
406.60	-6.05	408.20	0.00
406.70	-5.86	408.20	0.00
406.80	-5.66	408.20	0.00
406.90	-5.46	408.20	0.00
406.95	-5.35	408.20	0.00
407.00	-5.24	408.20	0.00
407.10	-5.02	408.20	0.00
407.20	-4.79	408.20	0.00
407.30	-4.54	408.20	0.00
407.40	-4.28	408.20	0.00
407.45	-4.14	408.20	0.00
407.50	-4.01	408.20	0.00
407.60	-3.71	408.20	0.00
407.70	-3.39	408.20	0.00
407.80	-3.03	408.20	0.00
407.90	-2.62	408.20	0.00
407.95	-2.40	408.20	0.00
408.00	-2.14	408.20	0.00
408.10	-1.51	408.20	0.00
408.20	0.00	408.20	0.00
408.25	1.08	408.20	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve

Label: BMH-1A-2->MU POND

Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years

Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.27	408.30	0.00
405.00	-7.27	408.30	0.00
405.40	-7.27	408.30	0.00
405.45	-7.27	408.30	0.00
405.50	-7.27	408.30	0.00
405.60	-7.27	408.30	0.00
405.70	-7.27	408.30	0.00
405.80	-7.27	408.30	0.00
405.90	-7.27	408.30	0.00
405.95	-7.27	408.30	0.00
406.00	-7.26	408.30	0.00
406.10	-7.10	408.30	0.00
406.20	-6.94	408.30	0.00
406.30	-6.77	408.30	0.00
406.40	-6.60	408.30	0.00
406.45	-6.51	408.30	0.00
406.50	-6.42	408.30	0.00
406.60	-6.24	408.30	0.00
406.70	-6.05	408.30	0.00
406.80	-5.86	408.30	0.00
406.90	-5.66	408.30	0.00
406.95	-5.56	408.30	0.00
407.00	-5.46	408.30	0.00
407.10	-5.24	408.30	0.00
407.20	-5.02	408.30	0.00
407.30	-4.79	408.30	0.00
407.40	-4.54	408.30	0.00
407.45	-4.41	408.30	0.00
407.50	-4.28	408.30	0.00
407.60	-4.01	408.30	0.00
407.70	-3.71	408.30	0.00
407.80	-3.39	408.30	0.00
407.90	-3.03	408.30	0.00
407.95	-2.83	408.30	0.00
408.00	-2.62	408.30	0.00
408.10	-2.14	408.30	0.00
408.20	-1.51	408.30	0.00
408.25	-1.07	408.30	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.42	408.40	0.00
405.00	-7.42	408.40	0.00
405.40	-7.42	408.40	0.00
405.45	-7.42	408.40	0.00
405.50	-7.42	408.40	0.00
405.60	-7.42	408.40	0.00
405.70	-7.42	408.40	0.00
405.80	-7.42	408.40	0.00
405.90	-7.42	408.40	0.00
405.95	-7.42	408.40	0.00
406.00	-7.41	408.40	0.00
406.10	-7.26	408.40	0.00
406.20	-7.10	408.40	0.00
406.30	-6.94	408.40	0.00
406.40	-6.77	408.40	0.00
406.45	-6.68	408.40	0.00
406.50	-6.60	408.40	0.00
406.60	-6.42	408.40	0.00
406.70	-6.24	408.40	0.00
406.80	-6.05	408.40	0.00
406.90	-5.86	408.40	0.00
406.95	-5.76	408.40	0.00
407.00	-5.66	408.40	0.00
407.10	-5.46	408.40	0.00
407.20	-5.24	408.40	0.00
407.30	-5.02	408.40	0.00
407.40	-4.79	408.40	0.00
407.45	-4.67	408.40	0.00
407.50	-4.54	408.40	0.00
407.60	-4.28	408.40	0.00
407.70	-4.01	408.40	0.00
407.80	-3.71	408.40	0.00
407.90	-3.39	408.40	0.00
407.95	-3.21	408.40	0.00
408.00	-3.03	408.40	0.00
408.10	-2.62	408.40	0.00
408.20	-2.14	408.40	0.00
408.25	-1.86	408.40	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.58	408.50	0.00
405.00	-7.58	408.50	0.00
405.40	-7.58	408.50	0.00
405.45	-7.58	408.50	0.00
405.50	-7.58	408.50	0.00
405.60	-7.58	408.50	0.00
405.70	-7.58	408.50	0.00
405.80	-7.58	408.50	0.00
405.90	-7.58	408.50	0.00
405.95	-7.58	408.50	0.00
406.00	-7.57	408.50	0.00
406.10	-7.41	408.50	0.00
406.20	-7.26	408.50	0.00
406.30	-7.10	408.50	0.00
406.40	-6.94	408.50	0.00
406.45	-6.85	408.50	0.00
406.50	-6.77	408.50	0.00
406.60	-6.60	408.50	0.00
406.70	-6.42	408.50	0.00
406.80	-6.24	408.50	0.00
406.90	-6.05	408.50	0.00
406.95	-5.96	408.50	0.00
407.00	-5.86	408.50	0.00
407.10	-5.66	408.50	0.00
407.20	-5.46	408.50	0.00
407.30	-5.24	408.50	0.00
407.40	-5.02	408.50	0.00
407.45	-4.91	408.50	0.00
407.50	-4.79	408.50	0.00
407.60	-4.54	408.50	0.00
407.70	-4.28	408.50	0.00
407.80	-4.01	408.50	0.00
407.90	-3.71	408.50	0.00
407.95	-3.55	408.50	0.00
408.00	-3.39	408.50	0.00
408.10	-3.03	408.50	0.00
408.20	-2.62	408.50	0.00
408.25	-2.40	408.50	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years

Label: BMH-1A-2->MU POND — Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.72	408.60	0.00
405.00	-7.72	408.60	0.00
405.40	-7.72	408.60	0.00
405.45	-7.72	408.60	0.00
405.50	-7.72	408.60	0.00
405.60	-7.72	408.60	0.00
405.70	-7.72	408.60	0.00
405.80	-7.72	408.60	0.00
405.90	-7.72	408.60	0.00
405.95	-7.72	408.60	0.00
406.00	-7.72	408.60	0.00
406.10	-7.57	408.60	0.00
406.20	-7.41	408.60	0.00
406.30	-7.26	408.60	0.00
406.40	-7.10	408.60	0.00
406.45	-7.02	408.60	0.00
406.50	-6.94	408.60	0.00
406.60	-6.77	408.60	0.00
406.70	-6.60	408.60	0.00
406.80	-6.42	408.60	0.00
406.90	-6.24	408.60	0.00
406.95	-6.15	408.60	0.00
407.00	-6.05	408.60	0.00
407.10	-5.86	408.60	0.00
407.20	-5.66	408.60	0.00
407.30	-5.46	408.60	0.00
407.40	-5.24	408.60	0.00
407.45	-5.13	408.60	0.00
407.50	-5.02	408.60	0.00
407.60	-4.79	408.60	0.00
407.70	-4.54	408.60	0.00
407.80	-4.28	408.60	0.00
407.90	-4.01	408.60	0.00
407.95	-3.86	408.60	0.00
408.00	-3.71	408.60	0.00
408.10	-3.39	408.60	0.00
408.20	-3.03	408.60	0.00
408.25	-2.83	408.60	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-7.87	408.70	0.00
405.00	-7.87	408.70	0.00
405.40	-7.87	408.70	0.00
405.45	-7.87	408.70	0.00
405.50	-7.87	408.70	0.00
405.60	-7.87	408.70	0.00
405.70	-7.87	408.70	0.00
405.80	-7.87	408.70	0.00
405.90	-7.87	408.70	0.00
405.95	-7.87	408.70	0.00
406.00	-7.86	408.70	0.00
406.10	-7.72	408.70	0.00
406.20	-7.57	408.70	0.00
406.30	-7.41	408.70	0.00
406.40	-7.26	408.70	0.00
406.45	-7.18	408.70	0.00
406.50	-7.10	408.70	0.00
406.60	-6.94	408.70	0.00
406.70	-6.77	408.70	0.00
406.80	-6.60	408.70	0.00
406.90	-6.42	408.70	0.00
406.95	-6.33	408.70	0.00
407.00	-6.24	408.70	0.00
407.10	-6.05	408.70	0.00
407.20	-5.86	408.70	0.00
407.30	-5.66	408.70	0.00
407.40	-5.46	408.70	0.00
407.45	-5.35	408.70	0.00
407.50	-5.24	408.70	0.00
407.60	-5.02	408.70	0.00
407.70	-4.79	408.70	0.00
407.80	-4.54	408.70	0.00
407.90	-4.28	408.70	0.00
407.95	-4.14	408.70	0.00
408.00	-4.01	408.70	0.00
408.10	-3.71	408.70	0.00
408.20	-3.39	408.70	0.00
408.25	-3.21	408.70	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve	Return Event: 1 years
Label: BMH-1A-2->MU POND	Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->MU POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-8.01	408.80	0.00
405.00	-8.01	408.80	0.00
405.40	-8.01	408.80	0.00
405.45	-8.01	408.80	0.00
405.50	-8.01	408.80	0.00
405.60	-8.01	408.80	0.00
405.70	-8.01	408.80	0.00
405.80	-8.01	408.80	0.00
405.90	-8.01	408.80	0.00
405.95	-8.01	408.80	0.00
406.00	-8.01	408.80	0.00
406.10	-7.86	408.80	0.00
406.20	-7.72	408.80	0.00
406.30	-7.57	408.80	0.00
406.40	-7.41	408.80	0.00
406.45	-7.34	408.80	0.00
406.50	-7.26	408.80	0.00
406.60	-7.10	408.80	0.00
406.70	-6.94	408.80	0.00
406.80	-6.77	408.80	0.00
406.90	-6.60	408.80	0.00
406.95	-6.51	408.80	0.00
407.00	-6.42	408.80	0.00
407.10	-6.24	408.80	0.00
407.20	-6.05	408.80	0.00
407.30	-5.86	408.80	0.00
407.40	-5.66	408.80	0.00
407.45	-5.56	408.80	0.00
407.50	-5.46	408.80	0.00
407.60	-5.24	408.80	0.00
407.70	-5.02	408.80	0.00
407.80	-4.79	408.80	0.00
407.90	-4.54	408.80	0.00
407.95	-4.41	408.80	0.00
408.00	-4.28	408.80	0.00
408.10	-4.01	408.80	0.00
408.20	-3.71	408.80	0.00
408.25	-3.55	408.80	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->MU POND
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	400.50	0.00
405.00	0.01	400.50	0.00
405.05	0.02	400.50	0.00
405.15	0.08	400.50	0.00
405.25	0.17	400.50	0.00
405.35	0.29	400.50	0.00
405.45	0.42	400.50	0.00
405.50	0.48	400.50	0.00
405.55	0.55	400.50	0.00
405.65	0.66	400.50	0.00
405.75	0.75	400.50	0.00
405.85	0.83	400.50	0.00
405.95	0.90	400.50	0.00
406.00	0.93	400.50	0.00
406.05	0.96	400.50	0.00
406.15	1.01	400.50	0.00
406.25	1.06	400.50	0.00
406.35	1.09	400.50	0.00
406.45	1.13	400.50	0.00
406.55	1.17	400.50	0.00
406.65	1.21	400.50	0.00
406.75	1.24	400.50	0.00
406.85	1.28	400.50	0.00
406.95	1.31	400.50	0.00
407.05	1.35	400.50	0.00
407.15	1.38	400.50	0.00
407.25	1.41	400.50	0.00
407.35	1.44	400.50	0.00
407.45	1.47	400.50	0.00
407.55	1.50	400.50	0.00
407.65	1.53	400.50	0.00
407.75	1.56	400.50	0.00
407.85	1.59	400.50	0.00
407.95	1.61	400.50	0.00
408.05	1.64	400.50	0.00
408.15	1.67	400.50	0.00
408.25	1.69	400.50	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	400.75	0.00
405.00	0.01	400.75	0.00
405.05	0.02	400.75	0.00
405.15	0.08	400.75	0.00
405.25	0.17	400.75	0.00
405.35	0.29	400.75	0.00
405.45	0.42	400.75	0.00
405.50	0.48	400.75	0.00
405.55	0.55	400.75	0.00
405.65	0.66	400.75	0.00
405.75	0.75	400.75	0.00
405.85	0.83	400.75	0.00
405.95	0.90	400.75	0.00
406.00	0.93	400.75	0.00
406.05	0.96	400.75	0.00
406.15	1.01	400.75	0.00
406.25	1.06	400.75	0.00
406.35	1.09	400.75	0.00
406.45	1.13	400.75	0.00
406.55	1.17	400.75	0.00
406.65	1.21	400.75	0.00
406.75	1.24	400.75	0.00
406.85	1.28	400.75	0.00
406.95	1.31	400.75	0.00
407.05	1.35	400.75	0.00
407.15	1.38	400.75	0.00
407.25	1.41	400.75	0.00
407.35	1.44	400.75	0.00
407.45	1.47	400.75	0.00
407.55	1.50	400.75	0.00
407.65	1.53	400.75	0.00
407.75	1.56	400.75	0.00
407.85	1.59	400.75	0.00
407.95	1.61	400.75	0.00
408.05	1.64	400.75	0.00
408.15	1.67	400.75	0.00
408.25	1.69	400.75	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	401.00	0.00
405.00	0.01	401.00	0.00
405.05	0.02	401.00	0.00
405.15	0.08	401.00	0.00
405.25	0.17	401.00	0.00
405.35	0.29	401.00	0.00
405.45	0.42	401.00	0.00
405.50	0.48	401.00	0.00
405.55	0.55	401.00	0.00
405.65	0.66	401.00	0.00
405.75	0.75	401.00	0.00
405.85	0.83	401.00	0.00
405.95	0.90	401.00	0.00
406.00	0.93	401.00	0.00
406.05	0.96	401.00	0.00
406.15	1.01	401.00	0.00
406.25	1.06	401.00	0.00
406.35	1.09	401.00	0.00
406.45	1.13	401.00	0.00
406.55	1.17	401.00	0.00
406.65	1.21	401.00	0.00
406.75	1.24	401.00	0.00
406.85	1.28	401.00	0.00
406.95	1.31	401.00	0.00
407.05	1.35	401.00	0.00
407.15	1.38	401.00	0.00
407.25	1.41	401.00	0.00
407.35	1.44	401.00	0.00
407.45	1.47	401.00	0.00
407.55	1.50	401.00	0.00
407.65	1.53	401.00	0.00
407.75	1.56	401.00	0.00
407.85	1.59	401.00	0.00
407.95	1.61	401.00	0.00
408.05	1.64	401.00	0.00
408.15	1.67	401.00	0.00
408.25	1.69	401.00	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	401.25	0.00
405.00	0.01	401.25	0.00
405.05	0.02	401.25	0.00
405.15	0.08	401.25	0.00
405.25	0.17	401.25	0.00
405.35	0.29	401.25	0.00
405.45	0.42	401.25	0.00
405.50	0.48	401.25	0.00
405.55	0.55	401.25	0.00
405.65	0.66	401.25	0.00
405.75	0.75	401.25	0.00
405.85	0.83	401.25	0.00
405.95	0.90	401.25	0.00
406.00	0.93	401.25	0.00
406.05	0.96	401.25	0.00
406.15	1.01	401.25	0.00
406.25	1.06	401.25	0.00
406.35	1.09	401.25	0.00
406.45	1.13	401.25	0.00
406.55	1.17	401.25	0.00
406.65	1.21	401.25	0.00
406.75	1.24	401.25	0.00
406.85	1.28	401.25	0.00
406.95	1.31	401.25	0.00
407.05	1.35	401.25	0.00
407.15	1.38	401.25	0.00
407.25	1.41	401.25	0.00
407.35	1.44	401.25	0.00
407.45	1.47	401.25	0.00
407.55	1.50	401.25	0.00
407.65	1.53	401.25	0.00
407.75	1.56	401.25	0.00
407.85	1.59	401.25	0.00
407.95	1.61	401.25	0.00
408.05	1.64	401.25	0.00
408.15	1.67	401.25	0.00
408.25	1.69	401.25	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	401.50	0.00
405.00	0.01	401.50	0.00
405.05	0.02	401.50	0.00
405.15	0.08	401.50	0.00
405.25	0.17	401.50	0.00
405.35	0.29	401.50	0.00
405.45	0.42	401.50	0.00
405.50	0.48	401.50	0.00
405.55	0.55	401.50	0.00
405.65	0.66	401.50	0.00
405.75	0.75	401.50	0.00
405.85	0.83	401.50	0.00
405.95	0.90	401.50	0.00
406.00	0.93	401.50	0.00
406.05	0.96	401.50	0.00
406.15	1.01	401.50	0.00
406.25	1.06	401.50	0.00
406.35	1.09	401.50	0.00
406.45	1.13	401.50	0.00
406.55	1.17	401.50	0.00
406.65	1.21	401.50	0.00
406.75	1.24	401.50	0.00
406.85	1.28	401.50	0.00
406.95	1.31	401.50	0.00
407.05	1.35	401.50	0.00
407.15	1.38	401.50	0.00
407.25	1.41	401.50	0.00
407.35	1.44	401.50	0.00
407.45	1.47	401.50	0.00
407.55	1.50	401.50	0.00
407.65	1.53	401.50	0.00
407.75	1.56	401.50	0.00
407.85	1.59	401.50	0.00
407.95	1.61	401.50	0.00
408.05	1.64	401.50	0.00
408.15	1.67	401.50	0.00
408.25	1.69	401.50	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	401.75	0.00
405.00	0.01	401.75	0.00
405.05	0.02	401.75	0.00
405.15	0.08	401.75	0.00
405.25	0.17	401.75	0.00
405.35	0.29	401.75	0.00
405.45	0.42	401.75	0.00
405.50	0.48	401.75	0.00
405.55	0.55	401.75	0.00
405.65	0.66	401.75	0.00
405.75	0.75	401.75	0.00
405.85	0.83	401.75	0.00
405.95	0.90	401.75	0.00
406.00	0.93	401.75	0.00
406.05	0.96	401.75	0.00
406.15	1.01	401.75	0.00
406.25	1.06	401.75	0.00
406.35	1.09	401.75	0.00
406.45	1.13	401.75	0.00
406.55	1.17	401.75	0.00
406.65	1.21	401.75	0.00
406.75	1.24	401.75	0.00
406.85	1.28	401.75	0.00
406.95	1.31	401.75	0.00
407.05	1.35	401.75	0.00
407.15	1.38	401.75	0.00
407.25	1.41	401.75	0.00
407.35	1.44	401.75	0.00
407.45	1.47	401.75	0.00
407.55	1.50	401.75	0.00
407.65	1.53	401.75	0.00
407.75	1.56	401.75	0.00
407.85	1.59	401.75	0.00
407.95	1.61	401.75	0.00
408.05	1.64	401.75	0.00
408.15	1.67	401.75	0.00
408.25	1.69	401.75	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	402.00	0.00
405.00	0.01	402.00	0.00
405.05	0.02	402.00	0.00
405.15	0.08	402.00	0.00
405.25	0.17	402.00	0.00
405.35	0.29	402.00	0.00
405.45	0.42	402.00	0.00
405.50	0.48	402.00	0.00
405.55	0.55	402.00	0.00
405.65	0.66	402.00	0.00
405.75	0.75	402.00	0.00
405.85	0.83	402.00	0.00
405.95	0.90	402.00	0.00
406.00	0.93	402.00	0.00
406.05	0.96	402.00	0.00
406.15	1.01	402.00	0.00
406.25	1.06	402.00	0.00
406.35	1.09	402.00	0.00
406.45	1.13	402.00	0.00
406.55	1.17	402.00	0.00
406.65	1.21	402.00	0.00
406.75	1.24	402.00	0.00
406.85	1.28	402.00	0.00
406.95	1.31	402.00	0.00
407.05	1.35	402.00	0.00
407.15	1.38	402.00	0.00
407.25	1.41	402.00	0.00
407.35	1.44	402.00	0.00
407.45	1.47	402.00	0.00
407.55	1.50	402.00	0.00
407.65	1.53	402.00	0.00
407.75	1.56	402.00	0.00
407.85	1.59	402.00	0.00
407.95	1.61	402.00	0.00
408.05	1.64	402.00	0.00
408.15	1.67	402.00	0.00
408.25	1.69	402.00	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	402.25	0.00
405.00	0.01	402.25	0.00
405.05	0.02	402.25	0.00
405.15	0.08	402.25	0.00
405.25	0.17	402.25	0.00
405.35	0.29	402.25	0.00
405.45	0.42	402.25	0.00
405.50	0.48	402.25	0.00
405.55	0.55	402.25	0.00
405.65	0.66	402.25	0.00
405.75	0.75	402.25	0.00
405.85	0.83	402.25	0.00
405.95	0.90	402.25	0.00
406.00	0.93	402.25	0.00
406.05	0.96	402.25	0.00
406.15	1.01	402.25	0.00
406.25	1.06	402.25	0.00
406.35	1.09	402.25	0.00
406.45	1.13	402.25	0.00
406.55	1.17	402.25	0.00
406.65	1.21	402.25	0.00
406.75	1.24	402.25	0.00
406.85	1.28	402.25	0.00
406.95	1.31	402.25	0.00
407.05	1.35	402.25	0.00
407.15	1.38	402.25	0.00
407.25	1.41	402.25	0.00
407.35	1.44	402.25	0.00
407.45	1.47	402.25	0.00
407.55	1.50	402.25	0.00
407.65	1.53	402.25	0.00
407.75	1.56	402.25	0.00
407.85	1.59	402.25	0.00
407.95	1.61	402.25	0.00
408.05	1.64	402.25	0.00
408.15	1.67	402.25	0.00
408.25	1.69	402.25	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	402.50	0.00
405.00	0.01	402.50	0.00
405.05	0.02	402.50	0.00
405.15	0.08	402.50	0.00
405.25	0.17	402.50	0.00
405.35	0.29	402.50	0.00
405.45	0.42	402.50	0.00
405.50	0.48	402.50	0.00
405.55	0.55	402.50	0.00
405.65	0.66	402.50	0.00
405.75	0.75	402.50	0.00
405.85	0.83	402.50	0.00
405.95	0.90	402.50	0.00
406.00	0.93	402.50	0.00
406.05	0.96	402.50	0.00
406.15	1.01	402.50	0.00
406.25	1.06	402.50	0.00
406.35	1.09	402.50	0.00
406.45	1.13	402.50	0.00
406.55	1.17	402.50	0.00
406.65	1.21	402.50	0.00
406.75	1.24	402.50	0.00
406.85	1.28	402.50	0.00
406.95	1.31	402.50	0.00
407.05	1.35	402.50	0.00
407.15	1.38	402.50	0.00
407.25	1.41	402.50	0.00
407.35	1.44	402.50	0.00
407.45	1.47	402.50	0.00
407.55	1.50	402.50	0.00
407.65	1.53	402.50	0.00
407.75	1.56	402.50	0.00
407.85	1.59	402.50	0.00
407.95	1.61	402.50	0.00
408.05	1.64	402.50	0.00
408.15	1.67	402.50	0.00
408.25	1.69	402.50	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	402.75	0.00
405.00	0.01	402.75	0.00
405.05	0.02	402.75	0.00
405.15	0.08	402.75	0.00
405.25	0.17	402.75	0.00
405.35	0.29	402.75	0.00
405.45	0.42	402.75	0.00
405.50	0.48	402.75	0.00
405.55	0.55	402.75	0.00
405.65	0.66	402.75	0.00
405.75	0.75	402.75	0.00
405.85	0.83	402.75	0.00
405.95	0.90	402.75	0.00
406.00	0.93	402.75	0.00
406.05	0.96	402.75	0.00
406.15	1.01	402.75	0.00
406.25	1.06	402.75	0.00
406.35	1.09	402.75	0.00
406.45	1.13	402.75	0.00
406.55	1.17	402.75	0.00
406.65	1.21	402.75	0.00
406.75	1.24	402.75	0.00
406.85	1.28	402.75	0.00
406.95	1.31	402.75	0.00
407.05	1.35	402.75	0.00
407.15	1.38	402.75	0.00
407.25	1.41	402.75	0.00
407.35	1.44	402.75	0.00
407.45	1.47	402.75	0.00
407.55	1.50	402.75	0.00
407.65	1.53	402.75	0.00
407.75	1.56	402.75	0.00
407.85	1.59	402.75	0.00
407.95	1.61	402.75	0.00
408.05	1.64	402.75	0.00
408.15	1.67	402.75	0.00
408.25	1.69	402.75	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	403.00	0.00
405.00	0.01	403.00	0.00
405.05	0.02	403.00	0.00
405.15	0.08	403.00	0.00
405.25	0.17	403.00	0.00
405.35	0.29	403.00	0.00
405.45	0.42	403.00	0.00
405.50	0.48	403.00	0.00
405.55	0.55	403.00	0.00
405.65	0.66	403.00	0.00
405.75	0.75	403.00	0.00
405.85	0.83	403.00	0.00
405.95	0.90	403.00	0.00
406.00	0.93	403.00	0.00
406.05	0.96	403.00	0.00
406.15	1.01	403.00	0.00
406.25	1.06	403.00	0.00
406.35	1.09	403.00	0.00
406.45	1.13	403.00	0.00
406.55	1.17	403.00	0.00
406.65	1.21	403.00	0.00
406.75	1.24	403.00	0.00
406.85	1.28	403.00	0.00
406.95	1.31	403.00	0.00
407.05	1.35	403.00	0.00
407.15	1.38	403.00	0.00
407.25	1.41	403.00	0.00
407.35	1.44	403.00	0.00
407.45	1.47	403.00	0.00
407.55	1.50	403.00	0.00
407.65	1.53	403.00	0.00
407.75	1.56	403.00	0.00
407.85	1.59	403.00	0.00
407.95	1.61	403.00	0.00
408.05	1.64	403.00	0.00
408.15	1.67	403.00	0.00
408.25	1.69	403.00	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	403.25	0.00
405.00	0.01	403.25	0.00
405.05	0.02	403.25	0.00
405.15	0.08	403.25	0.00
405.25	0.17	403.25	0.00
405.35	0.29	403.25	0.00
405.45	0.42	403.25	0.00
405.50	0.48	403.25	0.00
405.55	0.55	403.25	0.00
405.65	0.66	403.25	0.00
405.75	0.75	403.25	0.00
405.85	0.83	403.25	0.00
405.95	0.90	403.25	0.00
406.00	0.93	403.25	0.00
406.05	0.96	403.25	0.00
406.15	1.01	403.25	0.00
406.25	1.06	403.25	0.00
406.35	1.09	403.25	0.00
406.45	1.13	403.25	0.00
406.55	1.17	403.25	0.00
406.65	1.21	403.25	0.00
406.75	1.24	403.25	0.00
406.85	1.28	403.25	0.00
406.95	1.31	403.25	0.00
407.05	1.35	403.25	0.00
407.15	1.38	403.25	0.00
407.25	1.41	403.25	0.00
407.35	1.44	403.25	0.00
407.45	1.47	403.25	0.00
407.55	1.50	403.25	0.00
407.65	1.53	403.25	0.00
407.75	1.56	403.25	0.00
407.85	1.59	403.25	0.00
407.95	1.61	403.25	0.00
408.05	1.64	403.25	0.00
408.15	1.67	403.25	0.00
408.25	1.69	403.25	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
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Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	403.50	0.00
405.00	0.01	403.50	0.00
405.05	0.02	403.50	0.00
405.15	0.08	403.50	0.00
405.25	0.17	403.50	0.00
405.35	0.29	403.50	0.00
405.45	0.42	403.50	0.00
405.50	0.48	403.50	0.00
405.55	0.55	403.50	0.00
405.65	0.66	403.50	0.00
405.75	0.75	403.50	0.00
405.85	0.83	403.50	0.00
405.95	0.90	403.50	0.00
406.00	0.93	403.50	0.00
406.05	0.96	403.50	0.00
406.15	1.01	403.50	0.00
406.25	1.06	403.50	0.00
406.35	1.09	403.50	0.00
406.45	1.13	403.50	0.00
406.55	1.17	403.50	0.00
406.65	1.21	403.50	0.00
406.75	1.24	403.50	0.00
406.85	1.28	403.50	0.00
406.95	1.31	403.50	0.00
407.05	1.35	403.50	0.00
407.15	1.38	403.50	0.00
407.25	1.41	403.50	0.00
407.35	1.44	403.50	0.00
407.45	1.47	403.50	0.00
407.55	1.50	403.50	0.00
407.65	1.53	403.50	0.00
407.75	1.56	403.50	0.00
407.85	1.59	403.50	0.00
407.95	1.61	403.50	0.00
408.05	1.64	403.50	0.00
408.15	1.67	403.50	0.00
408.25	1.69	403.50	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	403.75	0.00
405.00	0.01	403.75	0.00
405.05	0.02	403.75	0.00
405.15	0.08	403.75	0.00
405.25	0.17	403.75	0.00
405.35	0.29	403.75	0.00
405.45	0.42	403.75	0.00
405.50	0.48	403.75	0.00
405.55	0.55	403.75	0.00
405.65	0.66	403.75	0.00
405.75	0.75	403.75	0.00
405.85	0.83	403.75	0.00
405.95	0.90	403.75	0.00
406.00	0.93	403.75	0.00
406.05	0.96	403.75	0.00
406.15	1.01	403.75	0.00
406.25	1.06	403.75	0.00
406.35	1.09	403.75	0.00
406.45	1.13	403.75	0.00
406.55	1.17	403.75	0.00
406.65	1.21	403.75	0.00
406.75	1.24	403.75	0.00
406.85	1.28	403.75	0.00
406.95	1.31	403.75	0.00
407.05	1.35	403.75	0.00
407.15	1.38	403.75	0.00
407.25	1.41	403.75	0.00
407.35	1.44	403.75	0.00
407.45	1.47	403.75	0.00
407.55	1.50	403.75	0.00
407.65	1.53	403.75	0.00
407.75	1.56	403.75	0.00
407.85	1.59	403.75	0.00
407.95	1.61	403.75	0.00
408.05	1.64	403.75	0.00
408.15	1.67	403.75	0.00
408.25	1.69	403.75	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
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Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	404.00	0.00
405.00	0.01	404.00	0.00
405.05	0.02	404.00	0.00
405.15	0.08	404.00	0.00
405.25	0.17	404.00	0.00
405.35	0.29	404.00	0.00
405.45	0.42	404.00	0.00
405.50	0.48	404.00	0.00
405.55	0.55	404.00	0.00
405.65	0.66	404.00	0.00
405.75	0.75	404.00	0.00
405.85	0.83	404.00	0.00
405.95	0.90	404.00	0.00
406.00	0.93	404.00	0.00
406.05	0.96	404.00	0.00
406.15	1.01	404.00	0.00
406.25	1.06	404.00	0.00
406.35	1.09	404.00	0.00
406.45	1.13	404.00	0.00
406.55	1.17	404.00	0.00
406.65	1.21	404.00	0.00
406.75	1.24	404.00	0.00
406.85	1.28	404.00	0.00
406.95	1.31	404.00	0.00
407.05	1.35	404.00	0.00
407.15	1.38	404.00	0.00
407.25	1.41	404.00	0.00
407.35	1.44	404.00	0.00
407.45	1.47	404.00	0.00
407.55	1.50	404.00	0.00
407.65	1.53	404.00	0.00
407.75	1.56	404.00	0.00
407.85	1.59	404.00	0.00
407.95	1.61	404.00	0.00
408.05	1.64	404.00	0.00
408.15	1.67	404.00	0.00
408.25	1.69	404.00	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	404.25	0.00
405.00	0.01	404.25	0.00
405.05	0.02	404.25	0.00
405.15	0.08	404.25	0.00
405.25	0.17	404.25	0.00
405.35	0.29	404.25	0.00
405.45	0.42	404.25	0.00
405.50	0.48	404.25	0.00
405.55	0.55	404.25	0.00
405.65	0.66	404.25	0.00
405.75	0.75	404.25	0.00
405.85	0.83	404.25	0.00
405.95	0.90	404.25	0.00
406.00	0.93	404.25	0.00
406.05	0.96	404.25	0.00
406.15	1.01	404.25	0.00
406.25	1.06	404.25	0.00
406.35	1.09	404.25	0.00
406.45	1.13	404.25	0.00
406.55	1.17	404.25	0.00
406.65	1.21	404.25	0.00
406.75	1.24	404.25	0.00
406.85	1.28	404.25	0.00
406.95	1.31	404.25	0.00
407.05	1.35	404.25	0.00
407.15	1.38	404.25	0.00
407.25	1.41	404.25	0.00
407.35	1.44	404.25	0.00
407.45	1.47	404.25	0.00
407.55	1.50	404.25	0.00
407.65	1.53	404.25	0.00
407.75	1.56	404.25	0.00
407.85	1.59	404.25	0.00
407.95	1.61	404.25	0.00
408.05	1.64	404.25	0.00
408.15	1.67	404.25	0.00
408.25	1.69	404.25	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	404.50	0.00
405.00	0.01	404.50	0.00
405.05	0.02	404.50	0.00
405.15	0.08	404.50	0.00
405.25	0.17	404.50	0.00
405.35	0.29	404.50	0.00
405.45	0.42	404.50	0.00
405.50	0.48	404.50	0.00
405.55	0.55	404.50	0.00
405.65	0.66	404.50	0.00
405.75	0.75	404.50	0.00
405.85	0.83	404.50	0.00
405.95	0.90	404.50	0.00
406.00	0.93	404.50	0.00
406.05	0.96	404.50	0.00
406.15	1.01	404.50	0.00
406.25	1.06	404.50	0.00
406.35	1.09	404.50	0.00
406.45	1.13	404.50	0.00
406.55	1.17	404.50	0.00
406.65	1.21	404.50	0.00
406.75	1.24	404.50	0.00
406.85	1.28	404.50	0.00
406.95	1.31	404.50	0.00
407.05	1.35	404.50	0.00
407.15	1.38	404.50	0.00
407.25	1.41	404.50	0.00
407.35	1.44	404.50	0.00
407.45	1.47	404.50	0.00
407.55	1.50	404.50	0.00
407.65	1.53	404.50	0.00
407.75	1.56	404.50	0.00
407.85	1.59	404.50	0.00
407.95	1.61	404.50	0.00
408.05	1.64	404.50	0.00
408.15	1.67	404.50	0.00
408.25	1.69	404.50	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	404.75	0.00
405.00	0.01	404.75	0.00
405.05	0.02	404.75	0.00
405.15	0.08	404.75	0.00
405.25	0.17	404.75	0.00
405.35	0.29	404.75	0.00
405.45	0.42	404.75	0.00
405.50	0.48	404.75	0.00
405.55	0.55	404.75	0.00
405.65	0.66	404.75	0.00
405.75	0.75	404.75	0.00
405.85	0.83	404.75	0.00
405.95	0.90	404.75	0.00
406.00	0.93	404.75	0.00
406.05	0.96	404.75	0.00
406.15	1.01	404.75	0.00
406.25	1.06	404.75	0.00
406.35	1.09	404.75	0.00
406.45	1.13	404.75	0.00
406.55	1.17	404.75	0.00
406.65	1.21	404.75	0.00
406.75	1.24	404.75	0.00
406.85	1.28	404.75	0.00
406.95	1.31	404.75	0.00
407.05	1.35	404.75	0.00
407.15	1.38	404.75	0.00
407.25	1.41	404.75	0.00
407.35	1.44	404.75	0.00
407.45	1.47	404.75	0.00
407.55	1.50	404.75	0.00
407.65	1.53	404.75	0.00
407.75	1.56	404.75	0.00
407.85	1.59	404.75	0.00
407.95	1.61	404.75	0.00
408.05	1.64	404.75	0.00
408.15	1.67	404.75	0.00
408.25	1.69	404.75	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	0.00	404.95	0.00
405.00	0.01	404.95	0.00
405.05	0.02	404.95	0.00
405.15	0.08	404.95	0.00
405.25	0.17	404.95	0.00
405.35	0.29	404.95	0.00
405.45	0.42	404.95	0.00
405.50	0.48	404.95	0.00
405.55	0.55	404.95	0.00
405.65	0.66	404.95	0.00
405.75	0.75	404.95	0.00
405.85	0.83	404.95	0.00
405.95	0.90	404.95	0.00
406.00	0.93	404.95	0.00
406.05	0.96	404.95	0.00
406.15	1.01	404.95	0.00
406.25	1.06	404.95	0.00
406.35	1.09	404.95	0.00
406.45	1.13	404.95	0.00
406.55	1.17	404.95	0.00
406.65	1.21	404.95	0.00
406.75	1.24	404.95	0.00
406.85	1.28	404.95	0.00
406.95	1.31	404.95	0.00
407.05	1.35	404.95	0.00
407.15	1.38	404.95	0.00
407.25	1.41	404.95	0.00
407.35	1.44	404.95	0.00
407.45	1.47	404.95	0.00
407.55	1.50	404.95	0.00
407.65	1.53	404.95	0.00
407.75	1.56	404.95	0.00
407.85	1.59	404.95	0.00
407.95	1.61	404.95	0.00
408.05	1.64	404.95	0.00
408.15	1.67	404.95	0.00
408.25	1.69	404.95	0.00

Contributing Structures
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.01	405.00	0.00
405.00	0.00	405.00	0.00
405.05	0.02	405.00	0.00
405.15	0.08	405.00	0.00
405.25	0.17	405.00	0.00
405.35	0.29	405.00	0.00
405.45	0.42	405.00	0.00
405.50	0.48	405.00	0.00
405.55	0.55	405.00	0.00
405.65	0.66	405.00	0.00
405.75	0.75	405.00	0.00
405.85	0.83	405.00	0.00
405.95	0.90	405.00	0.00
406.00	0.93	405.00	0.00
406.05	0.96	405.00	0.00
406.15	1.01	405.00	0.00
406.25	1.05	405.00	0.00
406.35	1.09	405.00	0.00
406.45	1.13	405.00	0.00
406.55	1.17	405.00	0.00
406.65	1.21	405.00	0.00
406.75	1.24	405.00	0.00
406.85	1.28	405.00	0.00
406.95	1.31	405.00	0.00
407.05	1.34	405.00	0.00
407.15	1.38	405.00	0.00
407.25	1.41	405.00	0.00
407.35	1.44	405.00	0.00
407.45	1.47	405.00	0.00
407.55	1.50	405.00	0.00
407.65	1.53	405.00	0.00
407.75	1.56	405.00	0.00
407.85	1.59	405.00	0.00
407.95	1.61	405.00	0.00
408.05	1.64	405.00	0.00
408.15	1.67	405.00	0.00
408.25	1.69	405.00	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.16	405.25	0.00
405.00	-0.16	405.25	0.00
405.05	-0.16	405.25	0.00
405.15	-0.16	405.25	0.00
405.25	0.00	405.25	0.00
405.35	0.28	405.25	0.00
405.45	0.41	405.25	0.00
405.50	0.47	405.25	0.00
405.55	0.51	405.25	0.00
405.65	0.59	405.25	0.00
405.75	0.66	405.25	0.00
405.85	0.73	405.25	0.00
405.95	0.79	405.25	0.00
406.00	0.81	405.25	0.00
406.05	0.84	405.25	0.00
406.15	0.89	405.25	0.00
406.25	0.94	405.25	0.00
406.35	0.99	405.25	0.00
406.45	1.03	405.25	0.00
406.55	1.07	405.25	0.00
406.65	1.11	405.25	0.00
406.75	1.15	405.25	0.00
406.85	1.19	405.25	0.00
406.95	1.22	405.25	0.00
407.05	1.26	405.25	0.00
407.15	1.30	405.25	0.00
407.25	1.33	405.25	0.00
407.35	1.36	405.25	0.00
407.45	1.39	405.25	0.00
407.55	1.42	405.25	0.00
407.65	1.46	405.25	0.00
407.75	1.49	405.25	0.00
407.85	1.51	405.25	0.00
407.95	1.54	405.25	0.00
408.05	1.57	405.25	0.00
408.15	1.60	405.25	0.00
408.25	1.63	405.25	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.38	405.50	0.00
405.00	-0.38	405.50	0.00
405.05	-0.38	405.50	0.00
405.15	-0.38	405.50	0.00
405.25	-0.38	405.50	0.00
405.35	-0.34	405.50	0.00
405.45	-0.21	405.50	0.00
405.50	0.00	405.50	0.00
405.55	0.21	405.50	0.00
405.65	0.36	405.50	0.00
405.75	0.47	405.50	0.00
405.85	0.56	405.50	0.00
405.95	0.63	405.50	0.00
406.00	0.66	405.50	0.00
406.05	0.70	405.50	0.00
406.15	0.76	405.50	0.00
406.25	0.81	405.50	0.00
406.35	0.87	405.50	0.00
406.45	0.92	405.50	0.00
406.55	0.96	405.50	0.00
406.65	1.01	405.50	0.00
406.75	1.05	405.50	0.00
406.85	1.09	405.50	0.00
406.95	1.13	405.50	0.00
407.05	1.17	405.50	0.00
407.15	1.21	405.50	0.00
407.25	1.24	405.50	0.00
407.35	1.28	405.50	0.00
407.45	1.31	405.50	0.00
407.55	1.34	405.50	0.00
407.65	1.38	405.50	0.00
407.75	1.41	405.50	0.00
407.85	1.44	405.50	0.00
407.95	1.47	405.50	0.00
408.05	1.50	405.50	0.00
408.15	1.53	405.50	0.00
408.25	1.56	405.50	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.56	405.75	0.00
405.00	-0.56	405.75	0.00
405.05	-0.56	405.75	0.00
405.15	-0.56	405.75	0.00
405.25	-0.56	405.75	0.00
405.35	-0.56	405.75	0.00
405.45	-0.51	405.75	0.00
405.50	-0.47	405.75	0.00
405.55	-0.42	405.75	0.00
405.65	-0.30	405.75	0.00
405.75	0.00	405.75	0.00
405.85	0.30	405.75	0.00
405.95	0.42	405.75	0.00
406.00	0.47	405.75	0.00
406.05	0.51	405.75	0.00
406.15	0.59	405.75	0.00
406.25	0.66	405.75	0.00
406.35	0.73	405.75	0.00
406.45	0.79	405.75	0.00
406.55	0.84	405.75	0.00
406.65	0.89	405.75	0.00
406.75	0.94	405.75	0.00
406.85	0.99	405.75	0.00
406.95	1.03	405.75	0.00
407.05	1.07	405.75	0.00
407.15	1.11	405.75	0.00
407.25	1.15	405.75	0.00
407.35	1.19	405.75	0.00
407.45	1.22	405.75	0.00
407.55	1.26	405.75	0.00
407.65	1.29	405.75	0.00
407.75	1.33	405.75	0.00
407.85	1.36	405.75	0.00
407.95	1.39	405.75	0.00
408.05	1.42	405.75	0.00
408.15	1.46	405.75	0.00
408.25	1.49	405.75	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve | Return Event: 1 years
Label: BMH-1A-2->PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
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Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.95	-0.72	406.00	0.00
405.00	-0.72	406.00	0.00
405.05	-0.72	406.00	0.00
405.15	-0.72	406.00	0.00
405.25	-0.72	406.00	0.00
405.35	-0.72	406.00	0.00
405.45	-0.70	406.00	0.00
405.50	-0.66	406.00	0.00
405.55	-0.63	406.00	0.00
405.65	-0.56	406.00	0.00
405.75	-0.47	406.00	0.00
405.85	-0.36	406.00	0.00
405.95	-0.21	406.00	0.00
406.00	0.00	406.00	0.00
406.05	0.21	406.00	0.00
406.15	0.36	406.00	0.00
406.25	0.47	406.00	0.00
406.35	0.56	406.00	0.00
406.45	0.63	406.00	0.00
406.55	0.70	406.00	0.00
406.65	0.76	406.00	0.00
406.75	0.81	406.00	0.00
406.85	0.87	406.00	0.00
406.95	0.92	406.00	0.00
407.05	0.96	406.00	0.00
407.15	1.01	406.00	0.00
407.25	1.05	406.00	0.00
407.35	1.09	406.00	0.00
407.45	1.13	406.00	0.00
407.55	1.17	406.00	0.00
407.65	1.21	406.00	0.00
407.75	1.24	406.00	0.00
407.85	1.28	406.00	0.00
407.95	1.31	406.00	0.00
408.05	1.34	406.00	0.00
408.15	1.38	406.00	0.00
408.25	1.41	406.00	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: BMH-1A-2->PO-1A-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Subsection: Composite Rating Curve
Label: OCS-1B-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
395.75	0.00	(N/A)	0.00
396.25	0.00	(N/A)	0.00
396.50	0.00	(N/A)	0.00
396.75	0.00	(N/A)	0.00
397.25	0.00	(N/A)	0.00
397.75	0.00	(N/A)	0.00
398.25	0.00	(N/A)	0.00
398.75	0.00	(N/A)	0.00
399.25	0.00	(N/A)	0.00
399.75	0.27	(N/A)	0.00
400.25	0.75	(N/A)	0.00
400.75	1.38	(N/A)	0.00
401.25	2.12	(N/A)	0.00
401.75	2.97	(N/A)	0.00
402.25	3.89	(N/A)	0.00
402.50	4.40	(N/A)	0.00

Contributing Structures
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-1B-3 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
404.75	0.00	(N/A)	0.00
405.25	0.00	(N/A)	0.00
405.75	0.00	(N/A)	0.00
406.25	0.00	(N/A)	0.00
406.75	0.00	(N/A)	0.00
407.25	0.00	(N/A)	0.00
407.75	0.00	(N/A)	0.00
408.25	0.00	(N/A)	0.00
408.75	0.00	(N/A)	0.00
409.25	0.26	(N/A)	0.00
409.75	0.75	(N/A)	0.00
410.25	1.38	(N/A)	0.00
410.75	2.12	(N/A)	0.00
411.25	2.96	(N/A)	0.00
411.50	3.42	(N/A)	0.00

Contributing Structures
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
(no Q: Weir - 1,Culvert - 1)
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1
Weir - 1,Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: OCS-1E
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
400.05	0.00	(N/A)	0.00
400.55	0.00	(N/A)	0.00
400.80	0.00	(N/A)	0.00
401.05	0.19	(N/A)	0.00
401.55	1.45	(N/A)	0.00
402.05	3.30	(N/A)	0.00
402.55	4.55	(N/A)	0.00
403.05	5.52	(N/A)	0.00
403.55	6.34	(N/A)	0.00
404.05	7.07	(N/A)	0.00
404.26	7.35	(N/A)	0.00
404.55	9.36	(N/A)	0.00
405.05	15.70	(N/A)	0.00
405.55	24.28	(N/A)	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
Culvert - 1E
Culvert - 1E
Culvert - 1E
Culvert - 1E
Culvert - 1E
Culvert - 1E
Culvert - 1E
Culvert - 1E + Weir - 1E
Culvert - 1E + Weir - 1E
Culvert - 1E + Weir - 1E
Culvert - 1E + Weir - 1E

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: OCS-MU-POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	399.00	0.00
405.90	0.76	399.00	0.00
406.40	2.67	399.00	0.00
406.75	3.49	399.00	0.00
406.90	4.01	399.00	0.00
407.40	8.33	399.00	0.00
407.90	14.49	399.00	0.00
408.40	18.14	399.00	0.00
408.80	20.56	399.00	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve — Return Event: 1 years
Label: OCS-MU-POND — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	399.50	0.00
405.90	0.76	399.50	0.00
406.40	2.67	399.50	0.00
406.75	3.49	399.50	0.00
406.90	4.01	399.50	0.00
407.40	8.33	399.50	0.00
407.90	14.49	399.50	0.00
408.40	18.14	399.50	0.00
408.80	20.56	399.50	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-MU-POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	400.00	0.00
405.90	0.76	400.00	0.00
406.40	2.67	400.00	0.00
406.75	3.49	400.00	0.00
406.90	4.01	400.00	0.00
407.40	8.33	400.00	0.00
407.90	14.49	400.00	0.00
408.40	18.14	400.00	0.00
408.80	20.56	400.00	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-MU-POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	0.00	405.40	0.00
405.90	0.76	405.40	0.00
406.40	2.67	405.40	0.00
406.75	3.49	405.40	0.00
406.90	4.01	405.40	0.00
407.40	8.33	405.40	0.00
407.90	14.49	405.40	0.00
408.40	18.14	405.40	0.00
408.80	20.56	405.40	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-MU-POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
405.40	-3.49	406.75	0.00
405.90	-3.49	406.75	0.00
406.40	-2.24	406.75	0.00
406.75	0.00	406.75	0.00
406.90	1.69	406.75	0.00
407.40	6.74	406.75	0.00
407.90	13.20	406.75	0.00
408.40	17.02	406.75	0.00
408.80	19.53	406.75	0.00

Contributing Structures
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve | Return Event: 1 years
Label: OCS-POND-1 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
400.00	0.00	(N/A)	0.00
400.50	0.00	(N/A)	0.00
401.00	0.00	(N/A)	0.00
401.50	0.00	(N/A)	0.00
402.00	0.00	(N/A)	0.00
402.50	0.00	(N/A)	0.00
403.00	0.00	(N/A)	0.00
403.50	0.00	(N/A)	0.00
404.00	0.00	(N/A)	0.00
404.29	0.00	(N/A)	0.00
404.50	0.00	(N/A)	0.00
405.00	0.00	(N/A)	0.00
405.50	0.00	(N/A)	0.00
406.00	0.06	(N/A)	0.00
406.50	0.10	(N/A)	0.00
406.70	0.11	(N/A)	0.00
407.00	0.64	(N/A)	0.00
407.50	2.15	(N/A)	0.00
408.00	3.83	(N/A)	0.00
408.50	5.34	(N/A)	0.00
409.00	15.61	(N/A)	0.00

Contributing Structures
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)
(no Q: Weir - 1,Riser - 1,Culvert - 2,Culvert - 1)

Subsection: Composite Rating Curve
Label: OCS-POND-1
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Culvert - 2,Culvert - 1 (no Q: Weir - 1,Riser - 1)
Weir - 1,Culvert - 2,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 2,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 2,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 2,Culvert - 1 (no Q: Riser - 1)
Riser - 1,Culvert - 2,Culvert - 1 (no Q: Weir - 1)

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: OCS-POND-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
402.00	0.00	(N/A)	0.00
402.50	0.00	(N/A)	0.00
403.00	0.00	(N/A)	0.00
403.50	0.00	(N/A)	0.00
404.00	0.00	(N/A)	0.00
404.50	0.00	(N/A)	0.00
405.00	0.00	(N/A)	0.00
405.50	0.00	(N/A)	0.00
406.00	0.00	(N/A)	0.00
406.50	0.00	(N/A)	0.00
407.00	0.07	(N/A)	0.00
407.50	0.10	(N/A)	0.00
408.00	0.12	(N/A)	0.00
408.50	0.15	(N/A)	0.00
409.00	0.16	(N/A)	0.00
409.15	0.17	(N/A)	0.00
409.50	2.89	(N/A)	0.00
410.00	9.97	(N/A)	0.00
410.50	18.84	(N/A)	0.00
411.00	28.60	(N/A)	0.00
411.20	32.60	(N/A)	0.00
411.50	44.09	(N/A)	0.00
412.00	49.11	(N/A)	0.00

Contributing Structures
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)

Subsection: Composite Rating Curve
Label: OCS-POND-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Weir - 2,Weir - 1,Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 2,Weir - 1,Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 2,Weir - 1,Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 2,Weir - 1,Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 2,Weir - 1,Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1

Proposed Hydrologic Calculations

Subsection: Composite Rating Curve
Label: OCS-POND-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Composite Outflow Summary

Contributing Structures
Weir - 2,Weir - 1,Riser - 1,Orifice - 1,Culvert - 1

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 1 years
Label: BMH-1A-2 — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft^3/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft^3)
14.400	405.91	42.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft^3/s)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Pond Inflow....	12.100	0.86	0.000	0.00
Pond Outflow...	12.100	0.83	0.000	-0.39

	Total Volume In		Total Volume Out	
	Volume (ft^3)	Direction	Volume (ft^3)	Direction
Pond Inflow....	3,287.000	Forward	0.000	Reverse
Pond Outflow...	70.000	Reverse	3,298.000	Forward

Mass Balance (ft^3)	
Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	3,357.000 ft^3
Volume (Total Out ICPM)	3,298.000 ft^3
Volume (Ending)	17.000 ft^3
Elevation (Ending)	405.33 ft
Difference	42.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.3 %

Subsection: Interconnected Pond Routing Summary | Return Event: 2 years
Label: BMH-1A-2 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft^3/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft^3)
13.500	406.04	48.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft^3/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft^3/s)
Pond Inflow....	12.100	1.07	0.000	0.00
Pond Outflow...	12.100	1.03	0.000	-0.39

	Total Volume In Volume (ft^3)	Total Volume In Direction	Total Volume Out Volume (ft^3)	Total Volume Out Direction
Pond Inflow....	4,124.000	Forward	0.000	Reverse
Pond Outflow...	80.000	Reverse	4,269.000	Forward

Mass Balance (ft^3)

Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	4,204.000 ft^3
Volume (Total Out ICPM)	4,269.000 ft^3
Volume (Ending)	17.000 ft^3
Elevation (Ending)	405.33 ft
Difference	-81.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.9 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 5 years
Label: BMH-1A-2 — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
14.300	406.32	60.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.100	1.38	0.000	0.00
Pond Outflow...	12.100	1.33	0.000	-0.39

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	5,425.000	Forward	0.000	Reverse
Pond Outflow...	104.000	Reverse	5,398.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	5,530.000 ft³
Volume (Total Out ICPM)	5,398.000 ft³
Volume (Ending)	17.000 ft³
Elevation (Ending)	405.33 ft
Difference	115.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	2.1 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 10 years
Label: BMH-1A-2 — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
14.100	406.70	76.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.100	1.65	0.000	0.00
Pond Outflow...	12.100	1.61	0.000	-0.39

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	6,589.000	Forward	0.000	Reverse
Pond Outflow...	100.000	Reverse	6,609.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	6,689.000 ft³
Volume (Total Out ICPM)	6,609.000 ft³
Volume (Ending)	17.000 ft³
Elevation (Ending)	405.33 ft
Difference	63.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.9 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 25 years
Label: BMH-1A-2 — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.400	407.30	102.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.100	2.12	0.000	0.00
Pond Outflow...	12.100	2.06	0.000	-0.39

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	8,578.000	Forward	0.000	Reverse
Pond Outflow...	97.000	Reverse	8,606.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	8,676.000 ft³
Volume (Total Out ICPM)	8,606.000 ft³
Volume (Ending)	17.000 ft³
Elevation (Ending)	405.33 ft
Difference	53.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.6 %

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
13.100	407.79	124.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.100	2.53	0.000	0.00
Pond Outflow...	12.100	2.45	0.000	-0.39

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	10,312.000	Forward	0.000	Reverse
Pond Outflow...	97.000	Reverse	10,344.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	10,408.000 ft³
Volume (Total Out ICPM)	10,344.000 ft³
Volume (Ending)	17.000 ft³
Elevation (Ending)	405.33 ft
Difference	47.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.5 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 100 years
Label: BMH-1A-2 — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	404.95	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	-0.39	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
12.650	408.25	144.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.100	3.03	0.000	0.00
Pond Outflow...	12.100	2.94	13.050	-1.14

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	12,482.000	Forward	0.000	Reverse
Pond Outflow...	2,787.000	Reverse	11,401.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	15,269.000 ft³
Volume (Total Out ICPM)	11,401.000 ft³
Volume (Ending)	17.000 ft³
Elevation (Ending)	405.33 ft
Difference	3,851.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	25.2 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary
Label: EX. DEPRESSION
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
24.400	408.61	13,080.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.500	1.52	0.000	0.00
Pond Outflow...	34.050	0.04	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	14,581.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	13,352.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	14,581.000 ft³
Volume (Total Out ICPM)	13,352.000 ft³
Volume (Ending)	1,227.000 ft³
Elevation (Ending)	407.06 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary
Label: EX. DEPRESSION
Scenario: POST-DEVELOPMENT-2 YR

Return Event: 2 years
Storm Event: 2 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
16.750	409.02	17,661.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.400	3.63	0.000	0.00
Pond Outflow...	16.750	0.45	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	26,625.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	22,117.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	26,625.000 ft³
Volume (Total Out ICPM)	22,117.000 ft³
Volume (Ending)	4,504.000 ft³
Elevation (Ending)	407.66 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 5 years
Label: EX. DEPRESSION — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
13.200	409.12	19,010.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.350	8.23	0.000	0.00
Pond Outflow...	13.200	2.29	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	50,015.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	45,479.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	50,015.000 ft³
Volume (Total Out ICPM)	45,479.000 ft³
Volume (Ending)	4,533.000 ft³
Elevation (Ending)	407.67 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 10 years
Label: EX. DEPRESSION — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Starting Water Surface Computed)	405.90	ft
Volume (Starting)	0.000	ft^3
Outflow (Starting)	0.00	ft^3/s

Calculation Tolerances

Flow Tolerance (Minimum)	0.000	ft^3/s
Maximum Iterations	35	
ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft^3)
12.750	409.35	22,248.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft^3/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft^3/s)
Pond Inflow....	12.350	13.22	0.000	0.00
Pond Outflow...	12.750	6.72	0.000	0.00

	Total Volume In Volume (ft^3)	Total Volume In Direction	Total Volume Out Volume (ft^3)	Total Volume Out Direction
Pond Inflow....	74,665.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	70,112.000	Forward

Mass Balance (ft^3)

Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	74,665.000 ft^3
Volume (Total Out ICPM)	70,112.000 ft^3
Volume (Ending)	4,550.000 ft^3
Elevation (Ending)	407.67 ft
Difference	3.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 25 years
Label: EX. DEPRESSION — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Starting Water Surface Computed)	405.90	ft
Volume (Starting)	0.000	ft³
Outflow (Starting)	0.00	ft³/s

Calculation Tolerances

Flow Tolerance (Minimum)	0.000	ft³/s
Maximum Iterations	35	
ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.550	409.68	26,863.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	22.95	0.000	0.00
Pond Outflow...	12.550	17.88	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	122,791.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	118,215.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	122,791.000 ft³
Volume (Total Out ICPM)	118,215.000 ft³
Volume (Ending)	4,573.000 ft³
Elevation (Ending)	407.67 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 50 years
Label: EX. DEPRESSION | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
12.450	409.95	30,558.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.300	32.42	0.000	0.00
Pond Outflow...	12.450	28.09	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	169,285.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	164,694.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	169,285.000 ft³
Volume (Total Out ICPM)	164,694.000 ft³
Volume (Ending)	4,588.000 ft³
Elevation (Ending)	407.68 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 100 years
Label: EX. DEPRESSION — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.90	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
12.450	410.20	34,784.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.300	45.01	0.000	0.00
Pond Outflow...	12.450	40.24	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	231,774.000	Forward	0.000	Reverse
Pond Outflow...	0.000	Reverse	227,165.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	231,774.000 ft³
Volume (Total Out ICPM)	227,165.000 ft³
Volume (Ending)	4,605.000 ft³
Elevation (Ending)	407.68 ft
Difference	3.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 1 years
Label: MU POND | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
14.400	405.92	27,572.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.100	12.97	0.000	-0.39
Pond Outflow...	14.400	0.82	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	45,711.000	Forward	14,074.000	Reverse
Pond Outflow...	0.000	Reverse	43,040.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	45,711.000 ft³
Volume (Total Out ICPM)	57,115.000 ft³
Volume (Ending)	0.000 ft³
Elevation (Ending)	405.40 ft
Difference	-11,404.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	20.0 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary	Return Event: 2 years
Label: MU POND	Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR	

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.500	406.05	34,853.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.100	16.91	0.000	-0.39
Pond Outflow...	13.500	1.33	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	67,629.000	Forward	12,764.000	Reverse
Pond Outflow...	0.000	Reverse	64,877.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	67,629.000 ft³
Volume (Total Out ICPM)	77,641.000 ft³
Volume (Ending)	0.000 ft³
Elevation (Ending)	405.40 ft
Difference	-10,012.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	12.9 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 5 years
Label: MU POND — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
14.250	406.35	51,925.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.100	23.24	0.000	-0.39
Pond Outflow...	14.300	2.47	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	105,060.000	Forward	12,496.000	Reverse
Pond Outflow...	0.000	Reverse	102,163.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	105,060.000 ft³
Volume (Total Out ICPM)	114,659.000 ft³
Volume (Ending)	0.000 ft³
Elevation (Ending)	405.40 ft
Difference	-9,599.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	8.4 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 10 years

Label: MU POND — Storm Event: 10 YR

Scenario: POST-DEVELOPMENT-10 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Outflow (Starting)	0.00	ft^3/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft^3)
14.050	406.75	74,953.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft^3/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft^3/s)
Pond Inflow....	12.100	28.50	0.000	-0.39
Pond Outflow...	14.050	3.48	0.000	0.00

	Total Volume In Volume (ft^3)	Total Volume In Direction	Total Volume Out Volume (ft^3)	Total Volume Out Direction
Pond Inflow....	142,200.000	Forward	12,212.000	Reverse
Pond Outflow...	0.000	Reverse	139,213.000	Forward

Mass Balance (ft^3)

Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	142,200.000 ft^3
Volume (Total Out ICPM)	151,425.000 ft^3
Volume (Ending)	0.000 ft^3
Elevation (Ending)	405.40 ft
Difference	-9,225.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	6.1 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary
Label: MU POND
Scenario: POST-DEVELOPMENT-25 YR

Return Event: 25 years
Storm Event: 25 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Outflow (Starting)	0.00	ft^3/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft^3)
13.350	407.36	110,796.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft^3/s)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Pond Inflow....	12.100	37.63	0.000	-0.39
Pond Outflow...	13.350	7.97	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft^3)	Direction	Volume (ft^3)	Direction
Pond Inflow....	217,349.000	Forward	11,834.000	Reverse
Pond Outflow...	0.000	Reverse	214,069.000	Forward

Mass Balance (ft^3)	
Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	217,349.000 ft^3
Volume (Total Out ICPM)	225,904.000 ft^3
Volume (Ending)	0.000 ft^3
Elevation (Ending)	405.40 ft
Difference	-8,555.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	3.8 %

Subsection: Interconnected Pond Routing Summary | Return Event: 50 years
Label: MU POND | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
13.050	407.86	141,047.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	12.150	47.45	0.000	-0.39
Pond Outflow...	13.050	14.05	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	291,513.000	Forward	12,014.000	Reverse
Pond Outflow...	0.000	Reverse	287,598.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	291,513.000 ft³
Volume (Total Out ICPM)	299,613.000 ft³
Volume (Ending)	0.000 ft³
Elevation (Ending)	405.40 ft
Difference	-8,100.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	2.7 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 100 years
Label: MU POND — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	405.40	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Outflow (Starting)	0.00	ft³/s	ICPM Time Step	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
13.000	408.53	183,816.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.150	71.04	0.000	-0.39
Pond Outflow...	13.000	18.95	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	386,231.000	Forward	12,511.000	Reverse
Pond Outflow...	0.000	Reverse	381,391.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	386,231.000 ft³
Volume (Total Out ICPM)	393,902.000 ft³
Volume (Ending)	0.000 ft³
Elevation (Ending)	405.40 ft
Difference	-7,671.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	1.9 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 1 years
Label: PO-1A-2 | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
14.350	405.87	2,392.000

	Forward Flow Peaks Time to Peak (hours)	Forward Flow Peaks Flow (Peak) (ft³/s)	Reverse Flow Peaks Time to Peak (hours)	Reverse Flow Peaks Flow (Peak) (ft³/s)
Pond Inflow....	6.300	0.16	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In Volume (ft³)	Total Volume In Direction	Total Volume Out Volume (ft³)	Total Volume Out Direction
Pond Inflow....	29,883.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	29,883.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	6.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Subsection: Interconnected Pond Routing Summary | Return Event: 2 years
Label: PO-1A-2 | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
12.600	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.150	0.19	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	30,644.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	30,644.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	766.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	2.5 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary	Return Event: 5 years
Label: PO-1A-2	Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR	

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
12.200	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	14.300	0.53	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	40,118.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	40,118.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	10,240.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	25.5 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 10 years
Label: PO-1A-2 — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft^3/s

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft^3/s
Volume (Starting)	0.000	ft^3	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft^3/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft^3/s	Output Increment	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft^3)
12.100	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft^3/s)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Pond Inflow....	14.100	0.79	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft^3)	Direction	Volume (ft^3)	Direction
Pond Inflow....	49,197.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft^3)

Volume (Initial ICPM)	0.000 ft^3
Volume (Total In ICPM)	49,197.000 ft^3
Volume (Total Out ICPM)	27,642.000 ft^3
Volume (Ending)	2,235.000 ft^3
Elevation (Ending)	405.32 ft
Difference	19,320.000 ft^3
Percent of Inflow Volume (Interconnected Pond Mass Balance)	39.3 %

Subsection: Interconnected Pond Routing Summary | Return Event: 25 years
Label: PO-1A-2 | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
11.950	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	13.400	1.07	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	59,562.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	59,562.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	29,685.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	49.8 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary | Return Event: 50 years
Label: PO-1A-2 | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

Time to Peak (hours)	Maximum Storage Elevation (ft)	Maximum Storage Volume (ft³)
11.800	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	13.100	1.26	0.000	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	65,284.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)	
Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	65,284.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	35,407.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	54.2 %

Proposed Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary — Return Event: 100 years
Label: PO-1A-2 — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.06 ft³/s

Initial Conditions / Calculation Tolerances

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	400.50	ft	Flow Tolerance (Minimum)	0.000	ft³/s
Volume (Starting)	0.000	ft³	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft³/s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft³/s	Output Increment	0.050	hours

	Maximum Storage	
Time to Peak (hours)	Elevation (ft)	Volume (ft³)
11.450	406.00	2,429.000

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft³/s)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Pond Inflow....	12.650	1.41	0.004	0.00
Infiltration...	0.050	0.06	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft³)	Direction	Volume (ft³)	Direction
Pond Inflow....	71,560.000	Forward	0.000	Reverse
Infiltration...	0.000	Reverse	27,642.000	Forward
Pond Outflow...	0.000	Reverse	0.000	Forward

Mass Balance (ft³)

Volume (Initial ICPM)	0.000 ft³
Volume (Total In ICPM)	71,560.000 ft³
Volume (Total Out ICPM)	27,642.000 ft³
Volume (Ending)	2,235.000 ft³
Elevation (Ending)	405.32 ft
Difference	41,683.000 ft³
Percent of Inflow Volume (Interconnected Pond Mass Balance)	58.2 %

Subsection: Elevation-Volume-Flow Table (Pond)
Label: PO-1B-2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
395.75	0.00	0.000	0.000	0.00	0.00	0.00
396.25	0.00	104.667	0.000	0.07	0.07	1.23
396.50	0.00	157.000	0.000	0.07	0.07	1.81
396.75	0.00	261.000	0.000	0.07	0.07	2.97
397.25	0.00	467.000	0.000	0.07	0.07	5.26
397.75	0.00	669.000	0.000	0.07	0.07	7.50
398.25	0.00	866.000	0.000	0.07	0.07	9.69
398.75	0.00	1,057.000	0.000	0.07	0.07	11.81
399.25	0.00	1,241.000	0.000	0.07	0.07	13.86
399.75	0.27	1,415.000	0.000	0.07	0.34	16.06
400.25	0.75	1,579.000	0.000	0.07	0.82	18.36
400.75	1.38	1,728.000	0.000	0.07	1.45	20.65
401.25	2.12	1,852.000	0.000	0.07	2.19	22.77
401.75	2.97	1,958.500	0.000	0.07	3.04	24.80
402.25	3.89	2,063.500	0.000	0.07	3.96	26.89
402.50	4.40	2,116.000	0.000	0.07	4.47	27.98

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 1 years
Label: PO-1B-2 (IN) — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions

Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	0.30 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.900 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	396.96 ft
Volume (Peak)	349.170 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	1,217.000 ft³
Volume (Total Infiltration)	1,217.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary | Return Event: 2 years
Label: PO-1B-2 (IN) | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.37 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.850 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	397.23 ft
Volume (Peak)	460.559 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	1,494.000 ft³
Volume (Total Infiltration)	1,494.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary | Return Event: 5 years
Label: PO-1B-2 (IN) | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.47 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.750 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	397.68 ft
Volume (Peak)	641.583 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	1,923.000 ft³
Volume (Total Infiltration)	1,923.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 10 years
Label: PO-1B-2 (IN) — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.56 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.700 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	398.11 ft
Volume (Peak)	809.807 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	2,304.000 ft³
Volume (Total Infiltration)	2,304.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 25 years
Label: PO-1B-2 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.71 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.500 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	398.91 ft
Volume (Peak)	1,117.646 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	2,955.000 ft³
Volume (Total Infiltration)	2,955.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary | Return Event: 50 years
Label: PO-1B-2 (IN) | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.84 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	11.250 hours
Flow (Peak Outlet)	0.09 ft³/s	Time to Peak (Flow, Outlet)	12.550 hours

Elevation (Water Surface, Peak)	399.42 ft
Volume (Peak)	1,301.615 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	3,521.000 ft³
Volume (Total Infiltration)	3,360.000 ft³
Volume (Total Outlet Outflow)	161.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary | Return Event: 100 years
Label: PO-1B-2 (IN) | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.07 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	395.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.01 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.07 ft³/s	Time to Peak (Infiltration)	10.850 hours
Flow (Peak Outlet)	0.27 ft³/s	Time to Peak (Flow, Outlet)	12.400 hours

Elevation (Water Surface, Peak)	399.76 ft
Volume (Peak)	1,417.320 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	4,228.000 ft³
Volume (Total Infiltration)	3,674.000 ft³
Volume (Total Outlet Outflow)	554.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Pond Inflow Summary
Label: PO-1B-2 (IN)
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	1,217.071	12.100	0.30
Flow (In)	PO-1B-2	1,217.071	12.100	0.30

Subsection: Pond Inflow Summary | Return Event: 2 years
Label: PO-1B-2 (IN) | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	1,494.398	12.100	0.37
Flow (In)	PO-1B-2	1,494.398	12.100	0.37

Subsection: Pond Inflow Summary — Return Event: 5 years

Label: PO-1B-2 (IN) — Storm Event: 5 YR

Scenario: POST-DEVELOPMENT-5 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	1,922.704	12.100	0.47
Flow (In)	PO-1B-2	1,922.704	12.100	0.47

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary
Label: PO-1B-2 (IN)
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	2,304.269	12.100	0.56
Flow (In)	PO-1B-2	2,304.269	12.100	0.56

Subsection: Pond Inflow Summary
Return Event: 25 years

Label: PO-1B-2 (IN)
Storm Event: 25 YR

Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	2,954.719	12.100	0.71
Flow (In)	PO-1B-2	2,954.719	12.100	0.71

Subsection: Pond Inflow Summary | Return Event: 50 years
Label: PO-1B-2 (IN) | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	3,520.548	12.100	0.84
Flow (In)	PO-1B-2	3,520.548	12.100	0.84

Subsection: Pond Inflow Summary
Label: PO-1B-2 (IN)
Scenario: POST-DEVELOPMENT-100 YR

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'PO-1B-2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-2

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-2	4,227.996	12.100	1.01
Flow (In)	PO-1B-2	4,227.996	12.100	1.01

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 1 years
Label: PO-1B-3 Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft^3/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft^3
Flow (Initial Outlet)	0.00 ft^3/s
Flow (Initial Infiltration)	0.00 ft^3/s
Flow (Initial, Total)	0.00 ft^3/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
404.75	0.00	0.000	0.000	0.00	0.00	0.00
405.25	0.00	170.667	0.000	0.14	0.14	2.04
405.75	0.00	433.000	0.000	0.14	0.14	4.95
406.25	0.00	785.000	0.000	0.14	0.14	8.86
406.75	0.00	1,131.000	0.000	0.14	0.14	12.71
407.25	0.00	1,468.000	0.000	0.14	0.14	16.45
407.75	0.00	1,795.000	0.000	0.14	0.14	20.08
408.25	0.00	2,110.000	0.000	0.14	0.14	23.58
408.75	0.00	2,409.000	0.000	0.14	0.14	26.91
409.25	0.26	2,688.000	0.000	0.14	0.40	30.27
409.75	0.75	2,941.000	0.000	0.14	0.89	33.57
410.25	1.38	3,150.000	0.000	0.14	1.52	36.52
410.75	2.12	3,323.250	0.000	0.14	2.26	39.19
411.25	2.96	3,493.750	0.000	0.14	3.10	41.92
411.50	3.42	3,579.000	0.000	0.14	3.56	43.33

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 1 years
Label: PO-1B-3 (IN) — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions

Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	0.63 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.850 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	406.15 ft
Volume (Peak)	715.490 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	2,528.000 ft³
Volume (Total Infiltration)	2,528.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary — Return Event: 2 years

Label: PO-1B-3 (IN) — Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions

Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	0.77 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.800 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	406.48 ft
Volume (Peak)	948.375 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	3,104.000 ft³
Volume (Total Infiltration)	3,104.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 5 years
Label: PO-1B-3 (IN) — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.98 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.700 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	407.03 ft
Volume (Peak)	1,323.870 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	3,993.000 ft³
Volume (Total Infiltration)	3,993.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary | Return Event: 10 years
Label: PO-1B-3 (IN) | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.16 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.650 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	407.56 ft
Volume (Peak)	1,674.969 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	4,786.000 ft³
Volume (Total Infiltration)	4,786.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 25 years
Label: PO-1B-3 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.48 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.400 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	408.60 ft
Volume (Peak)	2,318.844 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	6,137.000 ft³
Volume (Total Infiltration)	6,137.000 ft³
Volume (Total Outlet Outflow)	0.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 50 years

Label: PO-1B-3 (IN) — Storm Event: 50 YR

Scenario: POST-DEVELOPMENT-50 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.75 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	11.150 hours
Flow (Peak Outlet)	0.22 ft³/s	Time to Peak (Flow, Outlet)	12.500 hours

Elevation (Water Surface, Peak)	409.16 ft
Volume (Peak)	2,638.946 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	7,312.000 ft³
Volume (Total Infiltration)	6,812.000 ft³
Volume (Total Outlet Outflow)	500.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary | Return Event: 100 years
Label: PO-1B-3 (IN) | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.14 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	404.75 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.09 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.14 ft³/s	Time to Peak (Infiltration)	10.700 hours
Flow (Peak Outlet)	0.62 ft³/s	Time to Peak (Flow, Outlet)	12.350 hours

Elevation (Water Surface, Peak)	409.62 ft
Volume (Peak)	2,877.213 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	8,781.000 ft³
Volume (Total Infiltration)	7,446.000 ft³
Volume (Total Outlet Outflow)	1,335.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Pond Inflow Summary | Return Event: 1 years
Label: PO-1B-3 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	2,527.763	12.100	0.63
Flow (In)	PO-1B-3	2,527.763	12.100	0.63

Subsection: Pond Inflow Summary | Return Event: 2 years
Label: PO-1B-3 (IN) | Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	3,103.749	12.100	0.77
Flow (In)	PO-1B-3	3,103.749	12.100	0.77

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary
Label: PO-1B-3 (IN)
Scenario: POST-DEVELOPMENT-5 YR

Return Event: 5 years
Storm Event: 5 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	3,993.308	12.100	0.98
Flow (In)	PO-1B-3	3,993.308	12.100	0.98

Subsection: Pond Inflow Summary — Return Event: 10 years

Label: PO-1B-3 (IN) — Storm Event: 10 YR

Scenario: POST-DEVELOPMENT-10 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	4,785.789	12.100	1.16
Flow (In)	PO-1B-3	4,785.789	12.100	1.16

Subsection: Pond Inflow Summary | Return Event: 25 years
Label: PO-1B-3 (IN) | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	6,136.724	12.100	1.48
Flow (In)	PO-1B-3	6,136.724	12.100	1.48

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary | Return Event: 50 years
Label: PO-1B-3 (IN) | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	7,311.907	12.100	1.75
Flow (In)	PO-1B-3	7,311.907	12.100	1.75

Subsection: Pond Inflow Summary | Return Event: 100 years
Label: PO-1B-3 (IN) | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Summary for Hydrograph Addition at 'PO-1B-3'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-3

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-3	8,781.222	12.100	2.09
Flow (In)	PO-1B-3	8,781.222	12.100	2.09

Proposed Hydrologic Calculations

Subsection: Elevation-Volume-Flow Table (Pond) — Return Event: 1 years

Label: PO-1B-5 — Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
400.05	0.00	0.000	0.000	0.00	0.00	0.00
400.55	0.00	393.333	0.000	0.35	0.35	4.72
400.80	0.00	590.000	0.000	0.35	0.35	6.91
401.05	0.19	1,012.000	0.000	0.35	0.54	11.78
401.55	1.45	1,842.000	0.000	0.35	1.80	22.26
402.05	3.30	2,648.000	0.000	0.35	3.65	33.07
402.55	4.55	3,423.000	0.000	0.35	4.90	42.94
403.05	5.52	4,155.000	0.000	0.35	5.87	52.04
403.55	6.34	4,829.000	0.000	0.35	6.69	60.35
404.05	7.07	5,422.000	0.000	0.35	7.42	67.66
404.26	7.35	5,623.600	0.000	0.35	7.70	70.18
404.55	9.36	5,870.000	0.000	0.35	9.71	74.93
405.05	15.70	6,263.500	0.000	0.35	16.05	85.65
405.55	24.28	6,657.000	0.000	0.35	24.63	98.59

Subsection: Level Pool Pond Routing Summary — Return Event: 1 years

Label: PO-1B-5 (IN) — Storm Event: 1 YR

Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.37 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.950 hours
Flow (Peak Outlet)	0.34 ft³/s	Time to Peak (Flow, Outlet)	12.250 hours

Elevation (Water Surface, Peak)	401.11 ft
Volume (Peak)	1,117.154 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	5,220.000 ft³
Volume (Total Infiltration)	4,668.000 ft³
Volume (Total Outlet Outflow)	552.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.68 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.850 hours
Flow (Peak Outlet)	0.65 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	401.24 ft
Volume (Peak)	1,321.358 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	6,503.000 ft³
Volume (Total Infiltration)	5,452.000 ft³
Volume (Total Outlet Outflow)	1,051.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary | Return Event: 5 years
Label: PO-1B-5 (IN) | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions

Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	2.16 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.750 hours
Flow (Peak Outlet)	1.08 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	401.41 ft
Volume (Peak)	1,604.344 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	8,491.000 ft³
Volume (Total Infiltration)	6,599.000 ft³
Volume (Total Outlet Outflow)	1,893.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 10 years
Label: PO-1B-5 (IN) — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.58 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.700 hours
Flow (Peak Outlet)	1.44 ft³/s	Time to Peak (Flow, Outlet)	12.200 hours

Elevation (Water Surface, Peak)	401.55 ft
Volume (Peak)	1,836.707 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	10,267.000 ft³
Volume (Total Infiltration)	7,577.000 ft³
Volume (Total Outlet Outflow)	2,690.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 25 years
Label: PO-1B-5 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.29 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.550 hours
Flow (Peak Outlet)	2.21 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	401.76 ft
Volume (Peak)	2,177.835 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	13,298.000 ft³
Volume (Total Infiltration)	9,166.000 ft³
Volume (Total Outlet Outflow)	4,133.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary | Return Event: 50 years
Label: PO-1B-5 (IN) | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.92 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.350 hours
Flow (Peak Outlet)	2.81 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	401.92 ft
Volume (Peak)	2,436.589 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	15,938.000 ft³
Volume (Total Infiltration)	10,461.000 ft³
Volume (Total Outlet Outflow)	5,478.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary | Return Event: 100 years
Label: PO-1B-5 (IN) | Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.35 ft³/s

Initial Conditions	
Elevation (Water Surface, Initial)	400.05 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.69 ft³/s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.35 ft³/s	Time to Peak (Infiltration)	11.050 hours
Flow (Peak Outlet)	3.46 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours

Elevation (Water Surface, Peak)	402.11 ft
Volume (Peak)	2,747.308 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	19,241.000 ft³
Volume (Total Infiltration)	11,964.000 ft³
Volume (Total Outlet Outflow)	7,277.000 ft³
Volume (Retained)	0.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Pond Infiltration Hydrograph — Return Event: 1 years
Label: PO-1B-5 (INF) — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Peak Discharge	0.35 ft³/s
Time to Peak	12.700 hours
Hydrograph Volume	4,666.166 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.550	0.00	0.00	0.00	0.00	0.00
3.800	0.00	0.00	0.00	0.00	0.00
4.050	0.00	0.00	0.00	0.00	0.00
4.300	0.00	0.00	0.00	0.00	0.00
4.550	0.00	0.00	0.00	0.00	0.00
4.800	0.01	0.01	0.01	0.01	0.01
5.050	0.01	0.01	0.01	0.01	0.01
5.300	0.01	0.01	0.01	0.01	0.01
5.550	0.01	0.01	0.01	0.01	0.01
5.800	0.01	0.01	0.01	0.01	0.01
6.050	0.01	0.01	0.01	0.01	0.01
6.300	0.01	0.01	0.01	0.01	0.01
6.550	0.01	0.01	0.01	0.01	0.01
6.800	0.01	0.01	0.01	0.01	0.02
7.050	0.02	0.02	0.02	0.02	0.02
7.300	0.02	0.02	0.02	0.02	0.02
7.550	0.02	0.02	0.02	0.02	0.02
7.800	0.02	0.02	0.02	0.02	0.02
8.050	0.02	0.02	0.02	0.03	0.03
8.300	0.03	0.03	0.03	0.03	0.03
8.550	0.03	0.03	0.03	0.03	0.03
8.800	0.03	0.03	0.04	0.04	0.04
9.050	0.04	0.04	0.04	0.04	0.04
9.300	0.04	0.04	0.04	0.05	0.05
9.550	0.05	0.05	0.05	0.05	0.05
9.800	0.05	0.05	0.05	0.06	0.06
10.050	0.06	0.06	0.06	0.06	0.06
10.300	0.06	0.07	0.07	0.07	0.07
10.550	0.07	0.07	0.08	0.08	0.08
10.800	0.08	0.08	0.09	0.09	0.09
11.050	0.09	0.09	0.10	0.10	0.11
11.300	0.11	0.11	0.12	0.13	0.13
11.550	0.14	0.15	0.17	0.19	0.22
11.800	0.26	0.30	0.35	0.35	0.35
12.050	0.35	0.35	0.35	0.35	0.35
12.300	0.35	0.35	0.35	0.35	0.35
12.550	0.35	0.35	0.35	0.35	0.35

Subsection: Pond Infiltration Hydrograph | Return Event: 1 years
Label: PO-1B-5 (INF) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

HYDROGRAPH ORDINATES (ft^3/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)
12.800	0.35	0.35	0.35	0.35	0.35
13.050	0.35	0.35	0.35	0.34	0.31
13.300	0.28	0.25	0.23	0.21	0.20
13.550	0.18	0.17	0.16	0.15	0.14
13.800	0.14	0.13	0.12	0.12	0.11
14.050	0.11	0.11	0.10	0.10	0.10
14.300	0.09	0.09	0.09	0.09	0.08
14.550	0.08	0.08	0.08	0.08	0.08
14.800	0.08	0.07	0.07	0.07	0.07
15.050	0.07	0.07	0.07	0.07	0.07
15.300	0.06	0.06	0.06	0.06	0.06
15.550	0.06	0.06	0.06	0.06	0.06
15.800	0.06	0.05	0.05	0.05	0.05
16.050	0.05	0.05	0.05	0.05	0.05
16.300	0.05	0.05	0.04	0.04	0.04
16.550	0.04	0.04	0.04	0.04	0.04
16.800	0.04	0.04	0.04	0.04	0.04
17.050	0.04	0.04	0.04	0.04	0.04
17.300	0.04	0.04	0.04	0.03	0.03
17.550	0.03	0.03	0.03	0.03	0.03
17.800	0.03	0.03	0.03	0.03	0.03
18.050	0.03	0.03	0.03	0.03	0.03
18.300	0.03	0.03	0.03	0.03	0.03
18.550	0.03	0.03	0.03	0.03	0.03
18.800	0.03	0.03	0.03	0.03	0.03
19.050	0.03	0.03	0.03	0.02	0.02
19.300	0.02	0.02	0.02	0.02	0.02
19.550	0.02	0.02	0.02	0.02	0.02
19.800	0.02	0.02	0.02	0.02	0.02
20.050	0.02	0.02	0.02	0.02	0.02
20.300	0.02	0.02	0.02	0.02	0.02
20.550	0.02	0.02	0.02	0.02	0.02
20.800	0.02	0.02	0.02	0.02	0.02
21.050	0.02	0.02	0.02	0.02	0.02
21.300	0.02	0.02	0.02	0.02	0.02
21.550	0.02	0.02	0.02	0.02	0.02
21.800	0.02	0.02	0.02	0.02	0.02
22.050	0.02	0.02	0.02	0.02	0.02
22.300	0.02	0.02	0.02	0.02	0.02
22.550	0.02	0.02	0.02	0.02	0.02
22.800	0.02	0.02	0.02	0.02	0.02
23.050	0.02	0.02	0.02	0.02	0.02

Proposed Hydrologic Calculations

Subsection: Pond Infiltration Hydrograph | Return Event: 1 years
Label: PO-1B-5 (INF) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

HYDROGRAPH ORDINATES (ft^3/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)	Flow (ft^3/s)
23.300	0.02	0.02	0.02	0.02	0.02
23.550	0.02	0.02	0.02	0.02	0.02
23.800	0.02	0.02	0.02	0.02	0.02
24.050	0.01	0.01	0.01	0.01	0.01
24.300	0.01	0.01	0.01	0.00	0.00
24.550	0.00	0.00	0.00	0.00	0.00
24.800	0.00	0.00	0.00	(N/A)	(N/A)

Subsection: Pond Inflow Summary | Return Event: 1 years
Label: PO-1B-5 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	5,220.058	12.100	1.37
Flow (In)	PO-1B-5	5,220.058	12.100	1.37

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary

Return Event: 2 years

Label: PO-1B-5 (IN)

Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA-1B-5	6,502.947	12.100	1.68
Flow (In)	PO-1B-5	6,502.947	12.100	1.68

Subsection: Pond Inflow Summary Return Event: 5 years
Label: PO-1B-5 (IN) Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	8,491.240	12.100	2.16
Flow (In)	PO-1B-5	8,491.240	12.100	2.16

Subsection: Pond Inflow Summary
Label: PO-1B-5 (IN)
Scenario: POST-DEVELOPMENT-10 YR

Return Event: 10 years
Storm Event: 10 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	10,266.685	12.100	2.58
Flow (In)	PO-1B-5	10,266.685	12.100	2.58

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary — Return Event: 25 years
Label: PO-1B-5 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	13,298.210	12.100	3.29
Flow (In)	PO-1B-5	13,298.210	12.100	3.29

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	15,938.279	12.100	3.92
Flow (In)	PO-1B-5	15,938.279	12.100	3.92

Subsection: Pond Inflow Summary Return Event: 100 years
Label: PO-1B-5 (IN) Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Summary for Hydrograph Addition at 'PO-1B-5'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-5

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-5	19,241.330	12.100	4.69
Flow (In)	PO-1B-5	19,241.330	12.100	4.69

Proposed Hydrologic Calculations

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 1 years
Label: SMA POND #1 Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
400.00	0.00	0.000	0.023	0.00	0.00	0.00
400.50	0.00	585.387	0.031	0.00	0.00	6.50
401.00	0.00	1,366.340	0.041	0.00	0.00	15.18
401.50	0.00	2,371.042	0.052	0.00	0.00	26.34
402.00	0.00	3,627.679	0.064	0.00	0.00	40.31
402.50	0.00	5,136.555	0.075	0.00	0.00	57.07
403.00	0.00	6,891.582	0.087	0.00	0.00	76.57
403.50	0.00	8,911.359	0.099	0.00	0.00	99.02
404.00	0.00	11,214.484	0.113	0.00	0.00	124.61
404.29	0.00	12,927.702	0.147	0.00	0.00	143.64
404.50	0.00	14,342.577	0.163	0.00	0.00	159.36
405.00	0.00	18,344.149	0.205	0.00	0.00	203.82
405.50	0.00	23,509.164	0.270	0.00	0.00	261.21
406.00	0.06	29,288.312	0.260	0.00	0.06	325.49
406.50	0.10	35,204.205	0.283	0.00	0.10	391.26
406.70	0.11	37,711.555	0.293	0.00	0.11	419.13
407.00	0.64	41,627.821	0.307	0.00	0.64	463.17
407.50	2.15	48,580.062	0.332	0.00	2.15	541.93
408.00	3.83	56,081.831	0.357	0.00	3.83	626.96
408.50	5.34	64,221.651	0.390	0.00	5.34	718.91
409.00	15.61	73,095.221	0.425	0.00	15.61	827.78

Proposed Hydrologic Calculations

Subsection: Detention Time | Return Event: 1 years
Label: SMA POND #1 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Approximate Detention Times	
Time to Centroid (Outflow)	39.059 hours
Time to Centroid (Inflow)	13.811 hours
Detention Time (Centroid to Centroid)	25.247 hours

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary | Return Event: 1 years
Label: SMA POND #1 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	5.24 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	0.24 ft³/s	Time to Peak (Flow, Outlet)	16.050 hours

Elevation (Water Surface, Peak)	406.77 ft
Volume (Peak)	38,622.468 ft³

Mass Balance (ft³)	
Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	21,141.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	20,763.000 ft³
Volume (Retained)	23,894.000 ft³
Volume (Unrouted)	6.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 2 years
Label: SMA POND #1 (IN) — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	6.94 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	0.54 ft³/s	Time to Peak (Flow, Outlet)	14.150 hours

Elevation (Water Surface, Peak)	406.94 ft
Volume (Peak)	40,882.169 ft³

Mass Balance (ft³)	
Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	28,103.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	27,716.000 ft³
Volume (Retained)	23,903.000 ft³
Volume (Unrouted)	6.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 5 years
Label: SMA POND #1 (IN) — Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	9.62 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	1.43 ft³/s	Time to Peak (Flow, Outlet)	12.900 hours

Elevation (Water Surface, Peak)	407.26 ft
Volume (Peak)	45,180.564 ft³

Mass Balance (ft³)	
Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	39,245.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	38,849.000 ft³
Volume (Retained)	23,911.000 ft³
Volume (Unrouted)	6.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 10 years
Label: SMA POND #1 (IN) — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	12.01 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	2.42 ft³/s	Time to Peak (Flow, Outlet)	12.700 hours

Elevation (Water Surface, Peak)	407.58 ft
Volume (Peak)	49,719.932 ft³

Mass Balance (ft³)

Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	49,423.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	49,021.000 ft³
Volume (Retained)	23,918.000 ft³
Volume (Unrouted)	6.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 25 years
Label: SMA POND #1 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	16.07 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	4.11 ft³/s	Time to Peak (Flow, Outlet)	12.600 hours

Elevation (Water Surface, Peak)	408.09 ft
Volume (Peak)	57,549.605 ft³

Mass Balance (ft³)	
Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	67,103.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	66,693.000 ft³
Volume (Retained)	23,926.000 ft³
Volume (Unrouted)	6.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 50 years
Label: SMA POND #1 (IN) — Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	19.59 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	5.59 ft³/s	Time to Peak (Flow, Outlet)	12.550 hours

Elevation (Water Surface, Peak)	408.51 ft
Volume (Peak)	64,431.959 ft³

Mass Balance (ft³)

Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	82,692.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	82,276.000 ft³
Volume (Retained)	23,932.000 ft³
Volume (Unrouted)	7.000 ft³
Error (Mass Balance)	0.0 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 100 years
Label: SMA POND #1 (IN) — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	405.50 ft
Volume (Initial)	23,509.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	23.96 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	11.09 ft³/s	Time to Peak (Flow, Outlet)	12.450 hours

Elevation (Water Surface, Peak)	408.78 ft
Volume (Peak)	69,098.064 ft³

Mass Balance (ft³)	
Volume (Initial)	23,509.000 ft³
Volume (Total Inflow)	102,349.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	101,927.000 ft³
Volume (Retained)	23,938.000 ft³
Volume (Unrouted)	7.000 ft³
Error (Mass Balance)	0.0 %

Subsection: Pond Inflow Summary
Label: SMA POND #1 (IN)
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	21,141.290	12.150	5.24
Flow (In)	SMA POND #1	21,141.290	12.150	5.24

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary
Label: SMA POND #1 (IN)
Scenario: POST-DEVELOPMENT-2 YR

Return Event: 2 years
Storm Event: 2 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	28,103.044	12.150	6.94
Flow (In)	SMA POND #1	28,103.044	12.150	6.94

Subsection: Pond Inflow Summary | Return Event: 5 years
Label: SMA POND #1 (IN) | Storm Event: 5 YR
Scenario: POST-DEVELOPMENT-5 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	39,244.575	12.150	9.62
Flow (In)	SMA POND #1	39,244.575	12.150	9.62

Subsection: Pond Inflow Summary | Return Event: 10 years
Label: SMA POND #1 (IN) | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	49,423.231	12.150	12.01
Flow (In)	SMA POND #1	49,423.231	12.150	12.01

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary — Return Event: 25 years

Label: SMA POND #1 (IN) — Storm Event: 25 YR

Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	67,103.379	12.150	16.07
Flow (In)	SMA POND #1	67,103.379	12.150	16.07

Subsection: Pond Inflow Summary

Label: SMA POND #1 (IN)

Scenario: POST-DEVELOPMENT-50 YR

Return Event: 50 years

Storm Event: 50 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	82,692.194	12.150	19.59
Flow (In)	SMA POND #1	82,692.194	12.150	19.59

Subsection: Pond Inflow Summary
Label: SMA POND #1 (IN)
Scenario: POST-DEVELOPMENT-100 YR

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'SMA POND #1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1B-4

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-1B-4	102,348.905	12.150	23.96
Flow (In)	SMA POND #1	102,348.905	12.150	23.96

Proposed Hydrologic Calculations

Subsection: Elevation-Volume-Flow Table (Pond)
Label: SMA POND #2
Scenario: POST-DEVELOPMENT-1 YR

Return Event: 1 years
Storm Event: 1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
402.00	0.00	0.000	0.015	0.00	0.00	0.00
402.50	0.00	393.733	0.022	0.00	0.00	4.37
403.00	0.00	957.216	0.030	0.00	0.00	10.64
403.50	0.00	1,713.726	0.039	0.00	0.00	19.04
404.00	0.00	2,683.986	0.050	0.00	0.00	29.82
404.50	0.00	3,876.225	0.060	0.00	0.00	43.07
405.00	0.00	5,293.965	0.071	0.00	0.00	58.82
405.50	0.00	7,829.375	0.124	0.00	0.00	86.99
406.00	0.00	10,686.121	0.139	0.00	0.00	118.73
406.50	0.00	13,886.131	0.155	0.00	0.00	154.29
407.00	0.07	18,205.559	0.245	0.00	0.07	202.35
407.50	0.10	23,841.688	0.273	0.00	0.10	265.01
408.00	0.12	30,127.895	0.304	0.00	0.12	334.88
408.50	0.15	36,993.638	0.326	0.00	0.15	411.19
409.00	0.16	44,345.971	0.349	0.00	0.16	492.90
409.15	0.17	46,649.046	0.356	0.00	0.17	518.49
409.50	2.89	52,201.554	0.372	0.00	2.89	582.90
410.00	9.97	60,577.046	0.397	0.00	9.97	683.05
410.50	18.84	69,452.506	0.418	0.00	18.84	790.54
411.00	28.60	78,805.217	0.441	0.00	28.60	904.22
411.20	32.60	82,682.732	0.450	0.00	32.60	951.30
411.50	44.09	88,647.678	0.463	0.00	44.09	1,029.06
412.00	49.11	98,992.388	0.487	0.00	49.11	1,149.03

Proposed Hydrologic Calculations

Subsection: Detention Time | Return Event: 1 years
Label: SMA POND #2 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Approximate Detention Times	
Time to Centroid (Outflow)	49.638 hours
Time to Centroid (Inflow)	14.470 hours
Detention Time (Centroid to Centroid)	35.168 hours

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 1 years
Label: SMA POND #2 (IN) — Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	8.53 ft³/s	Time to Peak (Flow, In)	12.200 hours
Flow (Peak Outlet)	0.16 ft³/s	Time to Peak (Flow, Outlet)	24.050 hours

Elevation (Water Surface, Peak)	408.99 ft
Volume (Peak)	44,209.442 ft³

Mass Balance (ft³)

Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	36,994.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	36,351.000 ft³
Volume (Retained)	14,408.000 ft³
Volume (Unrouted)	-121.000 ft³
Error (Mass Balance)	0.3 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 2 years
Label: SMA POND #2 (IN) — Storm Event: 2 YR
Scenario: POST-DEVELOPMENT-2 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	12.70 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	1.02 ft³/s	Time to Peak (Flow, Outlet)	15.000 hours

Elevation (Water Surface, Peak)	409.26 ft
Volume (Peak)	48,354.780 ft³

Mass Balance (ft³)

Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	53,798.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	52,978.000 ft³
Volume (Retained)	14,558.000 ft³
Volume (Unrouted)	-148.000 ft³
Error (Mass Balance)	0.3 %

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	19.91 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	4.02 ft³/s	Time to Peak (Flow, Outlet)	12.750 hours

Elevation (Water Surface, Peak)	409.58 ft
Volume (Peak)	53,509.624 ft³

Mass Balance (ft³)	
Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	82,336.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	81,507.000 ft³
Volume (Retained)	14,566.000 ft³
Volume (Unrouted)	-149.000 ft³
Error (Mass Balance)	0.2 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 10 years
Label: SMA POND #2 (IN) — Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	26.70 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	9.87 ft³/s	Time to Peak (Flow, Outlet)	12.550 hours

Elevation (Water Surface, Peak)	409.99 ft
Volume (Peak)	60,457.886 ft³

Mass Balance (ft³)

Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	109,604.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	108,769.000 ft³
Volume (Retained)	14,571.000 ft³
Volume (Unrouted)	-150.000 ft³
Error (Mass Balance)	0.1 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 25 years
Label: SMA POND #2 (IN) — Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	38.74 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	21.16 ft³/s	Time to Peak (Flow, Outlet)	12.400 hours

Elevation (Water Surface, Peak)	410.62 ft
Volume (Peak)	71,629.243 ft³

Mass Balance (ft³)	
Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	158,716.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	157,874.000 ft³
Volume (Retained)	14,578.000 ft³
Volume (Unrouted)	-151.000 ft³
Error (Mass Balance)	0.1 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 50 years
Label: SMA POND #2 (IN) — Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	49.46 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	30.93 ft³/s	Time to Peak (Flow, Outlet)	12.350 hours

Elevation (Water Surface, Peak)	411.12 ft
Volume (Peak)	81,046.016 ft³

Mass Balance (ft³)

Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	203,243.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	202,395.000 ft³
Volume (Retained)	14,582.000 ft³
Volume (Unrouted)	-152.000 ft³
Error (Mass Balance)	0.1 %

Proposed Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary — Return Event: 100 years
Label: SMA POND #2 (IN) — Storm Event: 100 YR
Scenario: POST-DEVELOPMENT-100 YR

Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	406.50 ft
Volume (Initial)	13,886.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	62.99 ft³/s	Time to Peak (Flow, In)	12.150 hours
Flow (Peak Outlet)	44.79 ft³/s	Time to Peak (Flow, Outlet)	12.300 hours

Elevation (Water Surface, Peak)	411.57 ft
Volume (Peak)	90,058.749 ft³

Mass Balance (ft³)

Volume (Initial)	13,886.000 ft³
Volume (Total Inflow)	260,453.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	259,600.000 ft³
Volume (Retained)	14,587.000 ft³
Volume (Unrouted)	-153.000 ft³
Error (Mass Balance)	0.1 %

Subsection: Pond Inflow Summary | Return Event: 1 years
Label: SMA POND #2 (IN) | Storm Event: 1 YR
Scenario: POST-DEVELOPMENT-1 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	36,994.135	12.200	8.53
Flow (In)	SMA POND #2	36,994.135	12.200	8.53

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary — Return Event: 2 years

Label: SMA POND #2 (IN) — Storm Event: 2 YR

Scenario: POST-DEVELOPMENT-2 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	53,798.470	12.150	12.70
Flow (In)	SMA POND #2	53,798.470	12.150	12.70

Subsection: Pond Inflow Summary
Label: SMA POND #2 (IN)
Scenario: POST-DEVELOPMENT-5 YR

Return Event: 5 years
Storm Event: 5 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	82,336.202	12.150	19.91
Flow (In)	SMA POND #2	82,336.202	12.150	19.91

Subsection: Pond Inflow Summary | Return Event: 10 years
Label: SMA POND #2 (IN) | Storm Event: 10 YR
Scenario: POST-DEVELOPMENT-10 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	109,603.607	12.150	26.70
Flow (In)	SMA POND #2	109,603.607	12.150	26.70

Proposed Hydrologic Calculations

Subsection: Pond Inflow Summary | Return Event: 25 years
Label: SMA POND #2 (IN) | Storm Event: 25 YR
Scenario: POST-DEVELOPMENT-25 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	158,716.374	12.150	38.74
Flow (In)	SMA POND #2	158,716.374	12.150	38.74

Subsection: Pond Inflow Summary | Return Event: 50 years
Label: SMA POND #2 (IN) | Storm Event: 50 YR
Scenario: POST-DEVELOPMENT-50 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	203,242.853	12.150	49.46
Flow (In)	SMA POND #2	203,242.853	12.150	49.46

Subsection: Pond Inflow Summary
Label: SMA POND #2 (IN)
Scenario: POST-DEVELOPMENT-100 YR

Return Event: 100 years
Storm Event: 100 YR

Summary for Hydrograph Addition at 'SMA POND #2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-2B

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA-2B	260,453.147	12.150	62.99
Flow (In)	SMA POND #2	260,453.147	12.150	62.99

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APPENDIX C

SOIL TESTING DATA

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17 January 2020
Revised 17 September 2020

Airport Campus I-V LLC
46 Westchester Ave.
Pound Ridge, NY 10576

Attn: Mr. Geoff Ringler

Re: Report on Subsurface Soil and Foundation Investigation
Proposed Building Complex
113 King St.
North Castle, NY (CSA Job #19-215)

Dear Mr. Ringler:

In accordance with our proposal dated 10 October 2019, supplemental stormwater proposal, and your subsequent authorization, we have reviewed our Subsurface Soil and Foundation Investigation from 2002 for the referenced site and completed a series of test pits for the proposed project. The purpose of this study was to determine the nature and engineering properties of the subsurface soil and the groundwater conditions for the new construction, to recommend a practical foundation scheme, to determine the allowable bearing capacity of the site soils, and to determine the on-site soil permeability.

We understand that the planned construction will consist of a new apartment and townhome complex. This will include a 5-story building with a 3-story parking garage and a townhome development to the northwest of the proposed multistory building. The townhome development, was beyond the scope of this report. Other site developments will include new utilities, stormwater management systems, and new driveway and parking lots. To guide us in our study, you have provided us with plans that indicate the locations of the proposed construction.

Our scope of work for this project included the following:

1. Reviewed the proposed layout, the existing site conditions, the expected soil conditions, and proposed construction.

2. Reviewed a Carlin-Simpson & Associates geotechnical investigation at the referenced site in 2002 for a prior proposed development.

3. Observed ADI East Contractor advance twelve (12) test pits at selected locations on the subject site.

4. Performed five (5) infiltration tests in the proposed stormwater management areas.

5. Visually identified the soil layers encountered, and prepared detailed test pit logs and a Boring & Test Pit Location Plan.

6. Analyzed the data and prepared this report containing the results of this study.

1.0 SITE DESCRIPTION

The site is located to the west of King Street (NYS Route 120) between Cooney Hill Road to the north and American Lane to the south. This property has an existing 3-story office building. The site was previously occupied by single family residential homes, however, around 2005 the residential homes were demolished, this can be concluded by satellite imagery.

The new 5-story building with a 3-story parking garage will be constructed on the north side of the existing office building. Existing site grades range between elevation +470, near the intersection of King Street and Cooney Hill Road, and elevation +390, along the southwestern property line in the residential portion of the site. In general, site grades slope down from King Street to the west and southwest.

2.0 PROPOSED CONSTRUCTION

We understand that the planned construction will consist of a 5-story building with a 3-story parking garage below the multi-story building. It is our understanding that the proposed lower level of the parking garage will have a finished floor of +416.33. We expect a cut ranging from 10 to 20-feet will be required to achieve the lower level subgrade elevation. Some of these excavations will consist of completely weathered rock or intact bedrock that may require the use of hydraulic hammering to achieve the proposed depths.

The site development will also include new utilities, new stormwater management areas, and new driveways and parking lots. The following evaluation is based on information that has been provided to our office as of the date of this report. Once the plans have been further developed, a copy should be forwarded to our office so that we can review it along with the recommendations in this report. At that time, any changes or additional recommendations can be provided, if required.

3.0 SUBSURFACE CONDITIONS

To determine the subsurface soil and groundwater conditions at the site, we reviewed fourteen (14) test borings that were advanced by General Borings Inc. at the locations shown on the enclosed Boring Location Plan. In addition, we observed twelve (12) test pits that were excavated by ADI East Contractor. Detailed boring and test pit logs have been prepared and are included in this report. The borings were completed in April 2002 and the test pits were completed in July under the full-time inspection of Carlin-Simpson & Associates. Our field engineer visually identified all of the soil samples obtained during the boring operations.

3.1 Soils and Bedrock

The soil descriptions shown on the boring logs are based on the Burmister Classification System. In this system, the soil is divided into three components: Sand (S), Silt ($) and Gravel (G). The major component is indicated in all capital letters, the lesser in lower case letters. The following modifiers indicate the quantity of each lesser component:

Modifier	Quantity
trace (t)	0 -10%
little (l)	10% - 20%
some (s)	20% - 35%
and (a)	35% - 50%

The subsurface soil conditions encountered in the test borings can be summarized as follows:

Stratum 1A Topsoil — The surface layer in borings B-1 to B-9 and each of the test pits is brown topsoil approximately 6 to 15 inches in thickness.

Stratum 1B Asphalt — The surface layer in borings B-10, to B-14 is asphalt pavement. The asphalt is 3 to 5 inches in thickness.

Stratum 2 Existing Fill — Below the surface layer in boring B-14 and in test pits TP-101 to 104, and TP-201 to TP-207 is soft to medium stiff gray SILT some, coarse to fine Sand, trace medium to fine Gravel or dark brown, gray coarse to fine Sand, some (to and) Silt, some coarse to fine Gravel. This stratum continues to depths ranging from 2’0” to 8’0” below the existing ground surface. Test pit TP-203 was terminated in this layer on a concrete slab at a depth of 4’3” below the existing ground surface.

Stratum 3 Sandy Silt — Underlying the surface layer in boring B-1 to B-8 is medium stiff to stiff brown SILT little (to and), coarse to fine Sand, little medium to fine Gravel. This stratum continues to depths ranging from 2’0” to 8’0” below the existing ground surface.

Stratum 4 Silty Sand — Beneath the sandy silt and underlying the existing fill in B-14 and test pits is dense to very dense brown, gray brown, gray coarse to fine SAND, little (to and) of Silt, trace medium to fine Gravel. This stratum continues to depths ranging from 4’0” to 30’0” below the existing ground surface. Test pits TP-101 to TP-103, TP-201, TP-202 and TP-204 to TP-207 were terminated in this stratum at depths ranging from 8’0” to 13’0” below the existing ground surface.

Stratum 5 Completely Weathered Gneiss	Below the Sandy Silt or Silty Sand in borings B-2, B-3, B-5, B-7 to B-14, TP-104, and TP-105 is the natural soils transition to completely weathered Gneiss bedrock in a very dense "soil like" or soft rock state. This layer is soil like in state, however there are denser pockets that likely cannot be conventionally excavated. Completely weathered Gneiss was encountered throughout the site beginning at depths ranging from 10'0" to 30'0" below the surface.
Stratum 6 Gneiss Bedrock	Harder Gneiss bedrock was encountered throughout the site. The upper bedrock was cored for a vertical distance of 5'0" to 30'0" in borings B-1, B-2, B-4, B-6, and B-7. The rock core recoveries varied from 30% to 100% and the rock quality designation (RQD) of the cores ranged from 0% to 83%. Based on the RQD and visual inspection, the recovered cores ranged of bedrock is poor to good quality rock.

3.2 Bedrock

Completely weathered rock to massive, moderately jointed Gneiss bedrock was encountered at the site at elevations ranging from +430.0 to +386.0. The proposed lower level parking, P-1, finished floor elevation is +416.33. We anticipate rock cuts up to 12-feet in this area. When excavating for level P-1, the "rippability" of the bedrock will be variable and limited. The use of hydraulic hammers and/or blasting will be required to excavate the harder, intact rock. The bedrock observations are summarized in Table 1 below. Additional issues related to foundations bearing on rock are discussed in Sections 5.2 of this report.

3.3 Groundwater

Groundwater was encountered in borings B-3, B-7 to B-10, B-12 to B-14 and in test pits TP-101, TP-104, TP-105, TP-201, and TP-203 at depths ranging from 1'6" to 23'0" (elevations +425.5 to +396.0). Evidence of seasonal high groundwater was encountered in test pits TP-101, TP-102, TP-103, and TP-202 at depths ranging from 2'6" to 7'0" below the existing ground surface (elevations +405.8 to +401.5).

During construction, we expect that groundwater will be encountered, especially when excavating for the lower level of the parking garage. The lower level finished floor elevation of the parking garage is +416.33. Test pits TP-104 and TP-105 were performed with in the building footprint. Groundwater was encountered in both test pits at depths of 8'6" and 11'0" below the existing ground surface, respectively (elevations +425.5 and +424.0). The anticipated lower level will extend 7 to 9 feet below the groundwater table. A supplemental groundwater study should be performed to further evaluate the groundwater conditions in the building footprint.

Groundwater on the subject site will be controlled by the topography and the underlying bedrock surface. As surface water infiltrates the ground, the water will travel along the soil/rock interface and through fractures in the bedrock. Proper groundwater control measures may be required where water is encountered in the site excavations. Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

4.0 SUMMARY OF DESIGN RECOMMENDATIONS

Below is a summary of the major design and construction considerations for this project. Additional recommendations are provided in the following sections of this report.

- *Subsurface Conditions (Section 3.0)*
  - Existing fill at the site was encountered in B-14 and in test pits TP-101 to 104, and TP-201 to TP-207 to depths ranging from 2'0" to 8'0" below the existing ground surface (elevation +430.0 to +401.0).
  - Most of the existing fill is present in the proposed stormwater management areas.
  - Groundwater was encountered at the site to depths ranging from 1'6" to 23'0" below the existing ground surface (elevations +425.5 to +396.0).
  - Evidence of seasonal high groundwater was encountered in test pits TP-101, TP-102, TP-103, and TP-202 at depths ranging from 2'6" to 7'0" below the existing ground surface (elevations +405.8 to +401.5).
  - Bedrock was encountered at depths ranging from 6'0" to 26'0" below the existing ground surface (approximate elevations +430.0 to +386.0).
  - A summary of the subsurface observations is provided in Table 1 and Table 6 below.

- *Building Area Preparation (Section 5.1)*
  - Existing structures must be demolished and surface materials must be stripped from the proposed construction area.
  - The existing fill shall be completely removed from the new building footprint.
  - There may be isolated areas of debris from the demolished homes that will need to be removed from the building footprint.
  - The sandy silt (Stratum 3) is also not suitable for support of the new foundation.
  - Groundwater was encountered within the building footprint in test pits TP-104 and TP-105 at depths of 8'6" and 11'0" below the existing ground surface, respectively (elevations +425.5 and +424.0). The proposed lower level will extend 7 to 9 feet below the groundwater table.
  - A supplemental groundwater study should be performed to further evaluate the groundwater situation in the building footprint.
  - Stabilization of wet subgrades with geotextile filter fabric and clean crushed stone may be necessary.
  - New backfill shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D-1557).

- *New Foundations Recommendations (Section 5.2)*
  - We recommend that additional borings be completed in the building footprint to better evaluate the soil, rock, and groundwater conditions.
  - Existing fill is not suitable for support of the new foundations or floor slabs.
  - The existing fill shall be completely removed from the building areas.
  - The sandy silt (Stratum 3) is also not suitable for support of the new foundation, if this stratum is present at the foundation bearing elevation it shall be over excavated 18-inches and replaced with DGA.
  - Use of hydraulic hammers may be required in order to achieve deeper excavations.

- The new foundations may be designed as spread footing type foundations bearing on virgin soil (Stratum 4), DGA, completely weathered rock or bedrock with the following net design bearing pressured:
    - Dense Graded Aggregate (DGA) = 6,000 psf
    - Virgin Soil (Stratum 4) = 6,000 psf
    - Completely Weathered Gneiss = 8,000 psf
- Minimum depth for frost protection = 42 inches.
- Seismic Site Class = C Very Dense Soil/Soft Rock.

5.0 BUILDING EVALUATION

We understand that the planned construction will consist of a 5-story building with a 3-story parking garage. The northern half of the proposed building has a lower level (level P-1) with a finished floor elevation of +416.33. The first floor of the building has an elevation +427.0 and the third level, P-3, is at elevation +437.67. The current ground surface elevations in the multistory building with the parking garage footprint range from +422.0 on the southern end to +438.0 on the north end.

It is our understanding that the proposed building will have a footprint of approximately 52,000 ft^2. During our 2002 and 2020 study, six (6) borings and two (2) test pits were performed in the vicinity of the proposed multistory building. However, only two (2) of those borings and the two (2) test pits were performed in the proposed building footprint. We recommend that additional borings be performed in the new building footprint to further evaluate the soil, rock, and groundwater conditions and finalize the design recommendations.

Lower Level Building Excavation

For level P-1 (a finished floor elevation of +416.33) we anticipate a twenty (20) foot cut on the northern end of the building and a ten (10) cut on the southern end. We expect cuts for P-1 will consist of approximately 16-feet of overburden soils and 4-feet of completely to highly weathered rock. Excavating the 4-feet of rock will require the use of hydraulic hammers and/or blasting. If blasting is required, additional recommendations can be provided.

Groundwater Considerations

Groundwater was encountered higher in the additional test pits (TP-104 and TP-105) at depths of 8’6” and 11’0” below the existing ground surface, respectively (elevations +425.5 and +424.0). We anticipate that the lower level, P-1, will extend 7 to 9 feet below the groundwater table. ***We recommend that a supplemental groundwater study with monitoring wells be performed to further evaluate the groundwater conditions throughout the building footprint.***

Existing Fill and Silty Subgrades

Existing fill was encountered at B-14 and TP-104 to a depth of 3’6” and 4’0” below the existing ground surface, respectively (elevation +416.5 and +430.0). Existing fill was not encountered in the remaining borings or test pits near the building footprint. There may be isolated areas of debris from the demolished homes in the footprint of the proposed building. The consistency and density of the existing fill is not predictable. Certain areas may contain clean dense soils while other areas may contain loose material, void spaces, and/or debris. The existing soil fill creates the possibility of intolerable differential settlements under loading. To eliminate the potential for damaging differential settlements, the existing fill shall be completely removed from the multistory building footprint.

Medium stiff to stiff Sandy Silt (Stratum 3) was encountered near and in the building footprint at borings B-6 to B-8 to depths ranging from 3’0” to 4’0” below the existing ground surface (elevations +433.0 to +426.0). Stratum 3, is an unsuitable bearing stratum for the proposed building in its natural state. We understand that the proposed finished floor elevation is +416.33, and most of Sandy Silt (Stratum 3) will be removed during excavation for the proposed building. However, in the event that this stratum is located below the foundation bearing elevation, 18-inches of the sandy silt (Stratum 3) material shall be removed and replaced with a dense graded aggregate (DGA).

Provided that the existing fill, Sandy Silt (Stratum 3) and any other unsuitable materials encountered during construction are remediated, it is our opinion that the dense graded aggregate (DGA), or the virgin soils/bedrock (Stratum 4, 5, or 6) can adequately support the new building foundations and floor slab. Recommendations for building area preparation are provided in Sections 5.1 below. Foundation recommendations are provided in Section 5.2 below. In addition, the proposed building floor slab may be designed as slab on grade bearing on new compacted fill or virgin soils. Floor slab recommendations can be found in Section 5.3 below.

Table 1 – Summary of Building Boring and Test Pit Observations

Boring/ Test Pit No.	Approximate Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Bottom of Existing Fill (Elevation)	Depth to Gneiss Bedrock or CWR (Elevation)
TP-104	+434.0	8’6” (+425.5)	4’0” (+430.0)	AR @ 16’6” (+417.5)
TP-105	+435.0	11’0” (+424.0)	NE	AR @ 18’6” (+416.5)
B-1	+ 402.0	NE to 16’0”	NE	C @ 6’0” (+396.0)
B-2	+ 414.0	NE to 14’0”	NE	CWR @ 10’0” (+404.0) C @ 14’0” (+400.0)
B-3	+ 420.0	5’6” (+414.5)	NE	CWR @ 10’0” (+410.0) AR @ 14’6” (+405.5)
B-4	+ 430.0	NE to 4’0”	NE	C @ 4’0” (+426.0)
B-5	+ 432.0	NE to 8’0”	NE	CWR @ 8’0” (+424.0) AR @ 12’0” (+420.0)
B-6	+ 437.0	NE to 8’0”	NE	C @ 8’0” (+429.0)
B-7	+ 431.0	10’0” (+421.0)	NE	CWR @ 11’0” (+420.0) C @ 14’0” (+417.0)
B-8	+ 430.0	24’0” (+406.0)	NE	CWR @ 30’0” (+400.0) AR @ 38’0” (+392.0)

Boring/ Test Pit No.	Approximate Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Bottom of Existing Fill (Elevation)	Depth to Gneiss Bedrock or CWR (Elevation)
B-9	+ 430.0	15’6” (+414.5)	NE	CWR @ 13’0” (+417.0) AR @ 35’3” (+394.8)
B-10	+ 423.0	23’0” (+400.0)	NE	CWR @ 22’0” (+401.0) AR @ 30’0” (+393.0)
B-11	+416.0	NE to 16’0”	NE	CWR @ 16’0” (+400.0) AR @ 20’6” (+395.5)
B-12	+ 417.0	20’6” (+396.5)	NE	CWR @ 26’0” (+391.0) AR @ 30’6” (+386.5)
B-13	+ 420.0	15’6” (+404.5)	NE	CWR @ 18’0” (+402.0) AR @ 20’6” (+399.5)
B-14	+ 420.0	20’0” (+400.0)	3’6” (+416.5)	CWR @ 26’0” (+394.0) AR @ 30’6” (+389.5)

NE – Not Encountered
C- Cored Bedrock
CWR – Completely Weathered Rock
AR – Auger or Bucket Refusal on Probable Intact Bedrock

5.1 Building Area Preparation

In order to prepare the site for construction, all surface materials such as asphalt and topsoil shall be removed from the planned building areas, extending at least ten (10) feet beyond the new construction limits, where practical.

Rock Removal

In order to develop the site, rock or weathered rock cuts may be required particularly in the northern portion of the building area. Based on our experience, the in-situ bedrock and weathered bedrock will be variable, ranging from a completely weathered to an intact bedrock. To excavate the rock, the top 1 to 5 feet of rock may be “rippable” by using large construction equipment. We anticipate that the “rippability” of the bedrock will be variable and limited. The use of hydraulic hammers and/or blasting will be required to excavate the harder, intact rock.

Densification of Subgrade Soils (Proofrolling)

After the surface materials have been removed, the building area can be excavated to the required subgrade elevation. The exposed subgrade shall be proofrolled by several passes of a vibratory drum roller. The proofrolling is necessary to densify the underlying soils. The proofrolling must be performed prior to the excavation for new foundations and the placement of new fill in the building area.

A representative from Carlin-Simpson & Associates or a qualified geotechnical engineer shall observe the proofrolling operation. If any excessive movement is noted during the proofrolling, the soft soil shall be removed and replaced with new compacted fill. The Carlin-Simpson & Associates or the qualified geotechnical engineer representative shall be responsible for determining what material, if any, is to be removed and will direct the Contractor during this operation. The subgrade proofrolling may be eliminated, if in the opinion of the geotechnical engineer, the proofrolling will cause pumping or otherwise disturb the stability of the subgrade.

Handling Groundwater and Silty Subgrades

Groundwater was encountered in the additional test pits (TP-104 and TP-105) at depths of 8’6” and 11’0” below the existing ground surface, respectively (elevations +425.5 and +424.0). We expect that the excavations for the proposed lower level parking will extend 7 to 9 feet below the groundwater table. Based on the proposed construction temporary groundwater control measures will be required to achieve desired lower level subgrade elevations. Due to the possible extent of dewatering for this project. An additional groundwater study is recommended for design of the dewatering system.

Based on the boring information medium stiff to stiff sandy silt (Stratum 3) was encountered near and in the building footprint at borings B-6 to B-8 to depths ranging from 3’0” to 4’0” below the existing ground surface (elevations +433.0 to +426.0). Stratum 3, is an unsuitable bearing stratum for the proposed building in its natural state. We understand that the proposed finished floor elevation is +427.0, and most of sandy silty (Stratum 3) will be removed during excavation for the proposed building. However, in the event that this stratum is located below the foundation bearing elevation, 18-inches of the sandy silt (Stratum 3) material shall be removed and replaced with a dense graded aggregate (DGA). The gradation for the DGA can be found in the section below “Installation of New Structural Fill”.

In addition, the exposed silty clayey soils will be moisture sensitive and may become destabilized when exposed to weather or poor site drainage. In the event that water has softened the subgrade soil, stabilization with geotextile filter fabric and crushed stone may be required. This determination will be made by Carlin-Simpson & Associates or a qualified geotechnical engineer during the excavation process. Where needed, the subgrade should be stabilized with geotextile fabric, such as Mirafi 500X or equivalent, and 3/4-inch clean crushed stone.

To prepare the subgrade surface for the geotextile fabric and crushed stone, all surface water, loose soil, and mud must be removed from the area. After the subgrade is prepared, a layer of geotextile fabric (Mirafi 500X or equivalent) shall be laid out on the subgrade surface. Adjacent layers of geotextile fabric should be overlapped a minimum of 6 inches. The excavation shall then be filled with 12 inches of 3/4-inch clean crushed stone. The crushed stone shall be placed in maximum 12-inch layers and compacted by several passes of a small vibratory drum roller. The crushed stone can then be used to support the proposed building foundations and floor slab.

The crushed stone should be spread across the geotextile filter fabric and densified with lightweight tracked equipment. Care should be taken to avoid contact of the tracked equipment with the geotextile fabric. Alternatively, the placement of the stone fill could be achieved by placing the material with the bucket of a large excavator and densifying the material with a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent). If subgrade pumping does occur, the filling operation should be halted until Carlin-Simpson & Associates or a qualified geotechnical engineer can evaluate the cause of the instability and make further recommendations.

Installation of New Structural Fill

New fill required to achieve final grades in the building area shall consist of dense graded aggregate (DGA). DGA shall contain less than 10% by weight passing a No. 200 sieve. The new fill shall be placed in layers not exceeding one (1) foot in thickness and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D1557). Each layer must be compacted, tested, and approved the Carlin-Simpson & Associates field representative prior to placing subsequent layers. The suitability of the excavated soil for reuse as compacted structural fill is discussed in Section 6.5 below. An example DGA gradation specification is provided below:

US Standard Sieve Size	Percent Finer By Weight
2 inch	100
¼ inch	30-65
No. 40	5-40
No. 200	0-10

After the installation of compacted fill has been completed to the required building foundation subgrade elevation, the virgin soil and new engineer-approved compacted fill may be used to support the floor slab.

5.2 New Building Foundations

Once the planned building subgrade have been prepared as described Section 5.1 above, the new foundations may be constructed on the virgin site soils, new structural fill (DGA), or completely weathered bedrock. The new building foundations may be designed as shallow spread footings bearing on virgin soil/rock, or new compacted fill using a net design bearing pressure as listed in the Table 2 below.

Bedrock Special Construction Procedures

Where rock is encountered, particularly in the lower level, P-1, the foundation excavations, “Special Construction Procedures” must be employed. When continuous wall footings or closely spaced column footings (20 feet or less) bear on dissimilar material (i.e. rock and soil) the potential for differential movement exists. A footing bearing in rock will not move, whereas a footing bearing on soil will settle slightly due to the compressive nature of all soils when subjected to new loads. The area between movement and non-movement will develop a (shear) stress point. Cracks in foundations and walls will be the result from such movement. Therefore, continuous wall footings must bear either entirely on rock or entirely on soil for any individual structure. Alternatively, for larger structures, transition zones can be constructed to create a gradual transition from a soil to a rock bearing subgrade.

Where rock and soil both exist at the bearing elevation in a foundation excavation, the footings must either be lowered to bear entirely on rock, or a minimum of 18 inches of rock must be removed from below planned footing bottom. The over-excavated 18 inches must then be filled with a granular material having a maximum particle size of 1/2-inch and containing at least 10% but not more than 30% material by weight passing a No. 200 sieve. The fill shall be placed in six (6) inch layers and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D-1557). This procedure will create a "cushion" atop the rock and reduce the potential for differential movement. For soft, rippable rock, this procedure will not be required.

Adjacent column footings greater than 20 feet apart may bear on dissimilar material (i.e. soil and rock). Any individual column footing must bear entirely on the same type bearing material (i.e. all soil or all rock). In addition, new footings constructed on sloping bedrock must be keyed into the bedrock surface.

If during the excavation for continuous foundations, the transition from soil to rock is gradual (i.e. from medium dense soil to dense weathered rock to very dense rock) over a distance of 20 feet or more, the "Special Construction Procedures" may not be required. This would have to be evaluated in the field on a case-by-case basis by the representative from Carlin-Simpson & Associates or a qualified geotechnical engineer at the time of construction.

Where the transition from rock to soil is abrupt within the excavation for continuous wall foundations, transition zones can be constructed by over-excavating the rock in steps and increasing the "soil cushion" thickness over a distance of 24 feet or more. To construct the transition zone, the bedrock is over-excavated in a series of steps, each step being six (6) inches in depth and at least eight (8) feet in length. The first step is six (6) inches deep, the second step is 12 inches deep, and the final step is 18 inches deep. The over-excavation is then backfilled with the soil cushion material described above.

Prior to the placement of formwork, reinforcement steel, and concrete, the bearing subgrade soil shall be cleaned of all loose soil and where soil is encountered at the subgrade elevation, it shall be compacted with several passes of a small vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or "jumping jack" style tamper (i.e. Wacker Model BS 600). This must be performed under the observation of Carlin-Simpson & Associates or a qualified geotechnical engineer. If instability is observed during the compaction of the bearing subgrade, the soft soil shall be removed and replaced with new compacted fill.

Foundation Design Parameters

Once the planned building subgrade has been prepared as described Section 5.1 above, the new foundations may be constructed on the virgin site soils (Stratum 4), completely weathered bedrock (Stratum 5), or DGA. The new building foundations may be designed as a shallow spread footing using a net design bearing pressure as listed in the Table 2 below.

Table 2 – Building Foundation Design Parameters

Description	Value
Foundation Bearing Material	Virgin Soil New Compacted Fill (DGA) Bedrock
Net Design Bearing Pressures: *New DGA or Virgin Soil (Stratum 4)* *Weathered bedrock or Intact Gneiss (Stratum 5, 6)*	 6,000 psf 8,000 psf
Minimum Frost Depth	42 inches
Minimum Wall Dimension	24 inches

The excavations for the new foundations shall be performed under the full-time inspection of Carlin-Simpson & Associates or a qualified geotechnical engineering firm. The on-site representative shall confirm that the foundation bearing material is capable of supporting the design bearing pressure.

Prior to the installation of the reinforcement steel and concrete, the bottoms of the foundation excavations should be cleaned of all loose material. The foundation subgrade shall be compacted with a small vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or a “jumping jack” style tamper (i.e. Wacker Model BS 600). The preparation of the footing bearing subgrade should be performed under the observation of a representative from Carlin-Simpson & Associates or the qualified geotechnical engineer. If instability is observed during the compaction of the bearing subgrade, the soft soil shall be removed and replaced with new compacted fill.

5.3 Floor Slab on Grade

Additional groundwater information is needed from the supplemental study to finalize the floor slab design. Our floor slab design is preliminary.

The floor may be designed as a slab on grade bearing on densified virgin soil, completely weathered rock, bedrock, or new engineer-approved structural fill. Floor slab design parameters are provided in Table 3 below. A layer of 3/4-inch crushed stone is recommended beneath the concrete slab for additional support and drainage. Provisions for sump pits and pumps are recommended for lower levels that are bearing on bedrock.

Table 3 –Floor Slab Design Parameters

Description	Value
Slab Subgrade Material	Densified Virgin Soils/ Bedrock / New Structural Fill
Modulus of Subgrade Reaction (k)	200 pci
Crushed Stone Cushion Thickness	12 inches

New fill for the floor slabs shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel shall contain less than 20% material by weight passing a No. 200 sieve. The new fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Fill layers shall be compacted, tested, and approved before placing subsequent layers.

5.4 Foundation Walls

Additional groundwater information is needed from the supplemental study to finalize the foundation wall design. Our foundation walls design is preliminary.

Where foundation walls are required, the soil adjacent to the building walls will exert a horizontal pressure against the wall. This pressure is based on the soil density and Coefficient of Earth Pressure at Rest (k_o), which is applicable to non-yielding building walls. Foundation wall design parameters are listed in Table 4 below.

Where foundation walls are required, we recommend that a footing drain be placed around the exterior of the new building to prevent water from accumulating against the foundation wall. This drain may consist of a minimum 4-inch diameter, rigid wall perforated PVC pipe surrounded by at least 12 inches of 3/4-inch clean crushed stone. The stone shall be wrapped in a geotextile fabric, such as Mirafi 140N or equivalent. The foundation drainpipe should be extended to daylight, if possible, or to the stormwater collection system. The outside face of the foundation wall, where it extends below grade, must be damp proofed or waterproofed.

Table 4 – Foundation Wall Design Parameters

Soil Type	On-Site Soils	Imported Structural Fill
Moist Unit Weight (γ)	130 pcf	130 pcf
Coefficient of Earth Pressure at Rest (k_o)	0.5	0.47
Equivalent Fluid Pressure	65 psf/ft	61.1 psf/ft
Foundation Sliding Coefficient. Virgin Soils or New Structural Fill: Clean Sound Rock:	 0.45 0.55	

Outside the building, the backfill placed adjacent to the foundation walls and above the footing drain shall consist of either clean crushed stone or an imported sand and gravel mixture containing less than 10% by weight passing a No. 200 sieve and placed in layers not exceeding 12 inches in thickness. This clean sand and gravel or crushed stone backfill shall extend a minimum of 12 inches horizontally from the back face of the foundation walls, and shall extend vertically up the wall face to 2 feet below the finished ground surface elevation. Where retained soils are not covered by concrete or pavement and are exposed to weather, the top 2 feet of backfill should consist of low permeable soil. This will help to minimize water infiltration behind the wall. Surface grades should be sloped away from the building to prevent water from accumulating adjacent to the wall.

Beyond this point, the foundation walls should be backfilled with suitable soil placed in layers up to 12 inches in thickness. The suitability of the on-site soil for reuse as compacted fill is discussed in a separate section below. The new fill should be compacted with a vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or "jumping jack" style tamper (i.e. Wacker Model BS 600) to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Heavy equipment should not be operated near the building walls as damage to the walls could occur.

5.5 Building Settlement

Settlement of individual footings, designed in accordance with recommendations presented in this report, is expected to be within tolerable limits for the proposed buildings. For footings placed on natural soils or new compacted fill approved by Carlin-Simpson & Associates and constructed in accordance with the requirements outlined in this report, maximum total settlement is expected to be on the order of 1-inch or less. Maximum differential settlement between adjacent columns or load bearing walls is expected to be half the total settlement.

The above settlement values are based on our engineering experience with similar soil conditions and the anticipated structural loading, and are to guide the structural engineer with his design. To minimize difficulties during the foundation installation phase, it is critical that Carlin-Simpson & Associates be retained to observe the foundation bearing surfaces and to confirm the recommended bearing pressures and that the existing fill and unsuitable materials have been removed from beneath the new foundations.

5.6 Seismic Design Considerations

From site-specific test boring data, the Site Class was determined from Table 1613.5.2 of the New York State Building Code. The site-specific data used to determine the Site Class typically includes soil test borings to determine Standard Penetration resistances (N-values). Based on estimated average N-values in the upper 100 feet of soil profile, the site can be classified as Site Class C – Very Dense Soil and Soft Rock Profile.

New buildings should be designed to resist stress produced by lateral forces computed in accordance with Section 1613 of the New York State Building Code. The values in Table 5 shall be used for this project.

Table 5 – Seismic Design Values

Mapped Spectral Response Acceleration for Short Periods, [Fig 1613.5 (1)]	S_S=0.287g
Mapped Spectral Response Acceleration at 1-Second Period, [Fig 1613.5 (2)]	S_1=0.061g
Site Coefficient [Table 1613.5.3 (1)]	F_a= 1.30
Site Coefficient [Table 1613.5.3 (2)]	F_v= 1.50
Max Considered Earthquake Spectral Response for Short Periods [Eq 16-37]	S_{MS}=0.373g
Max Considered Earthquake Spectral Response at 1-Second Period [Eq 16-38]	S_{M1}=0.091g
Design Spectral Response Acceleration for Short Periods [Eq 16-39]	S_{DS}=0.249g
Design Spectral Response Acceleration for 1-Second Period [Eq 16-40]	S_{D1}=0.061g

6.0 SITE EVALUATION

Our recommendations for the proposed site development including the new utilities, stormwater management, temporary excavation and bracing, pavement, and suitability of the existing site soils for reuse are provided below.

6.1 Utilities

Existing fill is present near B-14 to depth of 3’6” below the existing ground surface. Existing fill was not encountered in the remaining borings, however, there were several residential residences, mainly in the area of the proposed townhome development that were demolished around 2005 (this can be concluded by satellite imagery). There may be buried debris in the footprints of these demolished homes that are not apparent at the time of this report. For areas where existing fill is encountered within the utility excavations, the subgrade at bottom of the utility excavation shall be compacted in place with a vibratory drum trench compactor or “jumping jack” style tamper. Carlin-Simpson & Associates must evaluate these areas for the presence of soft or unsuitable material within the existing fill matrix. If instability is observed, portions of this fill may have to be removed and replaced with new compacted fill. Carlin-Simpson & Associates will determine this during construction.

New utilities may bear in the densified existing fill, virgin soils, or new compacted fill. The bottom of all trenches shall be excavated clean so a hard bottom is provided for pipe support. If any soft areas or unsuitable existing fill conditions are encountered during the construction operation, these materials must be removed and replaced with new compacted fill.

In the event that water is encountered within the utility trench excavation or if the trench bottom becomes soft due to the inflow of surface water or trapped water, a layer of geotextile filter fabric and a minimum of six (6) inches of crushed stone shall be placed on the bearing soil to provide a firm base for support of the pipe. Sump pits and pumps should be used to keep the excavations dry.

6.2 Stormwater Management System

As a part of this study, ten (10) test pits were performed for the new stormwater management areas. The test pit locations are shown on the attached Boring and Test Pit Location Plan and are summarized below in Table 6.

Table 6 –Summary of Test Pit Observations for Stormwater Management System

Test Pit No.	Approximate Existing Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Seasonal High Groundwater (Elevation)	Depth to Bedrock (Elevation)
TP-101	+408.0	3’6” (+404.5)	2’6” (+405.5)	NE to 12’0”
TP-102	+407.0	NE to 10’6”	5’0” (+402.0)	NE to 10’6”
TP-103	+408.5	NE to 12’0”	7’0” (+401.5)	NE to 12’0”

Test Pit No.	Approximate Existing Ground Surface Elevation	Depth to Groundwater (Elevation)	Depth to Seasonal High Groundwater (Elevation)	Depth to Bedrock (Elevation)
TP-201	+408.0	2’6” (+405.5)	NE	NE to 13’0”
TP-202	+410.0	NE to 8’0”	4’3” (+405.8)	NE to 8’0”
TP-203	+410.0	1’6” (+408.5)	NE	NE to 4’3”
TP-204	+403.0	NE to 10’6”	NE to 10’6”	NE to 10’6”
TP-205	+404.0	NE to 11’0”	NE to 11’0”	NE to 11’0”
TP-206	+417.0	NE to 12’0”	NE to 12’0”	NE to 12’0”
TP-207	+417.0	NE to 12’0”	NE to 12’0”	NE to 12’0”

NE – Not Encountered

To determine the site soils permeability, five (5) in situ infiltration test were completed at test pit locations TP-103, TP-204, TP-205, TP-206, and TP-207 to evaluate the permeability rates of the site soils. The percolation tests were performed in accordance with NYSDEC procedures, Appendix D. The results of field infiltration rates and calculated vertical permeability rate are shown in Table 7 below.

$$K_m = 1.142R_t \times \frac{\left[Ln\left(\frac{h_1}{h_2}\right)\right]}{(t_2 - t_1)}$$

Table 7 - Permeability Test Results

Infiltration Test No.	Approx. Ground Surface Elevation	Depth to Top of Test Below Existing Ground Surface (Elevation)	Field Infiltration Rate	Calculated Vertical Permeability Rate, K_m
TP-103	+408.5	4’0” (+404.5)	19.5 in/hr	1.54 in/hr
TP-204	+403.0	9’0” (+394.0)	> 20 in/hr	>10.0 in/hr
TP-205	+404.0	8’6” (+395.5)	> 20 in/hr	>10.0 in/hr
TP-206	+417.0	8’0” (+409.0)	10.5 in/hr	0.53 in/hr
TP-207	+417.0	8’0” (+409.0)	20 in/hr	1.65 in/hr

6.3 Temporary Construction Excavations and Excavation Protection

Temporary construction excavations should be conducted in accordance with the most recent OSHA guidelines or applicable federal, state or local codes. A qualified person should evaluate the excavations at the time of construction to determine the appropriate soil type and allowable slope configuration. Based on the boring data, we believe the site soils and rock would have the following classifications as defined by the OSHA guidelines.

Soil/Rock Type	Possible Classification	Maximum Slope or Bench
Existing Fill	Type "C"	1½H:1V
Virgin Soil	Type "B"	1H:1V
Weathered Rock	Type "B"	1H:1V
Intact Gneiss	Type "A"	3/4H:1V

Temporary support (i.e. trench boxes, sheeting and shoring, etc.) should be used for any excavation that cannot be sloped or benched in accordance with the applicable regulations, where necessary to protect adjacent utilities and structures, or where saturated soils or water seepage is encountered within the excavation.

A New York State licensed professional engineer must design all temporary and permanent support systems. The contractor will select the shoring type and submit design calculations for the proposed shoring method to Carlin-Simpson & Associates for review. The soil adjacent to the temporary support system will exert a horizontal pressure against the system. This pressure is based on the soil unit weight, coefficient of active earth pressure, and depth of the excavation. Support of Excavation design parameters are listed in Table 8 below.

Table 8 – Temporary Sheeting and Shoring Design Parameters

Description	Value
Moist Unit Weight (pcf)	130
Friction Angle (ϕ, deg)	30
Cohesion (c, psf)	0
Active Earth Pressure Coefficient (k_a)[1]	0.33
Equivalent Fluid Pressure (pcf)	40.3
Passive Earth Pressure Coefficient (k_p)[1]	3.0

6.4 Pavement

We understand that the proposed construction will also include new asphalt paved parking areas and driveways. We expect that varying cuts and fills will be required to achieve the planned subgrade elevations in the new pavement areas. Densified existing fill or virgin site soils, and new compacted fill may be used to support the pavement.

To prepare the new pavement areas, the existing surface materials (i.e. topsoil, vegetation, etc.) must be removed from the planned pavement areas. In the proposed pavement areas, the existing structures and debris resulting from the demolition of these structures must be completely removed from the new pavement area, extending at least five (5) feet beyond the new paving limits, where practical. The excavations resulting from the removal of existing structures shall be backfilled using controlled compacted fill. New fill shall consist of either suitable on-site soil or imported sand and gravel placed in one (1) foot loose layers and compacted to at least 92% of its Maximum Modified Dry Density (ASTM D-1557).

Existing fill was present at the site from depths ranging depth from 2’0” to 7’0” below the existing ground surface. Areas where existing fill is encountered shall be compacted in place. Carlin-Simpson & Associates must evaluate these areas for the presence of soft or unsuitable material within the existing fill matrix. Portions of this fill may have to be removed and replaced with new compacted fill. Carlin-Simpson & Associates will determine this during construction.

After all surface materials have been removed, the area can be excavated to the planned subgrade elevation. Where soil is encountered at the subgrade elevation, the subgrade shall be proofrolled with a large vibratory drum roller (i.e. Dynapac 250 or equivalent) to densify the underlying soils. The on-site representative from Carlin-Simpson & Associates shall witness the proofrolling operation. If any excessive movement is noted during the proofrolling, the soft or unsuitable soil shall be removed and replaced with new compacted fill.

Where new fill is required to achieve final grades, it shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel shall contain less than 20% by weight passing a No. 200 sieve. New fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D-1557). After the planned subgrade has been proofrolled and new compacted fill has been placed as required, the new pavement subbase may be placed on the existing site soils, bedrock, and new compacted fill.

A minimum of six (6) inches of dense graded aggregate (DGA) or crushed stone is recommended for sub-pavement drainage and additional pavement support. We recommend that the following pavement sections be used for the parking lots and driveways. This pavement section is subject to local government approval.

6.5 Suitability of the In-Situ Soils for Use as Compacted Fill

The suitability of each soil stratum for use as compacted fill is discussed below.

Stratum 2
Existing Fill

The existing fill generally consists of sandy silt. This material will be very moisture sensitive. The existing fill has a moderate to high percentage of silt, however, as long as it remains relatively dry for optimum compaction, the existing fill may be difficult but suitable for reuse as compacted fill.

Stratum 3/4
Sandy Silt or Silty Sand

This material will be very moisture sensitive. The existing fill has a moderate to high percentage of silt, however, as long as it remains relatively dry for optimum compaction, the existing fill may be difficult but suitable for reuse as compacted fill.

Note that some of this stratum is below the groundwater table. Soil located below the groundwater table will be completely saturated and therefore not usable as compacted fill.

Stratum 4/5 Weathered Rock/ Bedrock — Excavated rock may be used as fill material provided that the material conforms to the required gradation, is well graded, and has been approved prior to use by Carlin-Simpson & Associates. All rock fill must be well blended with smaller rock fragments and/or soil. The maximum particle size for rock placed as fill in the building area shall be three (3) inches in diameter. In other areas of the site, the maximum particle size shall be six (6) inches in diameter. Most of the excavated rock will be too large for use as compacted fill in structural areas. The excavated rock must therefore be processed through a crusher to provide suitable fill material. Rock fill should not be used where it will interfere with the installation of foundations or utilities. Also, it shall not be used as backfill directly against concrete walls or utilities.

The boring observations indicate that the on-site soils contain a moderate to very high percentage of silt (20% to >50%). The high silt content soils will be moisture sensitive. If the soil becomes too wet, it will be difficult to achieve adequate compaction. Proper moisture conditioning of the soil will be required. New compacted fill should be within 2% (+/-) of its optimum moisture content at the time of placement. In the event that the on-site material is too wet at the time of placement and cannot be adequately compacted, the soil should be aerated and allowed to dry or the material removed and a drier cleaner fill material used. In the event that the on-site material is too dry at the time of placement and cannot be adequately compacted, water may be needed to increase the soil moisture content for proper compaction.

The in-situ soils which exist throughout the site may become soft and weave if exposed to excessive moisture and construction traffic. The instability will occur quickly when exposed to these elements and it will be difficult to stabilize the subgrade. We recommend that adequate site drainage be implemented early in the construction schedule and if the subgrade becomes wet, the contractor should limit construction activity until the soil has dried.

The minimum compaction requirements for the various areas of the site are summarized in Table 9 below.

Table 9 – Minimum Compaction Requirements

Area	**Maximum Modified Dry Density (ASTM D-1557)**
Building (below foundations)	**95%**
Building Slab (above foundations)	92%
Pavement Areas	92%
Exterior Slabs and Sidewalks	92%
Utility Trenches	92%
Landscape Areas	90%

7.0 GENERAL

The findings, conclusions and recommendations presented in this report represent our professional opinions concerning subsurface conditions at the site. The opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at later dates or at locations not explored. The opinions included herein are based on information provided to us, the data obtained at specific locations during the study and our past experience. If additional information becomes available that might impact our geotechnical opinions, it will be necessary for Carlin-Simpson & Associates to review the information, reassess the potential concerns, and re-evaluate our conclusions and recommendations.

Regardless of the thoroughness of a geotechnical exploration, there is the possibility that conditions between borings and test pits will differ from those encountered at specific boring or test pit locations, that conditions are not as anticipated by the designers and/or the contractors, or that either natural events or the construction process have altered the subsurface conditions. These variations are an inherent risk associated with subsurface conditions in this region and the approximate methods used to obtain the data. These variations may not be apparent until construction.

The professional opinions presented in this geotechnical report are not final. Field observations and foundation installation monitoring by the geotechnical engineer, as well as soil density testing and other quality assurance functions associated with site earthwork and foundation construction, are an extension of this report. Therefore, Carlin-Simpson & Associates should be retained by the Owner to observe all earthwork and foundation construction, to document that the conditions anticipated in this study actually exist, and to finalize or amend our conclusions and recommendations Carlin-Simpson & Associates is not responsible or liable for the conclusions and recommendations presented in this report if Carlin-Simpson & Associates does not perform the observation and testing services.

Therefore, in order to preserve continuity in this project, the Owner must retain the services of Carlin-Simpson & Associates to provide full time geotechnical related monitoring and testing during construction. At a minimum, this shall include the observation and testing of the following: 1) the removal of unsuitable soil, where required; 2) the proofrolling of the subgrade soil prior to the placement of new compacted fill; 3) the placement and compaction of controlled fill; 4) the excavation for the structure foundations; and 5) the preparation of the subgrade for the floor slabs.

This report has been prepared in accordance with generally accepted geotechnical engineering practice. No other warranty is expressed or implied. The evaluations and recommendations presented in this report are based on the available project information, as well as on the results of the exploration. Carlin-Simpson & Associates should be given the opportunity to review the final drawings and site plans for this project to determine if changes to the recommendations outlined in this report are needed. Should the nature of the project change, these recommendations should be re-evaluated.

This report is provided for the exclusive use Airport Campus I-V, LLC and the project specific design team and may not be used or relied upon in connection with other projects or by other third parties. Carlin-Simpson & Associates disclaims liability for any such third party use or reliance without express written permission. Use of this report or the findings, conclusions or recommendations by others will be at the sole risk of the user. Carlin-Simpson & Associates is not responsible or liable for the interpretation by others of the data in this report, nor their conclusions, recommendations or opinions.

If the conditions encountered during construction vary significantly from those stated in this report, this office should be notified immediately so that additional recommendations can be made.

Thank you for allowing us to assist you with this project. Should you have any questions or comments, please contact this office.

Very truly yours,

CARLIN-SIMPSON & ASSOCIATES

CATHERINE K. SIMPSON
Project Engineer

ROBERT B. SIMPSON, P.E.

CARLIN – SIMPSON & ASSOCIATES

Consulting Engineers
Geotechnical & Environmental

Proposed Building Complex
113 King St.
North Castle, NY
19-215

23 July 2020

TEST PIT LOGS

TP-101 (Elev. +408.0)

0'0"-1'3"	Topsoil	
1'3"-5'6"	FILL (Brown, dark gray coarse to fine SAND, and (+) Silt, little (-) coarse to fine Gravel) slightly mottled @ 2’6”	loose, moist
5'6"-12'0"	Brown, gray coarse to fine SAND, some (-) Silt, some coarse to fine Gravel	medium dense, moist

Groundwater encountered @ 3’6” (slow inflow)
Seasonal High Groundwater @ 2’6”

TP-102 (Elev. +407.0)

0'0"-0'10"	Topsoil	
0'10"-2'0"	FILL (Dark gray coarse to fine SAND, and Silt, little coarse to fine Gravel)	medium dense, moist
2'0"-10'6"	Brown coarse to fine SAND, little (+) Silt, some coarse to fine Gravel mottled @ 5’0”	medium dense, moist

Seasonal High Groundwater @ 5’0”

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TP-103 (Elev. +408.5)

0'0"-1'0"	Topsoil	
1'0"-4'0"	FILL (Dark brown, black coarse to fine Sand, and (+) Silt, little (-) coarse to fine Gravel)	medium dense, moist
4'0"-12'0"	Orange brown, brown coarse to fine SAND, little (+) Silt, some coarse to fine Gravel	medium dense, moist

Seasonal High Groundwater Encountered @ 7'0"
No Groundwater Encountered

TP-104 (Elev. +434.0)

0'0"-1'3"	Topsoil	
1'3"-4'0"	FILL (Brown coarse to fine Sand, some Silt, some (+) coarse to fine Gravel with shot rock fill)	medium dense, moist
4'0"-8’0"	Brown coarse to fine Sand, some Silt some coarse to fine Gravel	medium dense, moist
8'0"-16’6"	Brown coarse to fine Sand, some Silt some coarse to fine Gravel with cobbles and boulders	dense, wet

Groundwater Encountered @ 8'6"
Bucket Refusal on Probable Bedrock @ 16’6”

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TP-105 (Elev. +435.0)

0'0"-1'0"	Topsoil	
1'0"-18'6"	Brown coarse to fine Sand, some (-) Silt some coarse to fine Gravel with many cobbles and boulders	medium dense 1' to 8' dense 8' to 18'6" moist to wet

Groundwater Encountered @ 11'0" (slow inflow)
Bucket Refusal on Probable Bedrock @ 18'6"

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Consulting Engineers
Geotechnical & Environmental

Proposed Building Complex
113 King St.
North Castle, NY
19-215

18 August 2020

TEST PIT LOGS

TP-201 (Elev. +408.0)

0’0” - 0’10”	Topsoil with grass	
0’10”– 2'6”	FILL (Dark brown coarse to fine SAND, some Silt, little (+) medium to fine Gravel, with wood debris)	loose, moist
2'6” – 7’0”	FILL (Dark gray coarse to fine SAND, little (+) Silt, some (-) medium to fine Gravel)	very dense, moist
7’0” – 13’0”	Brown coarse to fine SAND, littleSilt, little (+) medium to fine Gravel, with cobbles	medium dense, moist

Groundwater Encountered @ 2’6”

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TP-202 (Elev. +410.0)

0'0"- 0'8"	Topsoil with grass	
0'8"-2'3"	FILL (Dark brown coarse to fine SAND, some (+) Silt)	loose, moist
2'3"-4'3"	FILL (Dark gray coarse to fine SAND, little (+) Silt, some coarse to fine Gravel, with wood debris)	dense, moist
4'3"-5'6"	Mottled gray, orange brown coarse to fine SAND, some (+) Silt,	medium dense, moist
5'6"-8'0"	Brown coarse to fine SAND, little Silt, little (+) medium to fine Gravel	medium dense, moist

Seasonal High Groundwater @ 4'3"
No Groundwater Encountered

TP-203 (Elev. +410.0)

0'0"- 0'10"	Topsoil with grass	
0'10"- 4'3"	FILL (Dark brown coarse to fine SAND, and Silt, little (-) medium to fine Gravel)	loose, moist to wet
4'3"	Refusal on concrete	

Groundwater encountered @ 1'6"

Proposed Building Complex
113 King St.
North Castle, NY
19-215

18 August 2020

TP-204 (Elev. +403.0)

0'0"-0'10"	Topsoil with grass	
0'10"-2'6"	FILL (Dark gray coarse to fine SAND, and (-) Silt, little (-) medium to fine Gravel, with wood and debris)	loose, moist
2'6"-6'0"	Brown coarse to fine SAND, some Silt, trace (+) fine Gravel	medium dense, moist
6'0"-10'6"	Gray coarse to fine SAND, little (-) Silt, little medium to fine Gravel, with cobbles and boulders	dense, moist

No Groundwater Encountered

TP-205 (Elev. +404.0)

0'0"-0'10"	Topsoil with grass	
0'10"-4'9"	FILL (Dark brown, gray coarse to fine SAND, some (+) Silt, little medium to fine Gravel, with a couple large asphalt pieces and debris)	loose, moist
4'9"-11'0"	Brown, gray coarse to fine SAND, little (+) Silt, little (+) medium to fine Gravel, with cobbles	medium dense, moist

No Groundwater Encountered

Proposed Building Complex
113 King St.
North Castle, NY
19-215

18 August 2020

TP-206 (Elev. +417.0)

0'0"-0'10"	Topsoil with grass	
0'10"-2'0"	FILL (Gray coarse to fine SAND, and (-) Silt)	loose, moist
2'0"-5'6"	FILL (Brown coarse to fine SAND, little (+) Silt, little (+) medium to fine Gravel)	medium dense, moist
5'6"-8'0"	FILL (Dark gray coarse to fine SAND, and (-) Silt, little (+) medium to fine Gravel, with organics, wood debris, organic odor)	loose, moist
8'0"-12'0"	Brown coarse to fine SAND, little (+) Silt, little medium to fine Gravel	medium dense, moist
	No Groundwater Encountered	

TP-207 (Elev. +417.0)

0'0"-0'8"	Topsoil with grass	
0'8"-8'0"	FILL (Brown, gray coarse to fine SAND, some (+) Silt, some (-) medium to fine Gravel)	medium dense, moist
8'0"-12'0"	Brown coarse to fine SAND, little (+) Silt, little medium to fine Gravel	medium dense, moist
	No Groundwater Encountered	

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-1

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+402.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**						**DATUM:**	Topo
				TYPE	HSA	SS	NX		**START DATE:**	05 Apr 02
				DIA.	3/14"	2"	2 1/8"		**FINISH DATE:**	05 Apr 02
No Water Encountered				**WGHT**		140#			**DRILLER:**	E. Delpriore
				FALL		30"			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		**Brown Silty Topsoil** 0'7"	
1		S-1	2		Br $ a, cf S, t (+) mf G	Rec = 17"
			3			very moist
2			5		**Brown SILT and, coarse to fine**	
			5		same **Sand, trace (+) medium fine Gravel**	
3		S-2	9		3'0"	
			27		Br cf S, s $, l mf G	weathered Gneiss
4			37			
					Brown coarse to fine SAND, some	Rec = 15"
5					**Silt, little medium to fine Gravel**	moist
			50		same	
6		S-3	50/3"		6'0"	
7						
		Run #1				Run #1
8						6'0"-11'0"
						Run = 60"
9						Rec = 18", 30%
						RQD = 0
10						
					Gneiss, Crushed, highly weathered	
11						
12						
13		Run #2				Run #2
						11'0"-16'0"
14						Run = 60"
						Rec = 24", 40%
15						RQD = 22%
16					16'0"	
					End of Boring @ 16'0"	
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-2
Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:** 1 of 2
Client:	Airport Campu I-V, LLC	**JOB NUMBER:** 01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:** +414.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	NX		DATUM:	Topo
				DIA.	3/14"	2"	2 1/8"		START DATE:	05 Apr 02
No Water Encountered				WGHT		140#			FINISH DATE:	05 Apr 02
				FALL		30"			DRILLER:	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			3		**Brown Silty Topsoil** 0'8"	
1		S-1	4		Br $ a, cf S, t mf G	Rec = 15"
			6			moist
2			26			
			12		same	
3		S-2	16		**Brown SILT and, coarse to fine**	Rec = 16"
			14		**Sand, trace (+) medium to fine Gravel**	moist
4			29			
5					5'0"	
			18		Br cf S, l (+) $, s (-) cf G	
6		S-3	25			Rec = 16"
			23			moist
7			23		**Brown coarse to fine SAND, little (+)**	
					Silt, some (-) coarse to fine Gravel	
8						
9						
10					10'0"	
		S-4	50/2"		Completely weathered Gneiss	Rec = 2"
11						moist
12						
					Completely weathered Gneiss	
13						
14					14'0"	Auger refusal 14'0"
15						
16						
		Run #1			**Brown Gneiss, Crushed, moderately**	Run #1
17					**weathered and fractured**	14'0"-19'0"
						Run = 60"
18						Rec = 49", 82%
						RQD = 0
19						
20		Run #2				Run #2
						19'0"-24'0"
21						Run = 60"
						Rec = 36", 60%
22						RQD = 0

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-2
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23		Run #2 cont'd			Brown Gneiss, Crushed, moderately weathered and fractured	
24					24'0"	
					End of Boring @ 24'0"	
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-3

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+420.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	DATUM:	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	05 Apr 02
5 Apr 02	**0315**	**5'6"**	**Auger**	**DIA.**	**3/14"**	**2"**			**FINISH DATE:**	05 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL					**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION		REMARKS
			2		**Brown Silty Topsoil**	0'7"	
1		**S-1**	3		Br $ l a, cf S, t cf G		Rec = 14"
			6				very moist
2			7				
			9		same, a (+) cf S, l (-) mf G		
3		**S-2**	17				Rec = 14"
			27				moist
4			38		**Brown SILT and, coarse to fine**		
					Sand, little (-) coarse to fine Gravel		
5							
			5		same		
6		**S-3**	6				Rec = 16"
			9				wet
7			14				
			8		same		
8		**S-4**	7			8'0"	Rec = 18"
			15		Br cf S, s $, l mf G		wet
9			20		**Brown coarse to fine SAND, some**		
					Silt, little medium to fine Gravel		
10						10'0"	
		S-5	50/1"				Rec = 0
11							
12							
					Completely weathered, Gneiss		
13							
14							
						14'6"	Auger refusal @ 14'6"
15					**End of Boring @ 14'6"**		
16							
17							
18							
19							
20							
21							
22							

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-4

Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:**	1 of 1
Client:	Airport Campu I-V, LLC	**JOB NUMBER:**	01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:**	+430.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	NX		DATUM:	Topo
				DIA.	4"	2"	2 1/8"		START DATE:	08 Apr 02
No Water Encountered				WGHT		140#			FINISH DATE:	08 Apr 02
				FALL		30"			DRILLER:	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			3		**Brown Silty Topsoil** 0'6"	
1		S-1	5		Br $ a, cf S, t (+) cf G	Rec = 12"
			6		**Brown SILT and, coarse to fine**	moist
2			23		**Sand, trace (+) coarse to fine Gravel** 2'0"	
			30		Br cf S, s $, l cf G	
3		S-2	50/3"		**Brown coarse to fine SAND, some**	Rec = 6"
					Silt, little coarse to fine Gravel,	moist
4					4'0"	
5						
6		Run #1				Run #1
					Gneiss, Crushed, Highly Weathered	4'0"-9'0"
7						Run = 60"
						Rec = 30", 50%
8						RQD = 0
9					9'0"	
10						
11		Run #2				Run #2
						9'0" - 14'0"
12					**Gneiss, Shattered, very blocky and seamy**	Run = 60"
					moderately weathered	Rec = 60", 100%
13						RQD = 40%
14					14'0"	
					End of Boring @ 14'0"	
15						
16						
17						
18						
19						
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-5
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 1 of 1
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27
Drilling Contractor: General Borings Inc.		**ELEVATION:** +432.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**DATUM:**	Topo
				DIA.	4"	2"			**START DATE:**	08 Apr 02
	No Water Encountered			**WGHT**		140#			**FINISH DATE:**	08 Apr 02
				FALL		30"			**DRILLER:**	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	IDENTIFICATION	REMARKS
			3	**Brown Silty Topsoil** 0'6"	
1		S-1	4	Br $ l a, cf S, t (+) cf G	Rec = 14" moist
			12		
2			50		
3				**Brown SILT and, coarse to fine Sand, trace (+) coarse to fine Gravel**	
4					
5				5'0"	
			25	Br cf S, l $, l (+) mf G	
6		S-2	48		Rec = 10" moist
7				**Brown coarse to fine SAND, little (+) Silt, little (+) coarse to fine Gravel**	
8				8'0"	
9					
10				**Completely Weathered Gneiss**	
		S-3	50/3"	Completely Weathered Gneiss	Rec = 2" moist
11					
12				12'0"	
				End of Boring @ 12'0"	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-6

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+438.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	DATUM:	Topo
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	NX		START DATE:	08 Apr 02
				DIA.	4"	2"	2 1/8"		FINISH DATE:	09 Apr 02
No Water Encountered				WGHT		140#			DRILLER:	J. Muccino
				FALL		30"			INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		**Brown Silty Topsoil** 0'8"	
1		**S-1**	2		Br $ a,, cf S, t (+) cf G	Rec = 14"
			2		**Brown SILT and, coarse to fine**	moist
2			4		**Sand, trace (+) coarse to fine Gravel**	
			10		Br cf S, a (-) $, l (+) mf G	
3		**S-2**	13			Rec = 16"
			12			moist
4			16		4'0"	
5						
			49		Br cf S, s (-) $, l (-) cf G,	
6		**S-3**	30			Rec = 12"
			33		**Brown coarse to fine SAND, little (+)**	very moist-wet
7					**Silt, some (+) medium to fine Gravel,**	
8					8'0"	
9						
10						
		Run #1			**Brown Gneiss, shattered very**	Run #1
11					**blocky and seamy, highly weathered**	8'0"-13'0"
						Run = 60"
12						Rec = 30", 50%
						RQD = 42%
13					13'0"	completely weathered seam - 13'0"-15'0"
14					**Completely Weathered Gneiss**	
15					15'0"	
		Run #2				Run #2
16						15'0"-20'0"
						Run = 60"
17						Rec = 30", 50%
						RQD = 0
18					**Gneiss, crushed, highly weathered**	
19						
20		**Run #3**				Run #3
						20'0"-25'0"
21						Run = 60"
						Rec = 58", 97%
22						RQD = 17%

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-6
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		SHEET NO.: 2 of 2
Client: Airport Campu I-V, LLC		JOB NUMBER: 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24		Run #3				
25						
26						
27					Gray Gneiss, crushed, highly weathered	
28		Run #4				Run #4 25'-30' Run = 60" Rec = 58", 97% RQD = 12%
29						
30					30'0"	
31						
32						
33		Run #5				Run #5 30'-35' Run = 60" Rec = 60", 100% RQD = 83%
34						
35					Gray Gneiss, massive moderly jointed slightly weathered	
36						
37						
38		Run #6				Run #6 35'-40' Run = 60" Rec = 60", 100% RQD = 77%
39						
40					40'0"	
41					End of Boring @ 40'0"	
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-7
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 1 of 1
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27
Drilling Contractor: General Borings Inc.		**ELEVATION:** +431.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	
									DATUM: Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS	NX		**START DATE:** 10 Apr 02
10 Apr 02	0930	10'	Auger	**DIA.**	3 1/4"	2"	2 1/8"		**FINISH DATE:** 10 Apr 02
				WGHT		140#			**DRILLER:** J. Muccino
				FALL		30"			**INSPECTOR:** EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		**Brown Silty Topsoil**	
1		S-1	3		0'11"	Rec = 15"
			3		Br $ l (+), cf S, l (-) f G	very moist
2			9		**Brown SILT little (+), coarse to fine Sand, little (-) fine Gravel**	
3					3'0"	
4					**Brown coarse to fine SAND, some Silt, little (-) coarse to fine Gravel**	
5						
			6		Br cf S, s $, l (-) cf G	
6		S-2	8			Rec = 15"
			14		6'6"	moist
7			25			
8					**Brown coarse to fine SAND, little Silt, little coarse to fine Gravel**	
9						
10						
			10			
11		S-3	30		11'0"	Rec = 16"
			50/3"			very moist-wet
12						
13					**Gneiss, completely weathered**	
14					14'0"	
15						
16						
17		Run #1			**Gneiss, crushed, Highly Weathered**	Run #1 14'0"-19'0" Run = 60" Rec = 59" RQD = 25%
18						
19					19'0"	
					End of Boring @ 19'0"	
20						
21						
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-8

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+430.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	10 Apr 02
10 Apr 02	**1200**	**24'**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	10 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	**Casing Blows per Foot**	**Sample Number**	**Blows on Sample Spoon per 6"**	**IDENTIFICATION**	**REMARKS**
			7	**Gravel and Sand Fill** 0'6"	
1		**S-1**	5	Br $ s (+), cf S, l (-) cf G	Rec = 16"
			5		moist
2			8	**Brown SILT some (+), coarse to fine**	
			12	**Sand, little (-) coarse to fine Gravel**	
3		**S-2**	25	same	Rec = 15"
			29		moist
4			32	4'0"	
5					
			11	Br cf S, l (+) $, t mf G	
6		**S-3**	13		Rec = 17"
			17	**Brown coarse to fine SAND, little (+)**	moist
7			21	**Silt, trace medium to fine Gravel**	
8				8'0"	
9					
10					
			28	Br cf S, s $, l (-) cf G	
11		**S-4**	34		Rec = 14"
			31		moist
12			52		
				Brown coarse to fine SAND, some	
13				**Silt, little (-) medium to fine Gravel**	
14					
15					
		S-5	50/4"	same	Rec = 0"
16					
17					
18					
19					
20					
			24		
21		**S-6**	32	same	Rec = 10"
			25		very moist
22			34		

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-8
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24						
25						
			21		Br cf S, l (+) $, l cf G	
26		**S-7**	37			Rec = 17"
			32			wet
27			50/4"		**Brown coarse to fine SAND, little (+) Silt, little coarse to fine Gravel**	
28						
29						
30					30'0"	
		S-8	50/3"		Completely weathered Gneiss	Rec = 2"
31						moist
32						
33					**Completely weathered Gneiss**	
34						
35						
		S-9	50/4"		same	Rec = 2"
36						
37						
38					38'0"	auger refusal @ 38'0"
					End of Boring @ 38'0"	
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-9

Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:**	1 of 2
Client:	Airport Campu I-V, LLC	**JOB NUMBER:**	01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:**	+430.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	DATUM:	Topo
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS			START DATE:	10 Apr 02
10 Apr 02	1200	15'6"	HSA	DIA.	4"	2"			FINISH DATE:	10 Apr 02
				WGHT		140#			DRILLER:	J. Muccino
				FALL		30"			INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			9		**Brown Silty Topsoil** 0'7"	
1		**S-1**	21		Br $ s (+), cf S, l (-) cf G	Rec = 12"
			18			moist
2			30			
3					**Brown SILT some (+), coarse to fine Sand, little (-) coarse to fine Gravel**	
4						
5						
		S-2	100/5"		same	Rec = 3"
6						moist
7						
8						
9						
10						
		S-3	40		same	Rec = 8"
11			52			moist
12						
13					13'0"	
14						
15						
		S-4	50/0"		Completely Weathered Gneiss	Rec = 0"
16						Water
					Completely Weathered Gneiss	
17						
18						
19						
20						
		S-5	50/5"		same	Rec = 3"
21						wet
22						

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-9
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		SHEET NO.: 2 of 2
Client: Airport Campu I-V, LLC		JOB NUMBER: 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
						Drilled with core barrel to 26'
23						
24						
25						
26						
					Completely weathered, Gneiss	
27						
28						
29						
30						
		S-5	50/6"	■	Completely weathered Gneiss	Rec = 4"
31						wet
32						
33						
34						
35						
		S-6	50/3"	■	same 35'3"	Rec = 3"
36					**End of Boring @ 35'3"**	wet
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-10

Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	**SHEET NO.:**	1 of 2
Client:	Airport Campu I-V, LLC	**JOB NUMBER:**	01-27
Drilling Contractor:	General Borings Inc.	**ELEVATION:**	+423.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**DATUM:**	Topo
11 Apr 02	1455	23'0"	Auger	**DIA.**	3 1/4"	2"			**START DATE:**	11 Apr 02
				WGHT		140#			**FINISH DATE:**	11 Apr 02
				FALL		30"			**DRILLER:**	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
					Asphalt and Stone Base	3" Asphalt
1					0'11"	7" Crushed stone
			16		Br cf S, l $, l cf G	
2		**S-1**	25			Rec = 17"
			26			moist
3			35		**Brown coarse to fine SAND, little Silt, little coarse to fine Gravel**	
4						
5						
			18			
6		**S-2**	22		same 6'0"	Rec = 15"
			30		Br $ s, cf S, l (-) cf G	moist
7			31			
8					**Brown SILT some, coarse to fine Sand, little (-) coarse to fine Gravel**	
9						
10						
			19			
11		**S-3**	50/4"		same	Rec = 8"
12						moist
13					13'6"	
14						
15						
			35		Br gr cf S, l $, l (-) cf G	
16		**S-4**	49			Rec = 10"
17					**Brown gray coarse to fine SAND, little Silt, little (-) coarse to fine Gravel**	very moist
18						
19						
20						
			24			
21		**S-5**	50/4"		same, s (+) $	Rec = 8"
22					22'0"	moist

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-10
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23						
24						
25						Rec = 2"
		S-6	50/3"		Completely Weathered Gneiss	wet
26						
					Gneiss, completely weathered	
27						hard drilling from 27'0"-30'0"
28						
29						
30		**S-7**	50/0"		completely weathered Gneiss 30'0"	Rec = 0"
					End of Boring @ 30'0"	wet
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-11

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+416.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE		
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**DATUM:**	Topo
				DIA.	**3 1/4"**	**2"**			**START DATE:**	12 Apr 02
No Water Encountered				**WGHT**		**140#**			**FINISH DATE:**	12 Apr 02
				FALL		**30"**			**DRILLER:**	J. Muccino
									INSPECTOR:	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			13		**Asphalt and Stone Base** 0'8"	3" asphalt; 5" stone base
1		**S-1**	22		Br cf S, l $, l (-) cf G	Rec = 15"
			19			moist
2			33			
3						
4						
5						
		S-2	50/3"		same, s S	Rec = 2"
6						moist
7					**Brown coarse to fine SAND, some Silt, little (-) coarse to fine Gravel**	
8						
9						
10						
			20			
11		**S-3**	38		same w/weathered Gneiss	Rec = 10"
			30			moist
12			24			
13						
14						
15						
			57			
16		**S-4**	50/1"		same, s $ 16'0"	Rec = 5"
						very moist-wet
17						
18					**Completely Weather Gneiss**	
19						
20						
		S-5	86		Completely weathered Gneiss 20'6"	Rec = 4"
21					**End of Boring @ 20'6"**	very moist
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-12

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**	**SHEET NO.:**	1 of 2
Client:	**Airport Campu I-V, LLC**	**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**	**ELEVATION:**	+417.0

GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	12 Apr 02
12 Apr 02	**1145**	**20'6"**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	12 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			18		**Asphalt and Stone Base** 0'11"	5" asphalt; 6" stone base
1		**S-1**	24		Br cf S, s $, l cf G	Rec = 14"
			24			moist
2			24			
			18			
3		**S-2**	24		same	Rec = 13"
			35			moist
4						
5						
			28			
6		**S-3**	25		same	Rec = 17"
			26			moist
7			32			
8					**Brown coarse to fine SAND, some Silt, little medium to fine Gravel**	
9						
10						
			17			
11		**S-4**	20		same, s $, l mf G	Rec = 16"
			15			very moist
12			16			
13						
14						
15						
			27			
16		**S-5**	71		same, s (-) $	Rec = 8"
						very moist
17						
18						
19						
20						
			35			
21		**S-6**	36		Br cf S,, s $, l mf G	Rec = 19"
						moist
22						

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-12
Project:	Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY	SHEET NO.: 2 of 2
Client:	Airport Campu I-V, LLC	JOB NUMBER: 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION		REMARKS
23							
24					**Brown coarse to fine SAND, some Silt, little coarse to fine Gravel**		
25							
			36		Br cf S, s $, l cf G		
26		S-7	60/5"			26'0"	Rec = 10" wet
27							
28					**Completely Weathered Gneiss**		
29							
30							
		S-8	60/5"		Completely weathered Gneiss	30'5"	Rec = 3"
31					**End of Boring @ 30'5"**		wet
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-13

Project:	**Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY**								**SHEET NO.:**	1 of 1
Client:	**Airport Campu I-V, LLC**								**JOB NUMBER:**	01-27
Drilling Contractor:	**General Borings Inc.**								**ELEVATION:**	+420.0
GROUNDWATER					**CASING**	**SAMPLE**	**CORE**	**TUBE**	**DATUM:**	Topo
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	**HSA**	**SS**			**START DATE:**	15 Apr 02
15 Apr 02		**15'6"**	**Auger**	**DIA.**	**3 1/4"**	**2"**			**FINISH DATE:**	15 Apr 02
				WGHT		**140#**			**DRILLER:**	J. Muccino
				FALL		**30"**			**INSPECTOR:**	EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
					Asphalt and Stone Base 0'9"	4" asphalt; 5" stone base
1						
			9		Br cf S, l (+) $, l cf G	
2		**S-1**	12			Rec = 12"
			16			moist
3			18			
			12			
4		**S-2**	24		same	Rec = 14"
			27			moist
5			23			
			15			
6		**S-3**	32		Br cf S, s (+) $, l mf G	Rec = 15"
			30			moist
7			50/2"			
					Brown coarse to fine SAND, some (+)	
8					**Silt, little medium to fine Gravel**	
9						
10						
			29			
11		**S-4**	51		Br cf S, s (+) $, t (+) mf G	Rec = 11"
						moist
12						
13						
14						
15						
			40		Br cf S, s (+) $, t mf G	
16		**S-5**	64			Rec = 10"
						wet
17						
18					18'0"	
19					**Completely Weathered Gneiss**	
20						
		S-6	61		Completely Weathered Rock 20'6"	Rec = 5"
21					**End of Boring @ 20'6"**	wet
22						

CARLIN - SIMPSON & ASSOCIATES Sayreville, NJ	TEST BORING LOG	BORING NUMBER B-14
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 1 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27
Drilling Contractor: General Borings Inc.		**ELEVATION:** +420.0

GROUNDWATER					CASING	SAMPLE	CORE	TUBE	
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**	HSA	SS			**DATUM:** Topo
15 Apr 02	1335	20'	Auger	**DIA.**	3 1/4"	2"			**START DATE:** 15 Apr 02
				WGHT		140#			**FINISH DATE:** 15 Apr 02
				FALL		30"			**DRILLER:** J. Muccino
									INSPECTOR: EJS

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
					Asphalt and Stone	4" Asphalt
1					0'9"	5" Stone
			5		FILL (Gr $ s (-), cf S, t mf G w/wood)	
2		S-1	11			Rec = 10"
			45		**Fill (Gray Silt some (-), coarse to fine**	moist
3			49		**Sand, trace medium to fine Gravel**	
					with wood 3'6"	
4						
5						
			23		Br cf S, a $, t mf G	
6		S-2	30			Rec = 14"
			32			moist
7			32			
8						
9					**Brown coarse to fine Sand, and**	
					Silt, trace medium to fine Gravel	
10						
			12			
11		S-3	25		same	Rec = 10"
			50/5"			moist
12						
13						
14						
15						
			14			
16		S-4	26		same	Rec = 12"
			50/3"			moist
17						
18						
19						
20						
			21			
21		S-5	46		same	Rec = 9"
						wet
22					22'0"	

CARLIN - SIMPSON & ASSOCIATES South Amboy, N.J.	TEST BORING LOG	BORING NUMBER B-14
Project: Proposed Apartment and Townhome Complex, 113 King St., North Castle, NY		**SHEET NO.:** 2 of 2
Client: Airport Campu I-V, LLC		**JOB NUMBER:** 01-27

Depth (ft.)	Casing Blows per Foot	Sample Number	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
23					**Gray coarse to fine SAND, some (-) Silt, little (+) coarse to fine Gravel**	
24						
25			49		Gr cf S, s (-) $, l (+) cf G	
26		**S-6**	50/3"		26'0"	Rec = 7" wet
27						
28					**Completely Weathered Gneiss**	
29						
30		**S-7**	62		Completely Weathered Gneiss 30'6"	Rec = 4" wet
31					**End of Boring @ 30'6"**	
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

GENERAL NOTES:

1. GENERAL LAYOUT WAS OBTAINED FROM A DRAWING PREPARED BY JMC PLLC, ENTITLED "OVERALL GRADING PLAN", DATED 31 JULY 2019.
2. BORING LOCATIONS WERE LAID OUT IN THE FIELD BY CARLIN-SIMPSON & ASSOCIATES (CSA). BORINGS WERE PERFORMED BY GENERAL BORINGS INC. IN APRIL 2002 UNDER THE FULL TIME INSPECTION OF CSA.
3. TEST PIT LOCATIONS WERE LAID OUT IN THE FIELD BY JOHN MEYER CONSULTING (JMC). TEST PITS WERE ADVANCED BY ADI EAST CONTRACTING IN JULY AND AUGUST 2020.
4. LOCATIONS ARE APPROXIMATE.

LEGEND:

- BORING LOCATION COMPLETED IN 2002 (14 LOCATIONS)
- TEST PIT LOCATIONS COMPLETED IN JULY AND AUGUST 2020 (12 LOCATIONS)

ROBERT B. SIMPSON, P.E.
PROFESSIONAL ENGINEER

LICENSE NO. | SIGNATURE | DATE

BORING LOCATION PLAN

PROPOSED DEVELOPMENT
AIRPORT CAMPUS
113 KING STREET
NORTH CASTLE, NEW YORK

DRAWN MW	SCALE 1" = 80'
CHECKED RBS	DATE 8 SEPT 20
PROJECT NO. 19-215	DWG NO. FIG -1
APPROVED	

CARLIN-SIMPSON AND ASSOCIATES
61 Main Street
Sayreville, NJ 08872

Consulting Geotechnical and Environmental Engineers

APPENDIX D

STORMWATER POLLUTANT LOADING CALCULATIONS -EXISTING CONDITIONS

TSS LOADING CALCULATION

EXISTING CONDITION

Wet Pond Pollutant Removal Efficiency= 80 %

(as per Terrene Institute, 1996)

Drainage Basin	Land Use Type	Area (acres)	TSS Loading (lbs/ac/yr)	TSS Loading (lbs/yr)	TSS Loading After Treatment (lbs/yr)	Total TSS Loading (lbs/yr)
EDA-1A	Commercial	9.82	716	7031	1406	
	DP-1A TOTAL	9.82				1406
EDA-1B	Impervious	2.12	447	948		
	Forest	0.16	77	12		
	Grass	4.05	308	1247		
	DP-1B TOTAL	6.33				2208
EDA-2A	Impervious	0.22	447	98		
	Forest	1.81	77	139		
	Grass	2.42	308	745		
	Meadow	1.00	308	308		
		5.45		1291		
EDA-2B	Impervious	0.99	447	443		
	Forest	3.73	77	287		
	Grass	3.44	308	1060		
	Meadow	2.59	308	798		
		10.75		2587		
EDA-2C	Impervious	0.78	447	349		
	Forest	1.21	77	93		
	Grass	0.73	308	225		
	Meadow	0.60	308	185		
		3.32		851		
	DP-2 TOTAL	19.52				4730
EDA-3	Impervious	0.57	447	255		
	Forest	2.11	77	162		
	Grass	0.82	308	253		
	DP-3 TOTAL	3.50	acres			670

PHOSPHORUS LOADING CALCULATION
EXISTING CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency= 60 %

Drainage Basin	Land Use Type	Area (acres)	TP Loading (lbs/ac/yr)	TP Loading (lbs/yr)	TP Loading After Treatment (lbs/yr)	Total TP Loading (lbs/yr)
EDA-1A	Commercial	9.82	0.71	6.97	2.79	
	DP-1A TOTAL	9.82				2.79
EDA-1B	Impervious	2.12	0.98	2.08		
	Forest	0.16	0.10	0.02		
	Grass	4.05	0.12	0.49		
	DP-1B TOTAL	6.33				2.58
EDA-2A	Impervious	0.22	0.98	0.22		
	Forest	1.81	0.10	0.18		
	Grass	2.42	0.12	0.29		
	Meadow	1.00	0.12	0.12		
		5.45		0.81		
EDA-2B	Impervious	0.99	0.98	0.97		
	Forest	3.73	0.10	0.37		
	Grass	3.44	0.12	0.41		
	Meadow	2.59	0.12	0.31		
		10.75		2.07		
EDA-2C	Impervious	0.78	0.98	0.76		
	Forest	1.21	0.10	0.12		
	Grass	0.73	0.12	0.09		
	Meadow	0.60	0.12	0.07		
		3.32		1.05		
	DP-2 TOTAL	19.52				3.92
EDA-3	Impervious	0.57	0.98	0.56		
	Forest	2.11	0.10	0.21		
	Grass	0.82	0.12	0.10		
	DP-3 TOTAL	3.50	acres			0.87

NITROGEN LOADING CALCULATION

EXISTING CONDITION

Wet Pond Pollutant Removal Efficiency= 40 %

(as per Terrene Institute, 1996)

Drainage Basin	Land Use Type	Area (acres)	TN Loading (lbs/ac/yr)	TN Loading (lbs/yr)	TN Loading After Treatment (lbs/yr)	Total TN Loading (lbs/yr)
EDA-1A	Commercial	9.82	4.6	45.2	27.1	
	DP-1A TOTAL	9.82				27.1
EDA-1B	Impervious	2.12	2.1	4.5		
	Forest	0.16	1.8	0.3		
	Grass	4.05	3.7	15.0		
	DP-1B TOTAL	6.33				19.7
EDA-2A	Impervious	0.22	2.1	0.5		
	Forest	1.81	1.8	3.3		
	Grass	2.42	3.7	9.0		
	Meadow	1.00	3.7	3.7		
		5.45		16.4		
EDA-2B	Impervious	0.99	2.1	2.1		
	Forest	3.73	1.8	6.7		
	Grass	3.44	3.7	12.7		
	Meadow	2.59	3.7	9.6		
		10.75		31.1		
EDA-2C	Impervious	0.78	2.1	1.6		
	Forest	1.21	1.8	2.2		
	Grass	0.73	3.7	2.7		
	Meadow	0.60	3.7	2.2		
		3.32		8.7		
	DP-2 TOTAL	19.52				56.2
DA-3	Impervious	0.57	2.1	1.2		
	Forest	2.11	1.8	3.8		
	Grass	0.82	3.7	3.0		
	DP-3 TOTAL	3.50	acres			8.0

BOD LOADING CALCULATION
EXISTING CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency= 40 %

Drainage Basin	Land Use Type	Area (acres)	BOD Loading (lbs/ac/yr)	BOD Loading (lbs/yr)	BOD Loading After Treatment (lbs/yr)	Total BOD Loading (lbs/yr)
EDA-1A	Commercial	9.82	113	1110	666	
	DP-1A TOTAL	9.82				666
EDA-1B	Impervious	2.12	206	437		
	Forest	0.16	7	1		
	Grass	4.05	32	130		
	DP-1B TOTAL	6.33				567
EDA-2A	Impervious	0.22	206	45		
	Forest	1.81	7	13		
	Grass	2.42	32	77		
	Meadow	1.00	32	32		
		5.45		167		
EDA-2B	Impervious	0.99	206	204		
	Forest	3.73	7	26		
	Grass	3.44	32	110		
	Meadow	2.59	32	83		
		10.75		423		
EDA-2C	Impervious	0.78	206	161		
	Forest	1.21	7	8		
	Grass	0.73	32	23		
	Meadow	0.60	32	19		
		3.32		212		
	DP-2 TOTAL	19.52				802
DA-3	Impervious	0.57	206	117		
	Forest	2.11	7	15		
	Grass	0.82	32	26		
	DP-3 TOTAL	3.50	acres			158

FECAL COLIFORM LOADING CALCULATION

EXISTING CONDITION

Wet Pond Pollutant Removal Efficiency= 70 %

(as per Terrene Institute, 1996)

Drainage Basin	Land Use Type	Area (acres)	FC Loading (no/ac/yr)	FC Loading (no/yr)	FC Loading After Treatment (no/yr)	Total FC Loading (no/yr)
EDA-1A	Commercial	9.82	1.4E+10	1.4E+11	4.1E+10	
	DP-1A TOTAL	9.82				4.1E+10
EDA-1B	Impervious	2.12	4.4E+08	9.3E+08		
	Forest	0.16	9.9E+09	1.6E+09		
	Grass	4.05	4.0E+10	1.6E+11		
	DP-1B TOTAL	6.33				1.6E+11
EDA-2A	Impervious	0.22	4.4E+08	9.7E+07		
	Forest	1.81	9.9E+09	1.8E+10		
	Grass	2.42	4.0E+10	9.7E+10		
	Meadow	1.00	4.0E+10	4.0E+10		
		5.45		1.5E+11		
EDA-2B	Impervious	0.99	4.4E+08	4.4E+08		
	Forest	3.73	9.9E+09	3.7E+10		
	Grass	3.44	4.0E+10	1.4E+11		
	Meadow	2.59	4.0E+10	1.0E+11		
		10.75		2.8E+11		
EDA-2C	Impervious	0.78	4.4E+08	3.4E+08		
	Forest	1.21	9.9E+09	1.2E+10		
	Grass	0.73	4.0E+10	2.9E+10		
	Meadow	0.60	4.0E+10	2.4E+10		
		3.32		6.6E+10		
	DP-2 TOTAL	19.52				5.0E+11
PDA-3	Impervious	0.57	4.4E+08	2.5E+08		
	Forest	2.34	9.9E+09	2.3E+10		
	Grass	0.59	4.0E+10	2.4E+10		
	DP-3 TOTAL	3.50				4.7E+10

APPENDIX E

STORMWATER POLLUTANT LOADING CALCULATIONS -PROPOSED CONDITIONS

TSS LOADING CALCULATION
BUILD CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency=	80	%
Micropool Extended Detention Pollutant Removal Efficiency=	80	%
Infiltration Basin Pollutant Removal Efficiency=	80	%
Bioretention Pollutant Removal Efficiency=	80	%
Green Roof Pollutant Removal Efficiency=	80	%
PICP Pollutant Removal Efficiency=	80	%
Vegetated Swale Pollutant Removal Efficiency=	60	%

Drainage Basin	Land Use Type		Practice	Area (acres)	TSS Loading (lbs/ac/yr)	TSS Loading (lbs/yr)	TSS Loading After Treatment (lbs/yr)	Total TSS Loading (lbs/yr)
PDA-1A-1	Commercial		Wet Pond	6.82	716	4883	977	
	Impervious		Vegetated Swale	0.26	447	116	46	
	Impervious		Bioretention	0.11	447	49	10	
		Subtotal		7.19		5049	1033	
PDA-1A-2	Impervious			0.36	447	161		
	Grass			0.04	308	12		
		Subtotal	Infiltration	0.40		173	35	
PDA-1A-3	Impervious			0.21	447	94		
	Grass			0.04	308	12		
		Subtotal	Wet Pond	0.25		106	21	
		DP-1A TOTAL		7.47				1089
PDA-1B-1	Impervious			1.02	447	456		
	Grass			3.46	308	1066		
	Forest			0.16	77	12		
		Subtotal		4.64		1534		
PDA-1B-2	Impervious		Infiltration	0.13	447	58		
		Subtotal		0.13		58	12	
PDA-1B-3	Impervious		Infiltration	0.27	447	121		
						121	24	
PDA-1B-4	Impervious			0.81	447	362		
	Grass			1.74	308	536		
			Wet Pond	2.55		898	180	
	Impervious		Green Roof	0.61	447	273	55	
	Impervious		Bioretention	0.23	447	103	21	
	Impervious		PICP	0.31	447	139	28	
		Subtotal		3.70		1412	282	
PDA-1B-5	Impervious			0.57	447	255		
	Grass			0.04	308	12		
		Subtotal	Infiltration	0.61		267	53	
		DP-1B TOTAL		7.93				1906
PDA-2A	Impervious			0.20	447	89		
	Forest			0.22	77	17		
	Grass			1.13	308	348		
	Meadow			2.55	308	785		
		Subtotal		4.10		1240		
PDA-2B	Impervious			0.27	447	121		
	Forest			1.16	77	89		
	Grass			3.34	308	1029		
	Meadow			4.80	308	1478		
		Subtotal	Micropool Ext Detention	9.57		2717	543	
	Impervious		Bioretention	1.89	447	845	169	
		Subtotal		11.46		3562	712	
PDA-2C	Impervious			0.00	447	0		
	Forest			1.28	77	99		
	Grass			0.20	308	62		
	Meadow			0.09	308	28		
		Subtotal		1.57		188		
PDA-2D	Impervious			0.00	447	0		

	Forest	0.05	77	4	
	Grass	0.19	308	59	
	Meadow	1.03	308	317	
	Subtotal	1.27		380	
	DP-2 TOTAL	18.40			2520
PDA-3	Impervious	0.22	447	98	
	Forest	2.07	77	159	
	Grass	0.65	308	200	
	Meadow	0.58	308	179	
	DP-3 TOTAL	3.52		637	637

PHOSPHORUS LOADING CALCULATION
BUILD CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency=	60	%
Micropool Extended Detention Pollutant Removal Efficiency=	40	%
Infiltration Basin Pollutant Removal Efficiency=	60	%
Bioretention Pollutant Removal Efficiency=	40	%
Green Roof Pollutant Removal Efficiency=	40	%
PICP Pollutant Removal Efficiency=	60	%
Vegetated Swale Pollutant Removal Efficiency=	40	%

Drainage Basin	Land Use Type		Practice	Area (acres)	TP Loading (lbs/ac/yr)	TP Loading (lbs/yr)	TP Loading After Treatment (lbs/yr)	Total TP Loading (lbs/yr)
PDA-1A-1	Commercial		Wet Pond	6.82	0.71	4.84	1.94	
	Impervious		Vegetated Swale	0.26	0.98	0.25	0.15	
	Impervious		Bioretention	0.11	0.98	0.11	0.06	
		Subtotal		7.19		5.20	2.15	
PDA-1A-2	Impervious			0.36	0.98	0.35		
	Grass			0.04	0.12	0.00		
		Subtotal	Infiltration	0.40		0.36	0.14	
PDA-1A-3	Impervious			0.21	0.98	0.21		
	Grass			0.04	0.12	0.00		
		Subtotal	Wet Pond	0.25		0.21	0.08	
		DP-1A TOTAL		7.47				2.38
PDA-1B-1	Impervious			1.02	0.98	1.00		
	Grass			3.46	0.12	0.42		
	Meadow			0.16	0.12	0.02		
		Subtotal		4.64		1.43		
PDA-1B-2	Impervious		Infiltration	0.13	0.98	0.13		
		Subtotal		0.13		0.13	0.05	
PDA-1B-3	Impervious		Infiltration	0.27	0.98	0.26		
						0.26	0.11	
PDA-1B-4	Impervious			0.81	0.98	0.79		
	Grass			1.74	0.12	0.21		
			Wet Pond	2.55		1.00	0.40	
	Impervious		Green Roof	0.61	0.98	0.60	0.36	
	Impervious		Bioretention	0.23	0.98	0.23	0.14	
	Impervious		PICP	0.31	0.98	0.30	0.12	
		Subtotal		3.70		2.13	1.02	
PDA-1B-5	Impervious			0.57	0.98	0.56		
	Grass			0.04	0.12	0.00		
		Subtotal	Infiltration	0.61		0.56	0.23	
		DP-1B TOTAL		7.93				2.83
PDA-2A	Impervious			0.20	0.98	0.20		
	Forest			0.22	0.10	0.02		
	Grass			1.13	0.12	0.14		
	Meadow			2.55	0.12	0.31		
		Subtotal		4.10		0.66		
PDA-2B	Impervious			0.27	0.98	0.26		
	Forest			1.16	0.10	0.12		
	Grass			3.34	0.12	0.40		
	Meadow			4.80	0.12	0.58		
		Subtotal	Micropool Ext Detention	9.57		1.36	0.81	
	Impervious		Bioretention	1.89	0.98	1.85	1.11	
		Subtotal		11.46		3.21	1.93	
PDA-2C	Impervious			0.00	0.98	0.00		
	Forest			1.28	0.10	0.13		
	Grass			0.20	0.12	0.02		
	Meadow			0.09	0.12	0.01		
		Subtotal		1.57		0.16		
PDA-2D	Impervious			0.00	0.98	0.00		

	Forest	0.05	0.10	0.01	
	Grass	0.19	0.12	0.02	
	Meadow	1.03	0.12	0.12	
	Subtotal	1.27		0.15	
	DP-2 TOTAL	18.40			2.90
PDA-3	Impervious	0.22	0.98	0.22	
	Forest	2.07	0.10	0.21	
	Grass	0.65	0.12	0.08	
	Meadow	0.58	0.12	0.07	
	DP-3 TOTAL	3.52		0.57	0.57

NITROGEN LOADING CALCULATION
BUILD CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency=	40	%
Micropool Extended Detention Pollutant Removal Efficiency=	20	%
Infiltration Basin Pollutant Removal Efficiency=	60	%
Bioretention Pollutant Removal Efficiency=	40	%
Green Roof Pollutant Removal Efficiency=	60	%
PICP Pollutant Removal Efficiency=	60	%
Vegetated Swale Pollutant Removal Efficiency=	40	%

Drainage Basin	Land Use Type		Practice	Area (acres)	N Loading (lbs/ac/yr)	N Loading (lbs/yr)	TN Loading After Treatment (lbs/yr)	Total TN Loading (lbs/yr)
PDA-1A-1	Commercial		Wet Pond	6.82	4.6	31.4	18.8	
			Vegetated Swale	0.26	2.1	0.5	0.3	
			Bioretention	0.11	2.1	0.2	0.1	
		Subtotal		7.19		32.1	19.3	
PDA-1A-2	Impervious			0.36	2.1	0.8		
	Grass			0.04	3.7	0.1		
		Subtotal	Infiltration	0.40		0.9	0.4	
PDA-1A-3	Impervious			0.21	2.1	0.4		
	Grass			0.04	3.7	0.1		
		Subtotal	Wet Pond	0.25		0.6	0.4	
		TOTAL		7.47				20.0
PDA-1B-1	Impervious			1.02	2.1	2.1		
	Grass			3.46	3.7	12.8		
	Forest			0.16	1.8	0.3		
		Subtotal		4.64		14.9		
PDA-1B-2	Impervious		Infiltration	0.13	2.1	0.3		
		Subtotal		0.13		0.3	0.1	
PDA-1B-3	Impervious		Infiltration	0.27	2.1	0.6		
						0.6	0.2	
PDA-1B-4	Impervious			0.81	2.1	1.7		
	Grass			1.74	3.7	6.4		
			Wet Pond	2.55		8.1	4.9	
	Impervious		Green Roof	0.61	2.1	1.3	0.5	
	Impervious		Bioretention	0.23	2.1	0.5	0.3	
	Impervious		PICP	0.31	2.1	0.7	0.3	
		Subtotal		3.70		10.6	5.9	
PDA-1B-5	Impervious			0.57	2.1	1.2		
	Grass			0.04	3.7	0.1		
		Subtotal	Infiltration	0.61		1.3	0.5	
		TOTAL		7.93				21.8
PDA-2A	Impervious			0.20	2.1	0.4		
	Forest			0.22	1.8	0.4		
	Grass			1.13	3.7	4.2		
	Meadow			2.55	3.7	9.4		
		Subtotal		4.10		14.4		
PDA-2B	Impervious			0.27	2.1	0.6		
	Forest			1.16	1.8	2.1		
	Grass			3.34	3.7	12.4		
	Meadow			4.80	3.7	17.8		
		Subtotal	Micropool Ext Detention	9.57		32.8	26.2	
	Impervious		Bioretention	1.89	2.1	4.0	2.4	
		Subtotal		11.46		36.7	28.6	
PDA-2C	Impervious			0.00	2.1	0.0		
	Forest			1.28	1.8	2.3		
	Grass			0.20	3.7	0.7		
	Meadow			0.09	3.7	0.3		
		Subtotal		1.57		3.4		
PDA-2D	Impervious			0.00	2.1	0.0		
	Forest			0.05	1.8	0.1		
	Grass			0.19	3.7	0.7		
	Meadow			1.03	3.7	3.8		
		Subtotal		1.27		4.6		
		TOTAL		18.40				51.0
PDA-3	Impervious			0.22	2.1	0.5		

Forest	2.07	1.8	3.7	
Grass	0.65	3.7	2.4	
Meadow	0.58	3.7	2.1	
TOTAL	3.52		8.7	8.7

BOD LOADING CALCULATION
BUILD CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency=	40	%
Micropool Extended Detention Pollutant Removal Efficiency=	40	%
Infiltration Basin Pollutant Removal Efficiency=	80	%
Bioretention Pollutant Removal Efficiency=	80	%
Green Roof Pollutant Removal Efficiency=	80	%
PICP Pollutant Removal Efficiency=	80	%
Vegetated Swale Pollutant Removal Efficiency=	60	%

Drainage Basin	Land Use Type		Practice	Area (acres)	BOD Loading (lbs/ac/yr)	BOD Loading (lbs/yr)	BOD Loading After Treatment (lbs/yr)	Total BOD Loading (lbs/yr)
PDA-1A-1	Commercial		Wet Pond	6.82	113	771	462	
	Impervious		Vegetated Swale	0.26	206	54	21	
	Impervious		Bioretention	0.11	206	23	5	
		Subtotal		7.19		847	488	
PDA-1A-2	Impervious			0.36	206	74		
	Grass			0.04	32	1		
		Subtotal	Infiltration	0.40		75	15	
PDA-1A-3	Impervious			0.21	206	43		
	Grass			0.04	32	1		
		Subtotal	Wet Pond	0.25		45	27	
		TOTAL		7.47				530
PDA-1B-1	Impervious			1.02	206	210		
	Grass			3.46	32	111		
	Forest			0.16	7	1		
		Subtotal		4.64		322		
PDA-1B-2	Impervious		Infiltration	0.13	206	27		
		Subtotal		0.13		27	5	
PDA-1B-3	Impervious		Infiltration	0.27	206	56		
						56	11	
PDA-1B-4	Impervious			0.81	206	167		
	Grass			1.74	32	56		
			Wet Pond	2.55		223	134	
	Impervious		Green Roof	0.61	206	126	25	
	Impervious		Bioretention	0.23	206	47	9	
	Impervious		PICP	0.31	206	64	13	
		Subtotal		3.70		459	181	
PDA-1B-5	Impervious			0.57	206	117		
	Grass			0.04	32	1		
		Subtotal	Infiltration	0.61		119	24	
		TOTAL		7.93				543
PDA-2A	Impervious			0.20	206	41		
	Forest			0.22	7	2		
	Grass			1.13	32	36		
	Meadow			2.55	32	82		
		Subtotal		4.10		161		
PDA-2B	Impervious			0.27	206	56		
	Forest			1.16	7	8		
	Grass			3.34	32	107		
	Meadow			4.80	32	154		
		Subtotal	Micropool Ext Detention	9.57		324	195	
	Impervious		Bioretention	1.89	206	389	78	
		Subtotal		11.46		714	272	
PDA-2C	Impervious			0.00	206	0		
	Forest			1.28	7	9		
	Grass			0.20	32	6		
	Meadow			0.09	32	3		
		Subtotal		1.57		18		
PDA-2D	Impervious			0.00	206	0		

	Forest		0.05	7	0	
	Grass		0.19	32	6	
	Meadow		1.03	32	33	
		Subtotal	1.27		39	
		TOTAL	18.40			491
PDA-3	Impervious		0.22	206	45	
	Forest		2.07	7	14	
	Grass		0.65	32	21	
	Meadow		0.58	32	19	
		TOTAL	3.52		99	99

FECAL COLIFORM LOADING CALCULATION
BUILD CONDITION
(as per Terrene Institute, 1996)

Wet Pond Pollutant Removal Efficiency=	70	%
Micropool Extended Detention Pollutant Removal Efficiency=	70	%
Infiltration Basin Pollutant Removal Efficiency=	80	%
Bioretention Pollutant Removal Efficiency=	60	%
Green Roof Pollutant Removal Efficiency=	80	%
PICP Pollutant Removal Efficiency=	80	%
Vegetated Swale Pollutant Removal Efficiency=	40	%

Drainage Basin	Land Use Type		Practice	Area (acres)	FC Loading (no/ac/yr)	FC Loading (no/yr)	FC Loading After Treatment (no/yr)	Total FC Loading (no/yr)
PDA-1A-1	Commercial		Wet Pond	6.82	1.4E+10	9.5E+10	2.9E+10	
	Impervious		Vegetated Swale	0.26	4.4E+08	1.1E+08	6.9E+07	
	Impervious		Bioretention	0.11	4.4E+08	4.8E+07	1.9E+07	
		Subtotal		7.19		9.6E+10	2.9E+10	
PDA-1A-2	Impervious			0.36	4.4E+08	1.6E+08		
	Grass			0.04	4.0E+10	1.6E+09		
		Subtotal	Infiltration	0.40		1.8E+09	3.5E+08	
PDA-1A-3	Impervious			0.21	4.4E+08	9.2E+07		
	Grass			0.04	4.0E+10	1.6E+09		
		Subtotal	Wet Pond	0.25		1.7E+09	5.1E+08	
		TOTAL		7.47				3.0E+10
PDA-1B-1	Impervious			1.02	4.4E+08	4.5E+08		
	Grass			3.46	4.0E+10	1.4E+11		
	Forest			0.16	9.9E+09	1.6E+09		
		Subtotal		4.64		1.4E+11		
PDA-1B-2	Impervious		Infiltration	0.13	4.4E+08	5.7E+07		
		Subtotal		0.13		5.7E+07	1.1E+07	
PDA-1B-3	Impervious		Infiltration	0.27	4.4E+08	1.2E+08		
		Subtotal		0.27		1.2E+08	2.4E+07	
PDA-1B-4	Impervious			1.48	4.4E+08	6.5E+08		
	Grass			2.22	4.0E+10	8.9E+10		
			Wet Pond	2.55		8.9E+10	2.7E+10	
	Impervious		Green Roof	0.61	4.4E+08	2.7E+08	5.4E+07	
	Impervious		Bioretention	0.23	4.4E+08	1.0E+08	4.0E+07	
	Impervious		PICP	0.31	4.4E+08	1.4E+08	2.7E+07	
		Subtotal		3.70		9.0E+10	2.7E+10	
PDA-1B-5	Impervious			0.57	4.4E+08	2.5E+08		
	Grass			0.04	4.0E+10	1.6E+09		
		Subtotal	Infiltration	0.61		1.9E+09	3.7E+08	
		TOTAL		7.93				1.7E+11
PDA-2A	Impervious			0.20	4.4E+08	8.8E+07		
	Forest			0.22	9.9E+09	2.2E+09		
	Grass			1.13	4.0E+10	4.5E+10		
	Meadow			2.55	4.0E+10	1.0E+11		
		Subtotal		4.10		1.5E+11		
PDA-2B	Impervious			0.27	4.4E+08	1.2E+08		
	Forest			1.16	9.9E+09	1.1E+10		
	Grass			3.34	4.0E+10	1.3E+11		
	Meadow			4.80	4.0E+10	1.9E+11		
		Subtotal	Micropool Ext Detention	9.57		3.4E+11	1.0E+11	
	Impervious		Bioretention	1.89	4.4E+08	8.3E+08	3.3E+08	
				11.46		3.4E+11	1.0E+11	
PDA-2C	Impervious			0.00	4.4E+08	0.0E+00		
	Forest			1.28	9.9E+09	1.3E+10		
	Grass			0.20	4.0E+10	8.0E+09		
	Meadow			0.09	4.0E+10	3.6E+09		
		Subtotal		1.57		2.4E+10		
PDA-2D	Impervious			0.00	4.4E+08	0.0E+00		
	Forest			0.05	9.9E+09	5.0E+08		

	Grass		0.19	4.0E+10	7.6E+09	
	Meadow		1.03	4.0E+10	4.1E+10	
		Subtotal	1.27		4.9E+10	
		TOTAL	18.40			3.2E+11
PDA-3	Impervious		0.22	4.4E+08	9.7E+07	
	Forest		2.07	9.9E+09	2.0E+10	
	Grass		0.65	4.0E+10	2.6E+10	
	Meadow		0.58	4.0E+10	2.3E+10	
		TOTAL	3.52		7.0E+10	7.0E+10

APPENDIX F

NYSDEC STORMWATER SIZING CALCULATIONS

RUNOFF REDUCTION VOLUME, WATER QUALITY VOLUME AND STREAM CHANNEL PROTECTION SIZING CALCULATIONS

Airport Campus Office Expansion

113 King Street

North Castle, NY

JMC Project: **15072**

Drawing Reference: **DA-1, DA-2**

Computed by: **MT**

Checked by: **DL**

Date Printed: 4/23/2021

WATER QUALITY VOLUME WORKSHEET	JMC Project:	**15072**
FOR REDEVELOPMENT PROJECTS	Design Point:	**DP-1A**
Airport Campus Office Expansion	Drainage Area:	**New Impervious of PDA-1A-1**

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME =2,341 CF (See Following Page for Hydrologic Calculations)

Water Quality Treatment Volume
(90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_E	I_N	%I	R_V	WQ_V
VALUE	1.5	0.25		0.25	100.00	0.95	**1,286**
UNITS	In	Ac	Ac	Ac	%	CF	CF

Required Water Quality Volume = 2,341 CF

RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1A**

Airport Campus Office Expansion	Drainage Area:	**PDA-1A-1**

Total Water Quality Treatment Volume

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**2,341**	CF

Minimum Runoff Reduction Volume

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.25	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.08	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**729**	CF

Runoff Reduction Techniques (Volume)

GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Vegetated Swale	RR_V	243	CF
Bioretention 1A-1	RR_V	1,030	CF
TOTAL	RR_V	**1,030**	CF

Runoff Reduction

Is Total RR_V > Minimum RR_V?	**YES**

Date Printed: 4/23/2021

VEGETATED SWALE WORKSHEET

JMC Project:	**15072**
Design Point:	**1A**
Vegetated Swale	Drainage Area: **PDA-1A-1**

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.26	Ac
Area	A	0.26	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**2,434**	CF

Design Parameters			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	2,434	CF
Water Quality Flow Rate	Q_{WQ}	0.61	CFS
10 Year Storm Flow Rate	Q_{10}	1.12	CFS

Channel Design			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Given/Assumed Information			
Channel Longitudinal Slope	S	3.50	%
Channel Bottom Width	W	2.00	Ft
Channel Depth	D	1.00	Ft
Channel Side Slope (Hori./Verti.)	z	3	
Determine WQv Flow Depth & Velocity			
WQv Flow Depth	$Q_{WQ}h$	0.33	Ft
Manning's Coefficeint (varying with flow depth see fig L.1)	n	0.15	
Water Quality Flow Rate in Channel	Q	0.55	CFS
Velocity of Q V=Q/(D*(z*D+W)	V	0.11	FPS
Determine Channel Length			
WQv Minimum Detention Time	t	5	min.
Length of Swale Required L=v*t*60	l	33	Ft
Length of Swale Provided	L	200	Ft
Determine Q_{10} Flow Depth & Velocity			
Peak Discharge Q_{10} (TR-55 10 year storm)	Q_{10}	1.12	CFS
Peak Discharge Q_{10} Depth	$Q_{10}h$	0.48	Ft
Q_{10} Free Board Provided	f	0.52	Ft
Minimum Depth of Swale Required	h	0.98	Ft
Total Depth of Swale Provided	H	1.00	Ft
Velocity of Q_{10} $V_{10}=Q_{10}/(Q_{10}h^*(z^*Q_{10}h+W)$	V_{10}	0.67	FPS

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
20% Runoff Reduction of Required WQv in HSG A and B	RR_V	**487**	CF
10% Runoff Reduction of Required WQv in HSG C and D	RR_V	**243**	CF
15% Runoff Reduction of Required WQv in HSG C Modified*	RR_V	**365**	CF
12% Runoff Reduction of Required WQv in HSG D Modified*	RR_V	**292**	CF
*Modifications must be in accordance with Soil Restoration Standards			

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**1**
Drainage Area:	**PDA-1A-1**

Bioretention 1A-1

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.11	Ac
Area	A	0.11	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**1,030**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	1,030	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**915.56**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**964.00**	SF
Actual Volume Provided		**1,084.50**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**1,030**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**434**	CF

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WATER QUALITY VOLUME WORKSHEET		JMC Project:	**15072**
FOR REDEVELOPMENT PROJECTS		Design Point:	**DP-1A**
Airport Campus Office Expansion		Drainage Area:	**New Impervious of PDA-1A-2**

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME =937 CF (See Following Page for Hydrologic Calculations)

Water Quality Treatment Volume (90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_E	I_N	%I	R_V	WQ_V
VALUE	1.5	0.10		0.10	100.00	0.95	**517**
UNITS	In	Ac	Ac	Ac	%	CF	CF

Required Water Quality Volume = 937 CF

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RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1A**

Airport Campus Office Expansion	Drainage Area:	**PDA-1A**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**937**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.10	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.03	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**292**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Subsurface Infiltration System	RR_V	937	CF
TOTAL	RR_V	**937**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V ?	**YES**

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INFILTRATION WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1A**
Drainage Area:	**PDA-1A-2**

Infiltration System #1A

Required Water Quality Treatment Volume for Infiltration System			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Treatment Volume	$\mathbf{WQ_V}$	**937**	**CF**

Water Quality Volume Provided			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
1 Year Stom Entering System	Q_1 IN	3,392	CF
1 Year Storm Exiting Systtem	Q_1OUT	0	CF
Runoff Volume Infiltrated	Q	3,392	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction Capacity	$\mathbf{RR_V}$	**937**	**CF**

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PROPRIETARY PRACTICE WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1A**
Drainage Area:	**PDA-1A-2**

Hydrodynamic Separator

Rainfall Distribution Type: **III**

Coefficients for the equation unit peak
$[R = I_a / P]$
$[C_i = A \times R^2 + B \times R + C]$

	A	B	C
C_0	-1.774	0.3301	2.4577
C_1	1.8622	-0.7397	-0.4627
C_2	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**3,432**	CF

Water Quality Peak Flow Calculation

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Required Water Quality Volume	WQ_V	**3,432**	**CF**
Peak Discharge [1-yr Storm Peak Discharge from Appendix 'B']	Q_p	**0.72**	**cfs**
Design Storm [1-yr Storm Depth]	*P*	*2.8*	*In*
Time of Concentration	t_c	*0.1048*	*Hr*
Curve Number	*CN*	*95*	
Initial Abstraction $[I_a = 200 / CN - 2]$	I_a	*0.11*	*In*
Ratio $[R = I_a / P]$	*R*	*0.04*	
$C_0 = A \times R^2 + B \times R + C$	C_0	*2.47*	
$C_1 = A \times R2 + B \times R + C$	C_1	*-0.49*	
$C_2 = A \times R2 + B \times R + C$	C_2	*-0.18*	
Unit Peak Discharge	q_u	*586.10*	*cfs/mi^2/in*

Proposed Device

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Peak Flow Provided	Q_p	**1.5**	**cfs**
Water Quality Volume Provided [$WQ_V = 640 \times 3600 \times Q_P / q_u$]	WQ_V	**5,897**	**CF**
Model Designation		**FD-4HC**	
Quantity		**1**	
Structure Designation		**WQS-L-2**	

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WATER QUALITY VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-2**

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME = 1,217 CF (See Appendix B for Hydrologic Calculations)

Water Quality Treatment Volume
(90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ
SYMBOL	P	A	I	%I	R_V	WQ_V
VALUE		0.13	0.13	100.00		
UNITS	In	Ac	Ac	%	CF	CF

Required Water Quality Volume = 1,217 CF

RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project: **15072**

Design Point: **DP-1B**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-2**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**1,217**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.13	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.04	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**377**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Infiltration System #1B-2	RR_V	1,217	CF
TOTAL	RR_V	**1,217**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V?	**YES**

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INFILTRATION WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-2**

Infiltration System #1B-2

Required Water Quality Treatment Volume for Infiltration System			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Treatment Volume	**WQ_V**	**1,217**	**CF**

Water Quality Volume Provided			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
1 Year Stom Entering System	Q_1 IN	1,217	CF
1 Year Storm Exiting Systtem	Q_1OUT	0	CF
Runoff Volume Infiltrated	Q	1,217	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction Capacity	**RR_V**	**1,217**	**CF**

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PROPRIETARY PRACTICE WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-2**

Hydrodynamic Separator

Rainfall Distribution Type: **III**

Coefficients for the equation unit peak
$[R = I_a / P]$
$[C_i = A \times R^2 + B \times R + C]$

	A	B	C
C_0	-1.774	0.3301	2.4577
C_1	1.8622	-0.7397	-0.4627
C_2	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**1,217**	CF

Water Quality Peak Flow Calculation

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Required Water Quality Volume	WQ_V	**1,217**	**CF**
Peak Discharge [1-yr Storm Peak Discharge from Appendix 'B']	Q_p	**0.30**	**cfs**
Design Storm [1-yr Storm Depth]	*P*	*2.8*	*In*
Time of Concentration	t_c	*0.0833*	*Hr*
Curve Number	*CN*	*96*	
Initial Abstraction $[I_a = 200 / CN - 2]$	I_a	*0.08*	*In*
Ratio $[R = I_a / P]$	*R*	*0.03*	
$C_0 = A \times R^2 + B \times R + C$	C_0	*2.47*	
$C_1 = A \times R2 + B \times R + C$	C_1	*-0.48*	
$C_2 = A \times R2 + B \times R + C$	C_2	*-0.19*	
Unit Peak Discharge	q_u	*588.62*	*cfs/mi^2/in*

Proposed Device

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Peak Flow Provided	Q_p	**0.8**	cfs
Water Quality Volume Provided [$WQ_V = 640 \times 3600 \times Q_P / q_u$]	WQ_V	**3,288**	CF
Model Designation		**FD-3HC**	
Quantity		**1**	
Structure Designation		**WQS-A-3**	

WATER QUALITY VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-3**

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME = 2,528 CF (See Appendix B for Hydrologic Calculations)

Water Quality Treatment Volume (90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ
SYMBOL	P	A	I	%I	R_V	WQ_V
VALUE		0.27	0.27	100.00		
UNITS	In	Ac	Ac	%	CF	CF

Required Water Quality Volume = 2.528 CF

RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-3**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**2,528**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.27	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.08	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**782**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Infiltration System #1B-3	RR_V	2,528	CF
TOTAL	RR_V	**2,528**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V?	**YES**

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INFILTRATION WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-3**

Infiltration System #1B-3

Required Water Quality Treatment Volume for Infiltration System			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Treatment Volume	**WQ_V**	**2,528**	**CF**

Water Quality Volume Provided			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
1 Year Stom Entering System	Q_1 IN	2,528	CF
1 Year Storm Exiting Systtem	Q_1OUT	0	CF
Runoff Volume Infiltrated	Q	2,528	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction Capacity	**RR_V**	**2,528**	**CF**

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PROPRIETARY PRACTICE WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-3**

Hydrodynamic Separator

Rainfall Distribution Type:	**III**

Coefficients for the equation unit peak
$[R = I_a / P]$
$[C_i = A \times R^2 + B \times R + C]$

	A	B	C
C_0	-1.774	0.3301	2.4577
C_1	1.8622	-0.7397	-0.4627
C_2	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**2,528**	CF

Water Quality Peak Flow Calculation

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Required Water Quality Volume	**WQ_V**	**2,528**	**CF**
Peak Discharge [1-yr Storm Peak Discharge from Appendix 'B']	**Q_p**	**0.63**	**cfs**
Design Storm [1-yr Storm Depth]	*P*	*2.8*	*In*
Time of Concentration	t_c	*0.0833*	*Hr*
Curve Number	*CN*	*96*	
Initial Abstraction $[I_a = 200 / CN - 2]$	I_a	*0.08*	*In*
Ratio $[R = I_a / P]$	*R*	*0.03*	
$C_0 = A \times R^2 + B \times R + C$	C_0	*2.47*	
$C_1 = A \times R2 + B \times R + C$	C_1	*-0.48*	
$C_2 = A \times R2 + B \times R + C$	C_2	*-0.19*	
Unit Peak Discharge	q_u	*588.62*	$cfs/mi^2/in$

Proposed Device

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Peak Flow Provided	Q_p	**0.8**	cfs
Water Quality Volume Provided [$WQ_V = 640 \times 3600 \times Q_P / q_u$]	WQ_V	**3,288**	CF
Model Designation		**FD-3HC**	
Quantity		**1**	
Structure Designation		**WQS-E-3**	

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WATER QUALITY VOLUME WORKSHEET

		JMC Project:	**15072**
		Design Point:	**DP-1B**
Airport Campus Office Expansion	Drainage Area:	**PDA-1B-4**	

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME = 21,141 CF (See Appendix B for Hydrologic Calculations)

Water Quality Treatment Volume (90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ
SYMBOL	P	A	I	%I	R_V	WQ_V
VALUE		3.70	1.96	52.97	0.526756757	
UNITS	In	Ac	Ac	%	CF	CF

Required Water Quality Volume = 21,141 CF

RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-4**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**21,141**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.94	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.28	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**2,711**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Green Roof	RR_V	5,711	CF
Permeable Interlocking Concrete Pavers	RR_V	2,902	CF
Bioretention 1B-4	RR_V	755	
TOTAL	RR_V	**8,613**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V ?	**YES**

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GREEN ROOF WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-4**

Green Roof

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [1-yr Storm]	P	2.8	In
Impervious Area	I_N	0.61	
Area	A	0.61	Ac
Percent Impervious	%I	100.00	%
Runoff Volume [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [From PondPack Model]	WQ_V	**5,711**	CF

Proposed Green Roof

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Green Roof surface AREA	A_{RG}	26,371.00	SF
DEPTH of the Soil Media	D_{SM}	0.50	Ft
DEPTH of the Drainage Layer	D_{DL}	0.33	Ft
DEPTH of Ponding above surface	D_P	0.04	Ft
Porosity of the Soil Media	n_{SM}	20%	%
Porosity of the Drainage Layer	n_{DL}	25%	%
VOLUME provided in Soil Media [$V_{SM} = A_{RG} \times D_{SM} \times n_{SM}$]	V_{SM}	2,637.10	CF
VOLUME provided in Drainage Layer [$V_{DL} = A_{RG} \times D_{SM} \times n_{SM}$]	V_{DL}	2,197.58	CF
VOLUME provided in Ponding Area [$D_P \times A_{RG}$]		1,098.79	CF
TOTAL VOLUME Provided [$WQv \le V_{SM} + V_{DL} + (D_P \times A_{RG})$]	WQ_V	**5,933**	CF

Runoff Reduction

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Runoff Reduction volume provided	RR_V	**5,711**	CF

INFILTRATION WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-4**

Permeable Interlocking Concrete Pavers

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.31	Ac
Area	A	0.31	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V		CF
TOTAL VOLUME Required [From PondPack Model]	WQ_V	**2,902**	CF

Minimum Porous Pavement Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	2,902	CF
Porosity	*n*	0.40	Ft / Day
Trench Depth	d_t	1.00	Ft
Surface Area Required[$A_R = WQ_v / (n \times d_t)$]	A_R	**7,255**	SF

Proposed Porous Pavement			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Surface Area of Porous Pavement Provided [A_p]	A_p	**13,676**	SF
Actual Volume Provided	WQ_{VP}	5,470	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity	RR_V	**2,902**	CF

BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**1**
Drainage Area:	**PDA-1B-4**

Bioretention 1B-4

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.23	Ac
Area	A	0.23	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**2,153**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	2,153	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**1,913.78**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**1,678.00**	SF
Actual Volume Provided		**1,887.75**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**1,888**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**755**	CF

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POND WORKSHEET

JMC Project:	**15072**
Design Point:	**DP-1B**
Drainage Area:	**PDA-1B-4**

WET POND 1B-2

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	0.13	Ac
Area	A	0.13	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V	**672**	CF
1-Yr Storm Runoff			
PDA-1C Required Volume (Development Area Directed to Ponds)	WQ_V	**18,283**	CF

Minimum Water Quality Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Minimum Water Quality Volume Storage (Permanent Pool)	WQ_V	100	%
Required Permanent Pool Storage Volume	V	**18,283**	CF

Proposed Basin			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Provided Permanent Pool Storage Volume	V	23509	CF
Provided Water Quality Volume	WQv	**18,283**	CF

Pretreatment Calculations		
DESCRIPTION	*VALUE*	*UNITS*
Water Quality Volume	0	CF
Required Pretreatment	100	%
Required Pretreatment Volume	**0**	**CF**
Pretreatment Provided via Hydrodyanmic Separators (Next Page)	**1**	**CF**

WATER QUALITY VOLUME WORKSHEET	JMC Project:	**15072**
FOR REDEVELOPMENT PROJECTS	Design Point:	**DP-1B**
Airport Campus Office Expansion	Drainage Area:	**PDA-1B-5**

Enhanced Phosphorus Removal Water Quality Treatment Volume
(Calculated 1-yr Storm Runoff using Pondpack)

WATER QUALITY VOLUME = **5,241 CF** (See Appendix 'B' for Hydrologic Calculations)

Water Quality Treatment Volume
(90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_E	I_N	%I	R_V	WQ_V
VALUE	1.5	0.61	0.09	0.48	94.24	0.898190789	**2,974**
UNITS	In	Ac	Ac	Ac	%	CF	CF

Enhanced Phosphorus Removal WQv > 90% Rainfall Event WQv
5,241CF > 2,974 CF

Required Water Quality Volume = 5,217 CF

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RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project: **15072**

Design Point: **DP-1**

Airport Campus Office Expansion	Drainage Area:	**PDA-1B-5**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**5,667**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	0.48	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.15	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**1,412**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Subsurface Infiltration System 2A	RR_V	5,241	CF
TOTAL	RR_V	**5,241**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V?	**YES**

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INFILTRATION WORKSHEET

JMC Project:	**15072**
Design Point:	**1**
Drainage Area:	**PDA-1B-5**

Infiltration System #2A

Required Water Quality Treatment Volume for Infiltration System			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Treatment Volume	**WQ_V**	**5,241**	**CF**

Water Quality Volume Provided			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
1 Year Stom Entering System	Q_1 IN	5,241	CF
1 Year Storm Exiting Systtem	Q_1OUT	0	CF
Runoff Volume Infiltrated	Q	5,241	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction Capacity	**RR_V**	**5,241**	**CF**

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PROPRIETARY PRACTICE WORKSHEET

JMC Project:	**15072**
Design Point:	**1**
Drainage Area:	**PDA-1B-5**

Hydrodynamic Separator

Rainfall Distribution Type:	**III**

Coefficients for the equation unit peak
$[R = I_a / P]$
$[C_i = A \times R^2 + B \times R + C]$

	A	B	C
C_0	-1.774	0.3301	2.4577
C_1	1.8622	-0.7397	-0.4627
C_2	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**5,241**	CF

Water Quality Peak Flow Calculation

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Required Water Quality Volume	WQ_V	**5,241**	**CF**
Peak Discharge [1-yr Storm Peak Discharge from Appendix 'B']	Q_p	**1.37**	**cfs**
Design Storm [1-yr Storm Depth]	*P*	*2.8*	*In*
Time of Concentration	t_c	*0.0833*	*Hr*
Curve Number	*CN*	*96*	
Initial Abstraction $[I_a = 200 / CN - 2]$	I_a	*0.08*	*In*
Ratio $[R = I_a / P]$	*R*	*0.03*	
$C_0 = A x R^2 + B x R + C$	C_0	*2.47*	
$C_1 = A x R2 + B x R + C$	C_1	*-0.48*	
$C_2 = A x R2 + B x R + C$	C_2	*-0.19*	
Unit Peak Discharge	q_u	*588.62*	$cfs/mi^2/in$

Proposed Device

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Peak Flow Provided	Q_p	**1.5**	cfs
Water Quality Volume Provided [$WQ_V = 640 \times 3600 \times Q_P / q_u$]	WQ_V	**5,871**	CF
Model Designation		**FD-4HC**	
Quantity		**1**	
Structure Designation		**WQS-K-4**	

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WATER QUALITY VOLUME WORKSHEET		JMC Project:	15072
FOR REDEVELOPMENT PROJECTS		Design Point:	DL-2
Airport Campus Office Expansion	Drainage Area:	PDA-2B	

Enhanced Phosphorus Removal Water Quality Treatment Volume (Calculated 1-yr Storm Runoff using Pondpack)
WATER QUALITY VOLUME = 35,671 CF (See Appendix B for Hydrologic Calculations)

Water Quality Treatment Volume (90% Rainfall Event)

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_E	I_N	%I	R_V	WQ_V
VALUE		11.05	0.03	2.36	21.63	0.244660633	
UNITS	In	Ac	Ac	Ac	%	CF	CF

Required Water Quality Volume = 35,671 CF

WATER QUALITY VOLUME WORKSHEET
FOR REDEVELOPMENT PROJECTS

		JMC Project:	**15072**
		Design Point:	**DL-2**
Airport Campus Office Expansion	Drainage Area:	**PDA-2B**	

Initial Water Quality Treatment Volume

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_E	I_N	%I	R_V	WQ_V
VALUE		11.46	0.03	2.36	20.86	0.237696335	
UNITS	In	Ac	Ac	Ac	%	CF	CF
VALUE	Enhanced Phosphorus Removal (WQ_V = 1-yr Storm Runoff)						**36,994**

Runoff Reduction Techniques (Area)

DESCRIPTION	Total Area	Impervious Area
SYMBOL	A	I
Conservation of Natural Areas		
Sheetflow to Riparian Buffers or Filter Strips	0.26	0.26
Vegetated Swale		
Tree Planting / Tree Pit		
Disconnection of Rooftop Runoff		
Stream Daylighting		
TOTAL	**0.26**	**0.26**
UNITS	Ac	Ac

Adjusted Water Quality Treatment Volume from Runoff Reduction Techniques

DESCRIPTION	Design Storm	Area	Adjusted Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I_{EA}	I_N	%I	R_V	WQ_V
VALUE		11.20	-0.10	2.23	18.98	0.220838783	
UNITS	In	Ac	Ac	Ac	%	CF	CF
VALUE	Enhanced Phosphorus Removal (WQ_V = 1-yr Storm Runoff)						**32,854**

Net Water Quality Treatment Volume = Adjusted WQv - Provided RRv

Initial Water Quality Treatment Volume	36,994	CF
Adjusted Water Quality Treatment Volume	32,854	CF
Provided Runoff Reduction Volume	7,541	CF
Net Water Quality Treatment Volume	25,313	CF

RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**

Airport Campus Office Expansion	Drainage Area:	**PDA-2B**

Total Water Quality Treatment Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	**25,313**	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number] **or** [1-yr Storm Depth]	P	2.8	In
Total Area of *new* Impervious Cover	Aic	2.13	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.30	
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x Aic]	Ai	0.64	Ac
TOTAL VOLUME Required [RR_V = (P x R_V x Ai) / 12]	RR_V	**6,214**	CF

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	*SYMBOL*	*VALUE*	*UNITS*
Bioretention Area Multi-Family Building	RR_V	2,529	CF
Bioretention Area Townhomes 1,2	RR_V	290	CF
Bioretention Area Townhomes 3,4	RR_V	290	CF
Bioretention Area Townhomes 5,6	RR_V	290	CF
Bioretention Area Townhomes 18,19	RR_V	290	CF
Bioretention Area Townhomes 20,21	RR_V	290	CF
Bioretention Area Townhome 22	RR_V	161	CF
Bioretention Area Road & Townhomes 7,8,16,17	RR_V	3,400	CF
TOTAL	RR_V	**7,541**	CF

Runoff Reduction	
Is Total RR_V > Minimum RR_V ?	**YES**

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Multi-Family Building

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.67	Ac
Area	A	0.67	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**6,273**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	6,273	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**5,576.00**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**5,620.00**	SF
Actual Volume Provided		**6,322.50**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**6,273**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**2,529**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhomes 1,2

Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.07	Ac
Area	A	0.07	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**655**	CF

Minimum Filter Bed Area

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	655	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**582.22**	SF

Proposed Bioretention Area

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**645.00**	SF
Actual Volume Provided		**725.63**	CF

Runoff Reduction

DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**655**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**290**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhomes 3,4

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.07	Ac
Area	A	0.07	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**655**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	655	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**582.22**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**645.00**	SF
Actual Volume Provided		**725.63**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**655**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**290**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhomes 5,6

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.07	Ac
Area	A	0.07	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [$WQ_V = (P \times R_V \times A) / 12$]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**655**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	655	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**582.22**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**645.00**	SF
Actual Volume Provided		**725.63**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**655**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**290**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhomes 18,19

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.07	Ac
Area	A	0.07	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**655**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	655	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**582.22**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**645.00**	SF
Actual Volume Provided		**725.63**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**655**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**290**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhomes 20,21

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.07	Ac
Area	A	0.07	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**655**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	655	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**582.22**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**645.00**	SF
Actual Volume Provided		**725.63**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**655**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**290**	CF

BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Townhome 22

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.04	Ac
Area	A	0.04	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**374**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	374	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**332.44**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**357.00**	SF
Actual Volume Provided		**401.63**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**374**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**161**	CF

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BIORETENTION WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

Bioretention Area Road & Townhomes 7,8,16,17

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P		In
Impervious Area	I	0.83	Ac
Area	A	0.83	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.95	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V		CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**7,742**	CF

Minimum Filter Bed Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Water Quality Volume	WQ_V	7,742	CF
Coefficient of permeability of filter media (hydraulic conductivity)	k	0.50	Ft / Day
Filter bed Depth (soil media)	d_f	4.00	Ft
Average Height of water above filter bed	h_f	0.50	Ft
Design filter bed drain Time	t_f	2.00	Days
Required Surface Area of Filter Bed [$A_f = (WQ_V \times d_f) / (k \times (h_f + d_f) \times t_f)$]	A_f	**6,881.78**	SF

Proposed Bioretention Area			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Calculated filter bed area (Length x Width)			SF
Surface Area of Filter Bed Provided	A_f	**7,555.00**	SF
Actual Volume Provided		**8,499.38**	CF

Runoff Reduction			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
100% Runoff Reduction capacity in HSG A and B (no underdrains)	RR_V	**7,742**	CF
40% Runoff Reduction capacity in HSG C and D (with underdrains)	RR_V	**3,400**	CF

Date Printed: 4/23/2021

POND WORKSHEET

JMC Project:	**15072**
Design Point:	**DL-2**
Drainage Area:	**PDA-2B**

SMP #2-Micropool Extended Detention Basin

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	2.39	Ac
Area	A	11.04	Ac
Percent Impervious	%I	21.65	%
Runoff Coefficient [0.05 + 0.009 x %I]	R_V	0.24	CF
TOTAL VOLUME Required [WQ_V = (P x R_V x A) / 12]	WQ_V	**14,718**	CF
Design Storm [1-yr Storm Depth]	P	2.8	In
TOTAL VOLUME Required *(TMDL)* [WQ_V = 1-yr Storm Runoff]	WQ_V	**35,671**	CF

Minimum Water Quality Volume			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Minimum Water Quality Volume Storage (Forebay)		10%	%
Minimum Water Quality Volume Storage (Permanent Pool)		20%	%
Required Forebay Storage Volume		**3,567**	CF
Required Permanent Pool Storage Volume		**7,134**	CF

Proposed Basin			
DESCRIPTION	*SYMBOL*	*VALUE*	*UNITS*
Provided Forebay Storage Volume		**4,340**	CF
Provided Permanent Pool Storage Volume		**12,586**	CF

Date Printed: 4/23/2021

APPENDIX G

SEDIMENT BASIN CALCULATIONS

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

Computed by Michael Thompson Date 11/15/19 Checked by ______________ Date ________
Project Airport Campus Basin # SMA 1
Location Town of North Castle, NY Total Area draining to basin (≤50 Ac.) 3.91 Acres

BASIN SIZE DESIGN

1. Sediment storage zone volume = 1,000 cu. ft. x number of disturbed acres = 3,910 cu. ft., Top of Zone Elev. 406
2. Dewatering zone volume = 3,600 cu. ft. x number of drainage area acres = 14,076 cu. ft., Top of Zone Elev. 409
3. Length to width ratio = 3:1
4. A. Cleanout at 50% of sediment storage zone volume, Elev. 405.5
   B. Distance below top of riser 0.5 feet
5. Minimum surface area is larger of 0.01 $Q_{(10)}$ 0.121 or, 0.015 DA = 0.059 use 0.121 acres

DESIGN OF SPILLWAYS & ELEVATIONS

Runoff

6. $Q_{p(10)}$ = 12.05 cfs (Attach runoff computation sheets)

Pipe Spillway (Q_{ps})

7. Min. pipe spillway cap., Q_{ps} = 0.2 x 3.91 Drainage Area, acres = 0.78 cfs
   Note: If there is no emergency spillway, then required $Q_{ps} = Q_{p(10)}$ = 12.05 cfs.
8. H, head = 3 ft. Barrel length = 170 ft
9. Barrel: Diam. 15 inches; Q_{ps} = (Q) 12.05 x (cor.fac.) 0.71 = 8.56 cfs.
10. Riser: Diam. 18 inches; Length 20 ft.; h = 1.0 ft. Crest Elev. 406
11. Trash Rack: Diameter = 27 inches; H, height = 8 inches

Emergency Spillway Design

12. Emergency Spillway Flow, $Q_{es} = Q_p - Q_{ps}$ = ________ - ________ = ________ cfs.
13. Width ______ ft.; H_p ______ ft Crest elevation ________; Design High Water Elev. ________
    Entrance channel slope ________________ % ; Top of Dam Elev. ____________
    Exit channel slope ________________ %

ANTI-SEEP COLLAR/SEEPAGE DIAPHRAGM DESIGN

Collars:

14. y = 4 ft.; z = 3 :1; pipe slope = 0.6 %, L_s = 28.7 ft.
    Use 1 collars, 5 - 5 inches square; projection = 2.2 ft.

Diaphragms:

#________ width ________ ft. height ________ ft.

DEWATERING ORIFICE SIZING

(Determined from the Dewatering Device Standard)

15. Dewatering orifice diameter = 3 inches. Skimmer ___ or Riser ✓ (check one)
16. Design dewatering time 2 days (Min. 2 days required)

TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

Computed by Michael Thompson Date 11/15/19 Checked by ______ Date ______
Project Airport Campus Basin # SMA 2
Location Town of North Castle, NY Total Area draining to basin (≤50 Ac.) 11.23 Acres

BASIN SIZE DESIGN

1. Sediment storage zone volume = 1,000 cu. ft. x number of disturbed acres = 11,230 cu. ft., Top of Zone Elev. 408
2. Dewatering zone volume = 3,600 cu. ft. x number of drainage area acres = 40,428 cu. ft., Top of Zone Elev. 411
3. Length to width ratio = 3:1
4. A. Cleanout at 50% of sediment storage zone volume, Elev. 407.50
   B. Distance below top of riser 0.5 feet
5. Minimum surface area is larger of 0.01 $Q_{(10)}$ 0.258 or, 0.015 DA = 0.168 use 0.258 acres

DESIGN OF SPILLWAYS & ELEVATIONS

Runoff

6. $Q_{p(10)}$ = 25.75 cfs (Attach runoff computation sheets)

Pipe Spillway (Q_{ps})

7. Min. pipe spillway cap., Q_{ps} = 0.2 x 11.23 Drainage Area, acres = 2.25 cfs
   Note: If there is no emergency spillway, then required $Q_{ps} = Q_{p(10)}$ = 25.75 cfs.
8. H, head = 3 ft. Barrel length = 130 ft
9. Barrel: Diam. 24 inches; Q_{ps} = (Q) 25.75 x (cor.fac.) 0.83 = 21.37 cfs.
10. Riser: Diam. 24 inches; Length 47 ft.; h = 1.0 ft. Crest Elev. 408
11. Trash Rack: Diameter = 36 inches; H, height = 13 inches

Emergency Spillway Design

12. Emergency Spillway Flow, $Q_{es} = Q_p - Q_{ps}$ = ______ - ______ = ______ cfs.
13. Width ______ ft.; H_p ______ ft Crest elevation ______; Design High Water Elev. ______
    Entrance channel slope ______ % ; Top of Dam Elev. ______
    Exit channel slope ______ %

ANTI-SEEP COLLAR/SEEPAGE DIAPHRAGM DESIGN

Collars:

14. y = 4 ft.; z = 3 :1; pipe slope = 2.27 %, L_s = 30.5 ft.
    Use 1 collars, 5 - 5 inches square; projection = 2.2 ft.

Diaphragms:

______ width ______ ft. height ______ ft.

DEWATERING ORIFICE SIZING

(Determined from the Dewatering Device Standard)

15. Dewatering orifice diameter = 3 inches. Skimmer ___ or Riser ✓ (check one)
16. Design dewatering time 4 days (Min. 2 days required)

APPENDIX H

STORMTECH DESIGN MANUAL AND ISOLATOR ROW O&M MANUAL

StormTech®

Detention • Retention • Water Quality

A division of ADS

Save Valuable Land and Protect Water Resources

Isolator® Row O&M Manual

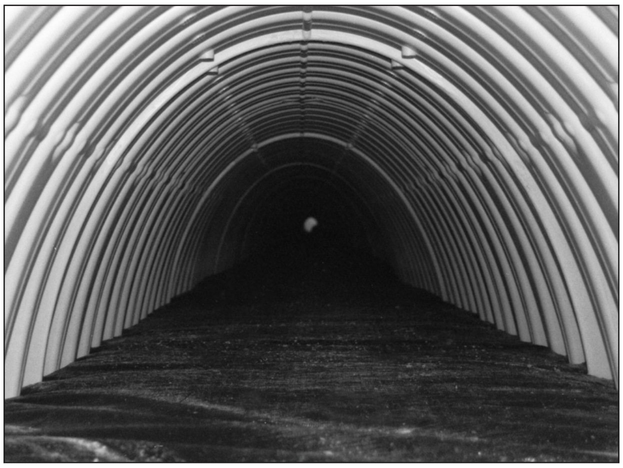
StormTech® Chamber System for Stormwater Management

U.S. GREEN BUILDING COUNCIL MEMBER

1.0 The Isolator® Row

1.1 INTRODUCTION

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row is a patented technique to inexpensively enhance Total Suspended Solids (TSS) removal and provide easy access for inspection and maintenance.



Looking down the Isolator Row from the manhole opening, woven geotextile is shown between the chamber and stone base.

1.2 THE ISOLATOR ROW

The Isolator Row is a row of StormTech chambers, either SC-310, SC-310-3, SC-740, DC-780, MC-3500 or MC-4500 models, that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as storm water rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls (SC-310, SC-310-3 and SC-740 models) allow storm water to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

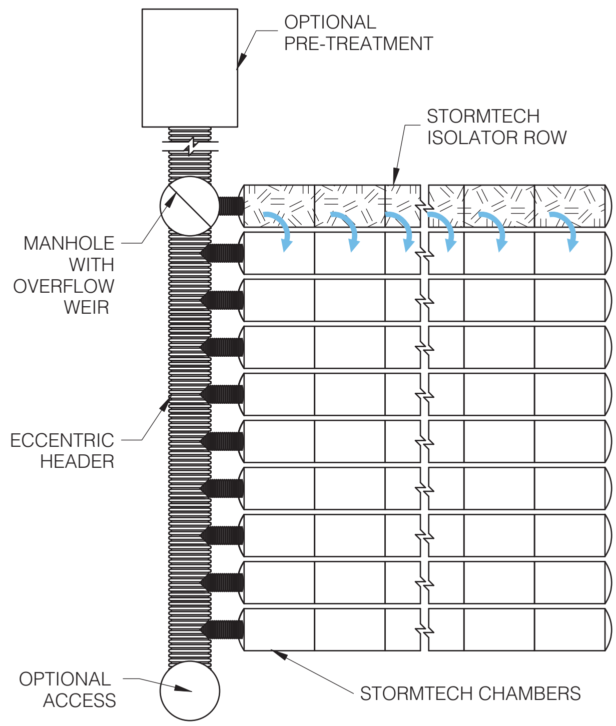
Two different fabrics are used for the Isolator Row. A woven geotextile fabric is placed between the stone and the Isolator Row chambers. The tough geotextile provides a media for storm water filtration and provides a durable surface for maintenance operations. It is also designed to prevent scour of the underlying stone and remain intact during high pressure jetting. A non-woven fabric is placed over the chambers to provide a filter media for flows passing through the perforations in the sidewall of the chamber. The non-woven fabric is not required over the DC-780, MC-3500 or MC-4500 models as these chambers do not have perforated side walls.

The Isolator Row is typically designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but typically includes a high flow weir such that storm water flowrates or volumes that exceed the capacity of the Isolator Row overtop the over flow weir and discharge through a manifold to the other chambers.

The Isolator Row may also be part of a treatment train. By treating storm water prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured. Pre-treatment best management practices can be as simple as deep sump catch basins, oil-water separators or can be innovative storm water treatment devices. The design of the treatment train and selection of pretreatment devices by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, the Isolator Row is recommended by StormTech as an effective means to minimize maintenance requirements and maintenance costs.

Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row.

StormTech Isolator Row with Overflow Spillway
(not to scale)



2.0 Isolator Row Inspection/Maintenance

2.1 INSPECTION

The frequency of Inspection and Maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

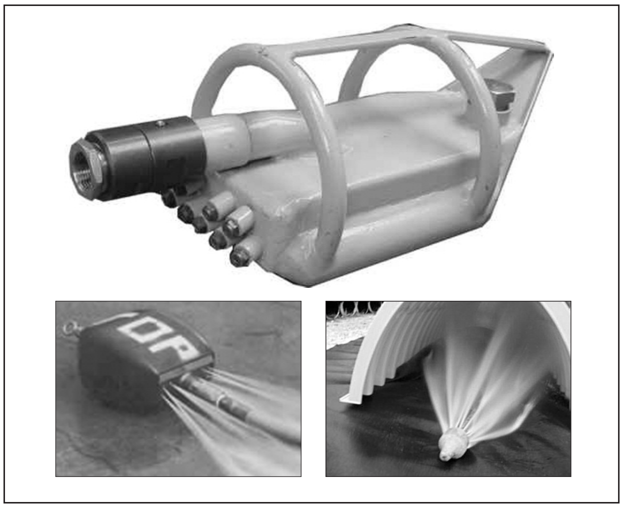
At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator Row, clean-out should be performed.

2.2 MAINTENANCE

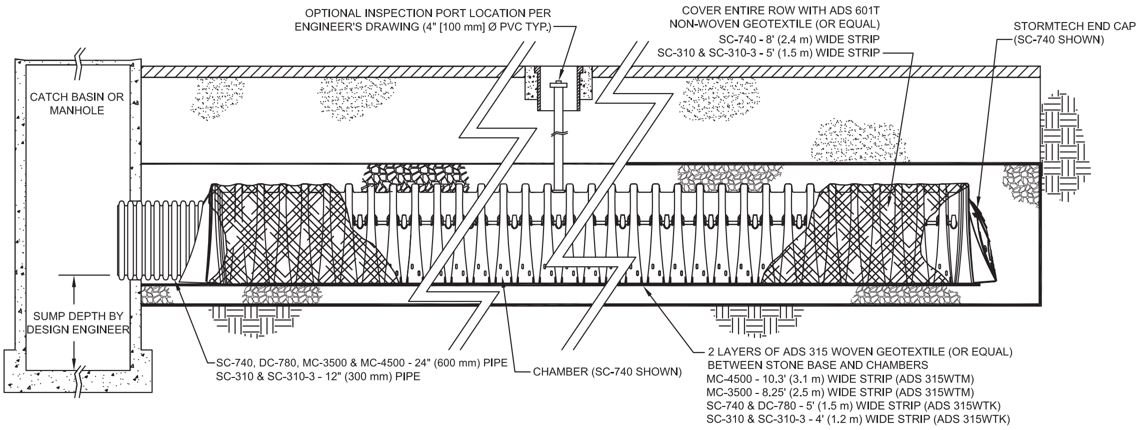
The Isolator Row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entries.



Examples of culvert cleaning nozzles appropriate for Isolator Row maintenance. (These are not StormTech products.)

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" are best. Most JetVac reels have 400 feet of hose allowing maintenance of an Isolator Row up to 50 chambers long. **The JetVac process shall only be performed on StormTech Isolator Rows that have AASHTO class 1 woven geotextile (as specified by StormTech) over their angular base stone.**

StormTech Isolator Row (not to scale)

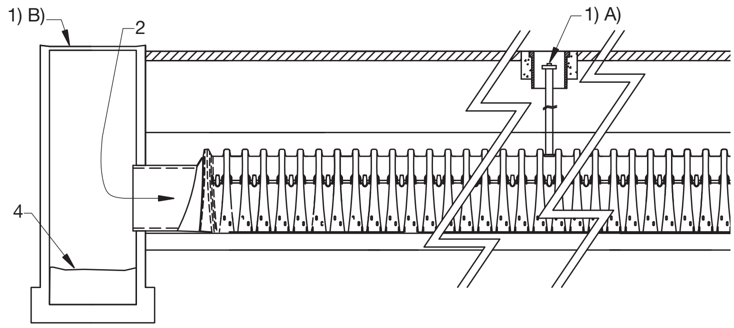


NOTE: NON-WOVEN FABRIC IS ONLY REQUIRED OVER THE INLET PIPE CONNECTION INTO THE END CAP FOR DC-780, MC-3500 AND MC-4500 CHAMBER MODELS AND IS NOT REQUIRED OVER THE ENTIRE ISOLATOR ROW.

3.0 Isolator Row Step By Step Maintenance Procedures

Step 1) Inspect Isolator Row for sediment
- A) Inspection ports (if present)
  - i. Remove lid from floor box frame
  - ii. Remove cap from inspection riser
  - iii. Using a flashlight and stadia rod, measure depth of sediment and record results on maintenance log.
  - iv. If sediment is at, or above, 3 inch depth proceed to Step 2. If not proceed to step 3.
- B) All Isolator Rows
  - i. Remove cover from manhole at upstream end of Isolator Row
  - ii. Using a flashlight, inspect down Isolator Row through outlet pipe
    1. Mirrors on poles or cameras may be used to avoid a confined space entry
    2. Follow OSHA regulations for confined space entry if entering manhole
  - iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches) proceed to Step 2. If not proceed to Step 3.

StormTech Isolator Row (not to scale)



Step 2) Clean out Isolator Row using the JetVac process
- A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
- B) Apply multiple passes of JetVac until backflush water is clean
- C) Vacuum manhole sump as required

Step 3) Replace all caps, lids and covers, record observations and actions

Step 4) Inspect & clean catch basins and manholes upstream of the StormTech system

Sample Maintenance Log

Date	Stadia Rod Readings		Sediment Depth (1) - (2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/01	6.3 ft.	none		New installation. Fixed point is CI frame at grade	djm
9/24/01		6.2	0.1 ft.	Some grit felt	sm
6/20/03		5.8	0.5 ft.	Mucky feel, debris visible in manhole and in Isolator row, maintenance due	rv
7/7/03	6.3 ft.		0	System jetted and vacuumed	djm

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APPENDIX I

TEMPORARY/PERMANENT EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE CHECKLIST

Temporary Erosion and Sediment Control Inspection and Maintenance Checklist

Erosion and Sediment Control Measure	Inspection/Maintenance Intervals	Inspection/Maintenance Requirements
Stabilized Construction Entrance	Daily	• Periodic top dressing with additional aggregate as required • Clean sediment in public right-of-ways immediately
Silt Fence	Weekly + After Each Rain	• Remove & redistribute sediment when bulges develop in the silt fence.
Inlet Protection	Weekly + After Each Rain	• Remove sediment as necessary and replace filter fabric, crushed stone etc. • Any broken and damaged components should be replaced. • Check all materials for proper anchorage and secure as necessary.

Temporary Erosion and Sediment Control Inspection and Maintenance Checklist (Cont'd)

Erosion and Sediment Control Measure	Inspection/Maintenance Intervals	Inspection/Maintenance Requirements
Level Spreader	Weekly + After Each Rain	• Remove sediment accumulated as needed to ensure the level spreader operates properly and large flows are prevented from carrying sediment over the level lip. • Check for rilling within/around the level spreader and repair as required.
Temporary Sediment Basin	Weekly + After Each Rain	• Remove and redistribute sediment when it reaches an elevation indicated on the construction documents. • Check for rilling within and around the sediment basin and repair as required. • Remove all sediment and debris from the outlet control structure as maybe required.

Permanent Stormwater Management Practice Inspection and Maintenance Checklist

Stormwater Management Practice	**Inspection/Maintenance Intervals**	**Inspection/Maintenance Requirements**
Vegetated Swale	Monthly	• Check that contributing area is clean of debris. • Confirm vegetation is adequately maintained (mowing, fertilizer, etc.) • Check for rilling/erosion and repair as needed. • Confirm dewatering occurs between storms.
Vegetated Swale/Open Channel/Level Spreader	Annually + After Major Storms	• Clean sediment and re-vegetate as necessary. • Check condition of outlet and repair as necessary
Rip-Rap Apron/Energy Dissipator and Check Dams	Annually + After Major Storms	• Check for evidence of flows going around the structure. • Check for evidence at downstream toe and repair as needed. • Clean sediment and install additional aggregate as necessary.
Stormwater Management Basin	Monthly	• Check Permanent Pool for undesirable vegetative growth and floatings or floatable debris. Remove as needed. • Check Forebays for sediment and cleanout when it depth <50% design depth. • Check Dry Pond areas for adequate vegetation, undesirable vegetative growth, low flow channels are clear of obstructions, standing water or wet spots and sediment and/or trash accumulation. Repair/remove as necessary.

__Permanent Stormwater Management Practice Inspection and Maintenance Checklist (Cont'd)__

Stormwater Management Practice	Inspection/Maintenance Intervals	Inspection/Maintenance Requirements
Stormwater Management Basin	Annually + After Major Storms	• Check adequacy of vegetation and ground cover; for evidence of embankment erosion, animal burrows, unauthorized plantings and cracking, bulging or sliding of dam, clear/properly functioning drains, seeps/leaks on downstream face, failure of slope protection or riprap. Repair/remove as necessary. • Confirm emergency spillway is clear of obstructions and debris. • Confirm all inlets and outlet structures/pipes are operating properly.
Drain Inlets	Monthly	• Check for blockage and/or erosion at top of each inlet. Repair/remove as necessary. • Check for sediment and debris collected within sumps and clean out as necessary.

Permanent Stormwater Management Practice Inspection and Maintenance Checklist (Cont'd)

Stormwater Management Practice	Inspection/Maintenance Intervals	Inspection/Maintenance Requirements
StormTech Subsurface Retention Facility	(See Maintenance Guidelines in Appendix XXXXX)	• Check level of sediment accumulated within the isolator row through the access manhole. If 3 inches of sediment or greater, clean out utilizing a high pressure water nozzle to scour and suspend sediments. • Flush all sediment to access manhole and remove using a vacuum truck.
Hydro International Water Quality Structure	(See Maintenance Guidelines in Appendix J)	• Open access cover for visual inspection and measure the distance from the standing water surface to the sediment pile with a measuring stick or tape. If less than 4 feet, insert hose from vacuum truck into the sump and screen through both access covers to clean out the standing water, layer of oil, sediment, trash, etc. • The screen must be powerwashed to ensure it is free of trash and debris.

Permanent Stormwater Management Practice Inspection and Maintenance Checklist (Cont'd)

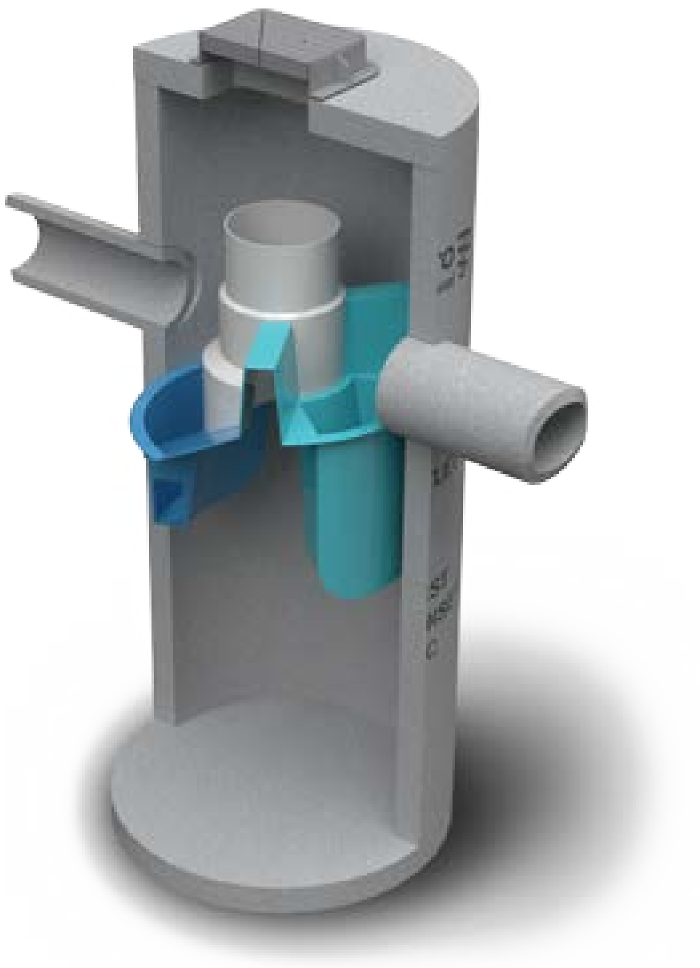
Stormwater Management Practice	Inspection/Maintenance Intervals	Inspection/Maintenance Requirements
Bioretention	Routine and As Needed	• Mowing-Frequency depends upon location and desired aesthetic appeal. • Watering-If droughty, watering after the initial year may be required. • Miscellaneous Upkeep-Tasks include trash collection, spot weeding, and removing mulch from overflow device.
	Semi-Annually	• Pruning -Nutrients in runoff often cause biortention vegetation to flourish. • Mulching -Remulch bare areas with fresh mulch
	Annually	• Mulch Removal-Mulch accumulation reduces available water storage volume. Removal of mulch also increases surface infiltration rate of fill soil. • Remove and Replace Dead Plants-Within the first year, 10 percent of plants may die. Survival rates increase with time.

The owner/operator responsible for inspection and maintenance as outlined above:

RoeCo
Mr. Geoff Ringler
46 Westchester Ave.
Pound Ridge, NY 10567
Phone: 914-764-1000
Fax:
Email: geoff@panamequities.com

APPENDIX J

FIRST DEFENSE AND FIRST DEFENSE CAPACITY OPERATION AND MAINTENANCE MANUAL



Operation and Maintenance Manual

First Defense® and First Defense® High Capacity

Vortex Separator for Stormwater Treatment

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- Introduction
- Operation
- Pollutant Capture and Retention

4 Model Sizes & Configurations
- First Defense® Components

5 Maintenance
- Overview
- Maintenance Equipment Considerations
- Determining Your Maintenance Schedule

6 Maintenance Procedures
- Inspection
- Floatables and Sediment Clean Out

8 First Defense® Installation Log

9 First Defense® Inspection and Maintenance Log

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

Hydro Maintenance Services

Hydro International has been engineering stormwater treatment systems for over 30 years. We understand the mechanics of removing pollutants from stormwater and how to keep systems running at an optimal level.

Nobody Knows our Systems Better than we do

Avoid Service Negligence

Sanitation services providers not intimately familiar with stormwater treatment systems are at risk of the following:

- Inadvertently breaking parts or failing to clean/replace system components appropriately.
- Charging you for more frequent maintenance because they lacked the tools to service your system properly in the first place.
- Billing you for replacement parts that might have been covered under your Hydro warranty plan
- Charging for maintenance that may not yet have been required.

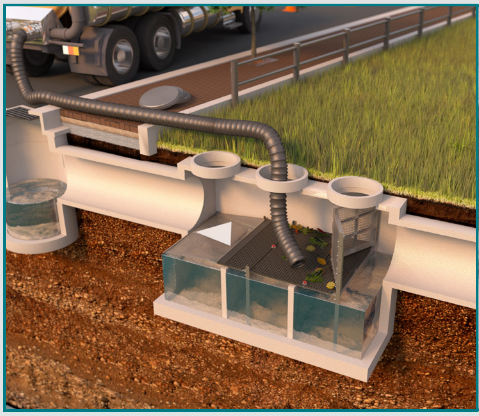
Leave the Dirty Work to us

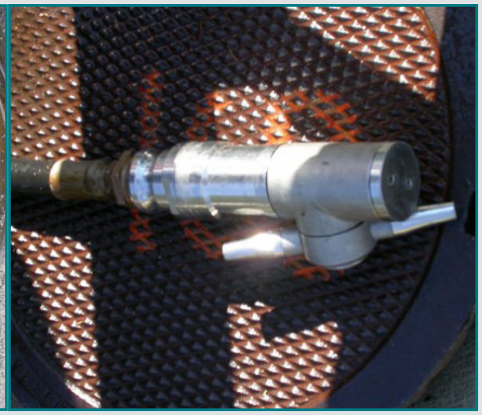
Trash, sediment and polluted water is stored inside treatment systems until they are removed by our team with a vactor truck. Sometimes teams must physically enter the system chambers in order to prepare the system for maintenance and install any replacement parts. Services include but are not limited to:

- Solids removal
- Removal of liquid pollutants
- Replacement media installation (when applicable)

Better Tools, Better Results

Not all vactor trucks are created equal. Appropriate tools and suction power are needed to service stormwater systems appropriately. Companies who don't specialize in stormwater treatment won't have the tools to properly clean systems or install new parts.



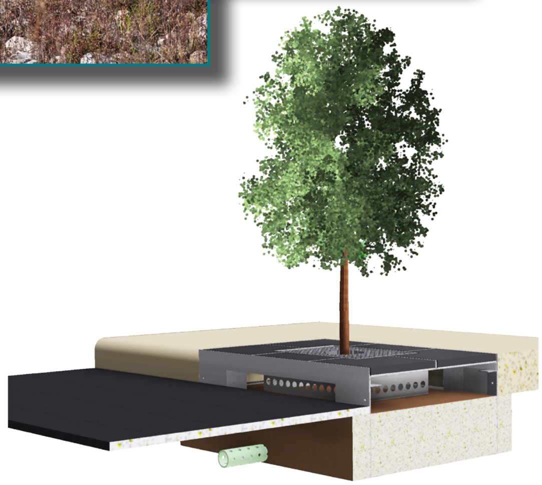


Service Warranty

Make sure you're not paying for service that is covered under your warranty plan. Only Hydro International's service teams can identify tune-ups that should be on us, not you.

Treatment Systems Serviced by Hydro:

- Stormwwater filters
- Stormwater separators
- Baffle boxes
- Biofilters/biorention systems
- Storage structures
- Catch basins
- Stormwater ponds
- Permeable pavement



I. First Defense® by Hydro International

Introduction

The First Defense® is an enhanced vortex separator that combines an effective and economical stormwater treatment chamber with an integral peak flow bypass. It efficiently removes total suspended solids (TSS), trash and hydrocarbons from stormwater runoff without washing out previously captured pollutants. The First Defense® is available in several model configurations (refer to *Section II. Model Sizes & Configurations*, page 4) to accommodate a wide range of pipe sizes, peak flows and depth constraints.

Operation

The First Defense® operates on simple fluid hydraulics. It is self-activating, has no moving parts, no external power requirement and is fabricated with durable non-corrosive components. No manual procedures are required to operate the unit and maintenance is limited to monitoring accumulations of stored pollutants and periodic clean-outs. The First Defense® has been designed to allow for easy and safe access for inspection, monitoring and clean-out procedures. Neither entry into the unit nor removal of the internal components is necessary for maintenance, thus safety concerns related to confined-space-entry are avoided.

Pollutant Capture and Retention

The internal components of the First Defense® have been designed to optimize pollutant capture. Sediment is captured and retained in the base of the unit, while oil and floatables are stored on the water surface in the inner volume (Fig.1).

The pollutant storage volumes are isolated from the built-in bypass chamber to prevent washout during high-flow storm events. The sump of the First Defense® retains a standing water level between storm events. This ensures a quiescent flow regime at the onset of a storm, preventing resuspension and washout of pollutants captured during previous events.

Accessories such as oil absorbent pads are available for enhanced oil removal and storage. Due to the separation of the oil and floatable storage volume from the outlet, the potential for washout of stored pollutants between clean-outs is minimized.

Applications

- Stormwater treatment at the point of entry into the drainage line
- Sites constrained by space, topography or drainage profiles with limited slope and depth of cover
- Retrofit installations where stormwater treatment is placed on or tied into an existing storm drain line
- Pretreatment for filters, infiltration and storage

Advantages

- Inlet options include surface grate or multiple inlet pipes
- Integral high capacity bypass conveys large peak flows without the need for “offline” arrangements using separate junction manholes
- Proven to prevent pollutant washout at up to 500% of its treatment flow
- Long flow path through the device ensures a long residence time within the treatment chamber, enhancing pollutant settling
- Delivered to site pre-assembled and ready for installation

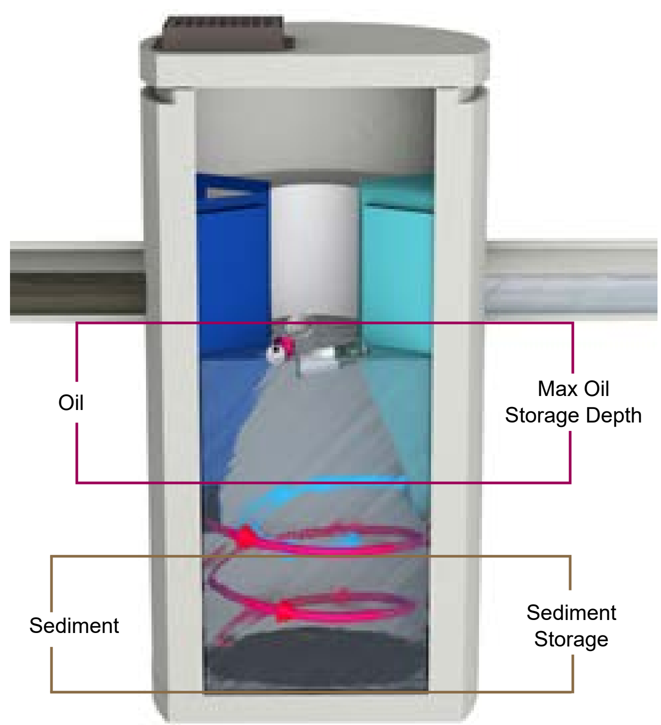


Fig.1 Pollutant storage volumes in the First Defense®.

II. Model Sizes & Configurations

The First Defense® inlet and internal bypass arrangements are available in several model sizes and configurations. The components of the First Defense®-4HC and First Defense®-6HC have modified geometries as to allow greater design flexibility needed to accommodate various site constraints.

All First Defense® models include the internal components that are designed to remove and retain total suspended solids (TSS), gross solids, floatable trash and hydrocarbons (Fig.2a - 2b). First Defense® model parameters and design criteria are shown in Table 1.

First Defense® Components

1. **Built-In Bypass**
2. **Inlet Pipe**
3. **Inlet Chute**
4. **Floatables Draw-off Port**
5. **Outlet Pipe**
6. **Floatables Storage**
7. **Sediment Storage**
8. **Inlet Grate or Cover**

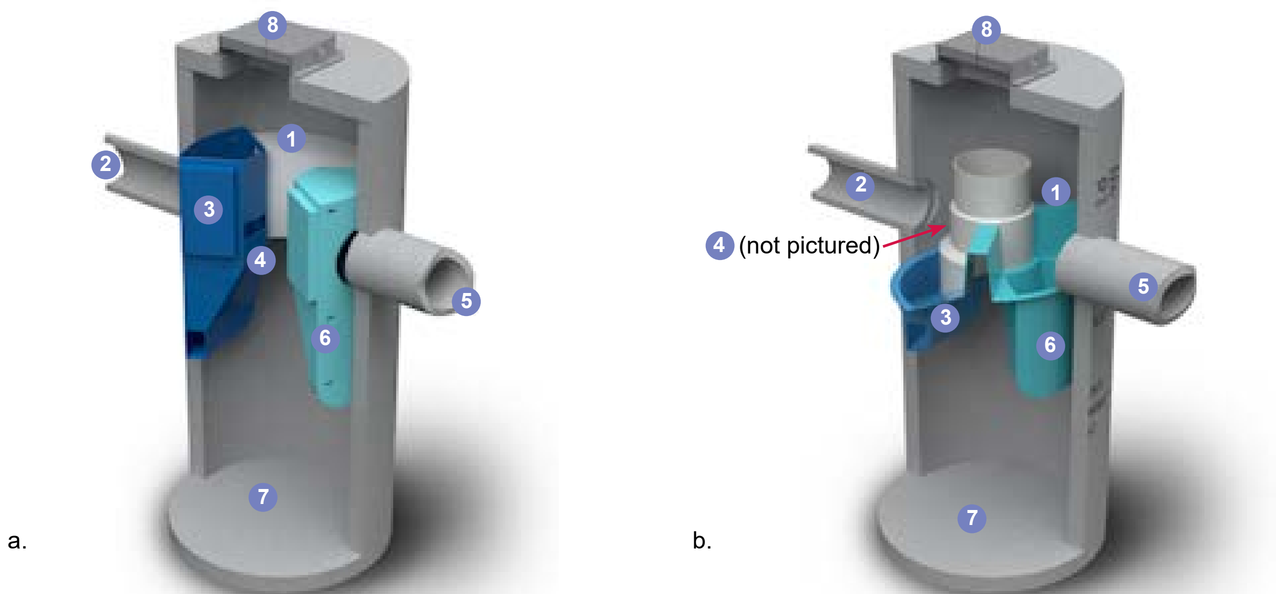


Fig.2a) First Defense®-4 and First Defense®-6; b) First Defense®-4HC and First Defense®-6HC, with higher capacity dual internal bypass and larger maximum pipe diameter.

First Defense® High Capacity Model Number	Diameter	Typical TSS Treatment Flow Rates		Peak Online Flow Rate	Maximum Pipe Diameter[1]	Oil Storage Capacity	Typical Sediment Storage Capacity[2]	Minimum Distance from Outlet Invert to Top of Rim[3]	Standard Distance from Outlet Invert to Sump Floor
		NJDEP Certified	106µm						
	(ft / m)	(cfs / L/s)	(cfs / L/s)	(cfs / L/s)	(in / mm)	(gal / L)	(yd^3 / m^3)	(ft / m)	(ft / m)
FD-3HC	3 / 0.9	0.84 / 23.7	1.60 / 45.3	15 / 424	18 / 457	125 / 473	0.4 / 0.3	2.0 - 3.5 / 0.6 - 1.0	3.71 / 1.13
FD-4HC	4 / 1.2	1.50 / 42.4	1.88 / 50.9	18 / 510	24 / 600	191 / 723	0.7 / 0.5	2.3 - 3.9 / 0.7 - 1.2	4.97 / 1.5
FD-5HC	5 / 1.5	2.34 / 66.2	2.94 / 82.1	20 / 566	24 / 609	300 / 1135	1.1 / .84	2.5 - 4.5 / 0.7 - 1.3	5.19 / 1.5
FD-6HC	6 / 1.8	3.38 / 95.7	4.73 / 133.9	32 / 906	30 / 750	496 / 1,878	1.6 / 1.2	3.0 - 5.1 / 0.9 - 1.6	5.97 / 1.8
FD-8HC	8 / 2.4	6.00 / 169.9	7.52 / 212.9	50 / 1,415	48 / 1219	1120 / 4239	2.8 / 2.1	3.0 - 6.0 / 0.9 -1.8	7.40 / 2.2

[1]Contact Hydro International when larger pipe sizes are required.
[2]Contact Hydro International when custom sediment storage capacity is required.
[3]Minimum distance for models depends on pipe diameter.

III. Maintenance

Overview

The First Defense® protects the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captured pollutants is essential to the continuous, long-term functioning of the First Defense®. The First Defense® will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the First Defense® will no longer be able to store removed sediment and oil. Maximum pollutant storage capacities are provided in Table 1.

The First Defense® allows for easy and safe inspection, monitoring and clean-out procedures. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables. Access ports are located in the top of the manhole.

Maintenance events may include Inspection, Oil & Floatables Removal, and Sediment Removal. Maintenance events do not require entry into the First Defense®, nor do they require the internal components of the First Defense® to be removed. In the case of inspection and floatables removal, a vactor truck is not required. However, a vactor truck is required if the maintenance event is to include oil removal and/or sediment removal.

Maintenance Equipment Considerations

The internal components of the First Defense®-HC have a centrally located circular shaft through which the sediment storage sump can be accessed with a sump vac hose. The open diameter of this access shaft is 15 inches in diameter (Fig.3). Therefore, the nozzle fitting of any vactor hose used for maintenance should be less than 15 inches in diameter.

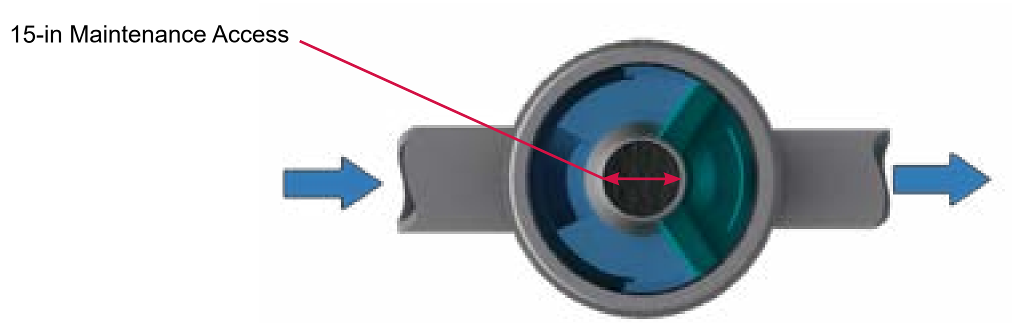


Fig.3 The central opening to the sump of the First Defense®-HC is 15 inches in diameter.

Determining Your Maintenance Schedule

The frequency of clean out is determined in the field after installation. During the first year of operation, the unit should be inspected every six months to determine the rate of sediment and floatables accumulation. A simple probe such as a Sludge-Judge® can be used to determine the level of accumulated solids stored in the sump. This information can be recorded in the maintenance log (see page 9) to establish a routine maintenance schedule.

The vactor procedure, including both sediment and oil / flotables removal, for a 6-ft First Defense® typically takes less than 30 minutes and removes a combined water/oil volume of about 765 gallons.

Inspection Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities. Fig.4 shows the standing water level that should be observed.

4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the components and water surface.

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel.

6. On the Maintenance Log (see page 9), record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or blockages.

7. Securely replace the grate or lid.

8. Take down safety equipment.

9. Notify Hydro International of any irregularities noted during inspection.

Fig.4 Floatables are removed with a vactor hose (First Defense model FD-4, shown).

Floatables and Sediment Clean Out

Floatables clean out is typically done in conjunction with sediment removal. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables (Fig.5).

Floatables and loose debris can also be netted with a skimmer and pole. The access port located at the top of the manhole provides unobstructed access for a vactor hose and skimmer pole to be lowered to the base of the sump.

Scheduling

- Floatables and sump clean out are typically conducted once a year during any season.

- Floatables and sump clean out should occur as soon as possible following a spill in the contributing drainage area.

Recommended Equipment

- Safety Equipment (traffic cones, etc)

- Crow bar or other tool to remove grate or lid

- Pole with skimmer or net (if only floatables are being removed)

- Sediment probe (such as a Sludge Judge®)

- Vactor truck (flexible hose recommended)

- First Defense® Maintenance Log

Floatables and sediment Clean Out Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.

4. Remove oil and floatables stored on the surface of the water with the vactor hose (Fig.5) or with the skimmer or net (not pictured).

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel and record it in the Maintenance Log (page 9).

6. Once all floatables have been removed, drop the vactor hose to the base of the sump. Vactor out the sediment and gross debris off the sump floor (Fig.5).

7. Retract the vactor hose from the vessel.

8. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components, blockages, or irregularly high or low water levels.

9. Securely replace the grate or lid.

Fig.5 Sediment is removed with a vactor hose (First Defense model FD-4, shown).

Maintenance at a Glance

Inspection	- Regularly during first year of installation - Every 6 months after the first year of installation
Oil and Floatables Removal	- Once per year, with sediment removal - Following a spill in the drainage area
Sediment Removal	- Once per year or as needed - Following a spill in the drainage area
NOTE: For most clean outs the entire volume of liquid does not need to be removed from the manhole. Only remove the first few inches of oils and floatables from the water surface to reduce the total volume of liquid removed during a clean out.	

First Defense® Installation Log

HYDRO INTERNATIONAL REFERENCE NUMBER:	
SITE NAME:	
SITE LOCATION:	
OWNER:	CONTRACTOR:
CONTACT NAME:	CONTACT NAME:
COMPANY NAME:	COMPANY NAME:
ADDRESS:	ADDRESS:
TELEPHONE:	TELEPHONE:
FAX:	FAX:

INSTALLATION DATE: / /

MODEL SIZE (CIRCLE ONE): **FD-4** **FD-4HC** **FD-6** **FD-6HC**

INLET (CIRCLE ALL THAT APPLY): **GRATED INLET (CATCH BASIN)** **INLET PIPE (FLOW THROUGH)**

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

First Defense® Inspection and Maintenance Log

Date	Initials	Depth of Floatables and Oils	Sediment Depth Measured	Volume of Sediment Removed	Site Activity and Comments

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

Do it Right the First Time

Learn more at hydro-int.com/service

CALL **1 (888) 382-7808** TO SCHEDULE AN INSPECTION

Stormwater Solutions

94 Hutchins Drive
Portland, ME 04102

Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

www.hydro-int.com

Turning Water Around...®

APPENDIX K

CONTRACTOR'S CERTIFICATION

JMC Project 15072
Airport Campus
113 King Street
Town of North Castle, NY

CONTRACTOR'S CERTIFICATION

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

Company Name: ____

Address: ____

Telephone Number: ____

Name and Title: ____

Signature: ____Date: ________________

Permit Identification No.:____

Name and Title of Trained Contractor:__________________________________

Elements of the SWPPP Contractor is responsible for:_____________________

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APPENDIX L

INTEGRATED PEST MANAGEMENT PLAN

INTEGRATED PEST MANAGEMENT (IPM) PROGRAM REPORT

MBIA HEADQUARTERS EXPANSION

113 KING STREET
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY, NY

Prepared for: **MBIA Insurance Corporation**
113 King Street
Armonk, NY 10504

Lead Agency: **Town of North Castle Town Board**

Prepared by: JMC
JOHN MEYER CONSULTING

120 Bedford Road
Armonk, NY 10504
JMC Project 2000014

Attorney: **Veneziano & Associates**
84 Business Park Drive
Suite 200
Armonk, NY 10504

Date: September 01, 2005

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III.	IPM METHODOLOGY AND IMPLEMENTATION	5
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A. "Eighth Site Plan, Wetlands Permit and Tree Removal Permit Approvals" Resolution, dated 09/13/2004, Town of North Castle Planning Board

B. 2003 IPM Reports

C. 2004 IPM Reports

D. 2005 IPM Reports

E. IPM Field Notes

F. IPM Product Toolbox Product Labels

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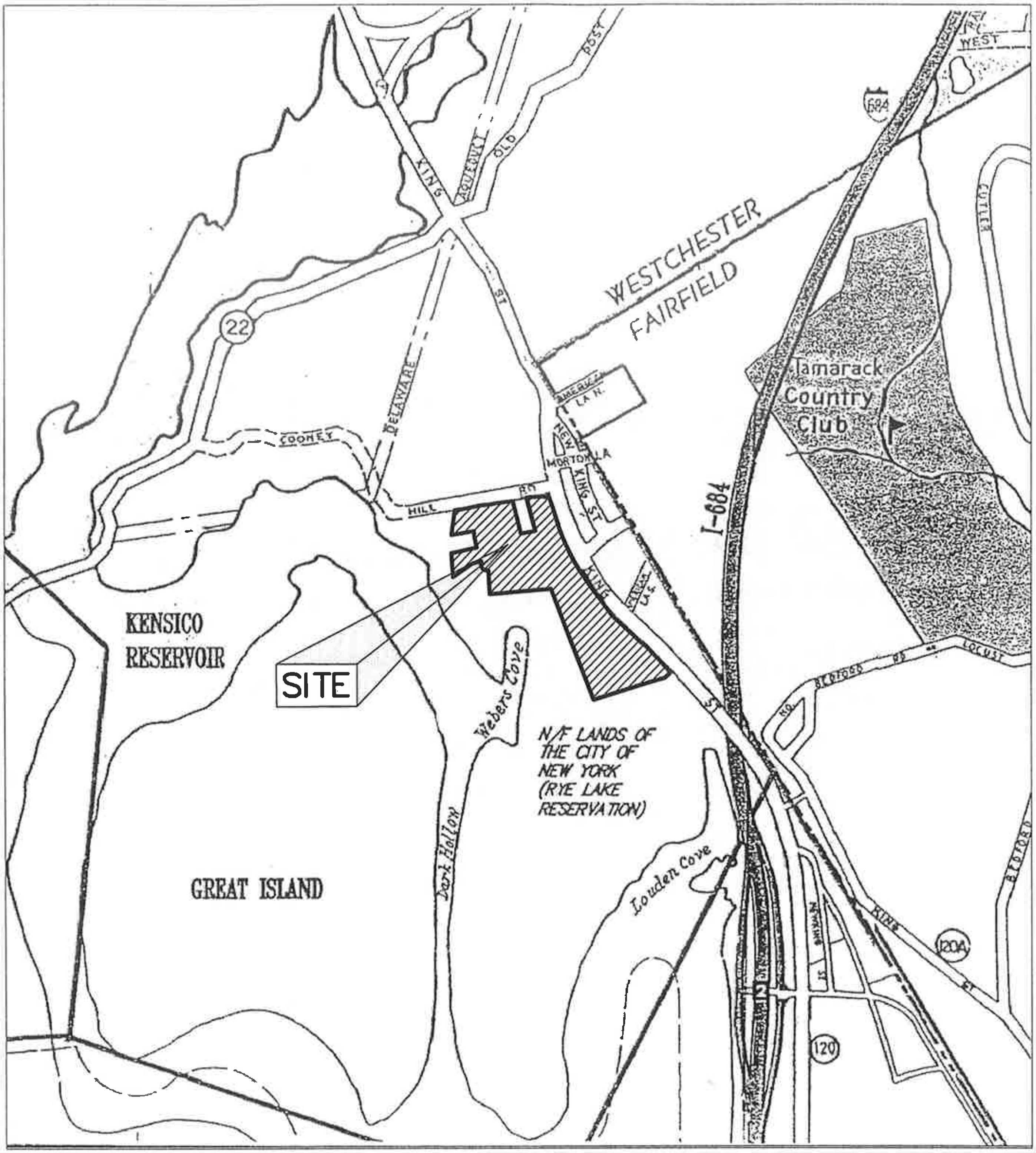
2.	Integrated Pest Management Zone Plan	5
3.	IPM Management Zones (Existing Site)	6

I. INTRODUCTION

As part of the proposed MBIA corporate headquarters expansion, the Town of North Castle Planning Board requested that MBIA provide details of MBIA's Integrated Pest Management (IPM) program. This program was implemented by MBIA in 2003 on its existing headquarters site (Figure 1), and will continue in the future to encompass the proposed MBIA expansion, as discussed in the project's accepted Final Environmental Impact Statement (FEIS), dated 09/2003.

The "Eighth Site Plan, Wetlands Permit and Tree Removal Permit Approvals" Resolution, dated 09/13/2004, Town of North Castle Planning Board (Appendix A), requested the following be provided regarding MBIA's IPM program:

> The Applicant shall prepare a detailed Integrated Pest Management Plan to the satisfaction of the Town Planning Consultant demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented. Specifically, the IPM shall address the following:
>
> - MBIA will implement the IPM plan at both its existing headquarters site as well as the Cooney Hill lots.
> - The health of landscape planting shall be assessed by a professional experienced in the practice of Integrated Pest Management.
> - The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.
> - Only low phosphorous fertilizers shall be used.
> - Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels - low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.



MBIA OFFICE EXPANSION

LOCAL SITE LOCATION MAP

DATE: 08/30/2005 JMC PROJECT: 2000014

FIGURE: 1

JMC
JOHN MEYER CONSULTING

- Except for ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed Meeting House, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken, by location, during the preceding year.

II. <u>IPM SPECIALIST</u>

The IPM specialist contracted by MBIA, Mr. Donald Gabel, has extensive theoretical and practical experience with IPM programs, as outlined below.

Mr. Gabel's educational background includes:

- A.A.S., Horticultural Science, SUNY Delhi
- Continuing Education:

  - New York Botanical Garden Continuing Education: Greenhouse Management; Rock Garden Construction; Economic Botany; and Propagation
  - Rutgers University: Urban Tree Management
  - Cornell Cooperative Extension: Pesticide Updates
  - Rockland Community College: Introduction to Computers
  - Cornell University: Field Diagnosis of Pests and Diseases; Urban Tree Establishment; Advanced Turf Grass Management Program
  - University of Maryland: Advanced Integrated Pest Management
  - AABGA: Advanced Bio-Control

Mr. Gabel's recent professional experience includes:

Integrated Pest Management Manager and Interim Grounds and Arboretum Manager, NY Botanical Garden, Bronx, NY, 1999-2002

Supervised grounds and arboretum crews.

Developed and coordinated the IPM Program for all plant collections on 250 acres at NYBG. Collections include rare and exotic plants at the Conservatory, greenhouses, all trees and shrubs on the grounds, over 25 specialty gardens (roses, peonies, and perennials, etc), and high-maintenance turf. Established policy statement and other protocols as necessary. Supervised pest-control treatments and advised on cultural improvements. Monitored and established monitoring protocol. Trained staff to assume monitoring tasks. Created and instructed spray education programs to teach staff techniques and methods. Created and instructed apprentice program to increase spray team staff. Organized, monitored and instructed pesticide-use related health and safety programs. Ordered and maintained inventory of all pesticides. Maintained all appropriate pesticide records. Filed and maintained all necessary licenses and permits. Improved and maintained all pesticide related facilities. Diagnosed all plant problems and developed a control program involving biological, cultural, and chemical treatments. Instructor and IPM Group Project Leader for NY Botanical Garden Professional School of Horticulture.

Lamont-Doherty Earth Observatory, 1996-1999

Restored and maintained the 75-year-old estate and research facility campus, including a 30-tree apple orchard, a formal garden, 7 research buildings, and 125 acres of large trees and shrubs.

Mr. Gable's additional professional activities include:

Lectures/Continuing Education provided to local arborist businesses; NYS Arborists; Cornell Cooperative Extension; NYS Turf Grass Association; US Military Academy at West Point; Town of Orangetown Highway and Building Department; National Parks Service-Northeast Quadrant; NYC Parks Dept.; various green industry associations (garden clubs, Nursery Associations, etc.); Rutgers Cooperative Extension; Rutgers University Continuing Education Program; Regional Golf Course Superintendent Association; and Martha Stewart Living Omnimedia. Pesticide training program provided to landscape and nursery professionals, NY State Arborists, and NYS Nuserymen's Association.

Project Coordinator and Adjunct Teacher for the Rockland Community College Horticulture Program. Courses taught were Ornamental Plant Identification; Soils; Plants, Pests and Disease with Practicum.

Cornell Cooperative Extension: - Co-developed and coordinated a state-of-the-art IPM Training Course and co-authored a manual for state-wide use (the manual was adopted by Cornell University and distributed to extension agents state-wide); co-developed and lectured a yearly IPM Training Program. Implemented a Cornell University grant to monitor and teach IPM scouting techniques to multiple golf courses.

Chairman and Committee Member of the Town of Orangetown Shade Tree Committee for 12 years. Implemented the Town of Orangetown Shade Tree Planting Program and updated local land development laws.

Town of Orangetown Arborist

Member of Rockland County committee formed on Pest Management with a focus on pesticide reduction.

New York State Arborists- Southeast District Governor

Mr. Gabel's professional memberships include:

International Society of Arboriculture; NYS Arborist Association NY-0215A;

NYSDEC Pesticide Applicator C3-193355

III. IPM METHODOLOGY AND IMPLEMENTATION

This section addresses each of the requirements of the Site Plan Approval Resolution pertaining to the IPM program at MBIA.

A. MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

MBIA implemented its IPM program in July 2003 (Appendix B) at its existing headquarters site and the Cooney Hill area.

Cooney Hill Area

The program for the Cooney Hill lots to-date is demolition and removal of the vacant homes (completed), and conversion of the former lawn areas to meadow (completed) with no application of any fertilizers or pesticides (on-going). This area will remain dormant without any control of insects or use of fertilizers until the proposed Meeting House, headquarters building expansion, and parking garage are constructed in the future with associated landscaping installed.

As depicted on Figure 2, a large portion of the Cooney Hill property in the future with project buildout will be under IPM Management Zone 1, where "existing wooded areas to remain and proposed meadow area and stormwater management basin shall not be treated with pesticides, fertilizers, or herbicides". This is the same condition as exists today throughout the entire Cooney Hill area.

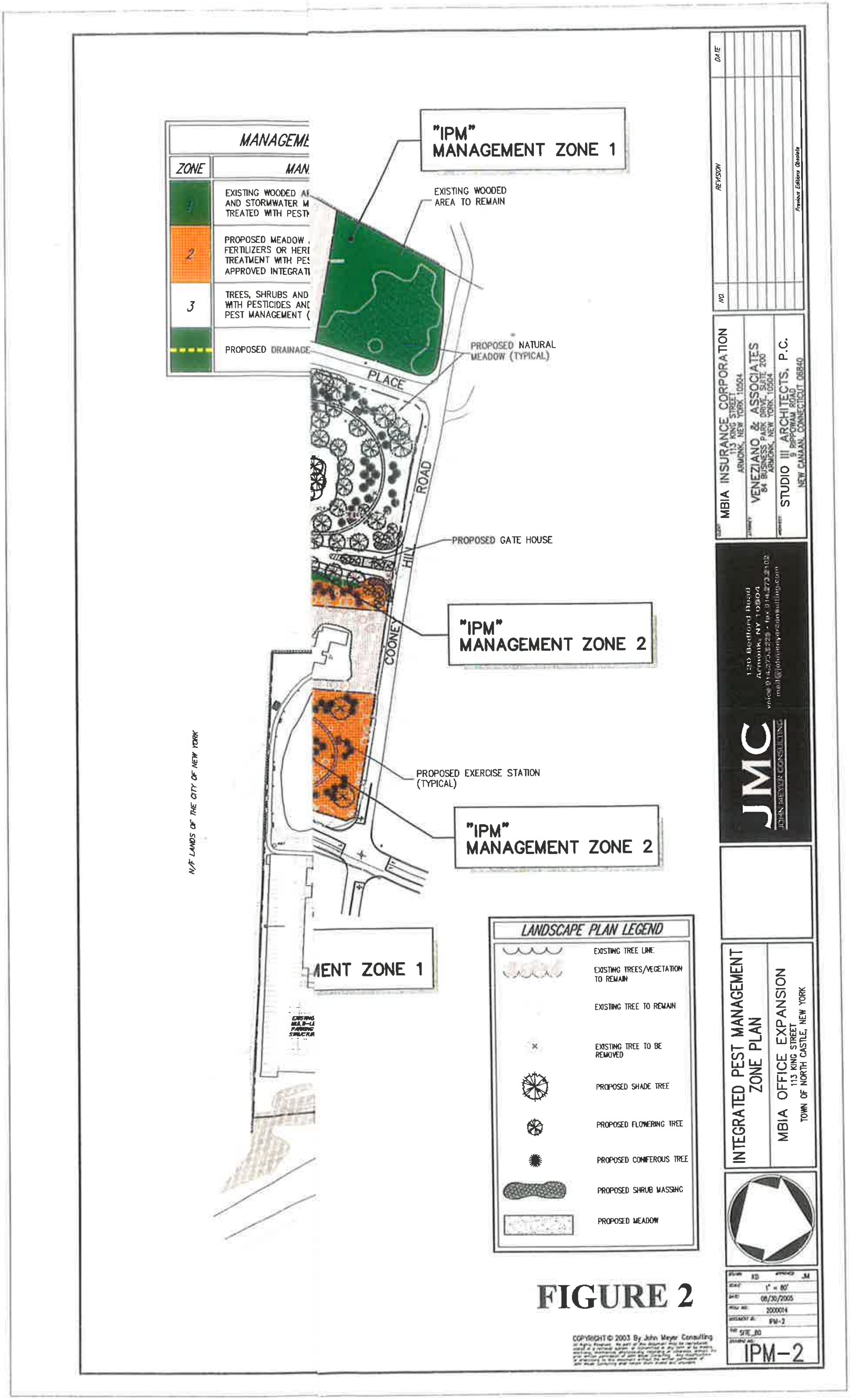

MANAGEME
ZONE
MAN
EXISTING WOODED AI AND STORMWATER M TREATED WITH PESTI
PROPOSED MEADOW FERTILIZERS OR HERI TREATMENT WITH PES APPROVED INTEGRATI
TREES, SHRUBS AND WITH PESTICIDES AND PEST MANAGEMENT (
PROPOSED DRAINAGE
"IPM" MANAGEMENT ZONE 1
EXISTING WOODED AREA TO REMAIN
PROPOSED NATURAL MEADOW (TYPICAL)
PLACE
ROAD
HILL
COONEY
PROPOSED GATE HOUSE
"IPM" MANAGEMENT ZONE 2
PROPOSED EXERCISE STATION (TYPICAL)
"IPM" MANAGEMENT ZONE 2
N/F LANDS OF THE CITY OF NEW YORK
MENT ZONE 1
LANDSCAPE PLAN LEGEND
EXISTING TREE LINE
EXISTING TREES/VEGETATION TO REMAIN
EXISTING TREE TO REMAIN
EXISTING TREE TO BE REMOVED
PROPOSED SHADE TREE
PROPOSED FLOWERING TREE
PROPOSED CONIFEROUS TREE
PROPOSED SHRUB MASSING
PROPOSED MEADOW
DATE
REVISION
NO.
MBIA INSURANCE CORPORATION
113 KING STREET ARMONK, NEW YORK 10504
VENEZIANO & ASSOCIATES
84 BUSINESS PARK DRIVE, SUITE 200 ARMONK, NEW YORK 10504
STUDIO III ARCHITECTS, P.C.
9 RIPPOWAM ROAD NEW CANAAN, CONNECTICUT 06840
JMC
JOHN MEYER CONSULTING
120 Bedford Road Armonk, NY 10504
INTEGRATED PEST MANAGEMENT ZONE PLAN
MBIA OFFICE EXPANSION
113 KING STREET TOWN OF NORTH CASTLE, NEW YORK
1" = 80'
08/30/2005
2000014
IPM-2
SITE_80
IPM-2
COPYRIGHT © 2003 By John Meyer Consulting

FIGURE 2

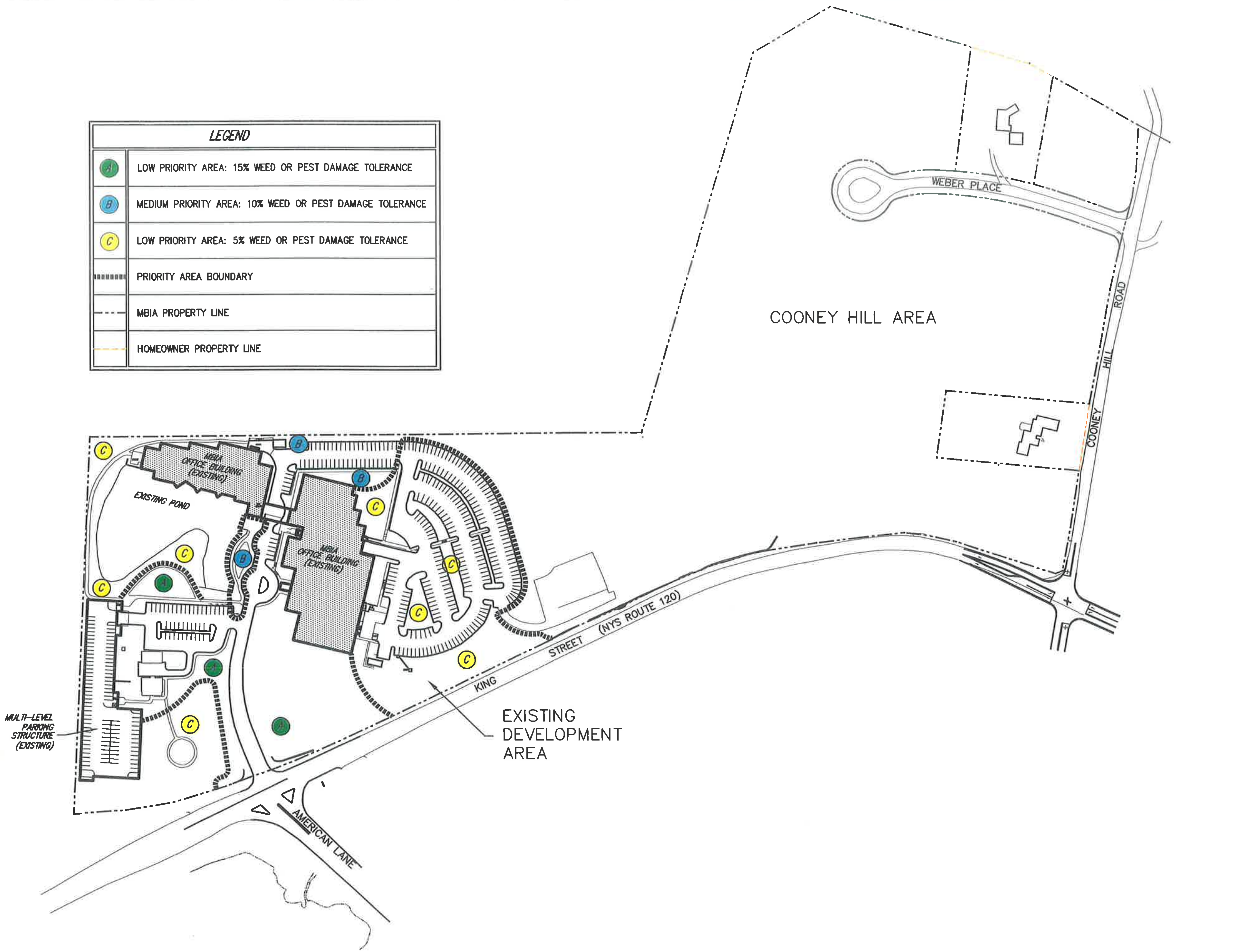
The three IPM Management Zones for the MBIA property, as depicted on Figure 2, are as follows:

Zone	Management Plan
1	Existing wooded areas to remain and proposed meadow areas and stormwater management basin plantings shall not be treated with pesticides, fertilizers or herbicides.
2	Proposed meadow areas shall not treated with pesticides, fertilizers or herbicides. Proposed trees shall be subject to treatment with pesticides, fertilizers, and herbicides based on approved Integrated Pest Management (IPM) program.
3	Trees, shrubs and turfgrass shall be subject to treatment with pesticides and fertilizers based on approved Integrated Pest Management (IPM) program.

Existing Headquarters Site

The existing MBIA headquarters site has been under IPM program management since July 2003 (Appendix B). As discussed within Appendix B, the IPM program consists of a routine, organized, and documented monitoring program. Two groups of plants are carefully monitored: turf grass (lawn areas), and herbaceous ornamentals (decorative landscaping). Within these groupings, the site has been further subdivided into areas of varying damage thresholds, with set protocols to initiate IPM treatments (Figure 3). These consist of low priority areas (where 15% weeds or pest damage is tolerated), medium priority areas (where 10% weeds or pest damage is tolerated), and high priority areas where 5% weeds or pest damage is tolerated.

Damage is spot treated wherever possible, with no blanket treatments of these areas unless judged necessary by the evaluated existing conditions. The lawn areas, for example, are in overall healthy condition, with damage spot-treated on a case-by-case basis. This treatment regime keeps the remainder of the lawn healthy, which in turn helps minimize the further spread of pest and weed damage. A similar situation applies to ornamental plantings, where



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KEYMAP.DWG

MBIA HEADQUARTERS EXPANSION

IPM MANAGEMENT ZONES (EXISTING SITE)

JMC PROJECT: 2000014

DATE: 08/30/2005

FIGURE: 03

generally a higher level of insect damage is tolerated. Generally, the level of harmful insects is controlled by other insects and/or insect diseases, creating an equilibrium. Should there be a situation where the harmful insects start to change this equilibrium for the worse, spot treatments are then initiated per plant or, where evaluated as necessary, a larger area to the minimum extent necessary.

As depicted on Figure 3, the areas of least tolerance for weeds or pest damage are those most visible for visitors (along the entry driveway and adjacent to the visitor's parking lot) and the areas adjacent to the existing buildings. Other lawn areas and planting areas, including the rear employee parking lot, are programmed for higher levels (10%-15%) of weeds or pest damage.

B. The health of landscape planting shall be assessed by a professional experienced in the practice of Integrated Pest Management.

Section II of this report details the professional qualifications of Mr. Donald Gabel, MBIA's IPM specialist.

Appendices B, C, and D contain Mr. Gabel's field reports which document the regular assessment of the health of MBIA's landscape plantings.

C. The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

Appendices B, C, D and E contain Mr. Gabel's documentation of specific landscape health deterioration and pest infestations, along with prescriptions for remedial action programs consistent with the IPM product/action "Toolkit".

Information concerning the products contained within the MBIA IPM Toolkit is within Appendix F. These products are the only ones to be used on the property, and only under the recommendation and guidance of Mr. Gabel to respond to a specific, localized situation where other courses of action have already been used or would not be effective.

For example, in many cases the pruning of infested/damaged branches has been sufficient to control pests. In other instances, infested plants have been removed and replaced with either healthy plants of the same species, or a different species more resistant to the specific pest within that specific location. Also, infestations such as bagworm have been controlled with removal of the bagworms by hand. Natural products such as horticultural or vegetable oil, horticultural soap, and biological controls are included within the IPM Toolkit. The objective of the IPM Toolkit is to use the least impactful method applied to the least area possible to deal with the particular pest problem. The purpose of the monitoring program is to identify potential pest issues early that are above the established tolerance thresholds, so they can be dealt with before the problem becomes larger.

D. Only low phosphorous fertilizers shall be used.

Fertilizing is an important lawn care practice, as it influences grass color, ability to recover from stress, and helps prevent weed invasions and disease.

Nitrogen (N), phosphorus (P), and potassium (K) are the three major nutrients needed by lawns. Nitrogen is the nutrient required most, although too much nitrogen can cause excessive topgrowth, leading to assorted problems. Percent nitrogen (by weight) is always the first of three numbers on the fertilizer bag, followed by phosphorus and potassium. For example, a 18-6-12 fertilizer contains 18 percent nitrogen. This number is important because it determines how much fertilizer is needed. In most cases, a rate of 1 pound of nitrogen per 1,000 square feet is suggested for each fertilizer application to the lawn. If high percentage nitrogen fertilizers are used, then less actual fertilizer product is needed to supply that one pound compared to fertilizers with low percent nitrogen. Recommended ratios of N-P-K for lawn fertilizers include 3:1:2 or 4:1:2. (Source: University of Illinois Extension web site.)

The fertilizers utilized by MBIA are high in nitrogen and low in phosphorus (20-3-4 and 25-2-5) or contain no phosphorus (14-0-14). As discussed above, these high percentage nitrogen fertilizers require less fertilizer to be applied. Also, the ratio of phosphorous within MBIA's fertilizers is less than that recommended above for general lawn care.

E. **Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceed established threshold levels – low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.**

This issue is discussed within Section III.A. of this report, and is illustrated on Figure 3.

Two groups of plants are carefully monitored: turf grass (lawn areas), and herbaceous ornamentals (decorative landscaping). Within these groupings, the site has been further subdivided into areas of varying damage thresholds, with set protocols to initiate IPM treatments (Figure 3). These consist of low priority areas (where 15% weeds or pest damage is tolerated), medium priority areas (where 10% weeds or pest damage is tolerated), and high priority areas where 5% weeds or pest damage is tolerated.

Damage is spot treated wherever possible, with no blanket treatments of these areas unless judged necessary by the evaluated existing conditions. The lawn areas, for example, are in overall healthy condition, with damage currently spot-treated on a case-by-case basis. This treatment regime keeps the remainder of the lawn healthy, which in turn helps minimize the further spread of pest and weed damage. A similar situation applies to ornamental plantings, where generally a higher level of insect damage is tolerated. Generally, the level of harmful insects is controlled by other insects and/or insect diseases, creating equilibrium. Should there be a situation where the harmful insects start to change this equilibrium for the worse, spot treatments are then initiated per plant or, where evaluated as necessary, a larger area to the minimum extent necessary.

As depicted on Figure 3, the areas of least tolerance for weeds or pest damage are those most visible for visitors (along the entry driveway and adjacent to the visitor's parking lot) and the areas adjacent to the existing buildings. Other lawn areas and planting areas, including the rear employee parking lot, are programmed for higher levels (10%-15%) of weeds or pest damage.

F. **Except for ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed Meeting House, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.**

As illustrated on Figure 2, the portion of the Cooney Hill area that contains the former drainage area PDA-2A (which has subsequently been divided into three component drainage areas, PDA-2C, PDA-2D, and PDA-2A), is entirely within IPM Management Zone 1, where "existing wooded areas to remain and meadow area and stormwater management basin shall not be treated with pesticides, fertilizers, or herbicides." This is the same condition as exists today throughout the entire Cooney Hill area, which is currently undeveloped.

G. **In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.**

As illustrated on Figure 2, IPM Management Zone 1 specifies that "existing wooded areas to remain and proposed meadow area and stormwater management basin shall not be treated with pesticides, fertilizers, or herbicides."

H. **<u>MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken, by location during the preceding year.</u>**

These reports are contained within Appendix B (2003), Appendix C (2004), and Appendix D (2005 year-to-date).

IV. APPENDICES

The Appendices follow this page.

APPENDIX A

"Eighth Site Plan, Wetlands Permit and Tree Removal Permit Approvals" Resolution, dated 09/13/2004, Town of North Castle Planning Board

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

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PLANNING BOARD
Douglas P. Cassetta, Chairman

RESOLUTION

Action:	Eighth Site Plan, Wetlands Permit and Tree Removal Permit Approvals
Application Name:	MBIA Headquarters Expansion
Owner/Applicant:	MBIA Insurance Corporation
Designation:	Section 3, Block 4, Lot 3A Section 3, Block 4, Lot 3B, Section 3, Block 4, Lots 3, 3A1, 3C, 3D, 3F, 3G, 3G1, 3H, 3.1, 3.3, 3.4, 3.6, 3.7, 3.8, and 3.9
Zone:	DOB-20A Zoning District
Acreage:	35.97-acres
Location:	Route 120 (King Street)
pproval Dates:	September 16, 1996
mended Approval:	October 7, 1996
econd Amended Approval:	February 10, 1997
hird Amended Approval:	May 5, 1997
ourth Amended Approval:	January 26, 1998
ifth Amended Approval:	August 10, 1998
ixth Amended Approval:	April 26, 1999
eventh Amended Approval:	December 13, 1999
xpiration of Approval:	December 13, 2000
Eighth Date of Approval:	September 13, 2004
Eighth Expiration Date:	September 13, 2005

WHEREAS, MBIA submitted an application for Eighth Amended Site Plan Approval to the Planning Board and the requisite fee was paid; and

WHEREAS, by resolution dated October 7, 1996 the Planning Board granted Amended Site Plan Approval to MBIA for expansion of its corporate headquarters from 155,618 square feet to a total of 235,000 square feet and for the construction of a parking garage to serve the office building expansion; and

WHEREAS, by resolution dated February 10, 1997, the Planning Board granted a Second Amended Site Plan Approval to MBIA associated with installation of canopies at various entrances; and

WHEREAS, by resolution dated May 5, 1997, the Planning Board granted Third Amended Site Plan Approval associated with changes in the parking plan and the incorporation of additional landscaping; and

WHEREAS, by resolution dated January 26, 1998, the Planning Board granted Fourth Amended Site Plan Approval associated with modest modifications to the building footprint, caused by revised internal layouts and structural considerations; and

WHEREAS, by resolution dated August 10, 1998, the Planning Board granted Fifth Amended Site Plan Approval associated with the following: (1) creation of additional basement floor area consisting of 14,356 square feet of amenity space and 11,768 square feet of storage space; (2) creation of a secondary temporary building access for use by construction workers and employees as well as the installation of a second means of egress (fire escape) from the generator room located at the southwest corner of the parking structure; (3) amendment by the Town Board, to relocate the then existing Conservation Easement from Lot 3A to Lot 3A-1; (4) granting of a use variance by the Zoning Board of Appeals to permit a temporary construction and secondary emergency access over the residentially zoned Lot 3A-1 parcel; and (5) the creation of an end-use plan for the northern half of the site which provided for the future construction of 68 landbanked parking spaces, a tennis and basketball court, paved walking trails and landscaping; and

WHEREAS, the Fifth Amended Site Plan approval resulted in a total floor area of 261,124 square feet, including the approved basement. The parking requirement for office space is one parking space for each 350 square feet of floor area. Accordingly, the parking requirement for 235,000 square feet is 672 parking spaces. The MBIA site presently contains 310 parking spaces in the existing parking garage and an additional 362 parking spaces at grade for a total of 672 parking spaces. The parking requirement for 235,000 square feet of office space is satisfied. If, however, the entire 261,124 square feet of building area were used for the calculation of required parking, a total of 746 spaces would be required; and

WHEREAS, the Sixth Amended Site Plan Application involved the construction of a stairway and overpass to connect the two existing buildings and the construction of a trash compactor enclosure along the rear property line; and

WHEREAS, by resolution December 13, 1999, the Seventh Amended Site Plan Application, which involved the construction of a salt storage structure, to use the previously approved temporary construction access on NYS Route 120 as a permanent emergency access drive, and to modify the configuration of the previously approved landbanked parking was approved; and

WHEREAS, MBIA Insurance Corporation (hereinafter "MBIA") is the owner of certain property known on the Tax Assessment Map of the Town of North Castle as Section 3, Block 4, lot 3A Section 3, Block 4, lot 3B, Section 3, Block 4, lots 3, 3A1, 3C, 3D, 3F, 3G, 3G1, 3H, 3.1, 3.3, 3.4, 3.6, 3.7, 3.8, and 3.9, parcels of approximately 35.97 acres in size on which is located the 261,000 square foot MBIA Corporate Headquarters; and

WHEREAS, beginning in 1998 and as part of the planned expansion of its corporate headquarters, MBIA acquired 15 of the 17 lots in the Cooney Hill Area, which lots are shown on the Tax Assessment Map of the Town of North Castle as Section 3, Block 4, lots 3, 3A1, 3C, 3D, 3F, 3G, 3G1, 3H, 3.1, 3.3, 3.4, 3.6, 3.7, 3.8, and 3.9; and

WHEREAS, this application is based on MBIA's intention to develop an additional 165,000 square feet of office space on its property, together with 53,000 square feet of additional amenity space and a 20,000 square foot meeting house, thereby increasing the size of its corporate headquarters from approximately 235,000 square feet of office space and 26,000 square feet of amenity space to approximately 400,000 square feet of office space and 99,000 square feet of amenity space, including the proposed meeting house; and

WHEREAS, on January 8, 2002, in connection with this proposed building expansion, MBIA submitted an application to the Town Board requesting the following items:

1. The rezoning of the Cooney Hill lots from their existing zone of R-1A (one-family residence) to DOB-20A (Designed Office Business);

2. The adoption of an amendment to the Town Zoning Ordinance to amend the special permit provisions which govern the development of DOB-20A sites which are being developed as transferee sites;

3. Approval of the preliminary development concept plan showing the proposed expansion of the MBIA corporate headquarters;

4. Adoption of an amendment to the Development Plan Map in conjunction with the 1996 Town Comprehensive Plan Update to correspond with the text of the 1996 Town Comprehensive Plan Update by indicating that the Cooney Hill lots are appropriate for office development; and

5. Approval of the extinguishment of the restriction that burdened Section 3, Block 4, lot 3A1, which restriction was entitled "Amended Declaration of Covenants and Restrictions" executed by MBIA and recorded in the Westchester County Clerk's Office, Division of Land Records, which declaration restricted MBIA's use of said lot; and

WHEREAS, the site plan, wetlands permit and tree removal applications consist of the following drawings:

- Plan labeled "CS," entitled "Cover Sheet," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "EC-1," entitled "Existing Conditions Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "EC-2," entitled "Existing Conditions Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-1," entitled "Layout Plan," dated January 8, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-2," entitled "Layout Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-3," entitled "Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-4," entitled "Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-5," entitled "Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-6," entitled "Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-7," entitled "Sediment and Erosion Control Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-8," entitled "Sediment and Erosion Control Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-9," entitled "Landscape Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-10," entitled "Landscape Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-11," entitled "Tree Protection Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-12," entitled "Tree Protection Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-13," entitled "Storm Profiles," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-14," entitled "Storm Profiles," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-15," entitled "Construction Details," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.

- Plan labeled "SP-16," entitled "Construction Details," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting
- Plan labeled "SP-17," entitled "Construction Details," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-18," entitled "Lighting Plan," dated August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "SP-19," entitled "Lighting Plan," dated August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-1," entitled "Phase 1 Layout Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-2," entitled "Phase 1 Layout Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-3," entitled "Phase 1 Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-4," entitled "Phase 1 Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-5," entitled "Phase 1 Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-6," entitled "Phase 1 Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-7," entitled "Phase 1 Landscaping Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-1-8," entitled "Phase 1 Landscaping Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-1," entitled "Phase 2 Layout Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-2," entitled "Phase 2 Layout Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-3," entitled "Phase 2 Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-4," entitled "Phase 2 Grading Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-5," entitled "Phase 2 Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-6," entitled "Phase 2 Utilities Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-7," entitled "Phase 2 Landscaping Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.
- Plan labeled "PH-2-8," entitled "Phase 2 Landscaping Plan," dated January 8, 2004, last revised August 5, 2004, prepared by John Meyer Consulting.

- Plan labeled "WB-1," entitled "Wetland Buffer Planting Plan," dated May 9, 2003, last revised June 4, 2004, prepared by Evans Associates.
- Plan labeled "WB-2," entitled "Detention Basin Planting Plan," dated May 9, 2003, last revised June 4, 2004, prepared by Evans Associates.
- Plan labeled "A-107," entitled "Parking Plan @ Service Level," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-108," entitled "Parking Plan @ Level 0," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-109," entitled "Parking Plan @ Level 1," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-110," entitled "Parking Plan @ Level 2," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-111," entitled "Parking Plan @ Level 3," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-112," entitled "Parking Plan @ Level 4," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.
- Plan labeled "A-113," entitled "Parking Plan @ Level 5," dated November 13, 2003, last revised August 2, 2004, prepared by Studio III Architects, P.C.

WHEREAS, on March 7, 2002 and in conjunction with the aforesaid application, the North Castle Town Board was designated as Lead Agency for coordinated review of the entire action and the Town Board issued a positive declaration with a direction to prepare a Draft Environmental Impact Statement ("DEIS"); and

WHEREAS, the Town Board conditionally accepted the DEIS on October 9, 2002; and

WHEREAS, the DEIS and the Notice of Completion were filed by the Town Board on October 23, 2002; and

WHEREAS, the Town Board held a public hearing on the DEIS on November 20, 2002; and

WHEREAS, the public comment period on the DEIS ended on December 20, 2002; and

WHEREAS, the Town Board conditionally accepted the Final Environmental Impact Statement ("FEIS") on September 10, 2003 and the Town Board filed the FEIS and the Notice of Completion on September 12, 2003; and

WHEREAS, the Town Board carefully considered the complete record and measures intended to mitigate any and all significant impacts to the environment that might be caused by this development; and

WHEREAS, the Town Board adopted a Findings Statement on the MBIA Headquarters expansion on October 8, 2003, and the Town Board concluded that the MBIA Headquarters expansion assessed in the FEIS, in conjunction with mitigation measures specified in the DEIS and the FEIS and the Findings Statement, was an action which minimized or avoided adverse environmental effects to the maximum extent practicable; and

WHEREAS, the environmental review conducted in connection with the January 8, 2002 application fully considered the environmental impacts and mitigation measures associated with the special permit approval for the proposed development and, therefore, no further SEQRA compliance will be necessary in connection with such an application; and

WHEREAS, by resolution dated October 8, 2003, the Town Board approved the zone map amendments required to rezone the Cooney Hill lots from the R-1A district to the DOB-20A district and granted preliminary development concept plan approval with mitigating measures identified in the Environmental Findings Statement adopted October 8, 2003; and

WHEREAS, by resolution dated October 8, 2003, the Town Board of the Town of North Castle amended the Town Development Plan Map to delineate the Cooney Hill area as appropriate for office development, in conformity with the existing text of the Comprehensive Plan; and

WHEREAS, by resolution dated October 8, 2003, the Town Board adopted a resolution to extinguish the Amended Declaration of Covenants and Restrictions associated with the MBIA proposed headquarters expansion; and

WHEREAS, on October 8, 2003 the Town Board found that the requirements of Article VIII of the Environmental Conservation Law of the State of New York and the regulations promulgated thereunder were satisfied; and

WHEREAS, on January 8, 2004, in connection with the proposed building expansion, MBIA submitted an application to the Town Board for a special use permit and to demap a portion of Weber Place and, simultaneously therewith, an application was filed with the Planning Board for amended site plan approval; and

WHEREAS, on January 8, 2004, the Town Board reviewed the special permit application and referred it to the Planning Board for report and recommendation; and

WHEREAS, the Town of North Castle Planning Board reviewed the special use permit application at its regularly scheduled meeting on January 12, 2004; and

WHEREAS, on January 12, 2004, the Planning Board voted to issue a positive recommendation to the Town Board in support of the special use permit, subject to certain conditions; and

WHEREAS, on February 18, 2004, the Town Board scheduled the required public hearing on the special use permit application for March 10, 2004; and

WHEREAS, the proposed action was referred to the Westchester County Planning Board for its review and recommendation; and

WHEREAS, by a letter dated November 20, 2003, the Westchester County Planning Board reviewed the proposed action under the provisions of Section 239 L, M and N of the General Municipal Law and Section 277.61 of the County Administrative Code and indicated that the proposed action was consistent with *Patterns for Westchester*, the County's long-range land use planning policy document. In addition, the County had additional recommendations with regard to erosion control and stormwater management; and

WHEREAS, on March 17, 2004, the Town Board reconvened the required public hearing at the Town of North Castle Town Hall at 15 Bedford Road, Armonk, NY at which time all those wishing to be heard were given the opportunity to be heard and the hearing was closed on that date; and

WHEREAS, the Planning Board is aware that the applicant intends to develop the proposed project in three phases as follows: (1) The first phase consisting of removal of underground residential fuel oil tanks, removal of dead trees and pruning of healthy trees, the reconstruction of existing stone walls and the demolition of the existing Cooney Hill homes, construction of a graded earth berm up to six feet in height along King Street to shield the Cooney Hill area, the construction of walking paths and a fitness circuit to provide recreational opportunities for MBIA employees, and the construction of new stone walls around the perimeter of the property; (2) The second phase will include the construction of the meeting house and the storm water detention area located to the south of the meeting house; and (3) The third phase will consist of the construction of the corporate headquarters expansion together with the new parking structure; and

WHEREAS, the Town has requested, received and considered comments from the New York City Department of Environmental Protection (NYCDEP), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Transportation (NYSDOT), the Town of North Castle Conservation Board, Town Attorney, the Town Engineer, the Building Inspector and the Planning Consultant regarding the proposed development; and

WHEREAS, the Planning Board members have inspected the site and are familiar with the nature of the site, the surrounding area and the proposed development; and

WHEREAS, the requirements of the Zoning Ordinance, the Subdivision Regulations and the Town Development Plan of the Town of North Castle have been met by the site plan application;

WHEREAS, the special permit application for the MBIA property was determined by the Town Board to meet the specific special use permit requirements as set forth in §213-33(Q) as follows:

1. The property is currently zoned Designed Office Building (DOB-20A) District;

2. The property is a "transferee site" pursuant to a resolution of the Town Board adopted on January 26, 1988, which approved the transfer of approximately 59,716 sq. ft. of development rights from the Kingswood Corporate Office Park parcel to the subject premises;

3. The property was initially rezoned to DOB-20A at a reduced site size of 14.29 acres;

4. The property is located immediately adjacent to NYCDEP watershed lands; and

5. At least 90% of the parking will be accommodated in a structured parking garage. The total number of on-site parking spaces following the proposed expansion will be 1,254. Of those spaces, 1,203 will be in structured parking garages and 51 will be at-grade, for a total of 96% structured parking spaces; and

6. The development site will consist of on-site amenities to include 53,000 sq. ft. of amenity space and 20,000 sq. ft. of space in an on-site meeting house for a total of 99,000 square feet of amenity space, including the existing 26,000 square feet of amenity space; and

WHEREAS, the Town Board previously found, pursuant to §213-30 of the Zoning Ordinance that the following conditions and standards have been met:

1. The location and size of the use, the nature and intensity of the operations involved in it or conducted in connection with it, the size of the site in relation to it and the

location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located in that it complies with all special requirements for such use established in this chapter;

2. The location, nature and height of buildings, walls, fences and the nature and extent of existing or proposed planting on the site are such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings;

3. Operations in connection with the special permit use will not be more objectionable to nearby properties by reason of noise, fumes, vibrations, or other characteristics than would be the operations of any permitted uses not requiring a special permit; and

4. Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum convenience and safety; and

WHEREAS, a special use permit was conditionally granted by the Town Board on March 24, 2004; and

WHEREAS, the Conservation Board in its May 13, 2004 memorandum to the Planning Board unanimously recommended approval of the wetland permit with the following observations and recommendations:

i. Reconstruction of the NYCDEP stone wall.

ii. Identification and documentation of old stone walls and preservation of those walls where possible.

iii. Replacement of sugar maples along Route 120.

iv. The removal of dead and unhealthy trees.

v. That a conservation easement be placed in the vicinity of the wetland and across the westerly portion of the property.

WHEREAS, the Architectural Review Board (ARB) granted approval for the meeting house, office building and parking garage on July 7, 2004; and

WHEREAS, the Applicant is not proposing to disturb any Town-regulated wetland; and

WHEREAS, the Applicant is proposing to disturb a total of 846 square feet of Town-regulated wetland buffer during Phase I and Phase II and an additional 10,120 square feet of Town-regulated wetland buffer disturbance during Phase III; and

WHEREAS, the Planning Board opened and closed a Public Hearing on August 16, 2004, regarding the required wetlands permit application; and

WHEREAS, the Applicant is proposing the removal of 345 Town-regulated trees, 9 of which are Town-regulated Significant Trees; and

WHEREAS, the Applicant is proposing a garage height of 55 feet; and

WHEREAS, a zone text amendment was granted by the Town Board permitting an increase in the permitted height of a parking structure above 3 stories/45 feet as determined by the Planning Board; and

WHEREAS, all buildings are required to be located at a distance no less than 150 feet from the street on which such building has frontage (except as permitted pursuant to Section 213-33Q(3) of the Town Code), except that gate houses, bus stop shelters and security offices, where such buildings are one story in height, may be located at a distance not less than 25 feet from the street, and one-story accessory buildings may have such lesser setback when approved by the Planning Board; and

WHEREAS, the proposed gate house is located 40 feet from Cooney Hill Road; and

WHEREAS, no building shall be located at a distance less than 300 feet from side and rear boundaries of the lot, except that where a contiguous lot is in a nonresidential zoning district, such distance may be reduced to not less than 100 feet on each side where such lots adjoin, and except that accessory buildings of two stories or less may have such lesser setbacks when approved by the Planning Board, in connection with its action on a site plan; and

WHEREAS, the proposed accessory meeting house building is proposed to be located 178 feet from the Takeda property line and 27 feet from the Weber Place right-of-way; and

WHEREAS, the application provides for a total of 1,254 parking spaces, thereby satisfying the parking requirement for the 400,000 square feet of office space within the existing buildings. In the event that the approximately 99,000 square feet of amenity area is used for office space, the Applicant would be required to seek Amended Special Use Permit Approval from the Town Board and Amended Site Development Plan Approval from the Planning Board for the construction of the total required amount of off-street parking; and

WHEREAS, the Planning Board has inspected the site and is familiar with the nature of the site, the surrounding area, and the proposed development; and

WHEREAS, the Planning Board has requested, received, and considered comments from the Town Attorney, Town Engineer and Town Planner regarding the proposed development; and

WHEREAS, the requirements of the Zoning Ordinance of the Town of North Castle have been met by said Application; and

WHEREAS, the Town Board, acting as Lead Agency for the environmental review of the proposed actions, after due deliberation, adopted an "Environmental Findings Statement" on October 8, 2003; and

WHEREAS, the Planning Board, acting as an Involved Agency for environmental review of the proposed actions, after due deliberation, adopted its own "Environmental Findings Statement" on August 16, 2004; and

WHEREAS, the Planning Board has satisfied the procedural requirements of Article 8 of the Environmental Conservation Law and the Regulations promulgated thereunder contained in 6 NYCRR 617; and

WHEREAS, based upon the entire record presented to the Planning Board, as well as the Findings made in the Environmental Findings Statement, a copy is which is hereby incorporated by reference, the Planning Board believes there is compelling evidence to support the proposed site development plan, wetlands permit and tree removal permit approvals; and

BE IT RESOLVED, that the Application for eighth amended site plan, wetlands permit and tree removal permit approvals be, and it hereby is, granted, and the Planning Board Chairman is authorized to sign the Final Site Plan subject to the conditions identified below; and

BE IT FURTHER RESOLVED, that the Planning Board, for the reasons set forth in this resolution and based upon the entire record herein finds that the proposed height of the parking structure at five (5) stories and fifty-five (55) feet is appropriate pursuant to §213-33(Q)(3)(p) of the Zoning Ordinance; and

BE IT FURTHER RESOLVED, that the Planning Board, for the reasons set forth in this resolution and based upon the entire record herein finds that the height of the proposed expansion shall be calculated as set forth in the definition of height, utilizing the average level of the finished grade adjacent to the exterior walls of the building; and

BE IT FURTHER RESOLVED, that for the reasons set forth in this resolution and based upon the entire record herein the Planning Board hereby approves the additional height of the mechanical structures on the roof of the proposed headquarters expansion as provided in §213-14(E); and

BE IT FURTHER RESOLVED, that the proposed accessory meeting house building is permitted to have a reduced setback of 27 feet from Weber Place and the proposed gate house is permitted to be located 40 feet from Cooney Hill Road; and

BE IT FURTHER RESOLVED, that the proposed accessory meeting house is permitted to have a reduced setback of 178 feet from the Takeda property line; and

BE IT FURTHER RESOLVED, that this approval shall expire on September 13, 2005 if no further extension of time has been requested or granted by the Planning Board.

Prior to the Signing of the Site Plan:
(The initials of the appropriate Town Official and date shall be placed in the space below to indicate that the condition has been satisfied)

_________ 1. The site plan shall be revised to depict a minimum of four (4) off-street loading spaces that meet the minimum size requirements of the Town Code to the satisfaction of the Town Planning Consultant.

_________ 2. The zoning conformance table shall be revised to indicate that the proposed meeting house is 20,000 square feet to the satisfaction of the Town Planning Consultant.

_________ 3. The Applicant shall prepare a detailed Integrated Pest Management plan to the satisfaction of the Town Planning Consultant demonstrating how each of the goals and objectives of the Integrated Pest Management plan described in the FEIS will be implemented. Specifically, the IPM shall address the following:

- MBIA will implement the IPM Plan at both its existing headquarters site as well as the Cooney Hill lots.

- The health of landscape planting shall be assessed by a professional experienced in the practice of integrated pest management.

- The IPM professional shall report any deterioration in the health of the landscaping or pest infestations and prescribe a remedial action program consistent with the most environmentally sensitive agents and maintenance as is practicable.

- Only low phosphorous fertilizers shall be used.

- Appropriate treatment measures will only be undertaken when weed and/or pest damage has exceeded established threshold levels – low priority area will tolerate 15% weeds or pest damage, medium priority area 10%, and high priority area 5%.

- Except of ornamental and/or decorative landscaping and ground covers in the area immediately adjacent to the proposed meetinghouse, refrain from use of pesticides, herbicides, or fertilizers in the drainage area that will discharge from PDA-2A and ultimately run into the Kensico reservoir unless such use is required to protect public health.

- In IPM Management Zone 1, there shall be no use of pesticides or fertilizers or herbicides.

- MBIA or its professional independent contractors shall prepare and submit annual reports to the Town, which will include periodic landscape inspection reports and a description of remedial action taken, by location, during the preceding year.

__________ 4. The plans shall be revised to label the existing Sugar Maple Trees as identified in the March 15, 2004 letter to MBIA from Alpine Nursery to the satisfaction of the Town Planning Consultant.

__________ 5. The plans shall be revised to depict a tree protection fence, to be erected on the Applicant's property, a radial distance of 31 feet from the trunk of Tree #15 (as identified in the March 15, 2004 letter to MBIA from Alpine Nursery).

_________ 6. The plans shall be revised to depict a tree protection fence, to be erected on the Applicant's property a radial distance of 40 feet from the trunk of Tree #16 (as identified in the March 15, 2004 letter to MBIA from Alpine Nursery).

_________ 7. The Applicant shall submit, as necessary and appropriate, final details to the satisfaction of the Town Engineer of site, final grading and storm drainage including quality and quantity mitigation for 2-100 year storm events, utility connections, sight lines and curbing, parking, construction phasing, driveway and pavement specifications, and site lighting.

_________ 8. Develop plan for the demolition/removal of Weber Place to the satisfaction of the Town Engineer.

_________ 9. Payment of all applicable fees, including any outstanding consulting fees.

_________ 10. The Applicant shall furnish the necessary documentation confirming that all taxes assessed against the property have been paid.

Prior to the Issuance of a Building Permit:
(The initials of the appropriate Town Official and date shall be placed in the space below to indicate that the condition has been satisfied)

_________ 1. The approved site plan shall be signed by both the Planning Board Chairman and the Town Engineer.

_________ 2. Prior to May 1, 2004 or prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), whichever is earlier, the Applicant shall be required to merge all individual building lots into one building lot to the satisfaction of the Town Attorney and the Tax Assessor.

_________ 3. Prior to May 1, 2004 or prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), whichever is earlier, the Applicant shall be required to revise the plat map to depict the dedication of the necessary amount of land adjacent to Cooney Hill Road to provide a right-of-way at least 25-feet in width from the centerline of the road to the satisfaction of the Town Engineer.

_________ 4. Prior to May 1, 2004 or prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), whichever is earlier, the

Applicant shall be required to submit evidence satisfactory to the Town Attorney demonstrating that a revised plat has been duly filed with Westchester County.

________ 5. Submission of documentation confirming that the New York City Department of Environmental Protection (NYCDEP) has approved the submitted Stormwater Pollution Prevention Plan (SPPP). Any significant changes, as determined by the Town Engineer, required by the NYCDEP not depicted on the plans approved by the Planning Board will require amended site plan approval from the Planning Board.

________ 6. Submission of documentation confirming that the New York State Department of Environmental Conservation (NYSDEC) has issued a State Pollution Discharge Elimination System permit (SPDES). Any significant changes, as determined by the Town Engineer, required by the NYSDEC not depicted on the plans approved by the Planning Board will require amended site plan approval from the Planning Board.

________ 7. Submission of a proposed plan detailing the responsibility and timing of a qualified consultant to monitor water quality during construction to assure full compliance with the SPPP and State water quality standards to the satisfaction of the Town Engineer (the plan may be contained in other documentation, e.g. SPDES Permit). It is noted that the plan shall indicate that all mitigation measures shall be owned and maintained by MBIA to the satisfaction of the Town Engineer.

________ 8. Submission of a proposed plan detailing the responsibility and timing of the management and maintenance program for the Stormwater Treatment System to be monitored by MBIA on an ongoing basis in accordance with a regular schedule (no less than twice each year) to the satisfaction of the Town Engineer (the plan may be contained in other documentation, e.g. SPPP).

________ 9. Submission of information detailing how MBIA will comply with the maintenance requirements set forth in the New York State Department of Environmental Conservation's Stormwater Design Manual's section covering Stormwater Ponds to the satisfaction of the Town Engineer (the information may be contained in other documentation, e.g. SPPP).

________ 10. The Applicant shall post a maintenance bond in the amount necessary to repair area roadways in the event that construction traffic creates impassable conditions to the satisfaction of the Town Engineer and the Town Attorney.

________ 11. For construction requiring blasting, in order to minimize adverse effects from rock drilling, blasting, and excavations activities, the Applicant shall prepare a protection and monitoring program in accordance with the Town of North Castle Town Code (Chapter 71) to the satisfaction of the Town Engineer. Rock crushing operations shall not be permitted without explicit approval from the Planning Board.

________ 12. All residential wells on properties owned by MBIA shall be abandoned to the satisfaction of the Town Engineer as per the requirements listed in Bulletin 42, "Ten State Standards" (1997, Mississippi River Board of State and Provincial Public Health and Environmental Managers) and the Westchester County Department of Health.

________ 13. All competing vegetation shall be removed from tree protection areas and replaced with organic mulch at a 3"-4" depth for Sugar Maple Trees located on the Applicant's property (as referenced in the March 15, 2004 letter to MBIA from Alpine Nursery). In addition, the trees located on the Applicant's property shall be treated with a biostimulant. Finally, the small amount of dead wood shall be pruned out of each tree located on the Applicant's property. The Applicant shall submit information to the satisfaction of the Planning Consultant indicating that the above requirements were completed.

________ 14. The Applicant shall submit a final site safety program for each phase of construction to the satisfaction of the Town Engineer and the Building Inspector.

________ 15. Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), MBIA shall be required to memorialize a restriction on development, to the satisfaction of the Town Attorney, foregoing any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA.

________ 16 Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), the Applicant shall provide an Engineer's Report and details of the proposed sewer connection to the Sewer District No. 3 pump station describing whether the current system can accommodate the proposed flows and whether there are any improvements or upgrades necessary to accommodate the proposed MBIA headquarters expansion to the satisfaction of the Town Engineer.

________ 17. Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), the Applicant shall be required to receive Westchester County approval of the Applicant's sewer petition to extent the boundaries of the Blind Brook Sewer District currently pending before the County to the satisfaction of the Town Attorney.

________ 18. Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), the Applicant shall be required to receive approval from the Town of North Castle Town Board extending the boundaries of Sewer District No. 3 to the satisfaction of the Town Attorney.

________ 19. Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), the Town Board shall be required to authorize the demapping of Weber Place, to the maximum extent practicable, and the removal of the pavement for same. All pavement removal shall be completed to the satisfaction of the Town Engineer.

________ 20. The Applicant shall secure, to the satisfaction of the Town Engineer, any approvals required by the New York State Department of Environmental Conversation and New York City Department of Environmental Protection. Any substantial changes, as determined by the Town Engineer, by any agency shall require amended site development plan approval by the Planning Board.

________ 21. Prior to the issuance of any Building Permit(s) for Phase II (the construction of the Meeting House), the Applicant shall secure, to the satisfaction of the Town Engineer, any approvals required by the Westchester County Health Department for the expansion of the water supply.

Prior to the Issuance of a Certificate of Occupancy:
(The initials of the appropriate Town Official and date shall be placed in the space below to indicate that the condition has been satisfied)

________ 1. An "as built" plan shall be submitted to the Town Building Inspector.

________ 2. The applicant shall pay, in an amount and manner determined appropriate by the Town Board, all site inspection review costs.

Other Conditions:

1. All references to "the Applicant" shall include the Applicant's successors and assigns.

2. Compliance with all applicable local laws and ordinances of the Town of North Castle and any conditions attached to permits issued thereunder.

3. Construction activities shall be limited to the hours specified in Section 137-19 of the Town Code.

4. On site amenities shall be limited to 6:00 AM to 8:00 PM, Monday through Friday. The outside multi-use athletic court shall be fitted with fixtures that direct light down and avoid spillage onto adjacent properties and King Street.

5. MBIA shall forego any future right to develop that portion of the Cooney Hill area which is immediately adjacent to New York City owned land, including the entire acreage of the lots on the west side of Weber Place formerly owned by Witherspoon, Schrecke, and Murray, and a 200 foot wide option of lots formerly owned by Mastroianni, McSpedon and Popoli. Such restriction shall also apply to the lot on the west side of Weber Place currently owned by Delago, if and when said lot is acquired by MBIA:

    i. Such restriction on development shall be memorialized, either prior to site plan approval or as a condition thereof in a conservation easement to an entity, mutually agreed upon by MBIA, the town , NRDC, and The Riverkeeper, which entity is committed to the preservation of open space in perpetuity for the purpose of protecting the Kensico Reservoir;

    ii. The establishment of the conservation easement area shall be irrevocable with respect to a 50 foot wide strip on the aforesaid properties, which strip is immediately adjacent to the NYCDEP property. The balance of the conservation easement area shall be revocable, the easement as to the revocable area may only be revoked if the following two conditions are met:

- MBIA has not constructed both the proposed office building and the associated parking structure; and

- MBIA sells the Cooney Hill lots to a third party for a standalone development.

- Notwithstanding said limitations on development, any such limitation or restriction would not prohibit improved pervious access such as pedestrian walking paths, water wells, utility lines, or stormwater management outfalls and other stormwater mitigation required by NYCDEP in connection with its approval of the Stormwater Pollution Prevention Plan to the extent that such mitigation cannot otherwise reasonably be placed outside of the conservation easement area, related to the duly approved re-development of the Project Site, or necessary to implement the mitigation features of the development, and any setback requirements shall not be affected by the conservation easement or restrictive covenants, nor shall any limitation so imposed reduce the lots area(s) for purposes of bulk and density requirements.

6. Existing stone walls on the site shall be retained in all areas not proposed for regrading or development, including all the stone walls along King Street and Cooney Hill Road. Existing perimeter stone walls shall be repaired and a new stone wall shall be constructed as necessary in order to provide a continuous stone wall along the entire King Street and Cooney Hill Road rights-of-way with the exception of the Takeda frontage.

7. All construction equipment shall be inspected periodically for fuel, oil and grease leaks. Fuel containers are to be located as far from wetlands and surface water as possible and are to be placed in fuel traps consisting of sand over impermeable materials such as plastic lining. On-site maintenance of construction equipment/vehicles shall not be permitted. These measures shall be enumerated in the contractor's contract.

8. The Proposed Action shall be required to comply with all requirements of the SPDES General Permit for stormwater discharge associated with construction activity in connection with controlling the project's environmental impacts during all phases of construction.

9. The Applicant shall be required to provide a new well, if necessary, for any homeowner impacted by interference caused by MBIA's proposed wells to the satisfaction of the Westchester County Department of Health and the Town Engineer.

10. The maximum area to be disturbed at any one time shall not exceed 5 acres.

11. The Applicant shall not be permitted to disturb any Town-regulated wetland. However, the Applicant is permitted to disturb a total of 846 square feet of Town-regulated wetland buffer during Phase I and Phase II and 10,120 square feet of Town-regulated wetland buffer during Phase III.

12. The Applicant shall be permitted to remove 345 Town-regulated trees, 9 of which are Town-regulated Significant Trees.

13. The Applicant shall discontinue the use of sand for interior roadway maintenance. In addition, the Applicant shall utilize ice B' Gone 2.

14. No grading shall be conducted in tree protection areas, no soil stockpiling shall be permitted within the protected area and no construction equipment shall be permitted within the protected area.

15. With the exception of the improvements shown on the approved site development plan, no construction or other land disturbance shall take place within any Town-regulated wetland area or surrounding regulated buffer area or area affecting Town-regulated trees.

16. Extreme care shall be taken during the entire construction process to leave as much existing vegetation as possible in place. Any movement of construction equipment beyond the designated construction areas shall be avoided by installing orange snow fence along the entire Clearing and Grading Limit Line (C&GLL). No construction activity or grading is permitted beyond the approved C&GLL.

17. Vegetation shall not be removed from specific construction areas until as close to the actual scheduled work as possible.

18. Permanent vegetative cover shall be established immediately upon achieving the final grade in those areas which are not to be developed with roads, driveways or other impervious surfaces for each phase of development. Temporary seeding or mulching shall be used if disturbed areas are left for two (2) weeks or longer between work

operations. Contours and slopes in excess of 1:3 shall be stabilized with stabilization fabric.

19. All site work shall be completed in accordance with the Best Management Practices Manual for Erosion and Sediment Control prepared for Westchester County, New York (1991). All areas of soil disturbance resulting from this project shall be seeded with an appropriate perennial grass seed and mulched with hay or straw within one week of final grading. Mulch shall be maintained until suitable vegetative cover is established. All disturbed areas where soil is temporarily exposed or stockpiled for longer than one month shall be stabilized with a temporary seeding or ground cover.

20. All landscaping shown on this plan shall be maintained in a vigorous growing condition throughout the duration of the use. All plants not so maintained shall be replaced with new plants of comparable size and quality at the beginning of the next immediately following growing season.

21. To the extent not specifically modified herein, all applicable conditions of prior site plan approvals shall remain valid and in effect.

****

APPLICANT, agreed and understood as to contents and conditions, including expiration, contained herein

11/11/04
Date

Maryann Martini
Ms. Maryann Martini, MBIA

****

NORTH CASTLE PLANNING OFFICE,
as to approval by the North Castle Planning Board

11/15/04
Date

Valerie B. Desimone
Valerie B. Desimone, Planning Board Secretary

KELLARD ENGINEERING & CONSULTING P.C.
As to Drainage and Engineering Matters

11/16/04
Date

~~Nathaniel J. Holt, P.E.~~ Tom Kellard, P.E.
Consulting Town Engineer

STEPHENS BARONI REILLY & LEWIS LLP
As to Form and Sufficiency

11/17/04
Date

Roland A. Baroni, Jr. Esq., Town Counsel

NORTH CASTLE PLANNING BOARD

11/24/04
Date

Doug Cassetta
Doug Cassetta, Chairman

APPENDIX B

2003 IPM Reports

July 15, 2003

Mr. Robert Peake
JMC
120 Bedford Road
Armonk, New York

Dear Bob;

On July 1, I had the opportunity to meet with you, Anthony, and Sal at the MBIA property. After talking with Sal and surveying the MBIA grounds, I have formed a rough draft of an IPM program for the MBIA property.

The main component to any IPM Program is to have a routine, organized, and documented monitoring program. There are two groups of plants to carefully monitor: turf grass and woody/herbaceous ornamentals. For the ornamentals, I have decided to build on the plant care program that Alpine the Care of Trees is presently contracted to perform. To address the turf, we will build on the fact that Sal is on the turf at least once a week for routine maintance.

Provided is the monitoring schedule for the ornamentals and turf. The visits will take 1.0 - 1.5 hours per on-site visit and 0.5 hours office time for liaison with the other program participants. Additional office time will be needed to develop a monitoring report form (a sample is included) and write summary reports as required.

April - 2 visits
May - 2 visits
June - 2 Visits
July - 2 visits
August - 2 visits
September - 2 visits

During these visits Alpine Nursery will monitor both the turf and the ornamentals. Turf should be monitored at least weekly so Sal will be providing the monitoring between my visits. The ornamentals will be covered by Alpine Nursery with Alpine the Care of Trees providing some minor supplemental monitoring and treatments that may be required.

The next phase to work on will be to set up thresholds to be applied to both plant groups so there will be set protocols to initiate treatments. This phase will take a little longer to develop, but I will have some basics for the final report.

In order to establish thresholds for the lawn I have divided the MBIA grounds in to three priority levels and set % thresholds for each level. On Low priority areas we will tolerate 15% weeds or pest damage, medium areas 10%, and high priority priority areas 5%.

Provided are the additions to the list of products that we may use.

- Cambistat 2SC
- Z.P.Rodent bait
- Rejexit goose repellent
- Flight Control Plus goose repellent
- Plant health Care Micro Injectable Mycorrrhizal inoculant
- Plant health Care Bio-pak a root zone therapy
- Lesco Bolster a root zone therapy
- Preemergant weed seed control such as Dimension, or Barricade
- Azatin or a neem oil product
- Balyeton turf fungicide

NURSERYMEN
CERTIFIED NURSERYMAN
NEW YORK STATE ASSOCIATION

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

CERTIFIED
ISA
ARBORIST ®

(914) 359-8402

August 4, 2003

Mr. Robert Peake
JMC
120 Bedford Road
Armonk, New York

Dear Bob;

Provided is the IPM program for the MBIA property. Our goal is to provide improved plant health and appearance with safe, least toxic, pest control methods. Monitoring and interpreting the findings are key to the execution of the program. As previously mentioned, there are two main plant groups involved and two levels of monitoring frequency. Alpine Nursery will provide all monitoring (twice a month April – September) of Ornamental trees, shrubs, perennials, and important shade trees. The lawn areas will be monitored at the same time by Alpine Nursery. Land Productions will assist by looking for abnormal conditions in between our scheduled site visits.
The monitoring schedule will be twice a month during the growing season. The visits will take 1.5 - 2 hours per onsite visit and 0.75 hours office time for liaison with the other program participants. All other office time for reports will be billed by the hour.
I have begun the monitoring as of last week. I will develop treatment thresholds as I visit the site over the next 2 months. Sal has indicated that MBIA has a relatively high tolerance for plant damage, so a 10 - 15% plant damage base threshold will be used for the trees and shrubs. I will work out weed plot counts and turf damage thresholds with Sal from Land Productions over the next several months.
The decision-making process will be coordinated by Alpine Nursery. If, as a result of the monitoring, a treatment of any type is needed, Alpine Nursery will write a prescription to be carried out by either Land Productions or Alpine, The Care Of Trees. I have instructed Mr. Cook to prepare a new pricing schedule to reflect this change. Alpine Nursery has modified a site map provided by JMC to use as a reference for monitoring and treatments. These will be distributed to Land Productions and Alpine, The Care Of Trees. As an example of the process, I have identified two existing problems that require prompt action. The first is a severe lace bug population in area #1 (around the parking garage). This will require a spot application of horticultural oil and a natural pyrethrin. The second is a group of two purple leaf Plum trees in area #4 (the parking lot behind the

berm). These two trees have a disease called Black Knot, this fungus will certainly spread to other Cherry trees in the area. I recommend that they be taken down immediately.

In regards to the questions about which pesticide, how much, and when it will be applied, these facts are not set out in a firm schedule. The monitoring and decision-making process address each case as it occurs. Below, I have provided a list of treatment options that will be used to address each problem as they occur.
The products or methods that will be used to treat various pest problems are outlined below. A combination of the following "tools" will be used in conjunction with the thresholds. The pesticides on the list will be used only as a spot treatment according to monitoring and thresholds.

Non-pesticide Treatments

- Tolerance
- Revised & improved plant health care techniques
- Replacement of plants with resistant species or cultivars

Pesticides to be used for Treatments

- Horticultural or vegetable oil
- Horticultural soap
- Natural pyrethrins
- Conserve
- Floramite
- Avid
- Plant shield Fungicide
- Heritage, a fungicide for turf or ornamentals
- A grub control, Mach II (Lesco Trademark) – an insect growth-regulator type insecticide, to be spot applied according to monitoring
- Bio controls - augmentation, recognition, and preservation
- Manage for the control of nut sedge
- Round Up Pro or an equivalent
- Acclaim and Trimec post emergent herbicides for spot treatment only

At the end of the 2003 growing season, I will provide a summary report which will address changes in some maintenance practices so as to improve plant health and minimize potential pesticide treatments.

This program will address the needs of MBIA's plant health care and is an environmentally friendly program.

For any questions or concerns, please do not hesitate to call or email.

Don Gabel

Don Gabel
Alpine Nursery

NURSERYMEN CERTIFIED NURSERYMAN NEW YORK STATE ASSOCIATION

CERTIFIED ISA ARBORIST ®

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(914) 359-8402

September 30, 2003

Mr. Robert Peake
JMC
120 Bedford Road
Armonk, New York

Dear Bob;

Recently I have completed two months of monitoring on the grounds of MBIA. As I mentioned I would do in my final IPM program I have meet with Sal to talk about the lawn issues, such as a fertility program and thresholds for treatments. We have also discussed the possibility of restoring some of the large tree on the property.. Additionally pesticide registration status can change and new products will emerge. Of course I can not predict all of the potential pest problems and plant needs that each season will bring, so I would like to add some tools to our purposed toolbox and at the same time ask for some latitude on having to name all the products that I may want to use in the coming seasons. Provided are the product names and a outline of the fertility program.

Tree and shrub fertility

The trees and shrubs will be fertilized with an organic fertilizer such as Holly Tone, healthy Start etc. once a season ,in the fall on a as needed basis.

Lawn fertility program

Dormant-mid to late November. A Fertilizer that has (75% water soluble) nitrogen at a rate of about a half pound of N per thousand square feet. A product such as Lesco 18-2-18 or similar.

Early spring early to mid April. A organic fertilizer such as Roots plus Iron or Plant Health Care Healthy start, at a rate of a quarter pound of N per thousand square feet.

Mid to late May. A fertilizer that has a sulfur coated urea form of N such as Lesco 32-5-7 or equal at a rate of one pound of N per thousand square feet.

Late June. A organic fertilizer such as Healthy Start, Sustane or Roots plus Iron at the rate of a quarter pound of N per thousand square feet.

Mid july. A fertilizer that has sulfur coated urea form of N **such** as Lesco 32-5-7 or equal at a rate of one pound of N per thousand square feet.

Mid August. A organic fertilizer such as Healthy Start, Sustane or Roots plus Iron at the rate of a quarter pound of N per thousand square feet.

Late August to early September. A fertilizer that has sulfur coated urea form of N **such** as Lesco 32-5-7 or equal at a rate of one pound of N per thousand square feet

Late October. A organic fertilizer such as Healthy Start, Sustane or Roots plus Iron at the rate of a quarter pound of N per thousand square feet.

I have divided the MBIA grounds in to three priority levels and set % thresholds for each level. On Low priority areas we will tolerate 15% weeds or pest damage, medium areas 10% weeds or pest damage and high priority priority areas 5%.

Additions to the list treatment products

Provided are the additions to the list of possible products that we may use.

- Cambistat 2SC
- Z.P.Rodent bait
- Rejexit goose repellent
- Flight Control Plus goose repellent
- Plant health Care Micro Injectable Mycorrrhizal inoculant
- Plant health Care Bio-pak a root zone therapy
- Lesco Bolster a root zone therapy
- Preemergant weed seed control such as Dimension, or Barricade
- Azatin or neem oil product

APPENDIX C

2004 IPM Reports

March 16, 2004

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the end of the year 2003

Dear Maryann;

Provided is a report summarizing the 2003 August and September IPM program.

After spending 2 months monitoring I have had an opportunity to get familiar with the grounds under various conditions. Sal and I have also worked out thresholds that I will use when making control decisions. JMC and I have divided the MBIA grounds into three priority levels and set % thresholds for each level. On low priority areas we will tolerate 15% weeds or pest damage, medium areas 10%, and high priority areas 5%. During the 2- month period, I encountered 3 pest problems that required treatment. The first was a wide spread and very high population of Hawthorne lace bug. This pest far exceeded all the thresholds and Alpine, The Care of Trees made a pesticide treatment. The requested treatment was to apply a horticultural soap. Alpine, The Care of Trees made the treatment of M-pede soap on August 9th, and used 50 gal. The second pest problem was a case of Black knot disease on Purple leaf plum in the west parking lot. I asked Sal to remove these diseased trees. Since that time, I have found several more trees infected with Black knot. I will be asking Sal to remove them as well. The final pest problem that required treatment was voles eating the lawn and junipers in the beds around the main building. There are few options to control this pest. We recommend using a bait product, Z P Rodent Bait. Sal made the treatment, applying 50 pounds. Despite the control that was achieved, we will have to monitor this pest in the coming year and quite possibly make a retreatment.

Although these were the only 3 pest problems that required control during the latter part of 2003, there are other areas that will be of concern this coming spring. Geese will be a problem for the lawns and the Hawthorne lace bug will be back. We will have to focus on getting them under control. Further monitoring last season showed the Hawthorne lace bug was pervasive throughout the landscape on many different hosts. On the southwest side of the main building, there are 4 Cherry trees with heavy Prunicola scale. This insect will have to be treated twice this spring, to help get the infestation under control. Two Douglas fir in quad #2 have a slight infestation of bag worm, and these will be hand removed. The rhododendron in the planting behind the entrance sign on the east side have Rhododendron borer. These shrubs will continue to do poorly. I would expect deer to be a problem through out the area, as well.
I will begin monitoring in March of 2004, and I will start to look closely at these and any other problems.

I look forward to working with you this year. If you have any question please call at 845-359-8402 or write me at blaugabels@msn.com.

Sincerely,

Don Gabel

March 18, 2004

Sal Rausa
Land Productions Inc
P.O. Box 124
Armonk New York 10504

Dear Sal

Enclosed please find the report on the 16 sugar maples, the 2003 year end report, a revised description of my services, a quadrant map and an invoice. I would also like to make a few pest control recommendation for the up coming year. Would you please pass on the tree and shrub recommendations to Alpine The Care of Trees. In the future when any applications are make, would you please send (or arrange for Alpine to send) me the following information.

1. name of product
2. location , including the quadrant # and host plants
3. amount of product applied

2004 pest control recommendations

- I have seen quite a few geese on the various lawn areas. As soon as you have the time you could begin applications of repellents.
- The 4 cherry trees in the lawn on the back side of the main building in quadrant #3 need to have a dormant oil treatment for Prunicola scale. I will ask for another treatment in early June. I will be more precise as the time gets closer
- In quadrants #3&4 there are many Cotoneaster, Hawthorne and Amlanchier which will need to be treated again for Hawthorne lace bug. I recommend a mid May (monitoring will revile the exact time) application of a Neem product with prythrin. This problem may require a second application latter on in June.
- 2 Douglas fir trees on the screening berm between the pond and the parking lot have Bag worm. There are vary few and they could be hand picked off.
- Quad #1 has several trees with Black Knot disease. 1 Purple leaf Sand Cherry located at the North West corner of the old house and 2 Purple plums, on the slope facing the road and entrance. These plants should be removed ASAP this spring.

Sal I would like to meet with you to look at some of the deer damage and several other observations.

April 27, 2004

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Months of March April 2004

Dear Maryann;

Provided is a report summarizing the Months of March and April IPM program.

The winter was hard in general to many shrubs. The damaged to these plants was generally physical in nature and not really pest related. There was a lot of deer damage in quadrant #1&2. There are the few pest problems that where evident last year, that where taken care of in the month of April. On April 10 Alpine The Care of trees applied 200 gallons of Horticulture oil to two areas. The Norway spruce in quadrant #2, the target was to suppress the Eastern spruce gall Adelgid. This effort seems to have had good results. Oil was also applied to the cherry trees in quadrant # 3 to control Prunicola scale, with very poor results. We will have to go after the scale crawler stage in early June. The black knot disease on some of the cherries has been taken care of by removing the effected trees. As of now there are no signs of voles, I will keep monitoring, because these pests where quite devastating to the lawn and juniper beds. I am watching for the emergence of Hawthorne Lace bug in mid May, and in June the emergence of bag worm. These pest will require treatments. I also expect some damage to the main leaders of some of the spruce, from the white pine weevil. I will suggest that they be pruned out as soon as the damage is apparent. I am beginning to see some cultural problems with some of the trees, and I will report on this at a later date.Several Douglas Fir have some needle cast damage, I will wait to see how this season develops and if you need to consider any treatments. The boxwood in quad #2 at the back door of the building has freeze damage. They should be pruned. The Illex glabra in quad #1&2 have a bit of a tip canker. There is not much that can be done, prune out effected twigs and replace as needed. In the future these plants should be hand pruned and only lightly sheared.

Only a very few geese have been on he lawns and no real damage has occurred at this time. The 5% weed threshold has been meet in the lawn area around the building in quad # 3. I will recommend that Sal do some broad leaf weed control in these areas.

Please call if you have any questions.
Don Gabel

NURSERYMEN CERTIFIED NURSERYMAN NEW YORK STATE ASSOCIATION

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

CERTIFIED ISA ARBORIST

(845) 359-8402

May 19, 2004

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #2 The Hawthorne and Amelanchier (approx 10) that are located around the pond and the building. Please use a Neem product combined with a natural pyrethrim product we are going after leaf minor and lace bug. The underside of the trees needs to be well sprayed.

Quad #2 The 3 locust trees have Honey locust plant bug. Please use the same products as listed above.

Quad #3 The 6 Cherry trees in the lawn area in back of the building. These trees still have scale. Please use Horticultural oil 1%.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Don Gabel
Alpine Nursery

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Blauvelt, New York 10913

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ISA
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(845) 359-8402

June 8, 2004

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; provided is a treatment recommendation for some pest control at MBIA.

Quad #2 Amelanchier (approx 10) that are located around the pond and the building. Please use a natural pyrethrin product we are going after pear saw fly. The underside of the trees needs to be well sprayed.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel

Don Gabel
Alpine Nursery

June 9, 2004

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of May 2004

Dear Maryann;

Provided is a report summarizing the Month of May IPM program.
Overall the planting and lawn are in great shape, we have only made a few minor treatments to date and they have worked well.

Quad #1 This area is in good condition. The treatment to the cotoneaster for lace bug last year seems to have done a good job, I have yet to see any significant populations. I see an increasing amount of geese on the lawn area, although there is little damage in this area.

Quad #2 This area has the majority of the pest problems on the grounds. The Early spring treatment to various conifers seems to have given good results. Recently I have been tracking several different pests on the Hawthorne and Amelanchier around the pond. I requested a treatment for these plants to control the emerging lace bug. The treatment was done on May 22 2004 by Alpine The Care of Trees. They used 50 gallons of Neem and pyrethrin.

Quad #3 The scale on the cherry trees was in the crawler stage and I asked for a treatment. On May 22 2004 Alpine The Care of Trees applied 20 gallons of Horticultural oil. There is still no sign of voles in the lawn and bed areas around the building.

Quad # 4 In general this quad is in good shape. The lawn area has a fair amount of goose activity and some of the feeding damage is becoming evident.
There are several young Sugar maples that are not doing well. They have not acclimated well and are likely to continue to decline. A plan should be developed to start root zone therapy where it is needed and tree replacement should be considered in some cases.

Please call if you any questions regarding this report. 845-359-8402

Don Gabel
Alpine Nursery

July 8, 2004,

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of June 2004

Dear Maryann;

Provided is a report summarizing the Month of June IPM program.

In quad #1&2 Things are in good shape. The treatment have all worked very well and the trees are doing well. The main leader on some of the Norway spruce have become crooked. This indicates that its time to cut out the white pine weevil that have infested the trees .Simply cut and remove the crooked leaders.

Quad # 3 still shows no sign of voles in the lawns or beds. The treatment to the cherry trees for scale has worked very well. There are some box wood mites building up on the box wood along the back entrance. I will monitor further and ask Sal to hose them down with water to repel the mites.

In general the lawn areas in all four quads is in good shape. I did find a lot of dollar spot disease in quads 1,2&3 and ask Sal to treat it with Balyaton

Please call if you have any questions regarding this report.

Don Gabel
Alpine Nursery

July 28, 2004

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of July 2004

Dear Maryann;

Provided is a report summarizing the July IPM program.

Quad #1: The lace bug is now developing into a pest problem. I will continue monitoring to see if the damage warrants treatment. Many of the tops of various conifers are still curling. I will ask Sal to cut them out as was done before. I have found borer holes in 2 of the sugar maples along the road. This is part of the problem that seems to be affecting them. I will continue to examine the sugar maples to form a complete diagnosis and recommendations. The boxwood mite problem was treated by Alpine, the Care of Trees. They applied 50 gallons of Floromite. The lawn area has a noticeable amount of nut sedge. I have suggested that Sal could treat this weed problem when it is convenient.

Quad #2: The lawn areas have a lot of damage from the geese. Additionally, the lawn has nut sedge. The deer are eating the clethra along the pond. The box wood in this quad where treated for mites.

Quad #3: The junipers along the building have a twig disease called Botryosphaeria canker. There are no chemical treatments for this type of disease. Cultural practices such as pruning and clean up will only help suppress the disease and does not provide much help in severe cases. A more comprehensive plan for replacement should be developed.

Quad #4: Two pines on the parking lot berm have been attacked and killed by shot hole borers. The best way to deal with this pest is to quickly remove the affected trees and dispose them off site. I have already advised Sal. There are several trees in the parking lot that are showing signs of nutrient deficiency. A comprehensive fertility plan for these and other trees around the site should be developed.

Please call if you have any questions regarding this report.

Don Gabel

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CERTIFIED ISA ARBORIST

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(845) 359-8402

August 5, 2004

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #1,2& 3 The boxwood by the old house and by the back entrance of both buildings have spider mites Please treat all the boxwood in these areas with oil @1%.

Quad #1,2&4Some of the Douglas fir and spruce located on the berms in these Quads have white pine weevil. Please prune out the crooked leaders on the conifers, 6” below the visible damage.

Quad #4 Remove 1 triple leader white pine on the berm at the north end of the parking lot,and remove 1 failing pine by the generators

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel

Don Gabel
Alpine Nursery

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of September 2004

Dear Maryann;

Provided is a report summarizing the September IPM program.

Quad #1 The mite problem is now under control with low levels showing only next to the house. The cotoneaster has a moderate to high level of lace bug and we may need to treat next year. Areas around the old house should have deer protection installed for the coming winter. The large sugar maple in front of the house is not doing well , there are signs of decline and this tree should be put on a fertility/ root treatment list. All the lawn areas could use some lime to raise the PH.

Quad #2 The lawn areas could use some lime. There are a lot of weeds in the areas that are frequented by geese. This damage exceeds the thresholds set for the area and should continue to be treated for broad leaf weeds.

Quad #3 The lawn areas could use some lime. There is some backhoe activity around and over the root zones of two sugar maple tree along the entrance. I have alerted Sal and JMC and made some recommends to mitigate the problem. The cherry trees in the back of the building are doing better, but there is some damage that was caused by the problem prior to the treatments this year. We will resume treatment in the spring.

Quad #4 The parking area is in good shape and mostly needs select trees to be put on the fertility /root treatment list.

Over all there is a need for a significant amount of ornamental pruning in the parking areas, walk ways and road ways. Pruning and training trees when they are young is far better than allowing them to mature or allowing them to be damaged by people or trucks.

Please call if you have any questions regarding this report.

Don Gabel
Alpine Nursery

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683 Western Highway North
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(845) 359-8402

September 16, 2004

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #1,2& 3 The boxwood by the old house and by the back entrance of both buildings have spider mites Please treat all the boxwood in these areas with oil @2%. Now is also a good time to treat some of the broad leaf weeds in the lawns.

Quad #3 The cherry trees on the slope should have a re treatment for the scale problem. Please use a 2% oil solution.The branches and main trunk should be targeted to wash off some of the old scale.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel

Don Gabel
Alpine Nursery

September 16, 2004

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of August 2004

Dear Maryann;

Provided is a report summarizing the August IPM program.

Quad #1: In many parts of the lawn, the broad leaf weeds are exceeding thresholds for control. I will advise Sal that now is a good time to proceed with post-emergent weed control in advance of any lawn restoration. The damage to the cotoneaster is only moderate, but it does exceed the treatment thresholds. Since this pest will not be present in a good life stage for control, I will wait until next year. The plants are strong and are in no danger of catastrophic damage. There are still low levels of mites on the boxwood.

Quad #2: Deer damage around the pond continues. The shade blow trees around the back of the building have lost most all of their leaves. This is a combination of lace bug, and shade and dryness. The trees were not treated this year, as I was trying to evaluate the severity of the problem. The plants are strong and are in no danger of catastrophic damage. I will recommend treatment next year. There are a lot of weeds in this lawn area, as well. The boxwood mites seem to be at lower levels now. This will have to be monitored carefully next year.

Quad #3: The Cherry trees still have an appeasable amount of scale. The male scale has moved into position to mate. I will recommend an oil treatment in early September. This pest is still a major problem and will continue to be addressed in the next year. The lawn areas have a moderate amount of weeds and should be controlled as mentioned above. The boxwood mites seem to at lower levels now. This will have to be monitored carefully next year. There are still low to moderate levels of mites on the boxwood.

I will be recommending a treatment of oil on all the boxwood in early September.

Please call if you have any questions regarding this report.

Don Gabel
Alpine Nursery

APPENDIX D

2005 IPM Reports

NURSERYMEN
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NEW YORK STATE ASSOCIATION

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

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(845) 359-8402

April 2, 2005

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #1, 2& 3 The boxwood by the old house and by the back entrance of both buildings have spider mites. Please treat all the boxwood in these areas with oil @2%.

Quad #1, 2 all Douglas fir, Norway spruce the 1 cherry by the pond. These plants should all be treated with Hort oil @ 2%

Quad #1 The cotoneaster beds out by the circle of crab apples have voles and should be treated with ZP Rodent Bait as you did in the back of Quad # 3.

Quad #2 One Douglas fir by the entrance to the parking garage has a lot of bag worm pupa cases with eggs. Please prune off what you can with out damaging the tree. We will follow up in June with a treatment.

Quad #3 Six cherries on the slope behind the main building and the bed of juniper along the walk by the side door next to the main entrance of the building.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Alpine Nursery

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(845) 359-8402

April 2, 2005

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the Month of March 2005

Dear Maryann;
Provided is a report summarizing the Month of March IPM program.

Quad # 1The lawn areas looks pretty good. There is little goose damage at the moment. This will increase and possibly there will be a need to apply a repellent. PH tests and the evidence of moss in the lawn areas indicates the need for a application of lime . I will make the recommendations to Sal. Most trees and shrubs came through the winter fairly well. The boxwood on the side of the house still have spider mites and will need to be treated this spring. There is still considerable deer damage to various groups of plants. I would suggest replacement with deer resistant plants or start using deer fencing. In the cotoneaster there is evidence of Voles. I will advise Sal to make a treatment.

Quad # 2 The lawn area has damage from the geese. The lawn here could also use a application of lime. There is one small cherry tree near the pond that has Prunicola scale. It will be treated along with the other cherry trees in quad # 3.There is an increasing number of bag worms on 1 Douglas fir near the parking garage. I will suggest reducing the bulk of them by pruning off the egg cases this spring. I will monitor the rest of the bag worms to see if further treatments will be needed in June. The pachysandra in the back of the building needs to be fertilized. I will advise Sal.

Quad #3 The lawn area is in good shape. There is some goose damage This area could also use an application of lime. The cherries on the south slope still have Prunicola scale and will require treatment now and in June. Near the front entrance area there is a bed of juniper that has scale and will need treatment. I will advise Sal. The boxwood in the back by the entrance still have mites and will have to be treated this spring.

Quad # 4 The lawn is in pretty good shape. There is some goose damage. This area could also use an application of lime. The trees and shrubs in the parking lot are in good shape. The junipers in the front bed are being eaten by deer.

Don Gabel
Alpine Nursery

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(845) 359-8402

April 30, 2005

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are two additional treatment recommendations for some pest control at MBIA. These should be added the to the next treatment.

Quad #1 The one Douglas fir between the old house garage and the parking garage. It is on the parking garage side of that group of conifers. This tree has needle cast, please treat it with Heritage Fungicide. This should be done 3 times at 2 week intervals.

Quad # 3 The 6 Cherry trees on the slope should be treated again with 1% oil.
For a total of only 2 times this spring.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Alpine Nursery

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(845) 359-8402

April 30, 2005

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the month April 2005

Dear Maryann;
Provided is a report summarizing the month of April IPM program.

Quad # 1 There is a Purple plum out along the screening berm, that was slightly pushed over and the trunk was damaged. This was most likely done during the stone wall construction. The Large American holly by the garage entrance has an increasing amount of holly leaf minor. I will continue to monitor. There are still no mites on the box wood although I have found eggs and we have applied horticultural oil. There is also one Douglas fir with considerly bad needle cast, I have bee reluctant to prescribe a fungicide for one tree. I now see that we will have to start a fungicide program for that tree or risk losing it. I will add this to the treatment list for next week.

Quad # 2 The Hawthorne and Amelanchier around the pond and behind the building have a leaf curling aphid that has been having a considerable impact on these trees in the past. This is only one of several problems that I found last year, and we are treating for them this season. The box wood by the back door of the building would benefit from gypsum and organic fertilizer to help them recover from the physical damage that they have sustained of the last two years.

Quad #3 The cherry trees still have a considerable amount of scale and need to have several treatments this season. I have requested that they have a oil treatment twice and we will go after the crawler stage in early June. The junipers along the side of building continue to have die back from Botryosphaeria canker. There is not much we can do.

Quad #4 There is a trench being dug along the berm that is close to the roots of several pines. There does not seem to have been any significant damage. I will monitor them in the coming months.

In all the lawns look pretty good.

Don Gabel
Alpine Nursery

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(845) 359-8402

April 28, 2005

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #1 The 2 Hawthorne Trees by the pond and 7 Amelanchier by the pond and around the back of the building have a leaf curling aphid that has caused considerable damage in the past years. Please treat these trees with a combination of a neem product and a natural pyrethrin ASAP and again a week latter.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Alpine Nursery

June 9, 2005

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #2 The 2 Hawthorne Trees by the pond and 7 Amelanchier by the pond and around the back of the building, have Lace bug. Please treat these trees with a combination of a neem product and a natural pyrethrin on the week end of June 18th . Be sure to spray the under side of the leaves.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Alpine Nursery

ALPINE nursery
683 Western Highway North
Blauvelt, New York 10913

(845) 359-8402

June 23, 2005

Ms. Maryann Martini
113 King Street
North Castle, New York

RE: IPM Report for the month June 2005

Dear Maryann;
Provided is a report summarizing the month of June IPM program.

Quad #1. The lawns are looking dry. Weeds are beginning to reach thresholds for treatment. There have been some areas of red thread disease but it has only caused minor damage. Some of the spruces along the front berm and by the parking garage have spruce gall adelgid. I will instruct Sal to prune out the affected parts ASAP.

Quad #2 The Shadblow and Hawthorne around the pond have responded well to the continued treatments. There are still adult lace bugs on the shadblow in the back of the building , but their numbers are down and I do not see any nymphs. The box wood by the back door could use some gypsum and a bit of iron & nitrogen. The soil may be poor in that area and nutrients seem to be a problem I will advise Sal.

Quad #3 lawn weeds are beginning to reach treatment thresholds.

Quad #4 Some of the spruces along the front berm ,have spruce gall adelgid. I will instruct Sal to prune out the affected parts ASAP.

June 24, 2005

Sal Rausa
P.O. Box 365
Bedford hills N.Y.

Dear Sal; Provided are treatment recommendations for some pest control at MBIA.

Quad #1&2 &4 Some of the spruce trees have White pine weevil. These trees will have a wilted looking terminal leader, like a Shepard's hook. Please prune out the leader down to sound wood ASAP.

Please call if you have any questions cell 914 441 9084 office 845 359 8402

Don Gabel
Alpine Nursery

APPENDIX E

IPM Field Notes

MBIA Pest Management Report

Date 3/15 **Site Visit #** 2 **Sheet #** 5

PPI ______

Weather 30° sunny w/some clouds

Quadrant # 1

Location with in Quad. (1) Bed around house + Garage (2) P. Garage
(3) Front Bank screen

Pest & evaluation
(1) Deer damage - Rhodo azalea Arbys Ilex needle Burn DAS
at N.E. corner of house
crown gall on small Euy.
(2) Ilex Garden Hedge twig die back extensive cankers
snow Damage forsythia. (3) Black root on P.P. (x2) - ESG

Treatment & evaluation
cultivate Bed. Rake Mulch at W.S.N. around Evergreen Broad leaf.
* (2) Ferns out of Ground by Electric Box by Garage Parking

MBIA Pest Management Report

Date 3/04 **Site Visit #** 4 **Sheet #** 2

PPI

Weather

Quadrant # 2

Location with in Quad (1) S.E. Bank of Pond (2) Walk behind South Building

Pest & evaluation

(1) Amlenchein thickened stems/snow damage Boxwood Freeze damage on Box

(2) Heavy deer damage - Ilex G. turkey corker - Burn.

Treatment & evaluation

Geese dropping lots on lawn

MBIA Pest Management Report

Date 3/04 **Site Visit #** 2 **Sheet #** 3

PPI None

Weather

Quadrant # 3+4.

Location with in Quad (1) SW Beds of Building
(2) Parking lot Beds (3) - East side of Build. #2

Pest & evaluation
(1) vole damage in Juniper. mod to light / Little Deer D.
Box. Freeze a little. West side group of Jun thinned by
T. Blight
(2). Some snow Removal damage - Little deer damage
small Nandina I. Fastigiate Oak.

~~Treatment & evaluation~~

x. Pink snow mold. in active but
lots around. - of only tip damage
(3) Roses damaged. by snow Removal also
Jap maple sp. I damage Branch lot of dead wood.

MBIA Scout Report Form

Date 4/13/04

Weather Raining heavy. - has been raining moderate. since last night 47°

P.P.I. Azalea mucronulatum, Forsythia

Quadrant # I

Pest observations , sub location & Recomendations

1) 5 Geese. Feeding in the lawn by the parking lot.

* Crabapple Circle sit in the
* Rotterseether Samples taken - no emergence no eggs found. 5 Random Samples

2) 2 Doug Fir by old house Garage + Parking Garage entrance have needle cast 2 severe.
- May Program treatment so as not to spread. MBIA has quite a few D.F.
Watch weather. alert Cal/Alpine

3) along Front of Parking Garage along walk way north end.
Tip and Stem Canker on the Ilex Glabra.

Prune out clean pruners after. ASAP new Growth. Suscept.

4) North slope screen planting Norway Spruce
1 dead - D.
most all in shading area have at tip die back
Research. It is extensive on several.
Remove dead ASAP

MBIA Scout Report Form

Date 4/13/04.

Weather same

P.P.I. Same

4 geese in pond.

Quadrant # 2.

Pest observations , sub location & Recomendations

1) south of parking lot screen planting on the berm. and along road.
*Sampled taxus looking for Eastern Spruce Gall adelgid.
Treated w/oil. ~~on~~
small ~~amount~~ amount of Tip die back.

2) Box wood S.E door on glass building
Freeze damage - whole stems affected. prune out
watch for Box wood mites same pass history.
- Mail Room? Ilex Glabra tip + stem die back prune

3) x south of Parking lot. Pennsylvania w/ DF site very wet
may be reason for Poor Growth - Core sample need lime

4)

039. 2111

MBIA Scout Report Form

Date 4/13/04.

Weather Same

P.P.I. Same

2 Geese on Front, Back

Quadrant # 3 — quad #4. d/c,

Pest observations , sub location & Recomendations

1) checkerdvole. damage on south side + north. damage in lawn and in upper. beds still apparent. no new yet.

2) south side cherry.s samples taken.

x. Box wood. - Back entrance Freeze damage light watch for mites

3) no new vole damage yet.

4)

MBIA Scout Report Form

Date 4/2/21

Weather Sunny. 53°
Many Rain Yesterday

P.P.I. Magnolia Full Serviceberry Weeping Cherry Full
Shrub Blow Full

Quadrant # I

Pest observations , sub location & Recomendations

1) Quad I. Same as last time
No Lace Bug yet Tips Back on Ilex G.

Quad II 2) NO H. lace Bug Yet
No Bag worm yet

Q III 3) Back of Building — South + West
- Lawn 3-5% Dandelions/Clover
cherry scale is alive — no significant kill From oil

Quad IV 4) Several crabs near the Parking Bed have had
RHAB in sub scud areas check for further activity.
Lawn: Parking 1st Bed plus lawn Faces building Dandelion 5%

possible to Remove cherry w/ Blackspot Beyond
the West Stone wall.

MBIA Pest Management Report

Date 5/11 **Site Visit #** 4 **Sheet #** 1

PPI Kwanza cherry, Pell Bloom.

Weather sunny 75°

Quadrant # 1

Location with in Quad. Cottonwater check — No lace bug Hatch yet

Lady Beetle Adults wreath

1 Norway sp w/ moderate ESGA – 15% area

~~**Pest & evaluation**~~

Berm along King St 1 dead SP note before as severe Needle cast

cherry's cankerworm low

crab in circle cankerworm low

Treatment & evaluation

1 SM Log Pot

MBIA Pest Management Report

Date 5/11 **Site Visit #** 4 **Sheet #** 2

PPI Bud set almost color on Hawthorne

Weather

Quadrant # 2

6-8 geese on lawn. lot of poop. med Impact on lawn.

Screen Spruce ~~ro~~

spring can ka. worm.

Location with in Quad. Pond Peninsula lawn

1 River B. slow to leaf

Pest & evaluation Hawthorne Adult lace Bug Egg laying

Local Density, Red vein Rolled leaf Aphid. approx 2%

Carbon worms

look like start of cedar Hawthorne Rust

~~**Treatment & evaluation**~~ $ R 5 1

7 geese on south Bent side of Pond

Damage. - same Aphid - less - cankerworm.

no lace Bug yet - look up Lump stem disease

Boxwood mite 3 sample only 2 mites

Quad #2 Between Building B, Pond

spruce Hedge has lot of Aphid. lots of Ravine

syrrfid flys.

MBIA Pest Management Report

Date 5/11 **Site Visit #** 4 **Sheet #** 3

PPI 'Kwanzan Full to End Bloom.

Weather Light to moderate grease pa

Quadrant # 3

~~**Location with in Quad**~~ Cherries Trp + small Brown dra Back
Granseedae: → Early Egg laying 10-14 days

~~**Pest & evaluation**~~

Parking + Pear. Beds
Crates - some Canker worm.

~~**Treatment & evaluation**~~ cycads good 1/2 + 3 Br. height
poor perennial Broad leaf weed control.

Sigan mgtb

Offense # upp ward drive

I st from ~~...~~ [illegible]

4 new — Text new Read Bid

Cos. Del.

Remove

Replace

MBIA Pest Management Report

Date 5/11 Site Visit # 4 Sheet # 4

PPI

Weather

Quadrant # 4.

~~Location~~ with in Quad. Parkway all tree Center lawn

Pest & evaluation

total Berm Stream North Parking lot
canegimum ? Falling W. Pass 7 Recent Weed

Treatment & evaluation

chickweed
viola
potentilla

MBIA Pest Management Report

Date 5/18 **Site Visit #** ______ **Sheet #** 1

PPI Washing hawthorne Full Bloom.

Weather overcast 65-70

Quadrant # 2 + 3

This Poor!

~~**Location with in Quad.**~~ Amelanchier - W. Hawthorne
H locust Plant Bug Lg. Nymph. exposed

~~**Pest & evaluation**~~
use Early. Hawthorne colored bud.
for leaf miner
with Apid
Cherry prozrada. 80% hatch. 50% crawler out
wash. Hawthorne Full Bloom.

~~**Treatment & evaluation**~~

Neem + pyrethrin for Am. Hawth.
oil 1% w/. pyrethrin for cherry.

MBIA Pest Management Report

Date 5/18 **Site Visit #** ____ **Sheet #** 2

PPI Lorne

Weather ____

Quadrant # 1

Location with in Quad. S side of parking Garage cottenwater. - no leaf bug

Pest & evaluation outer Berm. seen botrytis on Doug fir new growth.

quad 4. **Treatment & evaluation** 2 pines on screen berm look Bad

MBIA Scout Report Form

Date 6/8

Weather Humid. light overcast warm. -90°

7:15 Am

P.P.I. Mock Orange

Quadrant # 1

Pest observations , sub location & Recommendations

1) Doug fir by Park. Garage Entrance - Light to moderate spittle bug.
- Am. Holly by P. Garage Exit Door - Fe. leafminer
- cotoneaster on Bank by Garage - light Lace bug Adults. Egg's

2) E.S.G.A on 3-4 at N.E property on Norway. Parking lot Barrier Rose. Sawfly. very light

3)

4)

MBIA Scout Report Form

Date 6/8

Weather

P.P.I. Potential. Abbottswood.

Quadrant # 2.

Pest observations , sub location & Recommendations

1) Looking for Bagworm Emerg ? not seen.
~~Homonderube~~ ~~to~~ Heavy Geese stuff pond Area
Peninsula - 2. sm River Birch. not vigorous
Lots of Red thread in lawn.
great control on ESGA on SP pond Parking - Berm
2) ~~geo~~ great control for lace bug Hawthornes
Bot plant. Red maple. sm. amount of tip die back on ly
phyllosticta. leaf spot
SE. Pond River Birch not so good
3) leaf. Cat. skeletonizing - margins - curled leaf.
mod. - possible control. at. Shadow blow.

4)

MBIA Scout Report Form

Date 6/8

Weather

P.P.I.

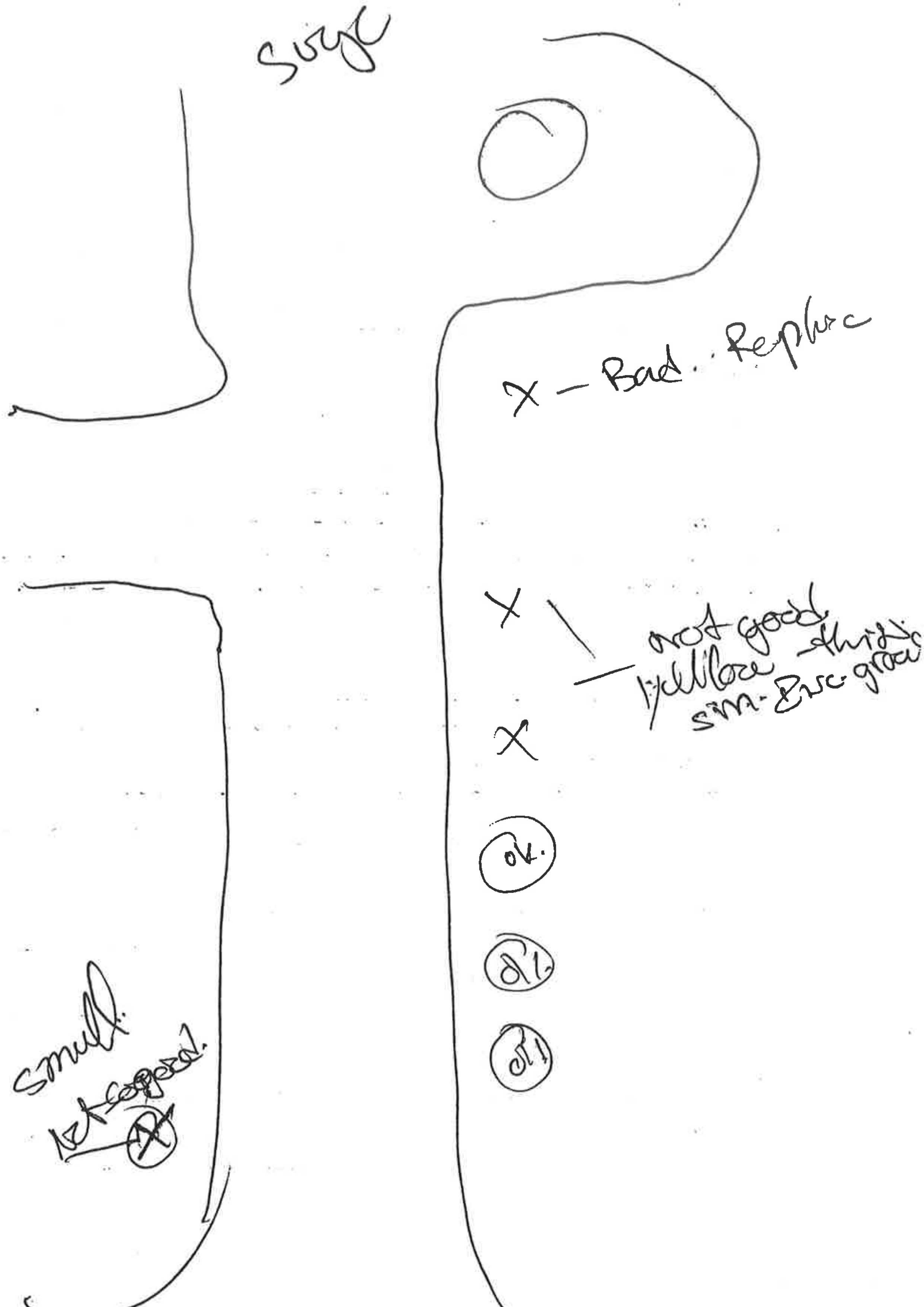
Quadrant # 3 - 4. - OK.

Pest observations , sub location & Recommendations

1) Front Entrance Sap maple - twig die back 3% winter damage
Light saw fly on Roses
good control on cherry. - Need Prune.
Moserivie Holly By Entrance South side - thin - leaf. stem disease
2) Mass lawn light Red thread
Moderate Goose damage

3)

4)


X – Bad. Replace
X
X
not good
ok.
small.

MBIA Scout Report Form

Date 6/28

Weather Sunny 70's

P.P.I.

Quadrant # 4

Pest observations , sub location & Recommendations

Berm North and
1) West side of Parking Garage 2-3 W. spruce - larder & cracking
Lawns - small amount of Red thread Bipolaris
- Lawn along Main drive way dollar.

2) Quad #2
S.W. corner of Garage - Bagworm on D. Fir
& Rach. Sm.
* R. Birch allergmeter. old plant bug on Ev. mite Low -

3) Berm along Post N. S. of Garage larder on W. spruce.
Light damage on locust from H.L.P.B.

4) Quad #3 Lawn S side of Entrance
Dollar spot
Change prune Fall Fert.
* Ischnoderma of juniper around building moderate
Boxwood - west ore Area Low mites

- Heavy Lace Bug on Cotoneaster

green ~~#~~ #4.
North. Berm. N spruce leaders
many brown dollarspot.

MBIA Pest Management Report

Date 7/12 **Site Visit #**______ **Sheet #** 2

PPI______

Weather______

Quadrant # 2

Location with in Quad. lawns at Pond Area.
Heavy Goose damage

Pest & evaluation
Deer. eat clematis at Pond edge.

quad #3. twig disease on Juniper around
Building Pampiss an. Botryosphaeria canker

Treatment & evaluation

#4 Pin oak need FE.

Front Berm. Three leader ½ dead. W. Pine
Remove ASAP shade hole Rover

MBIA Scout Report Form

Date 7/12

Weather cloudy overcast mid 70's

P.P.I.

Quadrant # 7.

Pest observations , sub location & Recommendations

1) Lawn is dry under Lg trees
lots of nutsedge
Cotoneaster Beds along P. Garage - Lvs dry up M.
cut out Tops of W. Spruce.

2) Frontside of main drive next to stop sign
2. Sugar m → Borer poss. - fungus - main stem
holes is small - poss. RAB - small # cottony maple scale
Heavy mite Boxwood westside of old house.
also leaf hopper.

3)

4)

MBIA Scout Report Form

Date 7/26

Weather Bright sunny 75-80°

P.P.I.

Quadrant # 9

Pest observations , sub location & Recommendations

1) Next to garage - marginal - Light to Med. - old - mid
* nutsedge - 3% - some thinning on lower from
Dollar - Leaf spot - Azalea....
* Lace Bug on Cotoneaster - MOD.
prune - cut down - for white pine weevil -

2) Ink Berry - hand prune allow more - Enlarge Bed - Loosen mulch
~~[illegible]~~
mite check on Boxwood - levels high. 15+

3) Oriental #2.
untreatment Area for Ear Bag. ok little damage
3 Locust By pond thin - poor color
Back of Building Service Beauty - Lace bug damage
more aggressive next year - check Root H_2O
2 mite on Rock Inn Road Boxtree

4)

MBIA Scout Report Form

Date 7/26.

Weather

P.P.I.

Quadrant # 3

Pest observations , sub location & Recommendations — was active again

1) Lowgrass area. — dollarspot Fertility.
Tammy Jungle — Rabbit run —
Mite check. High Count 15+ 4 times
alot more bent grass then & here. Colored
2) Brown ugly. areas

3) Quad #4. Ash Dr Back lot Red
Wood nutrients
1 Red oak oak leaf mite. heavy mite. tobacco
Thin Canopy. 7 — ~~Red~~ Restricted Root Space leaf spot

Quad #4.
Dead Pine Trip leader.
" " To the Right and
Front of shed

Quad #1 + 2. + 21 a few more leader.
green + drooping
Pine spruce Arogs

Quad 1-3 Lower nut sedge + deller
Mange Bedingtoss

Mites
Any treatment?
add Boxwood at the Back of door
Building in quad #2.

MBIA Scout Report Form

Date 8/5

Weather over cast heavy Rain last night

P.P.I.

Quadrant # 1

Pest observations , sub location & Recommendations

1) cottoneaster moderate lace Bug

same mites still on box - close to the house
- Lower nutsedge

quad #2 2) 1 spruce Dead? total Needle Brown Untreated last V.B. 4 - Heavy Goose effect.

X Boxwood by the Back entrance mites 10+ mod.
Backside of Building. shadblow - lace bug is now apparent

3) Parking lot strip and Pond area. still dollar

X nutgrass mostly by walk in pond lawn area.
same turf thinning - dollar. mostly

Quad #3 4) Lots of Bent grass

Cherry trees in the back - pest is under control.
only a few left - same tip death - weak canopy poss. Feed

Dollar in the lawn

mite still on the boxwood most retreat oil?
all. counts of 7+

Quad #4

1 Red oak Heavy mite O.L.M. also stem canker of
sm Twigs

(1) 2. Dead Pines

1st closest to generators along Edge of Parking lot

2nd. _ Dead - Brown

(2) retreat Box - add Bank Entrance Building Quad #2

(3) more conifer tops ~~other~~ Quad 1, 2, + 4

(4) Next spring Pre M for crab along walk ways.

MBIA Scout Report Form

Date 8/5

Weather

P.P.I.

Quadrant #

quad 4 #

Pest observations , sub location & Recommendations

1) costlenenurle. i22 lot has mild lace Bug.

2)

3)

4)

MBIA Scout Report Form

Date 8/13

Weather Clear. Sunny 85°

P.P.I. Late Summer. Heavy dew

Quadrant # 9

Pest observations , sub location & Recommendations

1) Cooler weather plus good fertility / Lawn Areas. by proximity area look strong. low % of crabgrass / mostly in Goose Active areas + Circle.
lots of small < 1" soft S.M. north of house.
~~Boxwood~~ Boxwood on the westside of house still by. mites at Border

2) Box along walks same area - 5+ Horse down

Light mildew on Megs: ok, it Been there. 1 month. not much progress

Sugars camp door plan.

qu #2 3) ~~Shows~~ same as above
Amelanchier sad next year. - Rent this Fall w/ Rodo
Bluestone Fall Part

q #3 4) B canker, look like + T. how are the Bed watered salt-val
Heavy mulch scale on cherries ? -

amle:

- soil. lock seo ?

N + organic + surfac.

cultivate Gypsum + om. - Remulch..

~~Looking to correct problem to promote~~

~~- long term effect~~

~~- plant health~~

~~- soil life~~

MBIA Scout Report Form

Date 8/23

Weather

P.P.I.

Quadrant #

Pest observations , sub location & Recommendations

qu 4. 1) Southeast Fork Allery road @ Pin oak
Leaf scorch
Tubakins, Ster

2) 2. Pin
2 Bed
2 Ash.

3) lots of Broad leaf weeds in all areas
priority. 1+2 areas will treat soon

4)

~~Now~~ Owner
24 - Leader
concord..
26 → did cut.
scurti

— stump →

Park Am Hub.
5 tree

From the Road. ~~Back~~.

~~#~~ 1 - 4.3 +5.3 1 sm Branch. at 2.5"
cut away?

Fairly good cut. Back to Point
of origin

#2 4.5' 1 Live leader cut approx 4.5'
Tree has good top growth at
and some what Balance at 8'

#3 4.8 cut ~~@~~ 3" no Branch one side to 10+'

#4 3.7 cut 3.1" leader

Tr

Trees are pull upright here and
there By Ropes

~~Area~~ Between. ~~#~~ #4 older Prop out leader.

#5 Red oak. 38". produce live spots

MBIA Pest Management Report

Date 9/9 Site Visit # 12 Sheet # 1

PPI

Weather heavy rain yesterday 4"-6"

Quadrant # 1

Fall Pest List.

Nut sedge.

Location with in Quad. Old house - still med. m to next to house

Pest & evaluation
~~- cottencotte. - Tree ... moderate.~~ ~~ig sm look Good - Foilage~~

~~Front of house sm not so good.~~

Good recovery on Rodo & azalea. around House

Deer protect.

Heavy Broad leaf weeds all bars

Treatment & evaluation

Quad #2 I P. oak in lot has leaf scorch.

Quad #3 1 sm. 2nd from street Early Fall color

Still moderate Scale

Respray. soon.

MBIA Pest Management Report

Date 9/30 **Site Visit #** ______ **Sheet #** 1

PPI ______

Weather Heavy Rain left 2 life 4" +

Quadrant # 1

Location with in Quad. Old House Boxwood mite are low

Pest & evaluation Ck. soil PH. in some low Area. Lime

quad #2 Red maples by Pond low Tar spot.

~~Treatment & evaluation~~ Backhoe on S.M. Bat zone By Entrance

quad #3 Cherrys scale looks Better white scale is off mostly - watch next yr

Box mite - low - ok

quad #4 ok.

APPENDIX F

IPM Product Toolbox

Product Labels

F:\2000\2000014\FEIS Appendix Cover Sheets05-29-2003/kap

Plant Growth Regulator for Trees

KEEP OUT OF REACH
OF CHILDREN

CAUTION

See additional precautionary statements and directions for use inside booklet.

Cambistat™ 2SC

Active Ingredient:

Paclobutrazol:	(R*, R*)-(±)-b-[(4-chlorophenyl) Methyl]-a-(1,1-dimethylethyl)-1H-1, 2,4-triazole-1-ethanol	22.3
Other Ingredients		77.7
Total		100.0%

Contains 2 lbs. active ingredient per gallon

EPA Reg. No. 100-1014-74779 EPA Est. 70732-MN-1
Product of UK Formulated in the USA

Rainbow Treecare
Scientific Advancements

GENERAL INFORMATION

Cambistat 2SC is a xylem mobile plant regulator that slows vegetative growth as well as creating other physiological effects by inhibiting gibberellin biosynthesis. Cambistat 2SC reduces the above ground vegetative growth and changes specific morphological characteristics of the plant. Cambistat 2SC is most effective when applied to the soil near the base of the tree either by soil injection or with basal soil drench.

Cambistat 2SC can be used on listed trees found in such areas as urban environments, utility rights-of-way, residential areas and other no-crop areas.

Characteristics of results in the tree:

The activity of Cambistat 2SC occurs following root uptake and xylem translocation throughout the tree canopy. Results may not be fully visible for up to 18 months following application. Initial effects of Cambistat 2SC may be observed as intense greening of the foliage with no phytotoxicity. Trees treated with Cambistat 2SC will exhibit shorter internodes, a reduction in the diameter growth of the main stem wood, thicker leaf cuticles, and an increase in fine root growth in some species. Smaller leaf size and enhanced flowering may also be observed in some species.

General Use Precautions

- Apply at recommended rates and follow safety procedures.
- Trees not used for food production and that are not specifically listed on this label may be treated if all other label directions are followed.
- Local soil and environmental conditions can affect the degree and longevity of effect following application of Cambistat 2SC. Follow label instructions to increase effectiveness depending on these factors.
- Do not reapply Cambistat 2SC until symptoms from the previous applications begin to disappear, or within 3 years of the last application, whichever comes first.
- For hard-to-wet soils, the mobility of Cambistat 2SC can be enhanced by using a nonionic, organosilicone surfactant.
- Trees growing in heavily compacted soils may need to be vertical mulched or soil aerated for Cambistat 2SC to effectively promote root growth.
- Basal drench and soil injection application of Cambistat 2SC may result in localized, temporary discoloration of turfgrass immediately adjacent to the treatment site.
- Avoid basal drench applications on slopes or other areas where Cambistat 2SC or treated soil may be washed away from the base of the tree by rainfall or irrigation.
- Treatment of trees bordered by shrubs and/or herbaceous ornamentals may cause these plants to be affected if their roots extend into the treatment zone.
- Do not treat sugar maple trees or any other trees that are or could be tapped for sugar.
- Do not treat nut or fruit trees that will be harvested within one year.
- Do not treat trees that are severely stressed or rapidly declining.
- Do not apply this product through any type of irrigation system.

APPLICATION METHODS

Cambistat 2SC may be applied as a basal drench or by soil injection. Application should be made as close to the tree and the soil interface as possible to obtain the most consistent results.

Basal Drench

Apply the required dose [total ml required for the application rate and tree size (DBH)] uniformly around the base of the tree at the point of contact between the soil and the tree trunk (Figure 1). The diluted mixture of Cambistat 2SC may be carefully poured around the tree or an applicator that provides a controlled flow may be used. If there is potential for rainfall or irrigation to move the surface applied product to non-target plants, apply Cambistat 2SC diluted mixture to the bottom of a shallow furrow around the base of the tree. After applying, refill the furrow with untreated soil.

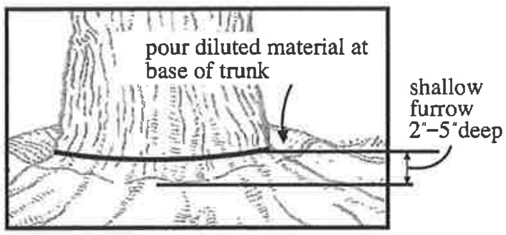


Figure 1- Placement of Cambistat 2SC as a basal drench

Soil Injection

The diluted mixture of Cambistat 2SC should be injected approximately 3 – 6 inches deep. Use injection equipment capable of delivery at 100 – 200 psi. Injection orifices should be oriented to release the diluted product horizontally at the point of injection. The required dose should be divided evenly among injection sites spaced as uniformly as possible around the tree trunk. The injection sites should be positioned to release the Cambistat 2SC diluted mixture as close as possible to the point of contact between the soil and the tree beneath the soil so that the active ingredient may be readily absorbed by the tree (Figure 2). Injection sites should also be located next to buttress roots (Figure 2). For trees less than 6 inches DBH, use at least 4 evenly spaced injection sites per tree.

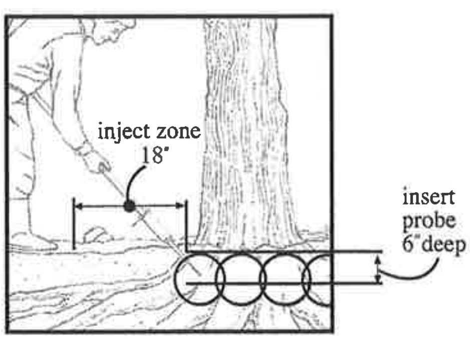


Figure 2- Placement of Cambistat 2SC as a soil injection treatment.

APPLICATION TIMING

Applications can be made throughout the year, weather permitting, except when the soil is frozen or saturated with water. *Note:* Cambistat 2SC is absorbed by plant roots and translocated to the growing tissues in response to evaporative water loss (transpiration). If applications are made after fall leaf drop, uptake of Cambistat 2SC will not occur until development of new leaves in the spring and resumption of evaporative water loss.

MIXING PROCEDURES

Mix one quart of Cambistat 2SC to make 3 gallons of diluted mixture. To improve suspension of the diluted mixture, the addition of a suspension aid at a rate of approximately 1/2 pint to 2 pints per 100 gallons is recommended. To re-suspend a solution, use 1 to 2 pints per 100 gallons. Follow all label directions and precautions on the product label of the suspension aid.

If applying mixture to compacted soils, high clay content soils, or other hard-to-wet soils, use a nonionic, organosilicone wetting agent (surfactant) to increase penetration of the soil. Mix approximately 1 pint surfactant per 100 gallons. Follow all label directions and precautions on the product label.

CONTACT RAINBOW FOR UP-TO-DATE RATE CARD

FIRST AID

If swallowed	• Call poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Hotline Number For 24 hour Medical Emergency Assistance (Human or Animal) or chemical Emergency Assistance (Spill, leak, fire, or accident) Call **1-800-888-8372**

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes, or clothing.

Personal Protective Equipment

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category F on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Butyl Rubber or Nitrile Rubber or Viton
- Shoes Plus Socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users Should

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean water high mark. Do not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

Notice: Read the entire label. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitations of Remedies" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product call

1-877-272-6747.

To obtain further information on this product, please visit our website at www.rainbowscivance.com

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state and tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Butyl Rubber or Nitrile Rubber or Viton
- Shoes plus socks

STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

Storage

Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER

Rainbow Treecare Scientific Advancements warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Rainbow Treecare Scientific Advancements **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions etc.) abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Rainbow Treecare Scientific Advancements or the seller. All such risks shall be assumed by the buyer.

LIMITATIONS OF REMEDIES

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Rainbow Treecare Scientific Advancement's elections, one of the following:

1 -Refund of purchase price paid by buyer or user for product bought, or

2 -Replacement of amount of product used.

Rainbow Treecare-Scientific Advancements shall not be liable for losses or damages resulting from handling or use of this product unless Rainbow Treecare Scientific Advancements is promptly notified of such loss or damage in writing. In no case shall Rainbow Treecare Scientific Advancements be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Rainbow Treecare Scientific Advancements or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

ZP® Rodent Bait

MSDS
Date of Issue:
August 01

MANUFACTURER'S ADDRESS: BELL LABORATORIES, INC. 3699 KINSMAN BLVD. MADISON, WI 53704	**PREPARED BY:** PSM/CAR	**TELEPHONE NO:** (608) 241-0202	**EMERGENCY PHONE NOS:** **Medical** (877) 854-2494 **Transportation (Spills)** (800) 424-9300 CHEMTREC
PRODUCT NAME: **ZP® Rodent Bait**			
USE: Acute Rodenticide	**BAIT FORM:** Dry Granular Blend		**EPA REGISTRATION NO:** 12455-18

SECTION I. HAZARDOUS INGREDIENTS

INGREDIENT NAME	% BY WEIGHT	CURRENT TLV
Zinc Phosphide CAS No. 1314-84-7	2.0 %	N/A

This product contains no components subject to the reporting requirements of Section 313 of the Superfund Amendment and Reauthorization Act (SARA) of 1986

SECTION II. PHYSICAL DATA

APPEARANCE: Pellet	**COLOR:** Blue	**ODOR:** Slight Garlic	**SPECIFIC GRAVITY:** N/A
VAPOR DENSITY: N/A	**MELTING POINT:** N/A	**WATER REACTIVITY:** N/A	**EVAPORATION RATE:** N/A
VAPOR PRESSURE: N/A	**BOILING POINT:** N/A	**SOLUBILITY:** Not soluble in water	**BULK DENSITY:** 0.774 gm/cc

SECTION III. FIRE AND EXPLOSION DATA

FLASH POINT (Method Used): N/A	**FLAMMABLE LIMIT:** Upper Limit: N/A Lower Limit: N/A	**AUTOIGNITION TEMP:** N/A

EXTINGUISHING MEDIA:
Extinguish with water, foam or inert gas

SPECIAL FIREFIGHTING PROCEDURES:
Firefighters should be equipped with protective clothing and self-contained breathing apparatus.

UNUSUAL FIRE OR EXPLOSION HAZARDS:
None

SECTION IV. REACTIVITY HAZARD DATA

STABILITY: Stable	**CONDITIONS TO AVOID:** None
POLYMERIZATION: Will not occur	**CONDITIONS TO AVOID:** None
INCOMPATIBILITY (MATERIALS TO AVOID): Strongly acidic materials	**HAZARDOUS DECOMPOSITION PRODUCTS:** Phosphine gas

SECTION V. TOXICITY DATA

LD50, ORAL (INGESTION): >5000 mg/kg (rats)	**LD50, DERMAL (SKIN CONTACT):** > 1500 mg/kg (rats)	**LC50, INHALATION:** N/A
EYE IRRITATION: None (rabbits)	**SKIN IRRITATION:** None (rabbits)	**DERMAL SENSITIZATION:** Not Considered a Sensitizer

SECTION VI. HEALTH HAZARDS

PRIMARY ROUTE OF ENTRY:	SIGNS & SYMPTOMS OF EXPOSURE:
Ingestion	Nausea, abdominal pain, tightness in chest, chills

EMERGENCY FIRST AID PROCEDURES:
Eyes: Flush with cool water for at least 15 minutes. If irritation develops, obtain medical assistance.
Skin: Wash with soap and water.
Ingestion: Call physician or emergency phone number immediately. Do not give anything by mouth or induce vomiting unless instructed by physician.
Inhalation: Remove person to fresh air.

NOTE TO PHYSICIAN:
None

SECTION VII. CONTROL AND PROTECTIVE MEASURES

RESPIRATOR TYPE:
Not required

EYE PROTECTION:	GLOVES (Recommended):	VENTILATION:
Not required	Rubber Gloves	Not required

OTHER PROTECTIVE MEASURES:
Not required

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:
HEALTH: 2 (Moderate) **FIRE**: 0 (Will not burn) **REACTIVITY**: 0 (Stable) **SPECIFIC HAZARD**: None

HAZARDOUS MATERIAL INFORMATION (HMIS) RATINGS:
HEALTH: 2 (Moderate) **FLAMMABILITY**: 0 (Minimal) **REACTIVITY**: 0 (Minimal) **PROTECTIVE EQUIPMENT**: B

SECTION VIII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN THE EVENT MATERIAL IS RELEASED OR SPILLED:
Ventilate area and remove all sources of ignition. Sweep up spilled material, place in properly labeled container for disposal or re-use.

WASTE DISPOSAL METHOD:
Wastes resulting from use may be disposed of on-site or at an approved waste disposal facility. Dispose of all wastes in accordance with all Federal, state and local regulations.

SECTION IX. SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE:	AVERAGE SHELF LIFE:
Room temperature	Bait is stable for a minimum of 1 year when stored at room temperature

SPECIAL SENSITIVITY (HEAT, LIGHT, MOISTURE):
Avoid exposure to acidic conditions, light, heat and extreme humidity. Exposure to acidic conditions may result in the liberation of phosphine gas.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Store in a cool, dry place inaccessible to children, pets and wildlife. Keep container tightly closed when not in use. Avoid contamination of lakes, streams and ponds by use, storage or disposal. Wash thoroughly with soap and water after handling.

SECTION X. SHIPPING DATA

DOT SHIPPING NAME:	DOT HAZARD CLASSIFICATION:
None required	Non-hazardous
DOT LABELS REQUIRED:	**FREIGHT CLASSIFICATION:**
None required	LTL Class 60

RJ ADVANTAGE, Inc.

A Subsidiary of PMC Specialties Group, Inc.

Direction for Use on Turf[1]

ReJeX-iT® AG-36 is a tool for the behavior modification of Canada geese *(Branta Canadensis)* and other nuisance birds. While it changes the taste of the treated turf to become unpalatable to geese, it is only distasteful as long as the grass remains treated. The effect is not systemic and as the grass grows it is renewed with fresh untreated grass that is good food for geese. To be effective the applications have to be done to change the behavior of the geese to leave the area completely to find better feeding and living conditions. Any harassment method used before the application of ReJeX-iT® AG-36 should be continued to accelerate the departure of the geese during the time the grass is unpalatable. Any feeding of the birds negates all efforts for success. While it is relatively easy to repel the geese when they first come to an area, it is far more difficult to repel them once they have established themselves in an area.

The conditions for treatment of the various grassy surfaces with ReJeX-iT® AG-36 vary considerably by type of grass, from State to State, by seasons and time of day. As a taste aversion agent, the important consideration is the effective concentration of ReJeX-iT® AG-36 on the food the geese or other birds ingest and the complete coverage of the effected area. For best results, a quantity of 20 lbs ReJeX-iT® AG-36 per acre is recommended. Depending on spray equipment used and the use of additional spreaders, or in repeat applications, quantities as low as 10 lbs per acre might might be sufficient.

ReJeX-iT® AG-36

EPA Reg. No. 58035-9

The product has been formulated for optimum results with a spreader/sticker already mixed into the product. For use, ReJeX-iT® AG-36 only needs to be diluted with sufficient amounts of water to spray the desired area. Generally a dilution rate of 1:3 is recommended. However, some high performance sprayers are capable to spray the same amount of product at a rate of 1:1. For best results, the grass should be mowed before application and it has to be dry with no rain in the forecast for the next 3 hours.

Label Directions:

TURF DILUTION DIRECTIONS: *Shake or stir ReJeX-iT® AG-36 container well prior to diluting. Mix ReJeX-iT® AG-36 with water at a ratio of 1 part product to 3 parts water. For example, mix 1 quart of product with 3 quarts of water to make 1 gallon of spray mixture. Mix product outside or in ventilated area.*

TURF APPLICATION DIRECTIONS: *Apply at a rate of 20 lbs AG-36 (10 gallons spray mixture, 2.9 lbs a.i.) per acre of turf area. Spray evenly on area to be protected to provide thorough coverage and allow material to dry before permitting human activity on treated area. Repeat in 4 days or as warranted by Canada goose activity. Do not mow the treated area for several days after application.*

EXAMPLES

For one (1) acre of normal turf (lawn)

Mow grass before application. Stir ReJeX-iT® AG-36 well. Pour 2.5 gal (20lbs) of ReJeX-iT® AG-36 into the mix tank and fill tank to 10 gal volume with

[1]The information contained in this publication is true and accurate to the best of our knowledge. However, all recommendations are made without guarantee, since the conditions of use are beyond our control. All products as sold without warranty, expressed or implied, and on the firm condition that purchasers shall make their own tests to determine suitability of such products for their purpose and that all risks are assumed by the user. Statements contained herein shall not be construed to be recommendation to infringe any patents.

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Created 3/1/97; last update 4/20/98.
Questions? Dr. James A. Cooper goose@fw.umn.edu
Department of Fisheries and Wildlife, University of Minnesota
URL: http://www.fw.umn.edu/research/goose/html/rj/rejexit1.html

ReJeX-iT® AG-36

water. Spray evenly to cover one acre of turf or lawns to wet out the grass evenly without run-off into the ground. Rinse tank, lines and nozzle immediately after spraying. Do not apply when rain is expected within the next 3 hours. Repeat in 5 days if geese persist or come back.

For one (1) gal of spray mix:

Stir or shake ReJeX-iT® AG-36 well and add one quart ReJeX-iT® AG-36 to the spray tank and fill to one gallon with water. Spray evenly on the grass surfaces to be protected against geese. The spray mix should cover 4,000 sq. ft. of turf.

Typical Coverage for Turf:

ReJeX-iT® AG-36	Spray mix	Coverage
1 quart (2.1 lb)	1 gal	4,000 sq. ft.
1 gal (8 lb)	4 gal	16,000 sq. ft.
20 lb (2.5 gal)	10 gal	1 acre
40 lb (5.0 gal)	20 gal	2 acre

ReJeX-iT® AG-36 must stick to the grass to be effective. Any run-off onto the ground is lost as active aversion agent.

When geese graze and taste grass treated with ReJeX-iT® AG-36, the geese sometimes will shake their head and leave the area or head for the nearest water to attempt to rid themselves of the taste of ReJeX-iT®. If they try to feed once more on the treated area, the response is much faster and they usually leave the area repel geese, but also attracts geese more to a specific lawn. Do not mow treated area for several days after treatment. If you mow, do not collect the clippings.

WEATHER CONDITIONS: Apply to dry turf and preferably under conditions favoring prompt drying of AG-36 spray mixture (no rain in the forecast). If product is applied to wet turf or during damp, misty or rainy conditions, or if AG-36 spray mixture freezes during application, the effectiveness may be partially or completely lost. **CAUTION: If product or AG-36 spray mixture freezes, turf damage may occur.**

PROTECTIVE CLOTHING: When mixing or applying ReJeX-iT® AG-36 spray mixture wear safety glasses.

VENTILATION: Prepare the ReJeX-iT® AG-36 spray mixture in a well ventilated area.

SPRAY EQUIPMENT: Less than 1/3 acre - Trigger, bucket pump, slide pump, or compressed air sprayer. **More than 1/3 acre -** Compressed air, wheel-barrow, power sprayer or power blast sprayer.

OBSERVATIONS: After the first or second treatment, it has been observed that less ReJeX-iT® AG-36 may be used to repel birds. If an effective level of ReJeX-iT® AG-36 has been achieved, it will be evident in the behavior of the geese. Geese that have come in contact with excessive amounts of ReJeX-iT ® AG-36 have been observed shaking their head, and rapidly passing through treated areas, or fly away. It is common for birds that have had an initial taste of ReJeX-iT® AG-36 to avoid the treated area altogether. Geese may also move quickly to a pond or lake to drink, and begin splashing and preening. If geese do not avoid the treated area, additional applications are recommended. Additional applications may also be required if migrating or non-resident geese arrive after initial treatment. The threshold level to achieve repellency is higher for geese that have not had an

ReJeX-iT® AG-36

initial contact with ReJeX-iT® AG-36. The birds get sensitized and cannot habituate to the taste of ReJeX-iT® AG-36.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets, and domestic animals. Store apart from pesticides, fertilizers, food or feed that may cause cross-contamination from odor. **Keep ReJeX-iT® AG-36 or spray mixture from freezing.**

REPELLENT DISPOSAL: ReJeX-iT® AG-36 spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to Federal or approved State procedures. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse. Then offer for recycling or reconditioning, or puncture and dispose in a sanitary landfill, or by other procedures approved by State and local authorities. The container can be reused if rinsed well.

WARRANTY STATEMENT: The manufacturer warrants that this product conforms to the chemical description on its label. When used in accordance with label directions under normal conditions, this product is fit for its intended purpose.

Since timing, method of application, weather and ground conditions, mixture with other chemicals, and other factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions, or under conditions which are abnormal or not reasonably foreseeable. The buyer and/or user assumes all risks of any such use.

PFV - February 1996

501 Murray Road, Cincinnati, Ohio 45217-1014 ***** Phone: 1-800 HAD-BIRD - FAX (513) 482-7377

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Department of Fisheries and Wildlife, University of Minnesota
URL: http://www.fw.umn.edu/research/goose/html/rj/rejexit3.html

Barricade®

65WG

Herbicide

For selective preemergence control of grass and broadleaf weeds in:

- established turfgrasses (excluding golf course putting greens), lawns and sod nurseries
- container, field-grown, and landscape ornamentals
- established perennials and wildflower plantings
- Christmas tree farms
- plants grown for cut foliage production (Florida only)

Active Ingredient:	
Prodiamine (CAS No. 29091-21-2)	65.0%
Other Ingredients:	35.0%
Total:	100.0%

See directions for use in attached booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-834

EPA Est. 62171-MS-001

Syngenta Crop Protection, Inc.
Greensboro, NC 27409
www.syngenta-us.com

SCP 834A-M4B 0601

KEEP OUT OF REACH OF CHILDREN.

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact, while mixing or handling the concentrated material, may cause allergic reactions in some individuals.

First Aid

If on skin: Wash with soap and water. Rinse thoroughly.

If inhaled: Remove victim to clear air.

If in eyes: Flush thoroughly with water for several minutes. Contact a physician if irritation persists.

Environmental Hazards

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Store in original container away from fertilizer, feed, or food stuffs and separated from other pesticides. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent) and dispose of container in a sanitary landfill or incinerate, or if allowed by state and local authorities, burn locally. Stay out of smoke from burning container.

For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Chemigation: Do not apply this product through any type of irrigation system.

3 pounds
Net Contents

syngenta

PULL HERE TO OPEN

Barricade® 65WG

Herbicide

For selective preemergence control of grass and broadleaf weeds in:

- *established turfgrasses (excluding golf course putting greens), lawns and sod nurseries*
- *container, field-grown, and landscape ornamentals*
- *established perennials and wildflower plantings*
- *Christmas tree farms*
- *plants grown for cut foliage production (Florida only)*

Active Ingredient:

Prodiamine (CAS No. 29091-21-2)	65.0%
Other Ingredients:	35.0%
Total:	100.0%

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-834

EPA Est. 62171-MS-001

Product of the United Kingdom
Formulated in the USA

SCP 834A-M4B 0601

3 pounds
Net Contents

syngenta

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact, while mixing or handling the concentrated material, may cause allergic reactions in some individuals.

First Aid

If on skin: Wash with soap and water. Rinse thoroughly.

If inhaled: Remove victim to clear air.

If in eyes: Flush thoroughly with water for several minutes. Contact a physician if irritation persists.

Personal Protective Equipment (PPE)

WPS USES:

Applicators and other handlers (other than mixers and loaders) who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR part 170) – in general, agricultural-plant uses are covered – must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Mixers and Loaders must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

NON-WPS USES:

Mixers and loaders who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR part 170) – in general, only agricultural-plant uses are covered by the WPS – must wear:

- Waterproof gloves

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly and change into clean clothing.

Environmental Hazards

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANT-ABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLI-GENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage

Store in original container away from fertilizer, feed, or food stuffs and separated from other pesticides.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Paper bags and boxes: Completely empty container into application equipment. Then dispose of empty bag or box in a sanitary landfill or incinerate; or, if allowed by state and local authorities, burn locally. Stay out of smoke from burning container.

Plastic jugs: Triple rinse (or equivalent) and dispose of container in a sanitary landfill or incinerate, or if allowed by state and local authorities, burn locally. Stay out of smoke from burning container.

For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Chemigation

Do not apply this product through any type of irrigation system.

Barricade® 65WG

GENERAL INFORMATION

WHERE TO USE

Barricade 65WG is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- established turfgrasses (excluding golf course putting greens), lawns and sod nurseries, and in container, field grown, and landscape ornamentals
- hardwood seedling nurseries and established perennial and wildflower plantings
- plants grown for cut foliage production
- Christmas tree farms

HOW BARRICADE 65WG WORKS

Barricade 65WG controls susceptible weeds by preventing growth and development of newly germinated weed seeds. Weed control is most effective when Barricade 65WG is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1 to 2 inches) before weed seeds germinate and within 14 days following application.

USE PRECAUTIONS

1. Do not graze or feed livestock forage cut from areas treated with Barricade 65WG.
2. Follow all applicable directions, restrictions, and precautions on the labels of EPA-registered tank mix partners.
3. Do not blend Barricade 65WG onto dry fertilizer or any other granular material.
4. **Chemigation:** Do not apply this product through any type of irrigation system unless instructed otherwise in this label.
5. Do not apply aerially.
6. Do not apply to golf course putting greens.

NEW PLANTINGS, REPLANTING, AND ROTATIONAL PLANTINGS

Nursery, landscape, or non-cropped land areas treated with Barricade 65WG should be rotated only to ornamental species listed on this label for 1 year following application unless the following test has shown species safety:

> Before planting a species not listed on this label, it is recommended that several test strips of an indicator plant such as wheat, sorghum, or corn be sown into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control.

MIXING AND APPLICATION PROCEDURES

MIXING

Barricade 65WG must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps:

1. Fill the spray tank 1/4 full with clean water or fluid fertilizer only.
2. Start agitation and check to ensure it is working properly.
3. Add Barricade 65WG directly into the tank.
4. Add the rest of the carrier to obtain the final spray volume.
5. A spray colorant may be used with Barricade 65WG to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
6. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension.
7. Do not allow spray suspension to dry in the tank. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent. Refer to the **Pesticide Disposal** section of this label for waste disposal.

TANK MIXING BARRICADE 65WG

Barricade 65WG may be tank mixed with certain other EPA-registered herbicides to provide a broader spectrum of weed control or to control emerged weeds. Refer to the specific directions for use for tank mix partners, and consult the label(s) of the individual tank mix partner(s) for use rate, application timing, weeds controlled, and specific precautions and/or restrictions. Tank mixes are permitted only in states where the tank mix partner(s) are registered for the application site and the turf and ornamental species listed. When using Barricade 65WG in a tank mixture with other pesticides, observe the most restrictive label limitations and precautions on the labels of the products used.

Before tank mixing pesticides, it is advisable to test compatibility by mixing the products in a small container first. See the **Compatibility Test** section.

COMPATIBILITY TEST

Before mixing Barricade 65WG with other pesticides in the spray tank, test the compatibility by mixing all components (carrier and pesticide products) in a small container in proportionate quantities. For example, a 1-qt. jar would be 1/100 the volume of a 25 gals./A spray rate. At 1 lb./A the Barricade 65WG rate would be proportional to 4.5 g per qt. Add approximately 1.5 teaspoons to a qt. of water. Calculate amounts for other products based on rate per acre. An approximate volume would be 1.5 teaspoons for each lb./A of a dry formulation and 0.5 teaspoons for each pt./A of a liquid formulation. (See following table.)

Amount of Component to Add to One Quart Jar of Spray Carrier
(Assuming Carrier Volume of 25 gals./A)

	Rate Per		
Component Formulations	Acre	1,000 sq. ft.	Level Teaspoons
Barricade 65WG	1.0 lb.	0.4 oz.	1.5
Dry Tank Mix Partners	1.0 lb.	0.4 oz.	1.5
Liquid Tank Mix Partners	1.0 pt.	0.4 oz.	0.5

If components do not ball-up or form flakes, sludge, gels, oily films or layers, then the mixture is compatible. Incompatibility will usually occur within 5 minutes after mixing. If the components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If components are still not compatible, do not tank mix.

MIXING ORDER FOR TANK MIXTURES

Notes: (1) When mixing Barricade 65WG with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. This is key when tank mixing with ester formulations. (2) Maintain agitation throughout mixing and application of the mixture.

Add the products to the spray tank in the following order:

1. Add products packaged in water-soluble bags first. Agitate the tank mixture. Allow the water-soluble bags to completely dissolve and the product to disperse before adding any other tank mix partner.
2. Then add water-dispersible granules (WDG or WG formulations) and wettable powders (WP formulations). Add wettable powders to the tank as agitation continues. Allow the product to disperse completely before other products are added.
3. Add spray adjuvants and spray markers. Read the adjuvant's label first and use only those adjuvants approved for application to turf and ornamentals.
4. Add flowable liquids (FL) or suspension concentrates (SC).
5. Add emulsifiable concentrates (EC) last.

APPLICATION

Apply Barricade 65WG in a minimum of 20 gals./A (0.5 gal./1,000 sq. ft.) of carrier (water and/or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A broadcast boom or handheld wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

SPECIFIC USE DIRECTIONS

ESTABLISHED TURF

Barricade 65WG is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including:

- Golf courses **excluding** putting greens
- Lawns
- Sod nurseries

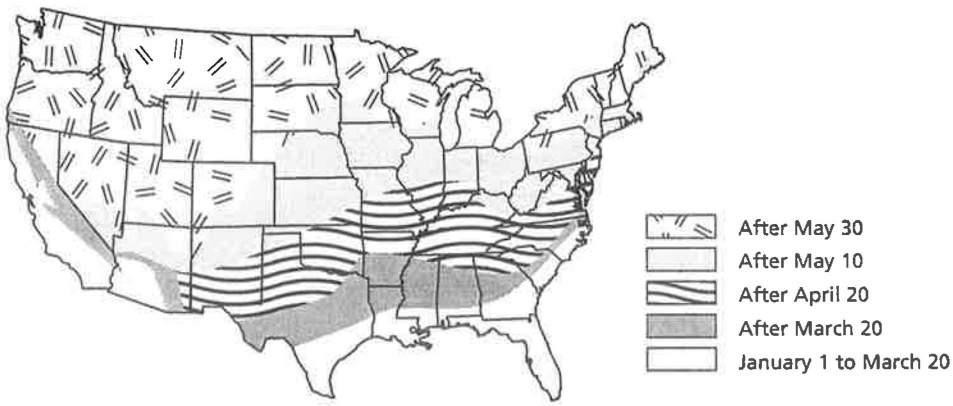
The maximum amount of Barricade 65WG that may be applied per year is given for each turfgrass species in the **Annual Use Rates** section of this label.

For optimum weed control, Barricade 65WG should be activated by at least 0.5 inch of rainfall or irrigation before weed seeds germinate and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

Barricade® 65WG

CRABGRASS SEED GERMINATION DATES

Approximate Date



Use Precautions – Turfgrass

1. Do not apply Barricade 65WG to areas where dichondra, colonial bentgrass, velvet bentgrass, or annual bluegrass (*Poa annua*) are desirable species.
2. Do not cut (harvest) treated sod before 90 days after application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
3. To avoid turfgrass injury, do not apply Barricade 65WG to turf stressed by conditions such as drought, low fertility, or pest damage.
4. Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.
5. ***Do not apply Barricade 65WG to golf course putting greens.***
6. If the depth of the creeping bentgrass root system becomes shallow and root tips contact Barricade-treated soil, new root formation may be inhibited. Mowing height can affect the depth of a plant's root system. To avoid this, do not apply Barricade 65WG to creeping bentgrass less than 0.5 inch in height.

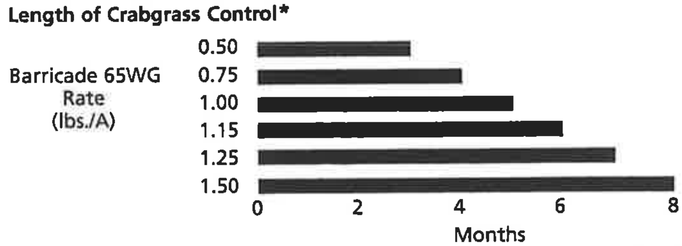
Application Timing and Rate – Turfgrass

Barricade 65WG may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications should be made before target weeds germinate. **Barricade 65WG will not control weeds that have already emerged.**

The amount of Barricade 65WG to apply depends upon:

1. the length of residual weed control desired (the higher the application rate, the longer the control),
2. the turf species, and
3. the maximum amount which can be applied to the turf species per calendar year.

Length of Crabgrass Control*



*Length of control varies by region. This table is an average for planning purposes.

Annual Use Rates – Turfgrass

Barricade 65WG can be applied to the turfgrass species listed in the following table. Do not apply more than the highest rate listed for each species in a calendar year.

Barricade® 65WG

Maximum Application Rate of Barricade 65WG Per Calendar Year by Turfgrass Species[1]

Turf Species	Lbs. product/A	oz. product/1,000 sq. ft.
Bermudagrass[2] Bahiagrass Centipedegrass Kikuyugrass Seashore Paspalum St. Augustinegrass[3] Tall Fescue (including turf-type) Zoysiagrass	1.0-2.30[1]	0.36-0.83
Buffalograss Kentucky Bluegrass Perennial Ryegrass	0.5-1.50[1]	0.185-0.55
Fine Fescue	0.5-1.15[1]	0.185-0.42
Creeping Bentgrass (0.5 inches or more in height)[4]	0.5-1.00[1]	0.185-0.37

[1]Barricade 65WG may be applied more than once a year as long as the total amount applied is not greater than the maximum application rate for each turf species. All applications must be made before weed seeds germinate.

[2]May be used on newly-sprigged or plugged Bermudagrass at rates not to exceed 0.80 lb./A (0.30 oz./1,000 sq. ft.). Newly-sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded.

[3]Use an initial rate of 0.75-1.5 lbs./A per application.

[4]To avoid grass injury, do not apply Barricade 65WG to creeping bentgrass mowed at less than 0.5 inch in height.

Weeds Controlled

When used as directed in this label, Barricade 65WG will control the following weeds:

Barnyardgrass
Bluegrass, Annual *(Poa annua)*[1]
Carpetweed
Chickweed, Common[2]
Chickweed, Mouseear (from seed)
Crabgrass (Large, Smooth)[3]
Crowfootgrass
Cupgrass, Woolly
Foxtails, Annual
Goosegrass[5]
Henbit[2]
Itchgrass
Johnsongrass (from seed)
Junglerice
Knotweed[2]
Kochia
Lambsquarters, Common
Lovegrass
Panicum (Texas, Fall, Browntop)
Pigweed
Purslane, Common
Pusley, Florida
Rescuegrass[4]
Shepherdspurse[2]
Signalgrass, Broadleaf
Speedwell, Persian
Sprangletop
Spurge, Prostrate
Witchgrass
Woodsorrel, Yellow (from seed)

[1]In areas where *Poa annua* is a winter annual, apply Barricade 65WG (see rate table) in August or September to established, non-overseeded turf before *Poa annua* seeds germinate. These timings are approximate. Consult State Extension Service for more specific timing for your area. Also see the section of this label ***Poa Annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only).**

[2]To control this weed, apply Barricade 65WG in late summer, fall, or winter before weed seeds germinate.

[3]**Fall Applications for Spring Crabgrass Control in Cool-Season Grasses:** In those areas where the ground freezes in the winter, Barricade 65WG can be applied in the fall at rates of 1.0-1.15 lbs./A after the soil temperature falls below 50°F but before the ground freezes. This application will control crabgrass the following spring.

[4]Suppression only.

[5]In any area a single application of 1-2.3 lbs./A of Barricade 65WG will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, most effective control may be obtained by making an initial application of 1-1.5 lbs./A followed, after 60-90 days, by a second application that does not exceed the maximum rate for that turfgrass species listed in the **Maximum Application Rate Table.**

When to Apply Barricade 65WG After Overseeding Turf

Injury to desirable seedlings is likely if Barricade 65WG is applied before the secondary roots of seedlings are in the second inch of soil (not thatch plus soil). To reduce the potential to injure overseeded turf, wait 60 days after seeding or until after the second mowing, whichever is longer, before applying Barricade 65WG.

When to Overseed After Application – All States*

Barricade 65WG will inhibit the development of turfgrass species overseeded too soon after application. Follow rates and intervals in the table below for best overseeding/reseeding results.

***Note: In AZ, CA, NV, and TX, the overseeding interval can be shorter in established bermudagrass that has been overseeded with perennial ryegrass. See the next section "*Poa Annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)".**

Amount of Barricade 65WG	Interval (Months) Before Overseeding		
Lbs. Product/A	North	Transition	South
0.75	4	4	4
1.00	5	4	4
1.15	6	5	5
1.25	—	6	6
1.50	—	7	7
1.75	—	—	9
2.00	—	—	10
2.30	—	—	12

Poa Annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)

Use on golf courses (excluding golf course putting greens), lawns, and sod nurseries when overseeding with perennial ryegrass (minimum seeding rate of 350 lbs./A).

How Much and When to Apply

Amount to Apply	When to Apply	Expected Control	Use Precautions
0.58-1.0 lb./A	6 to 8 weeks **before** ryegrass overseeding **second application:** 4 to 8 weeks **after** overseeding or when perennial ryegrass roots are in the second inch of soil	1 application for 70% or greater control of *Poa annua* second application may enhance control	1. Some seedling mortality and temporary reduction in root growth of new seedlings may occur. 2. To reduce the potential for seedling mortality, maintain a moist seedbed with light, frequent irrigation. 3. Make no more than 2 applications per year for this use, and do not exceed a total of 1.3 lbs./A per year. 4. Do not make a second application if any injury to the ryegrass is observed after the first application. 5. Do not make a second application unless the product was first applied before overseeding.

CONTAINER, FIELD GROWN, AND LANDSCAPE ORNAMENTALS (INCLUDING CHRISTMAS TREE FARMS)

Application Timing and Information

Barricade 65WG:

1. Will not control emerged weeds.
2. May be applied to newly-transplanted and established ornamentals as broadcast or over-the-top spray.
3. Is most effective when applied to soil free of clods, weeds, and debris such as leaves and mulch.
4. Is most effective when the product is activated in the soil before weed seeds germinate and within 14 days after application.
5. Is activated when the treated area receives at least 0.5 inch of irrigation or rainfall, or shallow (1 to 2 inches) mechanical incorporation.

Use Precautions

To reduce injury potential:

a. In the spring when buds are rapidly growing and expanding, over-the-top application of Barricade 65WG may temporarily injure new growth of desirable plants. To reduce the possibility of injury at this time, wait to apply Barricade 65WG over the top of newly emerged vegetation until it has hardened off, unless your experience indicates that the ornamental plant will not be injured by the over-the-top application.

b. After application, immediately irrigate the treated area to wash Barricade 65WG from plant surfaces onto soil (watering plants before application may improve the washing process).

Ornamentals and Christmas Tree Farms – Application Sites and Instructions

Site	Application Instructions
Newly-Transplanted Container or Field Nursery Stock	1. Delay application until soil has settled around transplants. 2. Water transplants thoroughly before application. 3. Apply after cuttings form roots and are established. 4. To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken.
Established Container, Field Nursery Stock, or Landscape Plants	Apply at any time as a broadcast, over-the-top, or directed spray.
Landscape (or Ornamental) Plantings	1. Apply as a broadcast, over-the-top, or as a directed spray. 2. Delay application to newly-transplanted ornamentals until soil has settled around transplants.
Bare Ground Application for Container Placement	1. Apply to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed. 2. After Barricade 65WG is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.
In Shadehouses and Uncovered Polyhouses	After Barricade 65WG is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive 2 irrigations totaling at least 1/2 inch of water.
Ornamental Bulbs and Perennial Wildflower Plantings	1. Barricade 65WG may be applied to bulbs or perennial wildflower species listed in the section, **Tolerant Ornamental Species.** 2. Apply before or after bulbs emerge but before bulbs bloom and weeds emerge. In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.

How Much and When to Apply/Ornamentals

Amount to Apply (Broadcast)*	When to Apply	Comments/Instructions
1.0-2.3 lbs./A or 0.37-0.83 oz./ 1,000 sq. ft.	In fall or spring before weeds germinate or after weeds are removed	1. Use the higher rate for longer control. 2. Barricade 65WG may be applied more than once per year as long as the total amount of product applied does not exceed 2.3 lbs./A per year.

***Note: For band application calculate amount per acre:**

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{broadcast rate} = \text{amount to apply per acre of field}$$

Equivalent Measurements for Barricade 65WG

Lbs./A	oz./1,000 sq. ft.	Approximate Equivalent – Tablespoons/1,000 sq. ft.
1.0	0.37	1
1.5	0.55	1.5
2.0	0.74	2
2.3	0.83	2.25

Tank Mixtures For Use On Ornamentals

Barricade 65WG may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Barricade 65WG are for use only in states where the tank mix partner(s), application site, and intended use pattern are registered.

Follow the label(s) of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before mixing pesticides in the spray tank, test compatibility by mixing the products in a small container first. See the **Compatibility Test** section of this label.

Tank Mix Partners for Barricade 65WG on Ornamentals

Product	Precautions/Instructions
Goal® (use on conifers only)	Mix with Barricade 65WG for postemergence control of certain broadleaf weeds including malva and filaree.
Gallery®, Princep®, Pennant®	See product labels for weed spectrum and tolerant ornamentals.
Roundup® or other glyphosate-based products[1], Finale®	1. These nonselective tank mix herbicides control most **emerged** annual broadleaves and grasses. 2. **Take extreme care** to prevent tank mixtures with these products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation may be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants. 3. Following instructions on the tank mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.

[1]Roundup is one brand of a nonselective herbicide containing glyphosate. Other glyphosate products may also be used.

Tolerant Ornamental Species

Barricade 65WG will not harm most trees, shrubs, vines, and flowers. The species listed below in Table 1 are tolerant to Barricade 65WG. Barricade 65WG is approved for application, except in CA, to the species in Table 2. Barricade 65WG may be applied over-the-top of the listed species.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Barricade 65WG.

Table 1 – Tolerant Ornamental Species – All States

Scientific name	Common name
Abies spp.**	Fir species** (Balsam, Fraser, Noble, etc.)
Acer palmatum	Japanese Maple
Acer platanoides	Norway Maple
*Actinidia chinensis**	Kiwi*
Agapanthus africanus	Lily-of-the-Nile (African Lily)
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aucuba japonica	Japanese Aucuba
Berberis gladwynensis	Barberry
Berberis julianae	Wintergreen Barberry
Berberis mentorensis	Mentor Barberry
Berberis thunbergii	Japanese Barberry
Berberis verruculosa	Warty Barberry
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisioides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Citrus spp.*	Citrus species*
Cornus florida	Flowering Dogwood
Cornus stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
Cotoneaster buxifolius	Cotoneaster
Cotoneaster dammeri	Bearberry Cotoneaster
Cotoneaster microphyllus	Rockspray Cotoneaster
Crataegus spp.	Hawthorne
Cupressus sempervirens	Italian Cypress
Delosperma alba	White Trailing Ice Plant
Dodonea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper
Euonymus japonica	Japanese Spindle Tree (Evergreen Euonymus)
Euonymus kiautschovica	Spreading Euonymus
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
Forsythia viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine

*Do not use on food producing trees, vines, or plants.

**Not for use on container grown plants.

Barricade® 65WG

Scientific name	Common name
Gladiolus spp.**	Gladiolus species**
Hedera helix	English Ivy
*Hibiscus***	Rose of Sharon**
*Hibiscus Rosa-sinensis***	Chinese Hibiscus**
*Ilex cornuta***	Chinese Holly**
Ilex crenata	Japanese Holly
Ilex opaca	American Holly
Ilex pernyi	Holly
Ilex vomitoria	Yaupon Holly
Iris spp.**	Iris species**
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper
Juniperus conferta	Shore Juniper
Juniperus horizontalis	Creeping Juniper
Juglans spp.*	Walnut*
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crape Myrtle
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Ligustrum lucidum	Glossy Privet (Wax-Leaf)
Liriope muscari	Big Blue Lillyturf
Lonicera japonica	Japanese Honeysuckle
Lonicera tatarica	Tatarian Honeysuckle
Magnolia spp.**	Magnolia species**
Maleophora luteola	Ice Plant
Malus spp.*	Crabapple*
Nandina domestica	Heavenly Bamboo
Narcissus spp.**	Narcissus species**
Nerium spp.	Oleander
*Olea europaea**	Olive*
*Ophiopogon japonicus***	Mondo Grass**
Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood
*Persea americana**	Avocado*
Photinia fraseri	Frasier's Photinia (Redtip)
Picea spp.**	Spruce species** (Colorado Blue, Norway, etc.)
Pieris japonica	Lily-of-the-Valley Shrub
Pinus brutia	Calabrian Pine
Pinus canariensis	Canary Island Pine
Pinus elliottii	Slash Pine
Pinus halepensis	Aleppo Pine
Pinus nigra	Austrian Black Pine
Pinus palustrus	Longleaf Pine
Pinus radiata	Monterey Pine
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scotch Pine
Pinus taeda	Loblolly Pine
Pinus thunbergiana	Japanese Black Pine
Pinus virginiana	Virginia Pine
Pistacia spp.*	Pistachio*
Pittosporum rhombifolium	Queensland Pittosporum
Pittosporum tobira	Japanese Pittosporum
Podocarpus macrophyllus	Japanese Yew
Prunus laurocerasus	English Laurel
Prunus spp.*	Almond, Apricot, Nectarine, Peach, Plum, and Prune*
*Pseudotsuga menziesii***	Douglas Fir**
Pyracantha coccinea	Firethorn Scarlet
Pyracantha fortuneana	Firethorn
Pyracantha koidzumii	Firethorn
Pyrus spp.	Bradford Pear spp.
Quercus rubra	Oak species
Raphiolepsis indica	Indian Hawthorne
Rhododendron (including Azalea)	'Coral Bells' 'Formosa' 'Hino-crimson' 'PJM' 'Roseum Elegans'
Rosa banksiae	Lady Bank's Rose
*Rosmarinus officinalis**	Rosemary*
Rumohra adiantiformis	Leatherleaf Fern
Santolina virens	
Sedum album	Stonecrop
Syzygium paniculatum	Japanese Boxcherry

* Do not use on food producing trees, vines, or plants.

** Not for use on container grown plants.

Scientific name	Common name
Taxus cuspidata	Japanese Yew
Taxus media	Yew
Thuja occidentalis	American Arborvitae
Trachelospermum asiatum	Star Jasmine
Tsuga canadensis	Canada Hemlock
Tulipa spp.	Tulip species
Viburnum japonicum	Japanese Viburnum
Viburnum odoratissimum	Sweet Viburnum
Viburnum plicatum	Japanese Snowball
Viburnum rigidum	Canary Island Viburnum
Viburnum tinus	Laurustinus
Viburnum trilobium	Cranberry Bush
Viburnum wrightii	Leatherleaf Viburnum
Vinca major	Vinca
Vinca minor	Dwarf Periwinkle
Vitis spp.*	Grape*
Weigela florida	Old Fashioned Weigela
Yucca aloifolia	Spanish Bayonet
Yucca filamentosa	Yucca, Adam's Needle

* Do not use on food producing trees, vines, or plants.

Table 2 – Tolerant Ornamental Species/Varieties – All States Except CA

Scientific name	Common name
Abelia grandiflora	Abelia: Sherwood
Achillea spp.	Yarrow: King Edward
Agapanthus orientalis	
Akebia quintata	Five-Leaf or Chocolate Vine
Allium cernuum	Lady's Leek, Nodding Onion
Anemone hybrida	Japanese Anemone
Aquilegia spp.	Aquilegia: Red and Gold
Artemisia spp.	Wormwood; Silver Mound, Castle
Aster spp.	Aster: Bonny Blue, Purple Dome
Aster X frikartii	
Athyrium filix-femina	Lady Fern; Fern Lady
Begonia spp.	Fibrous Begonia: Hardy Grandis
Bergenia cordifolia	
Boltonia asteroides	Snowbank
Bougainvillea spp.	Bougainvillea
Buddleia davidii	Butterfly-Bush (Dwarf Blue); Royal Red
Callistemon citrinus	Crimson Bottlebrush
Campanula carpatica	Tussock Bellflower; (White Clips)
Campis X tagliabuana	Trumpet Creeper, Trumpet Flower, Madame Galen
Ceratostigma plumbaginoides	
Chrysanthemum nipponicum	
Coreopsis spp.	Coreopsis (Calliopsis): Early Sunrise, Moonbeam
Crocosmia spp.	Lucifer
Delosperma spp.	Cooperi Pink
Delphinium spp.	Larkspur; Blue Elf
Dianthus deltoides	Dianthus, Maiden Pinks 'Zing'
Dianthus gratianopolitanus	Cheddar Pink
Echinacea purpurea	Coneflower, Purple; Magnus
Forsythia suspensa	Weeping Forsythia
Gaillardia spp.	Gaillardia, Blanket Flower: 'Goblin'
Gaura spp.	
Gentiana dahurica	Gentian
Geranium cinereum	Cranesbill
Gypsophila repens	Baby's Breath
Helianthemum spp.	Sunrose
Hemerocallis spp.	Daylily: Aztec Gold, Stella De Oro, Tender Love
Heucherella spp.	Coral Bell; Bridget Bloom
Hibiscus spp.	Mallow; Disco Belle White
Hosta plantaginea	Hosta, Plantain Lily (Fragrant)
Hosta sieboldiana	Hosta, 'Searsucker'
Houttuynia cordata var. variegata	
Hydrangea macrophylla	Bigleaf Hydrangea
Inula ensifolia	
Iris ensata	Sword-Leaved Iris; Jodlesong
Iris siberica	Siberian Iris; Cabernet
Juniperus davurica	Parsoni
Lagerstromia indica X fauriei	Crape Myrtle; Tuscarora
Lantana montevidensis	Weeping Lantana
Lavender spp.	Lavender; Munstead
Leontopodium alpinum	Edelweiss
Ligustrum sinense	Chinese Privet; Variegata

Barricade® 65WG

Scientific name	Common name
Lilium spp.	Lily; Jazz
Liriope muscari var. variegata	Liriope, Variegated
Liriope spicata	Liriope, Creeping
Lobelia cardinalis	Cardinal Flower, Indian Pink
Loropetalum chinense	Burgundy
Lythrum spp.	Loosestrife; Modern Pink
*Miscanthus sinensis***	Yaku Jima**, Silberfeder**
Oenothera missourensis	Evening Primrose
Osmanthus heterophyllus	Osmanthus (False Holly): Gulf Tide
Paeonia suffruticosa	Tree Peony
*Pennisetum setaceum***	Fountain Grass (Dwarf)**
Perovskia atriplicifolia	
Physostegia virginiana	Dragonhead, False; Vivid
Quercus Shumardii	Oak, Shumard's Red
Raphiolepsis umbellata	Yedda Hawthorne
Rhododendron (including Azalea)	'Delaware Valley White' 'Flame Creeper' 'Girard Crimson' 'George L. Tabor' 'Wakeiebisu' 'White Gumpo'
Rudbeckia spp.	Black-Eyed Susan: Goldstrum
Saxifraga spp.	Saxifrage; Purple Dome
Scabiosa spp.	Pincushion Flower
Sedum cauticola	Stonecrop; Lidakense
Sedum dasyphyllum	Stonecrop
Sedum spurium	Stonecrop; Dragon's Blood
Spiraea bumalda	Spirea: Anthony Waterer
Syzygium paniculatum	Australian Brushcherry
Teucrium spp.	Germander
Thalictrum dipterocarpum	Meadow Rue
Veronica spp.	Veronica, Speedwell; Sunny Border
Viburnum suspensum	Arrowood Viburnum

** Not for use on container grown plants.

For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.

Product of the United Kingdom
Formulated in the USA

Syngenta Crop Protection, Inc.
Greensboro, North Carolina 27409
www.syngenta-us.com

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MycorTree® Injectable

MycorTree® Injectable is a combination inoculant containing mycorrhizal fungi (both Ecto- and VAM) and beneficial rhizosphere bacteria. It is formulated for application using standard soil injection equipment. The mycorhizal fungi in *MycorTree® Injectable:*

- **Increase absorption and transfer of water and mineral nutrients from the soil to the plants**
- **Help plants mitigate adverse environmental conditions such as drought, soil salinity, and extremes of soil pH.**

MycorTree® Injectable also introduces six species of beneficial rhizosphere bacteria which improve soil fertility by:

- **Fixing atmospheric nitrogen**
- **Solubilizing mineral phosphorus**
- **Biodegrading soil organic matter, releasing mineral nutrients**

Finally, MycorTree® Injectable contains a proprietary isoflavone (formononetin) that increases root colonization by native or introduced VAM fungi.

DIRECTIONS FOR USE

ESTABLISHED TREES AND SHRUBS: Mix one "A" packet and one "B" packet in either order per 50 gallons of water to treat 1250 square feet. Agitate the mix thoroughly before application. Spray tanks with good agitation are recommended. Inject the mixed product under cool pressure (150-200 psi maximum) into the upper 8 to 10 inches of the root zone with the use of a soil probe at a rate of 1-quart per injection on 2.5 to 3 foot centers. At a minimum, treat the root zone under the canopy and when possible, beyond the drip line. Avoid hot injection systems, as prolonged heat above 115° F can kill the spores.

In highly compacted soils or confined rooting areas:
Mix two "A" packets and two "B" packets per 50 gallons of water and inject 1 pint on 2.5 to 3 foot centers to treat 2500 square feet, or use granular MycorTree® Vertimulch.

B&B TRANSPLANTS: Mix one "A" packet and one "B" packet per 50 gallons of water, agitate thoroughly, inject into root ball and outside edges under 150-200 psi maximum with a soil probe at a rate of 1 quart per injection. Follow injection chart below:

APPLICATION RATES

Caliper	Rootball diam.*	Rate per Tree	# Injection Sites
2 inch	24 inch	1.5 gallons	6
3 inch	36 inch	2 gallons	8
4-5 inch	48-50 inch	3 gallons	12
6 inch	60 inch	4 gallons	16
7 inch	70 inch	5 gallons	20
8 inch	80 inch	6 gallons	24

** B & B Root ball diameters are based on tree size according to American Nursery*

Not recommended for use as a soil drench.

Mixed solution should be used within a 12 hour period.

Plant Health Care, Inc. • 440 William Pitt Way • Pittsburgh, PA 15238
Tel: (800) 421-9051 • Fax: (412) 826-5445 • **www.planthealthcare.com**

SOIL INJECTABLE MYCORRHIZAL FUNGAL INOCULANT

GUARANTEED ANALYSIS

(Combined A & B contents)

CONTAINS NON PLANT FOOD INGREDIENTS	
ECTOMYCORRHIZAL FUNGI	
Pisolithus tinctorius	1.78 Billion spores/Lb (3.9 Million spores/g)
VA ENDOMYCORRHIZAL (VAM) FUNGI	
Glomus clarum	20,000 spores/Lb (44 spores/g)
Glomus etunicatum	20,000 spores/Lb (44 spores/g)
Glomus intraradices	20,000 spores/Lb (44 spores/g)
Entrophospora columbiana	20,000 spores/Lb (44 spores/g)
BENEFICIAL RHIZOSPHERE BACTERIA	
Bacillus licheniformis	3.75 Billion cfu/Lb (8.26 Million cfu/g)
Bacillus megaterium	3.75 Billion cfu/Lb (8.26 Million cfu/g)
Bacillus polymyxa	3.75 Billion cfu/Lb (8.26 Million cfu/g)
Bacillus subtilis	3.75 Billion cfu/Lb (8.26 Million cfu/g)
Bacillus thuringiensis	3.75 Billion cfu/Lb (8.26 Million cfu/g)
Paenibacillus azotofixans	3.75 Billion cfu/Lb (8.26 Million cfu/g)
SOIL AMENDING INGREDIENTS	**% by Weight**
Maltodextrin	43.5%
Soluble seaweed extract (derived from *Ascophyllum nodosum*)	16.5%
Humic acids (derived from Leonardite)	15.5%
Yeast extract	2.5%
Sugar (dextrose)	7%
Formononetin	0.2%
Yucca plant powder	0.7%
INERT INGREDIENTS	14.1%

STORAGE/SHELF LIFE

This product is stable in cool, dry storage conditions.
See expiration date on package.

HEALTH AND SAFETY INFORMATION

- In case of allergic reaction(s), treat symptoms and contact physician.
- Avoid breathing dust or spray mist.
- Wash hands after handling.
- In case of ingestion, seek medical attention.
- **Keep out of reach of children.**

PACKAGING

8-oz co-pak, 4 per box

TECHNICAL ASSISTANCE

For technical assistance, call 1-800-421-9051

PLANT HEALTH CARE, INC.

LIMITED WARRANTY Plant Health Care, Inc. offers for sale the product MycorTree® Injectable. THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE which extend beyond the description of the product in this specification sheet or other product literature, and liability of Plant Health Care, Inc. is limited to replacement of any product which does not meet these specifications. Suggestions for use and information on results obtained with its use are assumed by the manufacturer to be reliable. Since conditions of use are outside the control of Plant Health Care, Inc. the buyer is responsible for all results, including injury and damage stemming from the use of this product alone or in combination with other materials.

PHC BioPak®

PHC BioPak® enriches the soil profile with beneficial microbes which act as a sustainable fertility "system." Once the microbes are in place in the root zone, they solubilize phosphorus, fix atmosheric nitrogen and can gradually improve soil tilth, processes that encourage healthy root growth. *PHC BioPak®:*

- **Increases organic content of the soil**
- **Increases the natural bioactivity in sterile or depleted soils**
- **Improves fertility in the root zone**

DIRECTIONS FOR USE

Add PHC BioPak® to the spray or injection tank. PHC BioPak® has a near-neutral pH of 6.0. As a result, PHC BioPak® can be tank mixed with most diluted pesticides and NPK fertilizers. Add PHC BioPak® to the tank last, after all other products have been diluted.
PHC BioPak® can be applied to soil by spray, drench, fertigation, or soil injection techniques. If applied to soil surface, follow with water to wash the product down into the root zone.

Hose-End Sprayer: Add 1 cup of PHC BioPak® into cartridge and spray over 10,000 square feet of lawn or 5000 square feet of flower bed. Follow with water to wash product into the root zone. Mixed solution should be used within a 12 hour period.

APPLICATION RATES

TREE/SHRUB CARE RATES

Application	PHC BioPak	Water Volume	Coverage	Frequency
Installation	1 pounds	50 to 100 gallons	1250 square feet	At planting
Maintenance	1/2 pounds	50 to 100 gallons	1250 square feet	Monthly
Stress Recovery	1 pounds	50 to 100 gallons	1250 square feet	As needed

TURF CARE RATES

Application	PHC BioPak	Water Volume	Coverage	Frequency
Greens and Tees	1 pound	50 to 100 gallons	1 acre	Monthly
Fairways and Lawns	1 pound	50 to 100 gallons	1 acre	As needed
New Seeding or Overseeding	2 pounds	50 to 100 gallons	1 acre	Every 2 to 4 weeks after germination
Sod Installation	2 pounds	50 to 100 gallons	1 acre	1 to 2 weeks prior to harvest or immediately after installation

ORNAMENTAL PLANTS/POTTED PLANTS

Application	PHC BioPak	Water Volume	Coverage	Frequency
Flower Beds	1/4 pound	5 to 15 gallons	5000 sq ft	Every 2 to 4 weeks
Potted Plants	2 teaspoons	1 gallon	Apply 1/4 of pot volume	Every 2 to 4 weeks

IN-LINE SYSTEMS

Fertigation	PHC BioPak	Mix Tank	Dilution Setting	Frequency
Dosatron	5 pounds	5 gallons	1:100	Every 2 to 4 weeks

After application, rinse water through system,

RENEWABLE, SUSTAINABLE FERTILITY

GUARANTEED ANALYSIS

BENEFICIAL RHIZOSPHERE BACTERIA	45 Billion cfu/Lb
Bacillus licheniformis	7.5 Billion cfu/Lb
Bacillus megaterium	7.5 Billion cfu/Lb
Bacillus polymyxa	7.5 Billion cfu/Lb
Bacillus subtilis	7.5 Billion cfu/Lb
Bacillus thuringiensis	7.5 Billion cfu/Lb
Paenibacillus azotofixans	7.5 Billion cfu/Lb
NON PLANT FOOD INGREDIENTS	**% by Weight**
Humic acids	31%
Sea kelp extract Derived from *Ascophyllum nodosum*	35%
Sugar	13.5%
Yeast extract	5.5%
Inert Ingredients	15%

STORAGE/SHELF LIFE

This product is stable in cool, dry storage conditions. See expiration date on package.

HEALTH AND SAFETY INFORMATION

- In case of allergic reaction(s), treat symptoms and contact physician.
- Avoid breathing dust or spray mist.
- Wash hands after handling.
- In case of ingestion, seek medical attention.
- **Keep out of reach of children.**

PACKAGING

1-Lb jar, 1/4-Lb bag, 10 per box, 1-Lb bag, 5 per box

TECHNICAL ASSISTANCE

For technical assistance, call 1-800-421-9051

PLANT HEALTH CARE, INC.

Plant Health Care, Inc. • 440 William Pitt Way
Pittsburgh, PA 15238 • Tel: (800) 421-9051
Fax: (412) 826-5445 • www.planthealthcare.com

LIMITED WARRANTY Plant Health Care, Inc. offers for sale the product PHC BioPak®. THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE which extend beyond the description of the product in this specification sheet or other product literature, and liability of Plant Health Care, Inc. is limited to replacement of any product which does not meet these specifications. Suggestions for use and information on results obtained with its use are assumed by the manufacturer to be reliable. Since conditions of use are outside the control of Plant Health Care, Inc. the buyer is responsible for all results, including injury and damage stemming from the use of this product alone or in combination with other materials.

BOLSTER

From Suståne®

Plant Growth Supplement

Description:

BOLSTER is a concentrated plant growth supplement specifically developed to prepare plants for improved growth in sub-optimum and stress conditions. BOLSTER is a scientifically balanced formulation of cold processed seaweed extracts, humic acid and plant nutrients, which provide optimum growth potential. Seaweed extract from *Ascophyllum nodosum* is an excellent source of auxin, cytokinin and gibberellin hormones and trace minerals. These hormones are combined with humic extracts from Leonardite and a specially chelated iron that is readily available.

BOLSTER's performance is proven in over four years of field research and university testing.

BOLSTER is an important segment of integrated turf management and resource conservation.

Causes of Sub-optimum and Stress Conditions:

- Drought Conditions
- Adverse Temperatures
- Chilling Frost
- Parasitic Nematodes
- Saline Soils
- Poor Root Development
- High Salt Index of
- Irrigation Water
- Traffic/Wear
- Low Cutting Height
- Disease

Benefits of BOLSTER used in an Integrated Turf Management Program:

- Prepares plants for stress conditions
- Increases root mass and depth without a flush of topgrowth
- Improves drought resistance
  - ⇒ Increases the plant's water absorption and retention
  - ⇒ Reduces the plant's wilting potential
- Increases chlorophyll production and delay leaf senescence
- Increases salt tolerance to saline soils and irrigation water high in salts
- Improves cold tolerance and may extend the growing season of warm season grasses parasitic nematodes
- Improves plant color with specially chelated iron
- Enhance seedling establishment of new turf and overseeded sites
- Faster plant recovery from stress

Guaranteed Product Analysis:

Sulfur (S) (combined)..2%

Iron (Fe)..5%

Non plant food Ingredients:

Solubilized seaweed (*Ascophyllum nodosum*)..........2%

Humic acids from Leonardite...............................4%

Application:

Note: All rates given are concentrate levels, prior to dilution with water.

- **Always shake well before using**
- **Dilute** with water at rate of 30 : 1
- **For Greens and Tees -** apply 1.5-3 oz./1000 sq. ft. and repeat every 2-4 weeks as needed
- **For Fairways, Sportsfields & Lawns –** apply 1 gallon per acre, 3 oz. per 1000 sq. ft., 3 times per year at 8-10 week intervals
- **For Hydroseeding –** with mixture at 1 gallon per acre
- **For Overseeding –** apply 1 gallon per acre, 3 oz. per 1000 sq. ft., after seeding
- **For New Seedlings –** apply 1 gallon per acre, 3 oz. per 1000 sq. ft., 3 times per year at 8-10 week intervals
- **For Sod Installation -** apply 1 gallon per acre, 3 oz. per 1000 sq. ft., 2 weeks prior to and after sod installation
- **Deep Root Feed for Trees –** Do ***NOT*** foliar apply. Apply in holes 4"-24" deep in a 2' x 2' grid pattern within dripline, at a rate of 2 oz. per one inch diameter at breast height of tree
- **Soil Drench for Trees –** apply 3 gallon per acre annually
- **Root Dip –** place roots in dilution for 2 minutes

THIS PRODUCT IS INTENDED AS A SUPPLEMENT TO A REGULAR FERTILIZER PROGRAM AND WILL NOT BY ITSELF SUPPLY ALL THE NUTRIENTS NORMALLY REQUIRED BY PLANTS.

Compatibility: Can be tank mixed with most fertilizers although the standard jar test should be run prior to mixing.

Suståne/Natural Fertilizer of America

310 Holiday Avenue • P.O. Box 19 • Cannon Falls, MN 55009-0019

Phone number: (507) 263-3003 • Watts Number: 800-352-9245 • Fax Number: (507) 263-3029

E-mail: help@sustane.com • website: www.sustane.com

DIMENSION* 0.10% Plus Fertilizer

APPLICATION DIRECTIONS - Control of Crabgrass Pre-emergence and Early Post-emergence Control

This product provides "pre-emergence" control of crabgrass (including the large, smooth, and southern species) when applied prior to the emergence of crabgrass from the ground in established lawns and ornamental turfs. It can also provide "early post-emergence" control of crabgrass during the early stages of crabgrass growth after the crabgrass has emerged from the ground. However, it is often difficult to see the very small, early stages of crabgrass in well-established lawns and ornamental turfs. Post-emergence crabgrass control will be obtained only when this product is applied prior to the tillering of crabgrass, which generally corresponds to the time when you can first easily see the crabgrass plants in the lawn or turf. So the practical benefit of this product's additional, early post-emergence activity is that (compared to strictly pre-emergence crabgrass products), Dimension controls crabgrass prior to and up to 4 weeks after germination.

Application Frequency and Timing

This product may be applied as a single application, as a split application, or as a sequential application for crabgrass control in the spring, summer, or fall.
DO NOT apply more than 11.47 lb of this product per 1,000 sq ft per application, and no more than 34.41 lb of this product per 1,000 sq ft per year.

Spring Applications

For single applications made in the spring or early summer, this product should be applied at the appropriate rate corresponding to one of the three control programs listed in Table 1 below, depending on the user's location, the turfgrass mowing height, and whether the use is considered to be pre-emergence or early post-emergence at the time of the application. The duration of residual weed control provided by this product is directly related to the total rate applied, but will vary somewhat depending on weather, weed pressure, turfgrass competitiveness, and the user's location within a region.

Use Program #1 for pre-emergence control at sites where the turfgrass is cut high (e.g., homeowner lawns). This program provides 3-5 months of pre-emergence crabgrass control. This program should not be used for early post-emergence crabgrass control.

Use Program #2 for pre-emergence control at sites where (a) turfgrass is cut low (e.g., golf fairways), and (b) turfgrass maintenance or weed control has not been conducted during the previous year. This program provides 4-6 months of pre-emergence crabgrass control. This program may also be used for early post-emergence control at sites where turfgrass is cut high (e.g., homeowner lawns).

Use Program #3 for pre-emergence control at sites where (a) turfgrass is cut low (e.g., golf fairways) and (b) turf maintenance or weed control has not been conducted during the previous year. This program provides 4-6 months of pre-emergence crabgrass control. This program may also be used for early post-emergence control at sites where turfgrass is cut low (e.g., golf fairways).

Subsequent, sequential pre- and/or post-emergence applications should be made where longer periods of control are desired.

Where split fertilizer applications are recommended, the rates in Table 1 may be split across two applications made 6-10 weeks apart and prior to crabgrass emergence.

Table 1: Recommended Single Application Use Rates*

PROGRAM	#1	#2	#3
USE (turfgrass cut) / REGION	Pre-emergence (high-cut turf)	Pre-emergence (low-cut turf) Post-emergence (high-cut turf)	Pre-emergence (low-cut turf) Post-emergence (low-cut turf)
North	2.86 lb/1,000 sq ft‡	4.13 lb/1,000 sq ft‡	5.73 lb/1,000 sq ft
Transition	4.13 lb/1,000 sq ft‡	5.73 lb/1,000 sq ft	8.49 lb/1,000 sq ft
South	5.73 lb/1,000 sq ft	8.49 lb/1,000 sq ft	11.47 lb/1,000 sq ft
Coastal South	8.49 lb/1,000 sq ft	11.47 lb/1,000 sq ft	11.47 lb/1,000 sq ft**

Note: 5.73 lb per 1,000 sq ft is equal to 0.25 lb active ingredient per acre.
‡ Particle distribution at this rate may not provide adequate control or suppression.
*DO NOT apply more than 11.47 lb of this product per 1,000 sq ft per application, and no more than 34.41 lb of this product per 1,000 sq ft per year. Post-emergence control is limited; see "Crabgrass Control" and "Precautions" sections above. Regions include areas listed below. See map of the United States.

North: all areas not designated below.
Transition: DE, KS, KY, MD, MO, NJ, VA, southeastern PA, southern areas of IL, IN, OH, & coastal areas of CT, NY, & RI.
South: AL, AR, AZ, CA, GA, LA, MS, NC, NM, NV, OK, SC, TN, & TX.
Coastal South: HI, FL, & southern coastal areas of AL, GA, LA, MS, NC, SC, & TX.
** May require split or sequential applications for full control.

Fall Applications

This product can also be applied in the late summer or early fall (late August through November) at the "Program 3" use rates listed in Table 1 to provide control of crabgrass through the early part of the next spring. The fall application should be followed by an appropriate spring application to provide season-long control.

Tips for Improved Control

For best results, apply this product within a few days after mowing and delay mowing again for a few days after the application. When treated lawn or ornamental turf areas are watered or receive significant rainfall within a few days after application of this product, improved weed control may result.
Use of split (half-rate) applications spaced 6-8 weeks apart may provide improved weed control.

APPLICATION DIRECTIONS - Control of Other Grasses and Broadleaf Weeds

Spring Application

Used as directed for crabgrass control in the spring, this product will also control (at the "Program 3" rates) the following weeds when applied prior to their emergence:

barnyardgrass	ryegrass (annual & perennial)
bluegrass (annual)	smutgrass
crowfootgrass	lespedeza (common)
foxtail (yellow & green)*	oxalis (buttercup, creeping & yellow woodsorrel)
goosegrass	purslane (common)
kikuyugrass	speedwell (corn)
	spurge (prostrate & spotted)

*Also controlled at the "Program 2" rates.

Fall Applications

Used as directed for late summer or early fall use, for crabgrass control through the early part of the next spring, this product will also control (at the "Program 3" rates) the following weeds when applied prior to their emergence:

bluegrass (annual)	geranium (Carolina)
bittercress	parsley-piert
chickweed	pineappleweed
henbit	shepherd's purse

SUGGESTED SPREADER SETTINGS*

(Recommended Rates in lb per 1,000 sq ft)

Spreader	2.86 lb	4.13 lb	5.73 lb	8.49 lb	11.47 lb
LESCO Calibration Gauge	#12	#14	#15	#18	—
SCOTTS® R8A	I	J	J ½	L	—
Cyclone® or Spyker®	3½	4	4¼	4¾	—
LESCO Pendulum	16	20	28	34	—

*IMPORTANT: These settings are only approximate. Age, condition of spreader, and operator speed can cause wide variation. Be sure to calibrate your spreader with each application.

APPLICATION EQUIPMENT AND INSTRUCTIONS

Apply this product with drop or rotary spreaders designed to apply granular herbicides. Avoid the use of spreaders that would apply this product in narrow rows or concentrated bands. Before each application, calibrate the spreader according to the equipment manufacturer's directions for adjusting the spreader settings such that the spreader delivers the appropriate application rate recommended above. Apply this product uniformly over the lawn or ornamental turf area. A more uniform application can be made by spreading half of the required amount over the area and then applying the remaining half at a right angle to the previous direction. Avoid streaking, skips, or overlaps during application. Check equipment frequently to ensure equipment is functioning properly and applying uniform distribution of granules.

STORAGE AND DISPOSAL

STORAGE: Store this product only in its original container in a dry, cool, secured storage area. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.
PRODUCT DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures. Or call or [1-800-CLEANUP] for disposal instructions. Never place unused product down any indoor or outdoor drain.
EMPTY CONTAINER DISPOSAL: Do not reuse bag. Dispose of emptied bag(s) in a sanitary landfill approved for pesticide disposal, or by incineration.
SPILL: In case of spill, sweep up material and dispose of material according to "product disposal" directions listed above.

WARRANTY

LESCO, Inc. warrants that this product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. LESCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES EITHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. Handling, storage and use of the product by Buyer or User are beyond the control of LESCO and Seller. Risks such as crop injury, ineffectiveness or other unintended consequences resulting from, but not limited to , weather or soil conditions, presence of other materials, disease, pest, drift to other crops or property or failure to follow label directions will be assumed by the Buyer or User. IN NO CASE WILL LESCO OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE, OR USE OF THIS PRODUCT.

Information concerning the raw materials composing this product can be obtained by writing to: LESCO, Inc., Attn: RA Dept., 1301 East 9th Street, Suite 1300, Cleveland, Ohio 44114-1849, referring to the item number found on this bag.

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.regulatory-info-a1.com

G:\REGUL\WP\ERIEVIEW\Aprvd Lbl - Word\Control Products\Dimension\080384.doc
Created: 3/5/03 (020503) Rev. 10/21/04 BM

Net Weight: 50 lb (22.7 kg)

EPA REG. NO. 10404-85
EPA EST. NO. 10404-OH-04 (M), 10404-FL-01 (S)
First letter of lot code indicates manufacturing site.

#080384 (Back)

F1560
Manufactured by: LESCO, Inc.
1301 East 9th Street
Cleveland, OH 44114-1849

(01)00758073803843

DIMENSION* 0.10% Plus Fertilizer

NOT FOR USE on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

In New York State this product may only be used by commercial applicators and at no more than 500 lb (0.5 lb of active ingredient) per acre per year (or 11.5 lb product per 1,000 ft sq per year) and is prohibited from use in Nassau and Suffolk Counties.

ACTIVE INGREDIENT:

Dithiopyr, 3,5-pyridinedicarbothioic acid, 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-S,S-dimethyl ester	0.10%
INERT INGREDIENTS:	99.90%
Total:	100.00%

Product protected by U.S. Patent No. 4,692,184. Other patents pending.

Read the entire label before using this product. Use only according to label instructions.

NOTICE: Before using this product, read the Use Precautions, Warranty Statements, Directions for Use, and the Storage and Disposal Instructions. If the Warranty statements are not acceptable, return the product unopened within thirty days of purchase to the place of purchase.

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact Chem-Trec at 1-800-424-9300 for emergency medical treatment information.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! CAUSES EYE IRRITATION. HARMFUL IF INHALED. Avoid contact with eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact while handling this material may cause allergic reaction in some individuals.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and highly toxic to other aquatic organisms including oysters and shrimp. Use with care when applying to turf areas adjacent to any body of water. Drift and runoff from treated turf may adversely affect aquatic organisms in adjacent aquatic sites. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

GENERAL INFORMATION

This product is a herbicide that provides control of crabgrass, other annual grasses, and broadleaf weeds in established lawns and ornamental turfs, including golf course fairways, roughs, and tee boxes. This product will not harm nearby established ornamentals when used according to label directions.

This product may be used on seeded, sodded, or sprigged lawns and ornamental turfs that are well-established. The grass must have developed a good root system and a uniform stand, and have received at least two mowings following its seeding, sodding, or sprigging before it can receive its first application of this product. Use of this product on lawns and ornamental turfs that are not well-established, or on those that have been weakened by weather-, pest-, disease-, chemical-, or mechanical-related stress, may increase the chances for turf injury.

This product should only be applied to lawns and ornamental turfs that are composed of the following turfgrass species that have been determined to be tolerant to applications of this product. When applied as directed under these use directions, the following established turfgrasses are tolerant to this product:

Cool-Season Grasses

Common Name	Scientific Name
Bentgrass, creeping*	*Agrostis palustris*
Bluegrass, Kentucky	*Poa pratensis*
Fescue, fine**	*Festuca rubra*
Fescue, tall	*Festuca arundinacea*
Ryegrass, perennial	*Lolium perenne*

Warm-Season Grasses

Common Name	Scientific Name
Bahiagrass	*Paspalum notatum*
Bermudagrass	*Cynodon dactylon*
Buffalograss***	*Buchloe dactyloides*
Carpetgrass	*Axonopus affinis*
Centipedegrass	*Eremochloa ophiuroides*
Kikuyugrass	*Pennisetum clandestinum*
St. Augustinegrass	*Stenotaphrum secundatum*
Zoysiagrass	*Zoysia, japonica*

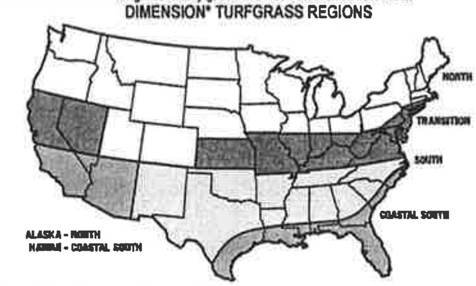
DO NOT apply this product to Colonial Bentgrass (*Agrostis tenuis*) varieties.

*Use of this product on certain varieties of Creeping Bentgrass, such as 'Cohansey', 'Carmen', 'Seaside', and 'Washington' may result in undesirable turfgrass injury. Not all varieties of Creeping Bentgrass have been tested.

**Use of this product on certain varieties of Fine Fescue may result in undesirable turf injury. The following Fine Fescue varieties have been found to be sensitive to this product: 'Atlanta', 'Banner', 'Beauty', 'Biljart', 'CF-2', 'Enjoy', 'HF-93', 'Highlight', 'Ivalo', 'Jamestown', 'Koket', 'Majenta', 'Mary', 'Pennlawn', 'Tamara', 'Tatjana', 'Waldorf', and 'Waldina'. Not all varieties of Fine Fescue have been tested.

***DO NOT use this product on seedling Buffalograss in the spring of the first year of establishment until the turfgrass is fully green and has established new roots.

DIMENSION* TURFGRASS REGIONS



Reseeding, Overseeding, or Sprigging

Reseeding, overseeding or sprigging of treated areas with this product should be delayed until 12 weeks from the time of application. Reseeding, overseeding or sprigging before 12 weeks after application may prevent establishment of desirable turfgrasses. When reseeding or overseeding, proper cultural practice such as soil cultivation, irrigation and fertilization should be followed.

However, if overseeding with perennial ryegrass in the fall, overseed 8 weeks or later after a single application.

For best results, use mechanical or power seeding equipment (slit seeders) designed to give good seed to soil contact.

USE PRECAUTIONS

- **Not for use on Golf Course Putting Greens.**
- The early post-emergence crabgrass control described below is limited. Post-emergence applications are only effective on crabgrass if applied before crabgrass has displayed its fifth leaf or first tiller. For best results, cultural practices that disturb the soil, such as core-, spike-, or hydro-aerification, and verticutting, should be done before application of this product. DO NOT apply this product until the grass has recovered from these cultural practices.
- Apply this product directly to established lawns or ornamental turfs only.
- DO NOT apply to flowers, vegetables, shrubs, or trees.
- DO NOT use clippings from treated turf for mulching around vegetables or fruit trees.
- DO NOT apply this product to pastures. Keep people and pets off treated areas until dust has settled.

0-0-7

MINI FERTILIZER
GUARANTEED ANALYSIS

SOLUBLE POTASH (K_2O)	7.00%
DERIVED FROM: Muriate of Potash.	
CHLORINE (Cl) Max.	5.50%

#080384 (Front) Net Weight: 50 lb (22.7 kg)

Specimen Label

SePRO

FlightControl® PLUS

For Geese Repellency

Active Ingredient:

9,10-anthraquinone	50.00 %
Other Ingredients	50.00 %
Total	100.00 %

For best results: Product may separate if allowed to sit. Resuspend with agitation. Keep from freezing.

Precautionary Statements

Keep Out of Reach of Children

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Harmful if inhaled. Avoid breathing vapor or spray mist. Remove contaminated clothing and wash clothing before reuse. Causes moderate eye irritation. Avoid contact with eyes or clothing.

Refer to inside of label booklet for additional precautionary information and Directions for Use.

Notice: Read the entire label before using. Use only according to label directions. **Before buying or using this product, read "Condition of Sales and Warranty" inside label booklet.**

Personal Protective Equipment
When handling Flight*Control*® PLUS use long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves.

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call **INFOTRAC at 1-800-535-5053**.

Environmental Hazards
Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this product only as specified on this label.

EPA Reg. No. 69969-1-67690 EPA Est. No. 62171-MS-1
FPL 051304

Manufactured for:
SePRO Corporation Carmel, IN 46032 U.S.A.
FlightControl is a registered trademark of Arkion Life Sciences

FlightControl® PLUS For Geese Repellency

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS: This product may be used to repel geese, including Canada geese.

For Professional Application to Lawns.

- Repels geese from terrestrial areas at or near airports.
- Repels geese from grassy areas at commercial sites, industrial sites, municipal sites or in developed urban areas.
- Repels geese from golf courses, ornamental nurseries and conifer nurseries.

FOR THE STATE OF NEW YORK USE THE FOLLOWING DIRECTIONS:
For professional application to repel geese at the following sites only:

- Terrestrial areas at or near airports.
- Grassy areas at commercial sites and industrial sites.
- Golf courses.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment.

Pesticide Storage: Do not allow containers to freeze. After prolonged storage, product may separate. If this occurs, resuspend with agitation.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. SePRO Corporation also can be contacted for guidance on the disposal of pesticide wastes.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incinerator or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED ALTERNATIVE PROCEDURES

General Information

To prevent contamination of the dilute solution of Flight*Control*® PLUS by other chemical residues, be sure that the equipment is thoroughly clean before use or use dedicated equipment.
Apply product using properly calibrated and maintained spray equipment. Do not apply when surface to be treated is wet or when rain is expected. **For best results, allow product to dry on turf grass surface prior to rainfall.** Mowing treated areas will remove product and reduce product effectiveness.

For application by professional applicators only. Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

MIXING DIRECTIONS: Thoroughly shake or stir Flight*Control*® PLUS prior to diluting with water.

APPLICATION DIRECTIONS:
When geese have begun to flock in one area and are problematic, apply Flight*Control*® PLUS according to the following rates to the grassy, turf, or forage areas where geese are expected to feed/roost. To determine if the geese are problematic, conduct a visual inspection (bird count) by responsible officials/parties before application.

Grassy or Turf Areas:

- In most cases, dilute 2 quarts of Flight*Control*® PLUS with 50 gallons of water and apply per acre of grass, turf or land surface (1.5 oz. Flight*Control*® PLUS per 1,000 sq. feet). You might need to use as much as one gallon diluted in 50 gallons of water per acre for extreme bird pressure. Your supplier will provide individualized assistance on concentrations to be used under existing conditions.
- Mix with water based on spray equipment specifications and recommendations.
- Apply using a fine spray pattern to evenly distribute over entire surface to be treated.
- Allow material to dry before permitting human activity in the treated area.
- Spray at weekly intervals or as required by geese activity and anticipated seasonal migrations.
- When applying to turf, cutting of the lawn will reduce amount of repellent available.

Condition of Sales and Warranty

SePRO Corporation warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. Since timing, method of application, weather and ground conditions, mixture with other chemicals, and other factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions, or under conditions which are abnormal or not reasonably foreseeable. SEPRO CORPORATION MAKES NO OTHER WARRANTIES EITHER EXPRESS OR IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. Handling, storage and use of the product by Buyer or User are beyond the control of SePRO Corporation and Seller. Risks such as ineffectiveness or other directions will be assumed by the Buyer or User. IN NO CASE WILL SePRO CORPORATION OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT, NOR HELD RESPONSIBLE FOR INJURY OR LOSS AS A RESULT OF THE HANDLING OR USE OF THIS PRODUCT.

The terms of the Condition of Sales and Warranty cannot be varied by any written or verbal statements or agreements. No employee or sales agent of SePRO Corporation or the seller is authorized to vary or exceed the terms of the Condition of Sales and Warranty in any manner.

AZATIN® XL

OLYMPIC
HORTICULTURAL PRODUCTS™

FOR INDOOR AND OUTDOOR USE ON
ORNAMENTALS AND HORTICULTURAL CROPS

ACTIVE INGREDIENT:	
Azadirachtin*	3.0%
OTHER INGREDIENTS	97.0%
	100.0%

***Contains 0.265 pounds (120 grams) of azadirachtin per gallon**

EPA Reg. No. 70051-27-59807 **EPA Est. No.: 44616-MO-1**

Net Contents: One Quart

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or inhaled. Avoid breathing vapors or spraymist. Causes eye irritation. Do not get in eyes. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- chemical resistant gloves such as barrier laminate or Viton (14 mil)
- shoes plus socks, and
- protective eye wear.

Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

FIRST AID

If in Eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If Inhaled: Move to fresh air. Clear lungs and airways. Get medical attention if irritation develops.

If on Skin: Wash with plenty of soap and water. Get medical attention if irritation develops.

If Swallowed: Do not induce vomiting. Contact a physician immediately.

User Safety Recommendations:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water or to areas where surface water is present or to intertidal area below the mean highwater mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow workers entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

Long-sleeved shirt and long pants, chemical resistant gloves such as barrier laminate or Viton (14 mil), shoes plus socks, and protective eye wear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. For other uses including golf courses, and other non-agricultural uses, do not enter treated areas without protective clothing until sprays have dried.

Pests controlled by AZATIN® XL

Aphids, such as:
Apple Aphid
Cotton Aphid
Green Peach Aphid
Melon Aphid
Pea Aphid
Potato Aphid
Rose Aphid

Armyworms, such as:
Beet Armyworm
Fall Armyworm
Lawn Armyworm
Southern Armyworm
Yellow Striped Armyworm

Bagworms

Beetles, Grubs and Weevils, such as:
Black Vine Weevil
Colorado Potato Beetle
Elm Leaf Beetle
Flea Beetle
Japanese Beetle
June Beetle
Mexican Bean Beetle
Rose Chafer

Cankerworms, such as:
Fall Cankerworm
Spring Cankerworm

Caterpillar and Loopers, such as:
Cabbage Looper
Corn Earworm
Diamondback Moth
Grapeleaf Skeletonizer
Imported Cabbageworm
Navel Orangeworm
Soybean Looper
Tent Caterpillar
Tobacco Budworm
Tobacco Hornworm
Tomato Fruitworm
Tomato Pinworm

Chafers, such as:
European Chafer
Northern Masked Chafer
Rose Chafer
Southern Masked Chafer

Cutworms, such as:
Black Cutworm
Citrus Cutworm

Flies, such as:
Caribbean Fruit Fly
Crane Fly
Fungus Gnat
Hessian Fly
Oriental Fruit Fly
Mediterranean Fruit Fly
Melon Fly
Shore Fly
Walunt Husk Fly

Leaf Tiers

Leafhoppers, such as:
Grape Leafhopper
Potato Leafhopper
Variegated Leafhopper

Leafminers, such as:
Citrus Leafminer
Serpentine Leafminer
Vegetable Leafminer

Leafrollers, such as:
Blueberry Leafroller
Filbert Leafroller
Fruitree Leafroller
Grape Leafroller
Oblique Banded Leafroller
Omniverous Leafroller

Leaf Perforators

Marsh Crane Flies

Mealybugs

Moths, such as:
European Pine Shoot Moth
Pine Tip Moth
Tussock Moth

Psyllids

Sawflies

Thrips, such as:
Citrus Thrips
Flower Thrips
Gladiolus Thrips
Western Flower Thrips

Whiteflies, such as:
Greenhouse Whitefly
Silverleaf Whitefly
Sweetpotato Whitefly

CROPS ON WHICH AZATIN® XL CAN BE USED

Azatin® XL can be used indoors and outdoors. Plants may be potted, grown in the soil or soil-less mixtures or grown hydroponically.

Bedding Plants, Flowers, Potted Plants and Foliage, such as:
Actinopteris
Aglaonema
Allamanda
Algerian Ivy
Alocasia
Anthurium
Aphelandra
Artemisia
Aster
Aucuba Illex
Azalea
Baby's Breath
Begonia
Bougainvillea
Boston Fern
Boxwood
Brachycome
Cacti
Calabrese
Caladium
Calla
Calathea
Calendula
Carnation
Chrysanthemum
Coleus
Columbine
Dahlia
Daisy
Daylily
Delphinium
Dianthus
Dieffenbachia
Dusty Miller
Easter Lily
English Ivy
Euphorbia
Fern
Ficus
Foxglove
Freesia
Fuchsia
Gaillardia
Gardenia
Geranium
Gerbera
Gladioli
Gypsophilla
Hedera
Hibiscus
Impatiens
Iris
Lily
Manvilla
Marigold
Nasturtium
Pansy
Pelargonium
Peony
Peperomia
Petunia
Philodendron
Phlox
Photinia
Pittosporum
Pinks
Poinsettia
Pothos
Portulaca
Rosemary
Rose
Rubberplant
Salvia
Schefflera
Sedum
Sempervivum
Snapdragon
Spathiphyllum
Stock
Syngonium
Verbena
Vinca
Wandering Jew
Zinnia

Ornamentals, such as:
Ageratum
Arborvitae
Aster
Aucuba Illex
Azalea
Begonia
Boxwood
Cacti
Calendula
Calla
Camella
Camellia
Carnation
Ceanothus
Chrysanthemum
Cineraria
Coleus
Cotoneaster
Cyclmen
Daffodil
Dahlia
Delphinium
Dogwood
Ficus
Foliage Plants
Fuchsia
Gardenia
Geranium
Hyacinth
Hydrangea
Iris
Ivy
Lily

Maidenhair Fern
Marigold
Narcissus
Orchid
Pansy
Pelargonium
Peony
Phlox
Photinia
Pittosporum
Poinsettia
Pyracantha
Rhododendron
Rose
Rubber Plant
Snapdragon
Stock
Tulip
Wandering Jew
White Cedar
White Pine
Yew
Yucca
Zinnia

Trees and Shrubs, such as:
Andromeda
Arborvitae
Ash
Austrian Pine
Azalea
Beech
Birch
Birdsnest Spruce
Blue Spruce
Boxwood
Butternut
Cedar
Chamaecyparis
Cherry
Crabapple
Cotoneaster
Cyprus
Dogwood
Douglas Fir
Elm
Euonymus
Firethorn
Forsythia
Hackberry
Hawthorn
Hemlock
Hickory
Holly
Honey Locust
Horse Chestnut
Juniper
Larch
Laurel
Lilac
Linden
London Plane
Magnolia
Manvilla
Maple
Mimosa
Mountain Ash
Myrtle
Oak
Pachysandra
Peach
Pine
Planetree
Poplar
Privet
Quince
Spruce
Sycamore

Brassica (Cole) Crops, such as:
Broccoli
Brussels sprouts
Bok Choy
Cabbage
Chinese cabbage
Cauliflower

Bulb Vegetables, such as:
Garlic
Leek
Onion
Shallot

Citrus Fruits, such as:
Calamandin
Citrus citron
Grapefruit
Kumquat
Lemon
Limes
Mandarin (tangerine)
Orange, sour
Orange, sweet
Pummelo
Satsuma mandarin

Cucurbit Vegetables, such as:
Balsam pear (bitter melon)
Cantaloupe
Casaba
Chinese waxgourd
Citron Melon
Crenshaw
Cucumber
Gherkin
Gourds
Honeydew
Honeyballs
Mango Melon
Pumpkin
Squash
Watermelon

Fruiting Vegetables, such as:
Eggplant
Ground Cherry
Pepinos
Peppers
Tomatillo
Tomato

Herb and Spices such as:
Anise
Balm
Basil
Borage
Burnet
Chamomile
Caraway
Catnip
Celery
Chives
Coriander
Costmary
Cumin
Curry Leaf
Dandelion
Dill
Fennel
Fenugreek
Horehound
Hyssop
Marigold
Marjoram
Mint
Nasturtium
Pennyroyal
Rosemary
Rue
Sage
Savory
Sweet bay
Tansy
Tarragon
Thyme
Wintergreen
Woodruff
Wormwood

Leafy Vegetables, such as:
Chinese Spinach
Celery
Chervil
Collards
Corn salad
Chrysanthemum (edible)
Cress
Endive
Fennel
Kale
Kohlrabi
Lettuce
Mustard Greens
Orach
Parsley
Rhubarb
Spinach
Swiss Chard
Turnip tops

Nuts, such as:
Almond
Beach nut
Brazil nut
Butternut
Cashew
Chestnut
Chinquapin
Filberts (hazelnuts)
Hickory nuts
Lychee
Macadamia
Pecan
Pistachio
Walnuts

Pome Fruits, such as:
Apple
Crabapple
Lquat
Mayhaws
Pear
Quince
Jujube

Root and Tuber Crops, such as:
Beet, red
Beet, sugar
Carrot
Cassava
Celeriac
Chervil
Dasheen (taro)
Ginger
Horseradish
Jicama
Parsnip
Potato
Radish
Radish, Japanese (Daikon)
Rutabaga
Salisfy
Sweet potato
Tumeric
Turnip
Yam
Yam bean

Stone Fruits, such as:
Apricot
Cherry, sour
Cherry, sweet
Nectarine
Peach
Plum
Prune

Miscellaneous Crops, such as:
Artichoke
Asparagus
Avocado
Birdseed
Coffee
Cacao
Edible Flowers
Feijoa
Figs
Hops
Guayule
Kiwi
Okra
Palm
Papaya
Pawpaw
Persimmon
Pineapple
Suger Cane
Tamarillo
Tea
Tobacco
Waterchestnut
Watercress

Important note: This product has been evaluated for phytotoxicity on a wide range of crops. However, since all combinations or sequences of pesticide sprays including fertilizers, surfactants and adjuvants have not been tested, it is recommended that a small area be sprayed first to make certain that no phytotoxicity occurs.

PREHARVEST INTERVAL

There are no restrictions on applying this product up to the time of harvest. Individual state regulations may vary and should be consulted for allowable pre-harvest interval.

MODE OF ACTION

This product controls targeted insect larvae when they ingest or come in contact with it, but interfering with the insectís ability to molt. It is effective on all larval stages and pupae. It also reduces crop damage by repelling and deterring feeding of all stages of insects.

GENERAL APPLICATION DIRECTIONS

READ ALL DIRECTIONS BEFORE USING.

Dilute **Azatin® XL** in water at a rate up to 21 fluid ounces (20 grams active ingredient) per acre. Apply using any suitable ground or aerial equipment, in a manner to obtain uniform and complete plant coverage.

For crops apply using conventional application equipment in a minimum of 30 gallons of water per acre and aerial application equipment in a minimum of 3 gallons of water per acre.

Avoid over-spraying to the point of excessive runoff.

Refer to tables for detailed dilution rates.

Application Rates for Whitefly and Other Greenhouse (including Lathe and Shade), Nursery and Interiorscape Pests

Apply **Azatin® XL** at the recommended use dilution rate in 100 gallons of water to assure adequate plant coverage (usually 1-2 gallons of spray solution / 1,000 sq. feet).

Pests controlled by Azatin® XL	Rate of Azatin® XL per 100 gallons water	Remarks
Aphids	12 to 16 oz.	Suppression and adult feeding deterrence.
Armyworms	10 to 16 oz.	Foliar application to larvae.
Black Vine Weevil	21 oz. / acre	Soil and foliar application to larvae.
Fungus Gnats	8 oz.	Apply as soil drench for maggot control.
Leafminers	10 to 16 oz.	Foliar application to larvae.
Western Flower Thrips	12 to 16 oz.	Suppression of larvae and adult feeding deterrence.
Sweetpotato Whitefly (including strain B)	10 to 16 oz.	Foliar application to larvae and nymphs.
Greenhouse Whitefly	10 to 16 oz.	Foliar application to larvae and nymphs.
Others Bagworms Cankerworms Cutworms Leafhoppers Leafrollers Sawflies Tent Caterpillars	10 to 16 oz.	Foliar application to nymphs / larvae.

Azatin Application Rates for Key Insect Pests in Vegetables, Fruits, and Nut Crops

Apply **Azatin® XL** at the recommended use dilution rates in sufficient water to assure adequate coverage. (Conventional application equipment apply in a minimum of 30 gallons water per acre). (Aerial application equipment apply in a minimum of 3 gallons water per acre).

Pests controlled by Azatin® XL	Rate Azatin® XL per acre	Remarks
Aphids, such as: Cotton Aphid Green Peach Aphid Hop Aphid Potato Aphid	10 to 16 oz.	Foliar application, for suppression only
Armyworms, such as: Beet Armyworm Fall Armyworm Southern Armyworm Yellow Striped Armyworm	5 to 16 oz.	Foliar application to larvae
Beetles, such as: Colorado Potato Beetle	5 to 16 oz.	Foliar application to larvae
Caterpillars, such as: Corn Earworm Diamondback Moth Imported Cabbageworm Navel Orangeworm Tobacco Budworm Tobacco Hornworm Tomato Fruitworm Western Grapeleaf Skeletonizer	 10 to 21 oz. 10 to 16 oz. 5 to 16 oz. 10 to 21 oz. 5 to 16 oz. 5 to 16 oz. 5 to 16 oz. 5 to 16 oz.	Foliar application to larvae
Cutworms, such as: Citrus Cutworm Black Cutworm	 5 to 16 oz. 5 to 10 oz.	Foliar application to larvae
Loopers, such as: Cabbage Looper Soybean Looper	5 to 10 oz.	Foliar application to larvae
Leafminers, such as: Citrus Leafminer Serpentine Leafminer Vegetable Leafminer	10 to 16 oz.	Foliar application to larvae. Use with oil.
Leafhoppers, such as: Grape Leafhopper Variegated Leafhopper	10 to 16 oz.	Foliar application to nymphs. Use equipment to target the underside of leaves.
Whiteflies, such as: Greenhouse Whitefly Silverleaf Whitefly Sweetpotato Whitefly	10 to 21 oz.	Foliar application to nymphs. Use equipment to target undersides of leaves.

*When using lower rates (less than 10 oz.), combine **AZATIN® XL** with an approved adjuvant such as a non-phytotoxic crop oil, up to 1%. Always ensure good coverage by adjusting spray gallonage. Treat early for best control. Do NOT use less than 10 oz. in California.

Applications should be made when pests first appear and are in their early larval stages. Repeat applications every 7 days or as needed.

For best results, a spreader-sticker should be added at the recommended label rate.

Dilute solutions containing **Azatin® XL** should be maintained at a pH between 3 and 7, and applied soon after preparation. Do not store for later use.

This product may be pre-mixed in a supply tank with water, fertilizer or other appropriate agricultural chemicals. Agitation is necessary (See Mixing Directions). Crop injury or lack of effectiveness can result if uniform distribution is not achieved.

When pest populations are high, use the higher label rates.

SPRAY:
High volume - When plant foliage is dense, use the higher label **Azatin® XL** rates and increase spray gallonage to obtain uniform and complete coverage.

Aerial / low / ultra low volume - Apply **Azatin® XL** at rates of 5 to 21 oz. / acre (10-21 oz. in California) in a minimum of 3 gallons of water per acre. For best results, ensure uniform and complete plant coverage.

DRENCH / CHEMIGATION:
This product is effective as a soil drench for controlling soil-borne insect larvae (e.g. Fungus Gnats).

It is also effective as a soil drench for controlling foliar and soil-borne pests, particularly when alternated with **Azatin® XL** foliar sprays.Apply **Azatin® XL** in sufficient water and for sufficient duration so as to distribute the recommended rate evenly to the entire treated area.
Apply to moderately moist soils. Use volumes that thoroughly wet the soil, but do not cause significant surface runoff or excessive drip from pots.

CHEMIGATION:
Refer to supplemental labeling entitled "Olympic's Chemigation Bulletin" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

SPRAY EQUIPMENT
Use suitable equipment that allows for uniform coverage of the targeted treatment area, such as hand or power operated spray equipment.

MIXING DIRECTIONS

Azatin® XL WITH WATER:
For best results,
1. Use clean equipment.
2. Fill tank 1/2 full to 3/4 full with water and begin agitation.
3. Add pesticide to the tank.
4. Fill the tank completely with water and mix thoroughly before applying.
5. Adjust spray solution to between 3 to 7 pH, if necessary.
6. Pesticide mix should be applied immediately after mixing.
7. If the mixture is not applied immediately, agitate before application.
8. Thoroughly clean equipment following application.

TANK MIXTURES OR FLUID FERTILIZERS:
1. Before using this product in a tank mix with fertilizer or registered pesticide, determine compatibility by conducting a compatibility test with a small amount of each product.
2. Observe all cautions and limitations on labels of all products used in combination.
3. Follow all tank mix directions and observe limitations listed in the combination product(s) label.

COMPATIBILITY TEST
A compatibility test should be performed before tank mixing this product with other product(s) or liquid fertilizer(s). Fill three separate 1 quart jars with 1 pint of water of fertilizer. To a first jar add this product and mix well. To a second jar, add the desired other tank mix product(s) and mix well. To a third jar, combine this product with the other tank mix product(s) and mix well. If more than one product is used, add them separately with dry formulations first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. For the appropriate amount of product for this test use the following:

DRY PRODUCTS - For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

LIQUID PRODUCTS - For each pint to be applied per acre, add 0.5 teaspoons or 2.5 ml to each jar.

Note any differences between the mixtures in the jars (compounds alone vs mixtures) after 15 minutes. Look for evidence of physical incompatibility such as clumping, precipitation, oily residues on the sides of the glass or other signs of incompatibility. If either mixture separates, but can be readily re-mixed, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, do not use the mixture.

STORAGE AND DISPOSAL

GENERAL: Do not contaminate water, food or feed by storage and disposal.

PESTICIDE STORAGE: Do not store above 100 degrees F or below -20 degrees F for extended periods of time. Keep containers tightly closed when not in use.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Do not reuse as a container. Triple rinse or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in an incinerator or landfill or by other procedures approved by State and local authorities.

WARRANTY

Olympic Horticultural Products Company warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes refurred to in the dirctions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

OLYMPIC
HORTICULTURAL PRODUCTS™

Manufactured for:
Olympic Horticultural Products Company
P. O. Box 230
Mainland, PA 19451
(800) 659-6745

ESL 070699 REV021102
OHP981220

Neem Oil

Neem oil is a broad spectrum botanical insecticide, miticide and fungicide treatment derived from the seeds of the neem tree (*Azadirachta indica*). Neem trees are native to South East Asia, and is grown in many countries throughout the world, including India, Burma (Myanmar) and Australia. It is also grown in the United States, mostly in Florida as an ornamental shade tree, though its commercial production for neem products is increasing in the U.S. The neem tree is a botanical relative of mahogany. Neem tree products are associated with many agricultural and medicinal uses. It is widely relied on for herbal medicine in its native countries and is used in many cosmetic and pharmaceutical products as well as pest control in homes and crops.

The neem tree produces a compound called azadirachtin which protects it from damaging insects. Azadirachtin is a tetranortriterpenoid compound which influences the hormonal system, feeding activity, reproduction and flying ability of insects. Azadirachtin has low mammalian toxicity, it degrades rapidly in the environment, and has low side effects on non-target species and beneficial insects. Seeds of the neem tree contain the highest concentration of azadirachtin. There are several products registered in Alaska containing azadirachtin, including Azatin XL®, Bioneem®, and Ornazin®.

Neem seed oil (NSO) is composed of a complex mixture of biologically active compounds. When the natural neem oil is removed from the seeds and treated with alcohol, virtually all of the azadirachtin and related substances separate from the oil itself. The remaining oil - without the azadirachtin - is called Clarified Hydrophobic Extract of Neem Oil. Commercial products containing this extract, such as Trilogy®, Triact®, Rose Defense®, and Greenlight® Fruit, Nut & Vegetable Spray do not contain measurable amounts of azadirachtin and contain an emulsifying agent, so are not pure neem oil and may not be suitable for use on certified organic crops. Instead, use expeller expressed, cold pressed or virgin neem oil, sometimes called "raw" neem or "crude" neem oil.

More than a hundred terpenoid compounds have been identified from different parts of the neem tree. Azidirachtin is the most active of these. Several different kinds of azadirachtin have been isolated, the most abundant of which is Azadirachtin-A. In most traditional preparations of neem as pesticide or medicine, a mixture of neem chemicals are present and provide the active principles.

Mode of Action: Neem has many main modes of action with the primary role of disrupting an insect's metamorphosis. The principle active ingredient, azadirachtin, acts as an insect growth regulator (IGR) preventing exoskeleton development and impeding the molting process. It is most effective on younger stages of an insects development than when they have reached their adult form. Best control is achieved when insect populations are light to moderate. There are more than 25 other active compounds found in neem, including meliantriol, vepol, and salannin. It has a garlic like odor, and an extremely bitter taste. Its extremely bitter flavor can make many insects stop feeding on the host plant. Neem oil can also suffocate mites, whiteflies, aphids and other types of soft bodied insects on contact. These multiple modes of action make it unlikely that insects and plant pathogens can develop resistance to neem compounds.

Neem has both contact and systemic action in many plants. When it is applied to soil as a drench, some plant species absorb it through their roots and will translocate it through the plant tissue.

As a fungicide neem is mainly used as a preventative and when disease is just starting to show. It coats the leaf surface which in turn prevents the germination of the fungal spores. Neem oil and clarified hydrophobic extracts of neem oil is effective against rots, mildews, rusts, scab, leafspot and blights.

Application and Use: Neem is used in both ornamental and food crops. Raw neem seed oil (not extracts of neem oil) can be used mixed with water and an emulsifying agent such as pure castille soap. One general purpose application rate is to use neem oil at a 1% ratio to water with an emulsifying agent or non-ionic spray adjuvant. Some commercial products containing clarified hydrophobic extract of neem oil contain a surfactant that accomplishes this emulsifying process. Use raw neem seed oil at a ratio of 0.5% to 2.0% depending upon the targeted use. Apply it as a foliar spray keeping it agitated during application to keep it well mixed. It must be used within 8 hours after mixing with water. For other commercially prepared products containing neem oil (usually 70% clarified hydrophobic extract of neem) follow the manufacturers label rates and precautions. (see: **Horticultural Oils** for more information on using oil sprays)

Neem has been used with success in Alaska for aphids, cutworms, fungus gnats, shore flies, leaf-miners, thrips, powdery mildew and many others. Various products containing neem oil, clarified hydrophobic extract of neem, azidirachtin, and other neem compounds are registered for use in Alaska. Pure neem seed oil containing all of the active liminoid compounds is also readily available in Alaska, however some of these pure neem compounds are not labeled for pesticide use. One product containing 100% neem oil is often sold in garden centers next to the insecticides and fungicides implying it is recommended for use as a pesticide, but it is only advertised by the manufacturer as an organic leaf polish.

Products containing extracts of neem oil are registered pesticides, tested and approved by the EPA for use as a pesticide. Remember, extracts of neem have had the active compounds found in neem oil removed during the refining process, and these products usually contain alcohol or phenol used in the extraction process. These extracts of neem have an emulsifier added to help it mix readily with water. Pure or "crude" neem seed oil must be mixed with an emulsifying agent to accomplish this. Pure castille soap can be used as an emulsifier when using pure neem seed oil. Warm water should be used when using crude neem oil since it becomes solid at low temperatures.

Neem oil has also been used for insects other than those that feed on plants. Spiders, (see: A Natural Spider Control Program) cockroaches, grain weevils, and other pests of homes and stored food are reputed to be repelled, or killed by neem oil compounds. Neem has been used for thousands of years to protect grain in its native countries. It is often formulated into shampoo, creams, lotions, and even toothpaste. It is useful as a natural remedy for head lice, scabies, and as a mosquito and biting fly repellent.

Ecological effects: It is non toxic to humans, birds, earthworms or animals. Being an oil it can affect some beneficial insects if it is actually sprayed on them so it is recommended to use it prior to releasing beneficials or to conduct a trial to observe its effects on the organism prior to large scale use. Once the spray has dried it will not hurt most beneficial organisms, including lady beetles, lacewings, orius bugs, and predatory mites.

Sources: The Neem Tree. Ed. Schmutterer. The Neem Foundation.

Horticultural oils: New summer uses on ornamental plant pests. The IPM Practitioner.

Neem; Mode of action of compounds present in extracts and formulations of Azadirachta indica seeds....Colorado State University.

Common Sense Pest Control. Chapter 7: Inorganics, organics and botanicals. Olkowski, et al.

IPM of Alaska does not assume any responsibility for damage or failure due to the nature of biological pest control and IPM, many variables exist. It is therefore recommended that practitioners of biocontrol and IPM follow the procedures and protocols explained in this publication's content only with a certain amount of reservation and caution. Only small undertakings are recommended for novices, until, through experimentation, the techniques best suited for that person, system or operation are revealed and a certain amount of confidence is realized. Neither IPM of Alaska, its agents, or employees will assume responsibility for injuries, damages or losses incurred as a result, direct or consequential, of the information contained in this publication.

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To print: Select File and then Print from your browser's menu

Horticultural Oil and Insecticidal Soap

Two of the very best choices for sensible pest control are horticultural oil and insecticidal soap. They control more of the pests that trouble our landscape plants, garden plants and house plants than an arsenal of synthetic pesticides and do it with minimal danger to us, our pets and the earth. Horticultural oils are the modern descendants of the dormant oils used by our grandparents to protect their fruit trees from overwintering pests such as scale. Dormant oil could not be used on plants in leaf because the low level of refinement left impurities that caused damage. Only in the last decade have new techniques produced ultra-refined (also known as superior) oils that will not cause damage when applied according to directions to plants in leaf. Now you can find products such as Bonide All Season Oil that can be used safely anytime. Like the oils, insecticidal soaps have taken their place in the gardener's arsenal as an alternative to many compounds that remain in the soil or can contaminate ground water. There are no elaborate requirements for special protective clothing when using oils or soaps and no restriction on eating vegetables, fruits or herbs sprayed with them.

Soaps and oils are most effective on sucking insects such as spider mites, aphids, scale and whiteflies. Though they are not effective against most adult chewing insects such as caterpillars and beetles, they are effective against the larval stages of many of them. Timing the application is the most important factor when using these products against any pest. Unlike their chemical counterparts, using soaps and oils doesn't increase pesticide resistance because their mode of action is mechanical, not chemical. Oils smother insects and their eggs. Soaps disrupt their membranes. Oils have several other benefits including their protective effects against viral diseases and several types of fungus. Aphids are a major carrier of plant viruses, and oils have shown effectiveness as a protector against transmission of the viruses as well as controlling the aphids. Powdery mildew, black spot on roses, alternaria leaf blight on melons and early blight on tomatoes are all fungus diseases prevented by timely oil sprays, especially in conjunction with bicarbonate of soda. Finally, if it becomes necessary to use a stronger chemical than these, the oil can often enhance the effectiveness of the chemical pesticide when mixed with it, thus reducing the amount you must use.

Misconceptions

There are several misconceptions about soaps and oil. You may hear and read about substituting dish soap (or liquid laundry detergent) for insecticidal soap. Home dish soaps often damage plants when they are substituted for insecticidal soap and they generally are not as effective in killing the insects. The damage may be clear (browning edges or spots on the leaves) or it may also be less evident. Tests done on tomatoes and cucumber show that spraying with the homemade soap solutions reduces and delays the yield of vegetables. Dish soaps commonly found in grocery stores today are no longer soap. They are all detergents. In addition, they all contain a lengthy list of moisturizers, degreasers, fragrances and dyes that can add to the damage of the detergent. In addition, the household products vary greatly in concentration and effective rates of application have not been established. Insecticidal soaps are only slightly more expensive than dish detergents, but they will do their job without plant injury when used as directed. Occasionally, you will run into a recommendation to substitute a fine vegetable oil instead of horticultural oil. The ultra-refined horticultural oils are much, easier to use since they will stay mixed into the water long enough for you to spray. Vegetable oils are also larger particles that are difficult to force through a sprayer. We recommend using the ultra-refined products manufactured for horticultural use.

Using Horticultural Oil

Horticultural oil can be the solution to many of your garden problems, but there is no one-size-fits-all remedy in horticulture. Horticultural oil is not tolerated by some plants, notably ferns and black walnut trees or other members of the genus Juglans. It should not be sprayed on plants with blue foliage such as blue spruce or blue hosta. Since their color is the result of the waxy coating on their leaves or needles, the application of oil may remove it, leaving them green instead.

Cautions before spraying: Plants under water stress (at or near wilting) may be damaged by horticultural oil. When in doubt, water the plant before spraying. If it is wilted, water the plant and wait for it to recover before spraying.

When to spray: The ideal time to spray is on a cool, cloudy morning when there is no wind and the temperature is between 40° and 90°. The spray should dry before direct sun falls on the plant or before freezing occurs. If it rains before the leaves are dry will wash the oil away and make re-spraying necessary. If your plants are under attack by a heavy insect infestation while the weather is uncooperative, particularly while it is too hot, spray them with water to knock off as many pests as possible, then wait for more favorable conditions.

How to spray: Be sure to mix the oil with water at the recommended rate. A stronger solution is likely to cause leaf damage. Agitate the sprayer often to keep the lighter oil mixed with the water. Always try to cover both sides of the leaves when you spray. Most insects hide beneath leaves or along the stems. Remember that oil must contact the pest to kill it. There is no residual killing action, but the coating it makes on leaves and stems can protect against transmission of some plant viruses and fungi.

Horticultural oil used as a fungicide: By mixing baking soda with the horticultural oil solution you can make a very effective, nontoxic fungicide. Add one rounded tablespoon of baking soda along with one tablespoon of horticultural oil to a gallon of water to make a spray that helps prevent powdery mildew, black spot and several other fungal leaf problems. Fungicides of all kinds are preventive not curative, so you must use them before or just as an infection sets in. They will not cure an advanced case. However, since oil and baking soda mixed according to directions is nontoxic, it can safely be used as often as weekly to prevent these problems.

Using Insecticidal
Soap NOTE: Horticultural insecticidal soaps are not the same as dish soap or liquid laundry soaps. Insecticidal soaps are potassium salts of fatty acids and their purity and concentration is controlled.

Cautions: Plants that should not be sprayed with insecticidal soap include horse chestnut, mountain ash, Japanese maple, jade, lantana, gardenia, bleeding heart and crown of thorns. Also some cultivars of azaleas, poinsettias, begonias, impatiens, ferns, palms and succulents are sensitive to soap. If in doubt, try a small area first and wait 24 hours to see if any damage develops. As with using horticultural oil, plants under water stress should not be sprayed. Water them before spraying if you are not sure. Wait until they have recovered if they were wilted.

When to spray: Once the insecticidal soap has dried on the plant it is no longer effective, so conditions that favor slow drying are best. Early or late in the day when the air is calm and cooler are good choices. Immediately after a rain or other times of high humidity and clouds are also good. Avoid hot, windy days or when the sun is falling directly on the plants that need to be sprayed.

How to spray: Be sure to coat the bottoms of the leaves as well as the tops. Most insects, their larvae and eggs are found under the leaves or along the stems.

Follow-up: Insects vary in their susceptibility to insecticidal soap and horticultural oil. Often the eggs or pupae are resistant to one or the other, so it is important to follow up with another spray in 4 or 5 days and in the case of tough problems like the whitefly, use a third spray, especially if the infestation has been severe. Due to their low toxicity, oils and soaps can be used as needed without fear of build up on the plant or in the soil.

Note: Spraying the plant first with a fine mist of water will make the soap a more effective insecticide.

Author: Margaret Purcell, Senior Horticulturist

Avid® 0.15 EC

Miticide/Insecticide

For control of leafminers and mites and suppression of aphids, whiteflies, and thrips on ornamental plants

Recommended for Agricultural/Commercial Use

Active Ingredients:
Abamectin (CAS No. 65195-56-4 and 65195-55-3) 2.0*%
Other Ingredients: 98.0%

Total: 100.0%

*1 gal. contains 0.15 lb. abamectin

KEEP OUT OF REACH OF CHILDREN.
WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-896

EPA Est. 39578-TX-001

SCP 896A-L6A 0904

1 gallon

U.S. Standard Measure

syngenta

FIRST AID	
If swallowed	• Call poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN

Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of Avid can be minimized by early administration of chemical adsorbents (e.g., activated charcoal).

If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal)
Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident)
Call
1-800-888-8372

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

WARNING

Causes substantial, but temporary eye injury. Do not get in eyes or on clothing. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals. Harmful if inhaled or absorbed through the skin. Do not breathe spray mist. Avoid contact with skin. May be fatal if swallowed.

Personal Protective Equipment

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category B on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves—EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber ≥14 mils).
- Shoes plus socks
- Protective eyewear

For shadehouse and greenhouse uses, applicators and other handlers must wear a dust/mist filtering NIOSH approved respirator with any R, P, or HE filter.

Wear chemical-resistant headgear for overhead exposure. Wear chemical-resistant apron when cleaning equipment, mixing, or loading. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This pesticide is toxic to fish and wildlife. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

ATTENTION

This product contains a chemical (N-methyl pyrrolidone) known to the state of California to cause birth defects or other reproductive harm.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal (U.S.A) law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves—EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber ≥14 mils).
- Shoes plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not reenter treated areas until sprays have dried.

GENERAL INFORMATION

Avid 0.15EC is an emulsifiable concentrate containing 0.15 lb. abamectin/gal. which when mixed with water according to the directions for use will control leafminers and mites and suppress whiteflies, thrips, and aphids on ornamentals.

Mix with sufficient water and apply as a foliar spray to obtain uniform coverage. For mites, apply when mites first appear and repeat as necessary to maintain control. For leafminers, apply as needed and repeat at 7-day intervals or as necessary to maintain control.

For suppression of aphids, thrips, and whiteflies apply when young, immature stages of these pests are first observed and repeat every 7 days for 2 or 3 weeks. After which time, rotate to other products that have different modes of action than Avid for at least 2-3 weeks. Refer to the **Resistance Management** section for additional comments on rotation. Aphids, thrips, and whiteflies are killed by direct contact with the Avid spray.

Residual control of pests may be enhanced with the addition of a horticultural spray oil at 0.5 to 1.0% of the spray volume on field-grown woody ornamentals, landscape plants, and Christmas trees. Repeat application as necessary, but no sooner than 7 days to maintain control. Some plants are sensitive to oils and so without prior experience the user should spray a small number of plants and observe plants for 2 weeks before spraying the remaining plants. Excessive cold or warm temperatures may increase the chance of plant damage following application with oils. Carefully read and follow directions on the oil label and do not exceed maximum rates listed on either label.

Resistance Management

Treatment may not be effective against these pests if Avid tolerant strains develop. Therefore, when applying Avid to plants that are hosts of labeled pests with multiple generations per crop or year, resistance management strategies must be used. Such strategies may include, but are not limited to, rotation of products with different modes of action, avoid treatment of successive generations with the same product, use of labeled rates at specified spray intervals, non-chemical alternatives such as beneficial arthropods, rotation of susceptible to non-susceptible plants, and various cultural practices. For additional information on the implementation of these or other resistance management strategies, consult with your State Cooperative Extension Service.

To manage susceptibility in *Liriomyza* leafminer species, apply a maximum of three applications of Avid and then rotate to Citation® for a maximum of three applications, before rotating back to Avid or using another product. The rotation between these two products with different modes of action should be based on the generation time of *Liriomyza* specie to avoid applying Avid to successive generations.

Restrictions

Do not uses Avid for suppression of aphids, whiteflies, and thrips on roses, chrysanthemums, and gerbera. These ornamentals are primary hosts of mites and *Liriomyza* leafminers for which Avid applications should be targeted. Additional applications of Avid to suppress aphids, thrips, and whiteflies on these plants will increase the selection pressure on mites and *Liriomyza* leafminers which may result in greater tolerance to Avid among these pests.

Do not apply this product through any type of irrigation system.

Not for aerial application.

Do not use in citrus nurseries.

Avid has been evaluated for phytotoxicity on a wide range of ornamental plants. However, since all combinations or sequences of pesticide sprays including surfactants and adjuvants have not been tested, it is recommended that a small area be sprayed first to make certain that no phytotoxicity occurs. Phytotoxicity has been observed following the use of Avid on certain species of ferns (e.g., *Adiantum* spp.) and Shasta Daisy (*L. eucanthemum* spp.). It is therefore recommended that Avid not be used on ferns or Shasta Daisy.

CROP USE DIRECTIONS

Shadehouse, Greenhouse, Field-Grown Ornamentals, Foliage Plants, Christmas Trees, and Other Woody Ornamentals

Pests	fl. oz./100 gal.	Comments
Mites:[1] European Red Mite, Twospotted Spider Mite, Carmine Spider Mite, Southern Red Mite, Spruce Spider Mite, Tarsoneimid Mites[3] Cyclamen and Broad Mites, Eriophyid Mites: Rust and Bud Mites	4	[3]For tarsonemid mites, repeat applications to newly developing tissue may be necessary to maintain control.
Liriomyza Leafminers[2]	8	Repeat at 7-day intervals or as necessary to maintain control.
Boxwood Leafminer	8	For control of mining larvae, make the application when adults are beginning to lay eggs in the new foliage.
Aphids, Thrips, and Whiteflies	8	For suppression of pest populations, young immatures must be contacted by the spray.

General Information Per Application: Do not apply less than 8 fl. oz. or more than 16 fl. oz./A. Use sufficient water to obtain uniform plant coverage. Refer to the **Resistance Management** section and the **Restrictions** section for additional information.

[1]Apply, for example, in 200-400 gals. of water/A. In volumes of water below 200 gals., use a minimum of 8 fl. oz./A. If more than 400 gals. of water/A are required for good plant coverage, apply a maximum rate of 16 fl. oz./A. For example, if 650 gals. of water are required, use 2.5 fl. oz./100 gals.

[2]Apply, for example, in 100-200 gals. of water/A. In water volumes below 100 gals., use a minimum of 8 fl. oz./A. If more than 200 gals. of water per acre are required for good plant coverage, apply the maximum rate of 16 fl. oz./A. For example, if 400 gals. of water are required, use 4 fl. oz./100 gals.

STORAGE AND DISPOSAL

Storage

Store in a tightly closed container in a cool, dry place.

Prohibitions

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Triple rinse (or equivalent) and dispose of in an incinerator or landfill approved for pesticide containers.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

For non-emergency (e.g. current product information) call Syngenta Crop Protection at 1-800-334-9481.

Syngenta Crop Protection, Inc.
Greensboro, North Carolina 27409
www.syngenta-us.com

SCP 896A-L6A 0904

Floramite™

ORNAMENTAL MITICIDE IN WATER SOLUBLE BAGS

Active Ingredient: (% by weight)
Bifenazate: Hydrazine carboxylic acid, 2-(4-methoxy-[1,1-biphenyl]-3-yl)
1-methylethyl ester 50%
Inert Ingredients: 50%

Net contents:
1 pound
(16x1 oz. water soluble bags)

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

IF IN EYES	• **Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.** • **Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye.** • **Call a poison control center or doctor for further treatment advice.**

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also call the following telephone numbers for emergency medical treatement

UNIROYAL CHEMICAL EMERGENCY PHONE	**203-723-3670**
SAFETY DATA AND INFORMATION	**203-573-3303**
TRANSPORTATION EMERGENCY (CHEMTREC)	**800-424-9300**

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and Other Handlers Must Wear: Long-sleeved shirt and long pants; shoes plus socks. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. This product is toxic to bees exposed to direct treatment but residues on treated foliage are not toxic to bees. Do not apply this product while bees are actively visiting the treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

UNIROYAL CHEMICAL

Uniroyal Chemical Company, Inc.
Middlebury, CT 06749

EPA REG. NO. 400-481
EPA EST. NO. 33967-NJ-1
EPA EST. NO. 7874-NLD-1
005/052101

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product through any type of irrigation system.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) OF 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- coveralls
- shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

GENERAL INFORMATION

FLORAMITE is a wettable powder in water soluble bags.

FLORAMITE is a selective miticide for the control of a variety of mite pests on all types of ornamental plants, including bedding plants, flowering plants, foliage plants, bulb crops, perennial plants and woody plants. FLORAMITE may also be applied to fruit trees which will not bear for a minimum of 12 months. FLORAMITE can be used in all areas where these plants are grown and/or maintained in containers or in the ground, including:

- Greenhouses and shadehouses
- Nurseries, including Christmas tree/conifer plantations
- Landscapes
- Interiorscapes
- Residences
- Public, commerical, industrial and institutional areas
- Recreational sites, such as campgrounds, golf courses, parks and athletic fields
- Rights of way and other easements

When used as directed and applied to the foliage, FLORAMITE provides quick knockdown through contact activity, and long residual control. Due to its unique chemistry, mode of action and selective nature, FLORAMITE is relatively inactive against beneficial / predacious mites and insects, and therefore is compatible with IPM and resistance management programs.

MIXING INSTRUCTIONS

Fill the spray tank with 1/2 the desired amount of water. Then add the required number of water-soluble bags of FLORAMITE with agitation running to fully disperse the product. Then fill the tank with the remaining amount of required water.

FLORAMITE has been shown to degrade rapidly when mixed and stored with alkaline water of high temperature (122°F). To prevent degradation under alkaline conditions, solutions of FLORAMITE must be used promptly. Alternatively, a commercially available buffering adjuvant can be added to the solution to reduce the pH to a neutral / acidic range.

Compatibility: To obtain broad spectrum insect control, FLORAMITE can be tank-mixed with other insecticide products. However, due to variations in water quality, e.g., hardness and pH, it is required that users conduct small scale trials under local conditions to ensure compatibility prior to any large scale use.

When tank mixing, thoroughly mix the water soluble bags before adding other products in the following order: other water soluble bags, wettable powders, dry flowables, liquid flowables, liquids and emulsifiable concentrates. Always allow each tank mix partner to disperse fully before adding the next product. Do not add boron containing or free chlorine releasable products with water soluble bag formulations. Boron and free chlorine will inhibit the solubility of the water soluble bag material causing it to precipitate and form insoluble residue inside the spray tank.

Restrictions: Do not sell individual water soluble packets. Do not handle the inner bag with wet hands or wet gloves. Do not allow pouches to become wet prior to adding to the spray tank. Tank mixtures are permitted only in those states where the tank mix partner is registered. When tank mixing, follow the label directions for the most restrictive of label precautions and limitations.

USE RATES AND RECOMMENDATIONS

Mix 2 to 4 ozs. (2 to 4 water-soluble bags) FLORAMITE in 100 gals. of water and apply as a full coverage spray to the foliage using a minimum volume of 1-2 qts. of final solution per 100 sq.ft. (or 100 - 200 gals. per acre). Actual spray volume will vary depending on the size of plants being treated. Application should be made as soon as mites appear and will provide residual control for up to 28 days. Use the low rate for preventative applications where mite infestations are light. The higher rate may be required for heavy infestations or for extended residual control. For optimum coverage of hard to wet foliage, it is recommended that an adjuvant be added to the Floramite/ water solution. Those found to be both safe and effective are Silwet L-77 or Sylgard 309® at 4 oz. per 100 gallons of water. Users should test safety and compatibility of all adjuvants prior to commercial use.

When used as directed, FLORAMITE is effective for the control of a variety of mites species, especially spider mites, red mites and grass mites. NOTE: It is not effective against rust mites, broad mites and flat mites. FLORAMITE is primarily active on the motile stages of mites, but also has ovicidal activity against spider mites (*Tetranychus* species). Common mite species controlled by FLORAMITE include:

COMMON NAME	SCIENTIFIC NAME
Two spotted spider mite	*Tetranychus urticae* (Koch)
Pacific mite	*Tetranychus pacificus* (McGregor)
Strawberry mite	*Tetranychus turkestani*
European red mite	*Panonychus ulmi* (Koch)
Citrus red mite	*Panonychus citri* (McGregor)
Clover mite	*Bryobia praetiosa* (Koch)
Southern red mite	*Oligonychus ilcis* (McGregor)
Spruce spider mite	*Oligonychus ununguis* (Jacobi)
Bamboo spider mite	*Schizotetranychus celarius* (Banks)

Restrictions:

Do not use FLORAMITE in successive applications.

Apply only one application of FLORAMITE before rotating to products of an alternative chemical class.

Use at least two alternative products between treatments of FLORAMITE.

Do not apply more than 16 ozs. of FLORAMITE per acre, per year.

Do not make more than two (2) applications of FLORAMITE per crop per year.

Apply FLORAMITE by ground equipment such as, but not limited to compressed air, hydraulic, ground boom and air blast sprayers. Do not apply by aerial application.

STRATEGIES FOR RESISTANCE MANAGEMENT

FLORAMITE when used as directed, combines high activity on mites with selectivity to beneficial / predacious mites and insects. In addition, the unique chemistry of FLORAMITE provides a means of controlling mites which have developed resistance to more commonly used products. These properties can result in fewer miticide / insecticide applications as well as general reduction in the problems caused by resistance.

To reduce selection pressure which can lead to the development of resistance, FLORAMITE should be used in moderation. To help achieve this, the following strategies are recommended:

- Incorporate IPM techniques into your insect control program.
- Ensure thorough spray coverage to all foliage.
- Scout regularly and apply FLORAMITE as soon as infestations are observed. Do not wait until large populations have established.
- Always apply FLORAMITE at the recommended rates and according to label recommendations.
- Use FLORAMITE in conjunction with biological control organisms available for mite control. FLORAMITE when used as directed, does not adversely affect populations of beneficial / predacious mites and insects, including:

Predatory Mites	Beneficial Insects
Phytoseiulus persimilis	*Chrysoperla carnea (common green lacewing)*
Neoseiulus spp.	*Aphidius colemani*
Typhlodromus spp.	*Aphidoletes aphidomyza*
Amblyseius spp.	*Orius insidiosus (insidious pirate bug)*
Zetzellia mali	*Iphiseius degenerans*
	Coccinella septempunctata
	Hippodamia convergens
	Stethorus punctum
	Diglyphus isaea
	Eretmocerus eremicus
	Cotesia marginiventris

The use of these organisms in conjunction or alternation with FLORAMITE is encouraged as a means of reducing the number of chemical applications.

PLANT TOLERANCE

Neither the manufacturer nor the seller has determined whether or not FLORAMITE can be used safely on all ornamental plants. FLORAMITE has been tested on a variety of ornamental plants with no phytotoxicity observed at label rates. However, all plant species and their varieties and cultivars have not been tested with possible tank mix combinations, sequential pesticide treatments and adjuvants and surfactants. Therefore, prior to any large scale application to ornamental plants, the user should determine the safety of FLORAMITE by testing a small number of the plant cultivar to be treated at the recommended rates to ensure that phytotoxic response will not occur. The end user assumes all risks arising out of application in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

STORAGE: Store in a dry location.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Place water soluble bag directly into application equipment (see directions). Then dispose of empty outer bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT NOTICE—Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Suståne® 2 • 3 • 3

All Natural Organic

80% Slow Release Nitrogen Fertilizer / Soil Builder

Suståne® 2-3-3 granulated compost is a natural organic fertilizer and long term soil builder, derived from biologically active compost through a proprietary controlled aerobic process. Suståne® 2-3-3 granulated compost works by replenishing the soil with a rich supply of humus (stabilized organic matter) and the nutrients required for sound integrated turf management and long term soil building programs.

Applications

Topdressing • Grounds Maintenance • Nurseries • Landscaping

GUARANTEED ANALYSIS

Total Nitrogen (N) ....2 %

0.2% Ammoniacal Nitrogen

0.2 % Water Soluble Nitrogen

1.6 % Water Insoluble Nitrogen*

Available Phosphate (P_2O_5)...............................3 %

Soluble Potash (K_2O)....................................3%

Calcium (Ca)..3%

Primary and secondary plant food sources derived from aerobically composted turkey litter and hydrolyzed feathermeal.

*This product contains 1.6 % slow release nitrogen.

General Application Rates

Coverage

50 lb. covers 1000 sq. ft. @ 50 lb./1000 sq. ft. (1.0 lb. N/1000 sq. ft.) *25 kg covers 100 sq. m. @ 250 g / sq. m. (5 g N / sq. m.)*

Medium grade: Mesh size -7+14 (2.8mm to 1.4mm)

Fine grade: Mesh size –14 + 30 (1.4 mm to 0.6 mm)

Suståne/Natural Fertilizer of America

310 Holiday Avenue • P.O. Box 19 • Cannon Falls, MN 55009-0019

Phone number: (507) 263-3003 • Watts Number: 800-352-9245 • Fax Number: (507) 263-3029

E-mail: help@sustane.com • website: www.sustane.com

Specimen Label

Dow AgroSciences

MACH 2* 1.5G

Specialty Insecticide

*Trademark of Dow AgroSciences LLC

For control of immature stages of certain insects in turfgrass

Not for Sale or Use in Nassau and Suffolk Counties, New York. New York State Requires This Product be Used Only by Professional Applicators.

Active Ingredients:	
halofenozide: Benzoic acid, 4-chloro-, 2-benzoyl-2-(1,1-dimethylethyl) hydrazide	1.5%
Inert Ingredients	98.5%
Total Ingredients	100.0%

EPA Reg. No. 62719-473

Keep Out of Reach of Children

CAUTION PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazard to Humans and Domestic Animals

Causes Moderate Eye Irritation • Harmful If Absorbed Through Skin

Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE)

WPS USES: Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR part 170) - in general, agricultural plant uses are covered - must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handlers PPE requirements may be reduced or modified as specified in the WPS.

NON-WPS USES: Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR part 170) - in general, only agricultural plant uses are covered by the WPS - must wear:

- Shirt and pants
- Gloves
- Shoes plus socks

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This chemical has the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exemptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep children and pets out of treated area until dusts have settled.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.
Pesticide Storage: Store in a cool, dry, well-ventilated area. Prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of reach of children.
Pesticide Disposal: Wastes resulting from the use of this product (that cannot be used according to label instructions) may be disposed of on site or at an approved waste disposal facility.
Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Steps to be Taken if Material is Released or Spilled: Appropriate protective equipment must be worn when handling a spill of this material. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with handling of this material. Do not walk through spilled material. Dispose of pesticide as directed above. In spill or leak incidents, keep unauthorized people away.

General Information

MACH 2* 1.5G specialty insecticide can be used as directed on any turfgrass site (lawns, sod, turf areas). Examples of such sites include, but are not limited to: residential and commercial lawns, grounds or lawns around business and office complexes, shopping centers, multi-family and residential apartment complexes, airports, military and other institutions, cemeteries, parks and picnic areas, playgrounds, schools, athletic fields, golf courses, and sod farms. MACH 2 1.5G mimics the action of a natural insect hormone that induces the molting and metamorphosis process in insects. MACH 2 1.5G is highly active against grubs and lepidopterous larvae listed as target pests. MACH 2 1.5G controls listed larvae through a novel mode-of-action that starts within hours of ingestion. Actual death of larvae may take several days to occur.

Use Rate Determination

Carefully read, understand, and follow label use rates, recommendations and restrictions. Apply the amount specified in the following table with a properly calibrated granular spreader. Check calibration periodically to ensure that equipment is working properly. Avoid overlaps that will increase rates above those recommended. Failure to follow the Directions for Use and all precautions on this label may result in grass injury or poor pest control.

Application Timing

The activity of MACH 2 1.5G is expressed following ingestion by the target larvae. Consequently, the timing of application is dependent upon the feeding behavior of the target pest. Consult your local State Extension Specialists for more specific information regarding timing of applications.

To achieve optimal effectiveness, the following turf management practices are suggested:

- **Minimize thatch** since heavy thatch will prevent the insecticide from penetrating to the area where insects are feeding.
- **Make applications prior to egg hatch or when larvae are small** and actively feeding (late spring through mid summer).
- **MACH 2 1.5G is not dependent upon immediate irrigation for activation;** however, water must transport the material through the thatch. Under conditions of drought it is recommended to water in MACH 2 1.5G.

Use Directions for Turfgrass

Pest	Amount of MACH 2 1.5G	Comments
Lepidoptera larvae such as: larvae of cutworms, sod webworms, armyworms, and fall armyworms	67 lb/acre (1.55 lb/1000 sq ft)	Apply MACH 2 1.5G at first sign of pest damage. A single repeat application can be made if needed.
White grub larvae such as: Japanese beetle, *Popillia japonica* Northern masked chafer, *Cyclocephala borealis*, Southern masked chafer, *Cyclocephala lurida*, May/June beetle, *Phyllophaga* spp., Black turfgrass ataenius, *Ataenius spretulus*, Green June beetle, *Cotinus nitida*, Annual bluegrass weevil larvae, *Hyperodes* spp., Billbugs, *Sphenophorus* spp., Aphodius beetle, *Aphodius* spp., European chafer, *Rhizotrogus majalis*, Oriental beetle, *Exomala orientalis*	133 lb/acre (3 lb/1000 sq ft)	MACH 2 1.5G may be used as either a preventative or an early curative treatment (see application timing instructions). Make one application at full rate.

Do not apply more than 133 lb (2 lb active ingredient) per acre per year regardless of pests controlled.

Use of this product on "Tifdwarf" Bermudagrass greens may result in short term discoloration of the turfgrass. Since many agronomic factors may influence this response it is recommended that users treat a small area at recommended rates prior to initiating large-scale use.

For Sod Farms: Allow at least 7 days to elapse between last application and harvest of sod.

Suggested Spreader Settings

Spreader Type	Ground or PTO Speed (mph)	Recommended Rates (lb/1000 sq ft)				
		Width of Coverage (ft)	1.5	2.3	3.0	Pattern Setting
LESCO rotary	3	8	D 1/2	F 1/4	X	0.0
Scott Rotaries (R-7, R-7X)	3	8	D	E 3/4	G	6
Scott Rotaries (R-8, R-8A, SR-1)	3	8	I	J	K	6
Cyclone	X	X	X	X	X	X
Spyker	X	X	X	X	X	X
Vicon (model 03)	5.6	19	13	15	17	X
PrizeLawn	3	4	3 1/4	3 1/2	X	A
Lely	4.5	22	3	3 1/2	4	II-C

Apply MACH 2 1.5G with a drop or rotary spreader designed to apply granular insecticides. Avoid the use of spreaders that would apply this product in narrow rows or concentrated bands. Calibrate the spreader according to the manufacturer's directions for adjusting the spreader settings such that the spreader delivers the appropriate application rate recommended above. Apply this product uniformly over the lawn or ornamental turf area. A more uniform application can be made by spreading half the required amount over the area and then applying the remaining half at a right angle to the previous direction. Avoid streaking, skips, or overlaps during application.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

(1) Refund of purchase price paid by buyer or user for product bought, or
(2) Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

*Trademark of Dow AgroSciences LLC
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

EPA-accepted 01/27/03

Label Code: D02-158-004
Replaces Label: D02-158-003
LOES Number: 010-01495

Revisions:

1. Corrected rates in table for Suggested Spreader Settings.

CLICK HERE TO JUMP TO USE DIRECTIONS

TRIMEC® 992
BROADLEAF HERBICIDE

For Sale To And Use By Commercial Applicators And Professional Landscapers Only.

Not For Sale To Or Use By Homeowners.

Controls Dandelion, Clover, Knotweed, Henbit, Chickweed, Plantain, Spurge and many other broadleaf weeds.

ONE GALLON COVERS UP TO 2½ ACRES

KEEP FROM FREEZING

ACTIVE INGREDIENTS:	
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid	30.56%
Dimethylamine salt of (+)-(R)-2-(2-methyl-4-chlorophenoxy) propionic acid	8.17%
Dimethylamine salt of dicamba: 3,6-dichloro-o-anisic acid	2.77%
INERT INGREDIENTS:	58.50%
	TOTAL 100.00%

THIS PRODUCT CONTAINS:
2.38 lbs. 2,4-dichlorophenoxyacetic acid equivalent per gallon or 25.38%.
0.63 lbs. (+)-(R)-2-(2-methyl-4-chlorophenoxy) propionic acid equivalent per gallon or 6.75%.
0.21 lbs. 3,6-dichloro-o-anisic acid equivalent per gallon or 2.30%.
Isomer Specific by AOAC Methods.
Contains the single isomer form of Mecoprop-p.
TRIMEC® is a registered trademark of PBI/GORDON CORPORATION.

KEEP OUT OF REACH OF CHILDREN
DANGER-PELIGRO

Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See below for additional Precautionary Statements and First Aid.

READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals:
DANGER: Corrosive. Causes irreversible eye damage. Causes skin irritation. Do not get into eyes, on skin or on clothing. May be fatal if swallowed.

NON-WPS USES:
Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) — in general, only agricultural-plant uses are covered by the WPS — must wear the following:

- Wear face shield or goggles when mixing, loading or applying this product. When mixing, loading or applying this product, wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and eye protection. It is recommended that safety glasses include front, brow, and temple protection.

After using this product, rinse gloves before removing, remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water. Remove saturated clothing as soon as possible and shower.

Engineering Control Statements For Non-WPS Uses:
Containers over 1 gallon and less than 5 gallons: Persons engaged in open pouring of this product must also wear coveralls or a chemical resistant apron.

Containers of 5 gallons or more: Do not open pour from this container. A mechanical system (probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

WPS USES:
Applicators and other handlers who handle this pesticide for any uses covered by the Worker Protection Standard (40 CFR Part 170) — in general agricultural-plant uses are covered — must wear the following:

- Coveralls over short-sleeved shirt and short pants.
- Waterproof gloves.
- Chemical-resistant footwear plus socks.
- Protective eyewear.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Engineering Control Statements For WPS Uses:
Containers over 1 gallon and less than 5 gallons: Mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

Containers of 5 gallons or more: Do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:
Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards: This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater. When cleaning equipment, do not pour the washwater on the ground; spray or drain over a large area away from wells and other water sources. Do not apply when weather conditions favor drift from target area. Do not contaminate domestic or irrigation waters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and MCPP-p have been associated with mixing, loading and disposal sites. Caution should be exercised when handling 2,4-D and MCPP-p pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: • Coveralls over short-sleeved shirt and short pants • Waterproof gloves • Chemical-resistant footwear plus socks • Protective eyewear.

SOD FARMS:
Trimec® 992 Broadleaf Herbicide is intended for use on sod farms. Trimec® 992 Broadleaf Herbicide provides selective broadleaf control in warm season and cool season turfgrass established for commercial sod production.

APPLICATION SCHEDULES FOR SOD FARMS:
Apply Trimec® 992 Broadleaf Herbicide to broadleaf weeds that are actively growing. Follow-up applications may be required for dense infestations of perennial and biennial weeds. Do not apply this product to 'Floratam' St. Augustinegrass.

NEWLY SEEDED AREAS:
The application of Trimec® 992 Broadleaf Herbicide to grass seedlings is recommended after the second mowing.

NEWLY SODDED, SPRIGGED OR PLUGGED AREAS:
The application of Trimec® 992 Broadleaf Herbicide to newly sodded, sprigged, or plugged grasses should be delayed until 3 to 4 weeks after the sodding, sprigging, or plugging operations. Also, applications to dormant bermudagrass, dormant zoysiagrass, and dormant bahiagrass are suggested.

APPLICATION RATES FOR SOD FARMS:
Dosage rates and spray volume recommendations of Trimec® 992 Broadleaf Herbicide for use in commercial sod production are presented in Table 1.

Generally, the lower application rates within the specified range will provide satisfactory control of sensitive weed species. The higher application rates within the specified range will be required for dense infestations of perennial weeds, for adverse/extreme environmental conditions, or for weeds beyond the appropriate growth stages.

The maximum application rate to turf is 1.3 pounds 2,4-D acid equivalent per acre per application per site.

Table 1. Rate Recommendations for Sod Farms.

Species	Amount of Product, Pints/Acre	Spray Volume, Gallons/Acre
Cool Season Turf		
Kentucky Bluegrass	3.0 to 4.0	5 to 175
Perennial Ryegrass	3.0 to 4.0	5 to 175
Fescue *spp.*	3.0 to 4.0	5 to 175
Creeping Bentgrass	1.8	5 to 175
Warm Season Turf		
Common Bermudagrass	2.0 to 2.5	5 to 175
Hybrid Bermudagrass	2.0 to 2.5	5 to 175
Bahiagrass	2.0 to 2.5	5 to 175
Zoysiagrass	2.0 to 2.5	5 to 175
St. Augustinegrass	2.0 to 2.5	5 to 175

USE PRECAUTIONS AND LIMITATIONS FOR SOD FARMS:
1. Do not apply this product through any type of irrigation system.
2. Avoid drift of spray mist onto vegetables, flowers, ornamental plants, shrubs, trees, and other desirable plants. Do not pour spray solutions near these plants.
3. Delay mowing 1 to 2 days before and after the application of this product.
4. Do not apply this product immediately before rainfall or irrigation. Do not irrigate or water the turfgrass within 24 hours after application.
5. Treated areas may be reseeded 3 to 4 weeks after application.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Reentry Statement: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried or dust has settled.

ORNAMENTAL LAWNS AND TURFGRASS

WHERE TO USE:
Trimec® 992 Broadleaf Herbicide is intended to be applied by lawn care operators and landscape personnel for use in ornamental lawns and turf established in institutional, ornamental, and residential/domestic sites. Institutional sites are defined as turf areas around properties or facilities providing a service to public or private organizations including, but not limited to hospitals, nursing homes, schools, museums, libraries, sport facilities, golf courses, and office buildings. Ornamental sites include turfgrass established around residences, parks, streets, retail outlets, cemeteries, industrial and institutional buildings. Finally, residential/domestic sites are defined as areas associated with the household or home life including, but not limited to apartment complexes, condominiums, and patient care areas of nursing homes, mental institutions, hospitals, or convalescent homes.

HOW MUCH TO USE:
The maximum application rate to turf is 1.3 pounds 2,4-D acid equivalent per acre per application per site. The maximum number of broadcast applications per treatment site is 2 per year.

FOR KENTUCKY BLUEGRASS, FESCUE spp., PERENNIAL RYEGRASS, BERMUDAGRASS AND ZOYSIAGRASS. Apply 3.0 to 4.0 pints of Trimec® 992 Broadleaf Herbicide per acre with spray volumes ranging from 5 to 220 gallons per acre. Or, apply 1.1 to 1.5 fluid ounces of Trimec® 992 Broadleaf Herbicide per 1,000 square feet with spray volumes ranging from 0.5 to 5 gallons per 1,000 square feet of turf. For mature weeds, apply 3.25 to 4.0 pints of Trimec® 992 Broadleaf Herbicide per acre. The best time to control clover is in the fall. When making a spring application to control clover, a 4 pint per acre rate is recommended.

FOR CLOSELY MANAGED BENTGRASS. Apply a maximum rate of 1.8 pints of Trimec® 992 Broadleaf Herbicide per acre with spray volumes greater than 145 gallons per acre. The equivalent application rate would be 1.0 fluid ounce of Trimec® 992 Broadleaf Herbicide mixed with 5 gallons of water and applied to 1,500 square feet.

Note: Care should be taken to avoid overdosing bentgrass or injury may result. High spray volumes will provide uniform coverage.

FOR ST. AUGUSTINEGRASS. Apply 2.3 pints of Trimec® 992 Broadleaf Herbicide per acre with spray volumes ranging from 40 to 150 gallons per acre. The equivalent application rate would be 1.3 fluid ounces of Trimec® 992 Broadleaf Herbicide in 5 gallons of water per 1,500 square feet.

Do not spray St. Augustinegrass when stressed from heat or drought. Slight turf yellowing should disappear after about one week.

Cultivars vary in tolerance to this product. Do not apply this product to 'Floratam' St. Augustinegrass.

Note: Care should be taken to avoid overdosing St. Augustinegrass or injury may result. High spray volumes will provide uniform coverage.

REFER TO THE CHART BELOW FOR ADDITIONAL APPLICATION INSTRUCTIONS.

APPLICATION METHODS	REMARKS
A. KENTUCKY BLUEGRASS, FESCUE spp., PERENNIAL RYEGRASS, BERMUDAGRASS AND ZOYSIAGRASS.	
Conventional Equipment:	Use 5 to 80 gallons of water per acre. (0.5 to 2 gallons water per 1,000 square feet.)
Professional Lawn Maintenance:	Use 0.5 to 5 gallons of water per 1,000 square feet. Higher spray volumes may be used when tank-mixed with a turf fertilizer. Follow fertilizer labels for proper amounts to add.
Controlled Droplet Applicators (CDA):	Reduced rates of TRIMEC 992 must be used when grass is stressed from heat or drought. Add 2 pints TRIMEC 992 to the Herbi container then fill with 3 pints of water. Keeping the container agitated, spray entire contents over 33,000 square feet (approximately ¾ acre). Do not overlap between spray patterns. Do not use this application rate on warm season grasses.
B. CLOSELY MANAGED BENTGRASS.	
	On closely managed bentgrass (e.g. bowling greens) apply TRIMEC 992 at a maximum rate of 1.0 fluid ounce in 5 gallons of water per 1,500 square feet preferably in May or mid-August through September. Slight turf yellowing will disappear after about one week. (See Note.)
C. ST. AUGUSTINEGRASS.	
	Apply TRIMEC 992 at 2.3 pints in up to 150 gallons of water per acre (1.3 fluid ounces TRIMEC 992 in 5 gallons of water per 1,500 square feet). Do not spray St. Augustinegrass when stressed from heat or drought. Slight turf yellowing should disappear after about one week. (See Note.)
NOTE: Care should be taken to avoid overdosing bentgrass and St. Augustinegrass or injury may result. High spray volumes will aid in obtaining uniform coverage.	

TRIMEC® 992 BROADLEAF HERBICIDE CONTROLS:

Annual fleabane
Aster, white heath & white prairie
Bedstraw
Beggarticks
Beggarweed, creeping
Bindweed
Birdsfoot trefoil
Black medic
Broadleaf plantain
Buckhorn plantain
Bull thistle
Burclover
Burdock, common
Buttercup, creeping
Carolina geranium
Carpetweed
Chickweed, common
Chicory
Cinquefoil
Clover
Cocklebur
Compassplant
Curly dock
Dandelion
Dayflower
Deadnettle
Dock
Dogfennel
Dovefoot geranium
English daisy
False dandelion (*spotted catsear & common catsear)
Field bindweed (*morningglory & creeping jenny)
Field madder
Field oxeye-daisy (*creeping oxeye)
Field pennycress
Filaree, whitestem & redstem
Florida pusley
Ground ivy
Groundsel
Hairy bittercress
Hawkweed
Healall
Henbit
Horsenettle
Horseweed
Innocence (Blue-eyed Mary)
Jimsonweed
Kochia
Lambsquarters
Lawn burweed
Lespedeza, common
Mallow, common
Matchweed
Mouseear chickweed
Mustard
Nettle
Old world diamond flower
Oxalis (*yellow woodsorrel & creeping woodsorrel)
Parsley-piert
Pennsylvania smartweed
Pennywort (*dollarweed)
Pepperweed
Pigweed
Pineappleweed
Plantain
Poison ivy
Poison oak
Prostrate knotweed (*knotweed)
Puncturevine
Purple cudweed
Purslane
Ragweed
Redweed
Red sorrel (*sheep sorrel)
Roundleaf greenbriar
Shepherdspurse
Spotted spurge
Spurge
Sunflower
Thistle
Velvetleaf (*buttonweed)
Venice mallow
Veronica (*corn speedwell)
Virginia buttonweed
Virginia-creeper
Western salsify
White clover (*Dutch clover, honeysuckle clover, white trefoil & purplewort)
Wild carrot
Wild garlic
Wild geranium
Wild lettuce
Wild mustard
Wild onion
Wild strawberry
Yarrow
Yellow rocket

*Synonyms

USE PRECAUTIONS FOR ORNAMENTAL LAWNS AND TURFGRASS:
Do not apply this product through any type of irrigation system. Avoid drift of spray mist to vegetables, flowers, ornamentals, shrubs, trees and other desirable plants. Do not pour spray solutions near these plants. Do not spray on carpetgrass, dichondra, nor on lawns or turf where desirable clovers are present.

Use only lawn type sprayers. Coarse sprays are less likely to drift. Use coarse spray droplets. Avoid fine mists. Do not spray roots of ornamentals and trees. Do not exceed specified dosages for any area. Be particularly careful within the dripline of trees and other ornamental species. Do not broadcast apply when air temperatures exceed 85°F; some injury may be expected with spot treatments when air temperatures exceed 85°F. Seed can be sown 3 to 4 weeks after application at recommended rates. After using this product, clean sprayer with soap or detergent and water or an approved spray tank cleaner and rinse thoroughly before applying other pesticides. Failure to observe the above precautions may result in injury.

Some hybrid bermudagrass may be sensitive to this product. Contact your Local Extension Service Weed Control Specialist.

Do not apply this product to St. Augustinegrass during spring green-up which is the transition period between dormancy and active growth.

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in original container in a locked storage area inaccessible to children or pets. Keep from freezing.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: FOR METAL CONTAINERS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. FOR PLASTIC CONTAINERS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants only that the chemical composition of this product conforms to the ingredient statement given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use.

THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. This limited warranty does not extend to the use of the product inconsistent with label instructions, warnings or cautions, or to use of the product under abnormal conditions such as drought, excessive rainfall, tornadoes, hurricanes, etc. These factors are beyond the control of the manufacturer or the seller. Any damages arising from a breach of the manufacturer's warranty shall be limited to direct damages, and shall not include indirect or consequential damages such as loss of profits or values, except as otherwise provided by law.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

992/8-2004 AP090903
EPA REG. NO. 2217-656

Manufactured By
pbi/GORDON CORPORATION
An Employee-Owned Company
1217 West 12th Street
Kansas City, Missouri 64101
www.pbigordon.com

Heritage®

Fungicide

Broad spectrum fungicide for control of plant diseases

Active Ingredient:	
Azoxystrobin: methyl (*E*)-2-{2-[6-(2-cyano-phenoxy) pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate*	50.0%
Other Ingredients:	50.0%
Total:	100.0%

Contains 0.5 lb. a.i./lb. product *IUPAC

1 pound
Net Weight

syngenta

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

Reformulation is prohibited. See individual container labels for repackaging limitations.

EPA Reg. No. 100-1093

EPA Est. 67545-AZ-1[YGM]

EPA Est. 100-NE-001[MHA]

(Superscript is first three letters of batch code on container)

SCP 1093A-L1A 0403
128253

FIRST AID	
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call **1-800-888-8372**	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

HARMFUL IF ABSORBED THROUGH SKIN. CAUSES MODERATE EYE IRRITATION. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

The active ingredient, azoxystrobin, in this product can be persistent for several months or longer. Azoxystrobin has degradation products which have properties similar to chemicals which are known to leach through soil to groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This pesticide is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Do not apply directly to water except as specified on this label. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Notify state and/or federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, INC. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USES

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks

NON-AGRICULTURAL USES

For use to control diseases on turf and ornamentals on golf courses, lawns and landscape areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. The area being treated must be vacated by unprotected persons.

Do not treat areas while unprotected humans or domestic animals are present in the treatment areas. Because certain states may require more restrictive reentry intervals, consult your State Department of Agriculture for further information.

Do not allow entry into treatment area until area that was treated with Heritage is dry.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage

Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, sweep and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label.

Pesticide Disposal

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal

Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or alternatives allowed by State and local authorities.

GENERAL INFORMATION

Heritage is a broad spectrum, preventative fungicide with systemic and curative properties recommended for the control of many important plant diseases. Heritage may be applied as a foliar spray in alternating spray programs or in tankmixes with other registered, turf and ornamental protection products. All applications should be made according to the use directions that follow. See Directions regarding TANKMIXES/COMPATIBILITY.

GENERAL USE PRECAUTIONS

Do not graze or feed clippings from treated turf areas to animals. Crops in this label may be planted immediately after last treatment. Do not plant other crops within 45 days after last application.

ATTENTION

Heritage is extremely phytotoxic to certain apple varieties.

AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple trees (and apple fruit).

DO NOT spray Heritage where spray drift may reach apple trees.

DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

DO NOT use spray equipment which has been previously used to apply Heritage to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties. Please see Table 5 for list of Intolerant Plants.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

INTEGRATED PEST (DISEASE) MANAGEMENT

Heritage should be integrated into an overall disease and pest management strategy whenever the use of a fungicide is required. Cultural practices known to reduce disease development should be followed. The **SPECIFIC USE DIRECTIONS** section in this label identifies specific IPM recommendations for each crop. Consult your local turf, ornamental or agricultural authority for additional IPM strategies established for your area. Heritage may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

RESISTANCE MANAGEMENT

A disease management program that includes alternation or tankmixes between Heritage and other labeled fungicides that have a different mode of action is essential to prevent pathogen populations from developing resistance to Heritage. Heritage should not be alternated or tankmixed with fungicides to which resistance has already developed.

Continual use of Heritage may allow less sensitive strains of pathogens to increase in the population and reduce the efficacy of Heritage. Since Heritage is a strobilurin fungicide, avoid alternation with other strobilurins, such as kresoxim-methyl and trifloxystrobin.

Since pathogens differ in their potential to develop resistance to fungicides, the **SPECIFIC USE DIRECTIONS** section in this label provides resistance management strategies specific for each crop and disease. Consult your local or state turf, ornamental or agricultural authority for resistance management strategies that are complementary to those in this label. Heritage is not cross resistant with other classes of fungicides which have different modes of action.

SPRAYING/MIXING

Heritage may be applied with all types of spray equipment commonly used for making ground and aerial applications. Do not apply Heritage through any type of ultra low volume (ULV) spray system (less than 3 gals./A). Proper adjustments and calibration of spraying equipment to give good canopy penetration and coverage is essential for good disease control. The higher rates in the rate range and/or shorter spray intervals may be required under conditions of heavy infection pressure, highly susceptible varieties, or when disease conducive environmental conditions exist.

For ground applications, apply Heritage in sufficient water volume for adequate coverage and canopy penetration.

To prepare spray solution, partially fill the spray tank with clean water and begin agitation. Add the specified amount of Heritage to the tank, allowing time for good dispersion, then add an adjuvant, if recommended. If tankmixes are required, product should be added to the spray tank in the following order: Heritage, other WG or dry flowable formulations, wettable powders and flowable (aqueous suspensions) products. Finish filling the tank to the desired volume to obtain the proper spray concentration. Maintain agitation throughout the spraying operation. Do not allow spray mixture to stand overnight or for prolonged periods. Make up only the amount of spray required for immediate use. Sprayers should be thoroughly cleaned immediately after application. Do not use silicone based products with Heritage due to possible phytotoxicity.

SPRAY DRIFT MANAGEMENT

ATTENTION

Heritage is extremely phytotoxic to certain apple varieties.

AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple trees (and apple fruit).

DO NOT spray Heritage where spray drift may reach apple trees.

DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area.

DO NOT use spray equipment which has been previously used to apply Heritage to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity to certain apple and crabapple varieties. Please see Table 5 for list of Intolerant Plants.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

Do not apply when weather conditions favor drift from treated areas to non-target aquatic habitat.

Directions for Use Through Sprinkler and Drip Irrigation Systems:

Spray Preparation: Chemical tank and injector system should be thoroughly cleaned. Flush system with clean water.

APPLICATION INSTRUCTIONS

Apply Heritage at rates and timings as described in this label.

Use Precautions for Sprinkler and Drip Irrigation Applications:

Drip Irrigation: Heritage may be applied through drip irrigation systems to potted ornamentals or to bedded, field grown ornamentals for soil-borne disease control. Apply 2-16 oz. Heritage per acre as a preventative disease application. The soil or potting media should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

Sprinkler Irrigation: Apply this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system except as specified on this label.

Apply with center pivot or continuous-move equipment distributing 1/2 acre-inch or less during treatment. In general, use the least amount of water required for proper distribution and coverage. If stationary systems (solid set, handlines or wheel lines other than continuous-move) are used, this product should be injected into no more than the last 20-30 minutes of the set. Do not apply when winds are greater than 10-15 mph to avoid drift or wind skips. Do not apply when wind speed favors drift beyond the area intended for treatment. Plant injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform treated water. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period.

If you have questions about calibration you should contact a State Extension Service specialist, equipment manufacturers or other experts.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Specific Instructions for Public Water Systems:

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

TANKMIXES/COMPATIBILITY

Heritage is compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides and biological control products. If tankmixes are desired, observe all directions, precautions, and limitations on labeling of all products used. Consult compatibility charts or your local or state turf, ornamental or agricultural authority for compatibility information. Do not combine Heritage in the spray tank with pesticides, surfactants, or fertilizers, unless compatibility charts or your own prior use has shown that the combination is physically compatible, effective, and non-injurious under your conditions of use. If physical compatibility is unknown, the following procedure should be followed: Pour the recommended proportions of the products into a suitable container of water, mix thoroughly and allow to stand at least twenty (20) minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible. If tankmixes are required, product should be added to the spray tank in the following order: Heritage, other WG or dry flowable formulations, wettable powders and flowable (aqueous suspensions) products.

SPECIFIC USE DIRECTIONS

TURF

Heritage is recommended for control of certain pathogens causing foliar, stem, and root diseases, including leaf and stem blights, leaf spots, patch diseases, mildews, anthracnose, fairy rings, molds, and rusts of turfgrass plants. Heritage may be used to control certain diseases on golf courses, lawns and landscape areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

Integrated Pest (Disease) Management (IPM): Sound turf management resulting in healthy, vigorous turf is the foundation of a good IPM program. Cultural practices such as proper choice of turf variety, nutrient management, proper cutting height, thatch management, and proper watering, drainage, and moisture stress management should be integrated with the use of fungicides to increase turf vigor and reduce the susceptibility to disease. Immunoassay detection kits and extension service diagnostic services can assist in the early and accurate identification of causal organisms and corresponding selection of the proper fungicide when required.

Resistance Management: Some turf disease pathogens are known to have developed resistance to products used repeatedly for their control. Heritage should be applied at full use rates in a tankmix or alternation program with other registered fungicides that have a different mode of action and to which pathogen resistance has not developed. Since Heritage is a strobilurin fungicide, avoid alternation with other strobilurins, such as kresoxim-methyl and trifloxystrobin. Do not apply more than two sequential Heritage applications for Gray Leaf Spot and *Pythium* spp. control. For all other diseases when Gray Leaf Spot and *Pythium* spp. are not present, do not apply more than three sequential applications of Heritage.

Application Directions: *Heritage should be applied prior to disease development.* Mix Heritage with the required amount of water and apply as a dilute spray application in 2-4 gals. of water per 1000 sq. ft. (87-174 gals./A). Repeat applications at specified intervals for as long as required. For spot treatments, use 0.2 oz. Heritage per 1 to 2 gals. of water. Do not apply more than 10 lbs. product/acre/year (3.7 oz. product/1000 sq. ft./year). Applications may be made by ground only.

For use with soil injection applications:

Heritage may be applied through a liquid fungicide injector for the control of ectrotrophic root diseases such as summer patch and take-all patch. Use Heritage **only** in liquid injection equipment specifically designated for pesticide use.

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Apply Heritage at 0.2 to 0.4 oz. per 1000 sq. ft. Spray carrier volume should fall within 30-150 gals. of water per 1000 sq. ft. Injection hole spacing of 1 inch by 1 inch is recommended for optimum control. Injection depth should be no greater than 2 inches. One inch depth is recommended for optimum results. Application timing should follow disease control strategies used for normal broadcast spray programs.

For use in the establishment of turfgrass from seed or in overseeding of dormant turfgrass:

Heritage may be used for control of certain turfgrass diseases associated with turfgrass establishment from seed. Heritage may also be used during overseeding of dormant turfgrass.

Heritage may be safely applied before or after seeding or at seedling germination and emergence to ryegrass, bentgrass, bluegrass, and fescue turfgrass types. Optimum application timing is during seeding. See **Application Directions** section.

Rate Ranges: Use the shorter specified application interval and/or use the higher specified rate when prolonged favorable disease conditions exist.

Dollar Spot: Heritage does not control dollar spot. During periods of dollar spot pressure, always mix Heritage with Daconil® or another dollar spot control fungicide. Heritage is compatible in tankmixes with many other fungicides that control dollar spot. Follow directions under **TANKMIXES/COMPATIBILITY.**

DIRECTIONS FOR APPLICATION FOR TURF DISEASES

Target Diseases	Use Rate (oz. product per 1000 sq. ft.)	Application Interval (days)	Remarks*
Anthracnose *(Colletotrichum graminicola)*	0.2-0.4	14-28	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Brown Patch *(Rhizoctonia solani)*	0.2-0.4	14-28	Apply when conditions are favorable for disease development.
Cool Weather Brown Patch Yellow Patch *(Rhizoctonia cerealis)*	0.4	28	Make one or two applications in fall or when conditions are favorable for disease development.
Fairy Ring *(Lycoperdon spp., Agrocybe pediades, and Bovistra plumbea)*	0.4	28	Apply as soon as possible after fairy ring symptoms develop. Apply only in 4 gals. water per 1000 sq. ft. (174 gals./A). Add the recommended rate of a wetting agent to the final spray. Severely damaged or thin turf may require reseeding. Fairy ring symptoms may take 2 to 3 weeks to disappear following application. Reapplication after 28 days may be required in some cases.
Fusarium Patch *(Microdochium nivale)*	0.2-0.4	14-28	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Gray Leaf Spot *(Pyricularia grisea)*	0.2-0.4	14-28	Begin applications before disease is present and continue applications while conditions are favorable for disease development.
Gray Snow Mold Typhula Blight *(Typhula incarnata)*	0.7 0.4	single application 10-28	Make a single application of 0.7 oz. or two applications of 0.4 oz. spaced 10-28 days apart in late fall just before snow cover. Tankmixing with another snow mold fungicide, such as Daconil, may enhance control under severe disease pressure.
Leaf Rust Stem Rust Stripe Rust *(Puccinia spp.)*	0.2-0.4	14-28	Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Leaf Spot *(Bipolaris sorokiniana)*	0.2-0.4	14-21	Apply when conditions are favorable for disease development.

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Target Diseases	Use Rate (oz. product per 1000 sq. ft.)	Application Interval (days)	Remarks*
Melting Out *(Drechslera poae)*	0.2-0.4	14-21	Apply when conditions are favorable for disease development.
Necrotic Ring Spot *(Leptosphaeria korrae)*	0.4	14-28	Apply when conditions are favorable for disease development.
Pink Patch *(Limonomyses roseipellis)*	0.2-0.4	14-28	Apply when conditions are favorable for disease development.
Pink Snow Mold *(Microdochium nivale)*	0.7 0.4	single application 10-28	Make a single application of 0.7 oz. or two applications of 0.4 oz. spaced 10-28 days apart in late fall just before snow cover. Tankmixing with another snow mold fungicide, such as Daconil may enhance control under severe disease pressure.
Powdery Mildew *(Erysiphe graminis)*	0.2-0.4	14-28	Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Pythium Blight Pythium Root Rot (*Pythium aphanidermatum, Pythium* spp.)	0.4	10-14	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development. During periods of prolonged favorable conditions, treat on the 10 day application interval. For use on newly seeded as well as established turf.
Red Thread *(Laetisaria fuciformis)*	0.2-0.4	14-28	Apply when conditions are favorable for disease development.
Rhizoctonia Large Patch *(Rhizoctonia solani)*	0.4	14-28	Make one or two applications in fall or when conditions are favorable for disease development.
Rhizoctonia Leaf Spot *(Rhizoctonia zeae)*	0.4	14-28	Apply when disease conditions are favorable for disease development.
Southern Blight *(Sclerotium rolfsii)*	0.2-0.4	14-28	Apply when conditions are favorable for disease development.
Spring Dead Spot *(Leptosphaeria korrae)* or *(Gaeumannomyces graminis var. graminis)* or *(Ophiosphaerella herpotricha)*	0.4	14-28	Apply 1 or 2 applications approximately one month prior to bermudagrass dormancy. 1/4" to 1/2" of irrigation directly after application is recommended. Reapply 14 to 28 days later.
Summer Patch *(Magnaporthe poae)*	0.2-0.4	14-28	Apply when conditions are favorable for disease development.
Take-all Patch *(Gaeumannomyces graminis var. avenae)*	0.4	28	Begin applications when conditions are favorable for disease infection, prior to disease symptom development. Make two applications, 28 days apart in the spring and two applications 28 days apart in the fall.
Zoysia Patch *(Rhizoctonia solani and/or Gaeumannomyces incrustana)*	0.4	14-28	Apply 1 or 2 applications approximately one month prior to zoysiagrass dormancy. Reapply 14 to 28 days later.

*Do not apply more than two sequential applications of Heritage for control of Gray Leaf Spot and *Pythium* spp. For all other diseases when Gray Leaf Spot and *Pythium* spp. are not present, do not apply more than three sequential applications of Heritage.

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Heritage Rate Conversion Chart for Turf

Oz. Product Per 1000 Sq. Ft.	Oz. a.i. Per 1000 Sq. Ft.	Oz. Product Per Acre	Lbs. Product Per Acre
0.20	0.10	8.7	0.5
0.30	0.15	13.1	0.8
0.40	0.20	17.4	1.1
0.70	0.35	30.5	1.9

Amount of Heritage to Mix 100 Gals. for Turf Applications

	Spray Volume (gals./1000 sq. ft.)		
Heritage Use Rate	**2.0 gals.**	**3.0 gals.**	**4.0 gals.**
0.2 oz.	10.0 oz.	6.7 oz.	5.0 oz.
0.4 oz.	20.0 oz.	13.3 oz.	10.0 oz.
0.7 oz.	35.0 oz.	23.3 oz.	17.5 oz.

ORNAMENTALS

Heritage is recommended for control of certain pathogens causing foliar, aerial, and root diseases, including leaf, tip, and flower blights, leaf spots, mildews, anthracnose, and rusts of ornamental plants. Heritage may be used to control certain diseases of container, bench, flat, plug, bed or field-grown ornamentals in greenhouses, shade-houses, outdoor nurseries, retail nurseries, and other residential and commercial landscape areas.

Integrated Pest (Disease) Management (IPM): Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, winter and/or spring pruning, plant residue management, and proper timing and placement of irrigation. Immunoassay detection kits and diagnostic services can assist in the early and accurate identification of causal organisms and corresponding selection of the proper fungicide when required.

Resistance Management: Some ornamental disease pathogens are known to have developed resistance to fungicides used repeatedly for their control. Heritage should be applied in an alternation or tankmix program with other registered fungicides that have a different mode of action and to which pathogen resistance has not developed. Do not make more than three (3) sequential applications of Heritage before alternating with a fungicide of a different mode of action. A sound resistance management program would include blocks of three Heritage applications separated by blocks of two alternate fungicide applications. Do not alternate Heritage with other strobilurin fungicides.

Application Directions: Apply Heritage as a broadcast or banded spray targeted at the foliage or crown of the plant. Apply to runoff in sufficient water to ensure complete coverage of the target plant. Good coverage and wetting of foliage is necessary for best control. Refer to the label for specific use directions for control of certain diseases. Repeat applications at specified intervals (plus alternations for resistance management) for as long as required. Applications may be made by ground only.

Heritage applications should begin prior to disease development and continue throughout the season at specified intervals following resistance management guidelines. Heritage works best when used as part of a preventative disease management program.

Use only surfactants approved for ornamental plants in combination with Heritage. Do not use silicone based products with Heritage due to possible phytotoxicity. Always test tankmixes on a small group of representative plants prior to broadscale use.

Apply Heritage at use rates of 1-4 oz./100 gals. and every 7-28 days (or as otherwise specified for a specific plant or disease). The addition of a non-silicone based wetter-sticker at the recommended use rate may enhance coverage on hard-to-wet plant foliage.

Under most conditions and for most diseases, apply 2-4 oz./100 gals. on a 7-14 day interval.

Under light to moderate disease pressure, use the lower rates (1-2 oz./100 gals.) on a 7-14 day interval or the higher rates (3-4 oz./100 gals.) on a 14-28 day interval.

Under environmental conditions which promote severe disease development, use the higher rates (3-4 oz./100 gals.) on a 7-14 day interval.

Use of Heritage as a "rescue" (late curative or eradicant) treatment may not always result in satisfactory disease control.

Do not exceed 10 lbs. product/crop acre/year or 8 applications/crop/year.

Do not exceed 600 gals. spray volume per acre for foliar applications. For drench and crown applications, do not exceed 2 pts. volume per sq. ft.

In addition, do not tankmix Heritage with other fungicides, insecticides, herbicides, fertilizers, adjuvants, etc., unless local experience indicates that the tankmix is safe to ornamental plants.

Drench Application: Heritage may be applied to control soilborne, seedling, and crown diseases of production ornamentals (greenhouse, shadehouse, and container grown) as a preventative, drench treatment prior to infection. Good coverage of the pre-infection area (root zone, root ball, crown, etc.) is necessary for satisfactory control. Heritage may be drench applied to container grown ornamentals using 0.2-0.9 oz./100 gals. of water. Apply 1-2 pts. of the solution per sq. ft. surface area on a 7-28 day interval. Apply drench prior to infection as healthy roots are necessary to optimize product uptake, systemic translocation and disease protection.

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For resistance management do not make more than three sequential drench applications of Heritage before alternating with a fungicide of a different mode of action.

Caution should be taken before making application of Heritage as a drench to small bedding plants in the seedling/plug stage due to possible phytotoxicity. A limited quantity of plants should be tested prior to full-scale application.

Drip Irrigation: Heritage may be applied through drip irrigation systems to potted ornamentals or to bedded, field grown ornamentals for soil-borne disease control. Apply 2-16 oz. Heritage per acre as a preventative disease application. The soil or potting media should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

General Ornamental Use Precautions

Do not apply Heritage to apple or cherry trees (Flowering, Yoshina variety) due to possible phytotoxicity. Further, do not use spray equipment that has applied Heritage for use in these sensitive crops due to possible phytotoxicity from residue remaining in the sprayer.

Heritage may be applied to certain varieties of crabapple for control of apple scab. Heritage has been shown to be safer when applied to the species and varieties listed in Table 4. However, due to the large number of genera, species, and varieties of crabapple, it is impossible to test every one for tolerance to Heritage. The professional user should conduct small scale testing to insure plant safety prior to broadscale commercial use on plant genera and species not listed on this label.

TABLE 1
Diseases Controlled

When used in accordance with the label directions, Heritage will provide control of the following diseases of ornamental plants:

DISEASE (Pathogen)	SPECIAL USE COMMENTS
1. CONIFER BLIGHTS	
a. Phomopsis Blight *(Phomopsis juniperovora)*	Apply 1-4 oz./100 gal. every 7-28 days.
b. Tip Blight *(Sirococcus strobilinus)*	Apply 1-4 oz./100 gal. every 7-28 days.
2. LEAF BLIGHTS/LEAF SPOTS	
a. Alternaria Leaf Spot (*Alternaria* spp.)	Apply 1-4 oz./100 gal. every 7-28 days.
b. Anthracnose (*Colletotrichum* spp., *Elsinoe* spp.)	Apply 4-8 oz./100 gal. every 7-28 days.
c. Cercospora Leaf Spot (*Cercospora* spp.)	Apply 1-4 oz./100 gal. every 7-28 days.
d. Downy Mildew of Bedding Plants (*Peronospora* spp.)	Apply 1-2 oz. every 7-14 days prior to infection. Do not apply the 2 oz. rate on less than 14 day spray intervals.
e. Downy Mildew of Rose *(Peronospora sparsa)*	Apply 2-4 oz./100 gal. every 7-21 days during periods of active plant growth and prior to dormancy or severe infection.
f. Entomosporium Leaf Spot *(Entomosporium mespili)*	Apply 1-4 oz./100 gal. every 7-28 days.
g. Iris Leaf Spot *(Mycosphaerella macrospora)*	Apply 2-4 oz./100 gal. every 7-21 days.
h. Leaf Spot *(Cladosporium echinulatum)*	Apply 1-4 oz./100 gal. every 7-28 days.
i. Marrsonina Leaf Spot (*Marrsonina* spp.)	Apply 1-4 oz./100 gal. every 14-28 days.
j. Myrothecium Leaf Spot *(Myrothecium rordum)*	Apply 1-4 oz./100 gal. every 7-21 days.
k. Scab *(Venturia inaequalis)*	Apply 1-4 oz./100 gal. every 10-28 days. Do not apply to apple trees. For crabapples only, see Table 4 for tolerant species.
l. Septoria Leaf Spot *(Septoria rosea)*	Apply 2-4 oz./100 gal. every 7-28 days.
3. POWDERY MILDEW	Preventative applications only. Do not make more than 2 sequential applications before rotating to another class of fungicide.
a. *Erysiphe pannosa, Erysiphe* spp.	Apply 1-4 oz./100 gal. every 7-28 days.
b. *Microsphaera azaleae*	Apply 1-4 oz./100 gal. every 7-28 days.
c. *Sphaerotheca parnnosa*	Apply 1-4 oz./100 gal. every 7-28 days.

DISEASE (Pathogen)	SPECIAL USE COMMENTS
4. RUSTS	
a. Needle Rust *(Melampsora occidentalis)*	Apply 1-4 oz./100 gal. every 7-28 days.
b. *Phragmidium* spp.	Apply 1-4 oz./100 gal. every 7-28 days.
c. *Puccinia* spp.	Apply 1-4 oz./100 gal. every 7-28 days.
d. *Gymnosporangium* spp.	Apply 1-4 oz./100 gal. every 7-28 days.
5. FLOWER BLIGHTS	
a. Anthracnose (*Collectotrichum* spp., *Elsinoe* spp.)	Apply 1-4 oz./100 gal. every 7-28 days.
b. Botrytis Blight *(Botrytis cinerea)*	Apply 4-8 oz./100 gal. every 7-21 days prior to infection.
6. SHOOT/STEM DISEASES	
a. Aerial/Shoot Blight (*Phytophthora* spp.)	Apply 1-2 oz./100 gal. every 7-28 days.
7. SOILBORNE DISEASES (Directed Spray)	For directed spray applications utilize the following rates below.
a. *Rhizoctonia solani*	Apply 1-4 oz./100 gal. every 7-21 days.
b. *Sclerotium rolfsii*	Apply 1-4 oz./100 gal. every 7-21 days.
c. *Fusarium* spp.	Apply 1-4 oz./100 gal. every 7-21 days.
8. SOILBORNE DISEASES (Drench)	See Ornamentals Section for additional drench directions.
a. *Rhizoctonia solani*	Apply 0.2-0.9 oz./100 gal., 1-2 pts. of the solution per sq. ft. surface area, every 7-28 days.
b. *Sclerotium rolfsii*	Apply 0.2-0.9 oz./100 gal., 1-2 pts. of the solution per sq. ft. surface area, every 7-28 days.
c. *Fusarium* spp.	Apply 0.2-0.9 oz./100 gal., 1-2 pts. of the solution per sq. ft. surface area, every 7-28 days.

PLANT SAFETY: Heritage has been shown to be safe when applied to the ornamental plants listed in Tables 2, 3 and 4. However, due to the large number of genera, species and varieties of ornamental and nursery plants, it is impossible to test every one for tolerance to Heritage. Neither the manufacturer nor the seller has determined whether or not Heritage can be used safely on genera, species, or varieties of ornamental and nursery plants not specified on this label. The professional user should conduct small scale testing to insure plant safety prior to broadscale commercial use on plant genera and species not listed in this label.

In addition, do not tankmix Heritage with other fungicides, insecticides, herbicides, fertilizers, adjuvants, etc, unless local experience indicates that the tankmix is safe to ornamental plants.

Do not apply Heritage to certain apple, crabapple, or cherry trees due to possible phytotoxicity. Further, do not use spray equipment that has applied Heritage for use in these sensitive crops due to possible phytotoxicity from residue remaining in the sprayer.

Tolerant Ornamental Plants: Heritage has been found to be safe when applied to the plants listed in Tables 2, 3 and 4 when applied according to recommended application methods, rates, and timings.

TABLE 2
Tolerant Plants Listed by Botanical Name

BOTANICAL NAME	COMMON NAME	DISEASES
Abelia spp.	Abelia	2
Abies fraseri	Fraser fir	1, 4
Acer palmatum	Japanese maple	2
Acer saccharum	Sugar maple	2
Ageratum spp.	Floss-Flower	3, 4
Ageratum spp.	Pussy's-Foot	3, 4
Aglaonema spp.	Chinese evergreen	2, 4
Ajuga reptans	Bugle, Bugleweed	3
Antirrhinum spp.	Snap-Dragon	2d, 3, 4
Aphelandra spp.	Zebra-Plant	2
Artemisia spp.	Mugwort, Sagebrush	2
Artemisia spp.	Wormwood	2
Aster spp.	Aster, Starwort	4
Aucuba japonica	Japanese aucuba, Japanese laurel	7
Begonia spp. (except Rieger begonia)	Begonia	2, 3
Berberis thunbergii	Barberry	3, 4
Betula nigra	River birch	3, 4
Bougainvillea spp.	Bougainvillea	2
Brassaia actinophylla	Rubber-tree, Umbrella-tree	2, 7
Buddleia davidii	Buddleia, Butterfly-bush	2
Buxus sempervirens	Boxwood	2, 7a
Caladium spp.	Caladium	7
Camellia japonica	Camellia	2
Caryota urens	Sago Palm	2, 7
Catharanthus roseus	Vinca	2
Ceanothus sanguineus	Wild lilac	3
Ceanothus spp.	Ceanothus, California lilac, Snowball	3
Cedrus atlantica	Atlas cedar	2, 4
Cedrus spp.	White cedar	2, 4
Cercis occidentalis	Western redbud	2
Chamaecyparis spp.	Cypress, Leyland cypress	1
Chamaecyparis pisifera	Sawara cypress	1
Chamaedora elegans	Parlor palm	7
Chrysanthemum spp.	Chrysanthemums	2, 7c
Clethra alnifolia	Clethra, White alder	2
Cornus spp.	Dogwood, Pink dogwood, Flowering dogwood	2b, 3
Cornus florida	Dogwood	2b, 3
Cortaderia selloana	Pampas grass	3
Cotoneaster adpressus	Creeping cotoneaster	7
Cotoneaster horizontalis	Cotoneaster - variegated rockspray	7
Cyclamen spp.	Cyclamen	7c
Cyperus spp.	Cyperus	1
Delphinium spp.	Larkspur	2
Dianthus caryophyllus	Carnation	3, 4
Dianthus spp.	Pink	3, 4
Dieffenbachia spp.	Dumb-Cane	2

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BOTANICAL NAME	COMMON NAME	DISEASES
Dietes iridiodes	African iris, Butterfly iris	4c
Digitalis spp.	Foxglove	2, 3
Epipremnum spp.	Pothos	2
Erica dareyensis	Heather	2
Euonymus alata	Dwarf winged euonymus	2
Euonymus alatus	Burning bush	2
Euonymus japonicus	Evergreen euonymus	2
Euphorbia spp.	Poinsettia	2a
Fatsia japonica	Japanese fatsia, Paper-plant	2
Ficus spp.	Fig	2
Forsythia viridissima	Forsythia	2
Gaillardia spp.	Blanket-Flower	2
Gardenia jasminoides	Gardenia	3
Geranium spp.	Cranesbill	5b
Gerbera jamesonii	Gerber daisy, Transvaal daisy	3
Hedera algeriensis	Algerian ivy	2
Hedera helix	English ivy	2
Hibiscus moscheutos	Hibiscus	2, 3
Hibiscus rosa-sinensis	Hibiscus	2, 3
Hibiscus syriacus	Rose of Sharon	2, 3
Hosta spp.	Hosta	2
Hydrangea macrophylla	French hydrangea	2c, 3
Hydrangea spp.	Hydrangea	2c, 3
Ilex spp.	Holly, Winterberry, Yaupon	3
Impatiens spp.[1]	Balsam, Impatiens[1]	2a, 7a
Itea virginica	Virginia willow	3, 4
Juniperus procumbens	Juniper	1a, 4
Juniperus scopulorum	Juniper	1a, 4
Juniperus spp.	Juniper	1a, 4
Juniperus virginiana	Red cedar	1a, 4
Lagerstroemia indica	Crapemyrtle	2c, 3
Laurus nobilis	Laurel	3
Liriope muscari	Lily-turf	2
Lobularia maritima	Sweet alyssum	7
Magnolia grandiflora	Southern magnolia	2
Magnolia soulangiana	Saucer magnolia	2
Magnolia spp.	Magnolia	2
Malus spp.	Crabapple (See Table 4 for variety list)	2k
Nandina domestica	Nandina	2
Nerium oleander	Oleander, Rose-bay	2
Pelargonium spp.	Geranium	3, 4, 5b
Pennisetum alopecuroides	Grass	2
Peperomia spp.	Baby rubber-plant	2, 7
Petunia spp.	Petunia	6a
Phalaris spp.	Dwarf pampas grass	3
Philodendron spp.	Philodendron	2
Phlox spp.	Phlox	3
Phoenix dactylifera	Date palm	2, 7
Phoenix roebelenii	Roebelin's palm	2, 7
Photinia glabra	Red-tip photinia	2, 3, 4

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BOTANICAL NAME	COMMON NAME	DISEASES
Picea abies	Norway spruce	1
Picea glauca	White spruce	1
Picea pungens	Blue spruce	1
Pieris japonica	Japanese andromeda	2, 7
Pinus muhgo	Muhgo pine	1b, 4
Pinus nigra	Black pine	1b, 4
Pinus silvestris	Scotch pine	1, 4
Pinus spp.	Pine	1b, 4
Pinus strobus	Eastern white pine	1b, 4
Pittosporum spp.	Australian laurel	3, 4
Pittosporum tobira	Mock-orange	3, 4
Plectranthus spp.	Swedish ivy, Coleus	2
Populus spp.	Aspen Trees	2i
Potentilla spp.	Cinquefoil	2
Primula spp.	Primrose	2
Prunus pumila	Cherry	2, 5
Prunus spp.	Flowering plum, Purple-leaf plum	2, 5
Pseudotsuga spp.	Douglas fir	1, 4
Pyrus calleryana	Bradford's pear	3
Quercus falcata	Red oak	2, 3
Quercus palustris	Pin oak	2, 3
Rhaphiolepsis indica	Indian hawthorn	2, 3, 4
Rhododendron spp.	Azaleas, Rhododendron	2b, 3, 6, 7
Rhododendron spp.	Glacier Azalea	2b, 3, 6, 7
Rosa spp.	Rose	2a, 2e, 2l, 3c, 4b
Rosmarinus spp.	Rosemary (prostrate)	2
Rudbeckia hirta	Black-eyed-susan	2
Salvia spp.	Sage	3, 4
Schlumbergera	Holiday cactus	2,7
Sedum spp.	Orpine, Stonecrop	2
Sempervivum spp.	Live-forever, House-Leek	2
Setaria spp.	Ribbon-grass	2, 3
Spathiphyllum floribundium	Peace lily	2c, 2j, 7
Spirea budalda	Spirea	3
Spirea japonica	Spirea	3
Syagrus romanzoffianum	Queen palm	2
Tagetes spp.	Marigold	2a
Taxus baccata	Spreading yew	7
Thujopsis spp.	Arborvitae	2
Thymus serphyllum	Creeping thyme	2
Tsuga spp.	Hemlock	4
Verbena spp.	Verbena, Vervain	3
Viburnum spp.	Viburnum	2, 3, 4
Vinca spp.	Periwinkle	2, 6a
Viola spp.[1]	Viola, Pansy[1]	2
Wiegela florida	Pink wiegela	2
Yucca spp.	Yucca	7
Zinnia spp.	Zinnia	2a, 3

[1]Do not exceed 2 oz./100 gals. on these species.

TABLE 3
Tolerant Plants Listed by Common Name

COMMON NAME	BOTANICAL NAME
Abelia	*Abelia* spp.
Andromeda, Japanese	*Pieris japonica*
Arborvitae	*Thujopsis* spp.
Aspen Trees	*Populus* spp.
Aster	*Aster* spp.
Aucuba, Japanese	*Aucuba japonica*
Azalea, Glacier	*Rhododendron* spp.
Azaleas	*Rhododendron* spp.
Balsam	*Impatiens* spp.
Barberry	*Berberis thunbergii*
Begonia (except Rieger Begonia)	*Begonia* spp.
Birch, River	*Betula nigra*
Black-Eyed-Susan	*Rudbeckia hirta*
Blanket-Flower	*Gaillardia* spp.
Bougainvillea	*Bougainvillea* spp.
Boxwood	*Buxus sempervirens*
Buddleia	*Buddleia davidii*
Bugle	*Ajuga reptans*
Bugleweed	*Ajuga reptans*
Burning Bush	*Euonymus alatus*
Butterfly Bush	*Buddleia davidii*
Cactus, Holiday	*Schlumbergera*
Caladium	*Caladium* spp.
Camellia	*Camellia japonica*
Carnation	*Dianthus caryophyllus*
Ceanothus	*Ceanothus* spp.
Cedar, Atlas	*Cedrus atlantica*
Cedar, Red	*Juniperus virginiana*
Cedar, White	*Cedrus* spp.
Cherry	*Prunus pumila*
Christmas Trees	See Fraser fir, Scotch pine and Douglas fir
Chrysanthemum	*Chrysanthemum* spp.
Cinquefoil	*Potentilla* spp.
Coleus	*Plectranthus* spp.
Cotoneaster, Creeping	*Cotoneaster adpressus*
Cotoneaster, Variegated Rockspray	*Cotoneaster horizontalis*
Crabapple (See Table 4 for variety list)	*Malus* spp.
Cranesbill	*Geranium* spp.
Crapemyrtle	*Lagerstroemia indica*
Cyclamen	*Cyclamen* spp.
Cyperus	*Cyperus* spp.
Cypress, Sawara	*Chamaecyparis pisifera*
Cypress, Leyland	*Chamaecyparis* spp.
Daisy, Gerber	*Gerbera jamesonii*
Daisy, Transvaal	*Gerbera jamesonii*
Dogwood	*Cornus* spp.
Dogwood	*Cornus florida*
Dogwood, Pink	*Cornus* spp.
Dumb-Cane	*Dieffenbachia* spp.
Euonymus, Dwarf Winged	*Euonymus alata*
Euonymus, Evergreen	*Euonymus japonicus*
Evergreen, Chinese	*Aglaonema* spp.

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COMMON NAME	BOTANICAL NAME
Fatsia, Japanese	*Fatsia japonica*
Fig	*Ficus* spp.
Fir, Douglas	*Pseudotsuga* spp.
Fir, Fraser	*Abies fraseri*
Floss-Flower	*Ageratum* spp.
Forsythia	*Forsythia viridissima*
Foxglove	*Digitalis* spp.
Gardenia	*Gardenia jasminoides*
Geranium	*Pelargonium* spp.
Grass	*Pennisetum alopecuroides*
Grass, Dwarf Pampas	*Phalaris* spp.
Grass, Pampas	*Cortaderia selloana*
Hawthorn, Indian	*Rhaphiolepsis indica*
Heather	*Erica dareyensis*
Hemlock	*Tsuga* spp.
Hibiscus	*Hibiscus moscheutos*
Hibiscus	*Hibiscus rosa-sinensis*
Holly	*Ilex* spp.
Hosta	*Hosta* spp.
House-Leek	*Sempervivum* spp.
Hydrangea	*Hydrangea* spp.
Hydrangea, French	*Hydrangea macrophylla*
Impatiens[1]	*Impatiens* spp.[1]
Iris, African	*Dietes iridiodes*
Iris, Butterfly	*Dietes iridiodes*
Ivy, Algerian	*Hedera algeriensis*
Ivy, English	*Hedera helix*
Ivy, Swedish	*Plectranthus* spp.
Juniper	*Juniperus procumbens*
Juniper	*Juniperus scopulorum*
Juniper	*Juniperus* spp.
Larkspur	*Delphinium* spp.
Laurel	*Laurus nobilis*
Laurel, Australian	*Pittosporum* spp.
Laurel, Japanese	*Aucuba japonica*
Lilac, California	*Ceanothus* spp.
Lilac, Wild	*Ceanothus sanguineus*
Lily, Peace	*Spathiphyllum floribundium*
Lily-Turf	*Liriope muscari*
Live-Forever	*Sempervivum* spp.
Magnolia	*Magnolia* spp.
Magnolia, Saucer	*Magnolia soulangiana*
Magnolia, Southern	*Magnolia grandiflora*
Maple, Japanese	*Acer palmatum*
Maple, Sugar	*Acer saccharum*
Marigold	*Tagetes* spp.
Mock-Orange	*Pittosporum tobira*
Mugwort	*Artemisia* spp.
Nandina	*Nandina domestica*
Oak, Pin	*Quercus palustris*
Oak, Red	*Quercus falcata*
Oleander	*Nerium oleander*
Orpine	*Sedum* spp.
Palm, Date	*Phoenix dactylifera*

continued...

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COMMON NAME	BOTANICAL NAME
Palm, Parlor	*Chamaedora elegans*
Palm, Queen	*Syagrus romanzoffianum*
Palm, Roebelin's	*Phoenix roebelenii*
Palm, Sago	*Caryota urens*
Pansy[1]	*Viola* spp.[1]
Paper-Plant	*Fatsia japonica*
Pear, Bradford's	*Pyrus calleryana*
Periwinkle	*Vinca* spp.
Petunia	*Petunia* spp.
Philodendron	*Philodendron* spp.
Phlox	*Phlox* spp.
Photinia, Red-Tip	*Photinia glabra*
Pine	*Pinus* spp.
Pine, Black	*Pinus nigra*
Pine, Eastern White	*Pinus strobus*
Pine, Muhgo	*Pinus muhgo*
Pine, Scotch	*Pinus sylvestris*
Pink	*Dianthus* spp.
Plum, Flowering	*Prunus* spp.
Plum, Purple-Leaf	*Prunus* spp.
Poinsettia	*Euphorbia* spp.
Pothos	*Epipremnum* spp.
Primrose	*Primula* spp.
Pussy's-Foot	*Ageratum* spp.
Redbud, Western	*Cercis occidentalis*
Rhododendron	*Rhododendron* spp.
Ribbon-Grass	*Setaria* spp.
Rose of Sharon	*Hibiscus syriacus*
Rose	*Rosa* spp.
Rose-Bay	*Nerium oleander*
Rosemary (Prostrate)	*Rosmarinus* spp.
Rubber-Plant, Baby	*Peperomia* spp.
Rubber-Tree	*Brassaia actinophylla*
Sage	*Salvia* spp.
Sagebrush	*Artemisia* spp.
Snap-Dragon	*Antirrhinum* spp.
Snowball	*Ceanothus* spp.
Spirea	*Spirea budalda*
Spirea	*Spirea japonica*
Spruce, Blue	*Picea pungens*
Spruce, Norway	*Picea abies*
Spruce, White	*Picea glauca*
Starwort	*Aster* spp.
Stonecrop	*Sedum* spp.
Sweet Alyssum	*Lobularia maritima*
Thyme, Creeping	*Thymus serphyllum*
Umbrella-Tree	*Brassaia actinophylla*
Verbena	*Verbena* spp.
Vervain	*Verbena* spp.
Viburnum	*Viburnum* spp.
Vinca	*Catharanthus roseus*
Viola	*Viola* spp.

continued...

COMMON NAME	BOTANICAL NAME
White Alder	*Clethora* spp.
Wiegela, Pink	*Wiegela florida*
Willow, Virginia	*Itea virginica*
Winterberry	*Ilex* spp.
Wormwood	*Artemisia* spp.
Yaupon	*Ilex* spp.
Yew, Spreading	*Taxus baccata*
Yucca	*Yucca* spp.
Zebra-Plant	*Aphelandra* spp.
Zinnia	*Zinnia* spp.

[1]Do not exceed 2 oz./100 gals. on these species.

TABLE 4
Tolerant Varieties of Crabapple Species (Genus *Malus*)
Tolerant Varieties of *Malus*

Arkansas Black	Eleyi	Mary Potter	*seiboldii*
atrosanguinea	Enterprise	Molten Lava	Selkirk
baccata	Evereste	New Centennial	Sentinel
baccata var. jackii	Eyelynn	Ormiston Roy	Silver Moon
baccata var. mandshurica	*floribunda*	Pink Satin	Silverdrift
Callaway	Gloriosa	Prairie Maid	Sinai Fire
Candymint Sargent	Golden Delicious	Prairifire	*spectablis*
Christmas Holly	Golden Raindrops	Profusion	Sugar Tyme
coronaria	Hopa	*pumila*	Van Eseltine
David	Indian Magic	Ralph Shay	White Angel
Dolgo	Island	Red Jade	Williams Pride
Donald Wyman	Katherine	Red Baron	Winter Gold
Dorothea	Lancelot	Sargent	Yellow Delicious
Doubloons	Louisa	*sargentii*	*zumi* Calocarpa

TABLE 5
Intolerant Plants
(Do not apply Heritage to these species or varieties)

COMMON NAME	BOTANICAL NAME
Apple	*Malus domestica*
Crabapple - Flame variety	*Malus* spp.
Crabapple - Brandywine variety	*Malus* spp.
Crabapple - Novamac variety	*Malus* spp.
Cherry, Flowering - Yoshina variety	*Prunus yedoensis*
Leatherleaf Fern	*Rumohra adianformis* and other species

CONIFERS INCLUDING CHRISTMAS TREES, COMMERCIAL PRODUCTION ROSES

Heritage may be used to control certain diseases on conifers in production (indoor and outdoor) and landscape situations.

Please see the Ornamentals section above for more detailed directions for use in landscape situations.

DIRECTIONS FOR APPLICATION

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Conifers Including Christmas Trees	Diplodia Tip Blight *(Diplodia pinea)* Lophodermium Needlecast *(Lophodermium pinastri)* Swiss Needlecast *(Phaeocrytopus gaumannii)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance and removal of plant debris in which inoculum may overwinter. **Resistance Management:** Do not apply more than four sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than eight applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season at 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 4.0 lbs. of product/acre/season (2.0 lbs. a.i./A).
Roses (Commercial Rose Production)	Downy Mildew *(Peronospora sparsa)* Powdery Mildew *(Sphaerotheca pannosa)* Rust *(Phragmidium mucronatum, P. tuberculatum, and other Phragmidium* spp.) Septoria Leaf Spot *(Septoria rosea)* Alternaria Leaf Spot *(Alternaria alternata)*	1.6-8.0 (0.05-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, winter and/or spring pruning, plant residue management, and proper timing and placement of irrigation. **Resistance Management:** Do not make more than four sequential applications of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than eight applications per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates to improve coverage. **Plant Safety:** Heritage has been shown to be safe when applied to roses. However, all varieties of roses have not been evaluated for safety. Small scale variety safety testing must be conducted to insure plant safety prior to large scale application. In addition, do not tankmix Heritage with other fungicides, insecticides, herbicides, fertilizer, etc. unless local experience indicates that the tankmix is safe to roses. Do not apply more than 4.0 lbs. of product/acre/season (2.0 lbs. a.i./A).

NURSERIES, GARDENS AND LANDSCAPES

Heritage may be applied to plants used for food in production nurseries, gardens and landscapes to control certain diseases. Follow the pre-harvest interval following applications prior to consuming fruits, nuts, or other produce from those treated areas.

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Almonds	Alternaria Leaf and Fruit Spot *(Alternaria alternata)* Anthracnose *(Colletotrichum acutatum)* Brown Rot Blossom Blight *(Monilinia laxa, M. fructicola)* Leaf Blight *(Seimatosporium lichenicola)* Leaf Rust *(Tranzschelia discolor)* Scab *(Cladosporium carpophilum)* Shothole *(Wilsonomyce carpophilus)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters and proper timing and placement of irrigation. **Resistance Management:** For blossom blight do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. For all other almond diseases do not apply more than four sequential sprays of Heritage before alternation with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. For blossom blight begin applications at early bloom and continue through petal fall. For anthracnose, scab and shothole begin applications prior to disease development and continue at 10-14 day intervals throughout the season. Do not apply more than 3.0 lbs. of product/acre/season (1.5 lbs. a.i./A). Do not apply within 28 days of harvest.
Bananas **Plantains**	Black Sigatoka *(Mycosphaerella fijiensis)* Yellow Sigatoka *(Mycosphaerella musicola)*	2.9-4.3 (0.09-0.135)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes canopy management through removal of suckers, proper plant spacing, selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and good surface water drainage. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than eight applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season every 12-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 2.16 lbs. of product/acre/season (1.08 lbs. a.i./A). May be applied the day of harvest.
Berries, Bushberry subgroup Blueberry Currant Elderberry Gooseberry Huckleberry **Lingonberry** **Juneberry** **Salal**	Botryosphaeria Canker (*Botryosphaeria* spp.) Powdery Mildew (*Sphaerotheca* spp.) Septoria Blight (*Septoria* spp.)	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than three applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 1.5 lbs. (0.75 lb. active ingredient) per acre per season. May be applied the day of harvest.

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Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Brassica Leafy Greens	White Rust *(Albugo candida)* Black Spot *(Alternaria* spp.*)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than three applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 1.5 lbs. (0.75 lb. active ingredient) per acre per season. May be applied the day of harvest.
Bulb Vegetables Garlic Leek Onion, bulb Onion, green Welch onion Shallot	**Foliar Diseases** Purple Blotch *(Alternaria porri)* Rust *(Puccinia allii)* White Rot *(Sclerotium cepivorum)* Downy Mildew *(Peronospora destructor)*	3.2-6.4 (0.10-0.20)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation. **Resistance Management:** Do not apply more than three sequential applications of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per crop per acre per year. **Application Directions:** For downy mildew control, do not make more than one application of Heritage before alternating with fungicides that have a different mode of action. Make preventative applications on a 5-7 day schedule. For all other diseases, Heritage applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. If applications are made by air, the higher rates should be used for adequate control. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 3.0 lbs. of product/crop/acre/season (1.5 lbs. a.i./A). May be applied the day of harvest.
Citrus Fruit Calamondin Citron Citrus hybrids Grapefruit Kumquat Lemon Lime Mandarin Orange (sour and sweet) Pummelo Satsuma mandarin Tangerine	Greasy Spot *(Mycosphaerella citri)* Melanose *(Diaporthe citri)* Scab *(Elsinoe fawcettii)* Albinism *(Alternaria alternata pv citri)* Post Bloom Fruit Drop (PFD) *(Colletotrichum acutatum)* Alternaria Leaf and Fruit Spot *(Alternaria citri)*	6.4-8.0 (0.20-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, and proper timing of irrigation. **Resistance Management:** Do not apply more than three sequential sprays of Heritage before alternation with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Under conditions that favor severe disease epidemics, the higher application rates should be used. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 3.0 lbs. product/acre/season (1.5 lbs. a.i./A). May be applied the day of harvest.

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Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Corn (Sweet, Pop)	Rust *(Puccinia sorghi)* Anthracnose Leaf Blight *(Colletotrichum graminicola)* Gray Leaf Spot *(Cercospora sorghi)* Northern Corn Leaf Blight *(Setosphaeria turcica)*	3.2-4.8 (0.10-0.15) 4.8-8.0 (0.15-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and water management practices. **Resistance Management:** Do not apply more than two sequential applications of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than eight applications of Heritage per crop per acre per year. **Application Directions:** For gray leaf spot, apply Heritage at the onset of disease. A second application may be required 14 days later if disease pressure persists. For all other diseases, Heritage applications should begin prior to disease development and may continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 4.0 lbs. of product/crop/acre/season (2.0 lbs. a.i./A). Do not apply within 7 days of harvest.
Cucurbits Cantaloupe Chayote Chinese-waxgourd Cucumber Gourds Honeydew Melons *Momordica* spp. (Bitter melon, Balsam apple) Muskmelon Pumpkin Squash Watermelon Zucchini	Anthracnose *(Colletotrichum lagenarium)* Belly Rot *(Rhizoctonia solani)* Downy Mildew *(Psuedoperonospora cubensis)* Gummy Stem Blight *(Didymella bryoniae)* Leaf Spots *(Alternaria spp., Cercospora spp.)* Myrothecium Canker *(Myrothecium roridum)* Powdery Mildew *(Sphaerotheca fuliginea, Erysiphe cichoracearum)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation, and proper timing and placement of irrigation. **Resistance Management:** Do not apply more than two sequential applications of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per crop per acre per year. **Application Directions:** For both downy and powdery mildew control, **do not make more than one application of Heritage before alternating with fungicides that have a different mode of action.** Make applications on a 5-7 day schedule. For belly rot control, the first application should be made at the 1-3 leaf crop stage with a second application just prior to vine tip over or 10-14 days later whichever occurs first. For all other diseases, Heritage applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. Heritage should not be tankmixed with COC, MSO, or silicon adjuvants. Heritage should not be tankmixed with Malathion, Kelthane®, Thiodan®, Phaser®, Lannate®, Lorsban®, M-Pede® or Botran®. Do not apply more than 3.0 lbs. of product/crop/acre/season (1.5 lbs. a.i./A). Do not apply within 1 day of harvest.

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Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Grapes Muscadines	Downy Mildew *(Plasmopara viticola)* Phomopsis Cane and Leaf Spot *(Phomopsis viticola)* Powdery Mildew *(Uncinula necator)* Black Rot *(Guignardia bidwellii)*	5.1-8.0 (0.16-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes canopy management through pruning and thinning, proper selection of varieties with disease tolerance, proper timing and placement of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season every 10-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. Do not apply more than 3.0 lbs. of product/acre/season (1.5 lbs. a.i./A). Do not apply within 14 days of harvest. **ATTENTION** Heritage is extremely phytotoxic to certain apple varieties. AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple trees (and apple fruit). DO NOT spray Heritage where spray drift may reach apple trees. DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, sprayer nozzle/pressure combinations, spray droplet size, etc. Contact your State extension agent for spray drift prevention guidelines in your area. DO NOT use spray equipment which has been previously used to apply Heritage to spray apple trees. Even trace amounts can cause unacceptable phytotoxicity. AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

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Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Leafy Vegetables Amaranth Arugula Cardoon Celery Celtuce Chervil Chrysanthemum, edible Coriander, leaves (Cilantro) Corn salad Cress Dandelion Dock Endive Fennel Lettuce, head and leaf Orach Parsley Purslane Radicchio Rhubarb Spinach Swiss Chard	Alternaria Leaf Spot *(Alternaria sonchi, A. spp.)* Downy Mildew *(Bremia lactucae)* Powdery Mildew *(Eyrisiphe cichoracearum)* Cercospora Leaf Spot *(Cercospora spp.)* Anthracnose *(Microdochium panattonianum, C. dematium)* Septoria Leaf Spot *(Septoria petroselini)* White Rust *(Albugo occidentalis)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, plant residue management, crop rotation and proper timing and placement of irrigation. **Resistance Management:** Do not apply more than three sequential applications of Heritage (following application directions) before alternating with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per crop per acre per year. **Application Directions:** For both downy and powdery mildew control, do not make more than one application of Heritage before alternating with fungicides that have a different mode of action. Make preventative applications on a 5-7 day schedule. For all other diseases, Heritage applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage. **ATTENTION:** Applications of Heritage to spinach and lettuce foliage have contributed to foliar phytotoxicity under certain circumstances. Proceed with caution with regard to tankmixes and adjuvants when treating spinach and lettuce with Heritage. Heritage must not be tankmixed on leaf lettuce with Ambush® WP, Pounce WP, Aliette, Warrior®, or another product that may increase the penetration of Heritage into the leaf surface, such as, but not limited to silicone wetters. Do not apply more than 3.0 lbs. of product/crop/acre/season (1.5 lbs. a.i./A). May be applied the day of harvest.
Mint (Fresh)	Rust *(Puccinia menthae)* Powdery Mildew *(Erysiphe spp.)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than three applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule, following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 1.5 lbs. (0.75 lb. active ingredient) per acre per season. May be applied the day of harvest for fresh mint.

Heritage®

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Pepper Bell Pepper Non-Bell Pepper Sweet Non-Bell Pepper **Eggplant** **Okra**	Powdery Mildew (*Sphaerotheca* spp.) Anthracnose (*Colletotrichum* spp.)	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than four applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 7-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 2.0 lbs. (1.0 lb. active ingredient) per acre per season. May be applied the day of harvest.
Pistachios	Alternaria Late Blight (*Alternaria alternata*) Botryosphaeria Panicle and Shoot Blight (*Botryosphaeria dothidea*) Septoria Leaf Spot (*Septoria pistaciarum*)	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than four sequential sprays of Heritage before alternation with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. An adjuvant may be added at recommended rates. Do not apply more than 3.0 lbs. of product/acre/season (1.5 lbs. a.i./A). Do not apply within 28 days of harvest.

Heritage®

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Potatoes	Early Blight *(Alternaria solani)* Late Blight *(Phytophthora infestans)* Black Dot *(Colletotrichum coccodes)* Powdery Mildew *(Erysiphe cichoracearum)*	3.2-9.6 (0.10-0.33)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes removal of plant debris, in which inoculum overwinters, selection of varieties with tolerance to disease, clean certified seed, seedpiece treatment, and disease forecasting. **Resistance Management:** Do not make more than one application of Heritage before alternation with fungicides that have a different mode of action, such as Bravo®. Make applications on a 5-7 day schedule. Do not alternate or tankmix with fungicides to which resistance has developed. Do not make more than six applications per year. **Application Directions: For both early and late blight, maintain the alternation program described above.** Early blight - For a 7-day application schedule use Heritage 3.2 oz. product/A, if the interval is increased to 14 days use the 6.0 oz. product/A rate. Late blight - Apply Heritage at 3.2 oz. product/A on a 7 day schedule. Initiate late blight applications in a preventative schedule prior to disease development according to local practices. If late blight symptoms develop or conditions favor disease increase the Heritage rate to 6.0 to 8.0 oz. product/A and use a 5-day schedule. For all other diseases, Heritage applications should begin prior to disease development and continue throughout the season every 7-14 days following the resistance management guidelines. Applications may be made by ground, air, or chemigation. Addition of a spreader/sticker may improve coverage. Do not make more than six applications of Heritage per acre per year for all diseases. Do not apply more than 4.0 lbs. of product/acre/season (2.0 lbs. a.i./A). Do not apply within 14 days of harvest.
Stone Fruit Apricot Cherry, sweet Cherry, tart Nectarine Peach Plum Plumcot Prune	Scab *(Cladosporium carpophilum)* Alternaria Spot and Fruit Rot *(Alternaria alternata)* Anthracnose *(Colletotrichum pruicola, C. gloeosporioides)* Leaf Rust *(Tranzschelia discolor)* Powdery Mildew *(Sphaerotheca parnnosa, Podosphaera clandestina)* Shothole *(Wilsonomyces carpophilus* Brown Rot Blossom Blight and Fruit Rot *(Monilinia fructicola, M. laxa)*	3.2-8.0 (0.10-0.25) 6.4-8.0 (0.20-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters and pruning to provide sunlight and aeration into the canopy. **Resistance Management:** For blossom blight do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. For all other diseases do not apply more than four sequential sprays of Heritage before alternation with a fungicide that has a different mode of action. Do not alternate or tankmix with fungicides to which resistance has developed in the pathogen population. Do not make more than six applications of Heritage per acre per year for all diseases. Do not make more than four applications of Heritage per acre per year at 8 oz. product/A (0.25 lb. a.i./A). **Application Directions:** For brown rot blossom blight begin applications at early bloom and continue through petal fall. Do not apply more than two applications of Heritage before alternating with fungicides that have a different mode of action. For brown rot on fruit, Heritage may be applied to fruit up to the day of harvest. Do not apply more than two applications before alternating with fungicides that have a different mode of action. For scab, begin applications at petal fall and continue at 7-14 day intervals. For all other diseases, begin application at the onset of disease as a protectant fungicide and continue on a 7-14 day schedule. For peaches only, 4.7-8.0 oz. of Heritage may be used for scab control. Do not apply more than 2.4 lbs. of product/acre/season (1.2 lbs. a.i./A). May be applied the day of harvest.

Heritage®

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Strawberry	Anthracnose *(Colletotrichum fragariae)* Powdery Mildew *(Sphaerotheca macularis)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than four applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule, following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 2.0 lbs. (1.0 lb. active ingredient per acre per season). May be applied the day of harvest.
Tomatoes	Anthracnose *(Colletotrichum coccodes)* Black Mold *(Alternaria alternata)* Buckeye Rot *(Phytophthora spp.)* Early Blight *(Alternaria solani)* Powdery Mildew *(Oidiopsis sicula)* Septoria Leaf Spot *(Septoria lycopersici)* Target Spot *(Corynespora cassiicola)*	0.8-3.2 (0.025-0.10)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes proper selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters, plant residue management, crop rotation and proper timing and placement of irrigation. **Resistance Management:** When Heritage is being applied for the control of early blight, Septoria leaf spot and/or anthracnose, no more than four sequential applications of Heritage should be made before alternating with a fungicide with a different mode of action. When Heritage is being applied for the control of late blight, no more than two sequential applications of Heritage should be made before alternation with a fungicide with a different mode of action. If late blight should occur during an early blight spray program, switch immediately to the late blight spray program beginning with a fungicide that has a different mode of action. Do not make more than eight applications per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season following the resistance management guidelines. For late blight, Heritage should be applied at 5-7 day intervals. Do not make more than one application of Heritage before alternating with fungicides that have a different mode of action. For all other tomato diseases Heritage should be applied on 7-21 day intervals. Applications may be made by ground, air, or chemigation. Heritage should not be applied until 21 days after transplanting or 35 days after seeding. Heritage should not be applied within +/-6 days of a postemergence broadcast application of Sencor®. Do not apply with an adjuvant due to the potential for phytotoxicity. Do not apply more than 1.6 lbs. of product/acre/season (0.8 lb. a.i./A). May be applied the day of harvest.
	Late Blight *(Phytophthora infestans)*	1.6-3.2 (0.05-0.10)	

Heritage®

Crop	Target Diseases	Use Rate oz. product/A (lbs. a.i./A)	Remarks
Tree Nuts Almonds (see specific use instructions) Beechnut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert Hickory Macadamia Pecan Walnut Pistachios (see specific use instructions)	Alternaria Leaf and Fruit Spot *(Alternaria alternata)* Anthracnose *(Colletotrichum acutatum, Glomerella cingulata)* Late Blight *(Alternaria alternata)* Scab *(Cladosporium carpophilum)* Septoria Leaf Spot *(Septoria pistaciarum)* Shothole *(Wilsonomyces carpophilus)*	3.2-6.4 (0.10-0.20)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, removal of plant debris in which inoculum overwinters and proper timing and placement of irrigation. **Resistance Management:** For blossom blight do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. For all other diseases do not apply more than four sequential sprays of Heritage before alternation with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates to improve coverage.
	Blossom Blight *(Monilinia laxa, M. fructicola)*	6.4 (0.20)	For blossom blight begin applications at early bloom and continue through petal fall. For all other diseases begin applications prior to or in the early stages of disease development and continue at 7-21 day intervals throughout the season. Do not apply more than 2.4 lbs. of product/acre/season (1.2 lb. a.i./A). Do not apply within 45 days of harvest.
Tropical Fruit Avocado Custard apple Guava Mango Papaya Passionfruit Pawpaw Persimmon Starfruit Sugar apple Spanish lime Tamarind	Anthracnose *(Colletotrichum spp.)* Rust *(Puccinia spp.)* Cercospora Leaf Spot *(Cercospora spp.)*	3.2-8.0 (0.10-0.25)	**Integrated Pest (Disease) Management:** Heritage should be integrated into an overall disease management strategy that includes varieties with disease tolerance, proper timing of irrigation and removal of plant debris in which inoculum overwinters. **Resistance Management:** Do not apply more than two sequential sprays of Heritage before alternating with a fungicide that has a different mode of action. Do not make more than six applications of Heritage per acre per crop year. **Application Directions:** Heritage applications should begin prior to disease development and continue throughout the season on a 10-14 day schedule, following the resistance management guidelines. Applications may be made by ground, air, or chemigation. An adjuvant may be added at recommended rates. Do not apply more than 3.0 lbs. (1.5 lbs. active ingredient) per acre per season. May be applied the day of harvest.

Heritage®

Heritage Rate Conversion Chart

Oz. Product/Acre	Lb. a.i./Acre	Treated Acres/Lb. Product
1.0	0.03	16.0
1.5	0.05	10.7
2.0	0.06	8.0
2.5	0.08	6.4
3.0	0.09	5.3
3.5	0.11	4.6
4.0	0.13	4.0
4.5	0.14	3.7
5.0	0.16	3.2
5.5	0.17	2.9
6.0	0.19	2.7
6.5	0.20	2.5
7.0	0.22	2.3
7.5	0.23	2.1
8.0	0.25	2.0

For non-emergency (e.g., current product information) call
Syngenta Crop Protection at 1-800-334-9481.

Syngenta Crop Protection, Inc.
Greensboro, North Carolina 27409
www.syngenta-us.com

SCP 1093A-L1A 0403
128253

Heritage®

Fungicide

Broad spectrum fungicide for control of plant diseases

Active Ingredient:	
Azoxystrobin: methyl (*E*)-2-{2-[6-(2-cyanophenoxy) pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate* . .	50.0%
Other Ingredients:	50.0%
Total:	100.0%

Contains 0.5 lb. a.i./lb. product
*IUPAC

EPA Reg. No. 100-1093
EPA Est. 67545-AZ-1[YGM] EPA Est. 100-NE-001[MHA]
(Superscript is first three letters of batch code on container)

1 pound
Net Weight

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See directions for use in attached booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Reformulation is prohibited. See individual container labels for repackaging limitations.

FIRST AID

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER: For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

HARMFUL IF ABSORBED THROUGH SKIN. CAUSES MODERATE EYE IRRITATION. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Environmental Hazards

The active ingredient, azoxystrobin, in this product can be persistent for several months or longer. Azoxystrobin has degradation products which have properties similar to chemicals which are known to leach through soil to groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This pesticide is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Do not apply directly to water except as specified on this label. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

Notify state and/or federal authorities and Syngenta immediately if you observe any adverse environmental effects due to use of this product.

Chemigation

Refer to supplemental labeling in attached booklet for use directions for chemigation. Do not apply this product through any irrigation system, unless the supplemental labeling on chemigation is followed.

Syngenta Crop Protection, Inc.
Greensboro, North Carolina 27409
www.syngenta-us.com

SCP 1093A-L1A 0403 **128253**

MACH 2* 1.33% Plus Fertilizer

For control of immature stages of certain insects in turfgrass. Not for Sale or Use in Nassau and Suffolk Counties, New York. New York State Requires This Product be Used Only by Professional Applicators.

ACTIVE INGREDIENT

halofenozide: Benzoic acid, 4-chloro-,2-benzoyl-2-(1,1-dimethylethyl) hydrazide	1.33%
INERT INGREDIENTS	98.67%
TOTAL	100.00%

14-0-14

GUARANTEED ANALYSIS

TOTAL NITROGEN (N)	14.00%
14.00% Urea Nitrogen*	
SOLUBLE POTASH (K_2O)	14.00%
SULFUR (S) Total	1.30%
1.30% Free Sulfur (S)	

DERIVED FROM: Polymer Coated Sulfur Coated Urea, Urea, Muriate of Potash.

Chlorine (Cl) Max 10.50%

*3.70% Slowly Available Nitrogen from LESCO® Poly Plus® Sulfur Coated Urea.

Made in U.S.A.

KEEP OUT OF REACH OF CHILDREN
CAUTION / PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS AND DOMESTIC ANIMALS

Causes Moderate Eye Irritation • Harmful if Absorbed Through Skin
Avoid contact with skin, eyes, or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

WPS Uses: Applicators and other handlers who handle this pesticide for any use covered by Worker Protection Standard (40 CFR part 170) – in general, agricultural plant uses are covered – must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handlers PPE requirements may be reduced or modified as specified in the WPS.

Non-WPS Uses: Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR part 170) – in general, only agricultural plant uses are covered by the WPS – must wear:

- Shirt and pants
- Gloves
- Shoes plus socks

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-424-9300 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This chemical has the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

DIRECTIONS FOR USE

Store in a Dry Place.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying. Do not apply this product in a way that will contact workers or other persons either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

GENERAL INFORMATION

MACH 2 1.33% Plus Fertilizer specialty insecticide can be used as directed on any turfgrass site (lawns, sod, turf areas). Examples of such sites include, but are not limited to: residential and commercial lawns, grounds or lawns around business and office complexes, shopping centers, multi-family and residential apartment complexes, airports, military and other institutions, cemeteries, parks and picnic areas, playgrounds, schools, athletic fields, golf courses and sod farms. MACH 2 1.33% Plus Fertilizer mimics the action of a natural insect hormone that induces the molting and metamorphosis process in insects. MACH 2 1.33% Plus Fertilizer is highly active against grubs and lepidopterous larvae listed as target pests. MACH 2 1.33% Plus Fertilizer controls listed larvae through a novel mode-of-action that starts within hours of ingestion. Actual death of larvae may take several days to occur.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exemptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Keep children and pets out of treated area until dusts have settled.

#081258

MACH 2* 1.33% Plus Fertilizer

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry, well-ventilated area. Prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of reach of children.

Pesticide Disposal: Wastes resulting from the use of this product (that cannot be used according to label Instructions) may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Steps to be Taken if Material is Released or Spilled: Appropriate protective equipment must be worn when handling a spill of this material. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with handling of this material. Do not walk through spilled material. Dispose of pesticide as directed above. In spill or leak incidents, keep unauthorized people away.

USE RATE DETERMINATION

Carefully read, understand, and follow label use rates, recommendations and restrictions. Apply the amount specified with a properly calibrated fertilizer spreader. Check calibration periodically to ensure that equipment is working properly. Avoid overlaps that will increase rates above those recommended. Failure to follow the Directions for Use and all precautions on this label may result in grass injury or poor pest control.

APPLICATION TIMING

The activity of MACH 2 1.33% Plus Fertilizer is expressed following ingestion by the target larvae. Consequently, the timing of application is dependent upon the feeding behavior of the target pest. Consult your local State Extension Specialists for more specific information regarding timing of applications.

To achieve optimal effectiveness, the following turf management practices are suggested:

- **Minimize thatch** since heavy thatch will prevent the insecticide from penetrating to the area where insects are feeding.
- **Make applications prior to egg hatch or when larvae are small** and actively feeding (late spring through mid summer).
- **MACH 2 1.33% Plus Fertilizer is not dependent upon immediate irrigation for activation;** however, water must transport the material through the thatch. Under conditions of drought it is recommended to water in MACH 2 1.33% Plus Fertilizer.

For Sod Farms: Allow at least 7 days to elapse between last application and harvest of sod.

Suggested Spreader Settings

SPREADER TYPE		Recommended rates in lbs/1000 sq ft: 1.7	3.4
LESCO Rotary	Calibration Gauge	#12	#14
Cyclone® or Spyker®		4	4¼

Apply MACH 2 1.33% Plus Fertilizer with a drop or rotary spreader designed to apply granular insecticides. Avoid the use of spreaders that would apply this product in narrow rows or concentrated bands. Calibrate the spreader according to the manufacturers' directions for adjusting the spreader settings such that the spreader delivers the appropriate application rate recommended above. Apply this product uniformly over the lawn or ornamental turf area. A more uniform application can be made by spreading half the required amount over the area and then applying the remaining half at a right angle to the previous direction. Avoid streaking, skips, or overlaps during application.

USE DIRECTIONS FOR TURFGRASS

PEST	Amount of MACH 2 1.33% Plus Fertilizer	COMMENTS
Lepidoptera larvae such as: larvae of cutworms, sod webworms, armyworms, and fall armyworms	75 lb/acre 1.72 lb/1,000 sq ft	Apply at first sign of pest damage. A single repeat application can be made if needed.
White grub larvae such as: Japanese beetle, *Popillia japonica*; Northern masked chafer, *Cyclocephala borealis*; Southern masked chafer, *Cyclocephala lurida*; May/June beetle, *Phyllophaga* spp.; Black turfgrass ataenius, *Ataenius spretulus*; Green June Beetle, *Cotinus nitida*; Annual bluegrass weevil larvae, *Hyperodes* spp.; Billbugs, *Sphenophorus* spp.; Aphodius beetle, *Aphodius* spp.; European chafer, *Rhizotrogus majalis*; Oriental beetle, *Exomala orientalis*	112.5 - 150 lb/acre 2.6 - 3.40 lb/1,000 sq ft	MACH 2 1.33% Plus Fertilizer may be used as either a preventative or an early curative treatment (see application timing instructions). Make only one application.

Do not apply more than 150 lb (2 lb active ingredient) per acre per year regardless of pests controlled.

Use of this product on "Tifdwarf" Bermudagrass greens may result in short term discoloration of the turfgrass. Since many agronomic factors may influence this response it is recommended that users treat a small area at recommended rates prior to initiating large-scale use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read the Warranty elsewhere on this label. If terms are unacceptable, return at once unopened.**

IN CASE OF AN EMERGENCY ENDANGERING HEALTH OR ENVIRONMENT INVOLVING THIS PRODUCT, CALL 1-800-424-9300.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

WARRANTY

LESCO, Inc. warrants that this product conforms to the chemical description on this label. When used in accordance with label directions under normal conditions, this product is reasonably fit for its intended purposes. Since timing, method of application, weather, plant, and soil conditions, mixture with other chemicals, and other factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions or under conditions which are abnormal or not reasonably foreseeable. The user assumes all risks of any such use.

Information concerning the raw materials composing this product can be obtained by writing to: LESCO, Inc., Attn. RA Dept., 1301 East 9th Street, Suite 1300, Cleveland, Ohio 44114-1849, referring to the item number found on this bag.

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.regulatory-info-a1.com

*Trademark of Dow AgroSciences LLC. LESCO and Poly Plus are registered trademarks and the sweeping design is a trademark of LESCO Technologies, LLC. Cyclone and Spyker are registered trademarks of Spyker Spreaders, LLC.

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Rev. 10/22/04 BM (052003)

Net Weight: 50 lb (22.7 kg)

EPA Reg. No. 62719-490-10404
EPA Est. No. 10404-OH-04 (M), 10404-FL-01 (S)
First letter of lot number indicates manufacturing site.

#081258

F1560
Distributed by **LESCO, Inc.**
1301 East 9th Street
Cleveland, OH 44114-1849

(01)00758073804147

MONTEREY

BUG BUSTER - O

- Contains Pyrethrum — A Botannical Insecticide Derived from Chrysanthemums
- Use in home flower and vegetable gardens and on residential ornamental plants
- Can be sprayed at any season of the year

Active Ingredient:	
Pyrethrins	1.40%
*Other Ingredients:	98.60%
Total:	100.00%

*Contains petroleum distillate.

EPA Reg. No. 1021-1110-54705 EPA Est. No. 48498-CA-1

NET CONTENTS: ___________

Manufactured For:

LAWN AND GARDEN PRODUCTS, INC.

P.O. Box 35000 • Fresno, CA 93745 • (559) 499-2100
www.montereylawngarden.com

KEEP OUT OF REACH OF CHILDREN
CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center immediately. Do not induce vomiting because of aspiration pneumonia hazard.

IF IN EYES: Flush with plenty of water. Get medical attention if irritation persists.

IF ON SKIN OR CLOTHING: Wash skin with soap and warm water. Get medical attention of irritation persists.

IF INHALED: Remove victim to fresh air. Apply artificial respiration if indicated.

For information regarding medical emergencies or pesticide incidents, call the International Poison Control Center at 1-888-740-8712.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Contains petroleum distillate. Do not induce vomiting because of aspiration pneumonia hazard. Avoid breathing vapors or spray mist. Avoid contact with skin or eyes. In case of contact, flush with plenty of water. Wash with soap and warm water after use. Obtain medical attention if irritation persists. This pesticide may cause skin sensitization reactions in certain individuals. Avoid contamination of food or feedstuffs.

ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE. Keep away from heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Use 2½ tablespoons per gallon of water. One quart makes 25 gallons (one pint makes 12.5 gallons) of diluted spray. Spray thoroughly contacting as many insects as possible on upper and lower leaf surfaces. Mix only enough for immediate use. Spraying should begin when the insects first appear. Do not wait until the plants are heavily infested.

This concentrate is relatively non-toxic to honey bees. To avoid possible harm to honey bees, it is advisable to apply in the early morning or late evening hours.

HOME VEGETABLE GARDENS
(RESIDENTIAL OUTDOOR AREAS AND IN HOME GREENHOUSES)

ROOT AND TUBER VEGETABLES: Including (but not limited to) Arracacha, Arrowroot, Purple Arrowroot, Japanese Artichoke, Jerusalem Artichoke, Beets, Sugar Beets, Edible Burdock, Carrots, Cassava (bitter or sweet), Celeriac (celery root), Chervil (turnip rooted), Chicory, Chuffa, Dasheen, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Japanese Radish (Daikon), Rutabaga, Salsify, Black Salsify, Spanish Salsify, Sweet Potato, Tanier, Turmeric, Turnip, Yam (true), Yam Bean.

LEAVES OF ROOT AND TUBER VEGETABLES: Including (but not limited to) Beet, Sugar Beet, Edible Burdock, Carrot, Cassava (bitter or sweet), Celeriac (celery root), Chervil (turnip rooted), Chicory, Dasheen, Parsnip, Radish, Japanese Radish (Daikon), Rutabaga, Black Salsify, Sweet Potato, Tanier, Turnip, Yam (true).

LEAFY VEGETABLES: Including (but not limited to) Amaranth (Leafy Amaranth, Chinese Spinach, Tampala), Arrugula, Celery, Celtuce, Chervil, Cilantro, Corn Salad, Chrysanthemum (edible leaved), Chrysanthemum (gardland), Cress (garden), Upland Cress (yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Fennel (Florence), Lettuce (head and leafy), Orach, Parsley, Purslane (garden & winter), Rhubarb, Spinach, Fine Spinach (Malabar, Ceylon), Spinach (New Zealand), Swiss Chard.

BRASSICA (COLE) LEAFY VEGETABLES): Including (but not limited to) Broccoli, Chinese Broccoli (Gai Lan), Broccoli raab (Rapini), Brussels Sprouts, Cabbage, Chinese Cabbage (Bok Choy), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Collards, Kale, Kohlrabi, Mustard Greens, Rape Greens.

LEGUME VEGETABLES (Succulent or Dried): Including (but not limited to) Adzuki Beans, Field Beans, Kidney Beans, Lima Beans, Moth Beans, Mung Beans, Navy Beans, Pinto Beans, Rice Beans, Runner Beans, Snap Beans, Tepary Beans, Urd Beans, Wax Beans, Asparagus Beans, Black-eyed Peas, Catjang, Chinese Longbeans, Cowpeas, Chowder Peas, Southern Peas, Yard-Longbeans, Broad Beans (Fava Beans), Chick Peas (Garbanzo Beans), Guar, Jackbean (Sword Bean), Lablab Bean (Hyacinth Bean), Lentils, Peas (Garden Peas, Field Peas, Sugar Peas), Pigeon Peas, Soybeans.

FOLIAGE OF LEGUME VEGETABLES: Including (but not limited to) plant part of any legume vegetable included in the legume vegetable group that will be used as animal feed including any variety of Beans, Field Peas, Soybeans.

FRUITING VEGETABLES: Including (but not limited to) Eggplant, Ground Cherry, Okra, Pepinos, Pepper (Bell Pepper, Chili Pepper, Cooking Peppers, Pimentos, Sweet Peppers), Tomatillo, Tomatoes.

CUCURBIT VEGETABLES: Including (but not limited to) Balsam Pear (Bitter Melon), Chinese Waxgourd, Citron Melon, Cucumber, Gherkin, Edible Gourds, Melons (including hybrids, Cantaloupe, Casaba, Crenshaw, Honeydew Melons, Honey Balls, Mango Melon, Muskmelon, Persian Melon), Pumpkin, Squash (summer & winter), Watermelon (including hybrids).

CITRUS FRUITS: Including (but not limited to) Calamondin, Citrus Citron, Citrus Hybrids, Grapefruit, Kumquats, Lemons, Limes, Mandarin (Tangerine), Orange (sweet & sour), Pummelo, Satsuma Mandarin.

POME FRUITS: Including (but not limited to) Apple, Crabapple, Loquat, Pear, Oriental Pear, Quince.

STONE FRUITS: Including (but not limited to) Apricot, Cherry (sweet & sour), Nectarine, Peach, Plum, Prune, Chickasaw Plum, Damson Plum, Japanese Plum.

SMALL FRUITS AND BERRIES: Including (but not limited to) Blackberry, Blueberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Grape, Huckleberry, Loganberry, Olallie Berry, Raspberry (black & red), Strawberry, Youngberry.

ORIENTAL VEGETABLES: Including (but not limited to) Japanese Artichoke, Chinese Broccoli (Gai Lan), Chinese Cabbage (Bok Choy), Chinese Mustard Cabbage (Gai Choy), Dasheen, Ginger, Ginseng, Chinese Longbeans, Mung Beans, Citron Melon, Balsam Pear (Bitter Melon), Japanese Radish (Daikon), Chinese Spinach, Chinese Waxgourd.

ADDITIONAL CROPS: Asparagus, Onions (bulb and green), Rice.

ORNAMENTALS: Including (but not limited to) African Violet, Aster, Azalea, Begonia, Calceolaria, Calendula, Calla, Camellia, Carnation, Cineraria, Chrysanthemum, Cypress, Daffodil, Dahlia, Dogwood, Elm, Eucalyptus, Fern, Ficus, Geranium, Gladiolus, Gypsophila, Holly, Juniper, Lily, Marigold, Oak, Palm, Peony, Petunia, Philodendron, Pine, Roses, Snapdragon, Sweet Pea, Tulips, Viburnum, Wandering Jew, Yew, Zinnia.

FOR THE CONTROL OF INSECTS: Including (but not limited to) Ants, Aphids, Armyworms, Asparagus Beetle, Blister Beetles, Cabbage Looper, Caterpillars, Cockroaches, 12-spotted Cucumber Beetle, Colorado Potato Beetles, Corn Earworm, Crickets, Cross-striped Cabbageworm, Cucumber Beetles, Deer Fly, Diamondback Larvae, Fireworms, Flea Beetles, Fruit Flies, Fruittree Leafroller, Grape Leafhopper, Green Peach Aphids, Greenhouse Thrips, Gypsy Moth (adults & larvae), Harlequin Bug, Heliothis sp., Imported Cabbageworm, Leafhopper, Leafrollers, Leaftiers, Lice, Mexican Bean Beetle, Potato Leafhopper, Psyllids, Skippers, Stink Bugs, Thrips, Vinegar Flies, Webworms, and Whiteflies.

STORAGE AND DISPOSAL

STORAGE: Store in a cool, dry place inaccessible to children. Keep container closed.

DISPOSAL: Do not reuse empty container. Wrap container in several layers of newspaper and discard in garbage.

NOTICE TO BUYER

Seller warrants this product conforms to its chemical description on this label and is reasonably fit for the purposes stated on this label when used in accordance with directions under normal use conditions. This warranty does not extend to use of this product contrary to label directions, or under abnormal use conditions, or under conditions not reasonably foreseeable to seller. Buyer assumes all risk of any such use. Seller makes no other warranties, either express or implied.

0595/0402(03)

APPENDIX M

PROJECT MODIFICATION LETTER FROM DEP

Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
prush@dep.nyc.gov

465 Columbus Avenue
Valhalla, NY 10595
T: (845) 340-7800
F: (845) 334-7175

August 31. 2020

Mr. David P. Lombardi, PE
John Meyer Consulting, PC
120 Bedford Road,
Armonk, NY-10504

Via Email: DLombardi@jmcpllc.com

Re: Airport Campus SWPPP (formerly MBIA Insurance Corporation-Phase 2 &3)
113 King Street, North Castle, NY
Tax Map # 118.02-1-1
Log # 2002-KE-0036-SP.4
Kensico Reservoir Drainage Basin

Dear Mr. Lombardi:

This is in response to your request for a letter clarifying how the modification of the former MBIA project will be reviewed. New York City Department of Environmental Protection (DEP) reviewed the previously approved and newly modified drainage area maps dated June 20, 2005 and March 20, 2020 respectively along with the drainage area comparison chart prepared for the above referenced project received via email on July 2, 2020. Based on review of these documents, although there are significant changes in the layout proposed, there are minimal changes in drainage areas, impervious surface totals and proposed stormwater practices. This project will be reviewed as an amendment to the original MBIA project using the standards of the previously approved SWPPP. However, all newly proposed impervious surfaces must be captured and treated and must receive runoff reduction.

Should you have any questions, please call me at (914)749-5357 or mzachariah@dep.nyc.gov.

Sincerely,

Mariyam Zachariah
Associate Project Manager II
EOH Project Review Group
Regulatory & Engineering Programs

c: Mr. Adam R. Kaufman, akaufman@northcastleny.com
Mr. Steven M. Wise, swassociates@optonline.net
Mr. Geoff Ringler geoff@panamequities.com
Mr. Mark Miller mpm@venezianox.com

APPENDIX N

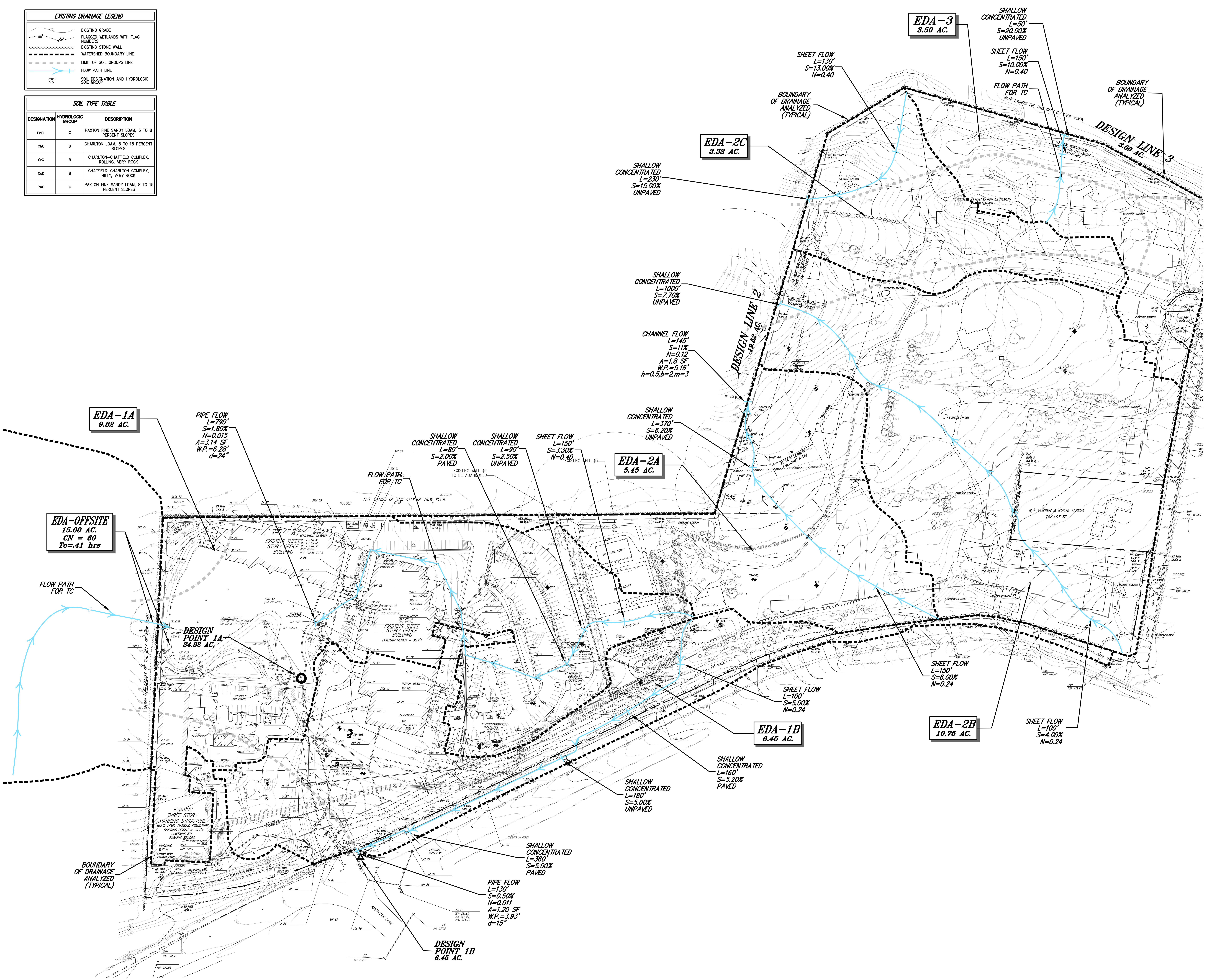
DRAINAGE AREA MAPS

EXISTING DRAINAGE LEGEND

220	EXISTING GRADE
201 202	FLAGGED WETLANDS WITH FLAG NUMBERS
	EXISTING STONE WALL
	WATERSHED BOUNDARY LINE
	LIMIT OF SOIL GROUPS LINE
	FLOW PATH LINE
NwC (B)	SOIL DESIGNATION AND HYDROLOGIC SOIL GROUP

SOIL TYPE TABLE

DESIGNATION	HYDROLOGIC GROUP	DESCRIPTION
PnB	C	PAXTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
ChC	B	CHARLTON LOAM, 8 TO 15 PERCENT SLOPES
CrC	B	CHARLTON–CHATFIELD COMPLEX, ROLLING, VERY ROCK
CsD	B	CHATFIELD–CHARLTON COMPLEX, HILLY, VERY ROCK
PnC	C	PAXTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES



No.	Revision	Date	By
1.	RESPOND TO TOWN & NYSDEC COMMENTS	04/22/2021	MT

Previous Editions Obsolete

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120 BEDFORD ROAD • ARMONK, NY 10504
voice 914.273.5225 • fax 914.273.2102
www.jmcpllc.com

EXISTING DRAINAGE AREA MAP

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

Drawn: JJ	Approved: AG
Scale: 1" = 60'	
Date: 03/20/2020	
Project No: 15072	
15072-DRAINAGE FULL SITE	EDA —
Drawing No: DA-1	

PROPOSED DRAINAGE LEGEND

- EXISTING GRADE
- PROPOSED FINISHED GRADE
- FLAGGED WETLANDS WITH FLAG NUMBERS
- PROPOSED DITCH OR SWALE
- EXISTING STONE WALL
- WATERSHED BOUNDARY LINE
- LIMIT OF SOIL GROUPS LINE
- SOIL DESIGNATION AND HYDROLOGIC SOIL GROUP
- FLOW PATH LINE
- PROPOSED BUILDING LINE
- PROPOSED CONCRETE CURB
- PROPOSED MANHOLE (MH)
- EXISTING DRAIN INLET
- PROPOSED YARD INLET (YI)
- PROPOSED DRAIN INLET (DI)
- PROPOSED COMBINATION INLET (CI)
- PROPOSED END SECTION (ES)
- RIP RAP ENERGY DISSIPATOR

SOIL TYPE TABLE

DESIGNATION	HYDROLOGIC GROUP	DESCRIPTION
PnB	C	PAXTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
ChC	B	CHARLTON LOAM, 8 TO 15 PERCENT SLOPES
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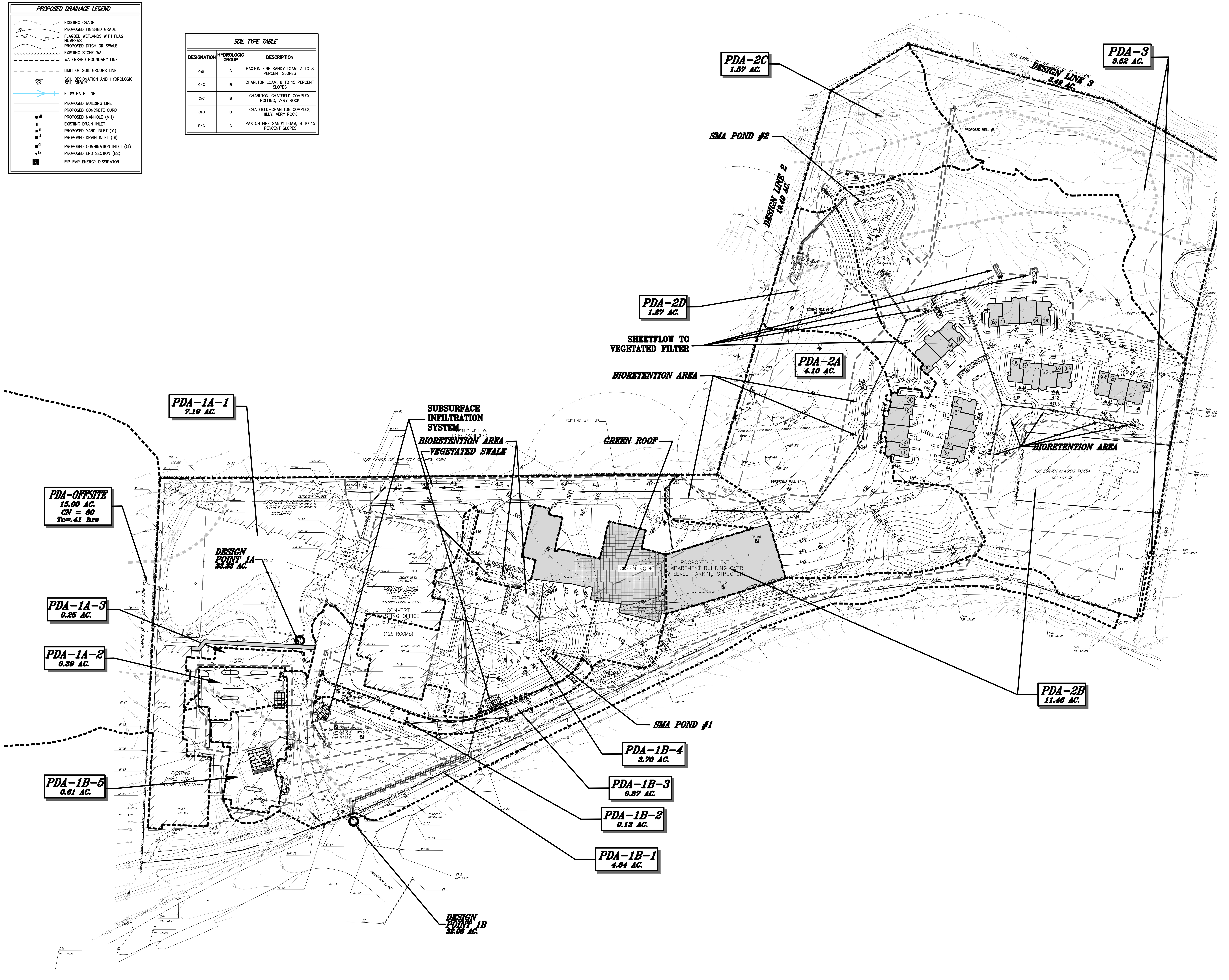
CsD	B	CHATFIELD–CHARLTON COMPLEX, HILLY, VERY ROCK
PnC	C	PAXTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES



NOT FOR CONSTRUCTION

No.	Revision	Date	By
1.	RESPOND TO TOWN & NYSDEC COMMENTS	04/22/2021	MT

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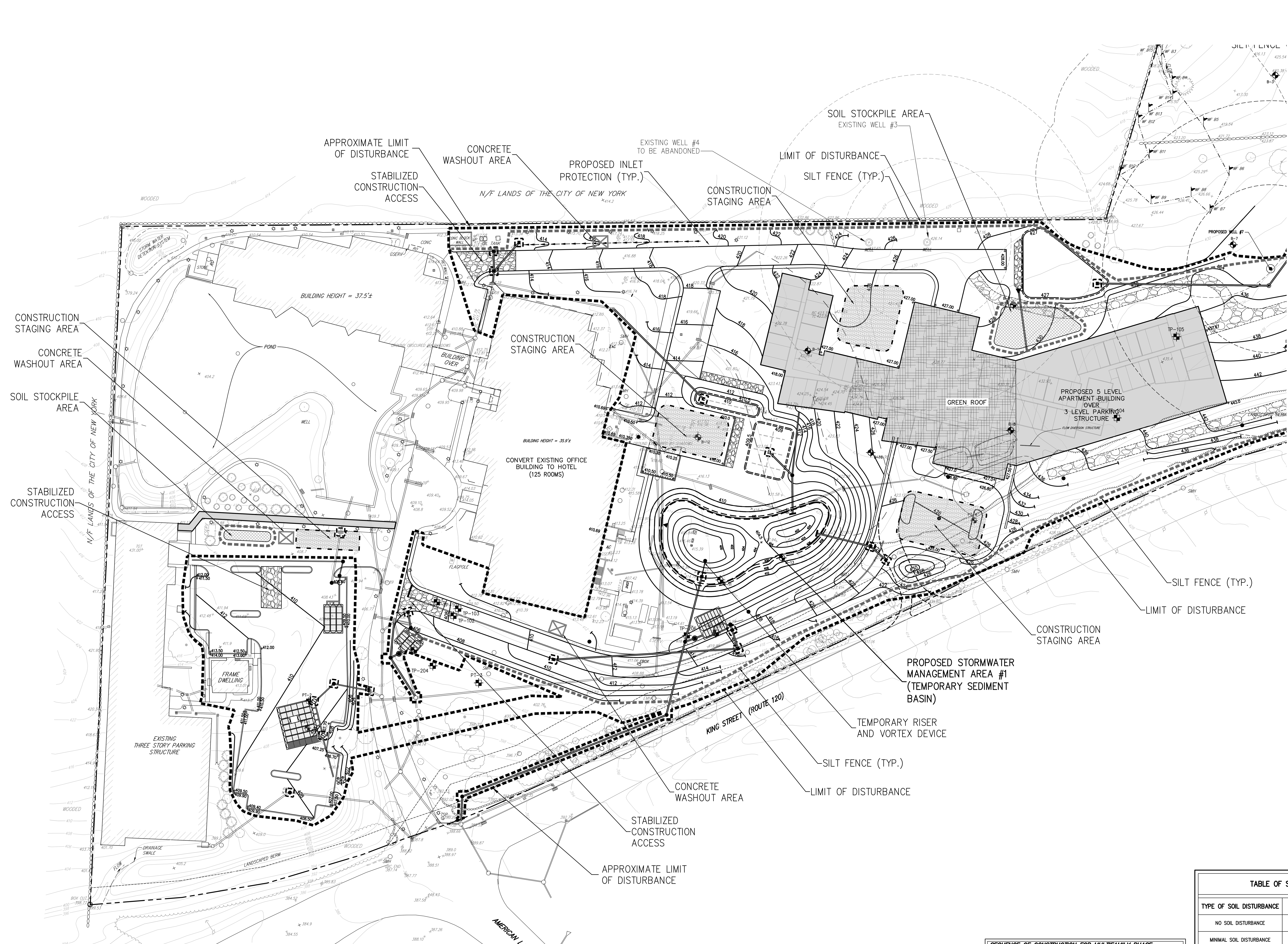
PROPOSED DRAINAGE AREA MAP

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

Drawn: JJ Approved: AG
Scale: 1" = 60'
Date: 03/20/2020
Project No: 15072
15072-DRAINAGE FULL SITE PDA --
Drawing No:
DA-2

Appendix E-2
Erosion and Sediment Control Plan



LEGEND

- PROPOSED INLET PROTECTION
- PROPOSED SILT FENCE
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED STOCKPILE AREA
- PROPOSED STAGING AREA
- PROPOSED TEMPORARY SWALE
- PROPOSED TEMPORARY SEDIMENT BASIN
- TEMPORARY RISER & ANTI-VORTEX DEVICE
- EXISTING FEATURE TO BE REMOVED

NOTES:

1. EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "PARCEL COMPILATION SURVEY DEPICTING LAND OF MBIA INSURANCE CORP.," PREPARED BY JOHN MEYER CONSULTING, DATED 09-30-2005.
2. THE LIMIT OF DISTURBANCE SHALL BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION
3. THIS PLAN IS FOR TEMPORARY EROSION AND SEDIMENT CONTROL INFORMATION ONLY.
4. PRIOR TO BEGINNING ANY CLEARING, GRUBBING OR EXCAVATION, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL THE PLANS AND SPECIFICATIONS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED. FINAL STABILIZATION OF LANDSCAPED AREAS SHALL BE IN ACCORDANCE WITH THE LANDSCAPE PLAN.
5. THE CONTRACTOR SHALL INSPECT AND MAINTAIN ON-SITE EROSION AND SEDIMENT CONTROL MEASURES ON A DAILY BASIS. ALL COLLECTED SEDIMENT WITHIN SEDIMENT BARRIERS SHALL BE REMOVED PERIODICALLY AS REQUIRED TO MAINTAIN THE FUNCTION OF THE SEDIMENT BARRIERS. ALL SEDIMENT COLLECTED SHALL BE RESPREAD ON-SITE WITHIN STABILIZED AREAS AS DIRECTED BY THE OWNERS REPRESENTATIVE.
6. THE CONTRACTOR SHALL INSPECT DOWNSTREAM CONDITIONS FOR EVIDENCE OF SEDIMENTATION ON A WEEKLY BASIS, AFTER EACH RAINSTORM, AND AS MAY BE REQUIRED OR DIRECTED BY ALL APPLICABLE APPROVALS AND PERMITS. THE CONTRACTOR SHALL IMMEDIATELY PROVIDE A WRITTEN REPORT ON FINDINGS OF SEDIMENT IN DOWNSTREAM AREAS TO ALL AUTHORITIES HAVING JURISDICTION AND MAKE REPAIRS AS REQUIRED OR DIRECTED.
7. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AS REQUIRED/WARRANTED BY FIELD CONDITIONS AND AS DIRECTED BY THE OWNERS REPRESENTATIVE, JMC, AND/OR ANY AUTHORITY HAVING JURISDICTION.
8. STOCKPILING OF CONSTRUCTION MATERIAL SHALL BE PLACED ON-SITE IN THE AREA DESIGNATED ON THIS PLAN OR AS APPROVED BY THE OWNERS REPRESENTATIVE. STOCKPILED EXCAVATED MATERIAL SHALL HAVE TWO ROWS OF SILT FENCE LOCATED AROUND ITS PERIMETER. ALL STOCKPILED MATERIAL SHALL BE MAINTAINED IN AN ORDERLY MANNER SO AS NOT TO IMPEDE ON PEDESTRIAN AND/OR VEHICULAR TRAFFIC CIRCULATION ROUTES.

7\. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNERS REPRESENTATIVE.

8\. ALL STORMWATER MANAGEMENT PRACTICES SHALL REMAIN UNDISTURBED AND BE PROTECTED FROM HEAVY MACHINERY TRAFFIC DURING CONSTRUCTION. HOWEVER DURING CONSTRUCTION OF THE PRACTICE THE CONTRACTOR SHALL MINIMIZE AND AVOID HEAVY MACHINERY TRAFFIC TO THE MAXIMUM EXTENT PRACTICABLE. THERE SHALL BE NO STORAGE OF MATERIALS WITHIN AREAS TO BE USED FOR STORMWATER MANAGEMENT PRACTICES. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE AROUND THE PRACTICE TO DISCOURAGE VEHICLE TRAFFIC.

9\. ALL EXPOSED SLOPES AND GRADED/DISTURBED AREAS, THAT WILL NOT BE FURTHER DISTURBED WITHIN 14 CALENDAR DAYS (7 DAYS FOR CONSTRUCTION SITES THAT EITHER DIRECTLY DISCHARGE TO ONE OF THE 303(d) SEGMENTS LISTED IN APPENDIX E OF THE GENERAL PERMIT OR ARE LOCATED WITHIN ONE OF THE WATERSHEDS LISTED IN APPENDIX C OF THE GENERAL PERMIT), SHALL BE TEMPORARILY SEEDED WITHIN 24 HOURS OF DISTURBANCE, IN ACCORDANCE WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) "EROSION AND SEDIMENT CONTROL GUIDELINES" AND THE ANSI A300 "BEST MANAGEMENT PRACTICES FOR TREE AND SHRUB PLANTING, TRANSPLANTING, MAINTENANCE AND CARE," PREPARED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), LATEST EDITIONS, AS FOLLOWS:

A. SEED MIXTURE AND RATE OF APPLICATION:

A.1. IN SPRING, SUMMER OR EARLY FALL, SEED THE AREA WITH RYEGRASS (ANNUAL OR PERENNIAL) AT 30 POUNDS PER ACRES (APPROXIMATELY 0.7 POUNDS/1000 SQUARE FEET OR USE 1 POUND/1000 SQUARE FEET).

A.2. IN LATE FALL OR EARLY WINTER, SEED THE AREA WITH CERTIFIED 'AROOSTOOK' WINTER RYE (CEREAL RYE) AT 100 POUNDS PER ACRE (2.5 POUNDS/1000 SQUARE FEET).

B. APPLICATION SHALL BE UNIFORM BY MECHANICAL OR HYDROSEED METHODS.

C. MULCH ALL SEEDED AREAS WITH STRAW AT A RATE OF 2 TONS PER ACRE (90 POUNDS PER 1,000 SQUARE FEET) SUCH THAT THE MULCH FORMS A CONTINUOUS BLANKET.

10\. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED, AND MULCHED AS NECESSARY TO MAINTAIN VIGOROUS, DENSE VEGETATIVE COVER.

11\. TEMPORARY SEED MIXTURES SHALL NOT BE PLACED ON AREAS WHERE FINAL GRADE HAS BEEN ESTABLISHED AND TOPSOIL HAS BEEN PLACED UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.

SEQUENCE OF CONSTRUCTION FOR HOTEL PHASE

CONSTRUCTION SHALL BE SEQUENCED IN SUCH A MANNER THAT ANY AREA WHICH IS DISTURBED SHALL FIRST BE PROTECTED WITH SEDIMENT EROSION CONTROLS AS INDICATED ON THIS PLAN. PARTICULAR REQUIREMENTS ARE GIVEN AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF NORTH CASTLE AND NYCEP.
2. ESTABLISH STABILIZED CONSTRUCTION ACCESS AND STAGING AREAS IN LOCATIONS INDICATED ON THE PLAN.
3. INSTALL SILT FENCE AND INLET PROTECTION AS SHOWN ON PLAN.
4. CLEAR AREAS TO BE DEVELOPED.
5. STRIP TOPSOIL. STOCKPILE WHERE INDICATED ON PLAN AND COVER.
6. BEGIN BUILDING AND DRIVEWAY CONSTRUCTION, ROUGH GRADING.
7. INSTALL STORM STRUCTURES AND ASSOCIATED STORM SYSTEM PIPING COMPLETE. CONVERT/ADJUST ALL EXISTING STORM STRUCTURES TO REMAIN. IMMEDIATELY INSTALL INLET PROTECTION ON ALL STRUCTURES AS INDICATED ON THE EROSION AND SEDIMENT CONTROL PLANS.
8. INSTALL SITE LIGHTING AND CONDUITS AS REQUIRED.
9. INSTALL SIDEWALK AND NEW SIDEWALK COVER ALONG EXISTING SIDEWALK.
10. FINISH GRADING.
11. PROVIDE SOIL RESTORATION IN AREAS THAT WILL BE LANDSCAPED.
12. REDISTRIBUTE TOP SOIL AND ESTABLISH VEGETATION AND/OR LANDSCAPING.
13. INSTALL ASPHALT SUBBASE AND BINDER COURSE ON ROADWAYS AND PARKING AREAS.
14. INSTALL BIORETENTION AREA.
15. INSTALL ALL SITE SIGNAGE.
16. INSTALL FINAL ASPHALT TOP COURSE PAVEMENT COMPLETE.
17. CLEAN PAVEMENT AND STORM SYSTEM OF ALL ACCUMULATED SEDIMENT IN CONJUNCTION WITH THE REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROLS.
18. INSTALL ALL PAINT STRIPING.

SEQUENCE OF CONSTRUCTION FOR MULTIFAMILY PHASE

CONSTRUCTION SHALL BE SEQUENCED IN SUCH A MANNER THAT ANY AREA WHICH IS DISTURBED SHALL FIRST BE PROTECTED WITH SEDIMENT EROSION CONTROLS AS INDICATED ON THIS PLAN. PARTICULAR REQUIREMENTS ARE GIVEN AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF NORTH CASTLE AND NYCEP.
2. STAKE OUT LIMITS OF THE PROPOSED STORMWATER INFILTRATION AREAS WITH ORANGE CONSTRUCTION FENCE.
3. ESTABLISH STABILIZED CONSTRUCTION ACCESS AND STAGING AREA IN LOCATIONS INDICATED ON THE PLAN.
4. INSTALL SILT FENCE AND INLET PROTECTION AS SHOWN ON PLAN.
5. EXCAVATE FOR TEMPORARY SEDIMENT BASIN AND INSTALL TEMPORARY RISER AND ANTI-VORTEX DEVICE AND OUTLET PIPES.
6. ESTABLISH TEMPORARY DIVERSION DITCHES PRIOR TO ANY OTHER CLEARING OR GRADING.
7. CLEAR AREAS TO BE DEVELOPED. STRIP TOPSOIL. STOCKPILE WHERE INDICATED ON PLAN AND COVER.
8. ROUGH GRADE DRIVEWAY AND INSTALL STORM STRUCTURES. IMMEDIATELY INSTALL INLET PROTECTION.
9. ESTABLISH SWALES AND INSTALL STONE CHECK DAMS.
10. BEGIN BUILDING AND DRIVEWAY CONSTRUCTION, ROUGH GRADING.
11. SEED AND MULCH ALL DISTURBED SLOPES.
12. INSTALL ALL UTILITIES TO SERVICE BUILDING.
13. INSTALL CURBING AND SIDEWALKS.
14. INSTALL PAVEMENT SUBBASE AND BINDER COURSE FOR DRIVEWAYS AND SUBBASE AND GRAVEL FOR EMERGENCY ACCESS.
15. INSTALL BIORETENTION AREAS, REDISTRIBUTE TOPSOIL, INSTALL LANDSCAPING, STABILIZED TURF AND PERMANENT GROUND COVERS.
16. THE CONTRIBUTING DRAINAGE AREA SHALL BE COMPLETELY STABILIZED PRIOR TO REMOVING THE EROSION CONTROL DEVICES AND TEMPORARY SEDIMENT BASIN(S).
17. INSTALL PAVEMENT TOP COURSE.
18. REMOVE THE SEDIMENT FROM THE TEMPORARY SEDIMENT BASINS AND COMPLETE GRADING AND LANDSCAPING FOR THE PERMANENT STORMWATER MANAGEMENT BASIN(S).

TABLE OF SOIL RESTORATION REQUIREMENTS

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENTS		COMMENTS/EXAMPLES
NO SOIL DISTURBANCE	RESTORATION NOT PERMITTED		PRESERVATION OF NATURAL FEATURES
MINIMAL SOIL DISTURBANCE	RESTORATION NOT REQUIRED		CLEARING AND GRUBBING
AREAS WHERE TOPSOIL IS STRIPPED ONLY (NO CHANGE IN GRADE)	HSG A&B	HSG C&D	PROTECT AREA FROM ANY ONGOING CONSTRUCTION ACTIVITIES
	APPLY 6 INCHES OF TOPSOIL	AERATE AND APPLY 6 INCHES OF TOPSOIL	
AREAS OF CUT OR FILL	HSG A&B	HSG C&D	CLEARING AND GRUBBING
	AERATE AND APPLY 6 INCHES OF TOPSOIL	APPLY FULL SOIL RESTORATION	
HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY IN A ZONE 5 TO 25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS)	APPLY FULL SOIL RESTORATION (DECOMPACTION AND COMPOST ENHANCEMENT)		
AREAS WHERE RUNNOFF 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 AREAS WILL BE COVERED TO PERVIOUS AREA		

TABLE OF SOIL RESTORATION REQUIREMENTS NOTES:

1. AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTER 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, NYSDEC 2008."

No.	Revision	Date	By
1.	RESPOND TO TOWN COMMENTS	09/16/2020	JJ
2.	RESPOND TO TOWN COMMENTS	09/24/2020	JJ
3.	RESPOND TO TOWN & NYSDEC COMMENTS	04/22/2021	MT

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PRELIMINARY EROSION AND SEDIMENT CONTROL PLAN

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

Drawn: JJ Approved: AG
Scale: 1" = 40'
Date: 12/24/2019
Project No: 15072
15072-S&E | C-401 | UTIL.scr
Drawing No: C-401

LEGEND

- PROPOSED INLET PROTECTION
- PROPOSED SILT FENCE
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED STOCKPILE AREA
- PROPOSED STAGING AREA
- PROPOSED TEMPORARY SWALE
- PROPOSED TEMPORARY SEDIMENT BASIN
- TEMPORARY RISER & ANTI-VORTEX DEVICE
- EXISTING FEATURE TO BE REMOVED

NOTES:

1. EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "PARCEL COMPILATION SURVEY DEPICTING LAND OF MBIA INSURANCE CORP.," PREPARED BY JOHN MEYER CONSULTING, DATED 09-30-2005.
2. THE LIMIT OF DISTURBANCE SHALL BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION
3. THIS PLAN IS FOR TEMPORARY EROSION AND SEDIMENT CONTROL INFORMATION ONLY.
4. PRIOR TO BEGINNING ANY CLEARING, GRUBBING OR EXCAVATION, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL THE PLANS AND SPECIFICATIONS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED. FINAL STABILIZATION OF LANDSCAPED AREAS SHALL BE IN ACCORDANCE WITH THE LANDSCAPE PLAN.
5. THE CONTRACTOR SHALL INSPECT AND MAINTAIN ON-SITE EROSION AND SEDIMENT CONTROL MEASURES ON A DAILY BASIS. ALL COLLECTED SEDIMENT WITHIN SEDIMENT BARRIERS SHALL BE REMOVED PERIODICALLY AS REQUIRED TO MAINTAIN THE FUNCTION OF THE SEDIMENT BARRIERS. ALL SEDIMENT COLLECTED SHALL BE RESPREAD ON-SITE WITHIN STABILIZED AREAS AS DIRECTED BY THE OWNERS REPRESENTATIVE.
6. THE CONTRACTOR SHALL INSPECT DOWNSTREAM CONDITIONS FOR EVIDENCE OF SEDIMENTATION ON A WEEKLY BASIS, AFTER EACH RAINSTORM, AND AS MAY BE REQUIRED OR DIRECTED BY ALL APPLICABLE APPROVALS AND PERMITS. THE CONTRACTOR SHALL IMMEDIATELY PROVIDE A WRITTEN REPORT ON FINDINGS OF SEDIMENT IN DOWNSTREAM AREAS TO ALL AUTHORITIES HAVING JURISDICTION AND MAKE REPAIRS AS REQUIRED OR DIRECTED.
7. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AS REQUIRED/WARRANTED BY FIELD CONDITIONS AND AS DIRECTED BY THE OWNERS REPRESENTATIVE, JMC, AND/OR ANY AUTHORITY HAVING JURISDICTION.
8. STOCKPILING OF CONSTRUCTION MATERIAL SHALL BE PLACED ON-SITE IN THE AREA DESIGNATED ON THIS PLAN OR AS APPROVED BY THE OWNERS REPRESENTATIVE. STOCKPILED EXCAVATED MATERIAL SHALL HAVE TWO ROWS OF SILT FENCE LOCATED AROUND ITS PERIMETER. ALL STOCKPILED MATERIAL SHALL BE MAINTAINED IN AN ORDERLY MANNER SO AS NOT TO IMPEDE ON PEDESTRIAN AND/OR VEHICULAR TRAFFIC CIRCULATION ROUTES.

7. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNERS REPRESENTATIVE.

8. ALL STORMWATER MANAGEMENT PRACTICES SHALL REMAIN UNDISTURBED AND BE PROTECTED FROM HEAVY MACHINERY TRAFFIC DURING CONSTRUCTION. HOWEVER DURING CONSTRUCTION OF THE PRACTICE THE CONTRACTOR SHALL MINIMIZE AND AVOID HEAVY MACHINERY TRAFFIC TO THE MAXIMUM EXTENT PRACTICABLE. THERE SHALL BE NO STORAGE OF MATERIALS WITHIN AREAS TO BE USED FOR STORMWATER MANAGEMENT PRACTICES. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE AROUND THE PRACTICE TO DISCOURAGE VEHICLE TRAFFIC.

9. ALL EXPOSED SLOPES AND GRADED/DISTURBED AREAS, THAT WILL NOT BE FURTHER DISTURBED WITHIN 14 CALENDAR DAYS (7 DAYS FOR CONSTRUCTION SITES THAT EITHER DIRECTLY DISCHARGE TO ONE OF THE 303(d) SEGMENTS LISTED IN APPENDIX E OF THE GENERAL PERMIT OR ARE LOCATED WITHIN ONE OF THE WATERSHEDS LISTED IN APPENDIX C OF THE GENERAL PERMIT), SHALL BE TEMPORARILY SEEDED WITHIN 24 HOURS OF DISTURBANCE, IN ACCORDANCE WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) "EROSION AND SEDIMENT CONTROL GUIDELINES" AND THE ANSI A300 "BEST MANAGEMENT PRACTICES FOR TREE AND SHRUB PLANTING, TRANSPLANTING, MAINTENANCE AND CARE," PREPARED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), LATEST EDITIONS, AS FOLLOWS:
   A. SEED MIXTURE AND RATE OF APPLICATION:
      A.1. IN SPRING, SUMMER OR EARLY FALL, SEED THE AREA WITH RYEGRASS (ANNUAL OR PERENNIAL) AT 30 POUNDS PER ACRES (APPROXIMATELY 0.7 POUNDS/1000 SQUARE FEET OR USE 1 POUND/1000 SQUARE FEET).
      A.2. IN LATE FALL OR EARLY WINTER, SEED THE AREA WITH CERTIFIED 'AROOSTOOK' WINTER RYE (CEREAL RYE) AT 100 POUNDS PER ACRE (2.5 POUNDS/1000 SQUARE FEET).
   B. APPLICATION SHALL BE UNIFORM BY MECHANICAL OR HYDROSEED METHODS.
   C. MULCH ALL SEEDED AREAS WITH STRAW AT A RATE OF 2 TONS PER ACRE (90 POUNDS PER 1,000 SQUARE FEET) SUCH THAT THE MULCH FORMS A CONTINUOUS BLANKET.
10. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED, AND MULCHED AS NECESSARY TO MAINTAIN VIGOROUS, DENSE VEGETATIVE COVER.
11. TEMPORARY SEED MIXTURES SHALL NOT BE PLACED ON AREAS WHERE FINAL GRADE HAS BEEN ESTABLISHED AND TOPSOIL HAS BEEN PLACED UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.

SEQUENCE OF CONSTRUCTION FOR MULTIFAMILY PHASE

CONSTRUCTION SHALL BE SEQUENCED IN SUCH A MANNER THAT ANY AREA WHICH IS DISTURBED SHALL FIRST BE PROTECTED WITH SEDIMENT EROSION CONTROLS AS INDICATED ON THIS PLAN. PARTICULAR REQUIREMENTS ARE GIVEN AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF NORTH CASTLE AND NYCEP.
2. STAKE OUT LIMITS OF THE PROPOSED STORMWATER INFILTRATION AREAS WITH ORANGE CONSTRUCTION FENCE.
3. ESTABLISH STABILIZED CONSTRUCTION ACCESS AND STAGING AREA IN LOCATIONS INDICATED ON THE PLAN.
4. INSTALL SILT FENCE AND INLET PROTECTION AS SHOWN ON PLAN.
5. EXCAVATE FOR TEMPORARY SEDIMENT BASIN AND INSTALL TEMPORARY RISER AND ANTI-VORTEX DEVICE AND OUTLET PIPES.
6. ESTABLISH TEMPORARY DIVERSION DITCHES PRIOR TO ANY OTHER CLEARING OR GRADING.
7. CLEAR AREAS TO BE DEVELOPED. STRIP TOPSOIL. STOCKPILE WHERE INDICATED ON PLAN AND COVER.
8. ROUGH GRADE DRIVEWAY AND INSTALL STORM STRUCTURES. IMMEDIATELY INSTALL INLET PROTECTION.
9. ESTABLISH SWALES AND INSTALL STONE CHECK DAMS.
10. BEGIN BUILDING AND DRIVEWAY CONSTRUCTION, ROUGH GRADING.
11. SEED AND MULCH ALL DISTURBED SLOPES.
12. INSTALL ALL UTILITIES TO SERVICE BUILDING.
13. INSTALL CURBING AND SIDEWALKS.
14. INSTALL PAVEMENT SUBBASE AND BINDER COURSE FOR DRIVEWAYS AND SUBBASE AND GRAVEL FOR EMERGENCY ACCESS.
15. INSTALL BIORETENTION AREAS, REDISTRIBUTE TOPSOIL, INSTALL LANDSCAPING, STABILIZED TURF AND PERMANENT GROUND COVERS.
16. THE CONTRIBUTING DRAINAGE AREA SHALL BE COMPLETELY STABILIZED PRIOR TO REMOVING THE EROSION CONTROL DEVICES AND TEMPORARY SEDIMENT BASIN(S).
17. INSTALL PAVEMENT TOP COURSE.
18. REMOVE THE SEDIMENT FROM THE TEMPORARY SEDIMENT BASINS AND COMPLETE GRADING AND LANDSCAPING FOR THE PERMANENT STORMWATER MANAGEMENT BASIN(S).

SEQUENCE OF CONSTRUCTION FOR TOWNHOMES PHASE

CONSTRUCTION SHALL BE SEQUENCED IN SUCH A MANNER THAT ANY AREA WHICH IS DISTURBED SHALL FIRST BE PROTECTED WITH SEDIMENT EROSION CONTROLS AS INDICATED ON THIS PLAN. PARTICULAR REQUIREMENTS ARE GIVEN AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF NORTH CASTLE AND NYCEP.
2. ESTABLISH STABILIZED CONSTRUCTION ACCESS AND STAGING AREAS IN LOCATIONS INDICATED ON THE PLAN.
3. INSTALL SILT FENCE, INLET PROTECTION, AND TREE PROTECTION FENCE AS SHOWN ON PLAN.
4. CLEAR AND GRUB FOR STORMWATER MANAGEMENT AREA #2. STRIP AND STOCKPILE SOIL.
5. BEGIN EXCAVATION OF STORMWATER MANAGEMENT AREA #2 AS TEMPORARY SEDIMENT BASIN 2.
6. INSTALL LEVEL SPREADER, OUTLET CONTROL STRUCTURE, TEMPORARY RISER AND ANTI-VORTEX DEVICE AND EMERGENCY SPILLWAY.
7. ESTABLISH TEMPORARY DIVERSION DITCHES PRIOR TO ANY OTHER CLEARING OR GRADING.
8. CLEAR AREAS TO BE DEVELOPED. STRIP TOPSOIL. STOCKPILE WHERE INDICATED ON PLAN AND COVER.
9. ROUGH GRADE THE SITE AND ESTABLISH SWALES.
10. BEGIN BUILDING AND ROADWAY CONSTRUCTION.
11. INSTALL STORM STRUCTURES AND ASSOCIATED STORM SYSTEM PIPING COMPLETE. IMMEDIATELY INSTALL INLET PROTECTION ON ALL STRUCTURES AS INDICATED ON THE SEDIMENT AND EROSION CONTROL PLANS.
12. INSTALL SANITARY SEWER, GAS, ELECTRIC AND TELEPHONE SERVICES.
13. INSTALL CURBING AND SIDEWALKS.
14. INSTALL PAVEMENT SUBBASE AND BINDER COURSE.
15. INSTALL BIORETENTION AREA, REDISTRIBUTE TOPSOIL, INSTALL LANDSCAPING AND PERMANENT GROUND COVERS.
16. THE CONTRIBUTING DRAINAGE AREA SHALL BE COMPLETELY STABILIZED PRIOR TO REMOVING THE EROSION CONTROL DEVICES AND CONVERTING THE TEMPORARY SEDIMENT BASIN TO A PERMANENT STORMWATER MANAGEMENT BASIN.
17. CLEAN PAVEMENT AND STORM SYSTEM OF ALL ACCUMULATED SEDIMENT IN CONJUNCTION WITH THE REMOVAL OF ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
18. INSTALL PAVEMENT TOP COURSE
19. REMOVE THE SEDIMENT FROM THE TEMPORARY SEDIMENT BASIN AND COMPLETE GRADING AND LANDSCAPING FOR THE PERMANENT STORMWATER MANAGEMENT BASIN.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

TABLE OF SOIL RESTORATION REQUIREMENTS

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENTS		COMMENTS/EXAMPLES
NO SOIL DISTURBANCE	RESTORATION NOT PERMITTED		PRESERVATION OF NATURAL FEATURES
MINIMAL SOIL DISTURBANCE	RESTORATION NOT REQUIRED		CLEARING AND GRUBBING
AREAS WHERE TOPSOIL IS STRIPPED ONLY (NO CHANGE IN GRADE)	HSG A&B: APPLY 6 INCHES OF TOPSOIL	HSG C&D: AERATE AND APPLY 6 INCHES OF TOPSOIL	PROTECT AREA FROM ANY ONGOING CONSTRUCTION ACTIVITIES
AREAS OF CUT OR FILL	HSG A&B: AERATE AND APPLY 6 INCHES OF TOPSOIL	HSG C&D: APPLY FULL SOIL RESTORATION	CLEARING AND GRUBBING
HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY IN A ZONE 5 TO 25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS)	APPLY FULL SOIL RESTORATION (DECOMPACTION AND COMPOST ENHANCEMENT)		
AREAS WHERE RUNNOFF 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 AREAS WILL BE COVERED TO PERVIOUS AREA		

TABLE OF SOIL RESTORATION REQUIREMENTS NOTES:

1. AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTER 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, NYSDEC 2008."

No.	Revision	Date	By
1.	RESPOND TO TOWN COMMENTS	09/16/2020	JJ
2.	RESPOND TO TOWN COMMENTS	09/24/2020	JJ
3.	RESPOND TO TOWN & NYSDEC COMMENTS	04/22/2021	MT

Previous Editions Obsolete

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PRELIMINARY EROSION AND SEDIMENT CONTROL PLAN

AIRPORT CAMPUS
113 KING STREET (NY RT 120)
TOWN OF NORTH CASTLE, NEW YORK

Drawn: JJ	Approved: AG	
Scale: 1" = 40'		
Date: 03/20/2020		
Project No: 15072		
15072-S&E	C-402	S&E.scr
Drawing No: C-402		

Appendix F-1
72-Hour Pumping Test Report

72-HOUR PUMPING TEST REPORT

113 King Street
North Castle, New York

PROJECT NO.: 31402328.000
DATE: APRIL 2021

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I Pumping Wells Hydrographs and Tables
II Onsite Monitoring Wells Hydrographs and Tables
III Offsite Monitoring Wells Hydrographs and Tables
IV Piezometer Hydrograph and Table

CD (at end of report)

Water-Level Data

1.0 INTRODUCTION

The following are the results of the 72-hour pumping test program conducted in March 2021 by WSP USA Inc. and related company Hydrogeologic, Architecture, Land Surveying, Landscape Architecture Services, P.C. (WSP), on proposed water-supply wells at 113 King Street in North Castle, New York (figure 1). The pumping test was designed in accordance with the New York State Department of Environmental Conservation (NYSDEC), December 2019 "Pumping Test Procedures for Water Withdrawal Applications" and the New York State Department of Health (NYSDOH) Sanitary Code Part 5, Subpart 5-1, Appendix 5-D requirements for community public water-supply wells.

The Airport Campus project at 113 King Street is proposing to develop a community, public water-supply system. Therefore, a 72-hour pumping test program was conducted to demonstrate the combined yield capacity of the onsite wells and assess the resulting maximum daily capacity (i.e., twice the average demand) with the best well out of service and the average daily capacity.

Originally, the 72-hour pumping test was proposed to include the concurrent pumping of Wells 3, 4, 6, 7 and 8. However, on the first day of testing, it was determined that Well 4 could not be pumped concurrently with the other onsite wells and demonstrate the required stabilization. Therefore, the pump in Well 4 was shut down and the test continued on with Wells 3, 6, 7 and 8 pumping.

1.1 Well Information

Wells 3, 4, 5 and 6 are existing production wells that currently supply the existing office facilities on the project site. Wells 7 and 8 were drilled on the project site in 2017 to develop additional water for the Airport Campus project. Wells 7 and 8 are not currently in use and are not connected to the onsite water supply system. The locations of the onsite wells are shown on figure 2.

The planned 72-hour pumping test was proposed to include Wells 3, 4, 6, 7 and 8. Their well construction details are summarized in the table below.

Table 1: Well Construction Information

Well Name	Casing Length (feet)	Well Total Depth (feet)
Well 3[1/]	60[2/]	630[2/]
Well 4[1/]	Unknown	Unknown
Well 6[1/]	100	645
Well 7	60	760
Well 8	60	700

[1/] Well is a supply well for the existing water system.

[2/] Reported from information collected during well redevelopment.

2.0 PUMPING TEST PROGRAM

A 72-hour pumping test program was conducted on the proposed supply wells for the Airport Campus project at 113 King Street from March 1 through March 4, 2021. Initially, the 72-hour pumping test was proposed to include the concurrent pumping of Wells 3, 4, 6, 7 and 8. On the first day of testing, it was determined that Well 4 could not be pumped concurrently with the other onsite wells and demonstrate the required stabilization. Therefore, the pump in Well 4 was shut down and the test continued on with Wells 3, 6, 7 and 8 pumping.

During the March 2021 pumping test event, water-level measurements were collected from the onsite bedrock test wells, Wells 3, 6, 7 and 8; two onsite bedrock monitoring Wells 4 and 5; and one piezometer location with a nested-pair of piezometers was installed in mapped wetland area on the project site. The onsite monitoring locations are shown on figure 2. Hydrographs and summary tables of the water-level measurements collected from the bedrock test Wells 3, 6, 7 and 8 are provided in Appendix I. The hydrographs and tables of water-level measurements for the onsite monitoring wells and piezometer location are provided in Appendix II and IV, respectively. In addition to the hydrographs and tables in the Appendices, a CD containing all water-level measurements recorded by the pressure transducers installed in the wells and piezometers is attached at the end of this report.

Water-level measurements were also collected from several offsite wells during the testing program, three bedrock wells on the SwissRe property; four bedrock wells on the CitiGroup property; and two overburden wells on the Greenwich American property. The locations of the offsite wells are shown on figure 3. The hydrographs and tables of water-level measurements for the offsite monitoring wells are provided in Appendix III.

During the test period, the discharge water from the test wells was pumped to waste. The discharge locations were positioned downgradient of the onsite wells and surface-water monitoring location to allow the discharge water to flow away from the wells and monitoring points and avoid potential aquifer recharge during the pumping test. The discharge locations are shown on figure 2. The pumping rates for the test wells was measured using totalizing meters installed on the discharge lines near the well heads and confirmed with a calibrated bucket and stopwatch at the end of the discharge hoses.

Daily precipitation was monitored during the pumping test event. Daily precipitation from a nearby weather station that publishes hourly data on the internet is provided below and has been overlain on the hydrographs in the appendices for reference.

Table 2: Summary of Daily Precipitation

Date	Total Precipitation (inches)
2/16/2021	0.67
2/17/2021	0
2/18/2021	0.33
2/19/2021	0.06
2/20/2021	0
2/21/2021	0
2/22/2021	0.44
2/23/2021	0.03
2/24/2021	0

Date	Total Precipitation (inches)
2/25/2021	0
2/26/2021	0
2/27/2021	0.26
2/28/2021	0.15
3/1/2021	0.20
3/2/2021	0
3/3/2021	0
3/4/2021	0
3/5/2021	0
3/6/2021	0
3/7/2021	0
3/8/2021	0
3/9/2021	0

In addition to daily precipitation, monthly precipitation totals were also reviewed and compared to conditions at the time of testing. Monthly precipitation totals from the Westchester AP station from March 2020 through February 2021 are provided in the table below along with the 30-year precipitation normal for those months. The data shows that with the exception of April, July and November 2020, monthly precipitation values have been below average during this period, including the three months prior to the test (December 2020, January 2021 and February 2021).

Table 3: Summary of Precipitation March 2020 through February 2021, Westchester AP Station

Date	Total Precipitation (inches)	Monthly Precipitation Normals (1981-2010)
March 2020	3.04	4.52
April 2020	5.22	4.40
May 2020	1.93	4.12
June 2020	1.81	4.25
July 2020	5.68	3.71
August 2020	3.30	4.16
September 2020	3.49	4.72
October 2020	4.15	4.41
November 2020	4.45	3.97
December 2020	1.79	4.32
January 2021	1.62	3.78
February 2021	2.51	2.99

Water samples were collected from the onsite Wells 3, 6, 7 and 8 near the end of the 72-hour pumping test for analysis for parameters listed in the NYSDOH Sanitary Code Part 5, Subpart 5-1 tables 8A, 8B, 8C, 8D, 9C, 9D, 12 and MTBE, turbidity, total coliform, radon, propylene glycol, 1,4-dioxane and perfluorinated compounds PFOS and PFOA. The laboratory results for those samples are not yet available and will be provided in an addendum report.

3.0 PUMPING WELLS

The start of pumping in the onsite wells was completed in a staggered manner with a minimum of 1 hour between the start of each well. The pump in Well 6 was started first at 10:24, followed by the pumps in Wells 3, 7, 4, and lastly Well 8 at 15:26. Once all pumps were running in the onsite wells on the first day of testing, it was determined that Well 4 could not be pumped concurrently with the other onsite wells and demonstrate the required stabilization. Therefore, the pump in Well 4 was shut down on March 1 at 17:16 and the test continued on with Wells 3, 6, 7 and 8 pumping.

The 72-hour testing program was ended at 21:00 on March 4. Several hours were added to the test period beyond the official 72-hour mark (which would have coincided with the Well 8 start at 15:26) two address the shutdown of the pump in Well 4 at 17:16 hours on the first day of testing and to allow sufficient time after the final rate change (in Well 3 on March 3) for the aquifer to equilibrate and stabilize. Hydrographs and summary tables of water-level measurements collected from pumping Wells 3, 6, 7 and 8 are provided in Appendix I.

3.1 Well 3

The pump in Well 3 was started at 11:35 on March 1. The static water level in Well 3 on the morning of March 1 prior to the start of pumping in any onsite well at 10:00 was 3.77 ft btoc (feet below top of casing). The pumping rate in Well 3 was adjusted to 26 gpm (gallons per minute) following the start of the pump. The pumping rate in Well 3 decreased as the water level in the well declined and the pressure head over the pump decreased. The pumping rate in Well 3 was 24.5 gpm when the pump in Well 7 was started at 12:39 followed by the pump in Well 4 at 13:49. A small to moderate increase in the pace of water-level drawdown was observed in Well 3 following the start of Well 7, and a large increase in the pace of drawdown occurred in Well 3 following the start of pumping in Well 4 at 13:49. As a result of this increased drawdown, the pumping rate in Well 3 declined to 21 gpm.

The pump in Well 4 was shut down at 17:16 on March 1 and the pumping rate in Well 3 was manually decreased to 17 gpm. The water level in Well 3 began to recover and the rate and water level in Well 3 even out during the overnight period from March 1 to the morning of March 2. A rate adjustment was completed in Well 7 on the morning of March 2. The rate change in Well 7 caused a response in the in Well 3, and the water level began to drawdown again and the rate declined to 16.2 gpm as result of this drawdown. WSP completed a manual rate reduction in Well 3 to 15.1 gpm at 14:00 on March 3. Following this final rate adjustment, the water level in Well 3 rose, and the water level and pumping rate stabilized during the final day of testing.

At the end of the 72-hour pumping test program at 21:00 on March 4, the final pumping rate in Well 3 was 15.1 gpm and the pumping water level was 248.85 ft btoc for a total drawdown of 245.08 feet. The pump in Well 3 was shut down at 21:42 on March 4 and the water level rose to 90% of the well's pre-test level within 334 minutes (5 hours 34 minutes). Over the final six hours of the test period, the water level in Well 3 was oscillating and overall there was a rising trend. A 180-day water-level drawdown projection for the well has been completed using the final 18 hours of pumping data because of the oscillation/rise seen during the final 6 hours to assess potential long-term pumping drawdown conditions. Based on the projection, the pumping water level in Well 3 after 180 days of pumping is 337.51 ft btoc.

At the start of the combined test on March 1, a slight decline in the water level in Well 3 was observed between 10:00 and the start of the pump in Well 3 at 11:35. The rotation of the generator on Well 7 was checked during this time and the decline coincides with this check, and not the start of pumping in Well 6. The interconnection between Well 3, 4 and 7 is apparent based on the various water-level changes that occurred in Well 3 during the 72-hour test period as a result of the start and stopping of pumping in Well 4 and the rate adjustments in Well 7. However, there does not appear to be a significant hydraulic connection between Well 3 and Wells 6 and 8 on the project site.

3.2 Well 4

The pump in Well 4 was started at 13:49 on March 1. The static water level in Well 4 on the morning of March 1 prior to the start of pumping in any onsite well at 10:00 was 4.61 ft btoc. The pumping rate in Well 4 was adjusted to 8.6 gpm follow the start of the pump in the well. The pumping rate decreased steadily as the water level in Well 4 declined and the pressure head over the pump decreased and was 5.7 gpm by 15:00 on March 1. The water level in Well 4 was declining rapidly, so WSP completed a manual rate reduction to 3.3 gpm at 15:43. Despite the rate reduction, the water level in Well 4 continued to decline and the well pump was shut down at 17:16 on March 1.

After shutdown of the pump the water level in Well 4 recovered. At the end of the 72-hour test period on March 4, the water level in Well 4 was 56.56 feet, which as a drawdown of 52 feet. The drawdown in Well 4 appears attributed to pumping in Wells 3 and 7, based on the early time drawdown in Well 4 during the staggered pump start up, the increased drawdown in Well 3 when the pump in Well 4 was turned on, and the variation in water level height in Well 4 corresponding to rate changes in Wells 3 and 7 later in the test period. There does not appear to be any significant hydraulic interconnection between Well 4 and Wells 6 and 8 because no corresponding changes in the water levels in Wells 6 and 8 occurred when the pump in Well 4 was shut down on March 1.

3.3 Well 6

The pump in Well 6 was started at first at 10:24 on March 1. The static water level in Well 6 on the morning of March 1 at 10:00 was 15.60 ft btoc. The pumping rate at the start of the test was initially adjusted to 16 gpm, but the rate declined slightly as the water-level declined in the well and the pressure head over pump decreased. Several rate adjustments were completed on March 1 and 2 to maintain the pumping rate in Well 6. The final rate adjustment was completed at 14:40 on March 2 and the pumping rate in Well 6 remained at 14.5 gpm for the duration of the test period.

At the end of the 72-hour pumping test program at 21:00 on March 4, the final pumping rate in Well 6 was 14.5 gpm and the pumping water level was 317.71 ft btoc for a total drawdown of 302.11 feet. The pump in Well 6 was shut down at 21:42 on March 4 and the water level rose to 90% of the well's pre-test level within 170 minutes (2 hours 50 minutes). Over the final 6+ hours of the test period, the water level in Well 6 showed a slight rising trend. A 180-day water-level drawdown projection for the well has been completed using the final 54 hours of pumping because of the rise that was observed over the final hours of the test to assess potential long-term pumping drawdown conditions. Based on the projection, the pumping water level in Well 6 after 180 days of pumping is 326.68 ft btoc.

Well 6 was the first well to be started on March 1. There does not appear to be any significant hydraulic interconnection between Well 6 and Wells 3 and 7 because no corresponding change in the water level in Well 6 occurred when rate adjustments were completed in Wells 3 and 7 during the test period. As described in the section below for Well 8, there is likely minor interreference between Wells 6 and 8, but the interference did not affect the ability of these wells to pump concurrently.

3.4 Well 7

The pump in Well 7 was started at 12:39 on March 1. The static water level in Well 7 on the morning of March 1 prior to the start of pumping in any onsite well at 10:00 was 11.01 ft btoc. The pumping rate in Well 7 was adjusted to 40 gpm follow the start of the pump. The pumping rate decreased slightly as the water level in the well declined and the pressure head over the pump decreased and was 38 gpm on the morning of March 2. A manual rate increase in Well 7 from 38 gpm to 40 gpm was completed at 9:14 on March 2. This rate increase in Well 7 also affected the pumping water level in Well 3. Therefore, no further rate adjustments were completed in Well 7 and the rate naturally decreased from head loss to 38.9 gpm in the well by the morning of March 3.

At the end of the 72-hour pumping test program at 21:00 on March 4, the final pumping rate in Well 7 was 38.9 gpm and the pumping water level was 169.81 ft btoc for a total drawdown of 158.80 feet. The pump in Well 7 was shut down at 21:33 on March 4 and the water level rose to 90% of the well's pre-test level within 635 minutes (10 hours 35 minutes). Over the final six hours of the test period, the water level in Well 7 was oscillating and overall there was a slight rise. A 180-day water-level drawdown projection for the well has been completed using the final 30 hours of pumping. Based on the projection, the pumping water level in Well 7 after 180 days of pumping is 181.52 ft btoc.

At the start of the combined test on March 1, a slight decline in the water level in Well 7 was observed following the start of the pump in Well 3. The rotation of the generator on Well 7 was checked around this time, but drawdown associated with pumping in Well 3 was about 13.8 feet. The interconnection between Well 3 and 7 was also apparent during the test when the rate changes in Well 7 affected the water level in Well 3. However, there does not appear to be a significant hydraulic connection between Well 7 and Wells 6 and 8 on the project site.

3.5 Well 8

The test on Well 8 was started at 15:26 on March 1. The pump in well was initially started at 15:00, however, the rotation was reversed on the generator and it was not supplying sufficient power to the pump. The generator was shut down to rewire and the test on Well 8 was started at 15:26.

The static water level in Well 8 on the morning of March 1 prior to the start of pumping in any onsite well at 10:00 was 30.43 ft btoc. The pumping rate in Well 8 was adjusted to 42 gpm follow the start of the pump. The pumping rate decreased slightly as the water level in the well declined and the pressure head over the pump decreased and was 40 gpm on the morning of March 2. The pumping rate in Well 8 remained at 40 gpm for the duration of the test period.

At the end of the 72-hour pumping test program at 21:00 on March 4, the final pumping rate in Well 8 was 40 gpm and the pumping water level was 192.13 ft btoc for a total drawdown of 161.70 feet. The pump in Well 8 was shut down at 21:50 on March 4 and the water level rose to 90% of the well's pre-test level within 592 minutes (9 hours 52 minutes). Over the final 6 hours of the test period, the water level in Well 8 was oscillating and overall there was a slight rise. A 180-day water-level drawdown projection for the well has been completed using the final

18 hours of pumping data because of the rise. Based on the projection, the pumping water level in Well 8 after 180 days of pumping is 197.88 ft btoc.

At the start of the combined test on March 1, a slight decline in the water level in Well 8 was observed following the start of the pump in Well 6. The rotation of the generator on Well 8 was briefly checked around this time, but drawdown associated with pumping in Well 6 was about 3.8 feet. The rate changes that were made in Wells 3 and 7 during the test period did not have an apparent effect on Well 8, so there does not appear to be a significant hydraulic connection between Well 8 and Wells 3 and 7 on the project site.

3.6 Combined Well Capacity and Water Demand

The combined yield capacity of Wells 3, 6, 7, and 8 demonstrated during the 72-hour pumping test was 108.5 gpm. Well 8 was the best well with a yield of 40 gpm. Excluding Well 8, the combined yield of the remaining Wells 3, 6, and 7 was 68.5 gpm or 98,640 gpd which would be the total maximum daily water demand with the best well out of service that these wells could supply. The maximum daily water demand for a new development is calculated at twice the average daily demand; therefore, the average daily demand that the test wells could supply would be 49,320 gpd (34.3 gpm).

4.0 ONSITE MONITORING WELLS

The existing onsite Well 5 was used as a bedrock monitoring well during the pumping test event, and after the pump in Well 4 was shut down on March 1, Well 4 became a second onsite bedrock monitoring well location. Hydrographs and summary tables of the water-level measurements collected from the onsite monitoring wells are provided in Appendix II.

Well 5 is currently used as a supply well for the existing onsite office facilities. However, the pump in Well 5 was not run during the testing program, so all water-level changes observed in the well were the result of pumping in the other onsite wells. During the background data collection period, the water level in Well 5 was at the top of casing and the well flows slightly artesian when not capped. The water level in Well 5 began to drawdown following the start of the pump in Well 3 and the drawdown steadily increased. The total drawdown in Well 5 at the end of the 72-hour pumping test was 67.2 feet which appears mainly attributed to pumping in Wells 3, 7 and 8 during the test.

The pump in Well 4 was initially started on March 1 with the intention of including the well as a test well in the 72-hour pumping test. However, Well 4 experienced rapid drawdown when the pump in the well was started on March 1. Based on this drawdown and the pumping interference that was observed with Wells 3 and 7, the pump in Well 4 was shut down and the test continued on with Wells 3, 6, 7 and 8 pumping. After the pump in Well 4 was shut down, the well became an onsite bedrock monitoring well. The total drawdown in Well 4 at the end of the 72-hour pumping test was 52 feet.

The drawdown in Well 4 is attributed to pumping in Wells 3 and 7, based on the early time drawdown in Well 4 during the staggered pump start up, the increased drawdown in Well 3 when the pump in Well 4 was turned on, and the variation in water level height in Well 4 corresponding to rate changes in Wells 3 and 7 later in the test period. There does not appear to be any significant hydraulic interconnection between Well 4 and Wells 6 and 8 because no corresponding changes in the water levels in Wells 6 and 8 occurred when the pump in Well 4 was shut down on March 1.

5.0 OFFSITE WELL MONITORING PROGRAM

The locations of the wells measured as part of the Offsite Well Monitoring Program for the 113 King Street pumping test are shown on figure 3 and hydrographs and summary tables of the water-level measurements collected are provided in Appendix III. During pumping test coordination, all properties within the 2,000-foot radius of the proposed supply well were identified and the properties with onsite wells contacted requesting participation in the monitoring program. Five properties were contacted (SwissRe, CitiGroup, IBM, Greenwich American, and the residence on Cooney Hill Road). IBM declined participation in the well monitoring program and the residence on Cooney Hill Road did not respond to the request. SwissRe, CitiGroup and Greenwich American agreed to participate on the offsite well monitoring program. The remaining properties within the 2,000-foot radius of the onsite wells are undeveloped parcels that are part of the New York City watershed area.

The SwissRe wells are located to the north of the project site. The wells were designated as Wells 1, 2, and 3. Well 1 is reported to be used for irrigation and Wells 2 and 3 are potable wells. No discernible drawdown was measured in Wells 1, 2 or 3 on the SwissRe property that was attributed to pumping of the 113 King Street wells during the pumping test event.

The CitiGroup wells that were measured during the test period are located to the north and east of the project site. Water-level measurements were collected from Wells 2, 8, BOS-1 and BOS-2. Wells 2 and 8 are reported to be potable wells used to supply the onsite facilities and BOS-1 and BOS-2 are for other, non-potable uses. No discernible drawdown was measured in Wells 2, 8 or BOS-1 on the Citigroup property that was attributed to pumping of the 113 King Street wells during the pumping test event. Water-level drawdown of approximately 21 feet was observed in well BOS-2 that was attributed to the 113 King Street wells pumping at a combined 108.5 gpm. The test on the 113 King Street wells was conducted with the wells pumping concurrently at their maximum combined capacity for 3+ days continuously. The actual system operating capacity would exclude the yield of the best well which was 40 gpm, resulting a in a maximum capacity of 68.5 gpm. The average daily usage would be half of this maximum capacity or about 34.3 gpm. Water-level drawdown in BOS-2 may still be observable at the average daily capacity 34.3 gpm, but it would be much less than what was measured during the pumping test period and would likely not affect the use of BOS-2 in the future.

Two large-diameter overburden supply wells, Wells 14 and 39, are located to the east of to the project site on the Green American property. These Greenwich American wells draw water from the overburden aquifer in that area. Based on information provided to WSP, the total depth of Well 14 is 132 feet and Well 39 is 90 feet and the yields of the wells are 346 gpm (gallons per minute) and 550 gpm, respectively. WSP attempted to measure both wells during the data collection period; however, during the initial site visit conducted on February 25, a layer of ice at the top of both wells was encountered that prevented the collection of water-level measurements. WSP returned to the wells periodically to check their status, and on March 2 found that the ice in Well 14 had melted sufficiently to allow for water-level measurement collection and a pressure transducer was installed in the well. The ice in Well 39 did not melt sufficiently to measure the depth to water until March 8 after the test at 113 King Street was complete.

Continuous water-level measurement collection in Greenwich American Well 14 began on March 2, one day after the start of pumping on the 113 King Street property. The water level in the well was very shallow (0.3 foot to 0.4 foot below top of casing) and remained steady at that shallow depth throughout the remaining data collection period. No recovery (rise) in the water level in Well 14 occurred when pumping in the 113 King Street wells ended on March 4 that would indicate potential interference between the Greenwich American and King Street wells.

The water-level measurement collected from Well 39 on March 8 showed a similarly shallow level as Well 14, indicating that these wells are completed in a similar aquifer setting. Since no water-level data is available from this well during the pumping period on the 113 King Street wells, WSP cannot state definitively whether this well experienced pumping-related effects. However, since the 113 King Street wells are completed in different aquifers (the King Street wells in the bedrock aquifer and Well 39 in the overburden aquifer), the wells are 1,800+ feet apart, and no pumping-related response was observed in Greenwich American Well 14, it is unlikely that Well 39 would be significantly affected by pumping of the 113 King Street wells.

6.0 PIEZOMETER

Piezometers were installed at location PZ-A shown on Figure 2 to assess the potential for pumping-related drawdown in the wetland during the test period. A nested-pair of piezometers was installed with one piezometers screen set shallow and one screen set deeper. The hydrograph for the piezometer location and a table of the manual water-level measurements collected are provided in Appendix IV.

Water-level measurements were collected from the interior of both the shallow and deeper piezometers installed at PZ-A. The water level in the shallow piezometer was higher than in the deeper piezometer indicating a downward vertical gradient in the groundwater. The water levels in both the shallow and deeper piezometers showed some daily oscillation, but overall the trend was relatively level in both piezometers. There was no drawdown observed in either the shallow or deeper screened piezometer or change in vertical gradient that was associated with pumping in the onsite wells during the 72-hour test period.

7.0 WATER SAMPLE COLLECTION

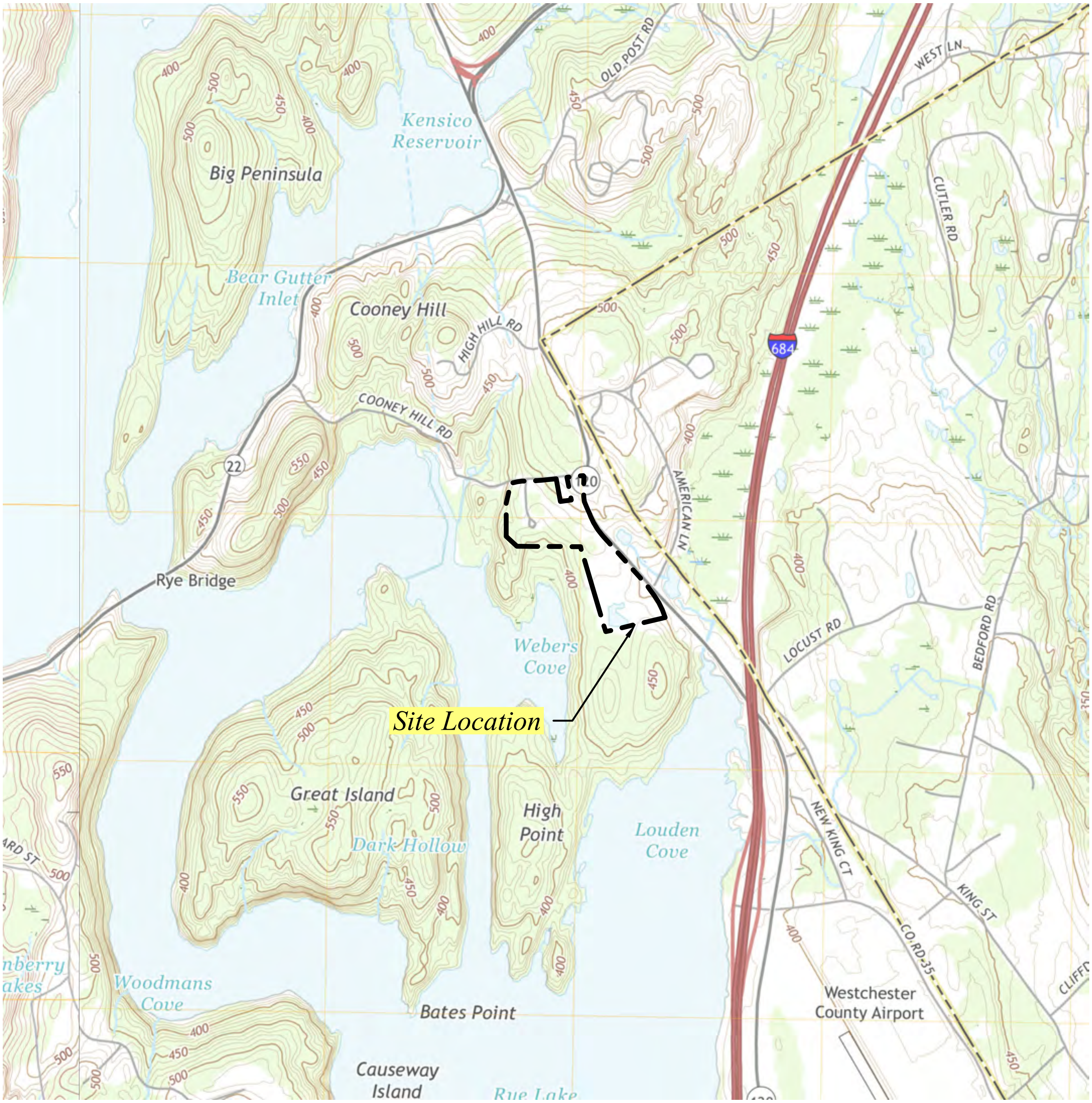
Water samples were collected from the onsite Wells 3, 6, 7 and 8 near the end of the 72-hour pumping test for analysis for parameters listed in the NYSDOH Sanitary Code Part 5, Subpart 5-1 tables 8A, 8B, 8C, 8D, 9C, 9D, 12 and MTBE, turbidity, total coliform, radon, propylene glycol, 1,4-dioxane and perfluorinated compounds PFOS and PFOA. The laboratory results for those samples are not yet available and will be provided in an addendum report.

8.0 CONCLUSIONS

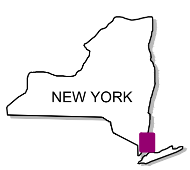
- Wells 3, 6, 7 and 8 demonstrated stabilization at the end of the 72-hour test period at pumping rates of 15.1 gpm, 14.5 gpm, 38.9 gpm and 40 gpm, respectively, for a combined yield capacity of 108.5 gpm.
- Well 8 was the best well with a yield of 40 gpm. Excluding Well 8, the combined yield of the remaining Wells 3, 6, and 7 was 68.5 gpm or 98,640 gpd which would be the total maximum daily water demand with the best well out of service that these wells could supply. The maximum daily water demand for a new development is calculated at twice the average daily demand; therefore, the average daily demand that the test wells could supply would be 49,320 gpd (34.3 gpm).
- The recovery in pumping wells was good following the end of the test period. Wells 3, 6, 7 and 8 had all recovered to within 90% of their pre-test level in under 11 hours following shut down of pumping.
- Onsite bedrock Wells 4 and 5 were used as monitoring wells during the test period. Drawdown was measured in Well 5 at 67.2 feet and in Well 4 52 feet. The drawdown in Well 5 was mainly attributed to pumping in Wells 3, 7 and 8 and Well 4 to pumping in Wells 3 and 7.

- Water-level measurements were collected from offsite bedrock wells on the SwissRe and Citigroup properties. Three wells were measured on the SwissRe property at 175 King Street, Irrigation Well 1 and potable supply Wells 2 and 3. No discernible water-level drawdown was measured in any of the Swiss Re wells. Four wells were measured on the CitiGroup property at 188 King Street, potable Wells 2 and 8 and wells BOS-1 and BOS-2 which were reported to be utilized for non-potable uses on the site. No discernible water-level drawdown was measured in Wells 2, 8 and BOS-1 that was attributed to pumping of the 113 King Street wells. Water-level drawdown of approximately 21 feet was observed in well BOS-2 that was attributed to the 113 King Street wells pumping at a combined 108.5 gpm. The test on the 113 King Street wells was conducted with the wells pumping concurrently at their maximum combined capacity for 3+ days continuously. The actual system operating capacity would exclude the yield of the best well which was 40 gpm, resulting a in a maximum capacity of 68.5 gpm. The average daily usage would be half of this maximum capacity or about 34.3 gpm. Water-level drawdown in BOS-2 may still be observable at the average daily capacity 34.3 gpm, but it would be much less than what was measured during the pumping test period and would likely not affect the use of BOS-2 in the future.
- Water-level measurement collection from two large-diameter overburden supply wells, Wells 14 and 39 on the Greenwich American property at 1 American Lane was also attempted during the pumping test. During the initial site visit conducted on February 25, a layer of ice at the top of both wells was encountered that prevented water level access. WSP returned to the wells periodically to check their status, and on March 2 found that the ice in Well 14 had melted sufficiently to allow for water-level measurement collection and a pressure transducer was installed in the well. The ice in Well 39 did not melt sufficiently to measure the depth to water until March 8 after the test at 113 King Street was complete. Continuous water-level measurement collection in Well 14 began on March 2, one day after the start of pumping on the 113 King Street property. The water level in the well was very shallow and remained steady throughout the remaining data collection period. No recovery (rise) in the water level in Well 14 occurred when pumping in the 113 King Street wells ended on March 4 that would indicate potential interference between the Greenwich American and King Street wells. The water-level measurement collected from Well 39 on March 8 showed a similarly shallow level as Well 14, indicating that these well are completed in a similar aquifer setting. Since no water-level data is available from this well during the pumping period on the 113 King Street wells, WSP cannot state definitively whether this well experienced pumping-related effects. However, since the 113 King Street wells are completed in different aquifers (the King Street wells in the bedrock aquifer and Well 39 in the overburden aquifer), the wells are 1,800+ feet apart, and no pumping-related response was observed in Greenwich American Well 14, it is unlikely that Well 39 would be significantly affected by pumping of the 113 King Street wells.
- Water-level measurements were collected from the interior of both the shallow and deeper piezometers installed at PZ-A. The water level in the shallow piezometer was higher than in the deeper piezometer indicating a downward vertical gradient in the groundwater. The water levels in both the shallow and deeper piezometers showed some daily oscillation, but overall the trend was relatively level in both wells. There was no drawdown observed in either the shallow or deeper screened piezometers or change in the vertical gradient that was attributed with pumping in the onsite wells during the 72-hour test.
- Water samples were collected from the onsite Wells 3, 6, 7 and 8 near the end of the 72-hour pumping test for analysis for parameters listed in the NYSDOH Sanitary Code Part 5, Subpart 5-1 tables 8A, 8B, 8C, 8D, 9C, 9D, 12 and MTBE, turbidity, total coliform, radon, propylene glycol, 1,4-dioxane and perfluorinated compounds PFOS and PFOA. The laboratory results for those samples are not yet available and will be provided in an addendum report.

FIGURES



SOURCE: USGS TOPOGRAPHIC QUADRANGLES WHITE PLAINS, NEW YORK (2016) AND GLENVILLE, CONNECTICUT-NEW YORK (2018).



QUADRANGLE LOCATION

LEGEND

PROPERTY BOUNDARY

0 2000

SCALE IN FEET

wsp

WSP USA, Inc. and related company
Hydrogeologic, Architecture, Land Surveying, Landscape Architecture, P.C. (WSP)
4 Research Drive
Suite 204
Shelton, Connecticut 06484
(203) 929-8555

113 King Street
North Castle, New York

SITE LOCATION MAP

FIGURE 1

DWG Date: 03/24/21
Checked: SS
Approved: SS
Drawn By: RAC
A

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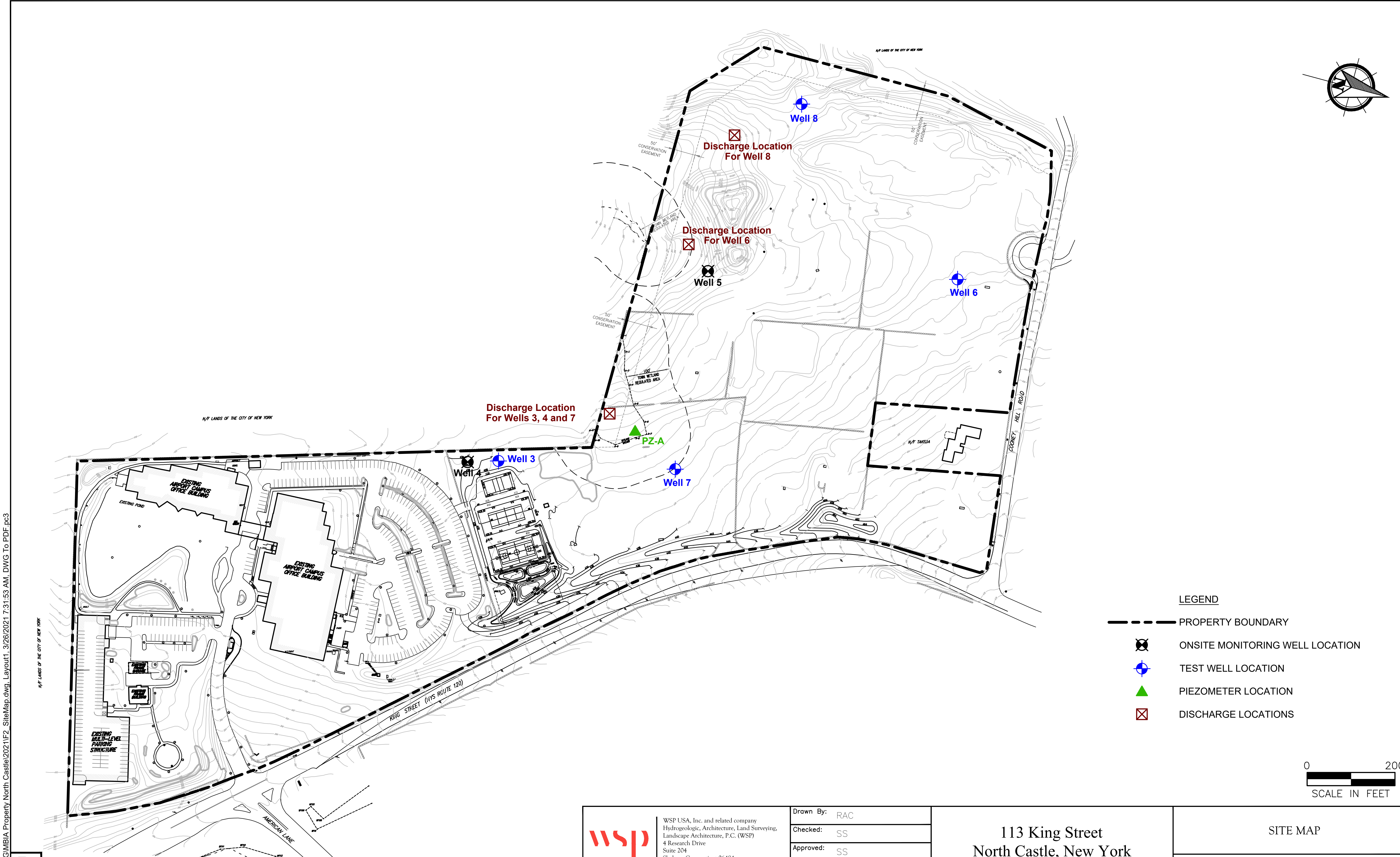

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4 Research Drive
Suite 204
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(203) 929-8555

Drawn By:	RAC
Checked:	SS
Approved:	SS
DWG Date:	03/26/21

113 King Street
North Castle, New York

SITE MAP

FIGURE 2

B

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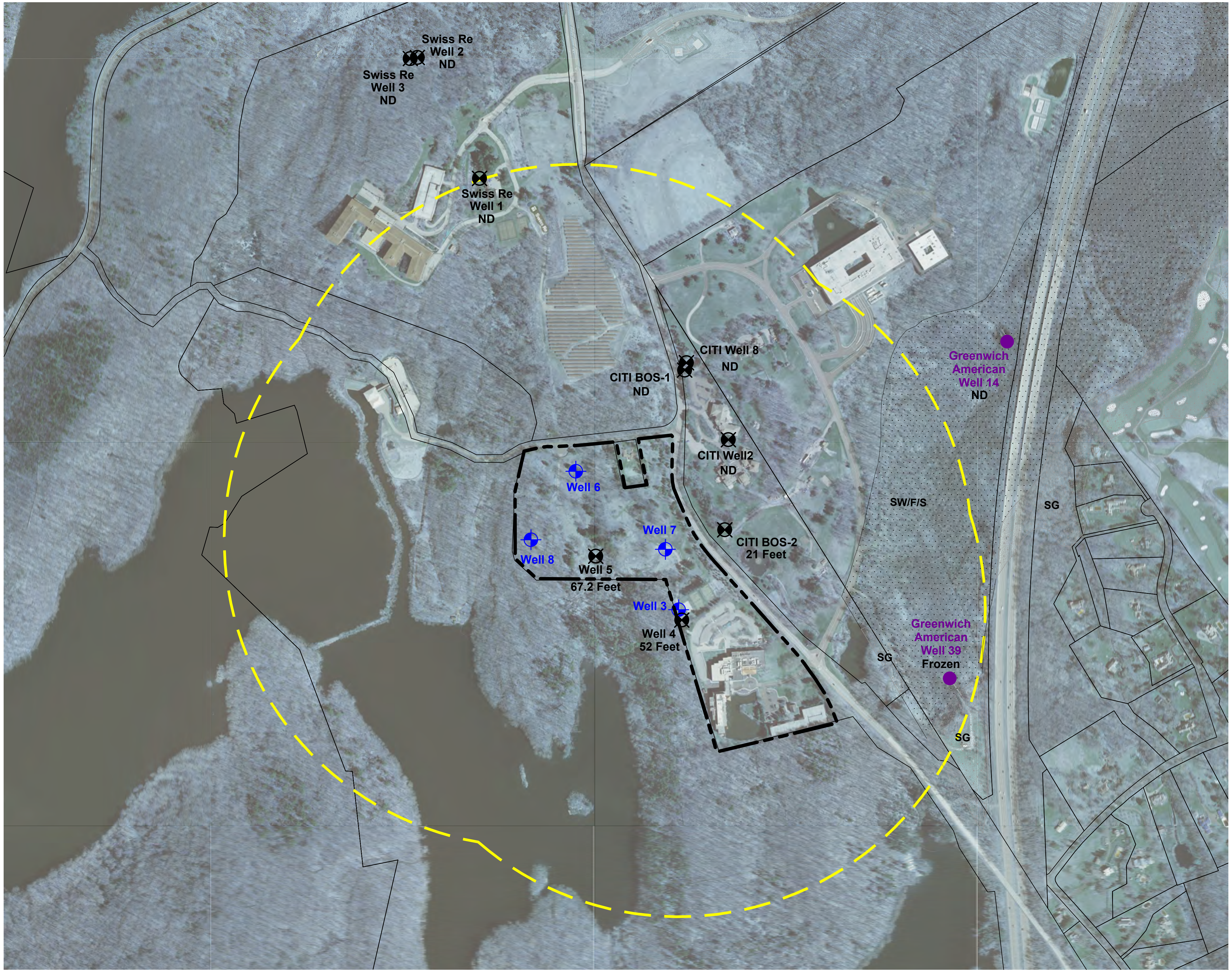

LEGEND

PROPERTY BOUNDARY

BEDROCK MONITORING WELL LOCATION

TEST WELL LOCATION

OVERBURDEN MONITORING WELL LOCATION

2,000-FOOT RADIUS

SG STRATIFIED-DRIFT AQUIFER-SAND AND GRAVEL

SW/F/S STRATIFIED-DRIFT AQUIFER-SWAMP OVERLYING FINES OVERLYING SAND

ND NO DISCERNIBLE DRAWDOWN

52 Feet DRAWDOWN OBSERVED DURING TEST ON 113 KING STREET TEST WELLS

0 700
SCALE IN FEET

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B

wsp

WSP USA, Inc. and related company
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Drawn By:	RAC
Checked:	SS
Approved:	SS
DWG Date:	03/26/21

113 King Street
North Castle, New York

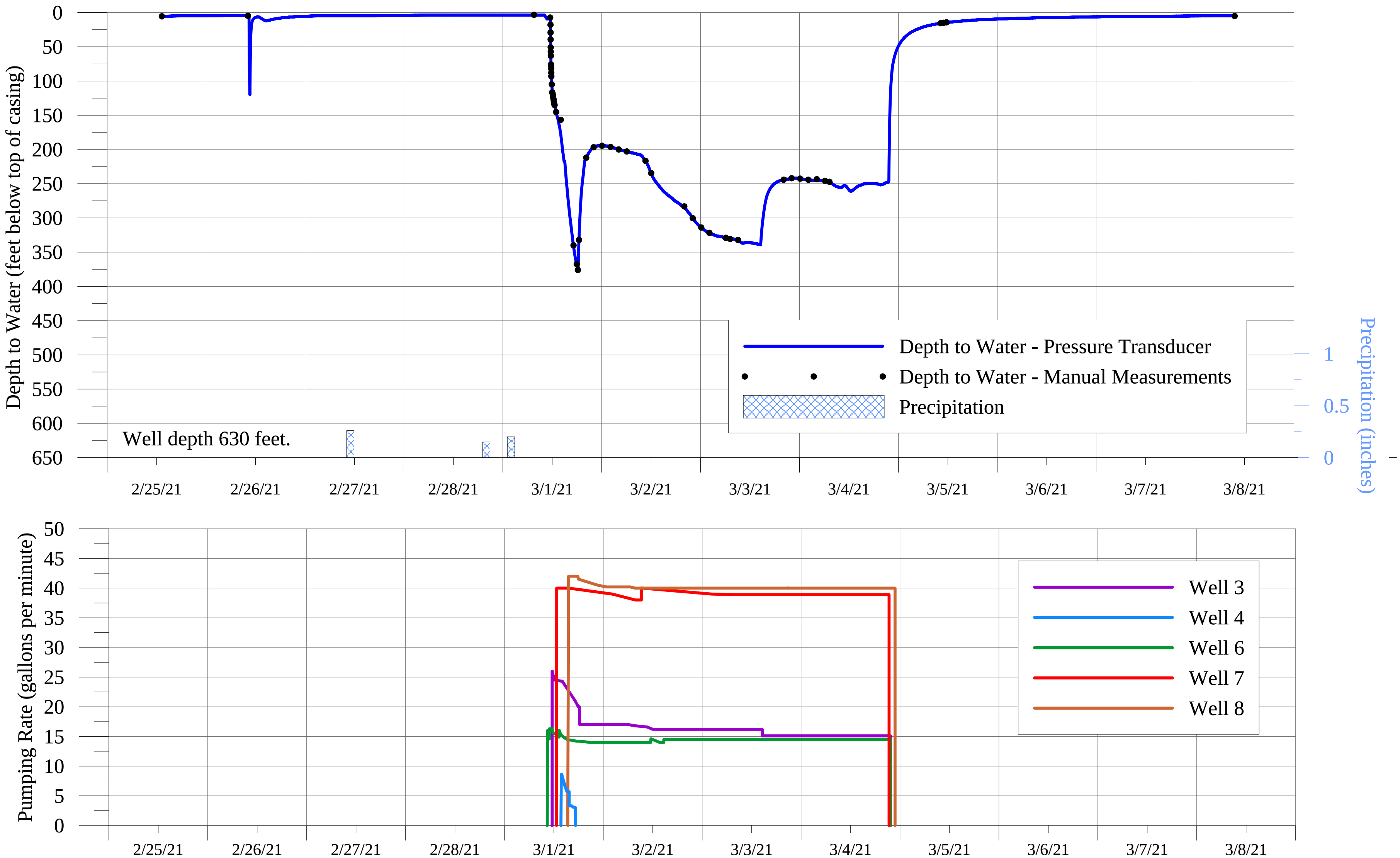
MONITORING WELL LOCATIONS

FIGURE 3

APPENDIX I

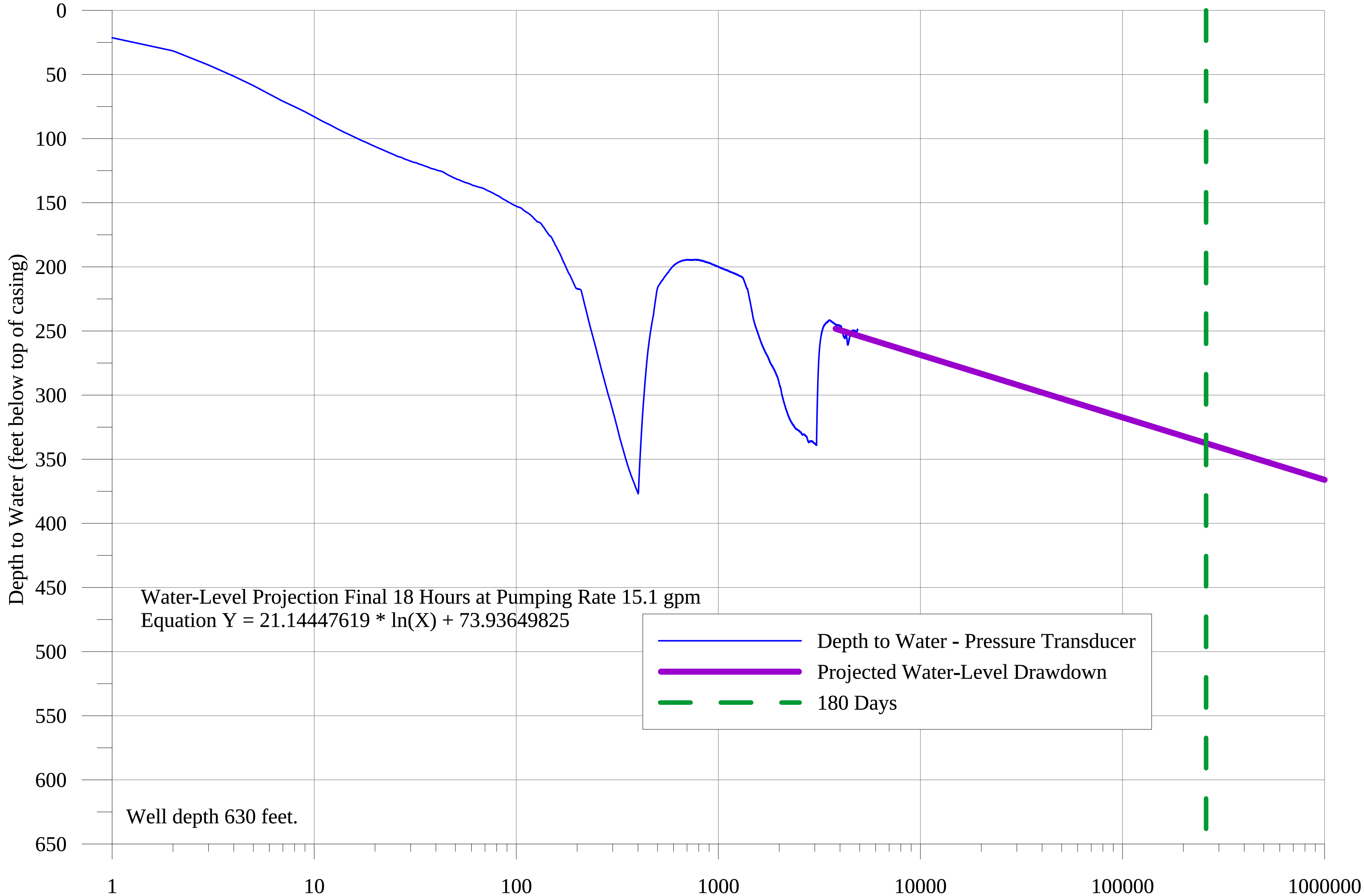
113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Well 3 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

180-Day Water-Level Drawdown Projection For Well 3 From 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from Well 3 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
2/25/2021	16:00	5.03	--	--	Pressure transducer installed.
2/25/2021	20:00	4.79	--	--	
2/26/2021	0:00	4.59	--	--	
2/26/2021	4:00	4.45	--	--	
2/26/2021	8:00	4.22	--	--	
2/26/2021	12:00	7.16	--	--	
2/26/2021	16:00	10.17	--	--	Pump run briefly in Well 3 to confirm operation.
2/26/2021	20:00	6.84	--	--	
2/27/2021	0:00	5.42	--	--	
2/27/2021	4:00	4.75	--	--	
2/27/2021	8:00	4.72	--	--	
2/27/2021	12:00	4.82	--	--	
2/27/2021	16:00	4.62	--	--	
2/27/2021	20:00	4.37	--	--	
2/28/2021	0:00	4.24	--	--	
2/28/2021	4:00	3.88	--	--	
2/28/2021	8:00	3.75	--	--	
2/28/2021	12:00	3.78	--	--	
2/28/2021	16:00	3.62	--	--	
2/28/2021	20:00	3.61	--	--	
3/1/2021	0:00	3.72	--	--	
3/1/2021	4:00	3.73	--	--	
3/1/2021	8:00	3.82	--	--	
3/1/2021	10:00	3.77	--	--	Water level prior to the start of any onsite well.
3/1/2021	11:34	7.80	--	--	
3/1/2021	11:35	21.36	1	17.59	Pump in Well 3 started.
3/1/2021	11:36	31.58	2	27.81	Pumping rate adjusted to 26 gpm.
3/1/2021	11:37	42.64	3	38.87	
3/1/2021	11:38	51.37	4	47.60	
3/1/2021	11:39	58.68	5	54.91	Pumping rate 25.5 gpm.
3/1/2021	11:40	65.32	6	61.55	
3/1/2021	11:41	70.89	7	67.12	
3/1/2021	11:42	75.14	8	71.37	
3/1/2021	11:43	79.08	9	75.31	
3/1/2021	11:44	82.94	10	79.17	Pumping rate 25.5 gpm.
3/1/2021	11:45	86.52	11	82.75	
3/1/2021	11:46	89.36	12	85.59	
3/1/2021	11:47	92.33	13	88.56	
3/1/2021	11:48	94.89	14	91.12	
3/1/2021	11:49	97.09	15	93.32	Pumping rate 25.2 gpm.
3/1/2021	11:54	106.15	20	102.38	
3/1/2021	11:59	112.78	25	109.01	
3/1/2021	12:04	117.60	30	113.83	Pumping rate 24.9 gpm.
3/1/2021	12:09	121.17	35	117.40	
3/1/2021	12:14	124.31	40	120.54	Pumping rate 24.5 gpm.
3/1/2021	12:19	127.50	45	123.73	
3/1/2021	12:24	131.03	50	127.26	Pumping rate 24.5 gpm.
3/1/2021	12:29	133.74	55	129.97	
3/1/2021	12:34	135.89	60	132.12	Pumping rate 24.5 gpm.
3/1/2021	12:39	137.80	65	134.03	Pump in Well 7 started.
3/1/2021	13:00	147.04	86	143.27	Pumping rate 24.5 gpm.

113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from Well 3 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/1/2021	13:49	168.10	135	164.33	Pump in Well 4 started.
3/1/2021	14:00	175.82	146	172.05	Pumping rate 24.3 gpm.
3/1/2021	15:00	217.38	206	213.61	Pumping rate 23 gpm.
3/1/2021	16:00	281.98	266	278.21	
3/1/2021	17:00	334.04	326	330.27	Pumping rate 21 gpm.
3/1/2021	17:16	345.30	342	341.53	Pump in Well 4 shut down.
3/1/2021	18:00	369.90	386	366.13	Pumping rate in Well 3 manually reduced to 17 gpm.
3/1/2021	19:00	268.82	446	265.05	Pumping rate 17 gpm.
3/1/2021	20:00	214.59	506	210.82	Pumping rate 17 gpm.
3/1/2021	21:00	204.02	566	200.25	Pumping rate 17 gpm.
3/1/2021	22:00	197.10	626	193.33	Pumping rate 17 gpm.
3/1/2021	23:00	194.82	686	191.05	Pumping rate 17 gpm.
3/2/2021	0:00	194.68	746	190.91	Pumping rate 17 gpm.
3/2/2021	1:00	194.88	806	191.11	Pumping rate 17 gpm.
3/2/2021	2:00	196.12	866	192.35	Pumping rate 17 gpm.
3/2/2021	3:00	197.69	926	193.92	Pumping rate 17 gpm.
3/2/2021	4:00	199.66	986	195.89	Pumping rate 17 gpm.
3/2/2021	5:00	201.52	1046	197.75	Pumping rate 17 gpm.
3/2/2021	6:00	202.75	1106	198.98	Pumping rate 17 gpm.
3/2/2021	7:00	204.21	1166	200.44	Pumping rate 17 gpm.
3/2/2021	8:00	205.54	1226	201.77	Rate adjustment completed in Well 7.
3/2/2021	9:00	207.27	1286	203.50	Pumping rate 16.8 gpm.
3/2/2021	10:00	211.65	1346	207.88	Pumping rate 16.6 gpm.
3/2/2021	11:00	220.07	1406	216.30	Pumping rate 16.6 gpm.
3/2/2021	12:00	234.33	1466	230.56	Pumping rate 16.2 gpm.
3/2/2021	13:00	246.29	1526	242.52	Pumping rate 16.2 gpm.
3/2/2021	14:00	253.89	1586	250.12	Pumping rate 16.2 gpm.
3/2/2021	15:00	260.71	1646	256.94	Pumping rate 16.2 gpm.
3/2/2021	16:00	266.35	1706	262.58	Pumping rate 16.2 gpm.
3/2/2021	17:00	270.80	1766	267.03	Pumping rate 16.2 gpm.
3/2/2021	18:00	276.00	1826	272.23	Pumping rate 16.2 gpm.
3/2/2021	19:00	279.97	1886	276.20	Pumping rate 16.2 gpm.
3/2/2021	20:00	284.74	1946	280.97	Pumping rate 16.2 gpm.
3/2/2021	21:00	291.63	2006	287.86	Pumping rate 16.2 gpm.
3/2/2021	22:00	299.88	2066	296.11	Pumping rate 16.2 gpm.
3/2/2021	23:00	307.25	2126	303.48	Pumping rate 16.2 gpm.
3/3/2021	0:00	313.05	2186	309.28	Pumping rate 16.2 gpm.
3/3/2021	1:00	318.08	2246	314.31	Pumping rate 16.2 gpm.
3/3/2021	2:00	321.62	2306	317.85	Pumping rate 16.2 gpm.
3/3/2021	3:00	323.95	2366	320.18	Pumping rate 16.2 gpm.
3/3/2021	4:00	326.43	2426	322.66	Pumping rate 16.2 gpm.
3/3/2021	5:00	327.37	2486	323.60	Pumping rate 16.2 gpm.
3/3/2021	6:00	328.69	2546	324.92	Pumping rate 16.2 gpm.
3/3/2021	7:00	330.88	2606	327.11	Pumping rate 16.2 gpm.
3/3/2021	8:00	330.89	2666	327.12	Pumping rate 16.2 gpm.
3/3/2021	9:00	332.13	2726	328.36	Pumping rate 16.2 gpm.
3/3/2021	10:00	336.23	2786	332.46	Pumping rate 16.2 gpm.
3/3/2021	11:00	335.87	2846	332.10	Pumping rate 16.2 gpm.
3/3/2021	12:00	335.96	2906	332.19	Pumping rate 16.2 gpm.
3/3/2021	13:00	337.36	2966	333.59	Pumping rate 16.2 gpm.

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Summary of Water-Level Measurements Collected from Well 3 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/3/2021	14:00	338.39	3026	334.62	Rate in Well 3 manually reduced to 15.1 gpm.
3/3/2021	15:00	308.15	3086	304.38	Pumping rate 15.1 gpm.
3/3/2021	16:00	270.07	3146	266.30	Pumping rate 15.1 gpm.
3/3/2021	17:00	256.13	3206	252.36	Pumping rate 15.1 gpm.
3/3/2021	18:00	249.84	3266	246.07	Pumping rate 15.1 gpm.
3/3/2021	19:00	246.13	3326	242.36	Pumping rate 15.1 gpm.
3/3/2021	20:00	244.53	3386	240.76	Pumping rate 15.1 gpm.
3/3/2021	21:00	243.38	3446	239.61	Pumping rate 15.1 gpm.
3/3/2021	22:00	242.02	3506	238.25	Pumping rate 15.1 gpm.
3/3/2021	23:00	241.79	3566	238.02	Pumping rate 15.1 gpm.
3/4/2021	0:00	242.64	3626	238.87	Pumping rate 15.1 gpm.
3/4/2021	1:00	243.54	3686	239.77	Pumping rate 15.1 gpm.
3/4/2021	2:00	244.23	3746	240.46	Pumping rate 15.1 gpm.
3/4/2021	3:00	245.04	3806	241.27	Pumping rate 15.1 gpm.
3/4/2021	4:00	245.31	3866	241.54	Pumping rate 15.1 gpm.
3/4/2021	5:00	245.52	3926	241.75	Pumping rate 15.1 gpm.
3/4/2021	6:00	245.97	3986	242.20	Pumping rate 15.1 gpm.
3/4/2021	7:00	246.39	4046	242.62	Pumping rate 15.1 gpm.
3/4/2021	8:00	250.41	4106	246.64	Pumping rate 15.1 gpm.
3/4/2021	9:00	254.12	4166	250.35	Pumping rate 15.1 gpm.
3/4/2021	10:00	255.79	4226	252.02	Pumping rate 15.1 gpm.
3/4/2021	11:00	252.51	4286	248.74	Pumping rate 15.1 gpm.
3/4/2021	12:00	258.78	4346	255.01	Part 5 sample collection.
3/4/2021	13:00	259.05	4406	255.28	Pumping rate 15.1 gpm.
3/4/2021	14:00	254.50	4466	250.73	Pumping rate 15.1 gpm.
3/4/2021	15:00	251.99	4526	248.22	Six hours prior to end of test.
3/4/2021	16:00	249.90	4586	246.13	Pumping rate 15.1 gpm.
3/4/2021	17:00	249.66	4646	245.89	Pumping rate 15.1 gpm.
3/4/2021	18:00	249.77	4706	246.00	Pumping rate 15.1 gpm.
3/4/2021	19:00	250.53	4766	246.76	Pumping rate 15.1 gpm.
3/4/2021	20:00	251.26	4826	247.49	Pumping rate 15.1 gpm.
3/4/2021	21:00	248.85	4886	245.08	End of combined 72-hour well test.
3/4/2021	21:42	243.22	-1	239.45	Pump in Well 3 shut down.
3/4/2021	21:43	231.85	-2	228.08	
3/4/2021	21:44	220.59	-3	216.82	
3/4/2021	21:45	213.08	-4	209.31	
3/4/2021	21:46	206.12	-5	202.35	
3/4/2021	21:47	198.95	-6	195.18	
3/4/2021	21:48	191.80	-7	188.03	
3/4/2021	21:49	184.60	-8	180.83	
3/4/2021	21:50	177.17	-9	173.40	
3/4/2021	21:51	171.82	-10	168.05	
3/4/2021	21:52	165.45	-11	161.68	
3/4/2021	21:53	160.23	-12	156.46	
3/4/2021	21:54	154.97	-13	151.20	
3/4/2021	21:55	151.31	-14	147.54	
3/4/2021	21:56	147.69	-15	143.92	
3/4/2021	22:01	129.75	-20	125.98	
3/4/2021	22:06	116.30	-25	112.53	
3/4/2021	22:11	106.46	-30	102.69	
3/4/2021	22:16	98.58	-35	94.81	

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Summary of Water-Level Measurements Collected from Well 3 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/4/2021	22:21	91.98	-40	88.21	
3/4/2021	22:26	86.32	-45	82.55	
3/4/2021	22:31	81.62	-50	77.85	
3/4/2021	22:36	78.01	-55	74.24	
3/4/2021	22:41	74.70	-60	70.93	
3/4/2021	23:00	65.70	-79	61.93	
3/5/2021	0:00	49.19	-139	45.42	
3/5/2021	1:00	39.70	-199	35.93	
3/5/2021	2:00	33.52	-259	29.75	
3/5/2021	3:00	29.20	-319	25.43	
3/5/2021	3:15	28.21	-334	24.44	90% recovery to pre-test level.
3/5/2021	4:00	25.85	-379	22.08	
3/5/2021	12:00	14.29	-859	10.52	
3/5/2021	16:00	12.13	-1099	8.36	
3/5/2021	20:00	10.43	-1339	6.66	
3/6/2021	0:00	9.51	-1579	5.74	
3/6/2021	4:00	8.75	-1819	4.98	
3/6/2021	8:00	8.06	-2059	4.29	
3/6/2021	12:00	7.50	-2299	3.73	
3/6/2021	16:00	7.15	-2539	3.38	
3/6/2021	20:00	6.58	-2779	2.81	
3/7/2021	0:00	6.19	-3019	2.42	
3/7/2021	4:00	5.92	-3259	2.15	
3/7/2021	8:00	5.68	-3499	1.91	
3/7/2021	12:00	5.38	-3739	1.61	
3/7/2021	16:00	5.39	-3979	1.62	
3/7/2021	20:00	5.13	-4219	1.36	
3/8/2021	0:00	5.03	-4459	1.26	
3/8/2021	4:00	4.82	-4699	1.05	
3/8/2021	8:00	4.77	-4939	1.00	Pressure transducer removed from well.

ft btoc feet below top of casing
gpm gallons per minute

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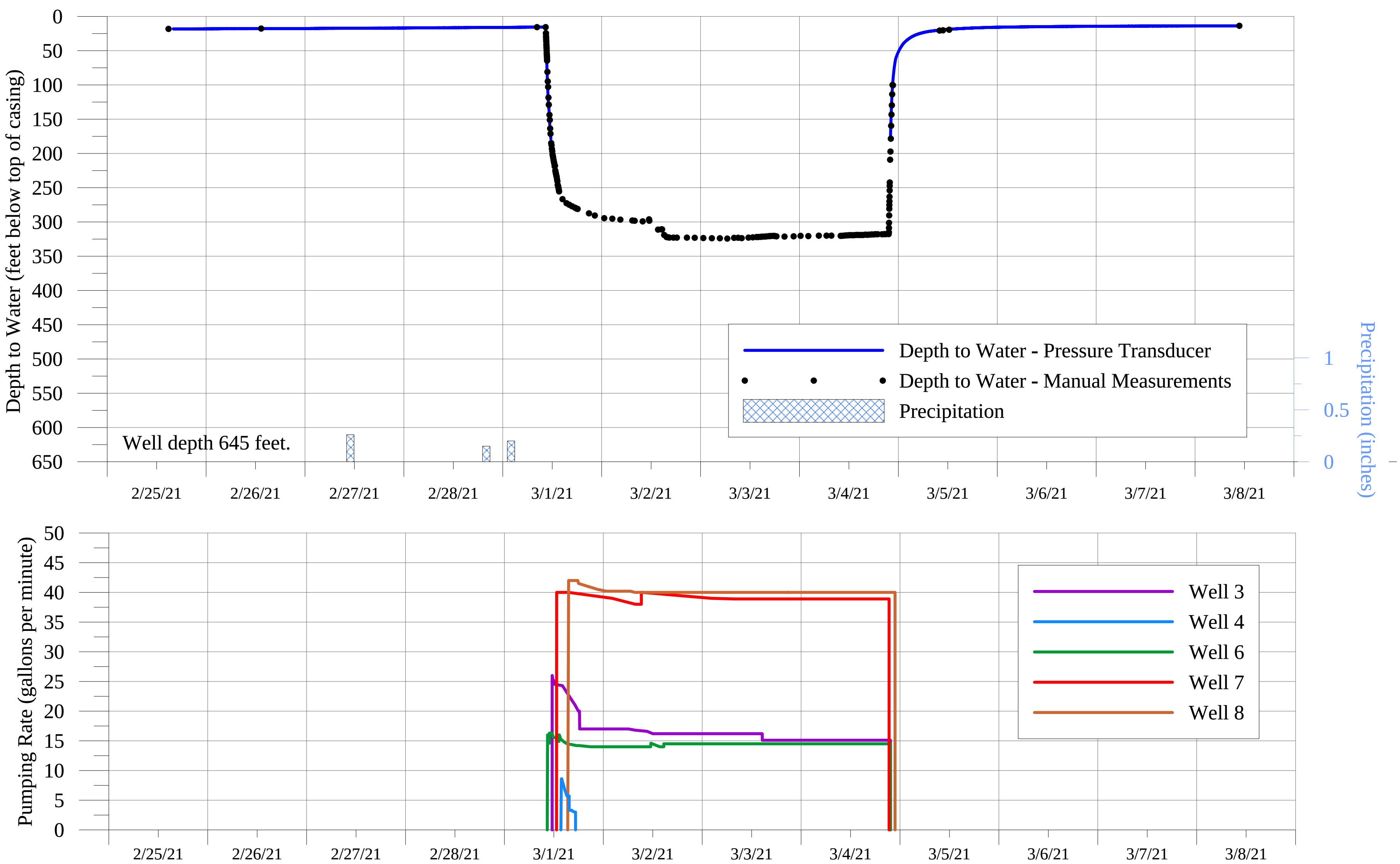
Hydrograph of Water-Level Measurements Collected from Well 6 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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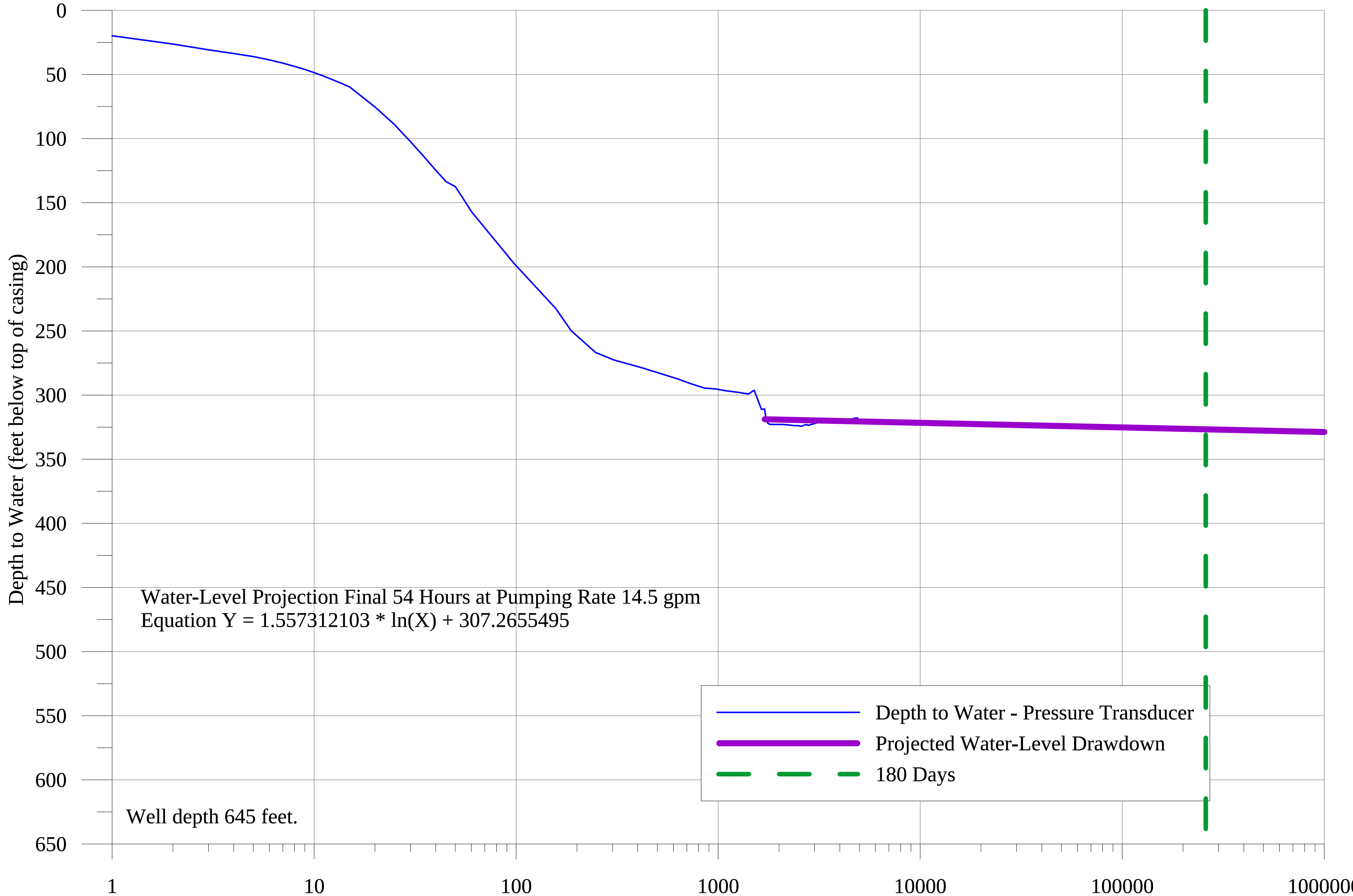
180-Day Water-Level Drawdown Projection For Well 6 From
72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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Summary of Water-Level Measurements Collected from Well 6 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
2/25/2021	20:00	18.24	--	--	Pressure transducer installed.
2/26/2021	0:00	18.09	--	--	
2/26/2021	4:00	17.92	--	--	
2/26/2021	8:00	17.90	--	--	
2/26/2021	12:00	17.82	--	--	
2/26/2021	16:00	17.82	--	--	
2/26/2021	20:00	17.86	--	--	
2/27/2021	0:00	17.75	--	--	
2/27/2021	4:00	17.45	--	--	
2/27/2021	8:00	17.30	--	--	
2/27/2021	12:00	17.18	--	--	
2/27/2021	16:00	17.10	--	--	
2/27/2021	20:00	17.04	--	--	
2/28/2021	0:00	16.90	--	--	
2/28/2021	4:00	16.68	--	--	
2/28/2021	8:00	16.52	--	--	
2/28/2021	12:00	16.41	--	--	
2/28/2021	16:00	16.22	--	--	
2/28/2021	20:00	16.04	--	--	
3/1/2021	0:00	16.06	--	--	
3/1/2021	4:00	15.77	--	--	
3/1/2021	8:00	15.66	--	--	
3/1/2021	9:00	15.64	--	--	
3/1/2021	10:00	15.60	--	--	Static level prior to the start of pumping test.
3/1/2021	10:23	15.52	--	--	
3/1/2021	10:24	19.82	1	4.22	Pump in Well 6 started.
3/1/2021	10:25	26.27	2	10.67	Pumping rate adjusted to 16 gpm.
3/1/2021	10:26	30.78	3	15.18	
3/1/2021	10:27	33.67	4	18.07	
3/1/2021	10:28	36.03	5	20.43	
3/1/2021	10:29	38.63	6	23.03	
3/1/2021	10:30	41.14	7	25.54	
3/1/2021	10:31	43.72	8	28.12	Pumping rate 16 gpm.
3/1/2021	10:32	46.08	9	30.48	
3/1/2021	10:33	48.56	10	32.96	
3/1/2021	10:34	50.89	11	35.29	Pumping rate 15.7 gpm
3/1/2021	10:35	53.30	12	37.70	
3/1/2021	10:36	55.51	13	39.91	
3/1/2021	10:37	57.66	14	42.06	
3/1/2021	10:38	59.72	15	44.12	
3/1/2021	10:43	75.32	20	59.72	Pumping rate 15.6 gpm.
3/1/2021	10:48	89.06	25	73.46	
3/1/2021	10:53	102.44	30	86.84	Pumping rate 14.6 gpm.
3/1/2021	10:58	114.10	35	98.50	Pumping rate manually increased to 16.3 gpm.
3/1/2021	11:03	124.68	40	109.08	
3/1/2021	11:08	133.60	45	118.00	Pumping rate 16.3 gpm.
3/1/2021	11:13	137.39	50	121.79	
3/1/2021	11:18	147.39	55	131.79	Pumping rate 16.3 gpm.
3/1/2021	11:23	156.82	60	141.22	Pumping rate 16.3 gpm.
3/1/2021	12:00	196.84	97	181.24	Pumping rate 15.6 gpm. Water-level declined below transducer level.

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Summary of Water-Level Measurements Collected from Well 6 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/1/2021	13:00	232.44	157	216.84	Pumping rate 15.4 gpm.
3/1/2021	13:30	249.70	187	234.10	Manual rate increase to 16 gpm.
3/1/2021	14:30	266.73	247	251.13	Pumping rate 14.8 gpm.
3/1/2021	15:28	272.62	305	257.02	Pumping rate 14.4 gpm.
3/1/2021	16:48	277.06	385	261.46	Pumping rate 14.3 gpm.
3/1/2021	17:30	279.06	427	263.46	Pumping rate 14.2 gpm.
3/1/2021	18:10	280.99	467	265.39	Pumping rate 14.2 gpm.
3/1/2021	20:55	287.40	632	271.80	Pumping rate 14 gpm.
3/1/2021	22:20	290.62	717	275.02	Pumping rate 14 gpm.
3/2/2021	0:37	294.49	854	278.89	Pumping rate 14 gpm.
3/2/2021	2:35	295.21	972	279.61	Pumping rate 14 gpm.
3/2/2021	4:32	296.60	1089	281.00	Pumping rate 14 gpm.
3/2/2021	7:26	297.86	1263	282.26	Pumping rate 14 gpm.
3/2/2021	8:00	298.23	1297	282.63	Pumping rate 14 gpm.
3/2/2021	9:57	299.11	1414	283.51	Pumping rate 14 gpm.
3/2/2021	11:30	296.17	1507	280.57	Manually increased pumping rate to 14.6 gpm
3/2/2021	13:41	311.18	1638	295.58	Pumping rate 14 gpm.
3/2/2021	14:29	310.78	1686	295.18	Pumping rate 14 gpm.
3/2/2021	14:40	310.82	1697	295.22	Manually increased pumping rate to 14.5 gpm
3/2/2021	15:10	319.02	1727	303.42	Pumping rate 14.5 gpm.
3/2/2021	15:45	322.04	1762	306.44	Pumping rate 14.5 gpm.
3/2/2021	16:00	322.26	1777	306.66	Pumping rate 14.5 gpm.
3/2/2021	16:25	322.80	1802	307.20	Pumping rate 14.5 gpm.
3/2/2021	17:25	322.86	1862	307.26	Pumping rate 14.5 gpm.
3/2/2021	18:15	322.87	1912	307.27	Pumping rate 14.5 gpm.
3/2/2021	20:41	322.86	2058	307.26	Pumping rate 14.5 gpm.
3/2/2021	22:35	323.07	2172	307.47	Pumping rate 14.5 gpm.
3/3/2021	0:40	323.49	2297	307.89	Pumping rate 14.5 gpm.
3/3/2021	2:44	323.75	2361	308.15	Pumping rate 14.5 gpm.
3/3/2021	4:41	323.81	2478	308.21	Pumping rate 14.5 gpm.
3/3/2021	6:29	324.28	2586	308.68	Pumping rate 14.5 gpm.
3/3/2021	8:08	323.21	2685	307.61	Pumping rate 14.5 gpm.
3/3/2021	9:07	323.06	2744	307.46	Pumping rate 14.5 gpm.
3/3/2021	9:59	323.63	2796	308.03	Pumping rate 14.5 gpm.
3/3/2021	11:38	322.84	2895	307.24	Pumping rate 14.5 gpm.
3/3/2021	12:41	322.47	2958	306.87	Pumping rate 14.5 gpm.
3/3/2021	13:35	322.04	3012	306.44	Pumping rate 14.5 gpm.
3/3/2021	14:00	321.97	3037	306.37	Pumping rate 14.5 gpm.
3/3/2021	14:35	321.71	3072	306.11	Pumping rate 14.5 gpm.
3/3/2021	15:00	321.43	3097	305.83	Pumping rate 14.5 gpm.
3/3/2021	15:35	321.33	3132	305.73	Pumping rate 14.5 gpm.
3/3/2021	16:00	321.05	3157	305.45	Pumping rate 14.5 gpm.
3/3/2021	16:35	320.69	3192	305.09	Pumping rate 14.5 gpm.
3/3/2021	17:00	320.51	3217	304.91	Pumping rate 14.5 gpm.
3/3/2021	17:35	320.36	3252	304.76	Pumping rate 14.5 gpm.
3/3/2021	18:00	320.46	3277	304.86	Pumping rate 14.5 gpm.
3/3/2021	18:25	320.98	3302	305.38	Pumping rate 14.5 gpm.
3/3/2021	20:22	321.35	3419	305.75	Pumping rate 14.5 gpm.
3/3/2021	22:35	320.99	3552	305.39	Pumping rate 14.5 gpm.
3/3/2021	0:16	320.31	3653	304.71	Pumping rate 14.5 gpm.
3/4/2021	2:09	320.62	3766	305.02	Pumping rate 14.5 gpm.

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Summary of Water-Level Measurements Collected from Well 6 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/4/2021	4:42	320.00	3919	304.40	Pumping rate 14.5 gpm.
3/4/2021	6:34	319.97	4031	304.37	Pumping rate 14.5 gpm.
3/4/2021	7:45	319.97	4102	304.37	Pumping rate 14.5 gpm.
3/4/2021	10:00	320.30	4237	304.70	Pumping rate 14.5 gpm.
3/4/2021	10:30	320.15	4267	304.55	Part 5 sample collection.
3/4/2021	11:00	319.80	4297	304.20	Pumping rate 14.5 gpm.
3/4/2021	11:30	319.55	4327	303.95	Pumping rate 14.5 gpm.
3/4/2021	12:00	319.33	4357	303.73	Pumping rate 14.5 gpm.
3/4/2021	12:30	319.26	4387	303.66	Pumping rate 14.5 gpm.
3/4/2021	13:00	319.39	4417	303.79	Pumping rate 14.5 gpm.
3/4/2021	13:30	319.11	4447	303.51	Pumping rate 14.5 gpm.
3/4/2021	14:00	318.89	4477	303.29	Pumping rate 14.5 gpm.
3/4/2021	14:30	318.98	4507	303.38	Pumping rate 14.5 gpm.
3/4/2021	15:00	319.02	4537	303.42	Pumping rate 14.5 gpm.
3/4/2021	15:30	318.97	4567	303.37	Pumping rate 14.5 gpm.
3/4/2021	16:00	318.54	4597	302.94	Pumping rate 14.5 gpm.
3/4/2021	16:30	318.78	4627	303.18	. Six hours prior to end of test period.
3/4/2021	17:00	318.45	4657	302.85	Pumping rate 14.5 gpm.
3/4/2021	17:30	318.24	4687	302.64	Pumping rate 14.5 gpm.
3/4/2021	18:00	318.21	4717	302.61	Pumping rate 14.5 gpm.
3/4/2021	18:30	317.83	4747	302.23	Pumping rate 14.5 gpm.
3/4/2021	19:00	317.94	4777	302.34	Pumping rate 14.5 gpm.
3/4/2021	20:02	317.98	4839	302.38	Pumping rate 14.5 gpm.
3/4/2021	20:35	317.75	4872	302.15	Pumping rate 14.5 gpm.
3/4/2021	21:00	317.71	4897	302.11	End of combined 72-hour well test.
3/4/2021	21:42	315.00	-1	299.40	Pump in Well 6 shut down.
3/4/2021	21:43	308.77	-2	293.17	
3/4/2021	21:44	301.24	-3	285.64	
3/4/2021	21:46	290.42	-5	274.82	
3/4/2021	21:48	280.80	-7	265.20	
3/4/2021	21:49	275.23	-8	259.63	
3/4/2021	21:50	269.88	-9	254.28	
3/4/2021	21:51	263.19	-10	247.59	
3/4/2021	21:53	254.02	-12	238.42	
3/4/2021	21:54	247.25	-13	231.65	
3/4/2021	21:55	242.35	-14	226.75	
3/4/2021	22:00	209.19	-19	193.59	
3/4/2021	22:05	197.25	-24	181.65	
3/4/2021	22:10	178.48	-29	162.88	
3/4/2021	22:15	159.64	-34	144.04	
3/4/2021	22:20	143.27	-39	127.67	
3/4/2021	22:25	129.67	-44	114.07	
3/4/2021	22:30	113.64	-49	98.04	
3/4/2021	22:35	100.00	-54	84.40	
3/4/2021	22:40	94.37	-59	78.77	Resume transducer measurements.
3/4/2021	22:45	88.45	-64	72.85	
3/4/2021	22:50	83.28	-69	67.68	
3/4/2021	23:00	74.54	-79	58.94	
3/5/2021	0:00	51.73	-139	36.13	
3/5/2021	0:31	45.75	-170	30.15	90% recovery to pre-test level.
3/5/2021	1:00	41.40	-199	25.80	

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Summary of Water-Level Measurements Collected from Well 6 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/5/2021	2:00	35.01	-259	19.41	
3/5/2021	3:00	30.69	-319	15.09	
3/5/2021	4:00	27.45	-379	11.85	
3/5/2021	5:00	25.12	-439	9.52	
3/5/2021	6:00	23.62	-499	8.02	
3/5/2021	7:00	22.26	-559	6.66	
3/5/2021	8:00	21.45	-619	5.85	
3/5/2021	9:00	20.74	-679	5.14	
3/5/2021	10:00	20.05	-739	4.45	
3/5/2021	11:00	19.50	-799	3.90	
3/5/2021	12:00	18.97	-859	3.37	
3/5/2021	13:00	18.49	-919	2.89	
3/5/2021	14:00	18.10	-979	2.50	
3/5/2021	15:00	17.73	-1039	2.13	
3/5/2021	16:00	17.50	-1099	1.90	
3/5/2021	17:00	17.24	-1159	1.64	
3/5/2021	18:00	16.83	-1219	1.23	
3/5/2021	19:00	16.71	-1279	1.11	
3/5/2021	20:00	16.44	-1339	0.84	
3/5/2021	21:00	16.22	-1399	0.62	
3/5/2021	22:00	16.13	-1459	0.53	
3/5/2021	23:00	15.99	-1519	0.39	
3/6/2021	0:00	15.82	-1579	0.22	
3/6/2021	4:00	15.51	-1819	-0.09	
3/6/2021	8:00	15.13	-2059	-0.47	
3/6/2021	12:00	14.83	-2299	-0.77	
3/6/2021	16:00	14.63	-2539	-0.98	
3/6/2021	20:00	14.62	-2779	-0.98	
3/6/2021	0:00	15.82	-1579	0.22	
3/7/2021	4:00	14.28	-3259	-1.32	
3/7/2021	8:00	14.21	-3499	-1.39	
3/7/2021	12:00	14.11	-3739	-1.49	
3/7/2021	16:00	14.01	-3979	-1.59	
3/7/2021	20:00	14.05	-4219	-1.55	
3/7/2021	0:00	14.35	-3019	-1.25	
3/8/2021	4:00	13.92	-4699	-1.68	
3/8/2021	8:00	13.81	-4939	-1.79	Pressure transducer removed from well.

ft btoc feet below top of casing
gpm gallons per minute

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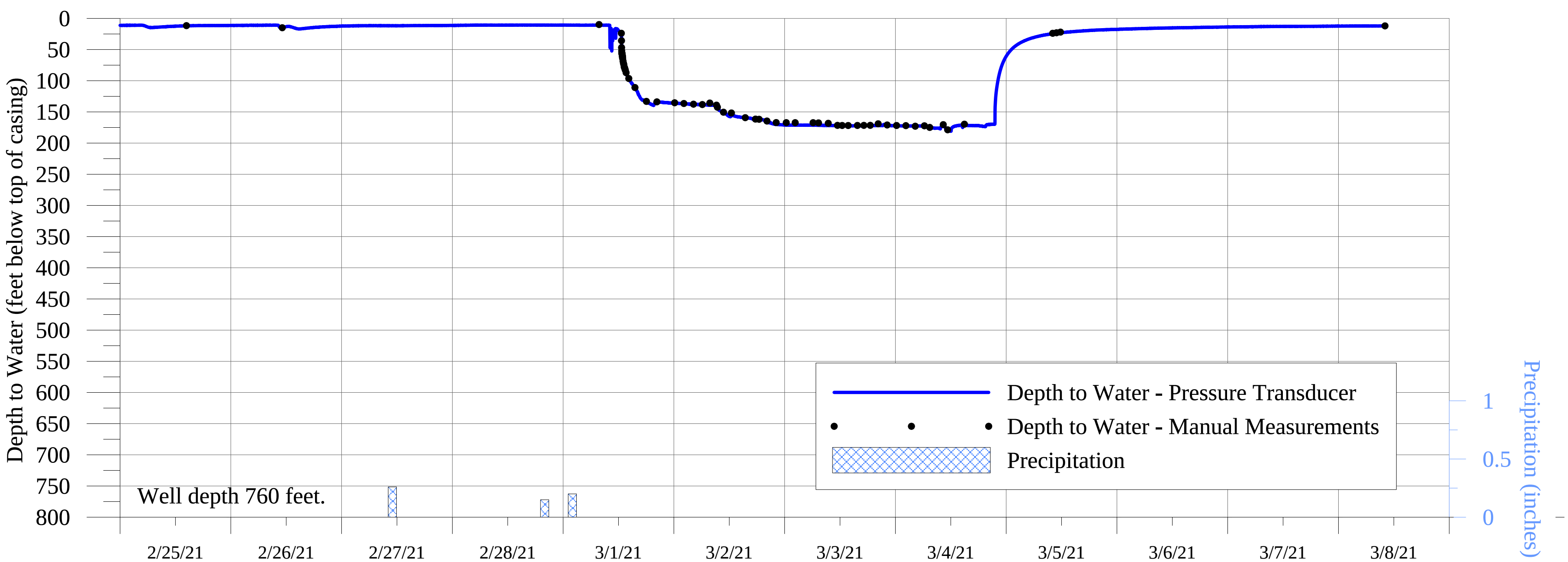
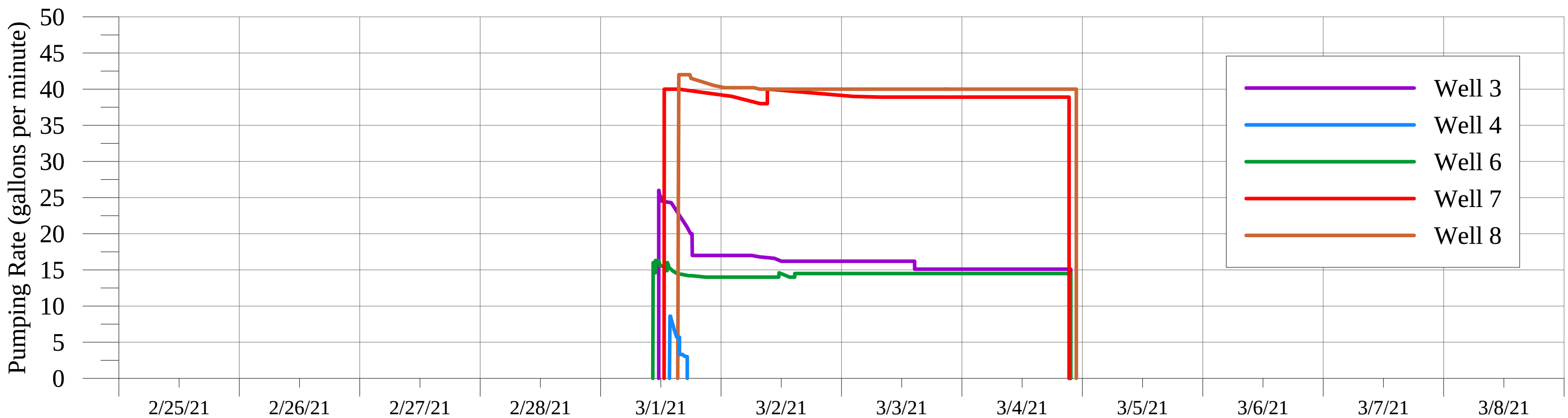
Hydrograph of Water-Level Measurements Collected from Well 7 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021





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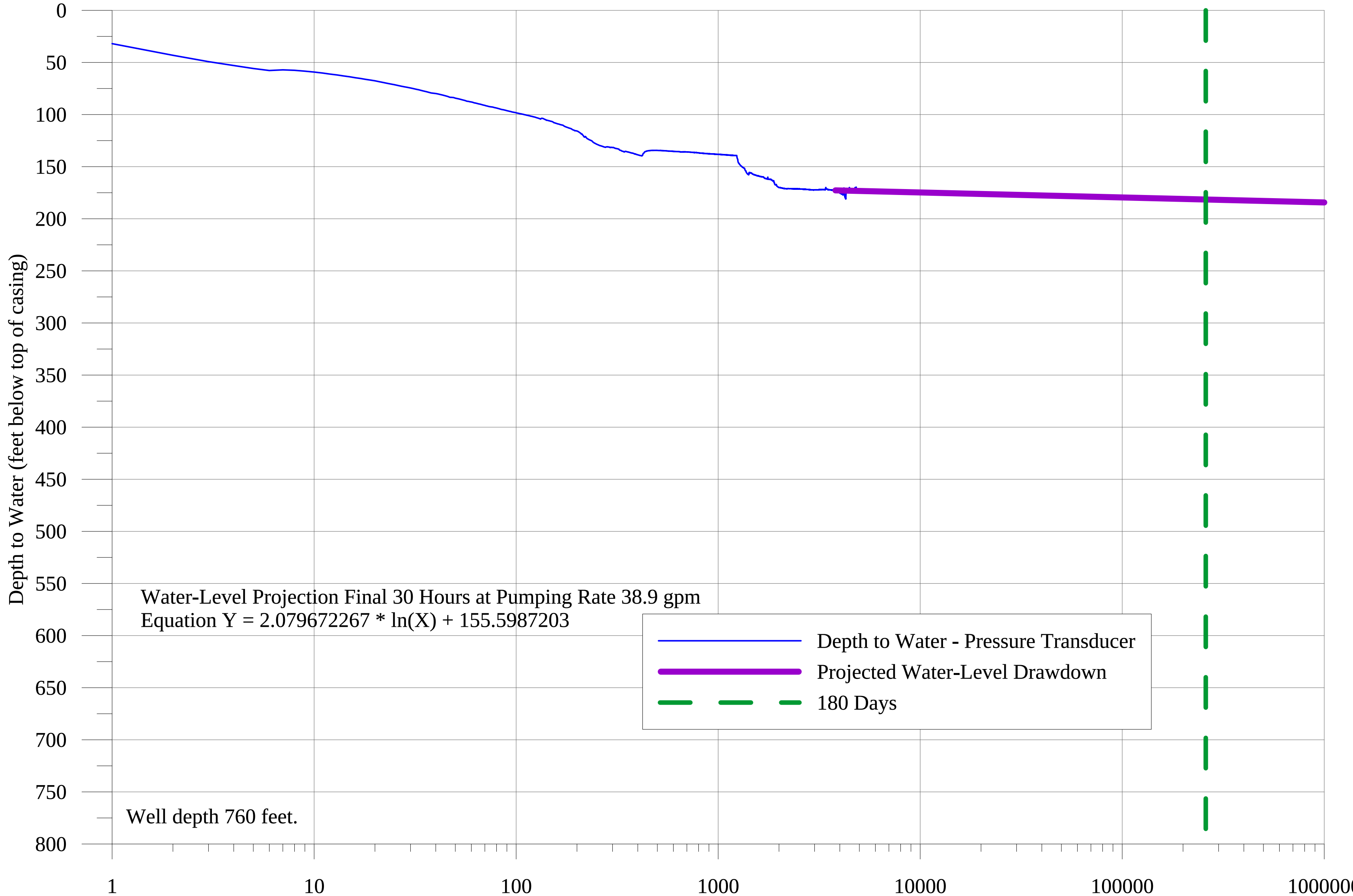
180-Day Water-Level Drawdown Projection For Well 7 From
72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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Summary of Water-Level Measurements Collected from Well 7 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
2/17/2021	16:00	17.11	--	--	Pressure transducer installed.
2/17/2021	20:00	14.33	--	--	
2/18/2021	0:00	13.80	--	--	
2/18/2021	4:00	13.31	--	--	
2/18/2021	8:00	12.93	--	--	
2/18/2021	12:00	12.73	--	--	
2/18/2021	16:00	12.57	--	--	
2/18/2021	20:00	12.31	--	--	
2/19/2021	0:00	12.19	--	--	
2/19/2021	4:00	12.17	--	--	
2/19/2021	8:00	11.98	--	--	
2/19/2021	12:00	11.93	--	--	
2/19/2021	16:00	11.96	--	--	
2/19/2021	20:00	11.79	--	--	
2/20/2021	0:00	11.77	--	--	
2/20/2021	4:00	11.75	--	--	
2/20/2021	8:00	11.67	--	--	
2/20/2021	12:00	11.73	--	--	
2/20/2021	16:00	11.70	--	--	
2/20/2021	20:00	11.58	--	--	
2/21/2021	0:00	11.21	--	--	
2/21/2021	4:00	11.19	--	--	
2/21/2021	8:00	11.01	--	--	
2/21/2021	12:00	11.02	--	--	
2/21/2021	16:00	11.08	--	--	
2/21/2021	20:00	11.01	--	--	
2/22/2021	0:00	11.02	--	--	
2/22/2021	4:00	11.12	--	--	
2/22/2021	8:00	11.18	--	--	
2/22/2021	12:00	13.53	--	--	
2/22/2021	16:00	15.35	--	--	
2/22/2021	20:00	13.54	--	--	
2/23/2021	0:00	12.69	--	--	
2/23/2021	4:00	12.36	--	--	
2/23/2021	8:00	12.28	--	--	
2/23/2021	12:00	12.20	--	--	
2/23/2021	16:00	12.08	--	--	
2/23/2021	20:00	11.97	--	--	
2/24/2021	0:00	11.67	--	--	
2/24/2021	4:00	11.44	--	--	
2/24/2021	8:00	11.36	--	--	
2/24/2021	12:00	11.34	--	--	
2/24/2021	16:00	11.28	--	--	
2/24/2021	20:00	11.31	--	--	
2/25/2021	0:00	11.22	--	--	
2/25/2021	4:00	10.98	--	--	
2/25/2021	8:00	14.19	--	--	
2/25/2021	12:00	12.46	--	--	
2/25/2021	16:00	11.67	--	--	
2/25/2021	20:00	11.42	--	--	
2/26/2021	0:00	11.32	--	--	
2/26/2021	4:00	11.14	--	--	

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Summary of Water-Level Measurements Collected from Well 7 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
2/26/2021	8:00	10.96	--	--	
2/26/2021	12:00	13.28	--	--	
2/26/2021	16:00	16.08	--	--	
2/26/2021	20:00	13.61	--	--	
2/27/2021	0:00	12.41	--	--	
2/27/2021	4:00	11.78	--	--	
2/27/2021	8:00	11.74	--	--	
2/27/2021	12:00	11.75	--	--	
2/27/2021	16:00	11.55	--	--	
2/27/2021	20:00	11.36	--	--	
2/28/2021	0:00	11.23	--	--	
2/28/2021	4:00	10.97	--	--	
2/28/2021	8:00	10.82	--	--	
2/28/2021	12:00	10.85	--	--	
2/28/2021	16:00	10.73	--	--	
2/28/2021	20:00	10.73	--	--	
3/1/2021	0:00	10.84	--	--	
3/1/2021	4:00	10.94	--	--	
3/1/2021	8:00	10.95	--	--	
3/1/2021	10:00	11.01	--	--	Static level prior to the start of pumping test.
3/1/2021	12:00	19.44	--	--	Pump in Well 3 on at 11:35.
3/1/2021	12:38	24.85	--	--	
3/1/2021	12:39	31.95	1	20.94	Start of the pump in Well 7.
3/1/2021	12:40	43.13	2	32.12	Pumping rate adjusted to 40 gpm.
3/1/2021	12:41	49.22	3	38.21	
3/1/2021	12:42	52.95	4	41.94	
3/1/2021	12:43	55.80	5	44.79	Pumping rate 40 gpm.
3/1/2021	12:44	57.73	6	46.72	
3/1/2021	12:45	57.10	7	46.09	
3/1/2021	12:46	57.53	8	46.52	
3/1/2021	12:47	58.35	9	47.34	
3/1/2021	12:48	59.21	10	48.20	Pumping rate 40 gpm.
3/1/2021	12:49	60.14	11	49.13	
3/1/2021	12:50	61.18	12	50.17	
3/1/2021	12:51	62.00	13	50.99	
3/1/2021	12:52	62.95	14	51.94	
3/1/2021	12:53	63.75	15	52.74	Pumping rate 40 gpm.
3/1/2021	12:58	67.60	20	56.59	
3/1/2021	13:03	71.36	25	60.35	Pumping rate 40 gpm.
3/1/2021	13:08	74.49	30	63.48	
3/1/2021	13:13	77.52	35	66.51	Pumping rate 40 gpm.
3/1/2021	13:18	79.81	40	68.80	
3/1/2021	13:23	82.17	45	71.16	Pumping rate 40 gpm.
3/1/2021	13:28	84.25	50	73.24	
3/1/2021	13:33	86.19	55	75.18	Pumping rate 40 gpm.
3/1/2021	13:38	87.93	60	76.92	
3/1/2021	14:00	94.30	82	83.29	Pumping rate 40 gpm.
3/1/2021	15:00	105.42	142	94.41	Pumping rate 40 gpm.
3/1/2021	16:00	116.18	202	105.17	Pumping rate 40 gpm.
3/1/2021	17:00	129.94	262	118.93	Pumping rate 40 gpm.
3/1/2021	18:00	133.16	322	122.15	Pumping rate 40 gpm.
3/1/2021	19:00	137.32	382	126.31	Pumping rate 40 gpm.

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Summary of Water-Level Measurements Collected from Well 7 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/1/2021	20:00	135.09	442	124.08	Pumping rate 40 gpm.
3/1/2021	21:00	134.43	502	123.42	Pumping rate 40 gpm.
3/1/2021	22:00	134.91	562	123.90	Pumping rate 40 gpm.
3/1/2021	23:00	135.50	622	124.49	Pumping rate 40 gpm.
3/2/2021	0:00	135.75	682	124.74	Pumping rate 40 gpm.
3/2/2021	1:00	136.27	742	125.26	Pumping rate 39 gpm.
3/2/2021	2:00	136.77	802	125.76	Pumping rate 39 gpm.
3/2/2021	3:00	137.31	862	126.30	Pumping rate 39 gpm.
3/2/2021	4:00	137.71	922	126.70	Pumping rate 39 gpm.
3/2/2021	5:00	138.04	982	127.03	Pumping rate 39 gpm.
3/2/2021	6:00	138.38	1042	127.37	Pumping rate 39 gpm.
3/2/2021	7:00	138.80	1102	127.79	Pumping rate 39 gpm.
3/2/2021	8:00	139.08	1162	128.07	Pumping rate 38 gpm.
3/2/2021	9:00	139.28	1222	128.27	. Manual rate increase to 40 gpm at 9:14.
3/2/2021	10:00	148.12	1282	137.11	Pumping rate 40 gpm.
3/2/2021	11:00	151.34	1342	140.33	Pumping rate 40 gpm.
3/2/2021	12:00	157.25	1402	146.24	Pumping rate 40 gpm.
3/2/2021	13:00	156.18	1462	145.17	Pumping rate 40 gpm.
3/2/2021	14:00	157.93	1522	146.92	Pumping rate 40 gpm.
3/2/2021	15:00	158.72	1582	147.71	Pumping rate 40 gpm.
3/2/2021	16:00	159.73	1642	148.72	Pumping rate 40 gpm.
3/2/2021	17:00	161.12	1702	150.11	Pumping rate 40 gpm.
3/2/2021	18:00	160.12	1762	149.11	Pumping rate 40 gpm.
3/2/2021	19:00	162.21	1822	151.20	Pumping rate 40 gpm.
3/2/2021	20:00	163.61	1882	152.60	Pumping rate 40 gpm.
3/2/2021	21:00	167.62	1942	156.61	Pumping rate 40 gpm.
3/2/2021	22:00	170.02	2002	159.01	Pumping rate 40 gpm.
3/2/2021	23:00	170.44	2062	159.43	Pumping rate 40 gpm.
3/3/2021	0:00	170.99	2122	159.98	Pumping rate 39 gpm.
3/3/2021	1:00	171.21	2182	160.20	Pumping rate 39 gpm.
3/3/2021	2:00	171.08	2242	160.07	Pumping rate 39 gpm.
3/3/2021	3:00	171.19	2302	160.18	Pumping rate 39 gpm.
3/3/2021	4:00	171.26	2362	160.25	Pumping rate 39 gpm.
3/3/2021	5:00	171.28	2422	160.27	Pumping rate 39 gpm.
3/3/2021	6:00	171.31	2482	160.30	Pumping rate 39 gpm.
3/3/2021	7:00	171.41	2542	160.40	Pumping rate 39 gpm.
3/3/2021	8:00	171.51	2602	160.50	Pumping rate 38.9 gpm.
3/3/2021	9:00	171.57	2662	160.56	Pumping rate 38.9 gpm.
3/3/2021	10:00	171.78	2722	160.77	Pumping rate 38.9 gpm.
3/3/2021	11:00	171.88	2782	160.87	Pumping rate 38.9 gpm.
3/3/2021	12:00	172.11	2842	161.10	Pumping rate 38.9 gpm.
3/3/2021	13:00	172.19	2902	161.18	Pumping rate 38.9 gpm.
3/3/2021	14:00	172.33	2962	161.32	Pumping rate 38.9 gpm.
3/3/2021	15:00	172.22	3022	161.21	Pumping rate 38.9 gpm.
3/3/2021	16:00	172.21	3082	161.20	Pumping rate 38.9 gpm.
3/3/2021	17:00	172.27	3142	161.26	Pumping rate 38.9 gpm.
3/3/2021	18:00	172.00	3202	160.99	Pumping rate 38.9 gpm.
3/3/2021	19:00	171.93	3262	160.92	Pumping rate 38.9 gpm.
3/3/2021	20:00	171.98	3322	160.97	Pumping rate 38.9 gpm.
3/3/2021	21:00	172.00	3382	160.99	Pumping rate 38.9 gpm.
3/3/2021	22:00	171.46	3442	160.45	Pumping rate 38.9 gpm.
3/3/2021	23:00	172.13	3502	161.12	Pumping rate 38.9 gpm.

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Summary of Water-Level Measurements Collected from Well 7 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/4/2021	0:00	172.24	3562	161.23	Pumping rate 38.9 gpm.
3/4/2021	1:00	172.39	3622	161.38	Pumping rate 38.9 gpm.
3/4/2021	2:00	172.54	3682	161.53	Pumping rate 38.9 gpm.
3/4/2021	3:00	172.57	3742	161.56	Pumping rate 38.9 gpm.
3/4/2021	4:00	172.40	3802	161.39	Pumping rate 38.9 gpm.
3/4/2021	5:00	172.48	3862	161.47	Pumping rate 38.9 gpm.
3/4/2021	6:00	172.51	3922	161.50	Pumping rate 38.9 gpm.
3/4/2021	7:00	174.48	3982	163.47	Pumping rate 38.9 gpm.
3/4/2021	8:00	175.69	4042	164.68	Pumping rate 38.9 gpm.
3/4/2021	9:00	175.97	4102	164.96	Pumping rate 38.9 gpm.
3/4/2021	10:00	173.57	4162	162.56	Pumping rate 38.9 gpm.
3/4/2021	11:00	177.52	4222	166.51	Pumping rate 38.9 gpm.
3/4/2021	12:00	180.81	4282	169.80	Part 5 sample collection.
3/4/2021	13:00	172.58	4342	161.57	Pumping rate 38.9 gpm.
3/4/2021	14:00	171.48	4402	160.47	Pumping rate 38.9 gpm.
3/4/2021	15:00	170.08	4462	159.07	Six hours prior to end of test.
3/4/2021	16:00	171.83	4522	160.82	Pumping rate 38.9 gpm.
3/4/2021	17:00	172.10	4582	161.09	Pumping rate 38.9 gpm.
3/4/2021	18:00	172.11	4642	161.10	Pumping rate 38.9 gpm.
3/4/2021	19:00	173.11	4702	162.10	Pumping rate 38.9 gpm.
3/4/2021	20:00	170.32	4762	159.31	Pumping rate 38.9 gpm.
3/4/2021	21:00	169.81	4822	158.80	End of combined 72-hour well test.
3/4/2021	21:34	167.32	-1	156.31	Pump in Well 7 shut down.
3/4/2021	21:35	148.06	-2	137.05	
3/4/2021	21:36	142.20	-3	131.19	
3/4/2021	21:37	139.61	-4	128.60	
3/4/2021	21:38	137.07	-5	126.06	
3/4/2021	21:39	134.77	-6	123.76	
3/4/2021	21:40	132.59	-7	121.58	
3/4/2021	21:41	130.66	-8	119.65	
3/4/2021	21:42	128.92	-9	117.91	
3/4/2021	21:43	127.22	-10	116.21	
3/4/2021	21:44	125.71	-11	114.70	
3/4/2021	21:45	124.27	-12	113.26	
3/4/2021	21:46	122.91	-13	111.90	
3/4/2021	21:47	121.61	-14	110.60	
3/4/2021	21:48	120.45	-15	109.44	
3/4/2021	21:53	115.09	-20	104.08	
3/4/2021	21:58	110.71	-25	99.70	
3/4/2021	22:03	106.73	-30	95.72	
3/4/2021	22:08	102.97	-35	91.96	
3/4/2021	22:13	99.48	-40	88.47	
3/4/2021	22:18	96.34	-45	85.33	
3/4/2021	22:23	93.35	-50	82.34	
3/4/2021	22:28	90.61	-55	79.60	
3/4/2021	22:33	87.98	-60	76.97	
3/4/2021	23:00	76.70	-87	65.69	
3/5/2021	0:00	60.80	-147	49.79	
3/5/2021	1:00	50.92	-207	39.91	
3/5/2021	2:00	44.20	-267	33.19	
3/5/2021	3:00	39.39	-327	28.38	
3/5/2021	4:00	35.78	-387	24.77	

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NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from Well 7 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/5/2021	5:00	32.91	-447	21.90	
3/5/2021	6:00	30.56	-507	19.55	
3/5/2021	7:00	28.69	-567	17.68	
3/5/2021	8:00	27.12	-627	16.11	
3/5/2021	8:08	26.88	-635	15.87	90% recovery to pre-test level.
3/5/2021	12:00	22.84	-867	11.83	
3/5/2021	16:00	20.42	-1107	9.41	
3/5/2021	20:00	18.58	-1347	7.57	
3/6/2021	0:00	17.56	-1587	6.55	
3/6/2021	4:00	16.64	-1827	5.63	
3/6/2021	8:00	15.85	-2067	4.84	
3/6/2021	12:00	15.21	-2307	4.20	
3/6/2021	16:00	14.80	-2547	3.79	
3/6/2021	20:00	14.23	-2787	3.22	
3/7/2021	0:00	13.79	-3027	2.78	
3/7/2021	4:00	13.40	-3267	2.39	
3/7/2021	8:00	13.10	-3507	2.09	
3/7/2021	12:00	12.91	-3747	1.90	
3/7/2021	16:00	12.79	-3987	1.78	
3/7/2021	20:00	12.63	-4227	1.62	
3/8/2021	0:00	12.38	-4467	1.37	
3/8/2021	4:00	12.24	-4707	1.23	
3/8/2021	8:00	12.12	-4947	1.11	Pressure transducer removed from well.

ft btoc feet below top of casing
gpm gallons per minute

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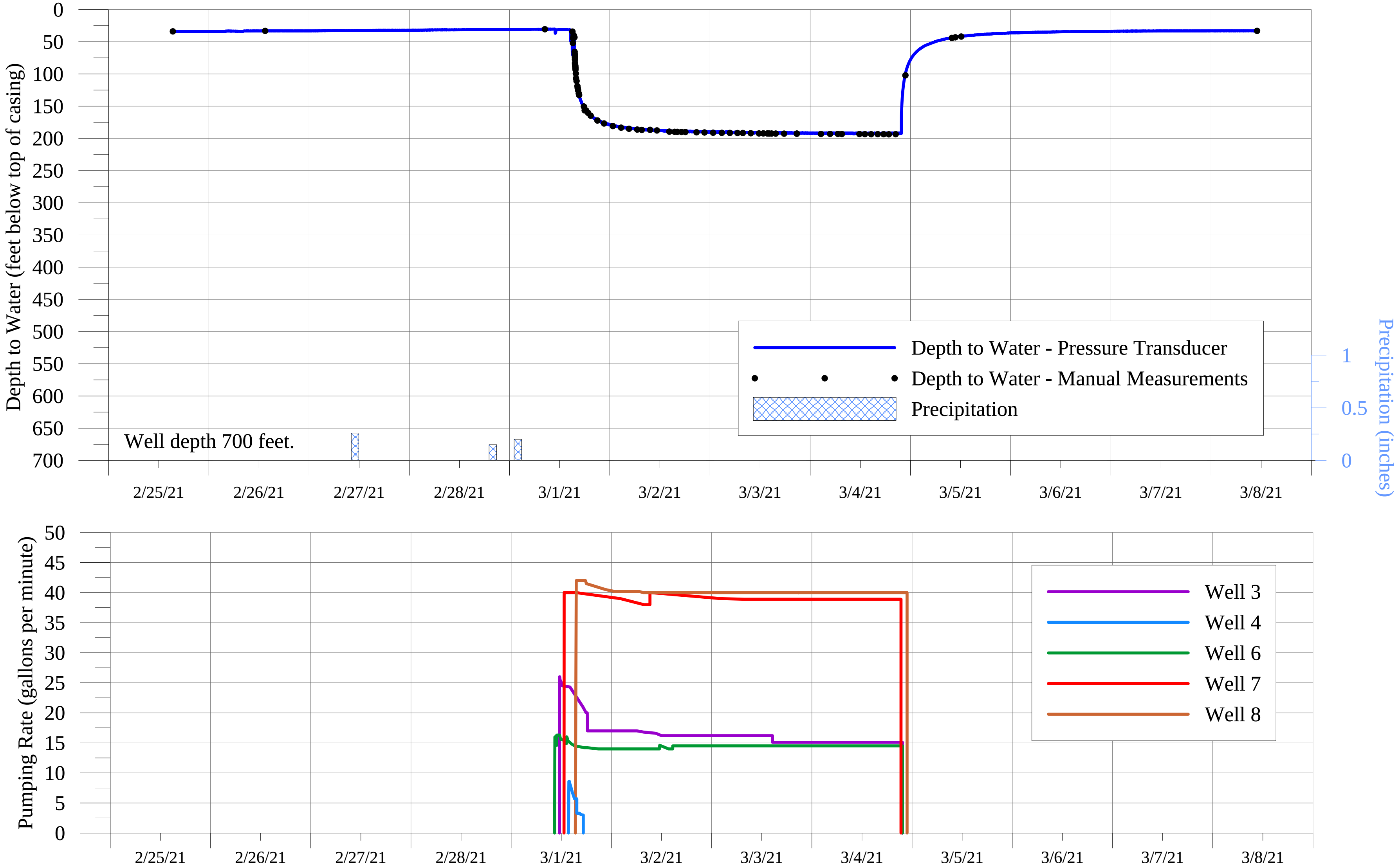
Hydrograph of Water-Level Measurements Collected from Well 8 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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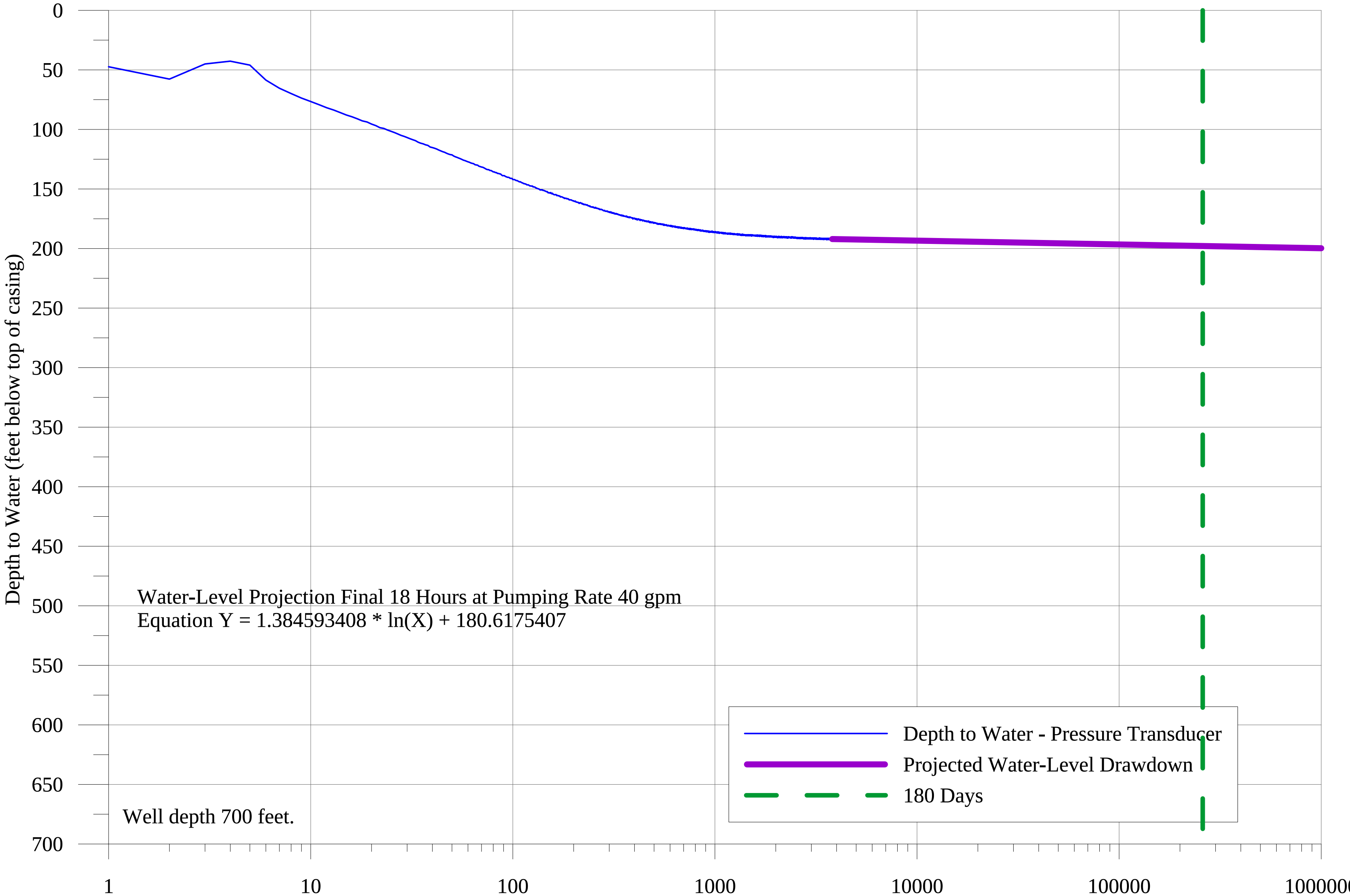
180-Day Water-Level Drawdown Projection For Well 8 From 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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Summary of Water-Level Measurements Collected from Well 8 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
2/25/2021	20:00	33.91	--	--	Pressure transducer installed.
2/26/2021	0:00	34.01	--	--	
2/26/2021	4:00	33.60	--	--	
2/26/2021	8:00	33.74	--	--	
2/26/2021	12:00	33.12	--	--	
2/26/2021	16:00	33.07	--	--	
2/26/2021	20:00	33.11	--	--	
2/27/2021	0:00	33.09	--	--	
2/27/2021	4:00	32.68	--	--	
2/27/2021	8:00	32.58	--	--	
2/27/2021	12:00	32.52	--	--	
2/27/2021	16:00	32.29	--	--	
2/27/2021	20:00	32.18	--	--	
2/28/2021	0:00	32.14	--	--	
2/28/2021	4:00	31.76	--	--	
2/28/2021	8:00	31.51	--	--	
2/28/2021	12:00	31.44	--	--	
2/28/2021	16:00	31.15	--	--	
2/28/2021	20:00	31.02	--	--	
3/1/2021	0:00	31.06	--	--	
3/1/2021	4:00	30.77	--	--	
3/1/2021	8:00	30.51	--	--	
3/1/2021	10:00	30.43	--	--	Static level prior to the start of pumping test.
3/1/2021	12:00	31.11	--	--	
3/1/2021	14:00	31.40	--	--	
3/1/2021	14:59	34.17	--	--	
3/1/2021	15:26	47.36	1	16.93	Start of pump in Well 8.
3/1/2021	15:27	57.72	2	27.29	Pumping rate adjusted to 42 gpm.
3/1/2021	15:28	45.01	3	14.58	
3/1/2021	15:29	42.67	4	12.24	
3/1/2021	15:30	45.98	5	15.55	
3/1/2021	15:31	58.54	6	28.11	Pumping rate 42 gpm.
3/1/2021	15:32	65.39	7	34.96	
3/1/2021	15:33	69.86	8	39.43	
3/1/2021	15:34	73.65	9	43.22	
3/1/2021	15:35	76.54	10	46.11	Pumping rate 42 gpm.
3/1/2021	15:36	79.22	11	48.79	
3/1/2021	15:37	81.77	12	51.34	
3/1/2021	15:38	83.71	13	53.28	
3/1/2021	15:39	85.84	14	55.41	
3/1/2021	15:40	87.86	15	57.43	Pumping rate 42 gpm.
3/1/2021	15:45	95.49	20	65.06	
3/1/2021	15:50	101.59	25	71.16	Pumping rate 42 gpm.
3/1/2021	15:55	106.80	30	76.37	
3/1/2021	16:00	111.54	35	81.11	Pumping rate 42 gpm.
3/1/2021	16:05	115.22	40	84.79	
3/1/2021	16:10	118.68	45	88.25	Pumping rate 42 gpm.
3/1/2021	16:15	121.33	50	90.90	
3/1/2021	16:20	124.57	55	94.14	Pumping rate 42 gpm.
3/1/2021	16:25	127.18	60	96.75	
3/1/2021	17:00	140.18	95	109.75	Pumping rate 42 gpm.
3/1/2021	18:00	153.73	155	123.30	Pumping rate 41.5 gpm

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Summary of Water-Level Measurements Collected from Well 8 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/1/2021	19:00	161.73	215	131.30	Pumping rate 41.5 gpm
3/1/2021	20:00	167.18	275	136.75	Pumping rate 41.5 gpm
3/1/2021	21:00	171.51	335	141.08	Pumping rate 41.5 gpm
3/1/2021	22:00	174.65	395	144.22	Pumping rate 40.5 gpm
3/1/2021	23:00	177.08	455	146.65	Pumping rate 40.5 gpm
3/2/2021	0:00	179.19	515	148.76	Pumping rate 40.2 gpm
3/2/2021	1:00	180.46	575	150.03	Pumping rate 40.2 gpm
3/2/2021	2:00	182.05	635	151.62	Pumping rate 40.2 gpm
3/2/2021	3:00	182.73	695	152.30	Pumping rate 40.2 gpm
3/2/2021	4:00	183.64	755	153.21	Pumping rate 40.2 gpm
3/2/2021	5:00	184.15	815	153.72	Pumping rate 40.2 gpm
3/2/2021	6:00	185.16	875	154.73	Pumping rate 40.2 gpm
3/2/2021	7:00	185.75	935	155.32	Pumping rate 40.2 gpm
3/2/2021	8:00	186.14	995	155.71	Pumping rate 40 gpm.
3/2/2021	9:00	186.55	1055	156.12	Pumping rate 40 gpm.
3/2/2021	10:00	186.82	1115	156.39	Pumping rate 40 gpm.
3/2/2021	11:00	187.62	1175	157.19	Pumping rate 40 gpm.
3/2/2021	12:00	187.94	1235	157.51	Pumping rate 40 gpm.
3/2/2021	13:00	187.54	1295	157.11	Pumping rate 40 gpm.
3/2/2021	14:00	188.35	1355	157.92	Pumping rate 40 gpm.
3/2/2021	15:00	189.03	1415	158.60	Pumping rate 40 gpm.
3/2/2021	16:00	189.28	1475	158.85	Pumping rate 40 gpm.
3/2/2021	17:00	189.23	1535	158.80	Pumping rate 40 gpm.
3/2/2021	18:00	189.46	1595	159.03	Pumping rate 40 gpm.
3/2/2021	19:00	189.31	1655	158.88	Pumping rate 40 gpm.
3/2/2021	20:00	189.01	1715	158.58	Pumping rate 40 gpm.
3/2/2021	21:00	189.70	1775	159.27	Pumping rate 40 gpm.
3/2/2021	22:00	189.54	1835	159.11	Pumping rate 40 gpm.
3/2/2021	23:00	189.74	1895	159.31	Pumping rate 40 gpm.
3/3/2021	0:00	190.22	1955	159.79	Pumping rate 40 gpm.
3/3/2021	1:00	190.27	2015	159.84	Pumping rate 40 gpm.
3/3/2021	2:00	190.43	2075	160.00	Pumping rate 40 gpm.
3/3/2021	3:00	190.83	2135	160.40	Pumping rate 40 gpm.
3/3/2021	4:00	190.30	2195	159.87	Pumping rate 40 gpm.
3/3/2021	5:00	190.95	2255	160.52	Pumping rate 40 gpm.
3/3/2021	6:00	190.86	2315	160.43	Pumping rate 40 gpm.
3/3/2021	7:00	190.72	2375	160.29	Pumping rate 40 gpm.
3/3/2021	8:00	190.75	2435	160.32	Pumping rate 40 gpm.
3/3/2021	9:00	191.23	2495	160.80	Pumping rate 40 gpm.
3/3/2021	10:00	190.94	2555	160.51	Pumping rate 40 gpm.
3/3/2021	11:00	191.24	2615	160.81	Pumping rate 40 gpm.
3/3/2021	12:00	191.01	2675	160.58	Pumping rate 40 gpm.
3/3/2021	13:00	191.01	2735	160.58	Pumping rate 40 gpm.
3/3/2021	14:00	191.39	2795	160.96	Pumping rate 40 gpm.
3/3/2021	15:00	191.52	2855	161.09	Pumping rate 40 gpm.
3/3/2021	16:00	191.90	2915	161.47	Pumping rate 40 gpm.
3/3/2021	17:00	191.56	2975	161.13	Pumping rate 40 gpm.
3/3/2021	18:00	191.37	3035	160.94	Pumping rate 40 gpm.
3/3/2021	19:00	191.53	3095	161.10	Pumping rate 40 gpm.
3/3/2021	20:00	191.62	3155	161.19	Pumping rate 40 gpm.
3/3/2021	21:00	191.41	3215	160.98	Pumping rate 40 gpm.
3/3/2021	22:00	191.86	3275	161.43	Pumping rate 40 gpm.

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Summary of Water-Level Measurements Collected from Well 8 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/3/2021	23:00	191.90	3335	161.47	Pumping rate 40 gpm.
3/4/2021	0:00	191.89	3395	161.46	Pumping rate 40 gpm.
3/4/2021	1:00	192.01	3455	161.58	Pumping rate 40 gpm.
3/4/2021	2:00	191.88	3515	161.45	Pumping rate 40 gpm.
3/4/2021	3:00	191.58	3575	161.15	Pumping rate 40 gpm.
3/4/2021	4:00	191.58	3635	161.15	Pumping rate 40 gpm.
3/4/2021	5:00	191.89	3695	161.46	Pumping rate 40 gpm.
3/4/2021	6:00	192.28	3755	161.85	Pumping rate 40 gpm.
3/4/2021	7:00	192.15	3815	161.72	Pumping rate 40 gpm.
3/4/2021	8:00	191.78	3875	161.35	Pumping rate 40 gpm.
3/4/2021	9:00	192.22	3935	161.79	Pumping rate 40 gpm.
3/4/2021	10:00	192.01	3995	161.58	Pumping rate 40 gpm.
3/4/2021	11:00	192.61	4055	162.18	Part 5 sample collection.
3/4/2021	12:00	192.20	4115	161.77	Pumping rate 40 gpm.
3/4/2021	13:00	192.24	4175	161.81	Pumping rate 40 gpm.
3/4/2021	14:00	191.96	4235	161.53	Pumping rate 40 gpm.
3/4/2021	15:00	192.54	4295	162.11	Six hours prior to end of test.
3/4/2021	16:00	192.47	4355	162.04	Pumping rate 40 gpm.
3/4/2021	17:00	192.56	4415	162.13	Pumping rate 40 gpm.
3/4/2021	18:00	192.45	4475	162.02	Pumping rate 40 gpm.
3/4/2021	19:00	192.23	4535	161.80	Pumping rate 40 gpm.
3/4/2021	20:00	192.16	4595	161.73	Pumping rate 40 gpm.
3/4/2021	21:00	192.13	4655	161.70	End of combined 72-hour well test.
3/4/2021	21:50	170.28	-1	139.85	Pump in Well 8 shut down.
3/4/2021	21:51	163.91	-2	133.48	
3/4/2021	21:52	160.68	-3	130.25	
3/4/2021	21:53	157.41	-4	126.98	
3/4/2021	21:54	154.49	-5	124.06	
3/4/2021	21:55	151.82	-6	121.39	
3/4/2021	21:56	149.35	-7	118.92	
3/4/2021	21:57	147.12	-8	116.69	
3/4/2021	21:58	145.03	-9	114.60	
3/4/2021	21:59	143.10	-10	112.67	
3/4/2021	22:00	141.23	-11	110.80	
3/4/2021	22:01	139.43	-12	109.00	
3/4/2021	22:02	137.81	-13	107.38	
3/4/2021	22:03	136.25	-14	105.82	
3/4/2021	22:04	134.75	-15	104.32	
3/4/2021	22:09	128.16	-20	97.73	
3/4/2021	22:14	122.65	-25	92.22	
3/4/2021	22:19	117.93	-30	87.50	
3/4/2021	22:24	113.88	-35	83.45	
3/4/2021	22:29	110.26	-40	79.83	
3/4/2021	22:34	107.02	-45	76.59	
3/4/2021	22:39	104.16	-50	73.73	
3/4/2021	22:44	101.48	-55	71.05	
3/4/2021	22:49	99.10	-60	68.67	
3/4/2021	23:00	94.35	-71	63.92	
3/5/2021	0:00	77.94	-131	47.51	
3/5/2021	1:00	68.59	-191	38.16	
3/5/2021	2:00	62.41	-251	31.98	
3/5/2021	3:00	57.87	-311	27.44	

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Summary of Water-Level Measurements Collected from Well 8 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Elapsed Time (minutes)	Drawdown (feet)	Comments
3/5/2021	4:00	54.62	-371	24.19	
3/5/2021	5:00	52.06	-431	21.63	
3/5/2021	6:00	49.66	-491	19.23	
3/5/2021	7:00	47.74	-551	17.31	
3/5/2021	7:41	46.57	-592	16.14	90% recovery to pre-test static
3/5/2021	8:00	46.15	-611	15.72	
3/5/2021	12:00	41.69	-851	11.26	
3/5/2021	16:00	39.22	-1091	8.79	
3/5/2021	20:00	37.49	-1331	7.06	
3/6/2021	0:00	36.33	-1571	5.90	
3/6/2021	4:00	35.57	-1811	5.14	
3/6/2021	8:00	34.95	-2051	4.52	
3/6/2021	12:00	34.49	-2291	4.06	
3/6/2021	16:00	34.19	-2531	3.76	
3/6/2021	20:00	33.98	-2771	3.55	
3/7/2021	0:00	33.57	-3011	3.14	
3/7/2021	4:00	33.39	-3251	2.96	
3/7/2021	8:00	33.33	-3491	2.90	
3/7/2021	12:00	33.25	-3731	2.82	
3/7/2021	16:00	33.19	-3971	2.76	
3/7/2021	20:00	33.14	-4211	2.71	
3/8/2021	0:00	32.99	-4451	2.56	
3/8/2021	4:00	32.84	-4691	2.41	
3/8/2021	8:00	32.88	-4931	2.45	Pressure transducer removed from well.

ft btoc feet below top of casing
gpm gallons per minute

APPENDIX II

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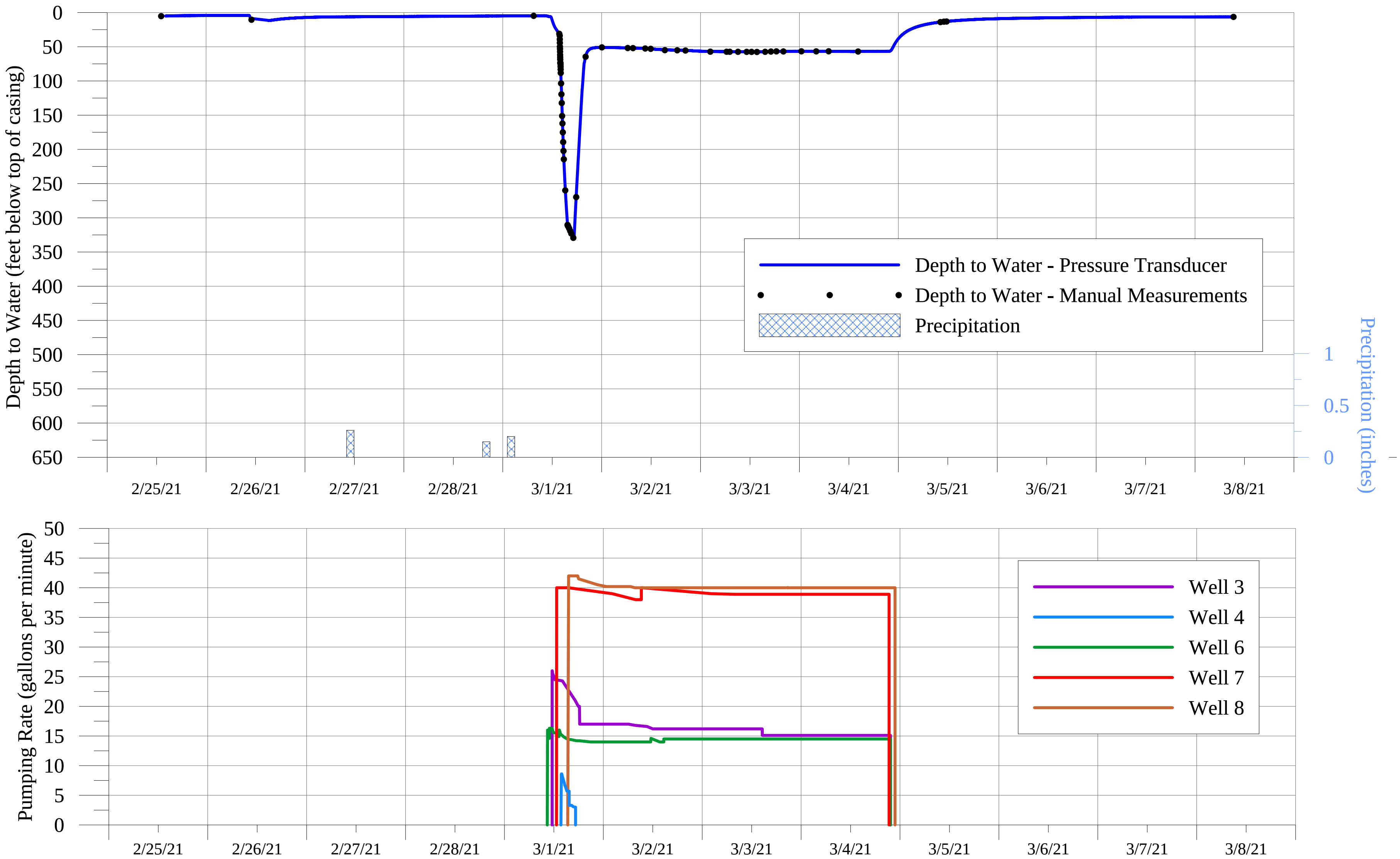
Hydrograph of Water-Level Measurements Collected from Well 4 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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Summary of Water-Level Measurements Collected from Well 4 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Comments
2/25/2021	16:00	4.78	
2/25/2021	20:00	4.51	
2/26/2021	0:00	4.33	
2/26/2021	4:00	4.19	
2/26/2021	8:00	4.14	
2/26/2021	16:00	11.17	Pump was checked in Well 3.
2/26/2021	20:00	8.52	
2/27/2021	0:00	7.20	
2/27/2021	4:00	6.60	
2/27/2021	8:00	6.44	
2/27/2021	12:00	6.24	
2/27/2021	16:00	6.01	
2/27/2021	20:00	5.81	
2/28/2021	0:00	5.81	
2/28/2021	4:00	5.64	
2/28/2021	8:00	5.55	
2/28/2021	12:00	5.45	
2/28/2021	16:00	5.23	
2/28/2021	20:00	5.04	
3/1/2021	0:00	4.97	
3/1/2021	4:00	4.87	
3/1/2021	8:00	4.71	
3/1/2021	10:00	4.61	Static level prior to the start of pumping test.
3/1/2021	12:00	11.75	Pump in Well 3 started at 11:35.
3/1/2021	13:00	25.03	Pump in Well 7 started at 12:39.
3/1/2021	13:48	31.69	
3/1/2021	13:49	34.97	Pump in Well 4 started.
3/1/2021	13:50	40.89	Pumping rate adjusted to 8.6 gpm.
3/1/2021	13:51	46.24	
3/1/2021	13:52	51.08	
3/1/2021	13:53	55.74	
3/1/2021	13:54	59.87	
3/1/2021	13:55	63.92	Pumping rate 8.6 gpm.
3/1/2021	13:56	67.64	
3/1/2021	13:57	71.06	
3/1/2021	13:58	73.53	
3/1/2021	13:59	73.53	
3/1/2021	14:00	74.70	Pumping rate 8.4 gpm.
3/1/2021	14:05	90.38	Pumping rate 8.2 gpm
3/1/2021	14:10	105.09	Pumping rate 8 gpm.
3/1/2021	14:15	118.28	Pumping rate 7.8 gpm.
3/1/2021	14:20	134.10	Pumping rate 7.6 gpm.
3/1/2021	14:25	150.33	
3/1/2021	14:30	165.35	Pumping rate 7.2 gpm.
3/1/2021	14:35	179.71	Pumping rate 7 gpm.
3/1/2021	14:40	193.50	Pumping rate 6.7 gpm.
3/1/2021	14:45	206.37	Pumping rate 6.6 gpm.
3/1/2021	15:00	240.24	Pumping rate 5.7 gpm.
3/1/2021	15:40	306.89	Pumping rate manually reduced to 3.3 gpm at 15:43
3/1/2021	16:00	313.75	Pumping rate 3.3 gpm.
3/1/2021	16:20	318.30	Pumping rate 3.3 gpm.
3/1/2021	16:40	322.69	Pumping rate 3.1 gpm.
3/1/2021	17:00	327.25	Pumping rate 3 gpm.
3/1/2021	17:15	330.64	Pumping rate 3 gpm.

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Summary of Water-Level Measurements Collected from Well 4 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Comments
3/1/2021	17:16	330.87	Pump in Well 4 shut down.
3/1/2021	17:20	323.96	
3/1/2021	17:40	284.42	
3/1/2021	18:00	247.20	
3/1/2021	19:00	138.11	
3/1/2021	20:00	66.51	
3/1/2021	21:00	53.97	
3/1/2021	22:00	51.66	
3/1/2021	23:00	51.11	
3/2/2021	0:00	50.92	
3/2/2021	4:00	51.34	
3/2/2021	8:00	51.93	
3/2/2021	12:00	53.16	
3/2/2021	16:00	54.55	
3/2/2021	20:00	55.33	
3/3/2021	0:00	56.47	
3/3/2021	4:00	56.97	
3/3/2021	8:00	57.15	
3/3/2021	12:00	57.42	
3/3/2021	16:00	57.09	
3/3/2021	20:00	56.65	
3/4/2021	0:00	56.58	
3/4/2021	4:00	56.54	
3/4/2021	8:00	56.62	
3/4/2021	12:00	56.85	
3/4/2021	16:00	56.63	
3/4/2021	20:00	56.62	
3/4/2021	21:00	56.56	End of combined 72-hour well test.
3/5/2021	0:00	38.15	
3/5/2021	4:00	21.91	
3/5/2021	8:00	15.82	
3/5/2021	12:00	12.76	
3/5/2021	16:00	10.99	
3/5/2021	20:00	9.84	
3/6/2021	0:00	9.01	
3/6/2021	4:00	8.56	
3/6/2021	8:00	8.05	
3/6/2021	12:00	7.73	
3/6/2021	16:00	7.51	
3/6/2021	20:00	7.31	
3/7/2021	0:00	7.01	
3/7/2021	4:00	6.75	
3/7/2021	8:00	6.79	
3/7/2021	12:00	6.52	
3/7/2021	16:00	6.50	
3/7/2021	20:00	6.47	
3/8/2021	0:00	6.45	
3/8/2021	4:00	6.28	
3/8/2021	8:00	6.24	Transducer removed from well.

ft btoc feet below top of casing
gpm gallons per minute

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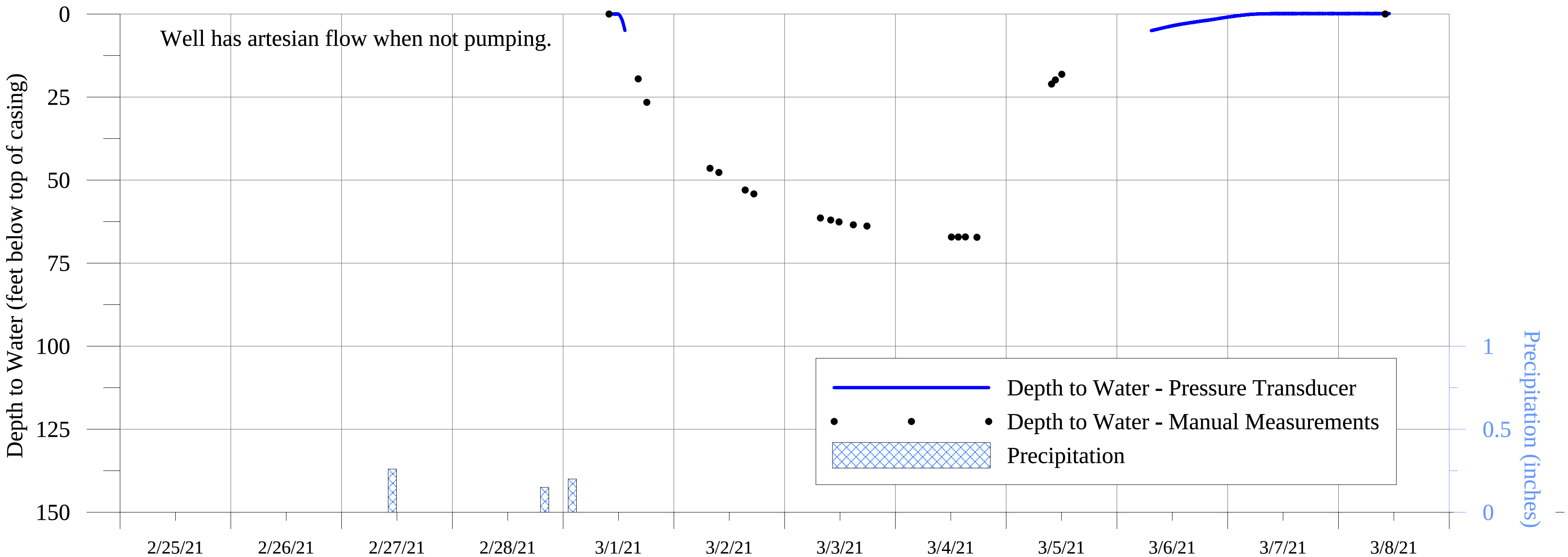
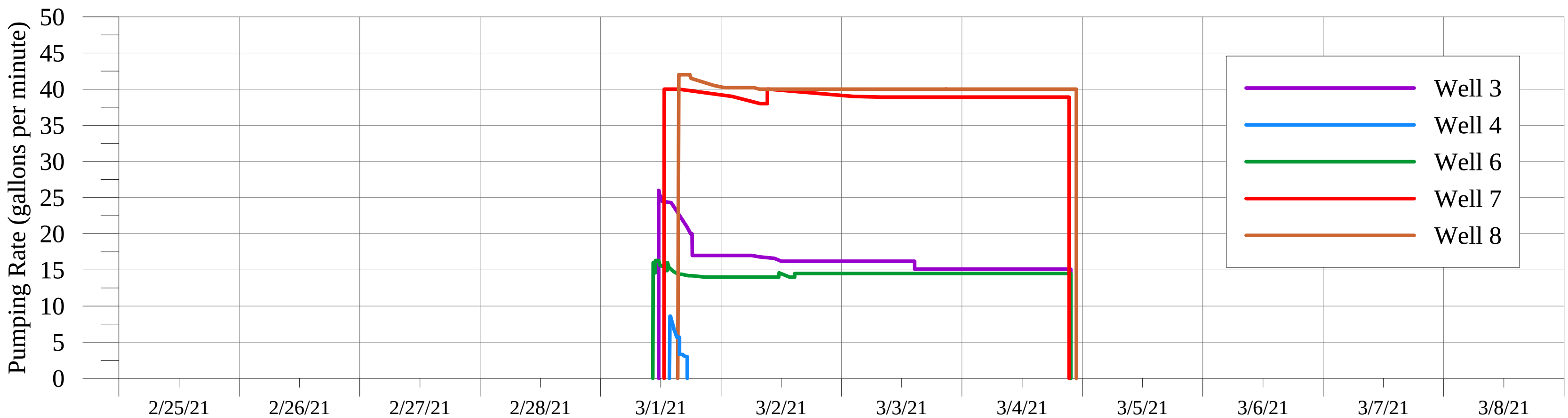
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Well 5 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021





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Summary of Water-Level Measurements Collected from Well 5 During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water (ft btoc)	Comments
3/1/2021	10:00	0.00	Artesian well.
3/1/2021	11:00	0.00	Well 6 started at 10:24.
3/1/2021	11:35	0.00	Well 3 started at 11:35.
3/1/2021	12:00	0.03	
3/1/2021	12:39	1.40	Well 7 started at 12:39.
3/1/2021	13:00	2.82	
3/1/2021	13:30	5.28	Water level declined below pressure transducer.
3/1/2021	16:16	19.52	Well 4 started at 13:49. Well 8 started at 15:26.
3/1/2021	18:08	26.58	
3/2/2021	7:50	46.45	
3/2/2021	9:45	47.70	
3/2/2021	15:27	52.99	
3/2/2021	17:20	54.16	
3/3/2021	7:45	61.41	
3/3/2021	9:59	62.02	
3/3/2021	11:47	62.59	
3/3/2021	14:53	63.46	
3/3/2021	17:50	63.83	
3/4/2021	12:08	67.14	
3/4/2021	13:37	67.14	
3/4/2021	15:10	67.11	
3/4/2021	17:40	67.21	
3/5/2021	9:50	21.08	
3/5/2021	10:40	19.83	
3/5/2021	12:03	18.13	
3/6/2021	7:00	5.15	
3/6/2021	8:00	4.81	
3/6/2021	12:00	3.54	
3/6/2021	16:00	2.60	
3/6/2021	20:00	1.79	
3/7/2021	0:00	0.93	
3/7/2021	4:00	0.22	
3/7/2021	8:00	0.00	
3/7/2021	12:00	0.00	
3/7/2021	16:00	0.00	
3/7/2021	20:00	0.00	
3/8/2021	0:00	0.00	
3/8/2021	4:00	0.00	
3/8/2021	8:00	0.00	Pressure transducer removed.

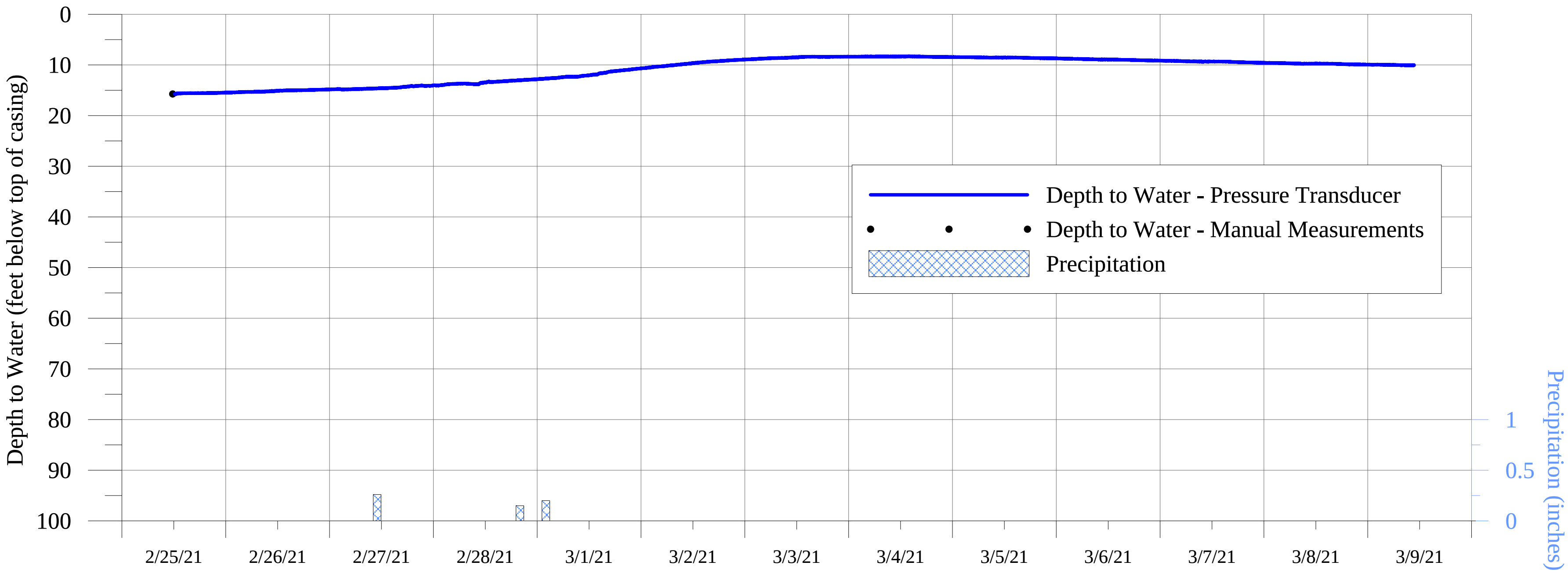
ft btoc feet below top of casing

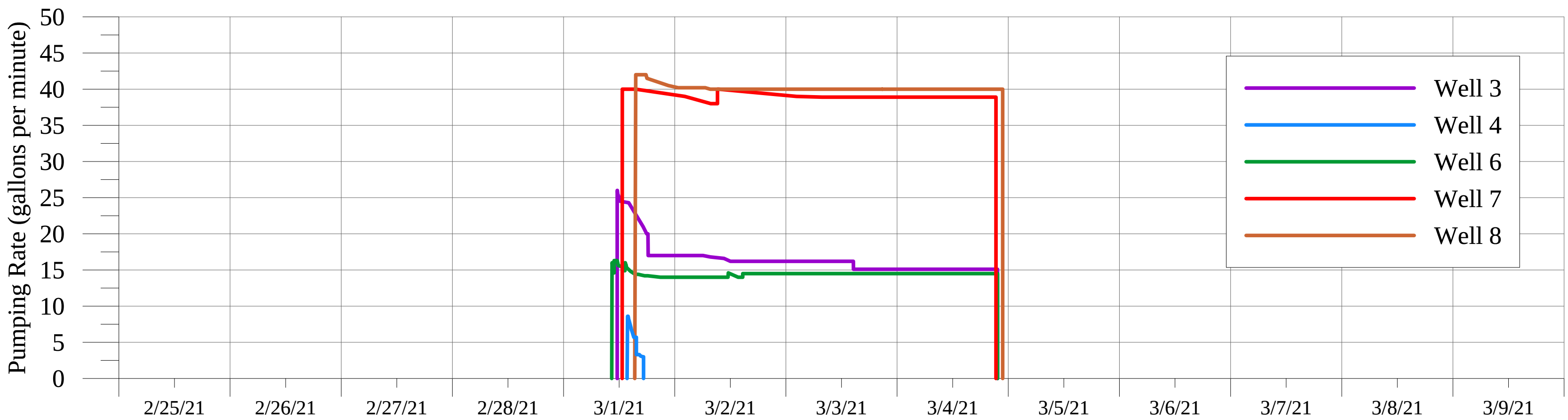
K:\Jobs\MBIA Property North Castle\2021 72-Hour Pumping Test\Report\Well 5 WL table.doc

APPENDIX III

113 KING STREET
NORTH CASTLE, NEW YORK

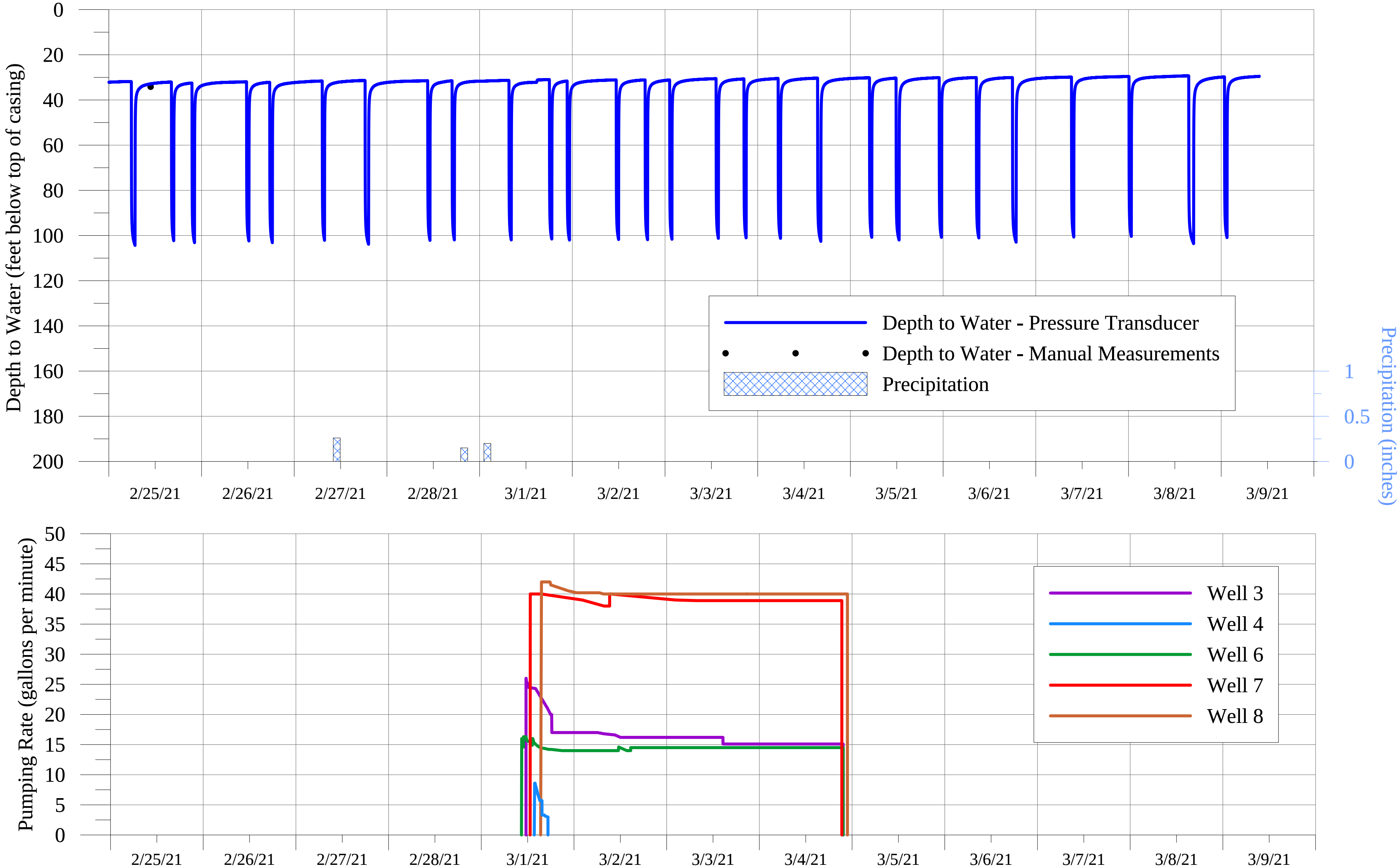
Hydrograph of Water-Level Measurements Collected from SwissRe Well 1 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021





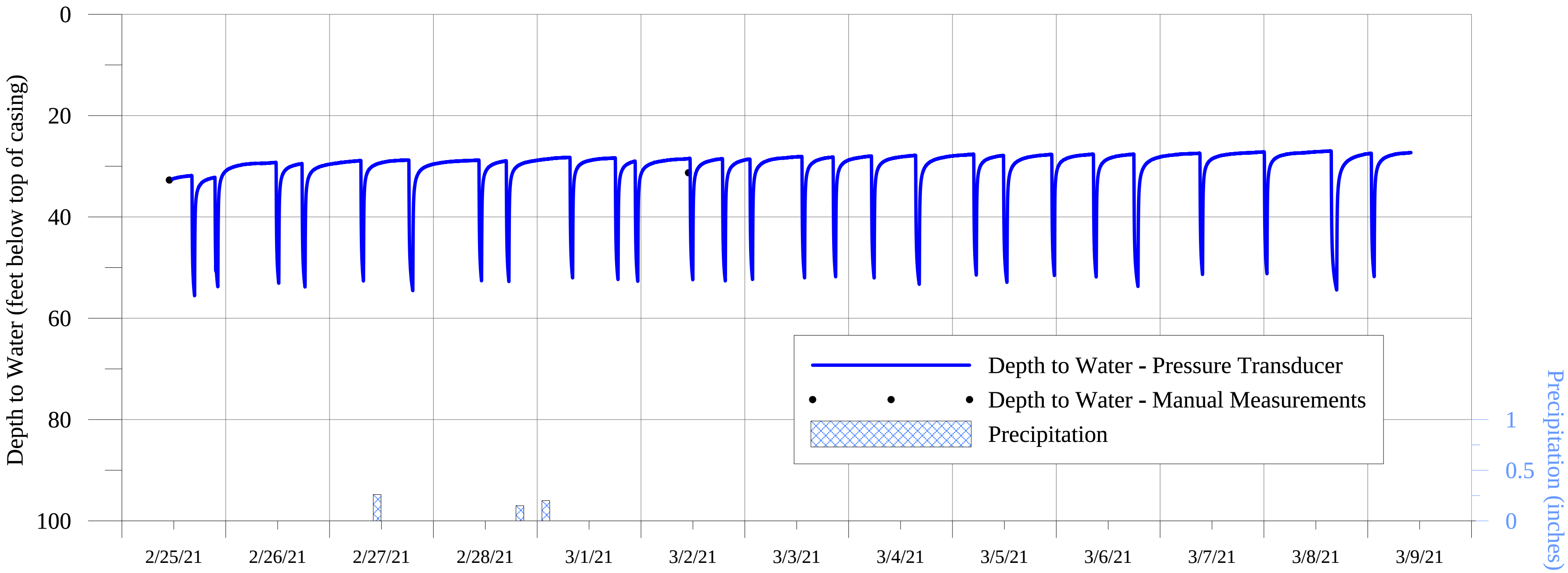
113 KING STREET
NORTH CASTLE, NEW YORK

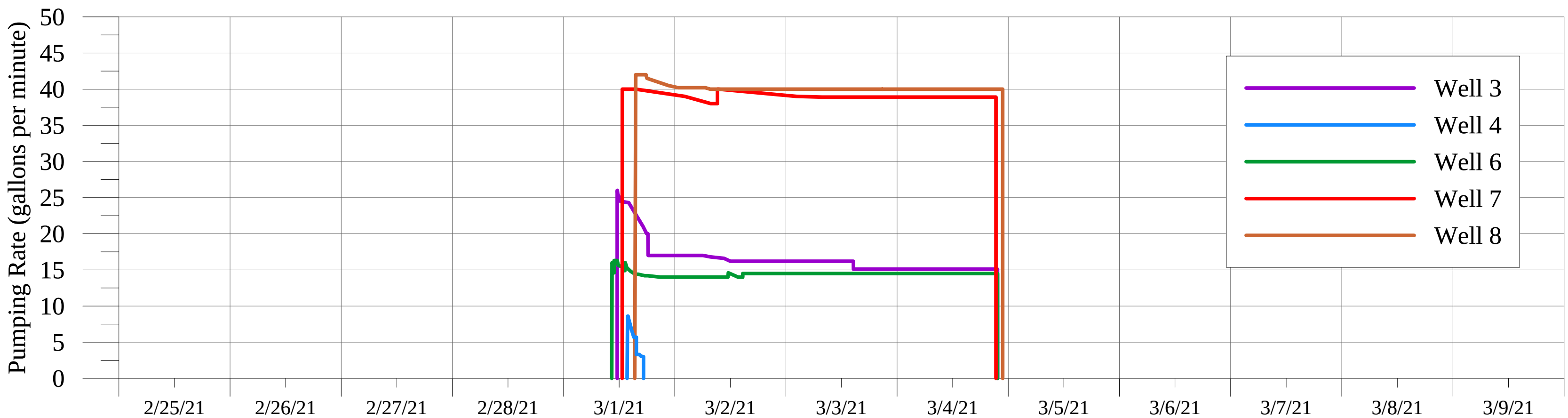
Hydrograph of Water-Level Measurements Collected from SwissRe Well 2 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from SwissRe Well 3 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021





113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the SwissRe Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	SwissRe Well 1 Depth to Water (ft btoc)	SwissRe Well 2 Depth to Water (ft btoc)	SwissRe Well 3 Depth to Water (ft btoc)
2/25/2021	16:00	15.59	35.04	31.85
2/25/2021	20:00	15.52	33.86	32.54
2/26/2021	0:00	15.48	101.72	30.95
2/26/2021	4:00	15.34	33.68	29.68
2/26/2021	8:00	15.29	33.22	29.43
2/26/2021	12:00	15.13	32.99	50.65
2/26/2021	16:00	14.99	34.07	29.80
2/26/2021	20:00	14.95	33.06	30.95
2/27/2021	0:00	14.83	34.55	29.59
2/27/2021	4:00	14.81	33.17	29.10
2/27/2021	8:00	14.69	32.82	35.84
2/27/2021	12:00	14.60	32.71	29.31
2/27/2021	16:00	14.48	33.42	28.85
2/27/2021	20:00	14.14	32.80	32.42
2/28/2021	0:00	14.05	32.66	29.61
2/28/2021	4:00	13.79	34.95	29.10
2/28/2021	8:00	13.72	33.19	28.92
2/28/2021	12:00	13.52	32.87	31.23
2/28/2021	16:00	13.26	32.66	29.08
2/28/2021	20:00	13.01	33.49	29.68
3/1/2021	0:00	12.82	32.80	28.85
3/1/2021	4:00	12.59	32.48	28.41
3/1/2021	8:00	12.36	32.27	50.44
3/1/2021	12:00	12.04	32.89	28.92
3/1/2021	16:00	11.53	33.89	28.46
3/1/2021	20:00	11.02	32.41	30.21
3/2/2021	0:00	10.70	32.11	31.55
3/2/2021	4:00	10.31	32.69	29.10
3/2/2021	8:00	10.01	32.09	28.66
3/2/2021	12:00	9.66	31.97	46.43
3/2/2021	16:00	9.36	33.72	28.90
3/2/2021	20:00	9.11	100.57	32.03
3/3/2021	0:00	8.88	32.69	28.73
3/3/2021	4:00	8.74	32.20	29.43
3/3/2021	8:00	8.63	32.02	28.41
3/3/2021	12:00	8.46	32.89	28.16
3/3/2021	16:00	8.37	101.06	29.13
3/3/2021	20:00	8.37	32.57	28.25
3/4/2021	0:00	8.35	32.99	28.78
3/4/2021	4:00	8.33	32.13	28.09
3/4/2021	8:00	8.35	31.88	29.13
3/4/2021	12:00	8.33	34.72	28.13
3/4/2021	16:00	8.33	32.59	51.11
3/4/2021	20:00	8.39	32.06	28.66
3/5/2021	0:00	8.46	32.80	27.97
3/5/2021	4:00	8.46	33.68	27.67
3/5/2021	8:00	8.51	32.41	28.60
3/5/2021	12:00	8.56	32.13	46.20
3/5/2021	16:00	8.56	99.90	28.62
3/5/2021	20:00	8.65	32.43	27.86
3/6/2021	0:00	8.72	33.65	31.48
3/6/2021	4:00	8.79	32.34	28.07
3/6/2021	8:00	8.90	31.81	27.67

113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the SwissRe Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	SwissRe Well 1 Depth to Water (ft btoc)	SwissRe Well 2 Depth to Water (ft btoc)	SwissRe Well 3 Depth to Water (ft btoc)
3/6/2021	12:00	8.95	39.17	28.55
3/6/2021	16:00	8.99	32.02	27.79
3/6/2021	20:00	9.09	31.49	30.56
3/7/2021	0:00	9.13	35.25	28.16
3/7/2021	4:00	9.20	32.25	27.70
3/7/2021	8:00	9.29	31.76	27.49
3/7/2021	12:00	9.32	31.60	28.55
3/7/2021	16:00	9.34	33.86	27.63
3/7/2021	20:00	9.50	31.63	27.35
3/8/2021	0:00	9.55	32.32	27.19
3/8/2021	4:00	9.62	31.67	27.88
3/8/2021	8:00	9.71	31.49	27.37
3/8/2021	12:00	9.71	100.25	27.14
3/8/2021	16:00	9.76	32.39	49.52
3/8/2021	20:00	9.87	31.12	28.62
3/9/2021	0:00	9.92	32.82	27.56
3/9/2021	4:00	9.96	34.19	28.30
3/9/2021	8:00	10.03	31.69	27.44

ft btoc feet below top of casing

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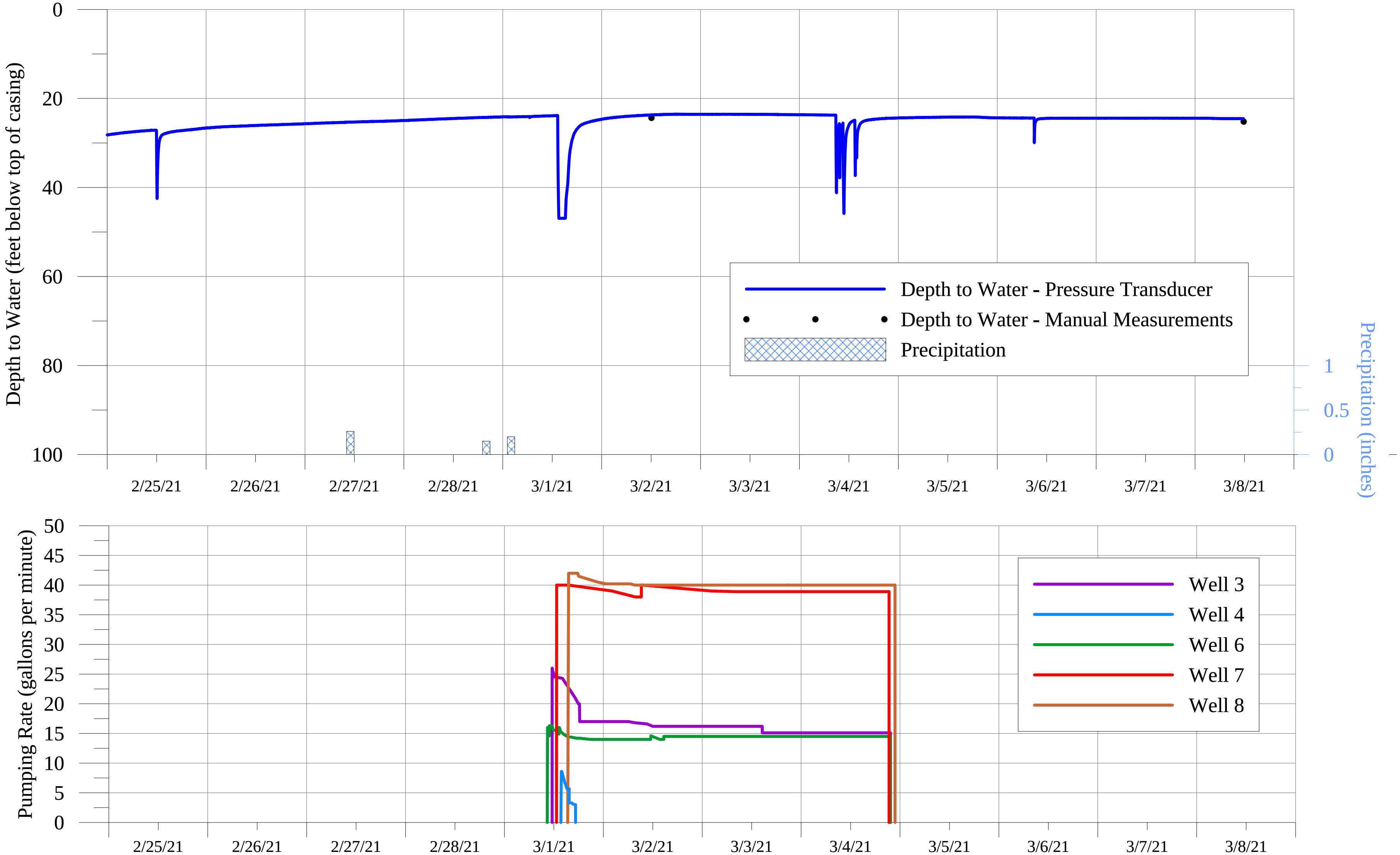
113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Citigroup Well 2 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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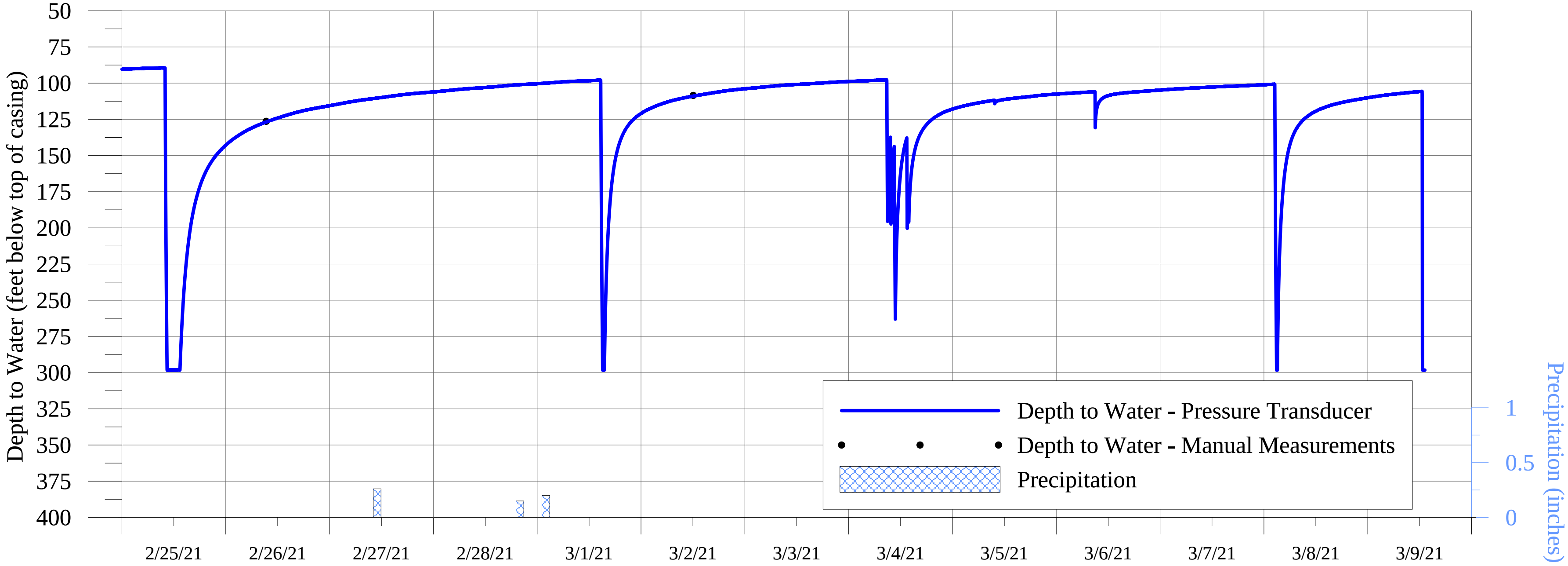
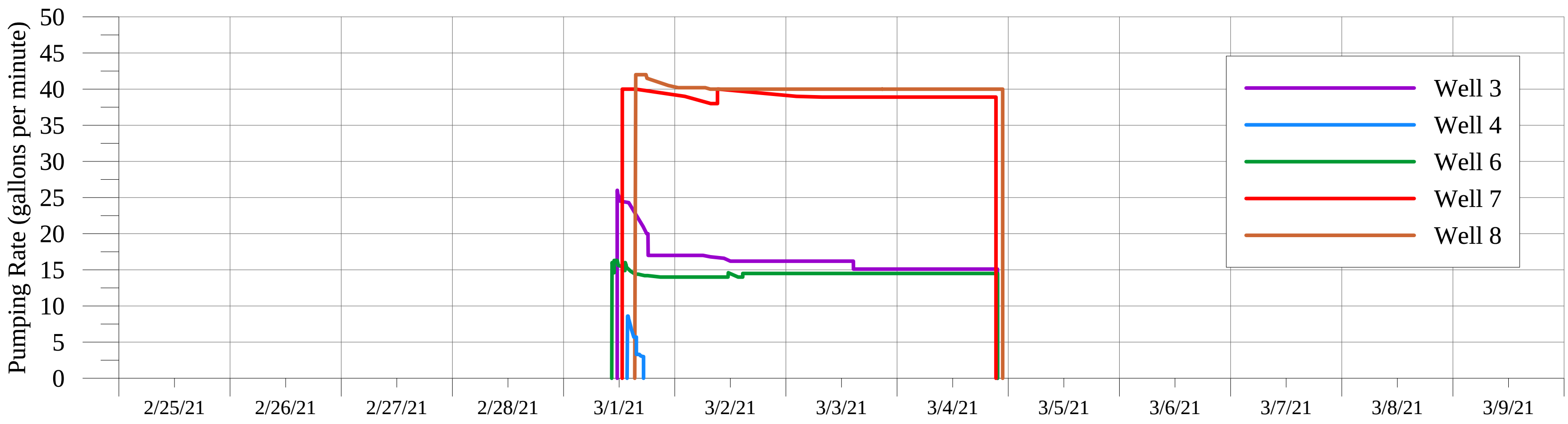
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Citigroup Well 8 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021





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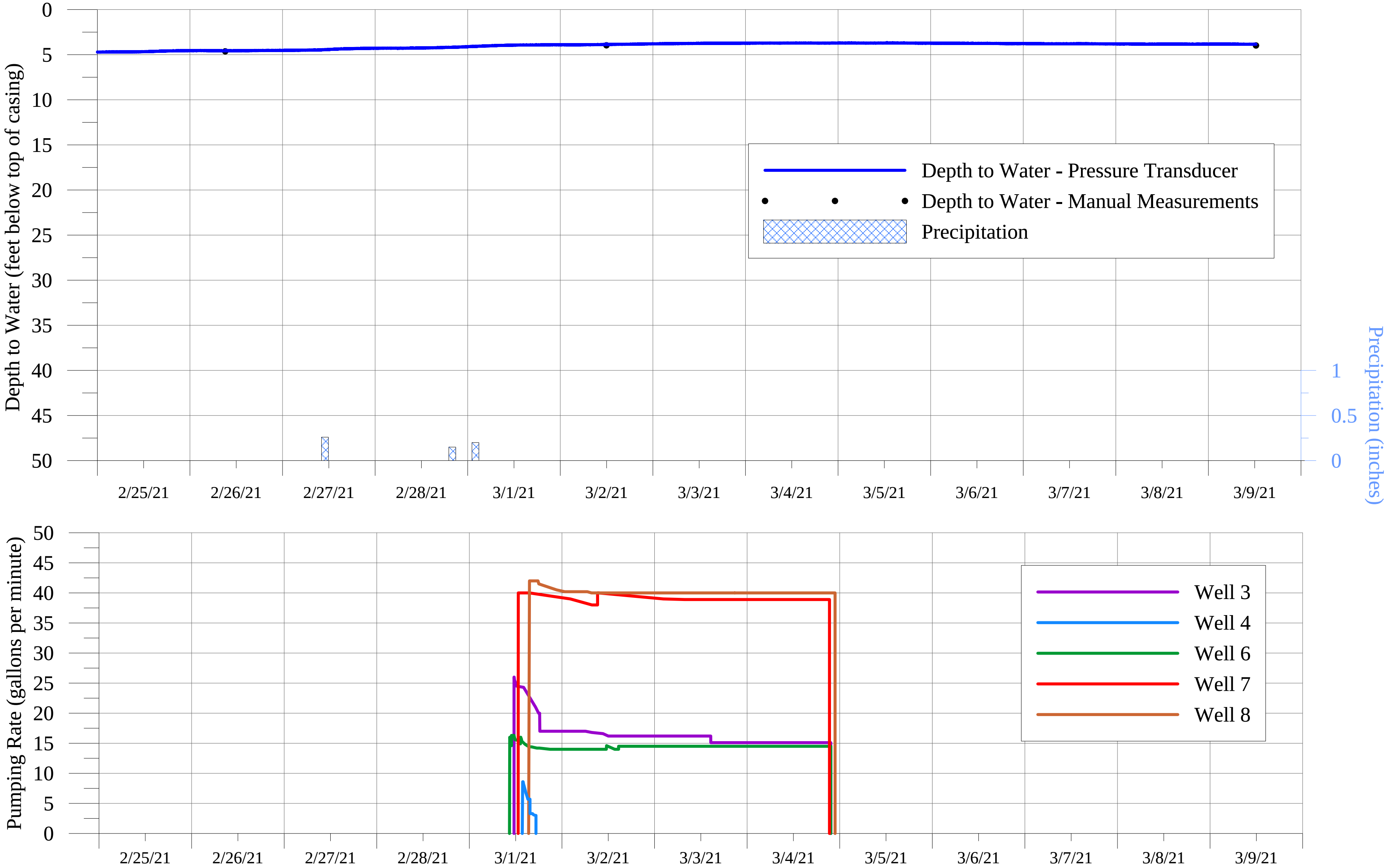
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Citigroup Well BOS 1 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



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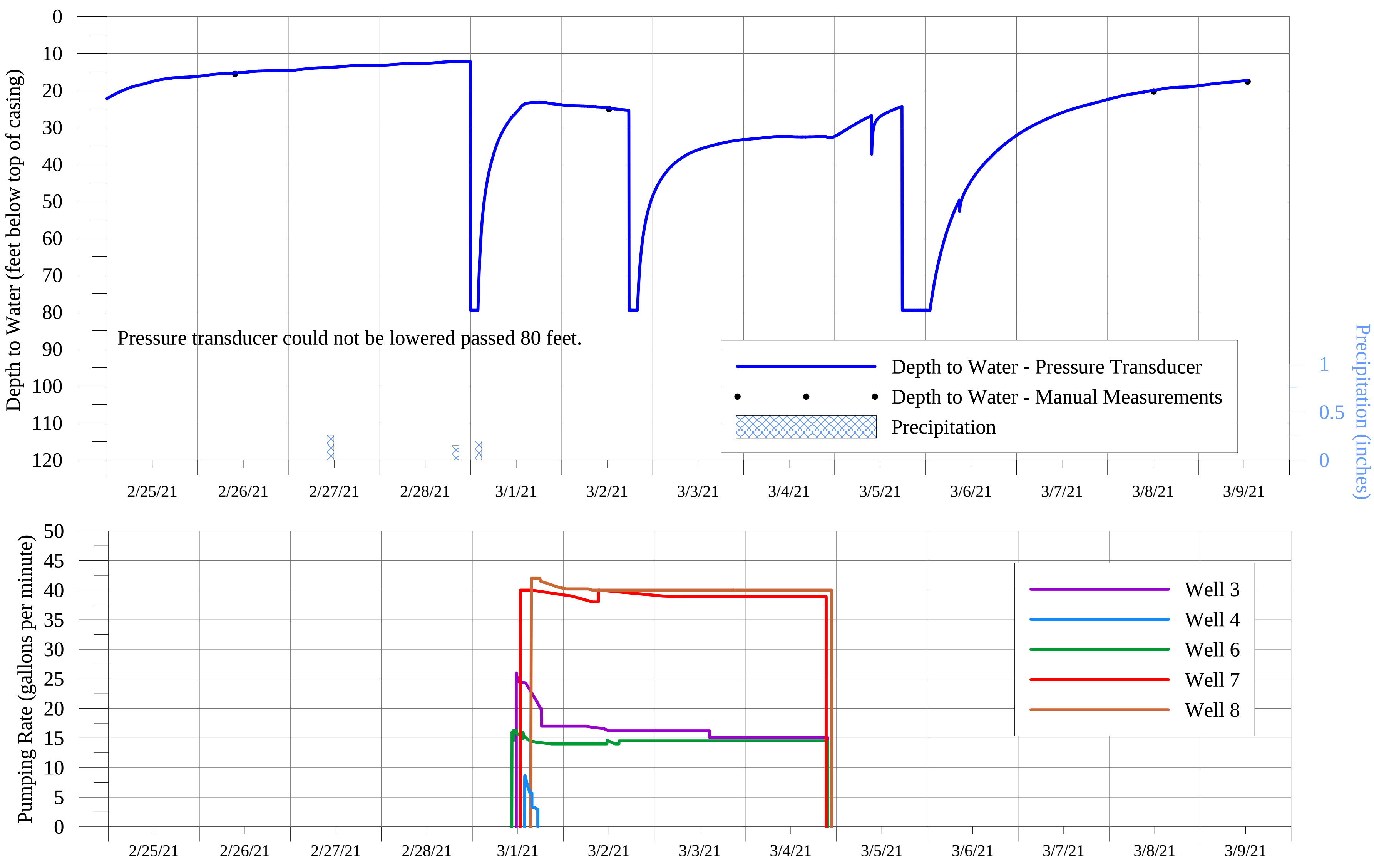
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Citigroup Well BOS 2 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the CitiGroup Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	Citi BOS-1 Depth to Water (ft btoc)	Citi BOS-2 Depth to Water (ft btoc)	Citi Well 2 Depth to Water (ft btoc)	Citi Well 8 Depth to Water (ft btoc)
2/17/2021	12:00	5.19	14.62	27.46	199.38
2/17/2021	16:00	5.16	14.90	27.39	147.57
2/17/2021	20:00	5.17	14.93	27.37	132.61
2/18/2021	0:00	5.15	14.91	27.32	124.96
2/18/2021	4:00	5.15	14.87	27.29	119.97
2/18/2021	8:00	5.14	14.72	27.25	116.31
2/18/2021	12:00	5.12	14.62	27.22	113.42
2/18/2021	16:00	5.14	14.57	27.19	111.22
2/18/2021	20:00	5.13	14.40	27.02	109.17
2/19/2021	0:00	5.14	79.49	27.06	107.38
2/19/2021	4:00	5.14	39.89	27.12	106.01
2/19/2021	8:00	5.16	30.40	27.12	104.71
2/19/2021	12:00	5.15	28.97	27.14	106.24
2/19/2021	16:00	5.14	24.96	27.06	104.17
2/19/2021	20:00	5.15	22.52	27.03	102.87
2/20/2021	0:00	5.16	20.76	26.99	101.78
2/20/2021	4:00	5.15	19.49	26.98	100.80
2/20/2021	8:00	5.19	18.49	26.97	99.97
2/20/2021	12:00	5.19	17.69	26.96	99.18
2/20/2021	16:00	5.18	17.11	26.90	98.52
2/20/2021	20:00	5.22	16.64	26.93	98.00
2/21/2021	0:00	5.23	16.14	26.95	97.33
2/21/2021	4:00	5.25	15.72	26.97	96.67
2/21/2021	8:00	5.27	15.39	26.98	96.14
2/21/2021	12:00	5.27	15.06	26.98	95.60
2/21/2021	16:00	5.27	14.84	26.96	95.19
2/21/2021	20:00	5.24	14.67	26.96	94.80
2/22/2021	0:00	5.25	14.38	26.92	94.23
2/22/2021	4:00	5.24	14.07	26.89	93.71
2/22/2021	8:00	5.22	13.86	46.93	115.57
2/22/2021	12:00	5.20	13.95	29.87	104.17
2/22/2021	16:00	5.16	13.77	46.93	100.47
2/22/2021	20:00	5.11	14.12	34.47	98.89
2/23/2021	0:00	5.09	13.98	29.52	97.49
2/23/2021	4:00	5.06	13.67	28.76	96.21
2/23/2021	8:00	5.05	13.50	28.26	95.27
2/23/2021	12:00	5.04	13.30	27.87	94.42
2/23/2021	16:00	5.03	13.11	27.61	93.65
2/23/2021	20:00	5.05	13.13	27.48	93.18
2/24/2021	0:00	5.04	13.04	27.38	92.65
2/24/2021	4:00	5.00	12.80	27.29	92.01
2/24/2021	8:00	5.02	79.49	27.28	91.53
2/24/2021	12:00	5.00	38.81	27.30	91.54
2/24/2021	16:00	4.92	29.47	33.82	90.92
2/24/2021	20:00	4.79	25.04	29.01	90.68
2/25/2021	0:00	4.71	22.25	28.18	90.42
2/25/2021	4:00	4.70	20.14	27.70	89.90
2/25/2021	8:00	4.69	18.71	27.34	89.51
2/25/2021	12:00	4.67	17.63	34.31	298.22
2/25/2021	16:00	4.62	16.83	27.46	196.59
2/25/2021	20:00	4.57	16.49	27.04	157.67
2/26/2021	0:00	4.55	16.23	26.64	142.82
2/26/2021	4:00	4.54	15.72	26.37	134.11

113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the CitiGroup Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	Citi BOS-1 Depth to Water (ft btoc)	Citi BOS-2 Depth to Water (ft btoc)	Citi Well 2 Depth to Water (ft btoc)	Citi Well 8 Depth to Water (ft btoc)
2/26/2021	8:00	4.57	15.40	26.22	128.35
2/26/2021	12:00	4.56	15.16	26.07	124.12
2/26/2021	16:00	4.53	14.80	25.94	120.48
2/26/2021	20:00	4.53	14.71	25.81	117.75
2/27/2021	0:00	4.52	14.66	25.68	115.59
2/27/2021	4:00	4.51	14.25	25.53	113.34
2/27/2021	8:00	4.50	13.93	25.41	111.49
2/27/2021	12:00	4.41	13.76	25.29	109.91
2/27/2021	16:00	4.35	13.40	25.18	108.28
2/27/2021	20:00	4.31	13.23	25.09	107.06
2/28/2021	0:00	4.29	13.25	24.95	106.06
2/28/2021	4:00	4.29	12.99	24.80	104.89
2/28/2021	8:00	4.29	12.76	24.65	103.82
2/28/2021	12:00	4.25	12.71	24.50	103.02
2/28/2021	16:00	4.23	12.44	24.37	102.02
2/28/2021	20:00	4.16	12.19	24.25	101.05
3/1/2021	0:00	4.10	79.49	24.14	100.41
3/1/2021	4:00	4.04	46.61	24.11	99.53
3/1/2021	8:00	3.98	31.93	24.00	98.77
3/1/2021	12:00	3.95	26.02	23.88	98.34
3/1/2021	16:00	3.92	23.34	35.15	231.48
3/1/2021	20:00	3.91	23.40	25.56	134.22
3/2/2021	0:00	3.90	23.95	24.67	120.94
3/2/2021	4:00	3.91	24.24	24.18	115.16
3/2/2021	8:00	3.89	24.38	23.89	111.46
3/2/2021	12:00	3.82	24.73	23.70	108.99
3/2/2021	16:00	3.83	25.25	23.58	106.95
3/2/2021	20:00	3.81	78.86	23.54	105.18
3/3/2021	0:00	3.80	48.65	23.56	103.92
3/3/2021	4:00	3.77	41.59	23.54	102.78
3/3/2021	8:00	3.77	38.07	23.55	101.71
3/3/2021	12:00	3.74	36.08	23.57	100.97
3/3/2021	16:00	3.73	34.87	23.59	100.20
3/3/2021	20:00	3.73	33.93	23.62	99.48
3/4/2021	0:00	3.73	33.35	23.65	98.87
3/4/2021	4:00	3.72	32.97	23.69	98.39
3/4/2021	8:00	3.72	32.58	23.74	97.79
3/4/2021	12:00	3.70	32.49	25.96	161.78
3/4/2021	16:00	3.71	32.61	24.98	138.96
3/4/2021	20:00	3.72	32.53	24.53	123.45
3/5/2021	0:00	3.70	32.50	24.37	117.90
3/5/2021	4:00	3.70	30.05	24.29	114.81
3/5/2021	8:00	3.70	27.72	24.24	112.56
3/5/2021	12:00	3.71	27.13	24.19	111.27
3/5/2021	16:00	3.70	25.06	24.17	109.87
3/5/2021	20:00	3.74	79.49	24.23	108.50
3/6/2021	0:00	3.74	79.49	24.36	107.55
3/6/2021	4:00	3.75	63.99	24.39	106.83
3/6/2021	8:00	3.74	51.72	24.40	106.11
3/6/2021	12:00	3.75	44.52	24.48	108.63
3/6/2021	16:00	3.76	39.27	24.44	106.64
3/6/2021	20:00	3.78	35.34	24.44	105.66
3/7/2021	0:00	3.77	32.20	24.43	104.76

113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the CitiGroup Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	Citi BOS-1 Depth to Water (ft btoc)	Citi BOS-2 Depth to Water (ft btoc)	Citi Well 2 Depth to Water (ft btoc)	Citi Well 8 Depth to Water (ft btoc)
3/7/2021	4:00	3.79	29.73	24.42	104.00
3/7/2021	8:00	3.80	27.74	24.44	103.31
3/7/2021	12:00	3.78	26.04	24.43	102.67
3/7/2021	16:00	3.77	24.69	24.42	102.12
3/7/2021	20:00	3.80	23.58	24.44	101.71
3/8/2021	0:00	3.81	22.49	24.45	101.14
3/8/2021	4:00	3.81	21.45	24.48	191.32
3/8/2021	8:00	3.82	20.72	24.54	129.20
3/8/2021	12:00	3.83	20.05	--	119.33
3/8/2021	16:00	3.80	19.39	--	114.83
3/8/2021	20:00	3.82	19.13	--	112.12
3/9/2021	0:00	3.83	18.77	--	110.04
3/9/2021	4:00	3.83	18.23	--	108.35
3/9/2021	8:00	3.84	17.84	--	106.99
3/9/2021	12:00	3.85	17.42	--	105.82

ft btoc feet below top of casing

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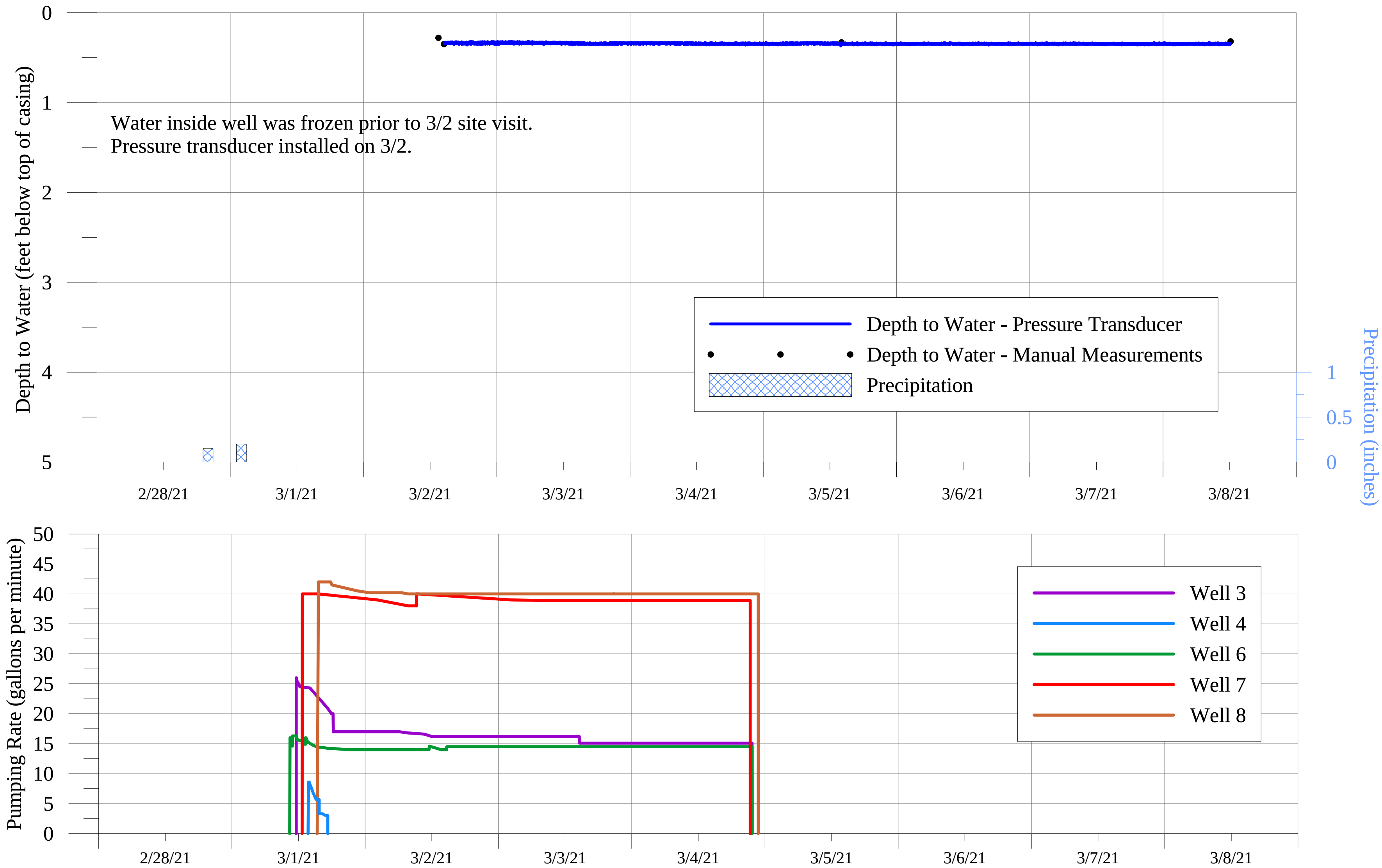
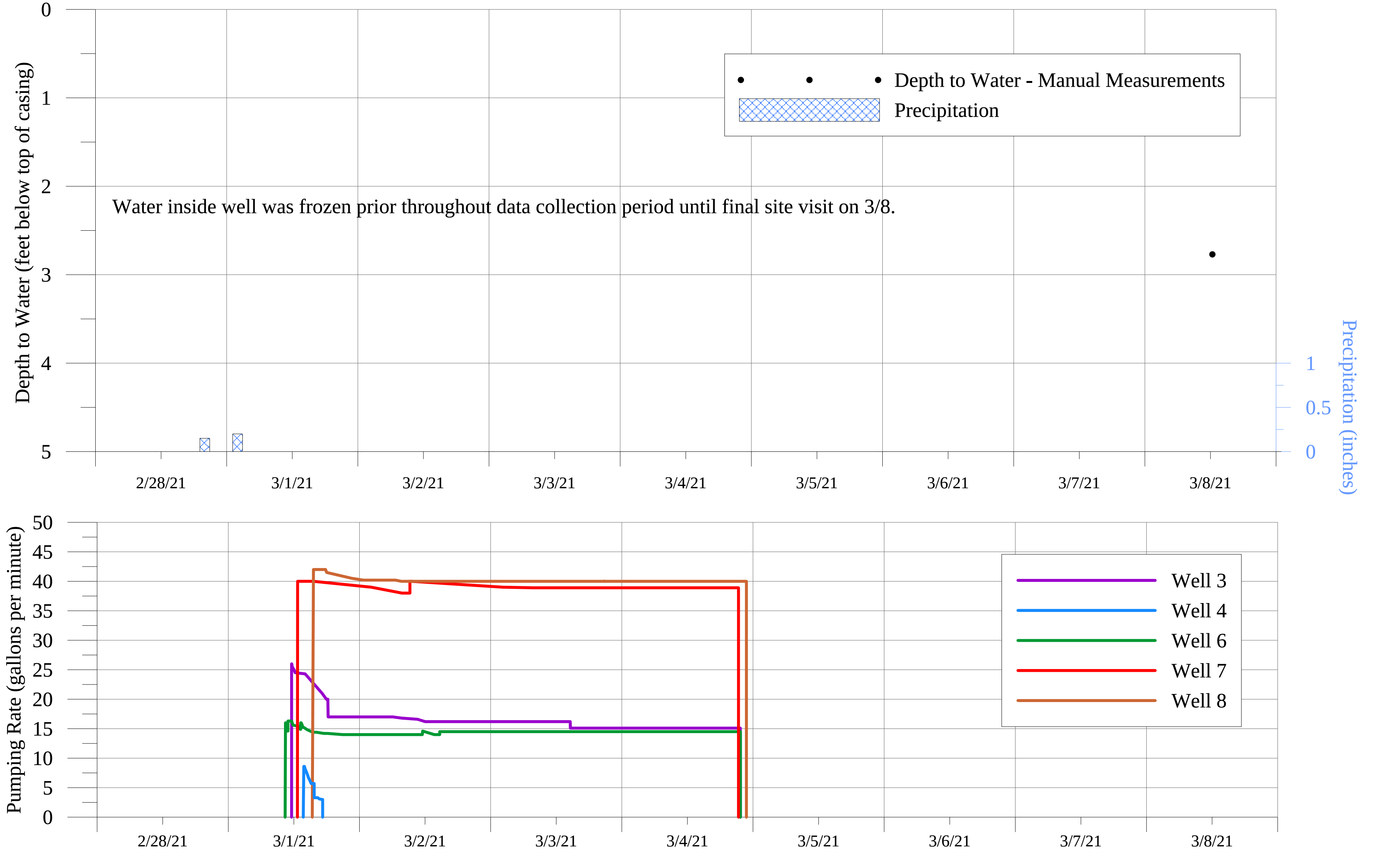
113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Greenwich American Well 14 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Greenwich American Well 39 During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Summary of Water-Level Measurements Collected from the Greenwich American Monitoring Wells During 72-Hour Pumping Test Program Conducted March 2021

Date	Time	Greenwich American Well 14 Depth to Water (ft btoc)	Greenwich American Well 39 Depth to Water (ft btoc)
Water was frozen at top of wells during all site visits prior to March 2, Well 39 remained frozen until 3/8.			
3/2/2021	14:30	0.35	Frozen
3/2/2021	16:00	0.35	Frozen
3/2/2021	20:00	0.35	Frozen
3/3/2021	0:00	0.35	Frozen
3/3/2021	4:00	0.33	Frozen
3/3/2021	8:00	0.34	Frozen
3/3/2021	12:00	0.33	Frozen
3/3/2021	16:00	0.34	Frozen
3/3/2021	20:00	0.35	Frozen
3/4/2021	0:00	0.35	Frozen
3/4/2021	4:00	0.34	Frozen
3/4/2021	8:00	0.34	Frozen
3/4/2021	12:00	0.35	Frozen
3/4/2021	16:00	0.34	Frozen
3/4/2021	20:00	0.34	Frozen
3/5/2021	0:00	0.35	Frozen
3/5/2021	4:00	0.35	Frozen
3/5/2021	8:00	0.35	Frozen
3/5/2021	12:00	0.34	Frozen
3/5/2021	16:00	0.34	Frozen
3/5/2021	20:00	0.35	Frozen
3/6/2021	0:00	0.35	Frozen
3/6/2021	4:00	0.35	Frozen
3/6/2021	8:00	0.35	Frozen
3/6/2021	12:00	0.34	Frozen
3/6/2021	16:00	0.35	Frozen
3/6/2021	20:00	0.35	Frozen
3/7/2021	0:00	0.35	Frozen
3/7/2021	4:00	0.34	Frozen
3/7/2021	8:00	0.35	Frozen
3/7/2021	12:00	0.35	Frozen
3/7/2021	16:00	0.35	Frozen
3/7/2021	20:00	0.34	Frozen
3/8/2021	0:00	0.36	Frozen
3/8/2021	4:00	0.35	Frozen
3/8/2021	8:00	0.35	Frozen
3/8/2021	12:00	0.35	2.77

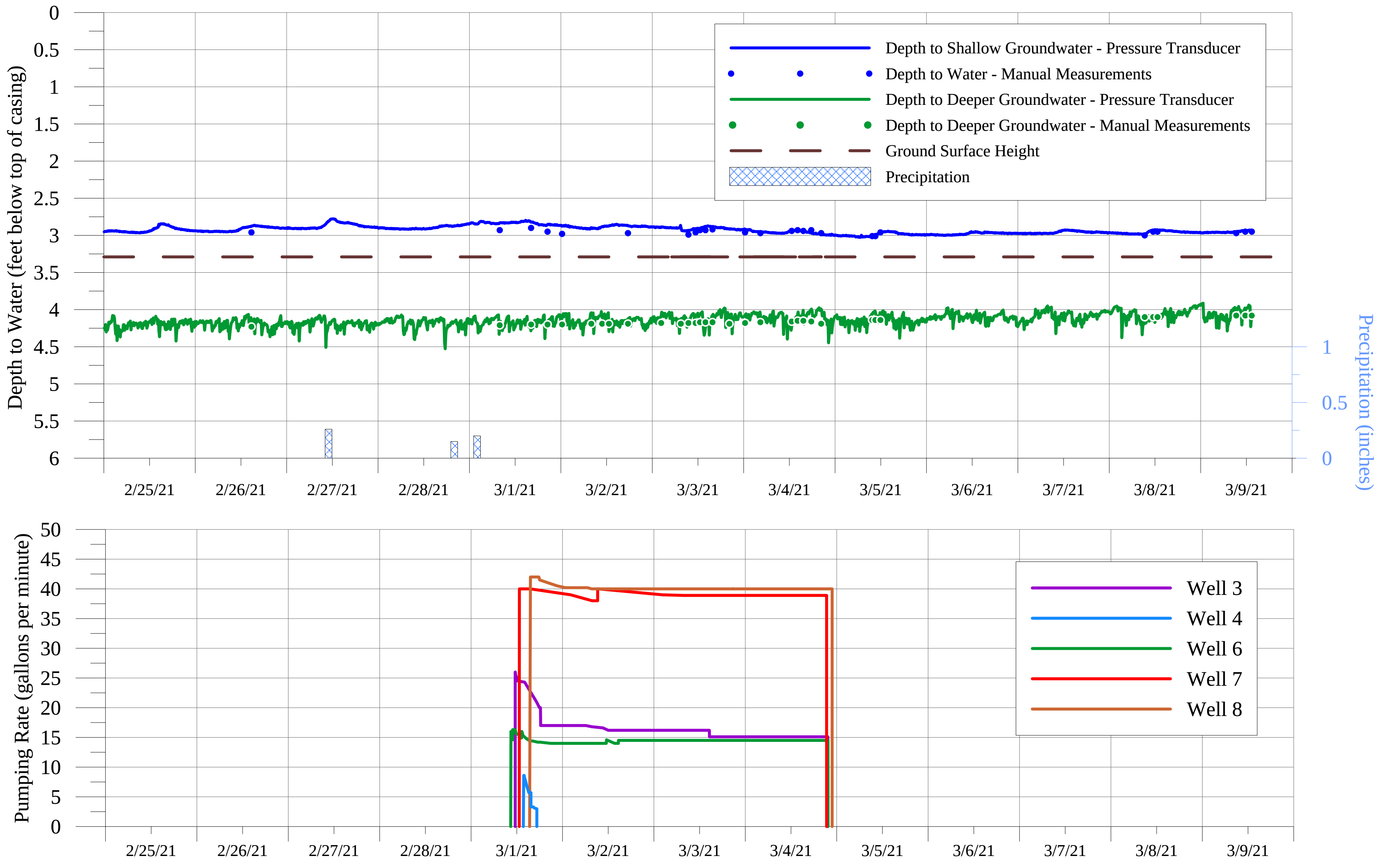
ft btoc feet below top of casing

K:\Jobs\MBIA Property North Castle\2021 72-Hour Pumping Test\Report\GA WL table.doc

APPENDIX IV

113 KING STREET
NORTH CASTLE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Piezometer Location PZ-A During 72-Hour Pumping Test Program Conducted on Wells 3, 6, 7 and 8, March 2021



113 KING STREET
NORTH CASTLE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-A During
72-Hour Pumping Test Program Conducted March 2021

Date	Time	Depth to Water Shallow Screened Piezometer (ft btoc)	Depth to Water Deeper Screened Piezometer[1/] (ft btoc)	Vertical Gradient (Shallow - Deeper)	Vertical Gradient Direction
2/16/2021	12:56	2.92	4.73	-1.81	Downward
2/26/2021	14:45	2.96	4.23	-1.27	Downward
3/1/2021	7:57	2.93	4.21	-1.28	Downward
3/1/2021	16:11	2.90	4.20	-1.30	Downward
3/1/2021	20:30	2.95	4.20	-1.25	Downward
3/2/2021	0:19	2.98	4.20	-1.22	Downward
3/2/2021	8:00	Frozen	4.19	NM	NM
3/2/2021	10:50	Frozen	4.19	NM	NM
3/2/2021	12:37	Frozen	4.19	NM	NM
3/2/2021	17:37	2.97	4.19	-1.22	Downward
3/3/2021	20:15	Frozen	4.19	NM	NM
3/3/2021	2:21	Frozen	4.18	NM	NM
3/3/2021	7:30	Frozen	4.19	NM	NM
3/3/2021	9:30	2.99	4.18	-1.19	Downward
3/3/2021	11:23	2.96	4.18	-1.22	Downward
3/3/2021	12:32	2.93	4.17	-1.24	Downward
3/3/2021	13:59	2.93	4.17	-1.24	Downward
3/3/2021	15:49	2.92	4.17	-1.25	Downward
3/4/2021	20:21	2.97	4.19	-1.22	Downward
3/4/2021	0:22	2.96	4.18	-1.22	Downward
3/4/2021	4:23	2.97	4.17	-1.20	Downward
3/4/2021	12:37	2.94	4.16	-1.22	Downward
3/4/2021	14:10	2.93	4.15	-1.22	Downward
3/4/2021	15:40	2.94	4.15	-1.21	Downward
3/4/2021	17:45	2.93	4.16	-1.23	Downward
3/5/2021	9:45	3.01	4.14	-1.13	Downward
3/5/2021	10:35	3.01	4.14	-1.13	Downward
3/5/2021	11:55	2.96	4.14	-1.18	Downward
3/8/2021	9:18	3.00	4.10	-1.10	Downward
3/8/2021	11:31	2.95	4.10	-1.15	Downward
3/8/2021	12:40	2.95	4.10	-1.15	Downward
3/9/2021	9:20	2.97	4.08	-1.11	Downward
3/9/2021	11:43	2.95	4.08	-1.13	Downward
3/9/2021	13:25	2.95	4.08	-1.13	Downward

ft btoc feet below top of casing
NM not measured
[1/] Measurements adjusted to match casing height of shallow piezometer.

Appendix F-2
Sanitary Sewer Calculations

Hydraulic Flow Calculation

Lift Station No. 1 - Cooney Hill Road

1. Flow Calculation

Average Daily Flow (ADF)

. Office	72,000gpd
. 13 residential units X 400 gpd/unit	5,200gpd
Total ADF	77,200gpd
	53.61gpm
. Peak flow = 4 X ADF = 4 X 77,200 =	308,800gpd
	214.44gpm

2. Head Loss

Discharge elevation at gravity sewer (Proposed sewer manhole No. 6)	470.60ft.
Elevation at pump (Low liquid level - pump off)	424.10ft.
	46.50ft.
Loss in pump and force main using pumping rate 150gpm through 800ft. 6" PVC hl/100' = 0.178ft. (8)(0.178)	1.42ft.
Total Head	47.92ft.
	Use 50ft.

3. Pump Selection

Furnish and install (2) Flygt permanent, non-clog wastewater pumps in "CT" arrangement. Dry pit installation permanently connected to inlet and outlet pipes. Use pump Model CT 3127 equipped with 7.4h.p., 1750 rpm, submersible electric motor connected for operation on 208 volts, 3Ø.

From pump curve using a 462 1 vane, impeller, capacity is 265gpm @ 55 feet of head.

4. Pump Chamber Design

Rotondo & Sons Inc. WT 8X10 watertight precast concrete tank 29'-0" in length. Allow 6'-0" for dry pit pump installation and 21'-0" length for storage. Chamber has 1,575 gallons of capacity per foot.

Using 2'-0" between pump on & pump off settings yields 2 x 1,575 = 3,150 gallons.

Allowable storage = 4' x 1,575 = 6,300 gallons

Hydraulic Flow Calculation

Lift Station No. 2 - Route 120 - (MBIA)

1. Flow Calculation

Average Daily Flow ADF

• Lift Station No. 1	77,200 gpd
• Office	28,500gpd
• 6 Residential Units X 400gpd/unit	2,400gpd
Total ADF	108,100gpd
	75.0gpd
• Peak Flow = 4 X ADF = 4 X 108100 =	432,400gpd
	300gpm

2. Head Loss

Discharge Elevation at gravity sewer (Proposed sewer manhole No. 28)	401.00ft.
Elevation at Pump (Low liquid level - Pump off)	362.00ft.
	39.0 ft.
Loss in pump and force main using pumping rate 150gpm through 800ft 4" PVC, 600ft 4" PVC, 1000ft 6" PVC respectively h1/100' = 1.34ft and 0.178ft	20.6ft.
Total Head	59.6ft.
	Use 60.0 ft.

3. Pump Selection

Furnish and install (2) Flygt permanent, non-clog wastewater pumps in "CT" arrangement, Dry pit installation permanently connected to inlet and outlet pipes. Use pump Model CT 3140 equipped with 14.8hp,1750rpm, submersible electric motor connected for operation on 208 volts, 3Ø.

From pump curve using a 481, 1 vane impeller capacity is 160 gpm @ 80 feet of head.

4. Pump Chamber Design

Rotondo & Sons Inc. WT 8X10 watertight precast concrete tank 41'-0" in length. Allow 6'-0" for dry pit pump installation and 33'-0" lenght for storage. Chamber has 2,475 gallons of capacity per foot.

Using 2'-0" between pump on & pump off settings yields 2 X 2475 = 4,950 gallons.

Allowable storage = 4' X 2,475 = 9,900 gallons.

Hydraulic Flow Calculation

Lift Station No. 3 - New King Street (Airport)

1. Flow Calaculation

Average daily flow (ADF)

. Lift Station No. 2		108,100gpd
. Office		26,010gpd
	Total ADF	134,110gpd
. Peak Flow = 4 X ADF = 4 X 134110		536,440gpd
		373 gpm

2. Head Loss

Discharge elevation at gravity sewer (Proposed sewer manhole No. 42)		427.50ft.
Elevation at pump (Low liquid level - pump off)		388.95ft.
		38.55
Loss in pump and force main using pumping rate 210gpm through 2200ft. 6" PVC h1/100' = 0.178 (0.178)(22)		3.91 ft.
	Total Head	42.46ft.

3. Pump Selection

Furnish and install (2) Flygt permanent, non-clog wastewater pumps in "CT" arrangement. Dry pit installation permanently connected with 7.4h.p. 1,750rpm submersible electric motor connected for operation on 208 volts, 3Ø.

From pump curve using a 462, 1 vane impeller, capacity is 265gpm @ 55 feet of head.

4. Pump Chamber Design

Rotondo & Sons Inc. WT 8 X 10 watertight precast concrete tank 36'-6" in length. Allow 6'-0" for dry pit pump installation and 28'-6' length for storage. Chamber has 2145 gallons of capacity per foot.

Using 2'-0" between pump on & pump off settings yields 2 X 2145 = 4290 gallons.

Allowable Storage = 4' X 2,145 = 8,580 gallons.

Lift Station 1 - Cooney Hill Road

- Queensmead - Office 720000 SF X 0.1GPD/SF = 72,000gpd
- 4 residential units X 400gpd/unit = 1,600gpd
- Lift station (Weber Pl.) = 3,600gpd

Total = 77,200gpd

- Peak Flow = 4 X ADF = 4 X 77,200 = 308,800gpd

Lift Station 2 - MBIA

- Lift station 1 = 77,200gpd
- MBIA 155202SF X 0.1GPD/SF = 16,000gpd
- Primerica = 12,500gpd
- 6 Residential units X 400gpd/unit = 2,400gpd

Total = 108,100 gpd

- Peak flow = 4 X ADF = 4 X 108,100 = 432,400 gpd

Lift Station 3 - Airport

- Lift Station 2 = 108,100 gpd
- New King St. Assoc. 47500SF X 0.1gpd/SF = 4,750gpd
- King St. Assoc. (2.2ac.) 48600SF X 0.1gpd/SF = 4,860gpd
- King St. Assoc. (.7ac.) 9000SF X 0.1gpd/SF = 900gpd
- Areotech 55000SF X 0.1gpd/SF = 5,500gpd
- Safeflight 61000SF X 0.1gpd/SF = 6,100gpd
- Westchester County = 3,900gpd

Total = 134,110gpd

- Peak Flow = 4 X ADF = 4 X 134,110 = 536,440gpd

Existing and full development of all properties within the expanded sewer district, as set by zoning or approved plans, is as follows:

Property	Size (Acres)	(Existing Use)	Estimated Potential New Use	Estimated Flow (gpd)
SafeFlight	4.697	45,696 Office	15,684 Office	6,138
King St. Assoc.	2.161	48,600 Office	---	4,860
King St. Assoc.	0.68	---	8,886 Office	889
AeroTech	6.674	30,409 Office	24,411 Office	5,482
New King St. Assoc.	4.2	23,722 Office	23,722 Office	4,744
MBIA	14.298	95,486 Office	59,716 Office	15,520
MBIA (Bolbrouck parcel)	1.5	---	S.F. Res.	350
Queensmead Associates	127.615	---	720,000 Office	72,000
Primerica	27.0	---	12 Residences	4,200
Westchester County	3.0	---	---	3,920
TOTAL:	--	---	---	118,103

The flows in the table above are calculated based on New York State DEC (Department of Environmental Conservation) standards which specify the flows of 0.1 gallons per day (gpd) per square foot for office use and 350 gallons per day per residential unit under existing ...

NORTH CASTLE, NY
FLOW MONITORING REPORT
NOVEMBER – DECEMBER 2018

FLOW
ASSESSMENT SERVICES

72 Priscilla Lane
Auburn, NH 03032
Ph:603.656.9799 Fx:603.656.0330
www.flowassessment.com

JMC Site Development Consultants
120 Bedford Road
Armonk, NY 10504
Attn: David P. Lombardi

December 13, 2018

Re: North Castle, NY
Flow Monitoring
November – December 2018

Dear Mr. Lombardi,

This letter is written to present the flow monitoring data collected in North Castle, NY. The meters were installed between 11/01/18 and 11/06/18. This letter presents the data from 11/01/18 to 12/06/18. The meters were removed 12/06/18.

Site configuration information:

Site	Location	Meter
1	Cooney Hill Road, PS 1	Level Meter installed with a 6" Palmer- Bowlus Flume in an existing 8" diameter line.
2	King Street, PS 2	Area Velocity Flow Meter installed in an existing 8" diameter line.
3	10 New King Court, PS 3	Area Velocity Flow Meter installed in an existing 8" diameter line.
4	Airport Road	Area Velocity Flow Meter installed in an existing 12" diameter line.

The Area Velocity Flow Meter senses both depth and velocity. This depth and velocity information is stored in the meter's memory. The Level Meter also senses depth. This depth information is stored in the meter's memory. The recorded data is uploaded from the flow meters with a laptop computer. During the installation, maintenance visits and removal, the depth and velocity information is confirmed and calibration measurements are noted.

Appendix 1 contains a summary flow report and flow analysis graph for each meter site. The summary flow report presents minimum, peak and total daily flow based on the recorded 5-minute interval readings. The flow analysis graph data is presented averaged hourly to make it easier to visualize the overall flow pattern during the monitoring period. A PDF copy of the summary flow report and the flow analysis graph can be found on the data disk which accompanies this report.

Appendix 2, which is located on the data disk included with this report, contains daily flow reports summarized in 15-minute intervals in PDF format. The final data is also included in Excel format in its recorded 5-minute intervals on the data disk.

Appendix 3 contains meter site investigation sketches for each meter site. These are also included in PDF format on the included data disk.

The rainfall data presented in **Appendix 1 & 2** was collected by a tipping bucket type rain gauge installed at 113 King Street in North Castle, NY on 11/06/18.

If you have any questions or require anything additional, please feel free to contact me via email or phone.

Sincerely,

Thomas Mitchell

Thomas Mitchell
Data Analyst/Senior Project Manager

Appendix 1

Summary Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

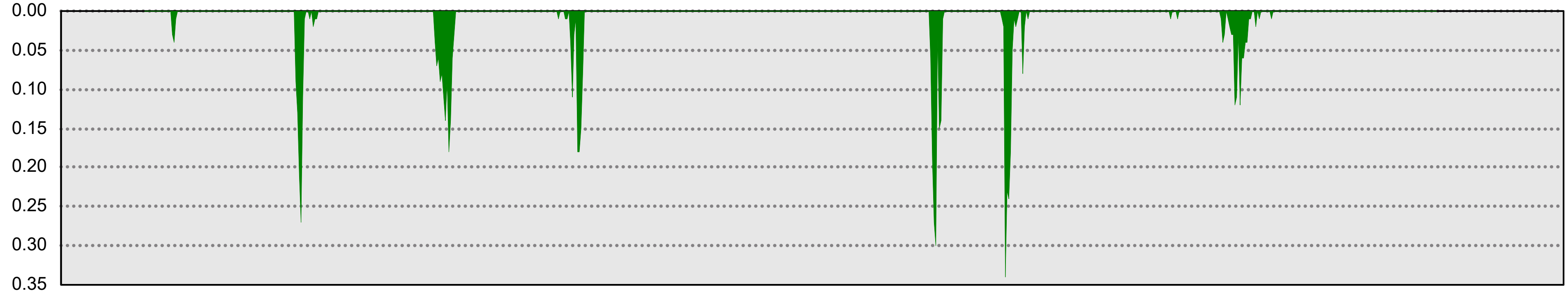
Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
11/6/2018 (Tue)	0.001	0.070	0.005	0.08	0.06	0.02
11/7/2018 (Wed)	0.000	0.097	0.013	0.00	0.00	0.00
11/8/2018 (Thu)	0.000	0.090	0.011	0.00	0.00	0.00
11/9/2018 (Fri)	0.000	0.148	0.013	0.83	0.29	0.04
11/10/2018 (Sat)	0.000	0.078	0.004	0.04	0.02	0.01
11/11/2018 (Sun)	0.000	0.094	0.003	0.00	0.00	0.00
11/12/2018 (Mon)	0.000	0.074	0.009	0.04	0.04	0.01
11/13/2018 (Tue)	0.000	0.104	0.016	1.05	0.18	0.02
11/14/2018 (Wed)	0.000	0.113	0.012	0.00	0.00	0.00
11/15/2018 (Thu)	0.000	0.130	0.011	0.01	0.01	0.01
11/16/2018 (Fri)	0.000	**0.175**	0.011	0.80	0.19	0.02
11/17/2018 (Sat)	0.000	0.085	0.008	0.00	0.00	0.00
11/18/2018 (Sun)	0.000	0.044	0.005	0.00	0.00	0.00
11/19/2018 (Mon)	0.000	0.089	0.014	0.00	0.00	0.00
11/20/2018 (Tue)	0.000	0.076	0.010	0.00	0.00	0.00
11/21/2018 (Wed)	0.000	0.107	0.006	0.00	0.00	0.00
11/22/2018 (Thu)	0.000	0.037	0.002	0.00	0.00	0.00
11/23/2018 (Fri)	0.000	0.093	0.004	0.00	0.00	0.00
11/24/2018 (Sat)	0.000	0.071	0.002	0.82	0.35	0.04
11/25/2018 (Sun)	0.000	0.047	0.003	0.33	0.19	0.03
11/26/2018 (Mon)	0.000	0.122	0.011	**1.11**	**0.37**	**0.06**
11/27/2018 (Tue)	0.001	0.092	**0.017**	0.11	0.08	0.01
11/28/2018 (Wed)	0.000	0.078	0.012	0.00	0.00	0.00
11/29/2018 (Thu)	0.000	0.147	0.012	0.00	0.00	0.00
11/30/2018 (Fri)	0.000	0.066	0.007	0.02	0.01	0.01
12/1/2018 (Sat)	0.000	0.103	0.005	0.09	0.05	0.01
12/2/2018 (Sun)	**0.000**	0.067	0.006	0.71	0.18	0.03
12/3/2018 (Mon)	0.000	0.157	0.013	0.01	0.01	0.01
12/4/2018 (Tue)	0.000	0.081	0.010	0.00	0.00	0.00
12/5/2018 (Wed)	**0.000**	0.152	0.011	0.00	0.00	0.00
12/6/2018 (Thu)	0.002	0.061	0.006	0.00	0.00	0.00
		Total for period	0.271	6.05		
		Min:	0.000			
		Avg:	0.009			
		Max:	0.175			

Flow Analysis Graph

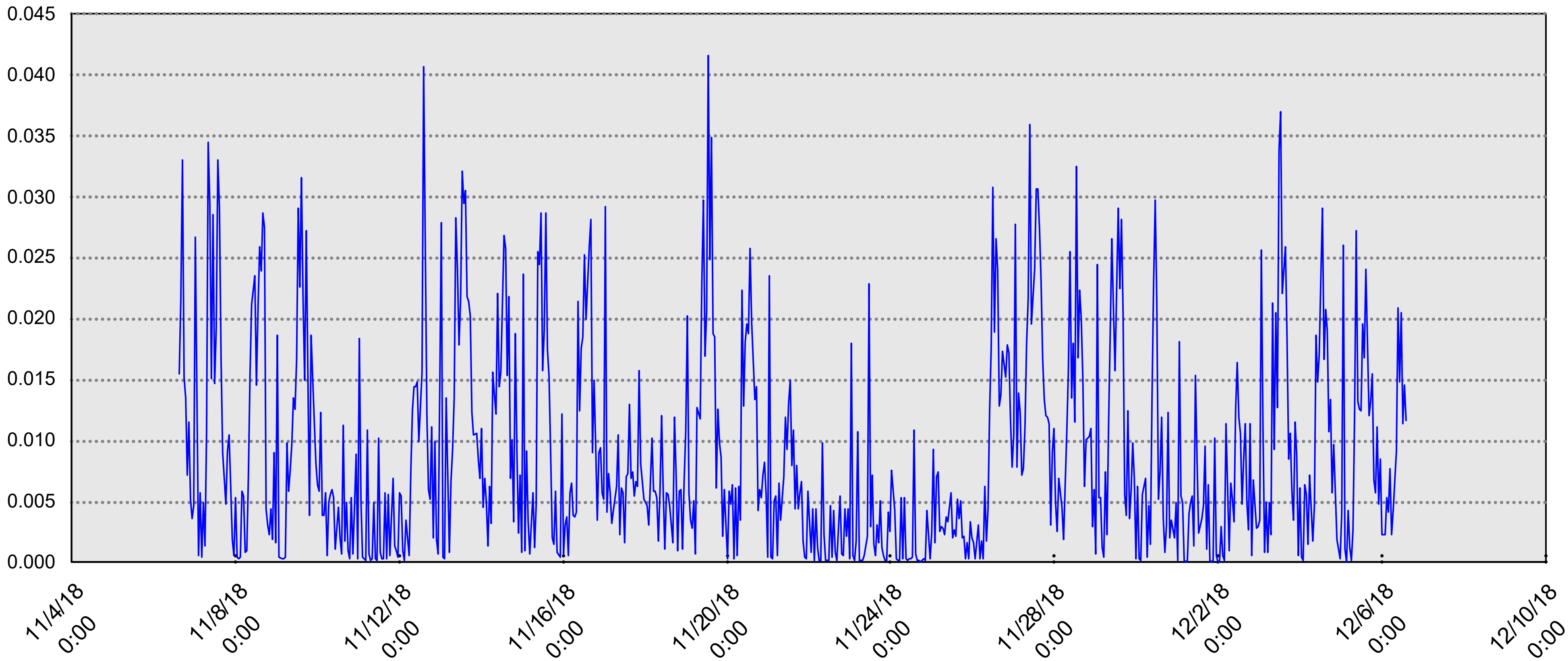
Site:
Site 1

Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Rain (in) **Printed on:** 12/13/2018 **Period Covered:** 11/01/2018 - 12/07/2018 **Every** 1 Hour



Flow (mgd)



Summary Flow Report

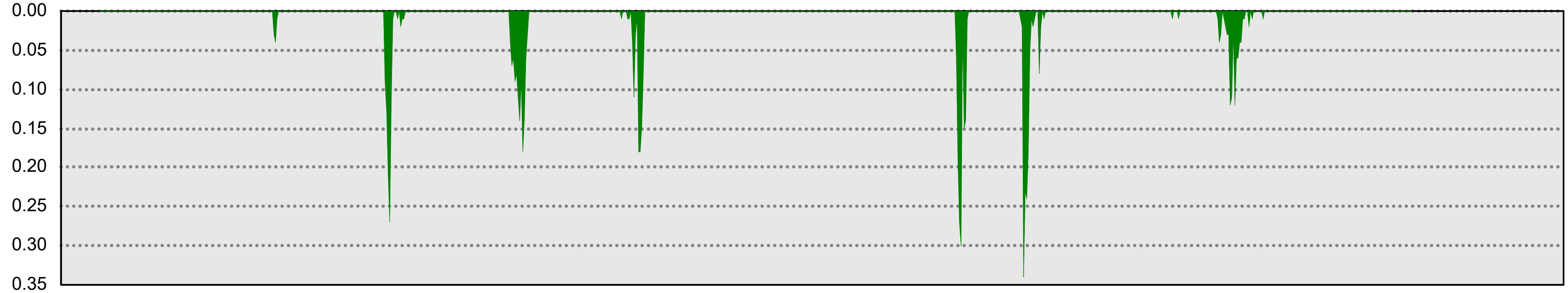
Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
11/2/2018 (Fri)	0.001	0.348	0.024			
11/3/2018 (Sat)	0.003	0.412	0.023			
11/4/2018 (Sun)	0.001	0.459	0.011			
11/5/2018 (Mon)	**0.001**	0.485	0.035			
11/6/2018 (Tue)	0.002	**0.693**	0.048	0.08	0.06	0.02
11/7/2018 (Wed)	0.004	0.418	0.041	0.00	0.00	0.00
11/8/2018 (Thu)	0.002	0.504	0.033	0.00	0.00	0.00
11/9/2018 (Fri)	0.002	0.452	0.032	0.83	0.29	0.04
11/10/2018 (Sat)	0.002	0.489	0.020	0.04	0.02	0.01
11/11/2018 (Sun)	0.003	0.308	0.013	0.00	0.00	0.00
11/12/2018 (Mon)	0.003	0.452	0.031	0.04	0.04	0.01
11/13/2018 (Tue)	0.004	0.605	0.067	1.05	0.18	0.02
11/14/2018 (Wed)	0.002	0.473	0.048	0.00	0.00	0.00
11/15/2018 (Thu)	0.003	0.475	0.036	0.01	0.01	0.01
11/16/2018 (Fri)	0.004	0.483	0.042	0.80	0.19	0.02
11/17/2018 (Sat)	0.002	0.445	0.026	0.00	0.00	0.00
11/18/2018 (Sun)	0.001	0.477	0.025	0.00	0.00	0.00
11/19/2018 (Mon)	0.006	0.687	0.045	0.00	0.00	0.00
11/20/2018 (Tue)	0.002	0.459	0.035	0.00	0.00	0.00
11/21/2018 (Wed)	0.003	0.509	0.026	0.00	0.00	0.00
11/22/2018 (Thu)	0.002	0.403	0.014	0.00	0.00	0.00
11/23/2018 (Fri)	0.004	0.420	0.012	0.00	0.00	0.00
11/24/2018 (Sat)	0.004	0.482	0.025	0.82	0.35	0.04
11/25/2018 (Sun)	0.002	0.465	**0.076**	0.33	0.19	0.03
11/26/2018 (Mon)	0.004	0.439	0.056	**1.11**	**0.37**	**0.06**
11/27/2018 (Tue)	0.006	0.457	0.045	0.11	0.08	0.01
11/28/2018 (Wed)	0.001	0.438	0.030	0.00	0.00	0.00
11/29/2018 (Thu)	0.004	0.477	0.031	0.00	0.00	0.00
11/30/2018 (Fri)	0.002	0.438	0.023	0.02	0.01	0.01
12/1/2018 (Sat)	0.002	0.519	0.021	0.09	0.05	0.01
12/2/2018 (Sun)	0.006	0.492	0.027	0.71	0.18	0.03
12/3/2018 (Mon)	0.002	0.473	0.042	0.01	0.01	0.01
12/4/2018 (Tue)	0.005	0.567	0.040	0.00	0.00	0.00
12/5/2018 (Wed)	0.003	0.508	0.038	0.00	0.00	0.00
12/6/2018 (Thu)	0.004	0.467	0.019	0.00	0.00	0.00
		Total for period	1.161	6.05		
		Min:	0.001			
		Avg:	0.033			
		Max:	0.693			

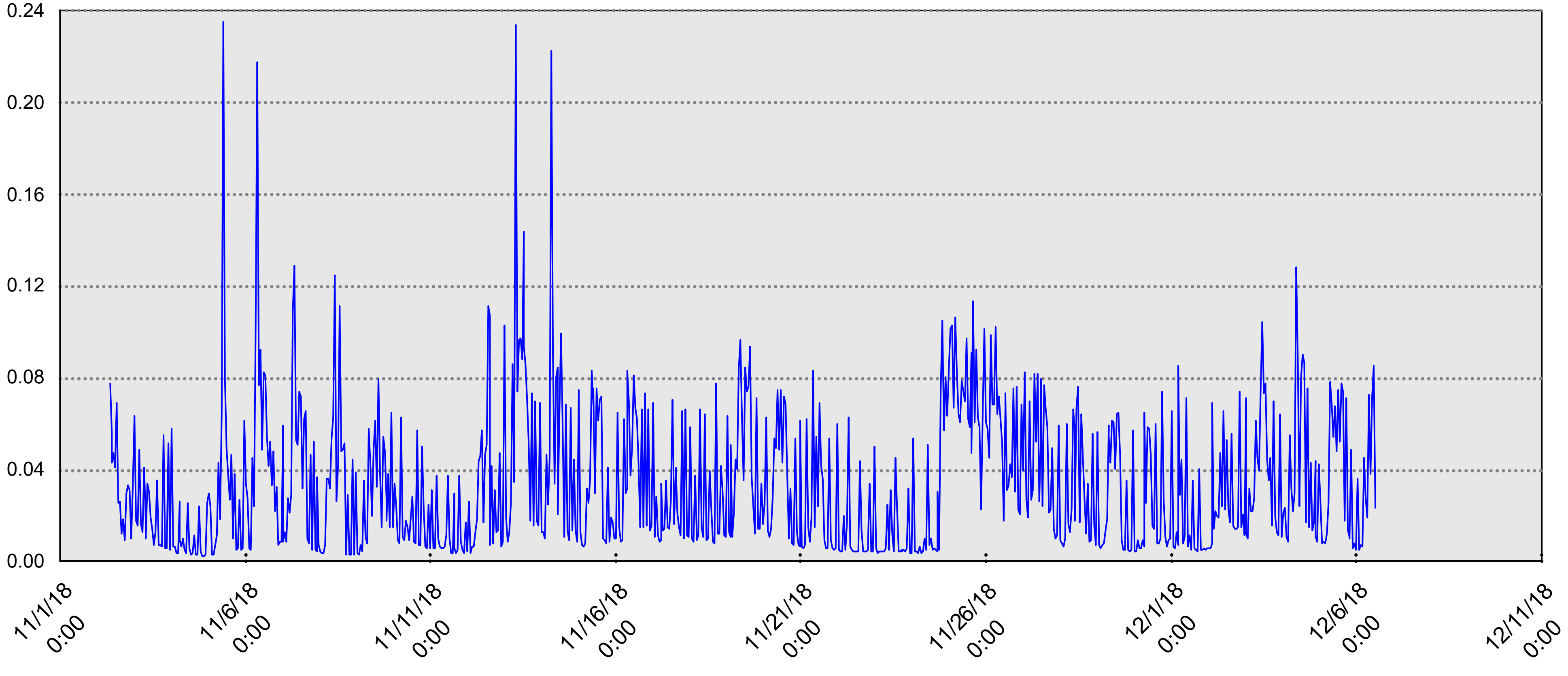
Flow Analysis Graph

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Rain (in) **Printed on:** 12/13/2018 **Period Covered:** 11/01/2018 - 12/07/2018 **Every** 1 Hour



Flow (mgd)



Summary Flow Report

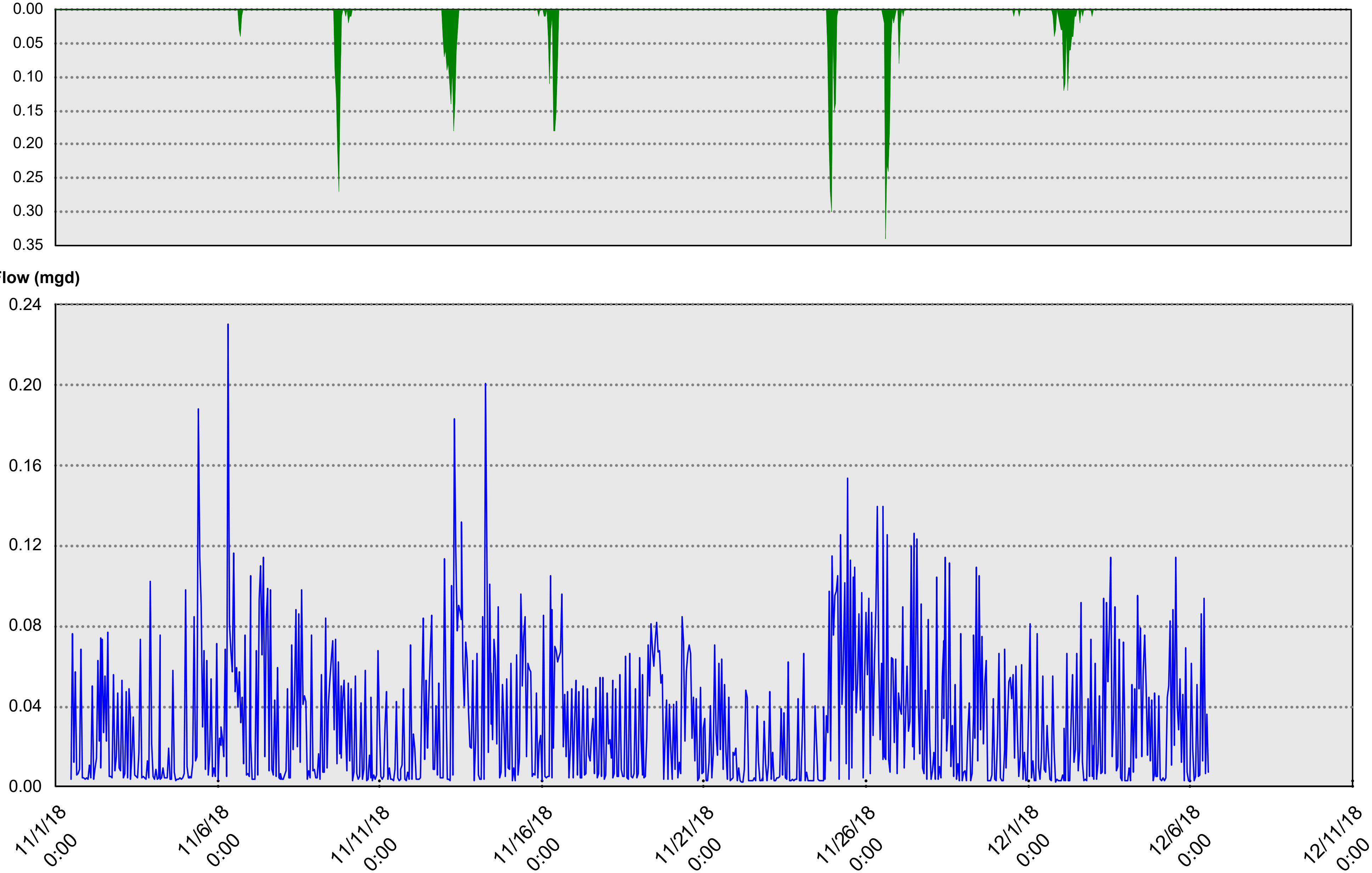
Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
11/1/2018 (Thu)	0.001	0.337	0.011			
11/2/2018 (Fri)	0.001	0.345	0.028			
11/3/2018 (Sat)	0.002	0.347	0.022			
11/4/2018 (Sun)	0.002	0.338	0.011			
11/5/2018 (Mon)	0.003	0.362	0.041			
11/6/2018 (Tue)	0.002	0.347	0.047	0.08	0.06	0.02
11/7/2018 (Wed)	0.002	0.387	0.043	0.00	0.00	0.00
11/8/2018 (Thu)	0.002	0.340	0.031	0.00	0.00	0.00
11/9/2018 (Fri)	0.002	0.349	0.034	0.83	0.29	0.04
11/10/2018 (Sat)	0.001	0.334	0.020	0.04	0.02	0.01
11/11/2018 (Sun)	0.002	0.330	0.015	0.00	0.00	0.00
11/12/2018 (Mon)	0.002	0.400	0.029	0.04	0.04	0.01
11/13/2018 (Tue)	0.002	0.371	0.060	1.05	0.18	0.02
11/14/2018 (Wed)	0.002	0.335	0.047	0.00	0.00	0.00
11/15/2018 (Thu)	0.002	0.368	0.036	0.01	0.01	0.01
11/16/2018 (Fri)	0.002	0.344	0.040	0.80	0.19	0.02
11/17/2018 (Sat)	0.002	0.319	0.023	0.00	0.00	0.00
11/18/2018 (Sun)	0.002	0.336	0.022	0.00	0.00	0.00
11/19/2018 (Mon)	0.002	0.326	0.043	0.00	0.00	0.00
11/20/2018 (Tue)	0.002	0.331	0.032	0.00	0.00	0.00
11/21/2018 (Wed)	0.001	0.344	0.024	0.00	0.00	0.00
11/22/2018 (Thu)	0.001	0.309	0.011	0.00	0.00	0.00
11/23/2018 (Fri)	0.001	0.337	0.014	0.00	0.00	0.00
11/24/2018 (Sat)	0.001	0.334	0.022	0.82	0.35	0.04
11/25/2018 (Sun)	0.001	0.395	**0.068**	0.33	0.19	0.03
11/26/2018 (Mon)	0.003	0.342	0.056	**1.11**	**0.37**	**0.06**
11/27/2018 (Tue)	0.002	0.357	0.049	0.11	0.08	0.01
11/28/2018 (Wed)	0.001	0.343	0.033	0.00	0.00	0.00
11/29/2018 (Thu)	0.002	0.334	0.032	0.00	0.00	0.00
11/30/2018 (Fri)	0.001	0.334	0.027	0.02	0.01	0.01
12/1/2018 (Sat)	**0.001**	**0.430**	0.019	0.09	0.05	0.01
12/2/2018 (Sun)	0.001	0.341	0.024	0.71	0.18	0.03
12/3/2018 (Mon)	0.001	0.356	0.039	0.01	0.01	0.01
12/4/2018 (Tue)	0.001	0.340	0.031	0.00	0.00	0.00
12/5/2018 (Wed)	0.001	0.348	0.031	0.00	0.00	0.00
12/6/2018 (Thu)	0.001	0.336	0.016	0.00	0.00	0.00
		Total for period	1.130	6.05		
		Min:	0.001			
		Avg:	0.031			
		Max:	0.430			

Flow Analysis Graph

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Rain (in) **Printed on:** 12/13/2018 **Period Covered:** 11/01/2018 - 12/07/2018 **Every** 1 Hour



Summary Flow Report

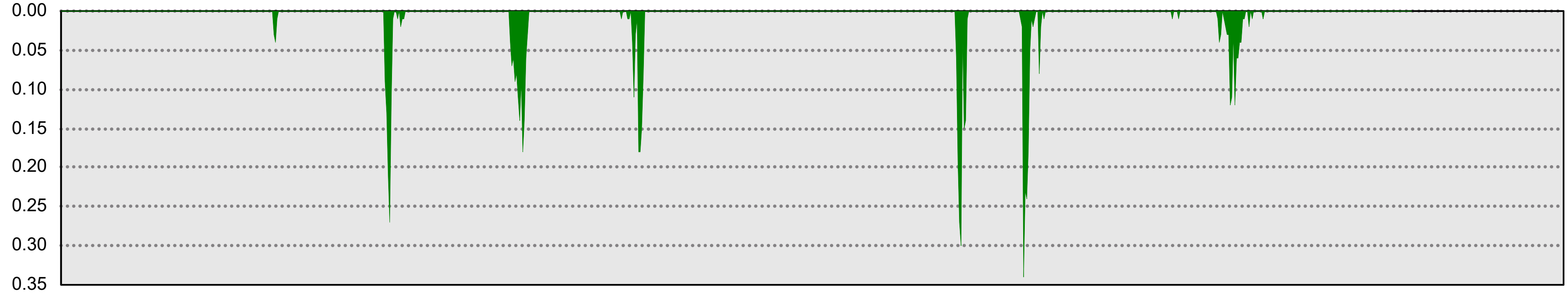
Site:
Site 4
Airport Road | North Castle, NY | 12" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
11/1/2018 (Thu)	**0.000**	0.485	0.014			
11/2/2018 (Fri)	**0.000**	0.509	0.043			
11/3/2018 (Sat)	**0.000**	0.578	0.038			
11/4/2018 (Sun)	**0.000**	0.573	0.019			
11/5/2018 (Mon)	**0.000**	0.649	0.054			
11/6/2018 (Tue)	**0.000**	0.579	0.069	0.08	0.06	0.02
11/7/2018 (Wed)	**0.000**	**0.695**	0.049	0.00	0.00	0.00
11/8/2018 (Thu)	**0.000**	0.518	0.032	0.00	0.00	0.00
11/9/2018 (Fri)	**0.000**	0.647	0.039	0.83	0.29	0.04
11/10/2018 (Sat)	**0.000**	0.451	0.019	0.04	0.02	0.01
11/11/2018 (Sun)	**0.000**	0.406	0.012	0.00	0.00	0.00
11/12/2018 (Mon)	**0.000**	0.437	0.028	0.04	0.04	0.01
11/13/2018 (Tue)	**0.000**	0.565	0.070	1.05	0.18	0.02
11/14/2018 (Wed)	**0.000**	0.476	0.045	0.00	0.00	0.00
11/15/2018 (Thu)	**0.000**	0.472	0.034	0.01	0.01	0.01
11/16/2018 (Fri)	**0.000**	0.406	0.046	0.80	0.19	0.02
11/17/2018 (Sat)	**0.000**	0.383	0.026	0.00	0.00	0.00
11/18/2018 (Sun)	**0.000**	0.377	0.022	0.00	0.00	0.00
11/19/2018 (Mon)	**0.000**	0.450	0.040	0.00	0.00	0.00
11/20/2018 (Tue)	**0.000**	0.443	0.038	0.00	0.00	0.00
11/21/2018 (Wed)	**0.000**	0.405	0.030	0.00	0.00	0.00
11/22/2018 (Thu)	**0.000**	0.446	0.018	0.00	0.00	0.00
11/23/2018 (Fri)	**0.000**	0.479	0.025	0.00	0.00	0.00
11/24/2018 (Sat)	**0.000**	0.446	0.033	0.82	0.35	0.04
11/25/2018 (Sun)	**0.000**	0.440	**0.072**	0.33	0.19	0.03
11/26/2018 (Mon)	**0.000**	0.503	0.067	**1.11**	**0.37**	**0.06**
11/27/2018 (Tue)	**0.000**	0.424	0.044	0.11	0.08	0.01
11/28/2018 (Wed)	**0.000**	0.412	0.037	0.00	0.00	0.00
11/29/2018 (Thu)	**0.000**	0.392	0.029	0.00	0.00	0.00
11/30/2018 (Fri)	**0.000**	0.379	0.027	0.02	0.01	0.01
12/1/2018 (Sat)	**0.000**	0.383	0.018	0.09	0.05	0.01
12/2/2018 (Sun)	**0.000**	0.353	0.024	0.71	0.18	0.03
12/3/2018 (Mon)	**0.000**	0.407	0.033	0.01	0.01	0.01
12/4/2018 (Tue)	**0.000**	0.411	0.032	0.00	0.00	0.00
12/5/2018 (Wed)	**0.000**	0.378	0.031	0.00	0.00	0.00
12/6/2018 (Thu)	**0.000**	0.373	0.017	0.00	0.00	0.00
		Total for period	1.273	6.05		
		Min:	0.000			
		Avg:	0.035			
		Max:	0.695			

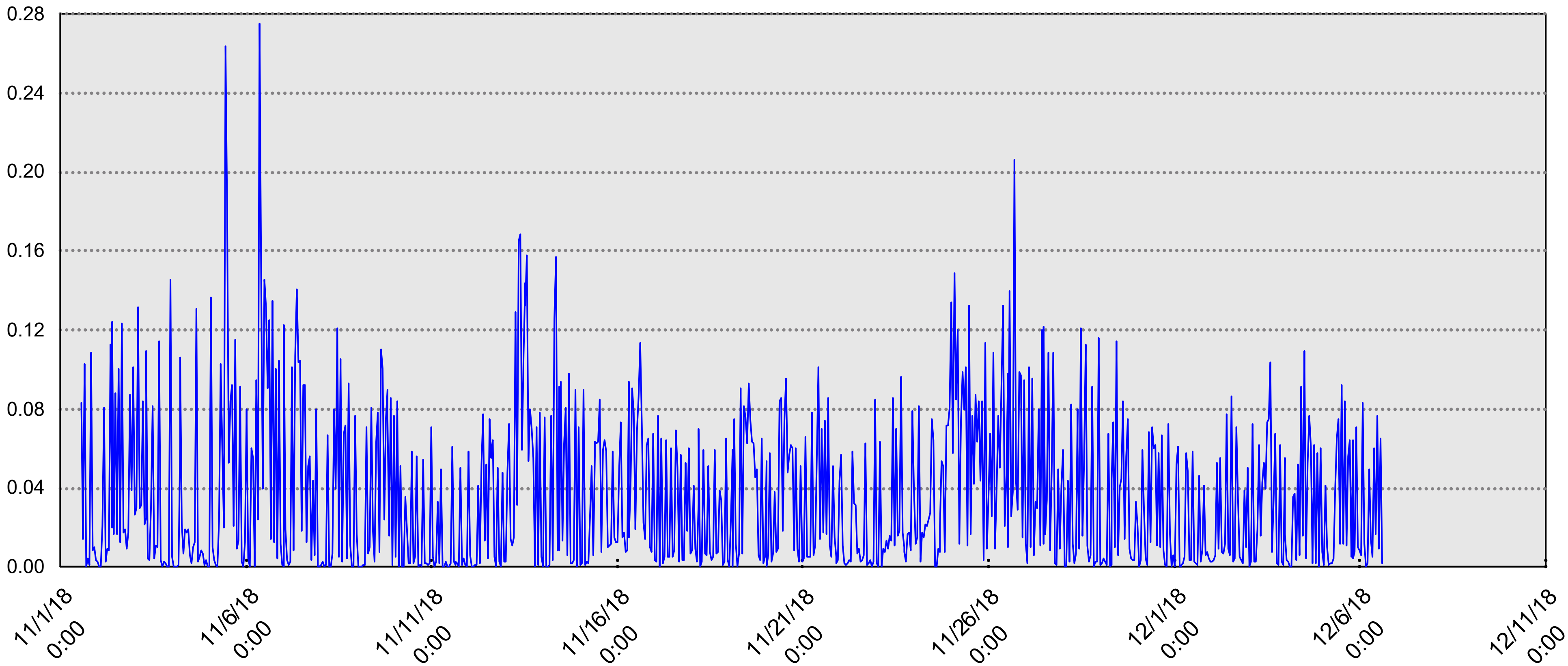
Flow Analysis Graph

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Rain (in) **Printed on:** 12/13/2018 **Period Covered:** 11/01/2018 - 12/07/2018 **Every** 1 Hour



Flow (mgd)



Appendix 2

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/6/2018					
0:00					
0:15					
0:30					
0:45					
1:00					
1:15					
1:30					
1:45					
2:00					
2:15					
2:30					
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3:00					
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12:30					
12:45					
13:00					
13:15					
13:30					
13:45					
14:00					
14:15					
14:30					
14:45					
15:00	0.53		0.010	0.000	
15:15	1.04		0.013	0.000	
15:30	1.26		0.020	0.000	
15:45	1.23		0.019	0.001	
16:00	1.78		0.041	0.001	
16:15	1.09		0.015	0.001	0.01
16:30	1.02		0.013	0.001	
16:45	1.19		0.017	0.002	0.02
17:00	1.49		0.029	0.002	0.03
17:15	1.71		0.037	0.002	0.01
17:30	1.15		0.016	0.002	
17:45	2.05		0.050	0.003	
18:00	1.11		0.015	0.003	
18:15	0.81		0.008	0.003	0.01
18:30	1.53		0.031	0.003	
18:45	0.71		0.007	0.004	
19:00	0.88		0.010	0.004	
19:15	0.86		0.009	0.004	
19:30	0.69		0.006	0.004	
19:45	1.40		0.028	0.004	
20:00	0.89		0.010	0.004	
20:15	0.71		0.007	0.004	
20:30	0.79		0.008	0.004	
20:45	0.53		0.004	0.004	
21:00	0.85		0.010	0.005	
21:15	1.34		0.023	0.005	
21:30	0.68		0.006	0.005	
21:45	0.68		0.006	0.005	
22:00	0.54		0.004	0.005	
22:15	0.47		0.003	0.005	
22:30	0.36		0.002	0.005	
22:45	0.76		0.012	0.005	
23:00	0.88		0.010	0.005	
23:15	0.42		0.002	0.005	
23:30	0.25		0.001	0.005	
23:45	0.20		0.001	0.005	
Daily Totals:				**0.005**	**0.08**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/7/2018					
0:00	0.18		0.000	0.000	
0:15	0.17		0.000	0.000	
0:30	0.16		0.000	0.000	
0:45	1.03		0.018	0.000	
1:00	1.71		0.039	0.001	
1:15	2.11		0.055	0.001	
1:30	0.87		0.010	0.001	
1:45	0.40		0.002	0.001	
2:00	0.24		0.001	0.001	
2:15	0.20		0.001	0.001	
2:30	0.17		0.000	0.001	
2:45	0.16		0.000	0.001	
3:00	0.64		0.010	0.001	
3:15	0.84		0.009	0.002	
3:30	0.42		0.002	0.002	
3:45	0.24		0.001	0.002	
4:00	0.18		0.000	0.002	
4:15	0.17		0.000	0.002	
4:30	0.16		0.000	0.002	
4:45	0.16		0.000	0.002	
5:00	0.15		0.000	0.002	
5:15	0.18		0.000	0.002	
5:30	0.92		0.014	0.002	
5:45	0.63		0.005	0.002	
6:00	0.35		0.002	0.002	
6:15	0.25		0.001	0.002	
6:30	0.27		0.001	0.002	
6:45	0.36		0.002	0.002	
7:00	0.27		0.001	0.002	
7:15	1.02		0.020	0.002	
7:30	1.07		0.015	0.002	
7:45	0.71		0.007	0.002	
8:00	0.84		0.009	0.002	
8:15	1.63		0.033	0.003	
8:30	1.80		0.041	0.003	
8:45	2.18		0.055	0.004	
9:00	2.21		0.057	0.004	
9:15	1.66		0.035	0.005	
9:30	0.90		0.010	0.005	
9:45	1.14		0.016	0.005	
10:00	0.85		0.009	0.005	
10:15	1.20		0.018	0.005	
10:30	1.11		0.016	0.005	
10:45	1.17		0.017	0.006	
11:00	1.15		0.016	0.006	
11:15	1.53		0.028	0.006	
11:30	1.69		0.039	0.006	
11:45	1.57		0.030	0.007	
12:00	0.91		0.011	0.007	
12:15	0.77		0.008	0.007	
12:30	1.38		0.023	0.007	
12:45	1.18		0.017	0.007	
13:00	0.94		0.011	0.008	
13:15	1.39		0.024	0.008	
13:30	1.38		0.023	0.008	
13:45	1.24		0.019	0.008	
14:00	1.24		0.019	0.008	
14:15	1.98		0.050	0.009	
14:30	1.65		0.035	0.009	
14:45	1.52		0.028	0.010	
15:00	1.46		0.026	0.010	
15:15	1.33		0.022	0.010	
15:30	1.45		0.025	0.010	
15:45	1.84		0.043	0.011	
16:00	1.28		0.020	0.011	
16:15	1.12		0.016	0.011	
16:30	1.28		0.020	0.011	
16:45	0.96		0.012	0.011	
17:00	1.05		0.014	0.012	
17:15	0.77		0.008	0.012	
17:30	0.76		0.008	0.012	
17:45	0.73		0.007	0.012	
18:00	0.61		0.005	0.012	
18:15	0.53		0.004	0.012	
18:30	0.66		0.006	0.012	
18:45	0.61		0.005	0.012	
19:00	0.42		0.002	0.012	
19:15	0.73		0.007	0.012	
19:30	0.52		0.004	0.012	
19:45	1.26		0.024	0.012	
20:00	0.78		0.008	0.013	
20:15	0.42		0.002	0.013	
20:30	0.42		0.002	0.013	
20:45	1.43		0.029	0.013	
21:00	0.90		0.011	0.013	
21:15	0.72		0.007	0.013	
21:30	0.54		0.004	0.013	
21:45	0.52		0.004	0.013	
22:00	0.43		0.003	0.013	
22:15	0.37		0.002	0.013	
22:30	0.37		0.002	0.013	
22:45	0.30		0.001	0.013	
23:00	0.22		0.001	0.013	
23:15	0.21		0.001	0.013	
23:30	0.20		0.001	0.013	
23:45	0.19		0.001	0.013	
Daily Totals:				**0.013**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/8/2018					
0:00	0.18		0.000	0.000	
0:15	0.87		0.012	0.000	
0:30	0.69		0.006	0.000	
0:45	0.38		0.002	0.000	
1:00	0.24		0.001	0.000	
1:15	0.18		0.000	0.000	
1:30	0.15		0.000	0.000	
1:45	0.15		0.000	0.000	
2:00	0.14		0.000	0.000	
2:15	0.13		0.000	0.000	
2:30	0.12		0.000	0.000	
2:45	0.12		0.000	0.000	
3:00	0.12		0.000	0.000	
3:15	0.13		0.000	0.000	
3:30	0.20		0.001	0.000	
3:45	0.19		0.001	0.000	
4:00	0.64		0.011	0.000	
4:15	0.85		0.010	0.000	
4:30	0.39		0.002	0.001	
4:45	0.21		0.001	0.001	
5:00	0.16		0.000	0.001	
5:15	0.14		0.000	0.001	
5:30	0.96		0.016	0.001	
5:45	0.64		0.006	0.001	
6:00	0.33		0.002	0.001	
6:15	0.22		0.001	0.001	
6:30	0.18		0.000	0.001	
6:45	0.19		0.001	0.001	
7:00	0.23		0.001	0.001	
7:15	0.21		0.001	0.001	
7:30	0.23		0.001	0.001	
7:45	0.36		0.002	0.001	
8:00	0.60		0.005	0.001	
8:15	0.58		0.005	0.001	
8:30	0.78		0.008	0.001	
8:45	0.90		0.010	0.001	
9:00	1.07		0.014	0.001	
9:15	0.94		0.011	0.001	
9:30	1.15		0.017	0.002	
9:45	1.25		0.019	0.002	
10:00	1.01		0.013	0.002	
10:15	1.18		0.017	0.002	
10:30	1.78		0.040	0.002	
10:45	1.08		0.015	0.003	
11:00	1.10		0.015	0.003	
11:15	1.74		0.039	0.003	
11:30	1.23		0.019	0.003	
11:45	1.32		0.021	0.004	
12:00	1.16		0.017	0.004	
12:15	1.00		0.013	0.004	
12:30	0.94		0.011	0.004	
12:45	1.20		0.018	0.004	
13:00	1.33		0.022	0.004	
13:15	1.26		0.020	0.005	
13:30	1.27		0.020	0.005	
13:45	1.36		0.023	0.005	
14:00	1.20		0.018	0.005	
14:15	1.84		0.040	0.006	
14:30	1.27		0.020	0.006	
14:45	1.45		0.026	0.006	
15:00	1.27		0.020	0.006	
15:15	1.57		0.030	0.007	
15:30	1.38		0.023	0.007	
15:45	1.36		0.023	0.007	
16:00	1.54		0.029	0.007	
16:15	1.44		0.025	0.008	
16:30	1.62		0.031	0.008	
16:45	1.57		0.030	0.008	
17:00	1.93		0.048	0.009	
17:15	1.61		0.033	0.009	
17:30	1.26		0.020	0.009	
17:45	0.81		0.009	0.010	
18:00	0.58		0.005	0.010	
18:15	0.58		0.004	0.010	
18:30	0.60		0.005	0.010	
18:45	0.54		0.004	0.010	
19:00	0.61		0.005	0.010	
19:15	0.52		0.004	0.010	
19:30	0.38		0.002	0.010	
19:45	0.37		0.002	0.010	
20:00	0.39		0.002	0.010	
20:15	0.42		0.002	0.010	
20:30	0.45		0.003	0.010	
20:45	0.38		0.002	0.010	
21:00	0.40		0.002	0.010	
21:15	0.63		0.005	0.010	
21:30	0.50		0.003	0.010	
21:45	0.72		0.007	0.010	
22:00	0.45		0.003	0.010	
22:15	0.39		0.002	0.010	
22:30	0.34		0.002	0.010	
22:45	0.25		0.001	0.010	
23:00	0.21		0.001	0.010	
23:15	0.70		0.010	0.010	
23:30	0.79		0.008	0.010	
23:45	1.15		0.017	0.011	
Daily Totals:				**0.011**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/9/2018					
0:00	0.56		0.004	0.000	
0:15	0.30		0.001	0.000	
0:30	0.18		0.001	0.000	
0:45	0.14		0.000	0.000	
1:00	0.57		0.009	0.000	
1:15	2.08		0.054	0.001	
1:30	0.86		0.010	0.001	
1:45	0.38		0.002	0.001	
2:00	0.22		0.001	0.001	
2:15	0.16		0.000	0.001	
2:30	0.13		0.000	0.001	
2:45	0.14		0.000	0.001	
3:00	0.14		0.000	0.001	
3:15	0.14		0.000	0.001	
3:30	0.14		0.000	0.001	
3:45	0.13		0.000	0.001	
4:00	0.14		0.000	0.001	
4:15	0.14		0.000	0.001	
4:30	0.13		0.000	0.001	
4:45	0.14		0.000	0.001	
5:00	0.13		0.000	0.001	
5:15	0.14		0.000	0.001	
5:30	0.24		0.001	0.001	
5:45	0.21		0.001	0.001	
6:00	0.18		0.000	0.001	
6:15	1.06		0.014	0.001	
6:30	0.97		0.014	0.001	
6:45	0.89		0.010	0.001	
7:00	0.52		0.004	0.001	
7:15	0.54		0.004	0.001	
7:30	0.95		0.012	0.002	
7:45	0.53		0.004	0.002	
8:00	0.54		0.004	0.002	
8:15	0.83		0.009	0.002	
8:30	0.87		0.010	0.002	
8:45	0.77		0.008	0.002	
9:00	0.84		0.009	0.002	
9:15	0.82		0.009	0.002	
9:30	0.89		0.010	0.002	
9:45	0.92		0.011	0.002	
10:00	1.18		0.017	0.002	
10:15	1.04		0.014	0.003	
10:30	0.92		0.011	0.003	
10:45	0.99		0.012	0.003	
11:00	0.92		0.011	0.003	
11:15	0.90		0.010	0.003	
11:30	1.14		0.016	0.003	
11:45	1.01		0.013	0.003	
12:00	0.95		0.011	0.003	
12:15	0.92		0.011	0.004	
12:30	0.57		0.004	0.004	
12:45	1.42		0.040	0.004	
13:00	1.45		0.027	0.004	
13:15	1.97		0.047	0.005	
13:30	1.32		0.022	0.005	
13:45	1.29		0.021	0.005	
14:00	1.54		0.029	0.006	
14:15	1.42		0.025	0.006	
14:30	1.27		0.020	0.006	
14:45	1.19		0.017	0.006	
15:00	1.33		0.021	0.006	0.02
15:15	1.74		0.036	0.007	0.03
15:30	1.80		0.038	0.007	0.03
15:45	1.59		0.030	0.008	0.01
16:00	1.43		0.025	0.008	0.04
16:15	1.41		0.024	0.008	0.03
16:30	1.40		0.024	0.008	0.03
16:45	1.06		0.014	0.008	0.03
17:00	1.32		0.022	0.009	0.08
17:15	1.37		0.023	0.009	0.06
17:30	0.85		0.009	0.009	0.03
17:45	0.66		0.006	0.009	0.04
18:00	1.92		0.058	0.010	0.05
18:15	1.03		0.013	0.010	0.05
18:30	0.78		0.008	0.010	0.08
18:45	1.49		0.029	0.010	0.09
19:00	0.67		0.006	0.010	0.07
19:15	0.51		0.003	0.010	0.03
19:30	0.48		0.003	0.010	0.01
19:45	0.50		0.003	0.010	
20:00	1.65		0.041	0.011	
20:15	1.30		0.023	0.011	
20:30	0.72		0.007	0.011	
20:45	0.58		0.005	0.011	0.01
21:00	1.65		0.035	0.011	
21:15	0.64		0.006	0.012	
21:30	0.47		0.003	0.012	
21:45	0.98		0.017	0.012	
22:00	0.99		0.013	0.012	
22:15	0.56		0.004	0.012	
22:30	0.43		0.002	0.012	
22:45	1.43		0.027	0.012	
23:00	0.60		0.005	0.012	
23:15	0.35		0.002	0.012	0.01
23:30	0.77		0.013	0.012	
23:45	0.96		0.012	0.013	
Daily Totals:				**0.013**	**0.83**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/10/2018					
0:00	0.43		0.003	0.000	
0:15	0.25		0.001	0.000	
0:30	1.00		0.017	0.000	
0:45	0.64		0.006	0.000	
1:00	0.34		0.002	0.000	0.01
1:15	0.21		0.001	0.000	0.01
1:30	0.98		0.016	0.000	
1:45	0.62		0.005	0.001	
2:00	0.32		0.001	0.001	0.01
2:15	0.21		0.001	0.001	
2:30	1.48		0.037	0.001	
2:45	0.86		0.010	0.001	
3:00	0.40		0.002	0.001	
3:15	0.25		0.001	0.001	0.01
3:30	0.18		0.000	0.001	
3:45	0.67		0.012	0.001	
4:00	0.94		0.012	0.001	
4:15	0.42		0.003	0.001	
4:30	0.23		0.001	0.001	
4:45	0.15		0.000	0.001	
5:00	0.16		0.000	0.001	
5:15	0.96		0.016	0.002	
5:30	0.63		0.005	0.002	
5:45	0.32		0.001	0.002	
6:00	0.20		0.001	0.002	
6:15	0.17		0.000	0.002	
6:30	0.16		0.000	0.002	
6:45	0.22		0.001	0.002	
7:00	1.07		0.015	0.002	
7:15	0.47		0.003	0.002	
7:30	0.28		0.001	0.002	
7:45	0.19		0.001	0.002	
8:00	0.16		0.000	0.002	
8:15	0.16		0.000	0.002	
8:30	0.68		0.011	0.002	
8:45	0.88		0.010	0.002	
9:00	0.43		0.003	0.002	
9:15	0.25		0.001	0.002	
9:30	0.60		0.009	0.002	
9:45	0.94		0.012	0.002	
10:00	0.45		0.003	0.002	
10:15	0.26		0.001	0.002	
10:30	0.63		0.009	0.002	
10:45	0.80		0.008	0.003	
11:00	0.43		0.003	0.003	
11:15	0.27		0.001	0.003	
11:30	0.20		0.001	0.003	
11:45	0.18		0.000	0.003	
12:00	0.18		0.000	0.003	
12:15	0.17		0.000	0.003	
12:30	0.17		0.000	0.003	
12:45	1.15		0.017	0.003	
13:00	0.61		0.005	0.003	
13:15	0.35		0.002	0.003	
13:30	0.24		0.001	0.003	
13:45	0.19		0.001	0.003	
14:00	0.18		0.001	0.003	
14:15	0.18		0.000	0.003	
14:30	0.25		0.001	0.003	
14:45	0.24		0.001	0.003	
15:00	0.58		0.007	0.003	
15:15	1.06		0.015	0.003	
15:30	0.52		0.004	0.003	
15:45	1.21		0.020	0.003	
16:00	0.53		0.004	0.003	
16:15	0.32		0.001	0.003	
16:30	0.23		0.001	0.003	
16:45	0.23		0.001	0.003	
17:00	0.20		0.001	0.003	
17:15	0.18		0.000	0.003	
17:30	0.63		0.010	0.004	
17:45	0.81		0.009	0.004	
18:00	0.41		0.002	0.004	
18:15	0.24		0.001	0.004	
18:30	0.18		0.000	0.004	
18:45	0.16		0.000	0.004	
19:00	0.14		0.000	0.004	
19:15	0.14		0.000	0.004	
19:30	0.13		0.000	0.004	
19:45	0.13		0.000	0.004	
20:00	0.13		0.000	0.004	
20:15	0.92		0.014	0.004	
20:30	0.61		0.005	0.004	
20:45	0.35		0.002	0.004	
21:00	0.22		0.001	0.004	
21:15	0.19		0.001	0.004	
21:30	0.22		0.001	0.004	
21:45	0.26		0.001	0.004	
22:00	0.23		0.001	0.004	
22:15	0.23		0.001	0.004	
22:30	0.18		0.000	0.004	
22:45	0.98		0.016	0.004	
23:00	1.12		0.019	0.004	
23:15	0.99		0.013	0.004	
23:30	0.45		0.003	0.004	
23:45	0.25		0.001	0.004	
Daily Totals:				**0.004**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/11/2018					
0:00	0.17		0.000	0.000	
0:15	0.14		0.000	0.000	
0:30	0.13		0.000	0.000	
0:45	0.14		0.000	0.000	
1:00	0.50		0.007	0.000	
1:15	2.08		0.054	0.001	
1:30	0.87		0.010	0.001	
1:45	0.39		0.002	0.001	
2:00	0.22		0.001	0.001	
2:15	0.60		0.009	0.001	
2:30	0.80		0.009	0.001	
2:45	0.39		0.002	0.001	
3:00	0.23		0.001	0.001	
3:15	0.17		0.000	0.001	
3:30	0.16		0.000	0.001	
3:45	0.14		0.000	0.001	
4:00	0.13		0.000	0.001	
4:15	0.13		0.000	0.001	
4:30	0.11		0.000	0.001	
4:45	0.11		0.000	0.001	
5:00	0.64		0.010	0.001	
5:15	0.82		0.009	0.001	
5:30	1.12		0.018	0.001	
5:45	0.66		0.006	0.001	
6:00	0.35		0.002	0.001	
6:15	0.20		0.001	0.001	
6:30	0.15		0.000	0.002	
6:45	0.13		0.000	0.002	
7:00	0.12		0.000	0.002	
7:15	0.12		0.000	0.002	
7:30	0.12		0.000	0.002	
7:45	0.13		0.000	0.002	
8:00	0.16		0.000	0.002	
8:15	0.16		0.000	0.002	
8:30	0.15		0.000	0.002	
8:45	0.14		0.000	0.002	
9:00	0.86		0.013	0.002	
9:15	0.59		0.005	0.002	
9:30	0.33		0.002	0.002	
9:45	0.20		0.001	0.002	
10:00	0.15		0.000	0.002	
10:15	0.14		0.000	0.002	
10:30	0.13		0.000	0.002	
10:45	0.12		0.000	0.002	
11:00	0.13		0.000	0.002	
11:15	0.12		0.000	0.002	
11:30	0.12		0.000	0.002	
11:45	0.14		0.000	0.002	
12:00	0.14		0.000	0.002	
12:15	1.15		0.017	0.002	
12:30	1.16		0.018	0.002	
12:45	0.63		0.005	0.002	
13:00	0.35		0.002	0.002	
13:15	0.22		0.001	0.002	
13:30	0.19		0.001	0.002	
13:45	0.17		0.000	0.002	
14:00	0.15		0.000	0.002	
14:15	0.15		0.000	0.002	
14:30	0.14		0.000	0.002	
14:45	0.13		0.000	0.002	
15:00	0.14		0.000	0.002	
15:15	0.14		0.000	0.002	
15:30	0.13		0.000	0.002	
15:45	0.16		0.000	0.002	
16:00	0.16		0.000	0.002	
16:15	0.90		0.013	0.002	
16:30	0.73		0.007	0.002	
16:45	0.37		0.002	0.002	
17:00	0.22		0.001	0.002	
17:15	0.15		0.000	0.002	
17:30	0.12		0.000	0.002	
17:45	0.13		0.000	0.002	
18:00	0.12		0.000	0.003	
18:15	0.13		0.000	0.003	
18:30	1.18		0.018	0.003	
18:45	0.50		0.003	0.003	
19:00	0.29		0.001	0.003	
19:15	0.20		0.001	0.003	
19:30	0.15		0.000	0.003	
19:45	0.13		0.000	0.003	
20:00	0.12		0.000	0.003	
20:15	1.30		0.022	0.003	
20:30	0.55		0.004	0.003	
20:45	0.32		0.001	0.003	
21:00	0.21		0.001	0.003	
21:15	0.17		0.000	0.003	
21:30	0.24		0.001	0.003	
21:45	0.51		0.004	0.003	
22:00	0.36		0.002	0.003	
22:15	0.26		0.001	0.003	
22:30	0.19		0.001	0.003	
22:45	0.17		0.000	0.003	
23:00	0.18		0.001	0.003	
23:15	0.16		0.000	0.003	
23:30	0.15		0.000	0.003	
23:45	0.15		0.000	0.003	
Daily Totals:				**0.003**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/12/2018					
0:00	0.14		0.000	0.000	
0:15	0.13		0.000	0.000	
0:30	0.97		0.016	0.000	
0:45	0.67		0.006	0.000	
1:00	0.37		0.002	0.000	
1:15	0.23		0.001	0.000	
1:30	0.62		0.010	0.000	
1:45	0.82		0.009	0.000	
2:00	0.41		0.002	0.000	
2:15	0.23		0.001	0.000	
2:30	0.16		0.000	0.001	
2:45	0.13		0.000	0.001	
3:00	0.12		0.000	0.001	
3:15	0.12		0.000	0.001	
3:30	0.12		0.000	0.001	
3:45	0.12		0.000	0.001	
4:00	0.12		0.000	0.001	
4:15	0.13		0.000	0.001	
4:30	0.13		0.000	0.001	
4:45	0.88		0.013	0.001	
5:00	0.61		0.005	0.001	
5:15	0.33		0.002	0.001	
5:30	0.21		0.001	0.001	
5:45	0.24		0.001	0.001	
6:00	0.19		0.001	0.001	
6:15	0.19		0.001	0.001	
6:30	0.20		0.001	0.001	
6:45	0.24		0.001	0.001	
7:00	0.24		0.001	0.001	
7:15	0.32		0.001	0.001	
7:30	0.67		0.006	0.001	
7:45	1.04		0.021	0.001	
8:00	1.23		0.019	0.001	
8:15	1.02		0.013	0.001	
8:30	0.77		0.008	0.001	
8:45	0.90		0.010	0.002	
9:00	0.66		0.006	0.002	
9:15	1.56		0.032	0.002	
9:30	0.95		0.012	0.002	
9:45	0.78		0.008	0.002	
10:00	0.77		0.008	0.002	
10:15	1.08		0.015	0.002	
10:30	1.29		0.021	0.003	
10:45	1.09		0.015	0.003	
11:00	0.98		0.012	0.003	
11:15	0.78		0.008	0.003	
11:30	1.14		0.017	0.003	
11:45	1.33		0.022	0.003	
12:00	0.93		0.011	0.004	
12:15	0.82		0.009	0.004	
12:30	0.79		0.008	0.004	
12:45	0.97		0.012	0.004	
13:00	1.26		0.019	0.004	
13:15	1.19		0.018	0.004	
13:30	0.91		0.011	0.004	
13:45	1.07		0.015	0.004	
14:00	0.99		0.012	0.005	
14:15	1.99		0.047	0.005	
14:30	2.31		0.062	0.006	
14:45	1.84		0.041	0.006	
15:00	1.90		0.045	0.007	
15:15	1.12		0.016	0.007	
15:30	1.46		0.026	0.007	
15:45	1.23		0.019	0.007	
16:00	0.89		0.010	0.007	
16:15	0.84		0.009	0.007	
16:30	1.28		0.020	0.008	
16:45	0.89		0.010	0.008	
17:00	0.77		0.008	0.008	
17:15	0.65		0.006	0.008	
17:30	0.67		0.006	0.008	
17:45	0.61		0.005	0.008	
18:00	0.70		0.006	0.008	
18:15	0.70		0.006	0.008	
18:30	0.56		0.004	0.008	
18:45	0.52		0.004	0.008	
19:00	0.52		0.004	0.008	
19:15	0.62		0.005	0.008	
19:30	1.42		0.027	0.009	
19:45	0.80		0.008	0.009	
20:00	0.44		0.003	0.009	
20:15	0.36		0.002	0.009	
20:30	0.34		0.002	0.009	
20:45	0.35		0.002	0.009	
21:00	0.38		0.002	0.009	
21:15	1.34		0.027	0.009	
21:30	0.75		0.008	0.009	
21:45	0.50		0.003	0.009	
22:00	0.41		0.002	0.009	
22:15	0.41		0.002	0.009	
22:30	0.37		0.002	0.009	
22:45	0.26		0.001	0.009	
23:00	0.21		0.001	0.009	0.01
23:15	0.18		0.001	0.009	0.01
23:30	0.17		0.000	0.009	0.01
23:45	0.25		0.001	0.009	0.01
Daily Totals:				**0.009**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/13/2018					
0:00	0.87		0.010	0.000	0.02
0:15	0.88		0.010	0.000	0.01
0:30	0.85		0.009	0.000	0.02
0:45	1.44		0.027	0.001	0.02
1:00	1.73		0.037	0.001	0.02
1:15	2.24		0.061	0.002	0.01
1:30	0.88		0.011	0.002	0.02
1:45	0.39		0.002	0.002	0.01
2:00	0.22		0.001	0.002	0.01
2:15	0.18		0.000	0.002	0.02
2:30	0.17		0.000	0.002	0.03
2:45	0.16		0.000	0.002	0.03
3:00	0.14		0.000	0.002	0.02
3:15	0.14		0.000	0.002	0.02
3:30	0.17		0.000	0.002	0.02
3:45	0.17		0.000	0.002	0.02
4:00	0.20		0.001	0.002	0.02
4:15	1.87		0.042	0.002	0.03
4:30	0.82		0.009	0.002	0.03
4:45	0.40		0.002	0.002	0.03
5:00	0.24		0.001	0.002	0.04
5:15	0.21		0.001	0.002	0.03
5:30	0.23		0.001	0.002	0.04
5:45	0.25		0.001	0.002	0.03
6:00	1.23		0.020	0.003	0.01
6:15	0.54		0.004	0.003	0.02
6:30	0.33		0.002	0.003	0.04
6:45	0.28		0.001	0.003	0.02
7:00	0.67		0.010	0.003	0.05
7:15	1.20		0.019	0.003	0.04
7:30	0.56		0.004	0.003	0.03
7:45	0.57		0.004	0.003	0.06
8:00	1.20		0.022	0.003	0.04
8:15	1.12		0.016	0.003	0.04
8:30	0.77		0.008	0.004	0.03
8:45	0.79		0.008	0.004	0.03
9:00	1.94		0.047	0.004	0.03
9:15	1.24		0.019	0.004	0.01
9:30	1.14		0.016	0.004	0.01
9:45	1.46		0.031	0.005	0.01
10:00	1.31		0.022	0.005	0.01
10:15	0.79		0.008	0.005	0.01
10:30	1.45		0.029	0.005	
10:45	1.73		0.038	0.006	0.01
11:00	0.84		0.009	0.006	
11:15	0.94		0.011	0.006	
11:30	1.81		0.042	0.006	
11:45	0.83		0.009	0.007	
12:00	0.96		0.012	0.007	
12:15	1.72		0.037	0.007	
12:30	1.23		0.019	0.007	
12:45	1.25		0.019	0.007	
13:00	1.97		0.049	0.008	
13:15	1.24		0.019	0.008	
13:30	1.36		0.023	0.008	
13:45	1.69		0.038	0.009	
14:00	1.44		0.025	0.009	
14:15	1.24		0.019	0.009	
14:30	1.82		0.042	0.010	
14:45	1.56		0.031	0.010	
15:00	0.93		0.011	0.010	
15:15	1.40		0.024	0.010	
15:30	2.18		0.059	0.011	
15:45	1.52		0.028	0.011	
16:00	1.25		0.019	0.011	
16:15	1.81		0.042	0.012	
16:30	1.00		0.013	0.012	
16:45	1.01		0.013	0.012	
17:00	1.42		0.030	0.012	
17:15	1.28		0.021	0.013	
17:30	0.82		0.009	0.013	
17:45	1.42		0.026	0.013	
18:00	1.63		0.034	0.013	
18:15	0.68		0.006	0.013	
18:30	0.63		0.005	0.014	
18:45	1.62		0.036	0.014	
19:00	0.94		0.012	0.014	
19:15	0.62		0.005	0.014	
19:30	0.65		0.006	0.014	
19:45	1.44		0.027	0.014	
20:00	0.61		0.005	0.014	
20:15	0.39		0.002	0.015	
20:30	1.00		0.019	0.015	
20:45	1.09		0.016	0.015	
21:00	0.64		0.005	0.015	
21:15	0.65		0.006	0.015	
21:30	1.27		0.023	0.015	
21:45	0.77		0.008	0.015	
22:00	0.54		0.004	0.015	
22:15	0.43		0.003	0.015	
22:30	1.16		0.021	0.016	
22:45	0.71		0.007	0.016	
23:00	0.37		0.002	0.016	
23:15	0.25		0.001	0.016	
23:30	0.74		0.013	0.016	
23:45	0.93		0.011	0.016	
Daily Totals:				**0.016**	**1.05**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/14/2018					
0:00	0.97		0.017	0.000	
0:15	0.96		0.012	0.000	
0:30	0.46		0.003	0.000	
0:45	0.76		0.012	0.000	
1:00	1.00		0.013	0.001	
1:15	0.48		0.003	0.001	
1:30	0.29		0.001	0.001	
1:45	0.20		0.001	0.001	
2:00	0.18		0.000	0.001	
2:15	1.28		0.021	0.001	
2:30	0.56		0.004	0.001	
2:45	0.33		0.002	0.001	
3:00	0.21		0.001	0.001	
3:15	0.18		0.000	0.001	
3:30	0.17		0.000	0.001	
3:45	1.17		0.018	0.001	
4:00	0.51		0.004	0.001	
4:15	0.29		0.001	0.001	
4:30	0.19		0.001	0.001	
4:45	0.15		0.000	0.001	
5:00	0.15		0.000	0.001	
5:15	1.20		0.019	0.001	
5:30	0.57		0.004	0.001	
5:45	0.33		0.002	0.001	
6:00	0.22		0.001	0.001	
6:15	0.16		0.000	0.001	
6:30	0.13		0.000	0.001	
6:45	0.66		0.012	0.002	
7:00	1.44		0.029	0.002	
7:15	1.20		0.018	0.002	
7:30	0.92		0.011	0.002	
7:45	0.58		0.005	0.002	
8:00	0.45		0.003	0.002	
8:15	0.51		0.004	0.002	
8:30	1.59		0.034	0.003	
8:45	1.06		0.014	0.003	
9:00	1.03		0.013	0.003	
9:15	1.16		0.017	0.003	
9:30	0.96		0.012	0.003	
9:45	0.71		0.007	0.003	
10:00	0.87		0.010	0.003	
10:15	0.98		0.012	0.004	
10:30	1.99		0.049	0.004	
10:45	1.14		0.017	0.004	
11:00	1.00		0.013	0.004	
11:15	1.02		0.014	0.005	
11:30	1.22		0.018	0.005	
11:45	0.99		0.012	0.005	
12:00	1.01		0.013	0.005	
12:15	1.20		0.021	0.005	
12:30	1.10		0.016	0.005	
12:45	0.99		0.013	0.006	
13:00	0.91		0.011	0.006	
13:15	1.67		0.044	0.006	
13:30	1.60		0.032	0.006	
13:45	1.31		0.021	0.007	
14:00	0.99		0.012	0.007	
14:15	1.92		0.047	0.007	
14:30	1.46		0.027	0.008	
14:45	1.17		0.017	0.008	
15:00	0.95		0.011	0.008	
15:15	1.35		0.022	0.008	
15:30	1.06		0.014	0.008	
15:45	1.04		0.014	0.008	
16:00	1.07		0.015	0.008	
16:15	1.39		0.025	0.009	
16:30	1.54		0.030	0.009	
16:45	1.18		0.017	0.009	
17:00	0.90		0.010	0.009	
17:15	0.66		0.006	0.009	
17:30	0.69		0.006	0.009	
17:45	0.63		0.005	0.010	
18:00	0.56		0.004	0.010	
18:15	0.56		0.004	0.010	
18:30	1.29		0.023	0.010	
18:45	0.82		0.009	0.010	
19:00	0.53		0.004	0.010	
19:15	0.41		0.002	0.010	
19:30	0.51		0.004	0.010	
19:45	0.54		0.004	0.010	
20:00	0.46		0.003	0.010	
20:15	0.45		0.003	0.010	
20:30	1.34		0.039	0.011	
20:45	1.54		0.030	0.011	
21:00	0.90		0.011	0.011	
21:15	0.64		0.005	0.011	
21:30	1.03		0.014	0.011	
21:45	0.69		0.006	0.011	
22:00	0.49		0.003	0.011	
22:15	0.44		0.003	0.011	
22:30	0.39		0.002	0.011	
22:45	0.33		0.002	0.011	
23:00	1.10		0.019	0.012	
23:15	0.69		0.006	0.012	
23:30	0.38		0.002	0.012	
23:45	0.27		0.001	0.012	
Daily Totals:				**0.012**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/15/2018					
0:00	0.24		0.001	0.000	
0:15	0.23		0.001	0.000	
0:30	0.25		0.001	0.000	
0:45	0.25		0.001	0.000	
1:00	0.70		0.011	0.000	
1:15	2.31		0.068	0.001	
1:30	0.96		0.012	0.001	
1:45	0.46		0.003	0.001	
2:00	0.30		0.001	0.001	
2:15	0.25		0.001	0.001	
2:30	0.24		0.001	0.001	
2:45	0.21		0.001	0.001	
3:00	1.07		0.019	0.001	
3:15	0.68		0.006	0.001	
3:30	0.37		0.002	0.001	
3:45	0.69		0.010	0.001	
4:00	0.82		0.009	0.002	
4:15	0.42		0.002	0.002	
4:30	0.27		0.001	0.002	
4:45	0.22		0.001	0.002	
5:00	0.21		0.001	0.002	
5:15	0.22		0.001	0.002	
5:30	0.25		0.001	0.002	
5:45	0.23		0.001	0.002	
6:00	0.24		0.001	0.002	
6:15	0.74		0.011	0.002	
6:30	0.82		0.009	0.002	
6:45	0.43		0.003	0.002	
7:00	0.31		0.001	0.002	
7:15	0.31		0.001	0.002	
7:30	0.29		0.001	0.002	
7:45	0.30		0.001	0.002	
8:00	0.39		0.002	0.002	
8:15	0.65		0.006	0.002	
8:30	0.57		0.004	0.002	
8:45	0.69		0.007	0.002	
9:00	1.88		0.044	0.003	
9:15	1.24		0.019	0.003	
9:30	1.12		0.016	0.003	
9:45	1.37		0.023	0.003	
10:00	1.77		0.038	0.004	
10:15	1.33		0.022	0.004	
10:30	1.37		0.023	0.004	
10:45	1.08		0.015	0.004	
11:00	1.08		0.015	0.004	
11:15	1.25		0.019	0.005	
11:30	1.97		0.049	0.005	
11:45	1.60		0.031	0.005	
12:00	1.23		0.019	0.006	
12:15	0.89		0.010	0.006	
12:30	0.84		0.009	0.006	
12:45	1.43		0.025	0.006	
13:00	1.39		0.023	0.006	
13:15	1.22		0.018	0.006	
13:30	1.11		0.015	0.007	
13:45	1.24		0.019	0.007	
14:00	1.34		0.022	0.007	
14:15	1.80		0.044	0.008	
14:30	1.47		0.027	0.008	
14:45	1.32		0.021	0.008	
15:00	1.21		0.018	0.008	
15:15	1.47		0.026	0.008	
15:30	1.09		0.015	0.009	
15:45	0.92		0.011	0.009	
16:00	0.90		0.010	0.009	
16:15	1.45		0.026	0.009	
16:30	1.21		0.018	0.009	
16:45	0.67		0.006	0.009	
17:00	0.46		0.003	0.009	
17:15	0.86		0.014	0.010	
17:30	0.94		0.012	0.010	
17:45	0.73		0.007	0.010	
18:00	0.52		0.004	0.010	
18:15	0.39		0.002	0.010	
18:30	0.32		0.001	0.010	
18:45	0.25		0.001	0.010	
19:00	0.40		0.002	0.010	
19:15	0.38		0.002	0.010	
19:30	0.24		0.001	0.010	
19:45	0.25		0.001	0.010	
20:00	0.21		0.001	0.010	
20:15	0.50		0.005	0.010	
20:30	1.02		0.014	0.010	
20:45	0.51		0.003	0.010	
21:00	0.31		0.001	0.010	
21:15	0.22		0.001	0.010	
21:30	0.21		0.001	0.010	
21:45	0.18		0.001	0.010	
22:00	0.17		0.000	0.010	
22:15	0.17		0.000	0.010	
22:30	0.17		0.000	0.010	
22:45	0.17		0.000	0.010	0.01
23:00	0.66		0.011	0.010	
23:15	1.49		0.028	0.011	
23:30	0.72		0.007	0.011	
23:45	0.39		0.002	0.011	
Daily Totals:				**0.011**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/16/2018					
0:00	0.26		0.001	0.000	
0:15	0.21		0.001	0.000	
0:30	0.20		0.001	0.000	
0:45	0.19		0.001	0.000	
1:00	0.19		0.001	0.000	
1:15	0.18		0.001	0.000	
1:30	0.19		0.001	0.000	
1:45	0.66		0.011	0.000	
2:00	0.88		0.010	0.000	
2:15	0.46		0.003	0.000	0.01
2:30	0.28		0.001	0.000	
2:45	0.21		0.001	0.000	
3:00	0.20		0.001	0.000	
3:15	0.19		0.001	0.000	
3:30	0.20		0.001	0.000	
3:45	0.22		0.001	0.000	0.01
4:00	0.22		0.001	0.000	
4:15	0.24		0.001	0.000	
4:30	1.15		0.017	0.001	
4:45	0.53		0.004	0.001	
5:00	0.35		0.002	0.001	
5:15	0.27		0.001	0.001	0.01
5:30	1.04		0.017	0.001	
5:45	0.68		0.006	0.001	0.03
6:00	0.35		0.002	0.001	0.03
6:15	0.25		0.001	0.001	0.03
6:30	0.30		0.001	0.001	0.03
6:45	0.75		0.012	0.001	0.02
7:00	0.87		0.010	0.001	0.03
7:15	0.44		0.003	0.001	
7:30	0.29		0.001	0.001	
7:45	0.28		0.001	0.001	
8:00	0.29		0.001	0.001	
8:15	0.48		0.003	0.001	0.01
8:30	0.71		0.007	0.001	
8:45	0.65		0.006	0.001	
9:00	1.67		0.035	0.002	0.05
9:15	0.97		0.012	0.002	0.05
9:30	1.16		0.017	0.002	0.04
9:45	1.33		0.022	0.002	0.04
10:00	1.10		0.015	0.002	0.04
10:15	1.00		0.013	0.003	0.03
10:30	1.00		0.013	0.003	0.06
10:45	0.88		0.010	0.003	0.05
11:00	1.57		0.034	0.003	0.03
11:15	1.25		0.020	0.003	0.05
11:30	0.81		0.008	0.003	0.04
11:45	0.78		0.008	0.003	0.03
12:00	0.79		0.008	0.004	0.03
12:15	0.69		0.006	0.004	0.02
12:30	1.43		0.029	0.004	0.02
12:45	1.54		0.031	0.004	0.01
13:00	1.53		0.028	0.005	
13:15	1.52		0.028	0.005	
13:30	1.44		0.025	0.005	
13:45	1.27		0.020	0.005	
14:00	1.11		0.015	0.005	
14:15	1.26		0.020	0.006	
14:30	1.66		0.035	0.006	
14:45	0.86		0.010	0.006	
15:00	1.22		0.018	0.006	
15:15	1.30		0.021	0.007	
15:30	1.37		0.023	0.007	
15:45	1.78		0.041	0.007	
16:00	2.28		0.075	0.008	
16:15	1.03		0.013	0.008	
16:30	1.10		0.015	0.008	
16:45	0.82		0.009	0.008	
17:00	0.51		0.004	0.008	
17:15	1.13		0.019	0.009	
17:30	0.89		0.010	0.009	
17:45	0.50		0.003	0.009	
18:00	0.42		0.002	0.009	
18:15	0.44		0.003	0.009	
18:30	1.23		0.023	0.009	
18:45	1.58		0.032	0.009	
19:00	0.66		0.006	0.009	
19:15	0.41		0.002	0.009	
19:30	0.32		0.001	0.009	
19:45	1.53		0.029	0.010	
20:00	0.74		0.007	0.010	
20:15	0.45		0.003	0.010	
20:30	0.40		0.002	0.010	
20:45	0.37		0.002	0.010	
21:00	1.30		0.022	0.010	
21:15	0.75		0.007	0.010	
21:30	0.55		0.004	0.010	
21:45	0.49		0.003	0.010	
22:00	0.93		0.016	0.010	
22:15	1.11		0.016	0.011	
22:30	0.52		0.004	0.011	
22:45	0.34		0.002	0.011	
23:00	0.25		0.001	0.011	
23:15	0.74		0.010	0.011	
23:30	0.82		0.009	0.011	
23:45	0.43		0.003	0.011	
Daily Totals:				**0.011**	**0.80**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/17/2018					
0:00	0.27		0.001	0.000	
0:15	0.23		0.001	0.000	
0:30	0.65		0.010	0.000	
0:45	0.83		0.009	0.000	
1:00	0.83		0.011	0.000	
1:15	2.08		0.053	0.001	
1:30	0.94		0.012	0.001	
1:45	1.84		0.040	0.001	
2:00	0.94		0.012	0.002	
2:15	0.46		0.003	0.002	
2:30	0.28		0.001	0.002	
2:45	0.22		0.001	0.002	
3:00	0.21		0.001	0.002	
3:15	1.33		0.022	0.002	
3:30	0.58		0.005	0.002	
3:45	0.37		0.002	0.002	
4:00	0.24		0.001	0.002	
4:15	0.20		0.001	0.002	
4:30	0.96		0.015	0.002	
4:45	0.66		0.006	0.002	
5:00	0.37		0.002	0.002	
5:15	0.24		0.001	0.002	
5:30	0.19		0.001	0.002	
5:45	0.63		0.010	0.002	
6:00	0.96		0.012	0.002	
6:15	0.46		0.003	0.002	
6:30	0.29		0.001	0.002	
6:45	0.21		0.001	0.002	
7:00	0.19		0.001	0.002	
7:15	1.00		0.016	0.003	
7:30	0.67		0.006	0.003	
7:45	0.38		0.002	0.003	
8:00	0.78		0.011	0.003	
8:15	0.81		0.009	0.003	
8:30	0.43		0.003	0.003	
8:45	1.26		0.020	0.003	
9:00	0.62		0.005	0.003	
9:15	0.38		0.002	0.003	
9:30	0.28		0.001	0.003	
9:45	0.24		0.001	0.003	
10:00	0.50		0.005	0.003	
10:15	1.06		0.015	0.003	
10:30	0.50		0.003	0.003	
10:45	0.31		0.001	0.004	
11:00	0.23		0.001	0.004	
11:15	0.25		0.001	0.004	
11:30	0.69		0.011	0.004	
11:45	0.88		0.010	0.004	
12:00	0.47		0.003	0.004	
12:15	0.33		0.002	0.004	
12:30	0.28		0.001	0.004	
12:45	0.27		0.001	0.004	
13:00	1.26		0.021	0.004	
13:15	0.59		0.005	0.004	
13:30	0.37		0.002	0.004	
13:45	0.28		0.001	0.004	
14:00	0.25		0.001	0.004	
14:15	1.24		0.020	0.004	
14:30	0.58		0.005	0.004	
14:45	0.54		0.004	0.004	
15:00	0.85		0.013	0.005	
15:15	1.52		0.028	0.005	
15:30	0.74		0.007	0.005	
15:45	0.45		0.003	0.005	
16:00	0.29		0.001	0.005	
16:15	0.71		0.012	0.005	
16:30	0.92		0.011	0.005	
16:45	0.47		0.003	0.005	
17:00	0.31		0.001	0.005	
17:15	0.75		0.013	0.005	
17:30	0.97		0.013	0.006	
17:45	0.47		0.003	0.006	
18:00	0.29		0.001	0.006	
18:15	0.20		0.001	0.006	
18:30	1.11		0.016	0.006	
18:45	0.51		0.004	0.006	
19:00	0.30		0.001	0.006	
19:15	0.20		0.001	0.006	
19:30	1.26		0.021	0.006	
19:45	0.55		0.004	0.006	
20:00	0.32		0.001	0.006	
20:15	0.25		0.001	0.006	
20:30	1.00		0.016	0.006	
20:45	0.67		0.006	0.006	
21:00	0.37		0.002	0.006	
21:15	0.81		0.012	0.006	
21:30	1.73		0.036	0.007	
21:45	1.02		0.013	0.007	
22:00	0.71		0.007	0.007	
22:15	0.38		0.002	0.007	
22:30	0.74		0.012	0.007	
22:45	0.95		0.012	0.007	
23:00	0.48		0.003	0.007	
23:15	0.29		0.001	0.007	
23:30	0.22		0.001	0.007	
23:45	1.10		0.016	0.008	
Daily Totals:				**0.008**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/18/2018					
0:00	0.51		0.004	0.000	
0:15	0.30		0.001	0.000	
0:30	0.20		0.001	0.000	
0:45	0.93		0.014	0.000	
1:00	0.64		0.006	0.000	
1:15	0.37		0.002	0.000	
1:30	0.25		0.001	0.000	
1:45	0.76		0.010	0.000	
2:00	0.78		0.008	0.000	
2:15	0.41		0.002	0.001	
2:30	0.30		0.001	0.001	
2:45	0.21		0.001	0.001	
3:00	1.24		0.020	0.001	
3:15	0.54		0.004	0.001	
3:30	0.31		0.001	0.001	
3:45	0.21		0.001	0.001	
4:00	0.58		0.008	0.001	
4:15	1.17		0.019	0.001	
4:30	0.91		0.011	0.001	
4:45	0.44		0.003	0.001	
5:00	0.26		0.001	0.001	
5:15	0.95		0.015	0.001	
5:30	0.65		0.006	0.001	
5:45	0.35		0.002	0.001	
6:00	0.23		0.001	0.001	
6:15	0.16		0.000	0.001	
6:30	1.19		0.018	0.002	
6:45	0.51		0.004	0.002	
7:00	0.30		0.001	0.002	
7:15	0.19		0.001	0.002	
7:30	0.14		0.000	0.002	
7:45	1.22		0.019	0.002	
8:00	0.56		0.004	0.002	
8:15	0.33		0.002	0.002	
8:30	0.22		0.001	0.002	
8:45	0.18		0.000	0.002	
9:00	1.15		0.017	0.002	
9:15	0.52		0.004	0.002	
9:30	0.34		0.002	0.002	
9:45	0.24		0.001	0.002	
10:00	0.17		0.000	0.002	
10:15	0.91		0.014	0.002	
10:30	1.39		0.026	0.003	
10:45	0.78		0.008	0.003	
11:00	0.41		0.002	0.003	
11:15	0.29		0.001	0.003	
11:30	0.67		0.010	0.003	
11:45	0.85		0.010	0.003	
12:00	0.43		0.003	0.003	
12:15	0.27		0.001	0.003	
12:30	0.19		0.001	0.003	
12:45	0.15		0.000	0.003	
13:00	0.92		0.014	0.003	
13:15	0.66		0.006	0.003	
13:30	0.36		0.002	0.003	
13:45	0.24		0.001	0.003	
14:00	0.17		0.000	0.003	
14:15	0.86		0.012	0.003	
14:30	0.75		0.008	0.003	
14:45	0.40		0.002	0.004	
15:00	0.26		0.001	0.004	
15:15	0.18		0.001	0.004	
15:30	0.20		0.001	0.004	
15:45	1.12		0.016	0.004	
16:00	0.51		0.004	0.004	
16:15	0.32		0.001	0.004	
16:30	0.22		0.001	0.004	
16:45	0.21		0.001	0.004	
17:00	0.96		0.015	0.004	
17:15	0.79		0.008	0.004	
17:30	0.86		0.012	0.004	
17:45	0.96		0.012	0.004	
18:00	0.48		0.003	0.004	
18:15	0.35		0.002	0.004	
18:30	1.05		0.018	0.005	
18:45	0.70		0.007	0.005	
19:00	0.39		0.002	0.005	
19:15	0.24		0.001	0.005	
19:30	0.18		0.000	0.005	
19:45	0.18		0.000	0.005	
20:00	1.13		0.016	0.005	
20:15	0.59		0.005	0.005	
20:30	0.33		0.002	0.005	
20:45	0.24		0.001	0.005	
21:00	0.20		0.001	0.005	
21:15	0.17		0.000	0.005	
21:30	1.02		0.017	0.005	
21:45	0.68		0.006	0.005	
22:00	0.38		0.002	0.005	
22:15	0.27		0.001	0.005	
22:30	0.21		0.001	0.005	
22:45	0.19		0.001	0.005	
23:00	1.01		0.017	0.005	
23:15	0.70		0.007	0.005	
23:30	0.37		0.002	0.005	
23:45	0.24		0.001	0.005	
Daily Totals:				**0.005**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/19/2018					
0:00	1.13		0.017	0.000	
0:15	0.49		0.003	0.000	
0:30	0.71		0.010	0.000	
0:45	0.99		0.013	0.000	
1:00	0.83		0.011	0.001	
1:15	2.12		0.055	0.001	
1:30	0.95		0.012	0.001	
1:45	0.43		0.003	0.001	
2:00	0.26		0.001	0.001	
2:15	1.14		0.017	0.001	
2:30	0.52		0.004	0.002	
2:45	0.32		0.001	0.002	
3:00	0.22		0.001	0.002	
3:15	0.17		0.000	0.002	
3:30	0.16		0.000	0.002	
3:45	0.86		0.012	0.002	
4:00	0.75		0.008	0.002	
4:15	0.40		0.002	0.002	
4:30	0.27		0.001	0.002	
4:45	0.19		0.001	0.002	
5:00	0.16		0.000	0.002	
5:15	0.26		0.001	0.002	
5:30	1.07		0.015	0.002	
5:45	0.50		0.003	0.002	
6:00	0.30		0.001	0.002	
6:15	0.21		0.001	0.002	
6:30	0.16		0.000	0.002	
6:45	0.16		0.000	0.002	
7:00	1.42		0.031	0.002	
7:15	0.96		0.012	0.002	
7:30	0.55		0.004	0.003	
7:45	0.51		0.004	0.003	
8:00	0.60		0.005	0.003	
8:15	0.85		0.009	0.003	
8:30	0.75		0.007	0.003	
8:45	1.37		0.025	0.003	
9:00	1.00		0.013	0.003	
9:15	1.32		0.021	0.003	
9:30	1.61		0.031	0.004	
9:45	1.48		0.027	0.004	
10:00	1.19		0.018	0.004	
10:15	1.39		0.024	0.004	
10:30	2.04		0.049	0.005	
10:45	1.53		0.028	0.005	
11:00	1.22		0.018	0.005	
11:15	1.08		0.015	0.006	
11:30	1.20		0.018	0.006	
11:45	1.18		0.017	0.006	
12:00	1.11		0.015	0.006	
12:15	1.71		0.036	0.006	
12:30	1.09		0.015	0.007	
12:45	1.15		0.017	0.007	
13:00	1.26		0.019	0.007	
13:15	2.28		0.061	0.008	
13:30	1.87		0.041	0.008	
13:45	1.87		0.044	0.009	
14:00	1.58		0.031	0.009	
14:15	1.54		0.029	0.009	
14:30	1.23		0.019	0.009	
14:45	1.32		0.021	0.010	
15:00	1.52		0.028	0.010	
15:15	1.70		0.034	0.010	
15:30	2.01		0.049	0.011	
15:45	1.55		0.029	0.011	
16:00	1.29		0.021	0.011	
16:15	1.29		0.020	0.011	
16:30	1.14		0.016	0.012	
16:45	1.20		0.018	0.012	
17:00	1.24		0.019	0.012	
17:15	0.96		0.012	0.012	
17:30	1.63		0.034	0.012	
17:45	0.87		0.010	0.013	
18:00	0.69		0.006	0.013	
18:15	0.72		0.007	0.013	
18:30	0.63		0.005	0.013	
18:45	0.67		0.006	0.013	
19:00	0.64		0.005	0.013	
19:15	1.65		0.035	0.013	
19:30	0.74		0.007	0.013	
19:45	0.47		0.003	0.013	
20:00	0.40		0.002	0.013	
20:15	0.86		0.015	0.014	
20:30	1.03		0.014	0.014	
20:45	0.80		0.008	0.014	
21:00	0.54		0.004	0.014	
21:15	1.31		0.022	0.014	
21:30	0.60		0.005	0.014	
21:45	0.51		0.003	0.014	
22:00	0.43		0.003	0.014	
22:15	0.48		0.003	0.014	
22:30	0.36		0.002	0.014	
22:45	0.28		0.001	0.014	
23:00	0.53		0.006	0.014	
23:15	1.02		0.014	0.014	
23:30	0.46		0.003	0.014	
23:45	0.27		0.001	0.014	
Daily Totals:				**0.014**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/20/2018					
0:00	0.20		0.001	0.000	
0:15	0.15		0.000	0.000	
0:30	0.14		0.000	0.000	
0:45	0.14		0.000	0.000	
1:00	0.14		0.000	0.000	
1:15	1.19		0.019	0.000	
1:30	0.50		0.003	0.000	
1:45	0.28		0.001	0.000	
2:00	0.18		0.000	0.000	
2:15	0.15		0.000	0.000	
2:30	0.63		0.010	0.000	
2:45	0.80		0.009	0.000	
3:00	0.39		0.002	0.000	
3:15	1.18		0.019	0.001	
3:30	0.51		0.004	0.001	
3:45	0.31		0.001	0.001	
4:00	0.20		0.001	0.001	
4:15	0.16		0.000	0.001	
4:30	0.13		0.000	0.001	
4:45	0.13		0.000	0.001	
5:00	0.12		0.000	0.001	
5:15	0.65		0.012	0.001	
5:30	0.87		0.010	0.001	
5:45	0.41		0.002	0.001	
6:00	0.24		0.001	0.001	
6:15	0.17		0.000	0.001	
6:30	0.15		0.000	0.001	
6:45	0.20		0.001	0.001	
7:00	0.26		0.001	0.001	
7:15	0.32		0.001	0.001	
7:30	1.01		0.017	0.001	
7:45	0.67		0.006	0.001	
8:00	0.41		0.002	0.001	
8:15	0.33		0.002	0.001	
8:30	0.45		0.003	0.001	
8:45	0.74		0.007	0.001	
9:00	0.82		0.009	0.002	
9:15	1.05		0.014	0.002	
9:30	1.35		0.025	0.002	
9:45	1.86		0.042	0.002	
10:00	1.05		0.014	0.003	
10:15	0.98		0.012	0.003	
10:30	0.91		0.010	0.003	
10:45	1.10		0.015	0.003	
11:00	1.27		0.020	0.003	
11:15	0.97		0.012	0.003	
11:30	1.30		0.021	0.003	
11:45	1.27		0.020	0.004	
12:00	1.53		0.032	0.004	
12:15	1.25		0.020	0.004	
12:30	0.91		0.011	0.004	
12:45	1.12		0.016	0.004	
13:00	1.16		0.017	0.005	
13:15	1.28		0.020	0.005	
13:30	1.21		0.018	0.005	
13:45	1.28		0.020	0.005	
14:00	1.40		0.024	0.006	
14:15	1.31		0.021	0.006	
14:30	1.52		0.031	0.006	
14:45	1.49		0.027	0.006	
15:00	1.25		0.019	0.007	
15:15	1.10		0.015	0.007	
15:30	0.89		0.010	0.007	
15:45	1.54		0.034	0.007	
16:00	1.29		0.021	0.007	
16:15	0.90		0.010	0.007	
16:30	0.90		0.011	0.008	
16:45	0.94		0.011	0.008	
17:00	1.35		0.023	0.008	
17:15	1.35		0.023	0.008	
17:30	0.71		0.007	0.008	
17:45	0.56		0.004	0.008	
18:00	0.58		0.004	0.008	
18:15	0.54		0.004	0.008	
18:30	0.50		0.003	0.008	
18:45	0.64		0.005	0.008	
19:00	0.47		0.003	0.009	
19:15	0.43		0.002	0.009	
19:30	0.40		0.002	0.009	
19:45	0.94		0.016	0.009	
20:00	0.98		0.013	0.009	
20:15	0.51		0.003	0.009	
20:30	0.48		0.003	0.009	
20:45	0.40		0.002	0.009	
21:00	0.54		0.004	0.009	
21:15	0.70		0.006	0.009	
21:30	0.98		0.012	0.009	
21:45	0.71		0.007	0.009	
22:00	0.52		0.004	0.009	
22:15	0.36		0.002	0.009	
22:30	1.31		0.021	0.010	
22:45	0.69		0.006	0.010	
23:00	1.12		0.017	0.010	
23:15	0.51		0.004	0.010	
23:30	0.34		0.002	0.010	
23:45	0.22		0.001	0.010	
Daily Totals:				**0.010**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/21/2018					
0:00	0.18		0.000	0.000	
0:15	0.16		0.000	0.000	
0:30	0.16		0.000	0.000	
0:45	0.15		0.000	0.000	
1:00	0.56		0.008	0.000	
1:15	2.49		0.073	0.001	
1:30	0.90		0.011	0.001	
1:45	0.41		0.002	0.001	
2:00	0.24		0.001	0.001	
2:15	0.18		0.000	0.001	
2:30	0.15		0.000	0.001	
2:45	0.14		0.000	0.001	
3:00	0.14		0.000	0.001	
3:15	0.14		0.000	0.001	
3:30	0.13		0.000	0.001	
3:45	0.15		0.000	0.001	
4:00	0.15		0.000	0.001	
4:15	1.09		0.016	0.001	
4:30	0.47		0.003	0.001	
4:45	0.27		0.001	0.001	
5:00	0.18		0.001	0.001	
5:15	0.93		0.014	0.001	
5:30	0.61		0.005	0.001	
5:45	0.38		0.002	0.001	
6:00	0.25		0.001	0.001	
6:15	0.17		0.000	0.001	
6:30	0.16		0.000	0.001	
6:45	0.16		0.000	0.001	
7:00	0.29		0.001	0.002	
7:15	1.06		0.016	0.002	
7:30	0.63		0.005	0.002	
7:45	0.49		0.003	0.002	
8:00	0.48		0.003	0.002	
8:15	0.41		0.002	0.002	
8:30	0.49		0.003	0.002	
8:45	0.62		0.005	0.002	
9:00	0.75		0.008	0.002	
9:15	0.72		0.007	0.002	
9:30	0.71		0.006	0.002	
9:45	0.73		0.007	0.002	
10:00	0.58		0.004	0.002	
10:15	1.31		0.024	0.002	
10:30	0.91		0.011	0.003	
10:45	0.82		0.009	0.003	
11:00	0.71		0.007	0.003	
11:15	0.89		0.011	0.003	
11:30	0.88		0.010	0.003	
11:45	0.88		0.010	0.003	
12:00	0.63		0.005	0.003	
12:15	1.11		0.022	0.003	
12:30	1.17		0.018	0.004	
12:45	0.76		0.008	0.004	
13:00	0.66		0.006	0.004	
13:15	0.90		0.010	0.004	
13:30	1.59		0.033	0.004	
13:45	0.91		0.011	0.004	
14:00	0.72		0.007	0.004	
14:15	0.93		0.011	0.004	
14:30	0.75		0.007	0.005	
14:45	0.70		0.006	0.005	
15:00	1.08		0.015	0.005	
15:15	0.98		0.012	0.005	
15:30	0.81		0.008	0.005	
15:45	0.81		0.008	0.005	
16:00	0.83		0.009	0.005	
16:15	0.51		0.004	0.005	
16:30	0.49		0.003	0.005	
16:45	0.39		0.002	0.005	
17:00	1.37		0.024	0.005	
17:15	0.59		0.005	0.006	
17:30	0.38		0.002	0.006	
17:45	0.26		0.001	0.006	
18:00	0.26		0.001	0.006	
18:15	0.23		0.001	0.006	
18:30	0.20		0.001	0.006	
18:45	0.81		0.015	0.006	
19:00	1.00		0.013	0.006	
19:15	0.56		0.004	0.006	
19:30	0.47		0.003	0.006	
19:45	0.45		0.003	0.006	
20:00	0.38		0.002	0.006	
20:15	0.42		0.002	0.006	
20:30	0.30		0.001	0.006	
20:45	1.29		0.021	0.006	
21:00	0.57		0.004	0.006	
21:15	0.33		0.002	0.006	
21:30	0.22		0.001	0.006	
21:45	0.18		0.001	0.006	
22:00	0.16		0.000	0.006	
22:15	0.17		0.000	0.006	
22:30	0.16		0.000	0.006	
22:45	0.17		0.000	0.006	
23:00	0.14		0.000	0.006	
23:15	0.14		0.000	0.006	
23:30	0.15		0.000	0.006	
23:45	0.17		0.000	0.006	
Daily Totals:				**0.006**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/22/2018					
0:00	0.15		0.000	0.000	
0:15	0.13		0.000	0.000	
0:30	0.99		0.016	0.000	
0:45	0.69		0.006	0.000	
1:00	0.37		0.002	0.000	
1:15	0.22		0.001	0.000	
1:30	0.16		0.000	0.000	
1:45	0.13		0.000	0.000	
2:00	0.83		0.011	0.000	
2:15	0.56		0.004	0.000	
2:30	0.31		0.001	0.000	
2:45	0.18		0.001	0.000	
3:00	0.12		0.000	0.000	
3:15	0.11		0.000	0.000	
3:30	0.10		0.000	0.000	
3:45	0.09		0.000	0.000	
4:00	0.09		0.000	0.000	
4:15	0.10		0.000	0.000	
4:30	0.10		0.000	0.000	
4:45	1.14		0.017	0.001	
5:00	0.49		0.003	0.001	
5:15	0.28		0.001	0.001	
5:30	0.17		0.000	0.001	
5:45	0.14		0.000	0.001	
6:00	0.13		0.000	0.001	
6:15	0.11		0.000	0.001	
6:30	0.11		0.000	0.001	
6:45	0.10		0.000	0.001	
7:00	0.10		0.000	0.001	
7:15	0.09		0.000	0.001	
7:30	0.11		0.000	0.001	
7:45	0.09		0.000	0.001	
8:00	0.10		0.000	0.001	
8:15	0.46		0.006	0.001	
8:30	0.99		0.013	0.001	
8:45	1.18		0.020	0.001	
9:00	0.68		0.006	0.001	
9:15	0.35		0.002	0.001	
9:30	0.21		0.001	0.001	
9:45	0.14		0.000	0.001	
10:00	0.12		0.000	0.001	
10:15	0.12		0.000	0.001	
10:30	0.10		0.000	0.001	
10:45	0.11		0.000	0.001	
11:00	0.12		0.000	0.001	
11:15	0.10		0.000	0.001	
11:30	0.11		0.000	0.001	
11:45	0.12		0.000	0.001	
12:00	0.11		0.000	0.001	
12:15	0.11		0.000	0.001	
12:30	0.10		0.000	0.001	
12:45	0.12		0.000	0.001	
13:00	0.12		0.000	0.001	
13:15	0.54		0.008	0.001	
13:30	0.76		0.008	0.001	
13:45	0.40		0.002	0.001	
14:00	0.24		0.001	0.001	
14:15	0.18		0.000	0.001	
14:30	0.16		0.000	0.001	
14:45	0.14		0.000	0.001	
15:00	0.11		0.000	0.001	
15:15	0.11		0.000	0.001	
15:30	0.57		0.009	0.002	
15:45	0.76		0.008	0.002	
16:00	0.39		0.002	0.002	
16:15	0.23		0.001	0.002	
16:30	0.14		0.000	0.002	
16:45	0.13		0.000	0.002	
17:00	0.11		0.000	0.002	
17:15	0.11		0.000	0.002	
17:30	0.10		0.000	0.002	
17:45	0.10		0.000	0.002	
18:00	0.87		0.013	0.002	
18:15	0.68		0.006	0.002	
18:30	0.36		0.002	0.002	
18:45	0.21		0.001	0.002	
19:00	0.18		0.000	0.002	
19:15	0.16		0.000	0.002	
19:30	0.22		0.001	0.002	
19:45	0.29		0.001	0.002	
20:00	0.26		0.001	0.002	
20:15	0.21		0.001	0.002	
20:30	0.16		0.000	0.002	
20:45	0.13		0.000	0.002	
21:00	0.11		0.000	0.002	
21:15	0.11		0.000	0.002	
21:30	0.12		0.000	0.002	
21:45	1.00		0.017	0.002	
22:00	0.68		0.006	0.002	
22:15	0.34		0.002	0.002	
22:30	0.20		0.001	0.002	
22:45	0.13		0.000	0.002	
23:00	0.10		0.000	0.002	
23:15	0.69		0.009	0.002	
23:30	0.69		0.007	0.002	
23:45	0.35		0.002	0.002	
Daily Totals:				**0.002**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/23/2018					
0:00	0.20		0.001	0.000	
0:15	0.13		0.000	0.000	
0:30	0.11		0.000	0.000	
0:45	0.09		0.000	0.000	
1:00	0.48		0.006	0.000	
1:15	2.09		0.054	0.001	
1:30	0.84		0.010	0.001	
1:45	0.36		0.002	0.001	
2:00	0.28		0.001	0.001	
2:15	0.22		0.001	0.001	
2:30	0.16		0.000	0.001	
2:45	0.13		0.000	0.001	
3:00	0.12		0.000	0.001	
3:15	0.11		0.000	0.001	
3:30	0.11		0.000	0.001	
3:45	0.11		0.000	0.001	
4:00	0.09		0.000	0.001	
4:15	0.09		0.000	0.001	
4:30	0.08		0.000	0.001	
4:45	0.48		0.007	0.001	
5:00	1.67		0.037	0.001	
5:15	0.58		0.005	0.001	
5:30	0.32		0.001	0.001	
5:45	0.19		0.001	0.001	
6:00	0.16		0.000	0.001	
6:15	0.15		0.000	0.001	
6:30	0.10		0.000	0.001	
6:45	0.08		0.000	0.001	
7:00	0.09		0.000	0.001	
7:15	0.09		0.000	0.001	
7:30	0.09		0.000	0.001	
7:45	0.10		0.000	0.001	
8:00	0.10		0.000	0.001	
8:15	0.11		0.000	0.001	
8:30	0.11		0.000	0.001	
8:45	0.11		0.000	0.001	
9:00	0.14		0.000	0.001	
9:15	0.13		0.000	0.001	
9:30	0.21		0.001	0.001	
9:45	0.28		0.001	0.001	
10:00	0.25		0.001	0.001	
10:15	0.34		0.002	0.001	
10:30	0.29		0.001	0.001	
10:45	0.52		0.005	0.001	
11:00	1.42		0.027	0.002	
11:15	1.67		0.036	0.002	
11:30	1.26		0.020	0.002	
11:45	0.80		0.008	0.002	
12:00	0.41		0.002	0.002	
12:15	0.28		0.001	0.002	
12:30	0.49		0.003	0.002	
12:45	0.61		0.005	0.003	
13:00	0.86		0.009	0.003	
13:15	0.76		0.007	0.003	
13:30	0.81		0.008	0.003	
13:45	0.51		0.003	0.003	
14:00	0.38		0.002	0.003	
14:15	0.37		0.002	0.003	
14:30	0.31		0.001	0.003	
14:45	0.26		0.001	0.003	
15:00	0.17		0.000	0.003	
15:15	0.17		0.000	0.003	
15:30	0.25		0.001	0.003	
15:45	0.19		0.001	0.003	
16:00	0.19		0.001	0.003	
16:15	0.16		0.000	0.003	
16:30	0.13		0.000	0.003	
16:45	0.82		0.011	0.003	
17:00	0.57		0.004	0.003	
17:15	0.31		0.001	0.003	
17:30	0.19		0.001	0.003	
17:45	0.13		0.000	0.003	
18:00	0.11		0.000	0.003	
18:15	0.10		0.000	0.003	
18:30	0.59		0.010	0.003	
18:45	0.86		0.010	0.003	
19:00	0.40		0.002	0.003	
19:15	0.25		0.001	0.003	
19:30	0.20		0.001	0.003	
19:45	0.27		0.001	0.003	
20:00	0.25		0.001	0.003	
20:15	0.21		0.001	0.003	
20:30	0.15		0.000	0.003	
20:45	0.13		0.000	0.003	
21:00	0.11		0.000	0.003	
21:15	0.10		0.000	0.003	
21:30	0.09		0.000	0.003	
21:45	0.10		0.000	0.003	
22:00	0.10		0.000	0.003	
22:15	0.10		0.000	0.003	
22:30	0.11		0.000	0.003	
22:45	0.11		0.000	0.003	
23:00	0.77		0.010	0.004	
23:15	0.55		0.004	0.004	
23:30	0.31		0.001	0.004	
23:45	0.19		0.001	0.004	
Daily Totals:				**0.004**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/24/2018					
0:00	0.15		0.000	0.000	
0:15	0.13		0.000	0.000	
0:30	0.12		0.000	0.000	
0:45	0.61		0.010	0.000	
1:00	0.78		0.008	0.000	
1:15	0.40		0.002	0.000	
1:30	0.79		0.008	0.000	
1:45	0.96		0.012	0.000	
2:00	0.94		0.011	0.001	
2:15	0.56		0.004	0.001	
2:30	0.29		0.001	0.001	
2:45	0.18		0.000	0.001	
3:00	0.14		0.000	0.001	
3:15	0.12		0.000	0.001	
3:30	0.11		0.000	0.001	
3:45	0.15		0.000	0.001	
4:00	0.12		0.000	0.001	
4:15	0.11		0.000	0.001	
4:30	0.09		0.000	0.001	
4:45	0.09		0.000	0.001	
5:00	0.09		0.000	0.001	
5:15	0.08		0.000	0.001	
5:30	0.09		0.000	0.001	
5:45	0.09		0.000	0.001	
6:00	0.08		0.000	0.001	
6:15	0.89		0.014	0.001	
6:30	0.61		0.005	0.001	
6:45	0.33		0.002	0.001	
7:00	0.19		0.001	0.001	
7:15	0.13		0.000	0.001	
7:30	0.11		0.000	0.001	
7:45	0.13		0.000	0.001	
8:00	1.11		0.016	0.001	
8:15	0.54		0.004	0.001	
8:30	0.31		0.001	0.001	
8:45	0.20		0.001	0.001	
9:00	0.17		0.000	0.001	
9:15	0.12		0.000	0.001	
9:30	0.12		0.000	0.001	
9:45	0.13		0.000	0.001	
10:00	0.12		0.000	0.001	
10:15	0.10		0.000	0.001	
10:30	0.09		0.000	0.001	
10:45	0.09		0.000	0.001	
11:00	0.09		0.000	0.001	
11:15	0.13		0.000	0.001	
11:30	0.15		0.000	0.001	
11:45	0.17		0.000	0.001	
12:00	0.14		0.000	0.001	
12:15	0.13		0.000	0.001	
12:30	0.17		0.000	0.001	
12:45	0.18		0.001	0.001	
13:00	0.16		0.000	0.001	
13:15	0.15		0.000	0.001	
13:30	0.18		0.000	0.001	
13:45	0.15		0.000	0.001	
14:00	0.13		0.000	0.001	
14:15	0.15		0.000	0.001	
14:30	1.70		0.038	0.002	
14:45	0.61		0.005	0.002	
15:00	0.33		0.002	0.002	
15:15	0.20		0.001	0.002	
15:30	0.13		0.000	0.002	
15:45	0.10		0.000	0.002	
16:00	0.10		0.000	0.002	
16:15	0.11		0.000	0.002	
16:30	0.11		0.000	0.002	
16:45	0.10		0.000	0.002	
17:00	0.11		0.000	0.002	
17:15	0.10		0.000	0.002	
17:30	0.09		0.000	0.002	
17:45	0.09		0.000	0.002	
18:00	0.08		0.000	0.002	
18:15	0.08		0.000	0.002	
18:30	0.09		0.000	0.002	
18:45	0.09		0.000	0.002	
19:00	0.10		0.000	0.002	
19:15	0.11		0.000	0.002	
19:30	0.16		0.000	0.002	
19:45	0.20		0.001	0.002	
20:00	0.09		0.000	0.002	0.01
20:15	0.12		0.000	0.002	
20:30	0.13		0.000	0.002	0.02
20:45	0.12		0.000	0.002	0.03
21:00	0.14		0.000	0.002	0.04
21:15	0.16		0.000	0.002	0.05
21:30	0.85		0.013	0.002	0.05
21:45	0.46		0.003	0.002	0.05
22:00	0.15		0.000	0.002	0.05
22:15	0.14		0.000	0.002	0.07
22:30	0.53		0.008	0.002	0.07
22:45	0.23		0.001	0.002	0.08
23:00	0.14		0.000	0.002	0.11
23:15	0.14		0.000	0.002	0.09
23:30	0.17		0.000	0.002	0.07
23:45	0.15		0.000	0.002	0.03
Daily Totals:				**0.002**	**0.82**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/25/2018					
0:00	0.14		0.000	0.000	
0:15	0.16		0.000	0.000	0.01
0:30	0.15		0.000	0.000	0.02
0:45	0.66		0.009	0.000	
1:00	0.67		0.007	0.000	0.01
1:15	1.05		0.019	0.000	0.03
1:30	0.61		0.009	0.000	0.06
1:45	0.27		0.001	0.000	0.05
2:00	0.17		0.000	0.000	0.04
2:15	0.14		0.000	0.000	0.04
2:30	0.57		0.006	0.001	0.04
2:45	0.17		0.000	0.001	0.02
3:00	0.15		0.000	0.001	
3:15	1.01		0.017	0.001	0.01
3:30	0.63		0.010	0.001	
3:45	0.19		0.001	0.001	
4:00	1.01		0.016	0.001	
4:15	0.32		0.002	0.001	
4:30	0.16		0.000	0.001	
4:45	0.66		0.011	0.001	
5:00	0.34		0.002	0.001	
5:15	0.13		0.000	0.001	
5:30	0.13		0.000	0.001	
5:45	0.59		0.007	0.001	
6:00	0.15		0.000	0.001	
6:15	0.15		0.000	0.001	
6:30	0.76		0.011	0.001	
6:45	0.16		0.000	0.001	
7:00	0.15		0.000	0.001	
7:15	0.72		0.010	0.001	
7:30	0.16		0.000	0.002	
7:45	0.13		0.000	0.002	
8:00	0.66		0.007	0.002	
8:15	0.19		0.001	0.002	
8:30	0.15		0.000	0.002	
8:45	0.25		0.001	0.002	
9:00	0.48		0.005	0.002	
9:15	0.14		0.000	0.002	
9:30	0.15		0.000	0.002	
9:45	0.79		0.010	0.002	
10:00	0.19		0.001	0.002	
10:15	0.14		0.000	0.002	
10:30	0.63		0.010	0.002	
10:45	0.31		0.002	0.002	
11:00	0.71		0.010	0.002	
11:15	0.17		0.000	0.002	
11:30	0.83		0.012	0.002	
11:45	0.14		0.000	0.002	
12:00	0.14		0.000	0.002	
12:15	0.40		0.004	0.002	
12:30	0.43		0.004	0.002	
12:45	0.15		0.000	0.002	
13:00	0.14		0.000	0.002	
13:15	0.59		0.009	0.002	
13:30	0.24		0.001	0.002	
13:45	0.17		0.000	0.002	
14:00	0.17		0.000	0.002	
14:15	0.29		0.002	0.002	
14:30	0.48		0.005	0.002	
14:45	0.38		0.002	0.002	
15:00	0.41		0.002	0.002	
15:15	0.42		0.002	0.002	
15:30	0.97		0.013	0.003	
15:45	0.42		0.002	0.003	
16:00	0.44		0.003	0.003	
16:15	0.40		0.002	0.003	
16:30	0.19		0.001	0.003	
16:45	0.68		0.009	0.003	
17:00	0.27		0.001	0.003	
17:15	0.44		0.003	0.003	
17:30	0.97		0.016	0.003	
17:45	0.19		0.001	0.003	
18:00	0.59		0.007	0.003	
18:15	0.16		0.000	0.003	
18:30	0.14		0.000	0.003	
18:45	0.16		0.000	0.003	
19:00	0.16		0.000	0.003	
19:15	0.17		0.000	0.003	
19:30	0.56		0.007	0.003	
19:45	0.23		0.001	0.003	
20:00	0.17		0.000	0.003	
20:15	0.14		0.000	0.003	
20:30	0.14		0.000	0.003	
20:45	0.14		0.000	0.003	
21:00	0.14		0.000	0.003	
21:15	0.56		0.005	0.003	
21:30	0.15		0.000	0.003	
21:45	0.14		0.000	0.003	
22:00	0.12		0.000	0.003	
22:15	0.15		0.000	0.003	
22:30	0.15		0.000	0.003	
22:45	0.15		0.000	0.003	
23:00	0.62		0.010	0.003	
23:15	0.32		0.002	0.003	
23:30	0.15		0.000	0.003	
23:45	0.15		0.000	0.003	
Daily Totals:				**0.003**	**0.33**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/26/2018					
0:00	0.14		0.000	0.000	
0:15	0.13		0.000	0.000	
0:30	0.67		0.007	0.000	
0:45	0.15		0.000	0.000	
1:00	0.55		0.005	0.000	
1:15	0.20		0.001	0.000	
1:30	0.14		0.000	0.000	
1:45	0.13		0.000	0.000	
2:00	0.15		0.000	0.000	
2:15	0.15		0.000	0.000	
2:30	0.13		0.000	0.000	
2:45	0.14		0.000	0.000	
3:00	0.13		0.000	0.000	
3:15	0.78		0.011	0.000	
3:30	0.14		0.000	0.000	
3:45	0.14		0.000	0.000	
4:00	0.14		0.000	0.000	
4:15	0.13		0.000	0.000	
4:30	0.13		0.000	0.000	
4:45	0.13		0.000	0.000	
5:00	0.14		0.000	0.000	
5:15	0.48		0.006	0.000	
5:30	0.21		0.001	0.000	
5:45	0.15		0.000	0.000	
6:00	0.14		0.000	0.000	
6:15	0.14		0.000	0.000	
6:30	0.14		0.000	0.000	
6:45	0.18		0.001	0.000	
7:00	0.77		0.008	0.000	
7:15	0.19		0.001	0.000	
7:30	0.77		0.013	0.001	
7:45	0.45		0.003	0.001	
8:00	0.36		0.002	0.001	
8:15	0.37		0.002	0.001	
8:30	0.29		0.001	0.001	
8:45	0.36		0.002	0.001	
9:00	0.45		0.003	0.001	
9:15	0.62		0.005	0.001	
9:30	0.54		0.004	0.001	
9:45	0.66		0.006	0.001	
10:00	1.00		0.014	0.001	
10:15	0.59		0.005	0.001	
10:30	1.07		0.017	0.001	
10:45	1.06		0.014	0.001	
11:00	1.16		0.017	0.002	
11:15	0.89		0.010	0.002	
11:30	1.26		0.020	0.002	
11:45	1.42		0.024	0.002	
12:00	1.79		0.050	0.003	
12:15	0.87		0.010	0.003	
12:30	1.78		0.044	0.003	
12:45	1.26		0.020	0.003	
13:00	1.07		0.014	0.004	
13:15	1.38		0.023	0.004	
13:30	1.37		0.023	0.004	
13:45	1.11		0.015	0.004	0.01
14:00	2.00		0.051	0.005	
14:15	1.36		0.023	0.005	
14:30	1.12		0.016	0.005	
14:45	1.14		0.016	0.005	0.02
15:00	1.75		0.040	0.006	0.04
15:15	1.38		0.024	0.006	0.05
15:30	1.32		0.021	0.006	0.16
15:45	0.92		0.011	0.006	0.09
16:00	0.93		0.011	0.006	0.06
16:15	1.12		0.016	0.007	0.04
16:30	1.07		0.014	0.007	0.06
16:45	0.88		0.010	0.007	0.07
17:00	1.27		0.023	0.007	0.03
17:15	1.15		0.017	0.007	0.05
17:30	0.78		0.008	0.007	0.08
17:45	0.73		0.007	0.007	0.08
18:00	1.48		0.030	0.008	0.05
18:15	0.90		0.011	0.008	0.05
18:30	0.63		0.005	0.008	0.05
18:45	1.22		0.023	0.008	0.03
19:00	1.13		0.017	0.008	0.03
19:15	0.74		0.007	0.008	0.02
19:30	1.06		0.020	0.009	
19:45	1.16		0.017	0.009	
20:00	0.65		0.006	0.009	
20:15	1.38		0.036	0.009	0.01
20:30	1.35		0.023	0.009	
20:45	0.67		0.006	0.010	
21:00	1.29		0.023	0.010	0.01
21:15	0.92		0.011	0.010	
21:30	0.78		0.008	0.010	
21:45	1.40		0.026	0.010	0.01
22:00	0.91		0.011	0.010	
22:15	0.57		0.004	0.010	0.01
22:30	1.28		0.024	0.011	
22:45	0.77		0.008	0.011	
23:00	0.44		0.003	0.011	
23:15	1.08		0.018	0.011	
23:30	0.79		0.008	0.011	
23:45	0.45		0.003	0.011	
Daily Totals:				**0.011**	**1.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/27/2018					
0:00	1.18		0.021	0.000	
0:15	0.77		0.008	0.000	
0:30	0.43		0.003	0.000	
0:45	0.71		0.010	0.000	
1:00	1.19		0.019	0.001	0.01
1:15	2.13		0.056	0.001	0.01
1:30	1.46		0.026	0.001	0.03
1:45	0.88		0.010	0.002	0.03
2:00	0.43		0.003	0.002	0.01
2:15	0.78		0.013	0.002	
2:30	0.99		0.013	0.002	0.01
2:45	0.48		0.003	0.002	
3:00	0.74		0.011	0.002	
3:15	1.04		0.014	0.002	
3:30	0.50		0.003	0.002	
3:45	1.28		0.027	0.003	
4:00	1.27		0.021	0.003	
4:15	0.57		0.004	0.003	
4:30	0.32		0.001	0.003	0.01
4:45	1.31		0.022	0.003	
5:00	0.58		0.005	0.003	
5:15	0.34		0.002	0.003	
5:30	1.02		0.017	0.003	
5:45	0.67		0.006	0.003	
6:00	0.37		0.002	0.003	
6:15	1.11		0.019	0.004	
6:30	0.74		0.007	0.004	
6:45	0.41		0.002	0.004	
7:00	0.76		0.012	0.004	
7:15	0.88		0.010	0.004	
7:30	0.47		0.003	0.004	
7:45	1.01		0.019	0.004	
8:00	1.25		0.019	0.004	
8:15	0.95		0.012	0.004	
8:30	0.94		0.011	0.005	
8:45	1.52		0.030	0.005	
9:00	0.90		0.010	0.005	
9:15	1.02		0.013	0.005	
9:30	1.97		0.048	0.006	
9:45	1.11		0.015	0.006	
10:00	1.88		0.045	0.006	
10:15	2.20		0.057	0.007	
10:30	1.29		0.021	0.007	
10:45	1.28		0.020	0.007	
11:00	1.07		0.014	0.007	
11:15	1.48		0.028	0.008	
11:30	1.05		0.014	0.008	
11:45	1.34		0.022	0.008	
12:00	1.90		0.045	0.009	
12:15	1.05		0.014	0.009	
12:30	1.13		0.016	0.009	
12:45	1.27		0.022	0.009	
13:00	1.68		0.035	0.009	
13:15	1.39		0.024	0.010	
13:30	1.52		0.028	0.010	
13:45	1.69		0.036	0.010	
14:00	1.37		0.023	0.011	
14:15	1.45		0.026	0.011	
14:30	1.32		0.021	0.011	
14:45	2.05		0.052	0.012	
15:00	1.20		0.018	0.012	
15:15	1.44		0.025	0.012	
15:30	1.29		0.020	0.012	
15:45	1.95		0.046	0.013	
16:00	1.35		0.022	0.013	
16:15	1.32		0.022	0.013	
16:30	1.52		0.028	0.014	
16:45	1.25		0.020	0.014	
17:00	1.34		0.023	0.014	
17:15	0.82		0.009	0.014	
17:30	1.46		0.028	0.014	
17:45	0.75		0.007	0.014	
18:00	1.55		0.032	0.015	
18:15	0.94		0.012	0.015	
18:30	0.60		0.005	0.015	
18:45	0.62		0.005	0.015	
19:00	0.53		0.004	0.015	
19:15	1.63		0.034	0.015	
19:30	0.72		0.007	0.015	
19:45	0.51		0.003	0.015	
20:00	0.71		0.007	0.016	
20:15	0.54		0.004	0.016	
20:30	1.53		0.030	0.016	
20:45	0.75		0.007	0.016	
21:00	0.59		0.005	0.016	
21:15	0.56		0.004	0.016	
21:30	0.66		0.006	0.016	
21:45	1.55		0.031	0.016	
22:00	0.67		0.006	0.017	
22:15	0.47		0.003	0.017	
22:30	0.39		0.002	0.017	
22:45	0.31		0.001	0.017	
23:00	0.82		0.011	0.017	
23:15	0.81		0.009	0.017	
23:30	0.44		0.003	0.017	
23:45	0.80		0.014	0.017	
Daily Totals:				**0.017**	**0.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/28/2018					
0:00	0.95		0.012	0.000	
0:15	0.95		0.015	0.000	
0:30	1.01		0.013	0.000	
0:45	0.50		0.003	0.000	
1:00	0.31		0.001	0.000	
1:15	0.21		0.001	0.000	
1:30	0.17		0.000	0.000	
1:45	1.01		0.017	0.001	
2:00	0.71		0.007	0.001	
2:15	0.40		0.002	0.001	
2:30	0.25		0.001	0.001	
2:45	0.19		0.001	0.001	
3:00	0.18		0.001	0.001	
3:15	1.26		0.021	0.001	
3:30	0.58		0.004	0.001	
3:45	0.33		0.002	0.001	
4:00	0.22		0.001	0.001	
4:15	0.17		0.000	0.001	
4:30	0.15		0.000	0.001	
4:45	1.14		0.017	0.001	
5:00	0.60		0.005	0.001	
5:15	0.34		0.002	0.001	
5:30	0.24		0.001	0.001	
5:45	0.19		0.001	0.001	
6:00	0.19		0.001	0.001	
6:15	1.00		0.017	0.002	
6:30	0.69		0.006	0.002	
6:45	0.40		0.002	0.002	
7:00	1.26		0.020	0.002	
7:15	0.66		0.006	0.002	
7:30	0.40		0.002	0.002	
7:45	0.85		0.015	0.002	
8:00	1.28		0.021	0.002	
8:15	0.83		0.009	0.002	
8:30	0.78		0.008	0.002	
8:45	1.43		0.026	0.003	
9:00	1.71		0.035	0.003	
9:15	1.48		0.027	0.003	
9:30	1.50		0.029	0.004	
9:45	0.92		0.011	0.004	
10:00	0.99		0.013	0.004	
10:15	0.97		0.012	0.004	
10:30	0.85		0.009	0.004	
10:45	1.27		0.020	0.004	
11:00	0.96		0.012	0.004	
11:15	1.69		0.034	0.005	
11:30	0.96		0.012	0.005	
11:45	1.07		0.014	0.005	
12:00	1.01		0.013	0.005	
12:15	0.98		0.012	0.005	
12:30	0.87		0.010	0.005	
12:45	0.95		0.011	0.006	
13:00	1.81		0.043	0.006	
13:15	1.89		0.045	0.006	
13:30	1.41		0.024	0.007	
13:45	1.18		0.018	0.007	
14:00	0.96		0.012	0.007	
14:15	1.10		0.016	0.007	
14:30	1.24		0.019	0.007	
14:45	1.30		0.021	0.008	
15:00	1.75		0.039	0.008	
15:15	1.28		0.020	0.008	
15:30	1.09		0.015	0.008	
15:45	1.11		0.015	0.009	
16:00	1.41		0.024	0.009	
16:15	1.44		0.025	0.009	
16:30	1.21		0.018	0.009	
16:45	0.99		0.012	0.009	
17:00	1.55		0.030	0.010	
17:15	0.85		0.009	0.010	
17:30	0.94		0.011	0.010	
17:45	0.83		0.009	0.010	
18:00	0.64		0.005	0.010	
18:15	0.87		0.010	0.010	
18:30	0.65		0.006	0.010	
18:45	0.59		0.005	0.010	
19:00	1.26		0.023	0.010	
19:15	0.83		0.009	0.011	
19:30	0.60		0.005	0.011	
19:45	0.54		0.004	0.011	
20:00	0.75		0.007	0.011	
20:15	1.29		0.023	0.011	
20:30	0.77		0.008	0.011	
20:45	0.47		0.003	0.011	
21:00	1.36		0.028	0.011	
21:15	0.87		0.010	0.012	
21:30	0.51		0.004	0.012	
21:45	0.42		0.002	0.012	
22:00	0.54		0.004	0.012	
22:15	0.57		0.004	0.012	
22:30	0.41		0.002	0.012	
22:45	0.32		0.001	0.012	
23:00	0.26		0.001	0.012	
23:15	0.97		0.015	0.012	
23:30	0.66		0.006	0.012	
23:45	0.40		0.002	0.012	
Daily Totals:				**0.012**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/29/2018					
0:00	0.27		0.001	0.000	
0:15	0.21		0.001	0.000	
0:30	0.19		0.001	0.000	
0:45	0.18		0.001	0.000	
1:00	0.52		0.006	0.000	
1:15	2.44		0.076	0.001	
1:30	0.98		0.013	0.001	
1:45	0.46		0.003	0.001	
2:00	0.28		0.001	0.001	
2:15	0.20		0.001	0.001	
2:30	0.92		0.014	0.001	
2:45	0.64		0.006	0.001	
3:00	0.36		0.002	0.001	
3:15	0.22		0.001	0.001	
3:30	0.63		0.010	0.001	
3:45	0.82		0.009	0.001	
4:00	0.43		0.003	0.002	
4:15	0.28		0.001	0.002	
4:30	0.21		0.001	0.002	
4:45	0.18		0.000	0.002	
5:00	0.17		0.000	0.002	
5:15	0.15		0.000	0.002	
5:30	0.16		0.000	0.002	
5:45	0.20		0.001	0.002	
6:00	1.32		0.023	0.002	
6:15	0.58		0.005	0.002	
6:30	0.34		0.002	0.002	
6:45	0.25		0.001	0.002	
7:00	0.34		0.002	0.002	
7:15	0.36		0.002	0.002	
7:30	0.43		0.003	0.002	
7:45	0.46		0.003	0.002	
8:00	0.50		0.003	0.002	
8:15	0.44		0.003	0.002	
8:30	1.47		0.028	0.002	
8:45	0.94		0.012	0.002	
9:00	0.88		0.010	0.003	
9:15	1.08		0.015	0.003	
9:30	1.33		0.022	0.003	
9:45	1.51		0.029	0.003	
10:00	1.37		0.023	0.003	
10:15	1.71		0.035	0.004	
10:30	1.41		0.025	0.004	
10:45	1.37		0.024	0.004	
11:00	1.40		0.025	0.005	
11:15	1.22		0.018	0.005	
11:30	1.10		0.015	0.005	
11:45	1.41		0.024	0.005	
12:00	1.12		0.016	0.005	
12:15	1.07		0.015	0.006	
12:30	1.06		0.014	0.006	
12:45	1.22		0.018	0.006	
13:00	1.35		0.022	0.006	
13:15	1.17		0.017	0.006	
13:30	2.02		0.049	0.007	
13:45	1.53		0.028	0.007	
14:00	1.38		0.023	0.007	
14:15	1.45		0.025	0.008	
14:30	1.33		0.022	0.008	
14:45	1.26		0.020	0.008	
15:00	1.20		0.018	0.008	
15:15	1.49		0.028	0.008	
15:30	1.22		0.018	0.009	
15:45	1.90		0.048	0.009	
16:00	1.25		0.019	0.009	
16:15	1.76		0.038	0.010	
16:30	1.08		0.015	0.010	
16:45	0.86		0.010	0.010	
17:00	0.65		0.006	0.010	
17:15	0.58		0.005	0.010	
17:30	0.72		0.007	0.010	
17:45	0.63		0.005	0.010	
18:00	0.61		0.005	0.010	
18:15	0.52		0.004	0.010	
18:30	0.54		0.004	0.010	
18:45	0.48		0.003	0.010	
19:00	1.02		0.020	0.011	
19:15	1.16		0.017	0.011	
19:30	0.81		0.009	0.011	
19:45	0.58		0.004	0.011	
20:00	0.58		0.004	0.011	
20:15	0.57		0.004	0.011	
20:30	0.43		0.002	0.011	
20:45	0.48		0.003	0.011	
21:00	0.69		0.006	0.011	
21:15	0.67		0.006	0.011	
21:30	0.58		0.005	0.011	
21:45	0.72		0.007	0.011	
22:00	1.23		0.021	0.012	
22:15	0.99		0.013	0.012	
22:30	0.55		0.004	0.012	
22:45	0.34		0.002	0.012	
23:00	1.29		0.021	0.012	
23:15	0.56		0.004	0.012	
23:30	0.31		0.001	0.012	
23:45	0.20		0.001	0.012	
Daily Totals:				**0.012**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/30/2018					
0:00	0.16		0.000	0.000	
0:15	0.13		0.000	0.000	
0:30	0.13		0.000	0.000	
0:45	0.13		0.000	0.000	
1:00	0.13		0.000	0.000	
1:15	0.99		0.017	0.000	
1:30	0.67		0.006	0.000	
1:45	0.36		0.002	0.000	
2:00	0.21		0.001	0.000	
2:15	0.14		0.000	0.000	
2:30	0.14		0.000	0.000	
2:45	0.13		0.000	0.000	
3:00	0.12		0.000	0.000	
3:15	0.13		0.000	0.000	
3:30	0.13		0.000	0.000	
3:45	0.12		0.000	0.000	
4:00	0.12		0.000	0.000	
4:15	0.52		0.007	0.000	
4:30	0.95		0.012	0.000	
4:45	0.45		0.003	0.001	
5:00	0.26		0.001	0.001	
5:15	0.71		0.013	0.001	
5:30	0.91		0.011	0.001	
5:45	0.45		0.003	0.001	
6:00	0.24		0.001	0.001	
6:15	0.15		0.000	0.001	
6:30	0.13		0.000	0.001	
6:45	0.12		0.000	0.001	
7:00	0.11		0.000	0.001	
7:15	0.11		0.000	0.001	
7:30	0.12		0.000	0.001	
7:45	1.18		0.018	0.001	
8:00	0.52		0.004	0.001	
8:15	0.30		0.001	0.001	
8:30	0.21		0.001	0.001	
8:45	0.19		0.001	0.001	
9:00	0.18		0.001	0.001	
9:15	0.68		0.009	0.001	
9:30	1.37		0.023	0.001	
9:45	1.34		0.022	0.002	
10:00	1.35		0.022	0.002	
10:15	1.35		0.022	0.002	
10:30	1.39		0.024	0.002	
10:45	1.41		0.024	0.003	
11:00	1.42		0.024	0.003	
11:15	1.92		0.044	0.003	
11:30	1.42		0.024	0.004	
11:45	1.46		0.026	0.004	
12:00	1.48		0.026	0.004	
12:15	1.38		0.023	0.004	
12:30	0.98		0.013	0.005	
12:45	1.25		0.022	0.005	
13:00	0.80		0.008	0.005	
13:15	0.66		0.006	0.005	
13:30	0.49		0.003	0.005	
13:45	0.50		0.004	0.005	
14:00	0.72		0.007	0.005	
14:15	0.70		0.006	0.005	
14:30	0.68		0.006	0.005	
14:45	0.89		0.010	0.005	0.01
15:00	0.63		0.005	0.005	
15:15	1.64		0.034	0.006	
15:30	0.67		0.006	0.006	
15:45	0.40		0.002	0.006	
16:00	0.30		0.001	0.006	
16:15	0.60		0.005	0.006	
16:30	0.66		0.006	0.006	
16:45	0.40		0.002	0.006	
17:00	0.30		0.001	0.006	
17:15	0.23		0.001	0.006	
17:30	0.23		0.001	0.006	
17:45	0.22		0.001	0.006	
18:00	0.19		0.001	0.006	
18:15	0.16		0.000	0.006	0.01
18:30	0.16		0.000	0.006	
18:45	0.65		0.011	0.006	
19:00	0.91		0.011	0.006	
19:15	1.55		0.031	0.007	
19:30	0.60		0.005	0.007	
19:45	0.40		0.002	0.007	
20:00	0.34		0.002	0.007	
20:15	0.42		0.002	0.007	
20:30	0.40		0.002	0.007	
20:45	0.37		0.002	0.007	
21:00	0.62		0.005	0.007	
21:15	0.59		0.005	0.007	
21:30	0.36		0.002	0.007	
21:45	0.40		0.002	0.007	
22:00	0.48		0.003	0.007	
22:15	0.48		0.003	0.007	
22:30	0.29		0.001	0.007	
22:45	0.19		0.001	0.007	
23:00	1.07		0.015	0.007	
23:15	0.47		0.003	0.007	
23:30	0.27		0.001	0.007	
23:45	0.17		0.000	0.007	
Daily Totals:				**0.007**	**0.02**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/1/2018					
0:00	0.14		0.000	0.000	
0:15	0.12		0.000	0.000	
0:30	0.11		0.000	0.000	
0:45	0.10		0.000	0.000	
1:00	0.38		0.004	0.000	
1:15	2.13		0.056	0.001	
1:30	0.88		0.010	0.001	
1:45	0.39		0.002	0.001	
2:00	0.21		0.001	0.001	
2:15	0.14		0.000	0.001	
2:30	1.17		0.017	0.001	
2:45	0.52		0.004	0.001	
3:00	0.97		0.013	0.001	
3:15	0.59		0.005	0.001	
3:30	0.31		0.001	0.001	
3:45	0.17		0.000	0.001	
4:00	0.12		0.000	0.001	
4:15	0.10		0.000	0.001	
4:30	0.10		0.000	0.001	
4:45	0.10		0.000	0.001	
5:00	0.09		0.000	0.001	
5:15	0.08		0.000	0.001	
5:30	0.08		0.000	0.001	
5:45	0.10		0.000	0.001	
6:00	0.09		0.000	0.001	
6:15	0.10		0.000	0.001	
6:30	0.08		0.000	0.001	
6:45	0.09		0.000	0.001	
7:00	0.09		0.000	0.001	
7:15	0.12		0.000	0.001	
7:30	0.82		0.011	0.001	
7:45	0.58		0.005	0.001	
8:00	0.31		0.001	0.001	
8:15	0.27		0.001	0.001	
8:30	0.32		0.001	0.001	
8:45	0.88		0.016	0.002	
9:00	0.98		0.013	0.002	
9:15	0.48		0.003	0.002	
9:30	0.49		0.003	0.002	
9:45	0.43		0.003	0.002	
10:00	0.33		0.002	0.002	
10:15	0.33		0.002	0.002	
10:30	0.26		0.001	0.002	
10:45	0.32		0.001	0.002	
11:00	0.44		0.003	0.002	
11:15	1.83		0.048	0.002	
11:30	0.73		0.007	0.002	
11:45	0.52		0.004	0.003	
12:00	0.40		0.002	0.003	
12:15	0.62		0.007	0.003	
12:30	1.27		0.021	0.003	
12:45	0.54		0.004	0.003	
13:00	0.52		0.004	0.003	
13:15	0.49		0.003	0.003	
13:30	0.37		0.002	0.003	
13:45	0.29		0.001	0.003	
14:00	0.31		0.001	0.003	
14:15	0.61		0.005	0.003	
14:30	0.58		0.004	0.003	
14:45	0.50		0.003	0.003	
15:00	0.52		0.004	0.003	
15:15	0.69		0.006	0.003	
15:30	0.51		0.003	0.003	
15:45	0.63		0.005	0.003	
16:00	1.21		0.021	0.004	
16:15	0.95		0.011	0.004	
16:30	0.57		0.004	0.004	
16:45	0.36		0.002	0.004	
17:00	0.24		0.001	0.004	
17:15	0.21		0.001	0.004	
17:30	0.36		0.002	0.004	
17:45	0.29		0.001	0.004	
18:00	1.25		0.020	0.004	
18:15	0.53		0.004	0.004	
18:30	0.28		0.001	0.004	
18:45	0.17		0.000	0.004	
19:00	0.14		0.000	0.004	
19:15	0.13		0.000	0.004	
19:30	0.09		0.000	0.004	
19:45	0.08		0.000	0.004	0.01
20:00	0.08		0.000	0.004	0.01
20:15	0.07		0.000	0.004	0.01
20:30	0.07		0.000	0.004	0.01
20:45	0.10		0.000	0.004	0.01
21:00	0.11		0.000	0.004	0.02
21:15	0.12		0.000	0.004	
21:30	0.12		0.000	0.004	0.01
21:45	0.13		0.000	0.004	
22:00	0.13		0.000	0.004	
22:15	0.65		0.010	0.004	
22:30	1.42		0.027	0.004	
22:45	0.53		0.004	0.004	
23:00	0.30		0.001	0.004	
23:15	0.18		0.001	0.005	0.01
23:30	0.12		0.000	0.005	
23:45	0.10		0.000	0.005	
Daily Totals:				**0.005**	**0.09**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/2/2018					
0:00	0.09		0.000	0.000	0.01
0:15	0.08		0.000	0.000	
0:30	0.08		0.000	0.000	0.01
0:45	0.08		0.000	0.000	
1:00	0.07		0.000	0.000	0.01
1:15	0.06		0.000	0.000	
1:30	0.06		0.000	0.000	0.01
1:45	0.06		0.000	0.000	0.01
2:00	0.06		0.000	0.000	
2:15	0.06		0.000	0.000	
2:30	0.44		0.006	0.000	0.01
2:45	0.65		0.006	0.000	0.02
3:00	0.32		0.001	0.000	0.01
3:15	0.17		0.000	0.000	0.02
3:30	0.11		0.000	0.000	0.03
3:45	0.08		0.000	0.000	0.06
4:00	0.08		0.000	0.000	0.06
4:15	0.10		0.000	0.000	0.03
4:30	0.10		0.000	0.000	0.01
4:45	0.12		0.000	0.000	0.01
5:00	0.14		0.000	0.000	0.01
5:15	0.14		0.000	0.000	
5:30	1.44		0.035	0.001	0.01
5:45	0.87		0.010	0.001	0.01
6:00	0.40		0.002	0.001	0.01
6:15	0.23		0.001	0.001	0.03
6:30	0.15		0.000	0.001	0.05
6:45	0.17		0.000	0.001	0.03
7:00	0.15		0.000	0.001	0.02
7:15	0.66		0.012	0.001	0.01
7:30	0.90		0.011	0.001	0.02
7:45	0.46		0.003	0.001	0.01
8:00	0.29		0.001	0.001	0.02
8:15	0.22		0.001	0.001	
8:30	0.33		0.002	0.001	0.02
8:45	1.05		0.018	0.001	0.02
9:00	0.68		0.006	0.001	0.01
9:15	0.40		0.002	0.001	0.01
9:30	0.39		0.002	0.001	0.01
9:45	0.44		0.003	0.001	0.01
10:00	1.36		0.027	0.002	0.02
10:15	0.82		0.009	0.002	0.01
10:30	0.74		0.007	0.002	0.01
10:45	0.78		0.008	0.002	
11:00	0.86		0.010	0.002	0.01
11:15	1.52		0.030	0.002	
11:30	0.75		0.007	0.002	
11:45	1.15		0.019	0.003	
12:00	0.90		0.011	0.003	0.01
12:15	1.09		0.020	0.003	
12:30	1.03		0.014	0.003	
12:45	0.51		0.004	0.003	
13:00	0.55		0.004	0.003	
13:15	0.73		0.007	0.003	
13:30	1.31		0.024	0.003	
13:45	0.74		0.007	0.003	
14:00	0.43		0.003	0.003	
14:15	0.31		0.001	0.003	
14:30	0.22		0.001	0.003	
14:45	0.88		0.015	0.004	
15:00	1.00		0.013	0.004	
15:15	0.69		0.006	0.004	0.01
15:30	0.79		0.008	0.004	
15:45	0.72		0.007	0.004	0.01
16:00	0.80		0.008	0.004	
16:15	1.53		0.030	0.004	
16:30	0.60		0.005	0.004	
16:45	0.36		0.002	0.004	
17:00	0.32		0.001	0.004	0.01
17:15	0.24		0.001	0.004	
17:30	0.20		0.001	0.005	
17:45	1.03		0.017	0.005	
18:00	0.70		0.006	0.005	
18:15	0.38		0.002	0.005	
18:30	0.29		0.001	0.005	
18:45	0.26		0.001	0.005	
19:00	0.66		0.011	0.005	
19:15	1.37		0.023	0.005	
19:30	0.84		0.009	0.005	
19:45	0.42		0.002	0.005	
20:00	0.25		0.001	0.005	
20:15	0.17		0.000	0.005	
20:30	0.20		0.001	0.005	
20:45	0.18		0.001	0.005	
21:00	1.02		0.016	0.005	
21:15	0.74		0.007	0.006	
21:30	0.40		0.002	0.006	
21:45	0.24		0.001	0.006	
22:00	0.17		0.000	0.006	
22:15	0.21		0.001	0.006	
22:30	0.21		0.001	0.006	
22:45	0.63		0.010	0.006	
23:00	0.80		0.009	0.006	
23:15	0.40		0.002	0.006	
23:30	0.23		0.001	0.006	
23:45	0.15		0.000	0.006	
Daily Totals:				**0.006**	**0.71**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/3/2018					
0:00	0.12		0.000	0.000	0.01
0:15	0.11		0.000	0.000	
0:30	0.11		0.000	0.000	
0:45	0.88		0.013	0.000	
1:00	0.97		0.014	0.000	
1:15	2.14		0.057	0.001	
1:30	1.42		0.026	0.001	
1:45	0.66		0.006	0.001	
2:00	0.34		0.002	0.001	
2:15	0.41		0.003	0.001	
2:30	1.54		0.032	0.002	
2:45	0.80		0.009	0.002	
3:00	0.38		0.002	0.002	
3:15	0.22		0.001	0.002	
3:30	0.15		0.000	0.002	
3:45	0.11		0.000	0.002	
4:00	0.29		0.001	0.002	
4:15	0.31		0.001	0.002	
4:30	0.63		0.009	0.002	
4:45	0.78		0.008	0.002	
5:00	0.39		0.002	0.002	
5:15	0.21		0.001	0.002	
5:30	0.15		0.000	0.002	
5:45	0.12		0.000	0.002	
6:00	0.11		0.000	0.002	
6:15	0.11		0.000	0.002	
6:30	0.86		0.013	0.002	
6:45	0.70		0.007	0.002	
7:00	0.36		0.002	0.002	
7:15	0.43		0.003	0.002	
7:30	0.45		0.003	0.002	
7:45	0.36		0.002	0.002	
8:00	0.39		0.002	0.002	
8:15	0.89		0.010	0.002	
8:30	1.62		0.046	0.003	
8:45	1.43		0.026	0.003	
9:00	0.97		0.012	0.003	
9:15	0.70		0.006	0.003	
9:30	0.74		0.007	0.003	
9:45	0.95		0.011	0.004	
10:00	1.02		0.013	0.004	
10:15	1.02		0.013	0.004	
10:30	1.05		0.014	0.004	
10:45	1.82		0.042	0.004	
11:00	0.99		0.013	0.005	
11:15	0.90		0.010	0.005	
11:30	1.17		0.017	0.005	
11:45	0.91		0.011	0.005	
12:00	1.77		0.053	0.005	
12:15	0.89		0.010	0.006	
12:30	0.93		0.011	0.006	
12:45	2.05		0.061	0.006	
13:00	1.48		0.027	0.007	
13:15	1.67		0.035	0.007	
13:30	2.29		0.073	0.008	
13:45	1.01		0.013	0.008	
14:00	1.04		0.014	0.008	
14:15	0.99		0.012	0.008	
14:30	1.58		0.030	0.008	
14:45	1.54		0.032	0.009	
15:00	1.74		0.038	0.009	
15:15	1.18		0.017	0.009	
15:30	1.16		0.017	0.010	
15:45	1.57		0.032	0.010	
16:00	1.27		0.020	0.010	
16:15	1.10		0.016	0.010	
16:30	0.98		0.012	0.010	
16:45	1.43		0.025	0.011	
17:00	1.10		0.015	0.011	
17:15	0.80		0.008	0.011	
17:30	0.69		0.006	0.011	
17:45	0.58		0.004	0.011	
18:00	0.59		0.005	0.011	
18:15	0.54		0.004	0.011	
18:30	0.96		0.017	0.011	
18:45	1.16		0.017	0.011	
19:00	0.76		0.008	0.012	
19:15	0.70		0.007	0.012	
19:30	0.67		0.006	0.012	
19:45	0.52		0.004	0.012	
20:00	0.49		0.003	0.012	
20:15	0.46		0.003	0.012	
20:30	0.51		0.004	0.012	
20:45	0.55		0.004	0.012	
21:00	0.70		0.006	0.012	
21:15	1.09		0.019	0.012	
21:30	1.06		0.015	0.012	
21:45	0.67		0.006	0.012	
22:00	0.46		0.003	0.012	
22:15	1.21		0.022	0.013	
22:30	0.76		0.008	0.013	
22:45	0.41		0.002	0.013	
23:00	0.28		0.001	0.013	
23:15	0.20		0.001	0.013	
23:30	0.17		0.000	0.013	
23:45	0.16		0.000	0.013	
Daily Totals:				**0.013**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/4/2018					
0:00	0.14		0.000	0.000	
0:15	0.96		0.015	0.000	
0:30	0.71		0.007	0.000	
0:45	0.38		0.002	0.000	
1:00	0.24		0.001	0.000	
1:15	0.17		0.000	0.000	
1:30	0.13		0.000	0.000	
1:45	0.12		0.000	0.000	
2:00	0.11		0.000	0.000	
2:15	0.11		0.000	0.000	
2:30	0.12		0.000	0.000	
2:45	0.13		0.000	0.000	
3:00	0.13		0.000	0.000	
3:15	0.98		0.016	0.000	
3:30	0.71		0.007	0.001	
3:45	0.36		0.002	0.001	
4:00	0.20		0.001	0.001	
4:15	0.14		0.000	0.001	
4:30	0.11		0.000	0.001	
4:45	1.28		0.021	0.001	
5:00	0.55		0.004	0.001	
5:15	0.29		0.001	0.001	
5:30	0.15		0.000	0.001	
5:45	0.11		0.000	0.001	
6:00	0.09		0.000	0.001	
6:15	0.10		0.000	0.001	
6:30	0.89		0.017	0.001	
6:45	0.91		0.011	0.001	
7:00	0.50		0.003	0.001	
7:15	0.34		0.002	0.001	
7:30	0.24		0.001	0.001	
7:45	0.26		0.001	0.001	
8:00	0.24		0.001	0.001	
8:15	0.52		0.004	0.001	
8:30	0.73		0.007	0.001	
8:45	0.75		0.007	0.001	
9:00	0.70		0.006	0.001	
9:15	0.95		0.012	0.002	
9:30	1.15		0.017	0.002	
9:45	1.81		0.040	0.002	
10:00	1.23		0.019	0.002	
10:15	1.04		0.014	0.003	
10:30	1.09		0.015	0.003	
10:45	0.97		0.012	0.003	
11:00	1.20		0.018	0.003	
11:15	1.30		0.021	0.003	
11:30	1.02		0.013	0.003	
11:45	1.14		0.017	0.004	
12:00	1.91		0.046	0.004	
12:15	1.18		0.017	0.004	
12:30	1.09		0.015	0.004	
12:45	1.08		0.015	0.004	
13:00	1.25		0.020	0.005	
13:15	2.04		0.051	0.005	
13:30	1.37		0.023	0.005	
13:45	1.37		0.023	0.006	
14:00	1.30		0.021	0.006	
14:15	1.16		0.017	0.006	
14:30	1.16		0.017	0.006	
14:45	1.00		0.013	0.006	
15:00	1.02		0.013	0.007	
15:15	1.47		0.027	0.007	
15:30	1.35		0.022	0.007	
15:45	1.31		0.021	0.007	
16:00	1.20		0.018	0.007	
16:15	1.07		0.014	0.008	
16:30	1.03		0.013	0.008	
16:45	1.52		0.030	0.008	
17:00	1.01		0.013	0.008	
17:15	0.98		0.012	0.008	
17:30	0.87		0.010	0.008	
17:45	0.81		0.008	0.008	
18:00	0.74		0.007	0.009	
18:15	0.66		0.006	0.009	
18:30	1.47		0.030	0.009	
18:45	0.89		0.010	0.009	
19:00	0.56		0.004	0.009	
19:15	0.67		0.006	0.009	
19:30	0.69		0.006	0.009	
19:45	0.71		0.007	0.009	
20:00	0.63		0.005	0.009	
20:15	0.61		0.005	0.009	
20:30	1.27		0.021	0.010	
20:45	0.75		0.008	0.010	
21:00	0.75		0.008	0.010	
21:15	0.73		0.007	0.010	
21:30	0.56		0.004	0.010	
21:45	0.57		0.004	0.010	
22:00	0.50		0.003	0.010	
22:15	0.40		0.002	0.010	
22:30	0.30		0.001	0.010	
22:45	0.24		0.001	0.010	
23:00	0.19		0.001	0.010	
23:15	0.16		0.000	0.010	
23:30	0.14		0.000	0.010	
23:45	0.12		0.000	0.010	
Daily Totals:				**0.010**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/5/2018					
0:00	0.10		0.000	0.000	
0:15	0.11		0.000	0.000	
0:30	0.99		0.013	0.000	
0:45	0.46		0.003	0.000	
1:00	0.67		0.009	0.000	
1:15	2.26		0.064	0.001	
1:30	1.14		0.016	0.001	
1:45	1.04		0.014	0.001	
2:00	0.44		0.003	0.001	
2:15	0.26		0.001	0.001	
2:30	0.16		0.000	0.001	
2:45	0.12		0.000	0.001	
3:00	0.10		0.000	0.001	
3:15	0.08		0.000	0.001	
3:30	0.07		0.000	0.001	
3:45	0.06		0.000	0.001	
4:00	0.06		0.000	0.001	
4:15	0.07		0.000	0.001	
4:30	0.09		0.000	0.001	
4:45	1.13		0.017	0.001	
5:00	0.49		0.003	0.002	
5:15	0.28		0.001	0.002	
5:30	0.17		0.000	0.002	
5:45	0.11		0.000	0.002	
6:00	0.08		0.000	0.002	
6:15	0.12		0.000	0.002	
6:30	0.12		0.000	0.002	
6:45	0.11		0.000	0.002	
7:00	0.14		0.000	0.002	
7:15	0.42		0.003	0.002	
7:30	0.51		0.004	0.002	
7:45	0.57		0.004	0.002	
8:00	1.08		0.019	0.002	
8:15	1.17		0.017	0.002	
8:30	0.77		0.008	0.002	
8:45	0.58		0.004	0.002	
9:00	1.43		0.026	0.002	
9:15	0.81		0.008	0.003	
9:30	1.04		0.014	0.003	
9:45	1.97		0.061	0.003	
10:00	1.03		0.013	0.003	
10:15	0.89		0.010	0.004	
10:30	0.93		0.011	0.004	
10:45	1.23		0.019	0.004	
11:00	1.00		0.013	0.004	
11:15	0.99		0.012	0.004	
11:30	0.96		0.012	0.004	
11:45	1.04		0.014	0.004	
12:00	1.05		0.014	0.005	
12:15	0.98		0.012	0.005	
12:30	0.86		0.010	0.005	
12:45	1.06		0.014	0.005	
13:00	1.03		0.013	0.005	
13:15	1.08		0.015	0.005	
13:30	1.46		0.031	0.006	
13:45	1.25		0.020	0.006	
14:00	0.93		0.011	0.006	
14:15	1.02		0.013	0.006	
14:30	1.19		0.018	0.006	
14:45	1.42		0.025	0.006	
15:00	1.19		0.018	0.007	
15:15	1.70		0.036	0.007	
15:30	1.43		0.025	0.007	
15:45	1.16		0.017	0.007	
16:00	0.90		0.010	0.008	
16:15	1.01		0.013	0.008	
16:30	1.02		0.013	0.008	
16:45	0.97		0.012	0.008	
17:00	1.09		0.015	0.008	
17:15	1.16		0.017	0.008	
17:30	0.85		0.009	0.008	
17:45	0.93		0.011	0.008	
18:00	0.80		0.008	0.009	
18:15	1.20		0.024	0.009	
18:30	1.33		0.023	0.009	
18:45	0.73		0.007	0.009	
19:00	0.67		0.006	0.009	
19:15	0.74		0.007	0.009	
19:30	0.74		0.007	0.009	
19:45	0.74		0.007	0.009	
20:00	0.69		0.006	0.009	
20:15	0.64		0.005	0.010	
20:30	0.60		0.005	0.010	
20:45	0.71		0.007	0.010	
21:00	0.62		0.005	0.010	
21:15	0.69		0.006	0.010	
21:30	0.67		0.006	0.010	
21:45	1.41		0.027	0.010	
22:00	0.78		0.008	0.010	
22:15	0.57		0.004	0.010	
22:30	0.53		0.004	0.010	
22:45	0.45		0.003	0.010	
23:00	0.93		0.016	0.010	
23:15	0.95		0.012	0.011	
23:30	0.51		0.004	0.011	
23:45	0.44		0.003	0.011	
Daily Totals:				**0.011**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 1
Cooney Hill Road, P/S 1 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/6/2018					
0:00	0.42		0.002	0.000	
0:15	0.42		0.002	0.000	
0:30	0.41		0.002	0.000	
0:45	0.39		0.002	0.000	
1:00	0.40		0.002	0.000	
1:15	0.40		0.002	0.000	
1:30	0.41		0.002	0.000	
1:45	0.42		0.002	0.000	
2:00	0.41		0.002	0.000	
2:15	0.40		0.002	0.000	
2:30	0.41		0.002	0.000	
2:45	0.41		0.002	0.000	
3:00	0.41		0.002	0.000	
3:15	0.40		0.002	0.000	
3:30	0.42		0.002	0.000	
3:45	0.98		0.014	0.001	
4:00	0.81		0.009	0.001	
4:15	0.47		0.003	0.001	
4:30	0.42		0.002	0.001	
4:45	0.42		0.002	0.001	
5:00	1.15		0.020	0.001	
5:15	0.68		0.006	0.001	
5:30	0.43		0.003	0.001	
5:45	0.43		0.003	0.001	
6:00	0.41		0.002	0.001	
6:15	0.40		0.002	0.001	
6:30	0.42		0.002	0.001	
6:45	0.41		0.002	0.001	
7:00	0.47		0.003	0.001	
7:15	0.46		0.003	0.001	
7:30	0.70		0.006	0.001	
7:45	0.62		0.005	0.001	
8:00	0.62		0.005	0.001	
8:15	0.76		0.008	0.001	
8:30	1.13		0.016	0.002	
8:45	0.78		0.008	0.002	
9:00	1.69		0.036	0.002	
9:15	1.36		0.023	0.002	
9:30	1.07		0.014	0.002	
9:45	0.88		0.010	0.003	
10:00	0.89		0.010	0.003	
10:15	1.05		0.014	0.003	
10:30	1.31		0.021	0.003	
10:45	1.06		0.014	0.003	
11:00	1.05		0.014	0.003	
11:15	1.10		0.015	0.003	
11:30	1.74		0.037	0.004	
11:45	1.11		0.015	0.004	
12:00	0.88		0.010	0.004	
12:15	0.85		0.009	0.004	
12:30	0.98		0.013	0.004	
12:45	1.04		0.014	0.004	
13:00	1.06		0.014	0.005	
13:15	0.95		0.011	0.005	
13:30	1.07		0.014	0.005	
13:45	1.22		0.018	0.005	
14:00	1.16		0.017	0.005	
14:15	1.10		0.015	0.005	
14:30	0.90		0.015	0.006	
14:45				0.006	
15:00				0.006	
15:15				0.006	
15:30				0.006	
15:45				0.006	
16:00				0.006	
16:15				0.006	
16:30				0.006	
16:45				0.006	
17:00				0.006	
17:15				0.006	
17:30				0.006	
17:45				0.006	
18:00				0.006	
18:15				0.006	
18:30				0.006	
18:45				0.006	
19:00				0.006	
19:15				0.006	
19:30				0.006	
19:45				0.006	
20:00				0.006	
20:15				0.006	
20:30				0.006	
20:45				0.006	
21:00				0.006	
21:15				0.006	
21:30				0.006	
21:45				0.006	
22:00				0.006	
22:15				0.006	
22:30				0.006	
22:45				0.006	
23:00				0.006	
23:15				0.006	
23:30				0.006	
23:45				0.006	
Daily Totals:				**0.006**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/2/2018					
0:00					
0:15					
0:30					
0:45					
1:00					
1:15					
1:30					
1:45					
2:00					
2:15					
2:30					
2:45					
3:00					
3:15					
3:30					
3:45					
4:00					
4:15					
4:30					
4:45					
5:00					
5:15					
5:30					
5:45					
6:00					
6:15					
6:30					
6:45					
7:00					
7:15					
7:30					
7:45					
8:00	1.23	1.46	0.057	0.001	
8:15	1.53	0.85	0.027	0.001	
8:30	1.63	1.51	0.062	0.002	
8:45	2.02	3.52	0.165	0.003	
9:00	1.52	1.06	0.032	0.004	
9:15	1.31	0.82	0.020	0.004	
9:30	1.30	0.74	0.018	0.004	
9:45	1.94	2.80	0.155	0.006	
10:00	1.51	0.93	0.030	0.006	
10:15	1.27	0.67	0.016	0.006	
10:30	1.62	1.16	0.041	0.006	
10:45	1.64	2.75	0.085	0.007	
11:00	1.68	1.02	0.037	0.008	
11:15	1.36	0.73	0.019	0.008	
11:30	1.81	2.37	0.110	0.009	
11:45	1.42	0.87	0.025	0.009	
12:00	1.16	0.53	0.011	0.009	
12:15	1.71	2.93	0.115	0.011	
12:30	1.42	0.84	0.023	0.011	
12:45	1.19	0.64	0.014	0.011	
13:00	1.80	2.34	0.115	0.012	
13:15	1.46	1.10	0.033	0.013	
13:30	1.52	1.80	0.085	0.013	
13:45	1.64	1.25	0.043	0.014	
14:00	1.19	0.70	0.015	0.014	
14:15	1.34	1.30	0.044	0.015	
14:30	1.49	1.14	0.037	0.015	
14:45	1.06	0.42	0.007	0.015	
15:00	0.97	0.34	0.005	0.015	
15:15	1.59	1.41	0.056	0.016	
15:30	1.62	1.03	0.034	0.016	
15:45	1.08	0.53	0.010	0.016	
16:00	0.94	0.32	0.005	0.016	
16:15	0.94	0.28	0.004	0.016	
16:30	0.93	0.37	0.005	0.016	
16:45	1.23	1.09	0.035	0.017	
17:00	1.46	1.11	0.034	0.017	
17:15	1.21	0.57	0.013	0.017	
17:30	1.30	0.81	0.020	0.017	
17:45	1.01	0.41	0.007	0.017	
18:00	1.03	0.50	0.009	0.017	
18:15	1.15	0.52	0.010	0.018	
18:30	1.15	0.58	0.012	0.018	
18:45	1.10	0.44	0.008	0.018	
19:00	0.99	0.40	0.006	0.018	
19:15	1.70	1.78	0.082	0.019	
19:30	1.39	0.77	0.022	0.019	
19:45	1.04	0.53	0.009	0.019	
20:00	0.99	2.09	0.033	0.019	
20:15	1.84	1.91	0.085	0.020	
20:30	1.15	0.54	0.011	0.020	
20:45	1.00	0.35	0.006	0.020	
21:00	1.02	0.40	0.007	0.020	
21:15	1.12	0.54	0.011	0.021	
21:30	1.99	1.83	0.094	0.022	
21:45	1.19	0.66	0.014	0.022	
22:00	1.11	0.50	0.009	0.022	
22:15	1.11	0.42	0.008	0.022	
22:30	1.14	0.50	0.010	0.022	
22:45	1.14	0.62	0.012	0.022	
23:00	1.94	1.69	0.090	0.023	
23:15	1.21	0.62	0.013	0.023	
23:30	1.15	0.55	0.011	0.023	
23:45	1.16	0.99	0.020	0.024	
Daily Totals:				**0.024**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

11/3/2018

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
0:00	1.89	1.94	0.085	0.001	
0:15	1.24	0.66	0.015	0.001	
0:30	1.21	0.68	0.015	0.001	
0:45	2.01	2.82	0.140	0.003	
1:00	1.39	0.84	0.022	0.003	
1:15	1.28	0.71	0.017	0.003	
1:30	1.26	0.68	0.016	0.003	
1:45	1.24	0.73	0.016	0.003	
2:00	1.23	0.71	0.015	0.004	
2:15	1.23	0.65	0.014	0.004	
2:30	1.25	0.64	0.014	0.004	
2:45	1.27	0.77	0.018	0.004	
3:00	1.32	0.83	0.020	0.004	
3:15	1.33	0.75	0.019	0.004	
3:30	2.05	2.74	0.135	0.006	
3:45	1.40	0.79	0.021	0.006	
4:00	1.32	0.71	0.017	0.006	
4:15	1.31	0.67	0.016	0.006	
4:30	1.31	0.62	0.015	0.007	
4:45	1.33	0.70	0.017	0.007	
5:00	1.31	0.52	0.013	0.007	
5:15	1.31	0.56	0.014	0.007	
5:30	1.29	0.53	0.013	0.007	
5:45	1.30	0.59	0.014	0.007	
6:00	1.29	0.54	0.013	0.007	
6:15	2.14	1.81	0.102	0.008	
6:30	1.66	0.96	0.033	0.009	
6:45	1.38	0.66	0.017	0.009	
7:00	1.35	0.70	0.018	0.009	
7:15	1.37	0.84	0.022	0.009	
7:30	1.30	0.80	0.019	0.010	
7:45	1.25	0.62	0.014	0.010	
8:00	1.24	0.47	0.010	0.010	
8:15	1.24	0.49	0.011	0.010	
8:30	1.24	0.43	0.010	0.010	
8:45	1.23	0.43	0.010	0.010	
9:00	1.57	1.40	0.066	0.011	
9:15	1.60	1.31	0.045	0.011	
9:30	1.24	0.62	0.014	0.011	
9:45	1.21	0.49	0.010	0.012	
10:00	1.21	0.40	0.009	0.012	
10:15	1.21	0.41	0.009	0.012	
10:30	1.20	0.40	0.008	0.012	
10:45	1.60	1.82	0.095	0.013	
11:00	1.76	1.18	0.047	0.013	
11:15	1.25	0.53	0.012	0.013	
11:30	1.20	0.50	0.011	0.014	
11:45	1.19	0.39	0.008	0.014	
12:00	1.18	0.38	0.008	0.014	
12:15	1.46	0.86	0.026	0.014	
12:30	1.29	0.65	0.016	0.014	
12:45	1.19	0.39	0.008	0.014	
13:00	1.19	0.39	0.008	0.014	
13:15	1.17	0.37	0.008	0.014	
13:30	1.17	0.37	0.007	0.015	
13:45	1.17	0.29	0.006	0.015	
14:00	1.17	0.37	0.007	0.015	
14:15	1.59	0.64	0.025	0.015	
14:30	1.26	0.47	0.011	0.015	
14:45	1.16	0.36	0.007	0.015	
15:00	1.16	2.13	0.043	0.016	
15:15	1.82	1.87	0.077	0.016	
15:30	1.21	0.64	0.014	0.016	
15:45	1.16	0.36	0.007	0.017	
16:00	1.15	0.35	0.007	0.017	
16:15	1.17	0.37	0.007	0.017	
16:30	1.16	0.36	0.007	0.017	
16:45	1.16	0.36	0.007	0.017	
17:00	1.14	0.34	0.007	0.017	
17:15	1.15	0.35	0.007	0.017	
17:30	1.16	0.36	0.007	0.017	
17:45	1.13	0.42	0.008	0.017	
18:00	1.13	0.33	0.006	0.017	
18:15	1.13	0.33	0.006	0.017	
18:30	1.12	0.32	0.006	0.017	
18:45	1.14	0.33	0.007	0.017	
19:00	1.13	0.33	0.006	0.018	
19:15	1.93	2.99	0.178	0.019	
19:30	1.56	0.90	0.031	0.020	
19:45	1.15	0.35	0.007	0.020	
20:00	1.13	0.33	0.006	0.020	
20:15	1.11	0.31	0.006	0.020	
20:30	1.12	0.32	0.006	0.020	
20:45	1.12	0.32	0.006	0.020	
21:00	1.11	0.31	0.006	0.020	
21:15	1.11	0.31	0.006	0.020	
21:30	1.10	0.30	0.006	0.020	
21:45	1.09	0.29	0.005	0.020	
22:00	1.61	1.86	0.112	0.021	
22:15	1.74	1.06	0.044	0.022	
22:30	1.43	0.93	0.034	0.022	
22:45	1.37	0.61	0.016	0.022	
23:00	1.11	0.31	0.006	0.022	
23:15	1.08	0.29	0.005	0.023	
23:30	1.08	0.28	0.005	0.023	
23:45	1.08	0.28	0.005	0.023	
Daily Totals:				**0.023**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/4/2018					
0:00	1.07	0.27	0.005	0.000	
0:15	2.09	2.76	0.191	0.002	
0:30	1.50	0.94	0.031	0.002	
0:45	1.11	0.31	0.006	0.002	
1:00	1.06	0.26	0.005	0.002	
1:15	1.04	0.25	0.004	0.003	
1:30	1.04	0.24	0.004	0.003	
1:45	1.18	0.52	0.013	0.003	
2:00	1.24	0.57	0.013	0.003	
2:15	1.07	0.27	0.005	0.003	
2:30	1.04	0.24	0.004	0.003	
2:45	1.03	0.24	0.004	0.003	
3:00	1.03	0.30	0.005	0.003	
3:15	1.01	0.22	0.004	0.003	
3:30	1.01	0.22	0.004	0.003	
3:45	1.02	0.23	0.004	0.003	
4:00	1.02	0.23	0.004	0.003	
4:15	1.03	0.24	0.004	0.003	
4:30	1.02	0.22	0.004	0.003	
4:45	1.01	0.22	0.004	0.003	
5:00	1.01	0.22	0.004	0.003	
5:15	1.74	1.72	0.078	0.004	
5:30	1.28	0.72	0.017	0.004	
5:45	1.04	0.28	0.005	0.004	
6:00	1.01	0.22	0.004	0.004	
6:15	1.00	0.21	0.003	0.004	
6:30	1.00	0.21	0.004	0.005	
6:45	1.30	0.77	0.028	0.005	
7:00	1.36	0.59	0.016	0.005	
7:15	1.03	0.24	0.004	0.005	
7:30	1.00	0.21	0.003	0.005	
7:45	0.99	0.20	0.003	0.005	
8:00	1.18	0.60	0.013	0.005	
8:15	1.16	0.48	0.010	0.005	
8:30	1.13	0.31	0.006	0.005	
8:45	1.15	0.55	0.011	0.005	
9:00	1.09	0.45	0.008	0.006	
9:15	1.06	0.33	0.006	0.006	
9:30	1.02	0.23	0.004	0.006	
9:45	1.00	0.21	0.004	0.006	
10:00	1.04	0.25	0.004	0.006	
10:15	1.05	0.25	0.004	0.006	
10:30	1.00	0.21	0.003	0.006	
10:45	0.99	0.21	0.003	0.006	
11:00	0.99	0.20	0.003	0.006	
11:15	1.04	0.25	0.004	0.006	
11:30	1.90	1.87	0.087	0.007	
11:45	1.16	0.45	0.010	0.007	
12:00	1.06	0.27	0.005	0.007	
12:15	1.12	0.49	0.009	0.007	
12:30	1.02	0.37	0.006	0.007	
12:45	0.98	0.20	0.003	0.007	
13:00	0.97	0.18	0.003	0.007	
13:15	0.98	0.19	0.003	0.007	
13:30	1.00	0.22	0.004	0.007	
13:45	1.02	0.23	0.004	0.007	
14:00	1.04	0.24	0.004	0.007	
14:15	1.05	0.25	0.004	0.007	
14:30	1.00	0.21	0.003	0.007	
14:45	1.00	0.21	0.003	0.007	
15:00	1.27	0.59	0.021	0.008	
15:15	1.37	0.63	0.017	0.008	
15:30	1.04	0.29	0.005	0.008	
15:45	0.95	0.17	0.003	0.008	
16:00	0.94	0.17	0.003	0.008	
16:15	0.97	0.19	0.003	0.008	
16:30	0.95	0.17	0.003	0.008	
16:45	0.98	0.20	0.003	0.008	
17:00	1.03	0.24	0.004	0.008	
17:15	1.01	0.22	0.004	0.008	
17:30	0.99	0.20	0.003	0.008	
17:45	0.96	0.18	0.003	0.008	
18:00	0.99	0.20	0.003	0.008	
18:15	0.97	0.19	0.003	0.008	
18:30	0.99	1.95	0.031	0.009	
18:45	1.68	1.68	0.060	0.009	
19:00	1.13	0.36	0.007	0.009	
19:15	0.98	0.19	0.003	0.009	
19:30	0.98	0.20	0.003	0.009	
19:45	0.99	0.21	0.003	0.009	
20:00	0.97	0.19	0.003	0.009	
20:15	0.96	0.18	0.003	0.009	
20:30	0.97	0.19	0.003	0.010	
20:45	0.91	0.15	0.002	0.010	
21:00	0.97	0.18	0.003	0.010	
21:15	0.95	0.17	0.003	0.010	
21:30	0.95	0.17	0.003	0.010	
21:45	0.96	0.18	0.003	0.010	
22:00	0.98	0.20	0.003	0.010	
22:15	1.00	0.21	0.003	0.010	
22:30	0.98	0.19	0.003	0.010	
22:45	0.94	0.17	0.003	0.010	
23:00	1.34	0.77	0.020	0.010	
23:15	1.77	1.58	0.073	0.011	
23:30	1.16	0.36	0.007	0.011	
23:45	1.01	0.22	0.004	0.011	
Daily Totals:				**0.011**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/5/2018					
0:00	0.94	0.17	0.003	0.000	
0:15	1.51	1.23	0.076	0.001	
0:30	1.57	1.09	0.036	0.001	
0:45	1.10	0.30	0.006	0.001	
1:00	0.99	0.20	0.003	0.001	
1:15	0.96	0.18	0.003	0.001	
1:30	1.66	1.60	0.073	0.002	
1:45	1.29	0.66	0.016	0.002	
2:00	1.03	0.24	0.004	0.002	
2:15	0.94	0.16	0.003	0.002	
2:30	0.94	0.16	0.002	0.002	
2:45	0.95	0.17	0.003	0.002	
3:00	0.93	0.16	0.002	0.002	
3:15	0.94	0.17	0.003	0.002	
3:30	1.03	0.24	0.004	0.002	
3:45	0.95	0.29	0.004	0.003	
4:00	0.98	0.20	0.003	0.003	
4:15	0.98	0.19	0.003	0.003	
4:30	0.95	0.17	0.003	0.003	
4:45	0.97	0.19	0.003	0.003	
5:00	1.01	0.22	0.004	0.003	
5:15	1.04	0.24	0.004	0.003	
5:30	1.17	0.63	0.013	0.003	
5:45	1.07	0.41	0.007	0.003	
6:00	1.26	0.61	0.015	0.003	
6:15	1.16	0.60	0.012	0.003	
6:30	1.07	0.29	0.005	0.003	
6:45	1.18	0.62	0.013	0.003	
7:00	1.52	0.83	0.029	0.004	
7:15	1.51	0.88	0.027	0.004	
7:30	1.58	1.56	0.071	0.005	
7:45	1.65	1.28	0.046	0.005	
8:00	1.33	0.76	0.019	0.005	
8:15	1.30	0.80	0.019	0.006	
8:30	1.28	0.74	0.017	0.006	
8:45	1.29	0.78	0.018	0.006	
9:00	1.42	0.83	0.025	0.006	
9:15	2.16	3.50	0.184	0.008	
9:30	1.46	0.99	0.028	0.008	
9:45	1.98	0.52	0.022	0.009	
10:00	1.99	0.58	0.025	0.009	
10:15	2.55	3.41	0.242	0.011	
10:30	2.75	4.83	0.331	0.015	
10:45	2.78	4.90	0.342	0.018	
11:00	1.60	1.33	0.050	0.019	
11:15	1.37	0.98	0.025	0.019	
11:30	2.41	3.23	0.208	0.021	
11:45	1.61	1.06	0.036	0.022	
12:00	1.37	0.61	0.016	0.022	
12:15	1.39	0.53	0.014	0.022	
12:30	1.67	1.74	0.083	0.023	
12:45	2.02	1.88	0.086	0.024	
13:00	1.60	0.67	0.022	0.024	
13:15	1.54	0.65	0.020	0.024	
13:30	1.53	0.59	0.018	0.024	
13:45	2.11	1.61	0.092	0.025	
14:00	1.27	0.59	0.014	0.026	
14:15	1.25	0.46	0.010	0.026	
14:30	1.79	1.47	0.070	0.026	
14:45	1.40	0.56	0.016	0.027	
15:00	1.09	0.29	0.005	0.027	
15:15	1.37	0.89	0.024	0.027	
15:30	1.10	0.47	0.009	0.027	
15:45	1.96	2.45	0.150	0.029	
16:00	1.52	0.75	0.025	0.029	
16:15	1.10	0.30	0.006	0.029	
16:30	1.07	0.28	0.005	0.029	
16:45	1.07	0.34	0.006	0.029	
17:00	1.07	0.37	0.007	0.029	
17:15	1.12	0.48	0.010	0.029	
17:30	2.00	2.52	0.120	0.030	
17:45	1.43	0.61	0.018	0.031	
18:00	1.11	0.31	0.006	0.031	
18:15	1.08	0.28	0.005	0.031	
18:30	1.07	0.28	0.005	0.031	
18:45	1.07	0.28	0.005	0.031	
19:00	1.11	0.34	0.007	0.031	
19:15	1.10	0.33	0.006	0.031	
19:30	1.09	0.29	0.005	0.031	
19:45	1.08	0.28	0.005	0.031	
20:00	1.10	0.34	0.006	0.031	
20:15	1.09	0.29	0.005	0.031	
20:30	1.77	1.82	0.088	0.032	
20:45	1.30	0.39	0.009	0.032	
21:00	1.11	0.31	0.006	0.032	
21:15	1.09	0.29	0.005	0.032	
21:30	1.09	0.29	0.005	0.032	
21:45	1.09	0.29	0.005	0.032	
22:00	1.10	0.36	0.007	0.032	
22:15	1.10	0.30	0.005	0.033	
22:30	1.08	0.29	0.005	0.033	
22:45	1.09	0.29	0.005	0.033	
23:00	2.27	3.47	0.220	0.035	
23:15	1.29	0.55	0.014	0.035	
23:30	1.12	0.32	0.006	0.035	
23:45	1.11	0.31	0.006	0.035	
Daily Totals:				**0.035**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/6/2018					
0:00	1.48	1.04	0.034	0.000	
0:15	1.56	1.16	0.037	0.001	
0:30	1.18	0.64	0.013	0.001	
0:45	1.68	1.42	0.051	0.001	
1:00	1.27	0.61	0.014	0.002	
1:15	1.64	1.41	0.049	0.002	
1:30	1.35	0.94	0.025	0.002	
1:45	1.35	0.87	0.022	0.003	
2:00	1.12	0.53	0.010	0.003	
2:15	1.09	0.36	0.007	0.003	
2:30	1.09	0.29	0.005	0.003	
2:45	1.11	0.31	0.006	0.003	
3:00	1.11	0.31	0.006	0.003	
3:15	1.10	0.30	0.006	0.003	
3:30	1.09	0.29	0.005	0.003	
3:45	1.10	0.30	0.006	0.003	
4:00	1.09	0.29	0.005	0.003	
4:15	1.08	0.28	0.005	0.003	
4:30	1.07	0.27	0.005	0.003	
4:45	1.09	0.29	0.005	0.003	
5:00	1.09	0.29	0.005	0.003	
5:15	1.16	0.70	0.015	0.004	
5:30	2.11	1.94	0.104	0.005	
5:45	1.61	1.98	0.057	0.005	
6:00	1.34	0.64	0.016	0.005	
6:15	1.54	1.41	0.057	0.006	
6:30	1.28	0.50	0.012	0.006	
6:45	1.13	0.56	0.011	0.006	
7:00	1.14	0.47	0.009	0.006	
7:15	1.25	0.69	0.016	0.006	
7:30	1.34	0.71	0.018	0.007	
7:45	2.75	5.31	0.364	0.010	
8:00	2.72	5.16	0.349	0.014	
8:15	2.85	5.13	0.376	0.018	
8:30	1.93	2.42	0.110	0.019	
8:45	1.71	1.00	0.036	0.020	
9:00	1.77	1.73	0.072	0.020	
9:15	1.51	0.97	0.030	0.021	
9:30	1.27	0.48	0.011	0.021	
9:45	2.08	2.96	0.194	0.023	
10:00	1.52	1.04	0.031	0.023	
10:15	1.38	0.84	0.022	0.023	
10:30	1.37	0.95	0.024	0.024	
10:45	2.61	3.55	0.293	0.027	
11:00	1.59	1.04	0.033	0.027	
11:15	1.54	0.97	0.030	0.027	
11:30	1.60	1.05	0.034	0.028	
11:45	1.98	2.01	0.098	0.029	
12:00	1.58	0.77	0.024	0.029	
12:15	1.83	1.58	0.064	0.030	
12:30	2.21	2.74	0.172	0.031	
12:45	1.95	1.57	0.069	0.032	
13:00	1.54	0.83	0.025	0.032	
13:15	2.20	3.37	0.208	0.034	
13:30	1.88	1.63	0.067	0.035	
13:45	1.65	0.69	0.025	0.035	
14:00	1.47	0.54	0.015	0.036	
14:15	2.07	2.41	0.144	0.037	
14:30	1.65	1.14	0.040	0.037	
14:45	1.38	0.70	0.018	0.038	
15:00	1.37	0.68	0.018	0.038	
15:15	1.95	2.30	0.119	0.039	
15:30	1.52	0.56	0.017	0.039	
15:45	1.33	0.56	0.014	0.039	
16:00	1.33	0.48	0.012	0.040	
16:15	1.84	2.10	0.136	0.041	0.01
16:30	1.77	1.18	0.047	0.041	
16:45	1.37	0.54	0.014	0.042	0.02
17:00	1.34	0.62	0.015	0.042	0.03
17:15	1.96	1.70	0.088	0.043	0.01
17:30	1.47	0.61	0.018	0.043	
17:45	1.31	0.52	0.013	0.043	
18:00	1.30	0.52	0.012	0.043	
18:15	1.30	0.51	0.012	0.043	0.01
18:30	1.30	0.42	0.010	0.043	
18:45	1.91	2.19	0.159	0.045	
19:00	1.77	1.34	0.052	0.046	
19:15	1.33	0.55	0.014	0.046	
19:30	1.28	0.49	0.012	0.046	
19:45	1.27	0.49	0.011	0.046	
20:00	1.27	0.48	0.011	0.046	
20:15	1.27	0.47	0.011	0.046	
20:30	1.91	2.06	0.095	0.047	
20:45	1.32	0.54	0.013	0.047	
21:00	1.24	0.28	0.006	0.047	
21:15	1.23	0.22	0.005	0.047	
21:30	1.23	0.44	0.010	0.048	
21:45	1.23	0.44	0.010	0.048	
22:00	1.23	0.43	0.009	0.048	
22:15	1.22	0.42	0.009	0.048	
22:30	1.22	0.42	0.009	0.048	
22:45	1.21	0.38	0.008	0.048	
23:00	1.21	0.41	0.009	0.048	
23:15	1.21	0.41	0.009	0.048	
23:30	1.21	0.41	0.009	0.048	
23:45	1.21	0.42	0.009	0.048	
Daily Totals:				**0.048**	**0.08**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)	Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/7/2018						12:30	2.17	2.34	0.119	0.027	
						12:45	1.40	0.60	0.017	0.027	
0:00	2.02	2.10	0.104	0.001		13:00	1.26	0.47	0.011	0.027	
0:15	1.31	0.56	0.014	0.001		13:15	1.24	0.44	0.010	0.028	
0:30	1.79	2.09	0.100	0.002		13:30	2.03	1.87	0.092	0.029	
0:45	1.44	0.72	0.022	0.002		13:45	1.37	0.61	0.016	0.029	
1:00	1.21	0.42	0.009	0.003		14:00	1.85	1.90	0.093	0.030	
1:15	1.20	0.40	0.009	0.003		14:15	1.38	0.53	0.014	0.030	
1:30	1.20	0.40	0.009	0.003		14:30	1.17	0.37	0.008	0.030	
1:45	1.20	0.40	0.008	0.003		14:45	1.80	1.81	0.133	0.031	
2:00	1.20	0.40	0.008	0.003		15:00	1.79	1.82	0.075	0.032	
2:15	1.20	0.40	0.008	0.003		15:15	1.23	0.43	0.010	0.032	
2:30	1.42	0.98	0.027	0.003		15:30	1.14	0.34	0.007	0.032	
2:45	1.21	0.43	0.009	0.003		15:45	2.10	2.54	0.172	0.034	
3:00	1.18	0.44	0.009	0.003		16:00	1.53	0.67	0.022	0.034	
3:15	1.19	0.39	0.008	0.004		16:15	1.14	0.34	0.007	0.034	
3:30	1.18	0.39	0.008	0.004		16:30	1.12	0.32	0.006	0.034	
3:45	1.18	0.40	0.008	0.004		16:45	1.10	0.30	0.006	0.034	
4:00	1.18	0.38	0.008	0.004		17:00	1.12	0.32	0.006	0.035	
4:15	1.17	0.37	0.008	0.004		17:15	1.13	0.33	0.006	0.035	
4:30	1.18	0.38	0.008	0.004		17:30	1.12	0.32	0.006	0.035	
4:45	1.82	1.72	0.086	0.005		17:45	1.25	0.53	0.014	0.035	
5:00	1.41	0.60	0.016	0.005		18:00	1.76	2.23	0.125	0.036	
5:15	1.23	0.43	0.010	0.005		18:15	1.79	1.08	0.045	0.037	
5:30	1.33	0.71	0.018	0.005		18:30	1.18	0.49	0.010	0.037	
5:45	1.58	1.18	0.043	0.006		18:45	1.11	0.33	0.006	0.037	
6:00	1.29	0.34	0.008	0.006		19:00	1.09	0.29	0.005	0.037	
6:15	1.46	0.72	0.026	0.006		19:15	1.09	0.29	0.005	0.037	
6:30	1.67	1.19	0.063	0.007		19:30	1.09	0.29	0.005	0.037	
6:45	1.45	0.71	0.021	0.007		19:45	1.08	0.29	0.005	0.037	
7:00	1.84	0.95	0.040	0.007		20:00	2.05	2.63	0.174	0.039	
7:15	2.13	2.86	0.182	0.009		20:15	1.49	0.67	0.021	0.039	
7:30	1.58	1.89	0.055	0.010		20:30	1.12	0.39	0.007	0.039	
7:45	2.11	2.76	0.160	0.012		20:45	1.09	0.29	0.005	0.039	
8:00	1.84	1.16	0.049	0.012		21:00	1.08	0.28	0.005	0.039	
8:15	2.16	2.68	0.175	0.014		21:15	1.08	0.28	0.005	0.039	
8:30	2.59	4.14	0.269	0.017		21:30	1.06	0.27	0.005	0.039	
8:45	1.45	0.77	0.023	0.017		21:45	1.06	0.27	0.005	0.039	
9:00	1.53	0.92	0.031	0.017		22:00	1.08	0.28	0.005	0.039	
9:15	1.32	0.52	0.013	0.017		22:15	1.04	0.25	0.004	0.039	
9:30	2.16	2.81	0.143	0.019		22:30	1.07	0.27	0.005	0.039	
9:45	1.48	0.82	0.026	0.019		22:45	1.06	0.26	0.005	0.040	
10:00	1.65	1.27	0.057	0.020		23:00	1.05	0.25	0.004	0.040	
10:15	1.45	0.99	0.029	0.020		23:15	1.06	0.26	0.005	0.040	
10:30	2.19	1.79	0.102	0.021		23:30	1.05	0.25	0.004	0.040	
10:45	1.30	0.65	0.016	0.021		23:45	2.04	2.62	0.134	0.041	
11:00	1.76	1.90	0.122	0.023		**Daily Totals:**				**0.041**	**0.00**
11:15	2.01	2.13	0.114	0.024							
11:30	1.71	0.97	0.036	0.024		**Data reported every:**		15 Minutes			
11:45	1.55	0.87	0.027	0.024							
12:00	1.34	0.64	0.016	0.025							
12:15	1.94	2.07	0.137	0.026							

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/8/2018					
0:00	1.23	0.61	0.014	0.000	
0:15	1.08	0.28	0.005	0.000	
0:30	1.07	0.27	0.005	0.000	
0:45	1.08	0.32	0.006	0.000	
1:00	1.06	0.26	0.005	0.000	
1:15	1.08	0.33	0.006	0.000	
1:30	1.05	0.26	0.005	0.000	
1:45	1.04	0.24	0.004	0.001	
2:00	1.03	0.23	0.004	0.001	
2:15	1.05	0.25	0.004	0.001	
2:30	1.03	0.24	0.004	0.001	
2:45	1.02	0.23	0.004	0.001	
3:00	1.01	0.22	0.004	0.001	
3:15	1.01	0.22	0.004	0.001	
3:30	1.02	0.23	0.004	0.001	
3:45	1.01	0.22	0.004	0.001	
4:00	1.15	0.47	0.010	0.001	
4:15	1.10	0.51	0.010	0.001	
4:30	1.02	0.34	0.006	0.001	
4:45	1.01	0.26	0.004	0.001	
5:00	1.48	1.34	0.071	0.002	
5:15	1.63	1.22	0.045	0.002	
5:30	1.32	0.71	0.018	0.003	
5:45	1.18	0.51	0.011	0.003	
6:00	1.86	2.30	0.115	0.004	
6:15	1.29	0.61	0.014	0.004	
6:30	1.13	0.42	0.008	0.004	
6:45	1.11	0.31	0.006	0.004	
7:00	1.53	1.21	0.051	0.005	
7:15	1.79	0.86	0.032	0.005	
7:30	2.07	0.54	0.025	0.005	
7:45	2.05	0.41	0.019	0.005	
8:00	2.04	0.56	0.025	0.006	
8:15	2.47	1.56	0.118	0.007	
8:30	2.26	0.87	0.049	0.007	
8:45	1.87	0.57	0.023	0.008	
9:00	1.72	0.49	0.018	0.008	
9:15	1.94	0.68	0.035	0.008	
9:30	2.66	2.48	0.180	0.010	
9:45	1.71	0.49	0.018	0.010	
10:00	2.16	2.29	0.175	0.012	
10:15	1.94	1.47	0.068	0.013	
10:30	1.26	0.62	0.014	0.013	
10:45	2.36	3.21	0.241	0.016	
11:00	1.85	1.49	0.063	0.016	
11:15	1.27	0.68	0.016	0.016	
11:30	1.28	0.56	0.013	0.016	
11:45	1.27	0.58	0.013	0.017	
12:00	1.62	1.34	0.060	0.017	
12:15	1.70	1.13	0.041	0.018	
12:30	1.64	1.09	0.039	0.018	
12:45	1.54	0.91	0.028	0.018	
13:00	2.14	3.05	0.195	0.020	
13:15	1.75	1.32	0.051	0.021	
13:30	1.23	0.59	0.013	0.021	
13:45	2.20	2.74	0.186	0.023	
14:00	1.93	1.30	0.060	0.024	
14:15	1.18	0.56	0.012	0.024	
14:30	1.16	0.53	0.011	0.024	
14:45	2.04	2.16	0.110	0.025	
15:00	1.19	0.40	0.009	0.025	
15:15	1.03	0.24	0.004	0.025	
15:30	2.11	2.25	0.160	0.027	
15:45	1.51	0.74	0.023	0.027	
16:00	1.10	0.40	0.007	0.027	
16:15	2.15	2.28	0.162	0.029	
16:30	1.52	0.80	0.025	0.029	
16:45	1.18	0.53	0.011	0.029	
17:00	1.03	0.25	0.004	0.029	
17:15	0.98	0.20	0.003	0.029	
17:30	0.98	0.20	0.003	0.029	
17:45	0.97	0.19	0.003	0.029	
18:00	2.02	2.01	0.100	0.030	
18:15	1.19	0.40	0.009	0.030	
18:30	1.00	0.21	0.003	0.030	
18:45	1.03	0.24	0.004	0.031	
19:00	0.99	0.20	0.003	0.031	
19:15	0.98	0.20	0.003	0.031	
19:30	0.96	0.18	0.003	0.031	
19:45	0.98	0.20	0.003	0.031	
20:00	0.94	0.16	0.002	0.031	
20:15	0.97	0.19	0.003	0.031	
20:30	0.96	0.18	0.003	0.031	
20:45	0.99	0.20	0.003	0.031	
21:00	0.99	0.21	0.004	0.031	
21:15	0.97	0.19	0.003	0.031	
21:30	0.97	0.18	0.003	0.031	
21:45	1.00	0.21	0.003	0.031	
22:00	2.09	2.72	0.147	0.032	
22:15	1.19	0.52	0.011	0.033	
22:30	1.35	0.65	0.018	0.033	
22:45	1.01	0.22	0.004	0.033	
23:00	0.96	0.18	0.003	0.033	
23:15	0.99	0.20	0.003	0.033	
23:30	0.95	0.17	0.003	0.033	
23:45	0.98	0.20	0.003	0.033	
Daily Totals:				**0.033**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/9/2018					
0:00	0.95	0.17	0.003	0.000	
0:15	0.95	0.17	0.003	0.000	
0:30	2.14	2.40	0.136	0.001	
0:45	1.23	0.60	0.014	0.002	
1:00	1.02	0.35	0.006	0.002	
1:15	0.99	0.20	0.003	0.002	
1:30	0.99	0.20	0.003	0.002	
1:45	0.96	0.18	0.003	0.002	
2:00	0.99	0.21	0.003	0.002	
2:15	0.98	0.19	0.003	0.002	
2:30	0.98	0.20	0.003	0.002	
2:45	0.96	0.18	0.003	0.002	
3:00	1.26	0.61	0.016	0.002	
3:15	1.13	0.37	0.007	0.002	
3:30	0.97	0.19	0.003	0.002	
3:45	0.97	0.19	0.003	0.002	
4:00	1.09	0.39	0.007	0.002	
4:15	0.99	0.27	0.004	0.002	
4:30	0.98	0.19	0.003	0.002	
4:45	0.95	0.17	0.003	0.002	
5:00	1.01	0.22	0.004	0.002	
5:15	0.96	0.18	0.003	0.002	
5:30	1.26	0.76	0.018	0.003	
5:45	1.85	2.33	0.116	0.004	
6:00	1.50	0.61	0.019	0.004	
6:15	1.18	0.38	0.008	0.004	
6:30	1.11	0.31	0.006	0.004	
6:45	1.22	0.46	0.010	0.004	
7:00	1.18	0.40	0.008	0.004	
7:15	1.11	0.55	0.011	0.004	
7:30	1.05	0.24	0.004	0.005	
7:45	1.16	0.44	0.009	0.005	
8:00	2.35	2.76	0.174	0.006	
8:15	1.46	0.84	0.024	0.007	
8:30	1.35	0.70	0.018	0.007	
8:45	1.30	0.64	0.015	0.007	
9:00	1.27	0.75	0.017	0.007	
9:15	1.28	0.72	0.017	0.007	
9:30	2.05	2.13	0.109	0.009	
9:45	1.60	0.84	0.027	0.009	
10:00	1.42	1.25	0.032	0.009	
10:15	1.38	0.65	0.017	0.009	
10:30	1.37	0.50	0.013	0.009	
10:45	1.33	0.70	0.017	0.010	
11:00	1.27	0.52	0.012	0.010	
11:15	2.02	2.05	0.095	0.011	
11:30	1.87	1.18	0.063	0.011	
11:45	1.62	0.76	0.025	0.012	
12:00	1.34	0.66	0.016	0.012	
12:15	1.85	2.63	0.159	0.013	
12:30	1.83	1.38	0.060	0.014	
12:45	1.21	0.53	0.011	0.014	
13:00	1.24	0.47	0.011	0.014	
13:15	1.91	1.84	0.095	0.015	
13:30	1.48	0.52	0.015	0.015	
13:45	1.15	0.43	0.009	0.016	
14:00	1.12	0.32	0.006	0.016	
14:15	2.21	2.20	0.158	0.017	
14:30	1.54	0.63	0.020	0.017	
14:45	1.80	1.94	0.137	0.019	
15:00	1.86	0.94	0.040	0.019	0.02
15:15	1.16	0.41	0.008	0.019	0.03
15:30	1.05	0.28	0.005	0.019	0.03
15:45	2.06	1.53	0.104	0.021	0.01
16:00	1.41	0.66	0.019	0.021	0.04
16:15	1.20	0.57	0.012	0.021	0.03
16:30	1.25	0.59	0.013	0.021	0.03
16:45	1.29	0.68	0.016	0.021	0.03
17:00	1.79	2.19	0.144	0.023	0.08
17:15	1.90	1.01	0.044	0.023	0.06
17:30	1.30	0.60	0.014	0.023	0.03
17:45	1.32	0.66	0.016	0.023	0.04
18:00	2.15	2.02	0.106	0.025	0.05
18:15	1.61	0.96	0.031	0.025	0.05
18:30	1.56	0.95	0.029	0.025	0.08
18:45	1.49	0.87	0.025	0.025	0.09
19:00	1.42	0.79	0.021	0.026	0.07
19:15	1.40	0.76	0.020	0.026	0.03
19:30	1.70	0.91	0.035	0.026	0.01
19:45	1.76	0.82	0.031	0.027	
20:00	1.42	0.44	0.012	0.027	
20:15	1.42	0.79	0.021	0.027	
20:30	1.43	0.67	0.018	0.027	
20:45	1.44	0.70	0.019	0.027	0.01
21:00	1.40	0.54	0.014	0.027	
21:15	2.12	1.84	0.108	0.029	
21:30	1.56	0.70	0.022	0.029	
21:45	1.38	0.39	0.010	0.029	
22:00	1.37	0.60	0.015	0.029	
22:15	1.36	0.61	0.016	0.029	
22:30	1.39	0.56	0.015	0.029	
22:45	1.35	0.61	0.015	0.030	
23:00	1.34	0.53	0.013	0.030	
23:15	1.32	0.64	0.016	0.030	0.01
23:30	1.33	0.64	0.016	0.030	
23:45	2.57	2.94	0.215	0.032	
Daily Totals:				**0.032**	**0.83**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/10/2018					
0:00	1.45	0.75	0.022	0.000	
0:15	1.32	0.54	0.013	0.000	
0:30	1.30	0.51	0.012	0.000	
0:45	1.30	0.52	0.012	0.001	
1:00	1.30	0.55	0.013	0.001	0.01
1:15	1.29	0.46	0.011	0.001	0.01
1:30	1.27	0.48	0.011	0.001	
1:45	1.61	3.04	0.101	0.002	
2:00	1.70	0.98	0.037	0.002	0.01
2:15	1.29	0.50	0.012	0.003	
2:30	1.42	0.74	0.022	0.003	
2:45	1.46	0.94	0.027	0.003	
3:00	1.27	0.51	0.012	0.003	
3:15	1.25	0.37	0.008	0.003	0.01
3:30	1.25	0.38	0.009	0.003	
3:45	1.24	0.45	0.010	0.003	
4:00	1.24	0.35	0.008	0.004	
4:15	1.24	0.33	0.007	0.004	
4:30	1.25	0.33	0.007	0.004	
4:45	1.24	0.45	0.010	0.004	
5:00	1.24	0.44	0.010	0.004	
5:15	1.24	0.41	0.009	0.004	
5:30	2.19	3.00	0.206	0.006	
5:45	1.61	0.79	0.026	0.006	
6:00	1.28	0.40	0.009	0.007	
6:15	1.27	0.58	0.013	0.007	
6:30	1.24	0.59	0.013	0.007	
6:45	1.23	0.38	0.008	0.007	
7:00	1.23	0.44	0.010	0.007	
7:15	1.22	0.43	0.009	0.007	
7:30	1.22	0.42	0.009	0.007	
7:45	1.22	0.42	0.009	0.007	
8:00	1.22	0.42	0.009	0.007	
8:15	1.23	0.43	0.010	0.007	
8:30	1.23	0.31	0.007	0.008	
8:45	1.60	1.12	0.047	0.008	
9:00	1.67	0.87	0.033	0.008	
9:15	1.23	0.44	0.010	0.008	
9:30	1.20	0.41	0.009	0.009	
9:45	1.20	0.40	0.009	0.009	
10:00	1.20	0.40	0.008	0.009	
10:15	1.22	0.43	0.009	0.009	
10:30	1.21	0.56	0.012	0.009	
10:45	1.20	0.40	0.008	0.009	
11:00	1.20	0.30	0.006	0.009	
11:15	1.20	0.40	0.008	0.009	
11:30	1.24	0.50	0.011	0.009	
11:45	1.68	1.18	0.052	0.010	
12:00	1.64	1.53	0.067	0.011	
12:15	1.63	0.90	0.031	0.011	
12:30	1.22	0.42	0.009	0.011	
12:45	1.18	0.38	0.008	0.011	
13:00	1.18	0.38	0.008	0.011	
13:15	1.20	0.45	0.009	0.011	
13:30	1.20	0.45	0.009	0.011	
13:45	1.17	0.46	0.009	0.011	
14:00	1.17	0.42	0.009	0.012	
14:15	1.16	0.36	0.007	0.012	
14:30	1.18	0.38	0.008	0.012	
14:45	1.16	0.41	0.008	0.012	
15:00	1.76	2.10	0.145	0.013	
15:15	1.85	1.45	0.063	0.014	
15:30	1.23	0.45	0.010	0.014	
15:45	1.17	0.46	0.009	0.014	
16:00	1.16	0.36	0.007	0.014	
16:15	1.17	0.37	0.008	0.014	
16:30	1.16	0.36	0.007	0.014	
16:45	1.16	0.36	0.007	0.014	
17:00	1.17	0.37	0.007	0.015	
17:15	1.16	0.36	0.007	0.015	
17:30	1.17	0.36	0.007	0.015	
17:45	1.15	0.35	0.007	0.015	
18:00	1.15	0.35	0.007	0.015	
18:15	1.15	0.35	0.007	0.015	
18:30	1.18	0.38	0.008	0.015	
18:45	1.15	0.45	0.009	0.015	
19:00	1.14	0.34	0.007	0.015	
19:15	1.14	0.34	0.007	0.015	
19:30	1.14	0.33	0.007	0.015	
19:45	2.08	2.49	0.180	0.017	
20:00	1.89	1.40	0.064	0.018	
20:15	1.25	0.41	0.009	0.018	
20:30	1.21	0.56	0.012	0.018	
20:45	1.14	0.42	0.008	0.018	
21:00	1.14	0.34	0.007	0.018	
21:15	1.13	0.33	0.006	0.018	
21:30	1.13	0.33	0.006	0.018	
21:45	1.13	0.33	0.006	0.018	
22:00	1.13	0.33	0.006	0.018	
22:15	1.13	0.33	0.007	0.019	
22:30	1.13	0.28	0.005	0.019	
22:45	1.12	0.32	0.006	0.019	
23:00	1.12	0.32	0.006	0.019	
23:15	1.12	0.32	0.006	0.019	
23:30	2.03	1.51	0.076	0.020	
23:45	1.21	0.53	0.012	0.020	
Daily Totals:				**0.020**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/11/2018					
0:00	1.13	0.33	0.006	0.000	
0:15	1.12	0.32	0.006	0.000	
0:30	1.12	0.32	0.006	0.000	
0:45	1.12	0.32	0.006	0.000	
1:00	1.12	0.32	0.006	0.000	
1:15	1.12	0.32	0.006	0.000	
1:30	1.77	3.14	0.097	0.001	
1:45	1.34	0.61	0.016	0.002	
2:00	1.13	0.33	0.006	0.002	
2:15	1.11	0.31	0.006	0.002	
2:30	1.10	0.30	0.006	0.002	
2:45	1.10	0.30	0.006	0.002	
3:00	1.10	0.30	0.006	0.002	
3:15	1.10	0.30	0.006	0.002	
3:30	1.10	0.30	0.006	0.002	
3:45	1.10	0.30	0.006	0.002	
4:00	1.10	0.30	0.006	0.002	
4:15	1.10	0.30	0.006	0.002	
4:30	1.10	0.30	0.005	0.002	
4:45	1.96	2.31	0.134	0.004	
5:00	1.45	0.75	0.023	0.004	
5:15	1.13	0.33	0.006	0.004	
5:30	1.09	0.29	0.005	0.004	
5:45	1.09	0.29	0.005	0.004	
6:00	1.08	0.28	0.005	0.004	
6:15	1.08	0.28	0.005	0.004	
6:30	1.18	0.40	0.008	0.004	
6:45	1.11	0.36	0.007	0.004	
7:00	1.08	0.35	0.006	0.004	
7:15	1.07	0.32	0.006	0.004	
7:30	1.08	0.35	0.006	0.004	
7:45	1.08	0.31	0.006	0.005	
8:00	1.07	0.31	0.006	0.005	
8:15	1.07	0.36	0.007	0.005	
8:30	1.07	0.38	0.007	0.005	
8:45	1.06	0.26	0.005	0.005	
9:00	1.10	0.44	0.008	0.005	
9:15	1.08	0.39	0.007	0.005	
9:30	1.09	0.32	0.006	0.005	
9:45	1.06	0.32	0.006	0.005	
10:00	1.21	0.55	0.012	0.005	
10:15	1.20	0.55	0.012	0.005	
10:30	1.21	0.57	0.012	0.005	
10:45	1.21	0.48	0.010	0.006	
11:00	1.21	0.44	0.009	0.006	
11:15	1.14	0.34	0.007	0.006	
11:30	2.12	2.28	0.122	0.007	
11:45	1.25	0.55	0.013	0.007	
12:00	1.07	0.27	0.005	0.007	
12:15	1.37	0.71	0.020	0.007	
12:30	1.20	0.44	0.010	0.007	
12:45	1.05	0.27	0.005	0.008	
13:00	1.04	0.25	0.004	0.008	
13:15	1.02	0.23	0.004	0.008	
13:30	1.02	0.23	0.004	0.008	
13:45	1.02	0.23	0.004	0.008	
14:00	1.03	0.24	0.004	0.008	
14:15	1.03	0.24	0.004	0.008	
14:30	1.03	0.24	0.004	0.008	
14:45	1.04	0.25	0.004	0.008	
15:00	1.07	0.27	0.005	0.008	
15:15	1.05	0.25	0.004	0.008	
15:30	1.04	0.24	0.004	0.008	
15:45	2.08	1.99	0.107	0.009	
16:00	1.19	0.50	0.011	0.009	
16:15	1.05	0.26	0.004	0.009	
16:30	1.05	0.26	0.004	0.009	
16:45	1.04	0.24	0.004	0.009	
17:00	1.02	0.23	0.004	0.009	
17:15	1.03	0.24	0.004	0.009	
17:30	1.02	0.23	0.004	0.009	
17:45	1.02	0.23	0.004	0.010	
18:00	1.04	0.24	0.004	0.010	
18:15	1.03	0.24	0.004	0.010	
18:30	1.06	0.26	0.005	0.010	
18:45	1.06	0.38	0.007	0.010	
19:00	1.04	0.27	0.005	0.010	
19:15	1.02	0.23	0.004	0.010	
19:30	1.02	0.23	0.004	0.010	
19:45	2.14	2.48	0.137	0.011	
20:00	1.26	0.63	0.015	0.011	
20:15	1.07	0.27	0.005	0.011	
20:30	1.03	0.43	0.007	0.012	
20:45	1.10	0.42	0.008	0.012	
21:00	1.11	0.42	0.008	0.012	
21:15	1.03	0.27	0.005	0.012	
21:30	1.01	0.22	0.004	0.012	
21:45	1.01	0.22	0.004	0.012	
22:00	1.02	0.23	0.004	0.012	
22:15	1.01	0.22	0.004	0.012	
22:30	1.03	0.24	0.004	0.012	
22:45	1.00	0.21	0.004	0.012	
23:00	1.76	0.97	0.049	0.013	
23:15	1.26	0.50	0.013	0.013	
23:30	1.02	0.23	0.004	0.013	
23:45	1.01	0.22	0.004	0.013	
Daily Totals:				**0.013**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/12/2018					
0:00	1.02	0.23	0.004	0.000	
0:15	1.04	0.24	0.004	0.000	
0:30	1.00	0.32	0.005	0.000	
0:45	1.00	0.31	0.005	0.000	
1:00	1.89	2.04	0.090	0.001	
1:15	1.18	0.43	0.009	0.001	
1:30	1.02	0.23	0.004	0.001	
1:45	0.99	0.20	0.003	0.001	
2:00	1.02	0.23	0.004	0.001	
2:15	1.01	0.22	0.004	0.001	
2:30	1.00	0.21	0.003	0.001	
2:45	0.99	0.20	0.003	0.001	
3:00	1.02	0.25	0.004	0.001	
3:15	1.05	0.35	0.006	0.002	
3:30	1.01	0.28	0.005	0.002	
3:45	1.25	0.51	0.011	0.002	
4:00	1.15	0.30	0.006	0.002	
4:15	1.08	0.30	0.005	0.002	
4:30	1.16	0.43	0.009	0.002	
4:45	1.14	0.31	0.006	0.002	
5:00	1.10	0.26	0.005	0.002	
5:15	1.17	0.39	0.008	0.002	
5:30	1.21	0.39	0.009	0.002	
5:45	1.57	0.93	0.029	0.003	
6:00	1.35	0.72	0.018	0.003	
6:15	1.39	0.83	0.022	0.003	
6:30	1.40	0.85	0.022	0.003	
6:45	1.26	0.55	0.013	0.003	
7:00	2.00	1.75	0.103	0.004	
7:15	1.55	0.92	0.029	0.005	
7:30	1.42	0.79	0.022	0.005	
7:45	1.41	0.78	0.021	0.005	
8:00	1.31	0.63	0.015	0.005	
8:15	1.27	0.61	0.014	0.005	
8:30	2.11	2.69	0.136	0.007	
8:45	1.37	0.74	0.019	0.007	
9:00	1.87	1.54	0.077	0.008	
9:15	1.67	0.75	0.026	0.008	
9:30	1.38	0.71	0.019	0.008	
9:45	2.09	2.00	0.108	0.009	
10:00	1.62	0.65	0.022	0.010	
10:15	1.35	0.71	0.018	0.010	
10:30	1.34	0.57	0.014	0.010	
10:45	1.25	0.63	0.014	0.010	
11:00	1.96	2.26	0.118	0.011	
11:15	1.58	1.05	0.035	0.012	
11:30	1.30	0.64	0.015	0.012	
11:45	1.37	0.65	0.017	0.012	
12:00	1.33	0.64	0.016	0.012	
12:15	1.53	0.80	0.024	0.013	
12:30	2.31	2.49	0.146	0.014	
12:45	1.44	0.64	0.018	0.014	
13:00	1.26	0.73	0.017	0.014	
13:15	1.71	1.08	0.039	0.015	
13:30	2.56	2.59	0.191	0.017	
13:45	2.45	2.66	0.200	0.019	
14:00	2.04	1.48	0.072	0.020	
14:15	1.83	1.11	0.049	0.020	
14:30	2.02	1.98	0.109	0.021	
14:45	2.52	2.69	0.197	0.023	
15:00	1.29	0.54	0.013	0.023	
15:15	1.05	0.25	0.004	0.024	
15:30	1.12	0.32	0.006	0.024	
15:45	1.05	0.33	0.006	0.024	
16:00	1.98	2.06	0.130	0.025	
16:15	1.49	0.57	0.018	0.025	
16:30	1.21	0.52	0.011	0.025	
16:45	1.16	0.44	0.009	0.025	
17:00	1.23	0.44	0.010	0.025	
17:15	1.22	0.44	0.010	0.026	
17:30	1.21	0.35	0.007	0.026	
17:45	1.12	0.32	0.006	0.026	
18:00	1.07	0.40	0.007	0.026	
18:15	1.10	0.45	0.009	0.026	
18:30	1.10	0.32	0.006	0.026	
18:45	2.12	1.91	0.105	0.027	
19:00	1.28	0.72	0.017	0.027	
19:15	1.17	0.37	0.008	0.027	
19:30	1.19	0.59	0.013	0.027	
19:45	1.35	0.60	0.015	0.028	
20:00	1.32	0.64	0.016	0.028	
20:15	1.39	0.74	0.019	0.028	
20:30	1.16	0.40	0.008	0.028	
20:45	1.26	0.44	0.011	0.028	
21:00	1.11	0.33	0.006	0.028	
21:15	1.07	0.34	0.006	0.028	
21:30	2.11	2.31	0.157	0.030	
21:45	1.55	0.61	0.020	0.030	
22:00	1.14	0.43	0.008	0.030	
22:15	1.07	0.32	0.006	0.030	
22:30	1.05	0.28	0.005	0.030	
22:45	1.07	0.36	0.006	0.030	
23:00	1.46	0.43	0.011	0.031	0.01
23:15	2.00	0.23	0.010	0.031	0.01
23:30	1.73	0.17	0.006	0.031	0.01
23:45	1.87	0.19	0.008	0.031	0.01
Daily Totals:				**0.031**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/13/2018					
0:00	2.26	2.27	0.169	0.002	0.02
0:15	1.92	1.56	0.072	0.003	0.01
0:30	1.19	0.53	0.011	0.003	0.02
0:45	2.36	2.41	0.158	0.004	0.02
1:00	1.28	0.48	0.012	0.004	0.02
1:15	1.77	1.06	0.039	0.005	0.01
1:30	1.40	0.74	0.020	0.005	0.02
1:45	1.09	0.33	0.006	0.005	0.01
2:00	1.08	0.39	0.007	0.005	0.01
2:15	1.12	0.45	0.009	0.005	0.02
2:30	1.14	0.46	0.009	0.005	0.03
2:45	1.16	0.50	0.010	0.005	0.03
3:00	1.21	0.54	0.012	0.006	0.02
3:15	1.18	0.56	0.011	0.006	0.02
3:30	1.21	0.52	0.011	0.006	0.02
3:45	1.31	0.70	0.017	0.006	0.02
4:00	1.69	1.13	0.041	0.006	0.02
4:15	1.33	0.68	0.017	0.007	0.03
4:30	1.58	0.88	0.028	0.007	0.03
4:45	1.34	0.63	0.016	0.007	0.03
5:00	1.61	1.05	0.035	0.007	0.04
5:15	1.55	0.92	0.029	0.008	0.03
5:30	2.67	3.48	0.248	0.010	0.04
5:45	1.71	0.94	0.033	0.011	0.03
6:00	1.52	0.70	0.021	0.011	0.01
6:15	1.64	1.06	0.036	0.011	0.02
6:30	1.62	1.04	0.034	0.012	0.04
6:45	1.84	1.23	0.048	0.012	0.02
7:00	2.97	5.16	0.393	0.016	0.05
7:15	2.88	4.99	0.364	0.020	0.04
7:30	2.24	2.21	0.129	0.021	0.03
7:45	1.83	1.25	0.049	0.022	0.06
8:00	2.11	2.22	0.133	0.023	0.04
8:15	2.19	1.50	0.078	0.024	0.04
8:30	2.00	1.11	0.049	0.025	0.03
8:45	1.80	1.00	0.038	0.025	0.03
9:00	1.80	1.07	0.041	0.025	0.03
9:15	2.72	3.16	0.265	0.028	0.01
9:30	1.94	1.02	0.043	0.029	0.01
9:45	1.81	1.00	0.038	0.029	0.01
10:00	2.23	1.71	0.103	0.030	0.01
10:15	1.99	0.99	0.047	0.031	0.01
10:30	2.23	2.48	0.174	0.032	
10:45	2.10	1.32	0.066	0.033	0.01
11:00	2.28	2.59	0.158	0.035	
11:15	2.16	1.52	0.075	0.035	
11:30	1.90	0.96	0.040	0.036	
11:45	1.96	1.58	0.079	0.037	
12:00	2.69	3.77	0.266	0.039	
12:15	1.76	0.65	0.024	0.040	
12:30	1.63	0.82	0.027	0.040	
12:45	2.57	3.67	0.258	0.043	
13:00	2.67	3.41	0.252	0.045	
13:15	1.90	1.09	0.047	0.046	
13:30	1.89	1.08	0.044	0.046	
13:45	1.73	0.87	0.032	0.047	
14:00	1.72	1.19	0.046	0.047	
14:15	2.68	3.31	0.243	0.050	
14:30	1.71	0.89	0.031	0.050	
14:45	1.51	0.88	0.026	0.050	
15:00	1.48	0.76	0.022	0.050	
15:15	2.59	3.02	0.225	0.053	
15:30	1.57	0.71	0.022	0.053	
15:45	1.38	0.58	0.015	0.053	
16:00	1.46	0.86	0.024	0.053	
16:15	1.45	0.91	0.025	0.054	
16:30	2.20	2.43	0.131	0.055	
16:45	1.62	0.76	0.026	0.055	
17:00	1.38	0.66	0.017	0.055	
17:15	1.38	0.64	0.017	0.056	
17:30	1.35	0.73	0.018	0.056	
17:45	1.35	0.79	0.020	0.056	
18:00	2.40	2.66	0.202	0.058	
18:15	1.73	1.13	0.043	0.059	
18:30	1.39	0.84	0.022	0.059	
18:45	1.47	0.95	0.027	0.059	
19:00	1.36	0.60	0.015	0.059	
19:15	1.34	0.59	0.015	0.059	
19:30	1.42	0.64	0.018	0.060	
19:45	1.34	0.57	0.014	0.060	
20:00	1.33	0.57	0.014	0.060	
20:15	1.46	0.70	0.020	0.060	
20:30	2.29	2.90	0.206	0.062	
20:45	1.72	1.08	0.041	0.063	
21:00	1.44	0.73	0.020	0.063	
21:15	1.48	0.89	0.026	0.063	
21:30	1.30	0.61	0.015	0.063	
21:45	1.27	0.47	0.011	0.063	
22:00	1.35	0.59	0.015	0.064	
22:15	1.29	0.62	0.015	0.064	
22:30	1.26	0.71	0.016	0.064	
22:45	1.29	0.75	0.018	0.064	
23:00	1.25	0.67	0.015	0.064	
23:15	2.23	3.09	0.212	0.066	
23:30	1.67	1.01	0.037	0.067	
23:45	1.28	0.54	0.013	0.067	
Daily Totals:				**0.067**	**1.05**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/14/2018					
0:00	1.25	0.62	0.014	0.000	
0:15	1.23	0.55	0.012	0.000	
0:30	1.23	0.57	0.013	0.000	
0:45	1.22	0.58	0.013	0.001	
1:00	1.22	0.53	0.012	0.001	
1:15	1.24	0.48	0.011	0.001	
1:30	1.24	0.62	0.014	0.001	
1:45	1.23	0.72	0.016	0.001	
2:00	1.23	0.57	0.013	0.001	
2:15	1.24	0.42	0.009	0.001	
2:30	1.23	0.42	0.009	0.001	
2:45	1.22	0.43	0.009	0.001	
3:00	1.22	0.51	0.011	0.002	
3:15	1.22	0.49	0.011	0.002	
3:30	1.26	0.49	0.011	0.002	
3:45	1.89	2.21	0.155	0.003	
4:00	1.91	1.41	0.064	0.004	
4:15	1.26	0.61	0.014	0.004	
4:30	1.21	0.60	0.013	0.004	
4:45	1.21	0.49	0.011	0.005	
5:00	1.22	0.43	0.009	0.005	
5:15	1.25	0.47	0.011	0.005	
5:30	1.73	1.14	0.041	0.005	
5:45	1.87	2.07	0.121	0.006	
6:00	2.81	4.92	0.348	0.010	
6:15	2.79	4.08	0.288	0.013	
6:30	2.51	3.13	0.207	0.015	
6:45	1.85	1.18	0.047	0.016	
7:00	2.51	3.47	0.235	0.018	
7:15	1.90	1.46	0.062	0.019	
7:30	1.53	0.93	0.028	0.019	
7:45	1.67	1.08	0.037	0.019	
8:00	1.55	0.99	0.030	0.020	
8:15	1.63	1.02	0.034	0.020	
8:30	1.71	1.01	0.036	0.020	
8:45	1.88	0.92	0.038	0.021	
9:00	2.55	2.34	0.160	0.023	
9:15	2.02	1.21	0.055	0.023	
9:30	1.89	1.70	0.078	0.024	
9:45	1.67	0.82	0.028	0.024	
10:00	1.45	0.75	0.021	0.024	
10:15	1.52	0.91	0.028	0.025	
10:30	2.41	3.42	0.241	0.027	
10:45	1.89	1.14	0.047	0.028	
11:00	1.46	0.76	0.021	0.028	
11:15	1.42	0.90	0.024	0.028	
11:30	1.36	0.64	0.016	0.028	
11:45	1.35	0.86	0.022	0.029	
12:00	1.44	0.76	0.021	0.029	
12:15	2.49	2.77	0.191	0.031	
12:30	1.46	0.88	0.025	0.031	
12:45	1.39	0.76	0.020	0.031	
13:00	1.38	0.78	0.020	0.032	
13:15	2.05	2.29	0.170	0.033	
13:30	2.48	2.34	0.141	0.035	
13:45	2.14	1.38	0.067	0.035	
14:00	1.71	0.83	0.029	0.036	
14:15	1.30	0.50	0.012	0.036	
14:30	1.25	0.33	0.007	0.036	
14:45	2.46	2.72	0.190	0.038	
15:00	1.38	0.73	0.019	0.038	
15:15	1.21	0.40	0.009	0.038	
15:30	1.20	0.34	0.007	0.038	
15:45	1.18	0.44	0.009	0.038	
16:00	2.23	2.90	0.207	0.041	
16:15	1.74	0.88	0.032	0.041	
16:30	1.34	0.74	0.019	0.041	
16:45	1.30	0.67	0.016	0.041	
17:00	1.36	0.66	0.017	0.041	
17:15	1.30	0.51	0.012	0.042	
17:30	1.27	0.61	0.014	0.042	
17:45	1.21	0.50	0.011	0.042	
18:00	1.21	0.33	0.007	0.042	
18:15	1.23	0.38	0.008	0.042	
18:30	1.22	0.60	0.013	0.042	
18:45	1.19	0.40	0.008	0.042	
19:00	1.37	0.64	0.017	0.042	
19:15	2.26	2.66	0.186	0.044	
19:30	1.62	1.03	0.036	0.045	
19:45	1.55	0.93	0.029	0.045	
20:00	1.29	0.66	0.016	0.045	
20:15	1.26	0.41	0.009	0.045	
20:30	1.42	0.78	0.021	0.045	
20:45	1.20	0.33	0.007	0.046	
21:00	1.92	2.12	0.108	0.047	
21:15	1.62	0.99	0.034	0.047	
21:30	1.51	0.57	0.017	0.047	
21:45	1.45	0.70	0.020	0.047	
22:00	1.40	0.64	0.017	0.048	
22:15	1.71	0.41	0.015	0.048	
22:30	1.66	0.39	0.013	0.048	
22:45	1.57	0.36	0.011	0.048	
23:00	1.44	0.31	0.009	0.048	
23:15	1.42	0.26	0.007	0.048	
23:30	1.39	0.37	0.010	0.048	
23:45	1.39	0.32	0.008	0.048	
Daily Totals:				**0.048**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/15/2018					
0:00	1.53	0.41	0.012	0.000	
0:15	1.47	0.32	0.009	0.000	
0:30	2.76	3.38	0.257	0.003	
0:45	1.45	0.73	0.021	0.003	
1:00	1.65	0.80	0.030	0.003	
1:15	1.31	0.36	0.008	0.004	
1:30	1.12	0.37	0.007	0.004	
1:45	1.11	0.34	0.006	0.004	
2:00	1.12	0.30	0.006	0.004	
2:15	1.11	0.35	0.007	0.004	
2:30	1.11	0.41	0.008	0.004	
2:45	1.18	0.47	0.010	0.004	
3:00	1.15	0.40	0.008	0.004	
3:15	1.14	0.34	0.007	0.004	
3:30	1.12	0.32	0.006	0.004	
3:45	1.12	0.32	0.006	0.004	
4:00	1.23	0.46	0.010	0.004	
4:15	1.15	0.43	0.009	0.004	
4:30	1.11	0.36	0.007	0.005	
4:45	1.11	0.33	0.006	0.005	
5:00	1.12	0.35	0.007	0.005	
5:15	2.06	1.77	0.087	0.006	
5:30	1.43	0.84	0.023	0.006	
5:45	1.23	0.55	0.012	0.006	
6:00	1.41	0.82	0.022	0.006	
6:15	1.49	0.88	0.025	0.006	
6:30	1.54	0.89	0.027	0.007	
6:45	1.56	0.92	0.029	0.007	
7:00	1.61	0.89	0.029	0.007	
7:15	1.62	0.97	0.032	0.008	
7:30	1.66	1.04	0.036	0.008	
7:45	1.83	1.11	0.049	0.009	
8:00	1.56	0.74	0.023	0.009	
8:15	2.65	3.40	0.238	0.011	
8:30	1.74	0.85	0.030	0.012	
8:45	1.80	1.04	0.041	0.012	
9:00	1.72	1.01	0.036	0.012	
9:15	2.09	2.30	0.147	0.014	
9:30	2.05	1.41	0.066	0.015	
9:45	1.44	0.84	0.023	0.015	
10:00	1.58	0.78	0.025	0.015	
10:15	1.69	0.81	0.028	0.015	
10:30	1.48	0.77	0.022	0.016	
10:45	2.54	3.30	0.226	0.018	
11:00	1.49	0.76	0.023	0.018	
11:15	1.79	1.08	0.041	0.019	
11:30	1.65	1.00	0.034	0.019	
11:45	1.40	0.82	0.022	0.019	
12:00	2.50	2.75	0.211	0.021	
12:15	1.85	1.06	0.042	0.022	
12:30	1.54	1.04	0.032	0.022	
12:45	1.36	0.67	0.017	0.022	
13:00	1.40	0.74	0.020	0.023	
13:15	1.91	2.44	0.145	0.024	
13:30	2.05	1.27	0.064	0.025	
13:45	1.36	0.66	0.017	0.025	
14:00	1.43	0.67	0.019	0.025	
14:15	2.35	2.98	0.210	0.027	
14:30	1.81	0.85	0.033	0.028	
14:45	1.51	0.76	0.022	0.028	
15:00	1.81	0.98	0.039	0.028	
15:15	1.27	0.51	0.012	0.028	
15:30	1.99	2.28	0.165	0.030	
15:45	2.08	1.37	0.072	0.031	
16:00	1.32	0.60	0.015	0.031	
16:15	1.24	0.45	0.010	0.031	
16:30	1.24	0.42	0.009	0.031	
16:45	1.17	0.35	0.007	0.031	
17:00	1.33	0.46	0.012	0.031	
17:15	1.23	0.49	0.011	0.032	
17:30	1.17	0.38	0.008	0.032	
17:45	1.17	0.36	0.007	0.032	
18:00	1.19	0.40	0.008	0.032	
18:15	1.17	0.43	0.009	0.032	
18:30	1.13	0.40	0.008	0.032	
18:45	1.13	0.31	0.006	0.032	
19:00	1.36	0.60	0.016	0.032	
19:15	1.21	0.41	0.009	0.032	
19:30	1.64	1.94	0.100	0.033	
19:45	1.90	0.97	0.041	0.034	
20:00	1.35	0.59	0.015	0.034	
20:15	1.21	0.31	0.007	0.034	
20:30	1.18	0.35	0.007	0.034	
20:45	1.20	0.32	0.007	0.034	
21:00	1.30	0.50	0.012	0.034	
21:15	1.59	0.75	0.025	0.035	
21:30	1.31	0.67	0.017	0.035	
21:45	1.45	0.75	0.022	0.035	
22:00	1.24	0.63	0.014	0.035	
22:15	1.40	0.70	0.021	0.035	
22:30	1.51	0.75	0.023	0.036	
22:45	1.25	0.41	0.009	0.036	0.01
23:00	1.21	0.51	0.011	0.036	
23:15	1.19	0.50	0.010	0.036	
23:30	1.18	0.49	0.010	0.036	
23:45	1.16	0.46	0.009	0.036	
Daily Totals:				**0.036**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/16/2018					
0:00	1.18	0.47	0.010	0.000	
0:15	1.21	0.54	0.012	0.000	
0:30	1.20	0.49	0.010	0.000	
0:45	1.18	0.47	0.010	0.000	
1:00	2.21	2.82	0.203	0.003	
1:15	1.63	1.04	0.038	0.003	
1:30	1.23	0.52	0.011	0.003	
1:45	1.21	0.37	0.008	0.003	
2:00	1.51	0.56	0.021	0.003	
2:15	1.45	0.69	0.020	0.004	0.01
2:30	1.19	0.39	0.008	0.004	
2:45	1.24	0.43	0.010	0.004	
3:00	1.25	0.40	0.009	0.004	
3:15	1.25	0.42	0.009	0.004	
3:30	1.20	0.36	0.008	0.004	
3:45	1.20	0.38	0.008	0.004	0.01
4:00	1.20	0.41	0.009	0.004	
4:15	1.19	0.43	0.009	0.004	
4:30	1.21	0.44	0.009	0.004	
4:45	1.22	0.50	0.011	0.005	
5:00	1.28	0.60	0.014	0.005	
5:15	1.28	0.58	0.014	0.005	0.01
5:30	1.42	0.64	0.018	0.005	
5:45	2.24	2.99	0.204	0.007	0.03
6:00	1.74	0.99	0.037	0.007	0.03
6:15	1.44	0.82	0.023	0.008	0.03
6:30	1.53	0.94	0.028	0.008	0.03
6:45	1.62	0.96	0.032	0.008	0.02
7:00	1.54	0.92	0.028	0.009	0.03
7:15	1.41	0.80	0.021	0.009	
7:30	1.82	1.05	0.040	0.009	
7:45	1.65	1.10	0.037	0.010	
8:00	1.69	0.97	0.034	0.010	
8:15	2.31	3.23	0.218	0.012	0.01
8:30	1.89	1.33	0.057	0.013	
8:45	1.46	0.82	0.023	0.013	
9:00	1.48	0.89	0.026	0.013	0.05
9:15	1.48	0.82	0.023	0.014	0.05
9:30	1.50	0.87	0.025	0.014	0.04
9:45	2.36	2.93	0.206	0.016	0.04
10:00	1.97	1.52	0.069	0.017	0.04
10:15	1.65	0.70	0.023	0.017	0.03
10:30	1.55	0.93	0.029	0.017	0.06
10:45	1.53	0.93	0.028	0.018	0.05
11:00	1.47	0.92	0.026	0.018	0.03
11:15	2.15	1.93	0.105	0.019	0.05
11:30	1.69	1.06	0.038	0.019	0.04
11:45	1.55	0.95	0.029	0.020	0.03
12:00	1.88	1.35	0.060	0.020	0.03
12:15	2.41	2.72	0.190	0.022	0.02
12:30	1.80	0.95	0.038	0.023	0.02
12:45	1.66	1.02	0.034	0.023	0.01
13:00	1.66	0.92	0.031	0.023	
13:15	1.85	1.24	0.055	0.024	
13:30	2.35	2.55	0.153	0.026	
13:45	1.67	0.90	0.031	0.026	
14:00	1.58	0.86	0.027	0.026	
14:15	1.77	0.93	0.034	0.027	
14:30	1.97	3.33	0.147	0.028	
14:45	1.79	1.03	0.040	0.028	
15:00	1.44	0.72	0.020	0.029	
15:15	2.23	1.90	0.107	0.030	
15:30	1.46	0.91	0.026	0.030	
15:45	1.39	0.69	0.018	0.030	
16:00	1.39	0.62	0.016	0.030	
16:15	1.39	0.46	0.012	0.031	
16:30	1.39	0.62	0.016	0.031	
16:45	1.38	0.62	0.016	0.031	
17:00	1.40	0.64	0.017	0.031	
17:15	2.05	2.23	0.172	0.033	
17:30	2.00	1.25	0.058	0.033	
17:45	1.42	0.66	0.018	0.034	
18:00	1.36	0.59	0.015	0.034	
18:15	1.36	0.58	0.015	0.034	
18:30	1.36	0.59	0.015	0.034	
18:45	1.35	0.58	0.015	0.034	
19:00	2.26	3.25	0.217	0.037	
19:15	1.75	1.26	0.049	0.037	
19:30	1.36	0.74	0.019	0.037	
19:45	1.34	0.42	0.011	0.037	
20:00	1.35	0.54	0.014	0.037	
20:15	1.34	0.73	0.018	0.038	
20:30	1.33	0.63	0.016	0.038	
20:45	1.32	0.65	0.016	0.038	
21:00	1.34	0.74	0.019	0.038	
21:15	1.32	0.55	0.013	0.038	
21:30	2.25	2.93	0.199	0.040	
21:45	1.71	1.00	0.036	0.041	
22:00	1.34	0.63	0.016	0.041	
22:15	1.31	0.63	0.015	0.041	
22:30	1.30	0.51	0.012	0.041	
22:45	1.29	0.50	0.012	0.041	
23:00	1.29	0.51	0.012	0.041	
23:15	1.43	0.75	0.022	0.042	
23:30	1.40	0.72	0.019	0.042	
23:45	1.28	0.48	0.011	0.042	
Daily Totals:				**0.042**	**0.80**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/17/2018					
0:00	1.27	0.48	0.011	0.000	
0:15	1.27	0.49	0.011	0.000	
0:30	2.35	3.85	0.230	0.003	
0:45	1.52	0.79	0.025	0.003	
1:00	1.27	0.48	0.011	0.003	
1:15	1.26	0.47	0.011	0.003	
1:30	1.26	0.47	0.011	0.003	
1:45	1.25	0.46	0.010	0.003	
2:00	1.25	0.34	0.008	0.003	
2:15	1.25	0.41	0.009	0.004	
2:30	1.27	0.25	0.006	0.004	
2:45	2.14	1.69	0.092	0.005	
3:00	1.35	0.62	0.016	0.005	
3:15	1.25	0.51	0.012	0.005	
3:30	1.25	0.43	0.010	0.005	
3:45	1.25	0.38	0.008	0.005	
4:00	1.25	0.33	0.007	0.005	
4:15	1.24	0.43	0.009	0.005	
4:30	1.24	0.42	0.009	0.005	
4:45	1.24	0.44	0.010	0.005	
5:00	1.23	0.44	0.010	0.005	
5:15	1.23	0.44	0.010	0.006	
5:30	1.23	0.43	0.009	0.006	
5:45	1.23	0.43	0.009	0.006	
6:00	1.23	0.43	0.010	0.006	
6:15	1.29	0.47	0.011	0.006	
6:30	1.27	0.66	0.015	0.006	
6:45	2.11	1.84	0.100	0.007	
7:00	1.32	0.66	0.016	0.007	
7:15	1.23	0.58	0.013	0.007	
7:30	1.23	0.59	0.013	0.008	
7:45	1.23	0.56	0.012	0.008	
8:00	1.25	0.51	0.011	0.008	
8:15	1.24	0.63	0.014	0.008	
8:30	1.30	0.68	0.016	0.008	
8:45	1.26	0.67	0.015	0.008	
9:00	1.23	0.44	0.010	0.008	
9:15	1.29	0.56	0.013	0.009	
9:30	1.29	0.69	0.016	0.009	
9:45	2.15	1.86	0.103	0.010	
10:00	1.37	0.70	0.018	0.010	
10:15	1.26	0.65	0.015	0.010	
10:30	1.28	0.53	0.012	0.010	
10:45	1.28	0.60	0.014	0.010	
11:00	1.28	0.64	0.015	0.011	
11:15	1.29	0.63	0.015	0.011	
11:30	1.29	0.59	0.014	0.011	
11:45	1.30	0.56	0.013	0.011	
12:00	1.66	1.27	0.058	0.012	
12:15	1.60	0.54	0.018	0.012	
12:30	1.31	0.68	0.016	0.012	
12:45	1.33	0.63	0.016	0.012	
13:00	1.34	0.60	0.015	0.012	
13:15	1.33	0.60	0.015	0.012	
13:30	2.43	3.46	0.225	0.015	
13:45	1.46	0.92	0.026	0.015	
14:00	1.34	0.78	0.019	0.015	
14:15	1.34	0.71	0.018	0.015	
14:30	1.32	0.66	0.016	0.016	
14:45	1.32	0.59	0.014	0.016	
15:00	1.31	0.65	0.016	0.016	
15:15	1.31	0.63	0.015	0.016	
15:30	1.32	0.61	0.015	0.016	
15:45	1.96	2.22	0.118	0.017	
16:00	1.60	0.84	0.028	0.018	
16:15	1.32	0.69	0.017	0.018	
16:30	1.29	0.70	0.017	0.018	
16:45	1.45	0.80	0.024	0.018	
17:00	1.49	0.77	0.023	0.019	
17:15	1.31	0.70	0.017	0.019	
17:30	1.29	0.39	0.009	0.019	
17:45	1.29	0.54	0.013	0.019	
18:00	1.28	0.49	0.011	0.019	
18:15	1.27	0.48	0.011	0.019	
18:30	1.27	0.48	0.011	0.019	
18:45	1.28	0.49	0.011	0.019	
19:00	1.84	1.97	0.135	0.021	
19:15	1.96	1.99	0.092	0.022	
19:30	1.33	0.71	0.018	0.022	
19:45	1.33	0.72	0.018	0.022	
20:00	1.27	0.61	0.014	0.022	
20:15	1.27	0.41	0.010	0.022	
20:30	1.27	0.48	0.011	0.023	
20:45	1.27	0.31	0.007	0.023	
21:00	2.46	3.16	0.214	0.025	
21:15	1.48	0.78	0.022	0.025	
21:30	1.27	0.65	0.015	0.025	
21:45	1.27	0.58	0.013	0.025	
22:00	1.27	0.46	0.011	0.026	
22:15	1.30	0.50	0.012	0.026	
22:30	1.25	0.46	0.010	0.026	
22:45	1.26	0.51	0.012	0.026	
23:00	1.27	0.48	0.011	0.026	
23:15	1.27	0.48	0.011	0.026	
23:30	1.28	0.50	0.012	0.026	
23:45	1.26	0.47	0.011	0.026	
Daily Totals:				**0.026**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/18/2018					
0:00	1.87	2.00	0.147	0.002	
0:15	1.87	1.34	0.058	0.002	
0:30	1.30	0.71	0.017	0.002	
0:45	1.26	0.60	0.014	0.002	
1:00	1.26	0.45	0.010	0.003	
1:15	1.26	0.43	0.010	0.003	
1:30	1.24	0.45	0.010	0.003	
1:45	1.24	0.45	0.010	0.003	
2:00	1.24	0.45	0.010	0.003	
2:15	1.24	0.44	0.010	0.003	
2:30	1.24	0.44	0.010	0.003	
2:45	1.24	0.21	0.005	0.003	
3:00	1.23	0.44	0.010	0.003	
3:15	1.23	0.32	0.007	0.003	
3:30	1.88	2.03	0.102	0.004	
3:45	1.52	1.01	0.032	0.005	
4:00	1.25	0.66	0.015	0.005	
4:15	1.23	0.55	0.012	0.005	
4:30	1.23	0.50	0.011	0.005	
4:45	1.23	0.43	0.010	0.005	
5:00	1.23	0.44	0.010	0.005	
5:15	1.23	0.43	0.009	0.005	
5:30	1.24	0.44	0.010	0.006	
5:45	1.23	0.43	0.010	0.006	
6:00	1.24	0.44	0.010	0.006	
6:15	1.24	0.32	0.007	0.006	
6:30	1.29	0.67	0.016	0.006	
6:45	1.24	0.59	0.013	0.006	
7:00	2.36	3.37	0.215	0.008	
7:15	1.42	0.83	0.023	0.009	
7:30	1.28	0.68	0.016	0.009	
7:45	1.26	0.59	0.013	0.009	
8:00	1.29	0.72	0.017	0.009	
8:15	1.24	0.64	0.014	0.009	
8:30	1.29	0.61	0.015	0.009	
8:45	1.26	0.65	0.015	0.010	
9:00	1.25	0.62	0.014	0.010	
9:15	1.24	0.45	0.010	0.010	
9:30	1.23	0.43	0.010	0.010	
9:45	1.23	0.48	0.011	0.010	
10:00	2.19	2.85	0.201	0.012	
10:15	1.61	0.95	0.033	0.012	
10:30	1.25	0.57	0.013	0.013	
10:45	1.23	0.44	0.010	0.013	
11:00	1.22	0.43	0.009	0.013	
11:15	1.24	0.44	0.010	0.013	
11:30	1.23	0.51	0.011	0.013	
11:45	1.23	0.37	0.008	0.013	
12:00	1.24	0.44	0.010	0.013	
12:15	1.24	0.45	0.010	0.013	
12:30	1.24	0.45	0.010	0.013	
12:45	1.24	0.47	0.011	0.014	
13:00	1.24	0.44	0.010	0.014	
13:15	1.24	0.45	0.010	0.014	
13:30	1.24	0.45	0.010	0.014	
13:45	1.76	2.05	0.129	0.015	
14:00	1.81	1.35	0.056	0.016	
14:15	1.28	0.65	0.015	0.016	
14:30	1.24	0.50	0.011	0.016	
14:45	1.23	0.45	0.010	0.016	
15:00	1.24	0.27	0.006	0.016	
15:15	1.24	0.44	0.010	0.016	
15:30	1.25	0.46	0.010	0.016	
15:45	1.24	0.42	0.009	0.017	
16:00	1.24	0.32	0.007	0.017	
16:15	1.24	0.40	0.009	0.017	
16:30	1.24	0.32	0.007	0.017	
16:45	1.24	0.45	0.010	0.017	
17:00	1.57	1.15	0.050	0.017	
17:15	2.41	3.35	0.226	0.020	
17:30	1.45	0.75	0.022	0.020	
17:45	1.24	0.61	0.014	0.020	
18:00	1.22	0.43	0.009	0.020	
18:15	1.22	0.58	0.012	0.020	
18:30	1.24	0.51	0.011	0.020	
18:45	1.26	0.65	0.015	0.021	
19:00	1.24	0.61	0.014	0.021	
19:15	1.23	0.59	0.013	0.021	
19:30	1.25	0.57	0.013	0.021	
19:45	1.23	0.49	0.011	0.021	
20:00	1.24	0.51	0.011	0.021	
20:15	1.22	0.42	0.009	0.021	
20:30	1.23	0.43	0.009	0.021	
20:45	1.83	1.96	0.138	0.023	
21:00	1.93	1.83	0.081	0.024	
21:15	1.29	0.66	0.016	0.024	
21:30	1.24	0.63	0.014	0.024	
21:45	1.23	0.58	0.013	0.024	
22:00	1.21	0.39	0.009	0.024	
22:15	1.22	0.42	0.009	0.024	
22:30	1.26	0.46	0.011	0.024	
22:45	1.26	0.76	0.017	0.025	
23:00	1.23	0.63	0.014	0.025	
23:15	1.21	0.53	0.012	0.025	
23:30	1.22	0.39	0.008	0.025	
23:45	1.22	0.40	0.009	0.025	
Daily Totals:				**0.025**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/19/2018					
0:00	1.22	0.54	0.012	0.000	
0:15	2.11	2.72	0.189	0.002	
0:30	1.63	1.08	0.038	0.002	
0:45	1.25	0.65	0.015	0.003	
1:00	1.23	0.54	0.012	0.003	
1:15	1.24	0.67	0.015	0.003	
1:30	1.22	0.58	0.013	0.003	
1:45	1.22	0.55	0.012	0.003	
2:00	1.22	0.42	0.009	0.003	
2:15	1.22	0.67	0.015	0.003	
2:30	1.20	0.44	0.009	0.004	
2:45	1.21	0.42	0.009	0.004	
3:00	1.95	2.66	0.140	0.005	
3:15	1.51	1.02	0.032	0.005	
3:30	1.29	0.70	0.016	0.006	
3:45	1.27	0.62	0.014	0.006	
4:00	1.23	0.62	0.014	0.006	
4:15	1.21	0.53	0.011	0.006	
4:30	1.22	0.35	0.008	0.006	
4:45	1.23	0.44	0.010	0.006	
5:00	1.22	0.42	0.009	0.006	
5:15	1.38	0.73	0.020	0.006	
5:30	1.55	0.98	0.030	0.007	
5:45	1.46	0.91	0.025	0.007	
6:00	1.44	0.93	0.026	0.007	
6:15	1.48	0.98	0.029	0.008	
6:30	1.46	0.86	0.024	0.008	
6:45	2.10	1.88	0.099	0.009	
7:00	1.64	1.10	0.038	0.009	
7:15	1.44	0.90	0.025	0.010	
7:30	1.86	1.66	0.069	0.010	
7:45	1.61	0.90	0.029	0.011	
8:00	1.61	0.75	0.024	0.011	
8:15	1.58	1.05	0.033	0.011	
8:30	2.44	3.11	0.215	0.013	
8:45	1.84	1.57	0.063	0.014	
9:00	1.55	0.84	0.026	0.014	
9:15	1.74	1.18	0.043	0.015	
9:30	2.15	2.44	0.187	0.017	
9:45	2.31	2.21	0.130	0.018	
10:00	1.85	1.26	0.056	0.019	
10:15	1.56	0.80	0.025	0.019	
10:30	1.43	0.61	0.017	0.019	
10:45	2.00	2.20	0.150	0.021	
11:00	1.89	1.36	0.056	0.021	
11:15	1.52	0.97	0.029	0.022	
11:30	1.71	1.12	0.040	0.022	
11:45	1.45	0.63	0.018	0.022	
12:00	2.08	1.85	0.093	0.023	
12:15	1.92	1.33	0.058	0.024	
12:30	1.46	0.82	0.023	0.024	
12:45	2.28	2.93	0.163	0.026	
13:00	1.69	0.75	0.027	0.026	
13:15	1.50	0.65	0.019	0.026	
13:30	2.31	2.54	0.184	0.028	
13:45	2.00	1.42	0.067	0.029	
14:00	1.76	1.13	0.042	0.029	
14:15	1.48	0.71	0.020	0.029	
14:30	2.34	1.96	0.149	0.031	
14:45	2.03	1.86	0.092	0.032	
15:00	1.42	0.79	0.022	0.032	
15:15	1.40	0.68	0.018	0.032	
15:30	2.41	3.48	0.283	0.035	
15:45	1.68	1.36	0.052	0.036	
16:00	1.33	0.72	0.018	0.036	
16:15	1.58	0.80	0.025	0.036	
16:30	1.36	0.75	0.019	0.036	
16:45	1.81	1.78	0.087	0.037	
17:00	1.78	0.92	0.035	0.038	
17:15	1.48	0.80	0.023	0.038	
17:30	1.44	0.74	0.020	0.038	
17:45	1.34	0.68	0.017	0.038	
18:00	1.39	0.57	0.015	0.039	
18:15	1.31	0.60	0.015	0.039	
18:30	1.23	0.40	0.009	0.039	
18:45	1.24	0.44	0.010	0.039	
19:00	1.32	0.50	0.012	0.039	
19:15	1.34	0.66	0.017	0.039	
19:30	2.24	2.97	0.202	0.041	
19:45	1.77	1.38	0.055	0.042	
20:00	1.37	0.79	0.021	0.042	
20:15	1.26	0.44	0.010	0.042	
20:30	1.32	0.55	0.014	0.042	
20:45	1.32	0.50	0.012	0.042	
21:00	1.53	0.55	0.016	0.043	
21:15	1.40	0.65	0.018	0.043	
21:30	1.24	0.66	0.015	0.043	
21:45	1.23	0.38	0.008	0.043	
22:00	1.26	0.52	0.012	0.043	
22:15	1.29	0.68	0.016	0.043	
22:30	2.02	1.85	0.092	0.044	
22:45	1.30	0.71	0.017	0.044	
23:00	1.45	0.84	0.024	0.045	
23:15	1.23	0.60	0.013	0.045	
23:30	1.26	0.65	0.015	0.045	
23:45	1.24	0.62	0.014	0.045	
Daily Totals:				**0.045**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/20/2018					
0:00	1.53	0.83	0.028	0.000	
0:15	1.54	0.94	0.029	0.001	
0:30	1.39	0.79	0.022	0.001	
0:45	1.42	0.80	0.022	0.001	
1:00	1.21	0.57	0.012	0.001	
1:15	1.73	1.14	0.046	0.002	
1:30	1.50	0.90	0.027	0.002	
1:45	1.25	0.63	0.014	0.002	
2:00	1.21	0.58	0.012	0.002	
2:15	1.20	0.57	0.012	0.002	
2:30	2.08	3.08	0.196	0.004	
2:45	1.63	0.95	0.032	0.005	
3:00	1.26	0.70	0.016	0.005	
3:15	1.21	0.57	0.012	0.005	
3:30	1.24	0.60	0.013	0.005	
3:45	1.26	0.64	0.015	0.005	
4:00	1.19	0.51	0.011	0.005	
4:15	1.19	0.44	0.009	0.006	
4:30	1.19	0.51	0.011	0.006	
4:45	1.20	0.54	0.011	0.006	
5:00	1.19	0.53	0.011	0.006	
5:15	1.22	0.54	0.012	0.006	
5:30	1.41	0.73	0.020	0.006	
5:45	1.45	0.55	0.016	0.006	
6:00	1.60	0.66	0.022	0.007	
6:15	1.75	0.68	0.025	0.007	
6:30	1.72	0.92	0.034	0.007	
6:45	1.87	0.75	0.030	0.007	
7:00	1.66	0.66	0.022	0.008	
7:15	1.63	0.79	0.026	0.008	
7:30	1.64	0.68	0.023	0.008	
7:45	2.11	1.97	0.144	0.010	
8:00	2.24	2.08	0.110	0.011	
8:15	1.62	0.91	0.030	0.011	
8:30	1.45	0.76	0.021	0.011	
8:45	1.67	1.08	0.037	0.012	
9:00	2.36	2.77	0.195	0.014	
9:15	1.88	1.30	0.054	0.014	
9:30	1.70	0.81	0.029	0.015	
9:45	1.55	0.67	0.021	0.015	
10:00	1.48	0.79	0.023	0.015	
10:15	1.61	0.76	0.025	0.015	
10:30	1.51	0.80	0.024	0.016	
10:45	2.17	2.30	0.123	0.017	
11:00	1.54	1.08	0.033	0.017	
11:15	1.58	0.93	0.029	0.018	
11:30	1.91	1.45	0.066	0.018	
11:45	2.04	2.44	0.170	0.020	
12:00	2.20	1.62	0.086	0.021	
12:15	1.58	0.87	0.028	0.021	
12:30	1.59	0.98	0.031	0.022	
12:45	1.55	0.88	0.027	0.022	
13:00	1.48	0.83	0.024	0.022	
13:15	2.51	2.79	0.201	0.024	
13:30	1.55	0.94	0.029	0.024	
13:45	1.69	1.00	0.035	0.025	
14:00	1.55	0.68	0.021	0.025	
14:15	2.48	3.05	0.212	0.027	
14:30	1.70	0.67	0.024	0.028	
14:45	1.50	0.62	0.018	0.028	
15:00	1.49	0.45	0.013	0.028	
15:15	1.35	0.58	0.015	0.028	
15:30	1.98	1.83	0.102	0.029	
15:45	1.50	0.76	0.023	0.029	
16:00	1.19	0.50	0.011	0.029	
16:15	1.21	0.46	0.010	0.030	
16:30	1.24	0.53	0.012	0.030	
16:45	1.18	0.41	0.009	0.030	
17:00	1.21	0.44	0.009	0.030	
17:15	1.46	0.76	0.023	0.030	
17:30	1.67	1.47	0.070	0.031	
17:45	1.69	0.66	0.025	0.031	
18:00	1.21	0.42	0.009	0.031	
18:15	1.20	0.29	0.006	0.031	
18:30	1.20	0.42	0.009	0.031	
18:45	1.15	0.35	0.007	0.031	
19:00	1.15	0.35	0.007	0.031	
19:15	1.16	0.36	0.007	0.032	
19:30	1.15	0.35	0.007	0.032	
19:45	1.16	0.36	0.007	0.032	
20:00	1.15	0.34	0.007	0.032	
20:15	1.14	0.34	0.007	0.032	
20:30	1.14	0.34	0.007	0.032	
20:45	2.26	2.68	0.194	0.034	
21:00	1.69	0.82	0.030	0.034	
21:15	1.20	0.43	0.009	0.034	
21:30	1.14	0.32	0.006	0.034	
21:45	1.15	0.34	0.007	0.034	
22:00	1.16	0.36	0.007	0.035	
22:15	1.15	0.35	0.007	0.035	
22:30	1.15	0.35	0.007	0.035	
22:45	1.15	0.35	0.007	0.035	
23:00	1.13	0.33	0.006	0.035	
23:15	1.16	0.36	0.007	0.035	
23:30	1.14	0.33	0.007	0.035	
23:45	1.14	0.34	0.007	0.035	
Daily Totals:				**0.035**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/21/2018					
0:00	1.14	0.34	0.007	0.000	
0:15	1.86	1.82	0.145	0.002	
0:30	2.11	1.54	0.083	0.002	
0:45	1.29	0.44	0.011	0.003	
1:00	1.14	0.34	0.007	0.003	
1:15	1.13	0.39	0.008	0.003	
1:30	1.12	0.32	0.006	0.003	
1:45	1.13	0.33	0.006	0.003	
2:00	1.13	0.32	0.006	0.003	
2:15	1.13	0.32	0.006	0.003	
2:30	1.12	0.32	0.006	0.003	
2:45	1.12	0.32	0.006	0.003	
3:00	1.12	0.32	0.006	0.003	
3:15	1.12	0.32	0.006	0.003	
3:30	1.14	0.34	0.007	0.003	
3:45	1.20	0.44	0.009	0.003	
4:00	1.20	0.52	0.011	0.004	
4:15	2.00	1.82	0.097	0.005	
4:30	1.99	2.26	0.117	0.006	
4:45	1.48	0.77	0.024	0.006	
5:00	1.17	0.43	0.009	0.006	
5:15	1.25	0.51	0.013	0.006	
5:30	1.56	0.80	0.025	0.006	
5:45	1.35	0.59	0.015	0.007	
6:00	1.21	0.41	0.009	0.007	
6:15	1.20	0.34	0.007	0.007	
6:30	1.20	0.47	0.010	0.007	
6:45	1.23	0.43	0.009	0.007	
7:00	1.37	0.63	0.017	0.007	
7:15	1.47	0.79	0.023	0.007	
7:30	1.40	0.70	0.019	0.008	
7:45	1.43	0.70	0.019	0.008	
8:00	1.55	0.84	0.026	0.008	
8:15	1.48	0.74	0.021	0.008	
8:30	2.35	2.55	0.198	0.010	
8:45	2.24	1.59	0.087	0.011	
9:00	1.41	0.70	0.019	0.011	
9:15	1.30	0.57	0.014	0.012	
9:30	1.29	0.44	0.010	0.012	
9:45	1.36	0.67	0.017	0.012	
10:00	1.28	0.58	0.013	0.012	
10:15	1.29	0.55	0.013	0.012	
10:30	1.29	0.53	0.013	0.012	
10:45	2.39	2.42	0.178	0.014	
11:00	1.72	1.09	0.042	0.015	
11:15	1.34	0.61	0.015	0.015	
11:30	1.43	0.82	0.023	0.015	
11:45	1.45	0.57	0.016	0.015	
12:00	1.55	0.68	0.021	0.015	
12:15	1.39	0.66	0.017	0.016	
12:30	1.34	0.53	0.013	0.016	
12:45	2.68	2.86	0.225	0.018	
13:00	1.47	0.78	0.023	0.018	
13:15	1.26	0.50	0.012	0.018	
13:30	1.24	0.45	0.010	0.018	
13:45	1.92	2.23	0.123	0.020	
14:00	1.40	0.66	0.019	0.020	
14:15	1.16	0.36	0.007	0.020	
14:30	1.18	0.37	0.008	0.020	
14:45	1.94	1.96	0.111	0.021	
15:00	1.49	0.63	0.019	0.021	
15:15	1.15	0.33	0.007	0.022	
15:30	1.11	0.31	0.006	0.022	
15:45	1.11	0.31	0.006	0.022	
16:00	1.10	0.30	0.006	0.022	
16:15	1.10	0.30	0.006	0.022	
16:30	1.11	0.31	0.006	0.022	
16:45	1.14	0.33	0.007	0.022	
17:00	1.12	0.32	0.006	0.022	
17:15	1.09	0.29	0.005	0.022	
17:30	1.10	0.30	0.006	0.022	
17:45	1.09	0.29	0.005	0.022	
18:00	1.76	1.93	0.143	0.024	
18:15	1.94	1.10	0.051	0.024	
18:30	1.23	0.61	0.013	0.024	
18:45	1.15	0.45	0.009	0.024	
19:00	1.21	0.41	0.009	0.024	
19:15	1.24	0.38	0.009	0.025	
19:30	1.24	0.50	0.011	0.025	
19:45	1.15	0.41	0.008	0.025	
20:00	1.10	0.30	0.006	0.025	
20:15	1.09	0.29	0.005	0.025	
20:30	1.09	0.29	0.005	0.025	
20:45	1.13	0.33	0.006	0.025	
21:00	1.10	0.30	0.006	0.025	
21:15	1.09	0.29	0.005	0.025	
21:30	1.09	0.29	0.005	0.025	
21:45	1.08	0.28	0.005	0.025	
22:00	1.10	0.30	0.006	0.025	
22:15	1.10	0.30	0.006	0.025	
22:30	1.08	0.28	0.005	0.025	
22:45	1.08	0.28	0.005	0.025	
23:00	1.09	0.29	0.005	0.026	
23:15	1.09	0.29	0.005	0.026	
23:30	1.20	0.34	0.007	0.026	
23:45	1.10	0.30	0.006	0.026	
Daily Totals:				**0.026**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/22/2018					
0:00	2.56	2.71	0.194	0.002	
0:15	1.61	0.97	0.032	0.002	
0:30	1.19	0.42	0.009	0.002	
0:45	1.09	0.29	0.005	0.003	
1:00	1.08	0.28	0.005	0.003	
1:15	1.07	0.27	0.005	0.003	
1:30	1.07	0.27	0.005	0.003	
1:45	1.07	0.27	0.005	0.003	
2:00	1.07	0.27	0.005	0.003	
2:15	1.07	0.27	0.005	0.003	
2:30	1.07	0.27	0.005	0.003	
2:45	1.07	0.27	0.005	0.003	
3:00	1.07	0.27	0.005	0.003	
3:15	1.07	0.27	0.005	0.003	
3:30	1.06	0.22	0.004	0.003	
3:45	1.07	0.27	0.005	0.003	
4:00	1.06	0.26	0.005	0.003	
4:15	1.06	0.26	0.005	0.003	
4:30	1.57	0.81	0.044	0.004	
4:45	1.51	0.84	0.028	0.004	
5:00	1.13	0.33	0.007	0.004	
5:15	1.10	0.30	0.006	0.004	
5:30	1.07	0.27	0.005	0.004	
5:45	1.06	0.26	0.005	0.004	
6:00	1.40	0.76	0.023	0.004	
6:15	1.26	0.61	0.014	0.005	
6:30	1.35	0.77	0.020	0.005	
6:45	1.28	0.57	0.013	0.005	
7:00	1.49	0.82	0.027	0.005	
7:15	1.35	0.68	0.018	0.005	
7:30	1.81	1.68	0.122	0.007	
7:45	2.01	1.70	0.086	0.008	
8:00	1.24	0.44	0.010	0.008	
8:15	1.09	0.28	0.005	0.008	
8:30	1.07	0.27	0.005	0.008	
8:45	1.08	0.28	0.005	0.008	
9:00	1.08	0.28	0.005	0.008	
9:15	1.07	0.28	0.005	0.008	
9:30	1.07	0.28	0.005	0.008	
9:45	1.07	0.27	0.005	0.008	
10:00	1.06	0.26	0.005	0.008	
10:15	1.07	0.27	0.005	0.008	
10:30	1.06	0.27	0.005	0.008	
10:45	1.06	0.26	0.005	0.008	
11:00	1.06	0.26	0.005	0.008	
11:15	1.06	0.26	0.005	0.008	
11:30	1.06	0.26	0.005	0.008	
11:45	1.06	0.26	0.005	0.008	
12:00	1.06	0.26	0.005	0.008	
12:15	1.06	0.27	0.005	0.008	
12:30	1.05	0.26	0.004	0.009	
12:45	1.06	0.26	0.005	0.009	
13:00	1.06	0.26	0.005	0.009	
13:15	1.05	0.26	0.004	0.009	
13:30	1.04	0.25	0.004	0.009	
13:45	1.05	0.26	0.004	0.009	
14:00	1.05	0.26	0.004	0.009	
14:15	1.05	0.25	0.004	0.009	
14:30	1.05	0.26	0.004	0.009	
14:45	2.26	2.27	0.162	0.011	
15:00	1.62	1.05	0.038	0.011	
15:15	1.14	0.37	0.007	0.011	
15:30	1.07	0.27	0.005	0.011	
15:45	1.06	0.26	0.005	0.011	
16:00	1.05	0.26	0.005	0.011	
16:15	1.04	0.25	0.004	0.011	
16:30	1.05	0.25	0.004	0.011	
16:45	1.04	0.24	0.004	0.011	
17:00	1.04	0.25	0.004	0.011	
17:15	1.04	0.25	0.004	0.011	
17:30	1.04	0.25	0.004	0.011	
17:45	1.05	0.25	0.004	0.012	
18:00	1.05	0.25	0.004	0.012	
18:15	1.05	0.25	0.004	0.012	
18:30	1.05	0.25	0.004	0.012	
18:45	1.05	0.26	0.004	0.012	
19:00	1.07	0.27	0.005	0.012	
19:15	1.06	0.27	0.005	0.012	
19:30	1.10	0.30	0.006	0.012	
19:45	1.05	0.26	0.004	0.012	
20:00	1.04	0.24	0.004	0.012	
20:15	1.46	0.76	0.022	0.012	
20:30	1.15	0.28	0.006	0.012	
20:45	1.06	0.26	0.005	0.012	
21:00	1.04	0.24	0.004	0.012	
21:15	1.47	1.69	0.085	0.013	
21:30	1.75	1.04	0.040	0.014	
21:45	1.17	0.37	0.008	0.014	
22:00	1.07	0.27	0.005	0.014	
22:15	1.05	0.26	0.004	0.014	
22:30	1.04	0.25	0.004	0.014	
22:45	1.04	0.24	0.004	0.014	
23:00	1.04	0.25	0.004	0.014	
23:15	1.04	0.25	0.004	0.014	
23:30	1.04	0.24	0.004	0.014	
23:45	1.04	0.25	0.004	0.014	
Daily Totals:				**0.014**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/23/2018					
0:00	1.04	0.24	0.004	0.000	
0:15	1.04	0.25	0.004	0.000	
0:30	1.68	1.89	0.132	0.001	
0:45	1.86	1.37	0.059	0.002	
1:00	1.18	0.47	0.010	0.002	
1:15	1.06	0.26	0.005	0.002	
1:30	1.04	0.24	0.004	0.002	
1:45	1.04	0.24	0.004	0.002	
2:00	1.04	0.24	0.004	0.002	
2:15	1.03	0.24	0.004	0.002	
2:30	1.04	0.24	0.004	0.002	
2:45	1.04	0.24	0.004	0.002	
3:00	1.04	0.25	0.004	0.003	
3:15	1.04	0.25	0.004	0.003	
3:30	1.04	0.24	0.004	0.003	
3:45	1.04	0.25	0.004	0.003	
4:00	1.03	0.24	0.004	0.003	
4:15	1.04	0.25	0.004	0.003	
4:30	1.04	0.24	0.004	0.003	
4:45	1.04	0.25	0.004	0.003	
5:00	1.04	0.25	0.004	0.003	
5:15	1.04	0.25	0.004	0.003	
5:30	1.04	0.25	0.004	0.003	
5:45	1.08	0.28	0.005	0.003	
6:00	1.04	0.24	0.004	0.003	
6:15	1.05	0.26	0.005	0.003	
6:30	1.05	0.26	0.004	0.003	
6:45	1.04	0.24	0.004	0.003	
7:00	1.08	0.29	0.005	0.003	
7:15	1.05	0.25	0.004	0.003	
7:30	1.12	0.32	0.006	0.003	
7:45	1.05	0.48	0.008	0.003	
8:00	1.09	0.31	0.006	0.004	
8:15	1.05	0.25	0.004	0.004	
8:30	1.44	1.27	0.058	0.004	
8:45	1.62	0.91	0.031	0.004	
9:00	1.15	0.36	0.007	0.005	
9:15	1.06	0.27	0.005	0.005	
9:30	1.04	0.25	0.004	0.005	
9:45	1.04	0.24	0.004	0.005	
10:00	1.05	0.26	0.004	0.005	
10:15	1.04	0.25	0.004	0.005	
10:30	1.49	1.46	0.074	0.006	
10:45	1.72	1.12	0.043	0.006	
11:00	1.49	0.64	0.022	0.006	
11:15	1.40	0.60	0.018	0.006	
11:30	1.07	0.27	0.005	0.006	
11:45	1.04	0.24	0.004	0.007	
12:00	1.04	0.24	0.004	0.007	
12:15	1.05	0.25	0.004	0.007	
12:30	1.04	0.25	0.004	0.007	
12:45	1.05	0.25	0.004	0.007	
13:00	1.05	0.25	0.004	0.007	
13:15	1.50	0.90	0.027	0.007	
13:30	1.15	0.40	0.008	0.007	
13:45	1.78	1.82	0.143	0.009	
14:00	1.92	1.57	0.072	0.009	
14:15	1.21	0.46	0.010	0.009	
14:30	1.07	0.27	0.005	0.010	
14:45	1.09	0.29	0.005	0.010	
15:00	1.06	0.26	0.005	0.010	
15:15	1.05	0.25	0.004	0.010	
15:30	1.05	0.25	0.004	0.010	
15:45	1.04	0.25	0.004	0.010	
16:00	1.04	0.25	0.004	0.010	
16:15	1.05	0.25	0.004	0.010	
16:30	1.05	0.26	0.005	0.010	
16:45	1.05	0.25	0.004	0.010	
17:00	1.11	0.29	0.006	0.010	
17:15	1.05	0.25	0.004	0.010	
17:30	1.10	0.30	0.005	0.010	
17:45	1.04	0.25	0.004	0.010	
18:00	1.05	0.25	0.004	0.010	
18:15	1.04	0.25	0.004	0.010	
18:30	1.05	0.26	0.004	0.010	
18:45	1.05	0.25	0.004	0.010	
19:00	1.03	0.24	0.004	0.010	
19:15	1.10	0.30	0.006	0.010	
19:30	1.08	0.41	0.007	0.010	
19:45	1.05	0.26	0.005	0.011	
20:00	1.05	0.25	0.004	0.011	
20:15	1.07	0.26	0.005	0.011	
20:30	1.08	0.24	0.004	0.011	
20:45	1.04	0.25	0.004	0.011	
21:00	1.03	0.24	0.004	0.011	
21:15	1.16	0.46	0.010	0.011	
21:30	1.11	0.34	0.006	0.011	
21:45	1.05	0.25	0.004	0.011	
22:00	1.04	0.24	0.004	0.011	
22:15	2.06	2.01	0.104	0.012	
22:30	1.23	0.60	0.014	0.012	
22:45	1.06	0.26	0.005	0.012	
23:00	1.04	0.24	0.004	0.012	
23:15	1.03	0.24	0.004	0.012	
23:30	1.03	0.24	0.004	0.012	
23:45	1.03	0.24	0.004	0.012	
Daily Totals:				**0.012**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 — North Castle, NY — 8" Circular Line

FLOW ASSESSMENT SERVICES

11/24/2018

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
0:00	1.03	0.24	0.004	0.000	
0:15	1.03	0.24	0.004	0.000	
0:30	1.03	0.24	0.004	0.000	
0:45	1.03	0.24	0.004	0.000	
1:00	1.02	0.23	0.004	0.000	
1:15	1.03	0.24	0.004	0.000	
1:30	2.13	2.57	0.187	0.002	
1:45	1.54	0.64	0.021	0.002	
2:00	1.12	0.32	0.006	0.002	
2:15	1.04	0.25	0.004	0.003	
2:30	1.04	0.24	0.004	0.003	
2:45	1.04	0.24	0.004	0.003	
3:00	1.03	0.24	0.004	0.003	
3:15	1.03	0.24	0.004	0.003	
3:30	1.05	0.25	0.004	0.003	
3:45	1.05	0.25	0.004	0.003	
4:00	1.03	0.24	0.004	0.003	
4:15	1.04	0.24	0.004	0.003	
4:30	1.02	0.23	0.004	0.003	
4:45	1.03	0.23	0.004	0.003	
5:00	1.14	0.36	0.007	0.003	
5:15	1.15	0.42	0.008	0.003	
5:30	1.05	0.29	0.005	0.003	
5:45	1.03	0.27	0.005	0.003	
6:00	1.03	0.24	0.004	0.003	
6:15	1.03	0.24	0.004	0.003	
6:30	1.03	0.24	0.004	0.003	
6:45	1.03	0.24	0.004	0.003	
7:00	1.03	0.24	0.004	0.003	
7:15	1.03	0.23	0.004	0.003	
7:30	1.05	0.25	0.004	0.004	
7:45	1.10	0.28	0.005	0.004	
8:00	1.22	0.42	0.009	0.004	
8:15	1.24	0.53	0.012	0.004	
8:30	1.17	0.43	0.009	0.004	
8:45	1.18	0.50	0.010	0.004	
9:00	1.09	0.34	0.006	0.004	
9:15	1.04	0.25	0.004	0.004	
9:30	1.04	0.25	0.004	0.004	
9:45	1.09	0.29	0.005	0.004	
10:00	1.13	0.29	0.006	0.004	
10:15	1.12	0.32	0.006	0.004	
10:30	1.14	0.40	0.008	0.004	
10:45	2.41	3.02	0.184	0.006	
11:00	1.33	0.58	0.015	0.006	
11:15	1.09	0.29	0.005	0.007	
11:30	1.05	0.26	0.004	0.007	
11:45	1.04	0.24	0.004	0.007	
12:00	1.04	0.25	0.004	0.007	
12:15	1.04	0.24	0.004	0.007	
12:30	1.21	0.53	0.014	0.007	
12:45	1.33	0.66	0.017	0.007	
13:00	1.09	0.34	0.006	0.007	
13:15	1.04	0.24	0.004	0.007	
13:30	1.08	0.28	0.005	0.007	
13:45	1.04	0.24	0.004	0.007	
14:00	1.04	0.24	0.004	0.007	
14:15	1.08	0.28	0.005	0.007	
14:30	1.09	0.24	0.004	0.007	
14:45	1.16	0.44	0.009	0.007	
15:00	1.07	0.43	0.008	0.008	
15:15	1.05	0.26	0.004	0.008	
15:30	1.05	0.25	0.004	0.008	
15:45	1.05	0.26	0.004	0.008	
16:00	1.05	0.25	0.004	0.008	
16:15	1.04	0.25	0.004	0.008	
16:30	1.05	0.26	0.004	0.008	
16:45	1.11	0.31	0.006	0.008	
17:00	1.07	0.27	0.005	0.008	
17:15	1.72	1.95	0.094	0.009	
17:30	1.36	0.62	0.018	0.009	
17:45	1.07	0.28	0.005	0.009	
18:00	1.04	0.25	0.004	0.009	
18:15	1.05	0.25	0.004	0.009	
18:30	1.05	0.25	0.004	0.009	
18:45	1.14	0.39	0.008	0.009	
19:00	1.77	1.59	0.077	0.010	
19:15	1.42	0.78	0.022	0.010	
19:30	1.11	0.37	0.007	0.010	
19:45	2.37	2.91	0.193	0.013	
20:00	1.30	0.63	0.015	0.013	0.01
20:15	1.77	2.02	0.150	0.014	
20:30	1.95	1.81	0.086	0.015	0.02
20:45	1.92	2.29	0.170	0.017	0.03
21:00	1.92	1.49	0.068	0.018	0.04
21:15	1.24	0.58	0.013	0.018	0.05
21:30	1.98	2.09	0.120	0.019	0.05
21:45	1.59	0.86	0.029	0.019	0.05
22:00	2.17	2.69	0.182	0.021	0.05
22:15	1.49	0.98	0.030	0.021	0.07
22:30	1.33	0.79	0.020	0.022	0.07
22:45	2.45	1.64	0.090	0.023	0.08
23:00	1.46	1.02	0.029	0.023	0.11
23:15	1.90	2.20	0.142	0.024	0.09
23:30	1.84	1.58	0.067	0.025	0.07
23:45	1.30	0.78	0.019	0.025	0.03
Daily Totals:				**0.025**	**0.82**

Data reported every: 15 Minutes

Daily Flow Report

FLOW ASSESSMENT SERVICES

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/25/2018					
0:00	1.99	2.24	0.108	0.001	
0:15	1.35	0.88	0.022	0.001	0.01
0:30	2.34	2.76	0.178	0.003	0.02
0:45	1.40	0.88	0.023	0.003	
1:00	2.14	2.56	0.133	0.005	0.01
1:15	1.52	1.04	0.031	0.005	0.03
1:30	1.99	2.33	0.152	0.007	0.06
1:45	1.98	1.97	0.090	0.008	0.05
2:00	1.50	1.09	0.032	0.008	0.04
2:15	1.75	2.05	0.094	0.009	0.04
2:30	2.24	2.83	0.176	0.011	0.04
2:45	2.06	2.13	0.109	0.012	0.02
3:00	1.39	0.96	0.025	0.012	
3:15	2.23	2.77	0.186	0.014	0.01
3:30	1.65	1.08	0.038	0.015	
3:45	1.37	0.80	0.020	0.015	
4:00	2.21	3.20	0.203	0.017	
4:15	1.71	1.34	0.051	0.017	
4:30	1.36	0.88	0.023	0.018	
4:45	1.90	2.31	0.150	0.019	
5:00	1.89	1.46	0.063	0.020	
5:15	1.35	0.83	0.021	0.020	
5:30	1.87	2.20	0.142	0.022	
5:45	2.08	2.06	0.106	0.023	
6:00	1.34	0.78	0.019	0.023	
6:15	1.28	0.69	0.016	0.023	
6:30	2.38	2.97	0.197	0.025	
6:45	1.41	0.91	0.025	0.025	
7:00	1.25	0.72	0.016	0.026	
7:15	1.91	4.35	0.180	0.027	
7:30	1.50	1.02	0.031	0.028	
7:45	1.27	0.74	0.017	0.028	
8:00	2.02	2.06	0.106	0.029	
8:15	1.69	1.33	0.049	0.029	
8:30	1.26	0.74	0.017	0.030	
8:45	1.83	2.26	0.145	0.031	
9:00	2.04	2.41	0.120	0.032	
9:15	1.27	0.73	0.017	0.033	
9:30	1.16	0.60	0.012	0.033	
9:45	1.98	2.74	0.146	0.034	
10:00	1.49	1.01	0.031	0.035	
10:15	1.72	2.20	0.136	0.036	
10:30	2.00	1.90	0.097	0.037	
10:45	1.21	0.70	0.015	0.037	
11:00	2.25	3.23	0.225	0.040	
11:15	1.60	1.10	0.037	0.040	
11:30	1.14	0.68	0.013	0.040	
11:45	1.75	3.51	0.114	0.041	
12:00	1.35	0.95	0.025	0.041	
12:15	1.11	0.57	0.011	0.042	
12:30	2.11	2.75	0.183	0.043	
12:45	1.52	1.00	0.031	0.044	
13:00	1.11	0.66	0.013	0.044	
13:15	1.74	1.99	0.142	0.045	
13:30	1.85	1.55	0.067	0.046	
13:45	1.16	0.68	0.014	0.046	
14:00	1.72	1.73	0.077	0.047	
14:15	1.37	0.86	0.023	0.047	
14:30	1.74	2.12	0.146	0.049	
14:45	1.99	2.45	0.120	0.050	
15:00	1.18	0.67	0.014	0.050	
15:15	1.61	1.93	0.109	0.051	
15:30	1.69	1.48	0.055	0.052	
15:45	1.11	0.63	0.012	0.052	
16:00	2.20	3.45	0.190	0.054	
16:15	1.31	0.91	0.023	0.054	
16:30	1.78	2.12	0.150	0.056	
16:45	1.87	2.07	0.092	0.057	
17:00	1.14	0.71	0.014	0.057	
17:15	2.00	3.04	0.183	0.059	
17:30	1.51	1.12	0.036	0.059	
17:45	1.07	0.61	0.011	0.059	
18:00	1.70	2.33	0.156	0.061	
18:15	1.97	1.98	0.096	0.062	
18:30	1.15	0.73	0.015	0.062	
18:45	1.53	1.96	0.102	0.063	
19:00	1.60	1.25	0.043	0.064	
19:15	1.07	0.56	0.010	0.064	
19:30	1.03	0.43	0.007	0.064	
19:45	2.26	2.98	0.191	0.066	
20:00	1.21	0.75	0.017	0.066	
20:15	1.04	0.45	0.008	0.066	
20:30	2.26	3.26	0.194	0.068	
20:45	1.21	0.77	0.017	0.068	
21:00	1.02	0.47	0.008	0.068	
21:15	1.44	0.77	0.027	0.069	
21:30	1.58	1.38	0.046	0.069	
21:45	1.07	0.59	0.011	0.069	
22:00	1.01	0.43	0.007	0.069	
22:15	2.51	3.34	0.225	0.072	
22:30	1.26	0.82	0.020	0.072	
22:45	1.02	0.45	0.008	0.072	
23:00	2.09	2.68	0.186	0.074	
23:15	1.44	1.05	0.032	0.074	
23:30	1.03	0.55	0.009	0.074	
23:45	2.00	2.87	0.180	0.076	
Daily Totals:				**0.076**	**0.33**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/26/2018					
0:00	1.48	1.08	0.034	0.000	
0:15	1.42	1.28	0.051	0.001	
0:30	1.84	3.52	0.133	0.002	
0:45	1.32	0.94	0.025	0.003	
1:00	1.01	0.52	0.009	0.003	
1:15	1.66	2.05	0.140	0.004	
1:30	1.78	1.76	0.072	0.005	
1:45	1.08	0.62	0.011	0.005	
2:00	1.00	0.40	0.006	0.005	
2:15	1.87	2.36	0.136	0.006	
2:30	1.37	1.04	0.029	0.007	
2:45	1.02	0.53	0.009	0.007	
3:00	2.50	3.20	0.216	0.009	
3:15	1.27	0.87	0.021	0.009	
3:30	1.08	0.65	0.012	0.009	
3:45	1.70	2.10	0.146	0.011	
4:00	1.82	1.59	0.067	0.012	
4:15	1.08	0.57	0.010	0.012	
4:30	1.66	1.99	0.138	0.013	
4:45	1.68	1.52	0.058	0.014	
5:00	1.05	0.61	0.011	0.014	
5:15	1.07	0.57	0.010	0.014	
5:30	2.45	3.53	0.230	0.016	
5:45	1.45	0.81	0.023	0.017	
6:00	1.18	0.67	0.014	0.017	
6:15	2.36	3.30	0.212	0.019	
6:30	1.51	1.03	0.031	0.019	
6:45	1.86	2.34	0.152	0.021	
7:00	1.73	1.44	0.056	0.022	
7:15	1.09	0.62	0.011	0.022	
7:30	1.90	2.70	0.129	0.023	
7:45	1.84	1.49	0.061	0.024	
8:00	1.28	0.80	0.019	0.024	
8:15	2.14	3.16	0.196	0.026	
8:30	1.71	1.34	0.049	0.026	
8:45	1.34	0.95	0.024	0.027	
9:00	1.93	2.22	0.100	0.028	
9:15	1.39	1.01	0.026	0.028	
9:30	1.99	2.16	0.105	0.029	
9:45	1.23	0.75	0.017	0.029	
10:00	1.09	0.53	0.010	0.029	
10:15	1.10	0.49	0.009	0.029	
10:30	1.10	0.53	0.010	0.029	
10:45	2.07	2.77	0.176	0.031	
11:00	1.48	0.90	0.027	0.032	
11:15	1.16	0.66	0.013	0.032	
11:30	1.15	0.70	0.014	0.032	
11:45	1.20	0.75	0.016	0.032	
12:00	1.10	0.49	0.009	0.032	
12:15	2.22	2.67	0.171	0.034	
12:30	1.69	1.65	0.076	0.035	
12:45	1.11	0.60	0.011	0.035	
13:00	1.78	2.17	0.110	0.036	
13:15	1.95	2.11	0.119	0.037	
13:30	1.71	1.26	0.048	0.038	
13:45	1.16	0.83	0.017	0.038	0.01
14:00	1.11	0.71	0.013	0.038	
14:15	1.31	0.77	0.019	0.038	
14:30	1.69	1.80	0.075	0.039	
14:45	1.33	0.72	0.018	0.039	0.02
15:00	1.18	0.71	0.015	0.039	0.04
15:15	1.44	0.88	0.025	0.040	0.05
15:30	1.50	1.08	0.032	0.040	0.16
15:45	1.80	1.49	0.063	0.041	0.09
16:00	1.41	0.98	0.026	0.041	0.06
16:15	1.99	1.00	0.048	0.041	0.04
16:30	1.94	1.38	0.065	0.042	0.06
16:45	1.46	1.09	0.031	0.042	0.07
17:00	1.58	1.12	0.035	0.043	0.03
17:15	1.61	1.24	0.040	0.043	0.05
17:30	1.58	1.24	0.039	0.044	0.08
17:45	1.54	1.10	0.034	0.044	0.08
18:00	1.56	1.15	0.035	0.044	0.05
18:15	1.52	1.10	0.033	0.045	0.05
18:30	1.51	1.04	0.031	0.045	0.05
18:45	2.23	3.19	0.204	0.047	0.03
19:00	1.77	1.12	0.043	0.048	0.03
19:15	1.45	0.89	0.025	0.048	0.02
19:30	1.45	1.03	0.029	0.048	
19:45	1.44	0.92	0.025	0.048	
20:00	1.45	1.10	0.031	0.049	
20:15	1.44	0.94	0.026	0.049	0.01
20:30	1.44	0.87	0.024	0.049	
20:45	2.32	3.83	0.225	0.052	
21:00	1.59	0.72	0.023	0.052	0.01
21:15	1.44	0.82	0.023	0.052	
21:30	1.42	0.79	0.021	0.052	
21:45	1.40	0.89	0.024	0.053	0.01
22:00	1.40	0.85	0.023	0.053	
22:15	1.41	0.52	0.014	0.053	0.01
22:30	1.41	0.82	0.022	0.053	
22:45	1.38	0.90	0.024	0.053	
23:00	1.38	0.90	0.024	0.054	
23:15	1.42	0.86	0.023	0.054	
23:30	2.42	2.93	0.201	0.056	
23:45	1.46	0.90	0.025	0.056	
Daily Totals:				**0.056**	**1.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/27/2018					
0:00	1.63	1.42	0.050	0.001	
0:15	1.64	1.31	0.044	0.001	
0:30	1.38	0.84	0.022	0.001	
0:45	1.61	1.27	0.041	0.002	
1:00	1.35	0.88	0.022	0.002	0.01
1:15	1.78	1.44	0.056	0.002	0.01
1:30	2.52	3.39	0.228	0.005	0.03
1:45	1.46	0.92	0.026	0.005	0.03
2:00	1.52	1.09	0.033	0.005	0.01
2:15	1.66	1.14	0.040	0.006	
2:30	1.37	0.71	0.018	0.006	0.01
2:45	1.29	0.78	0.018	0.006	
3:00	1.31	0.79	0.019	0.006	
3:15	1.30	0.78	0.018	0.007	
3:30	1.35	0.84	0.021	0.007	
3:45	1.29	0.75	0.018	0.007	
4:00	1.85	2.14	0.138	0.008	
4:15	2.11	1.88	0.104	0.010	
4:30	1.33	0.79	0.020	0.010	0.01
4:45	1.27	0.73	0.017	0.010	
5:00	1.28	0.75	0.018	0.010	
5:15	1.47	1.02	0.032	0.010	
5:30	1.55	1.15	0.036	0.011	
5:45	1.35	0.90	0.023	0.011	
6:00	1.49	1.03	0.030	0.011	
6:15	1.55	1.17	0.040	0.012	
6:30	1.63	0.99	0.032	0.012	
6:45	1.38	0.87	0.023	0.012	
7:00	1.35	0.99	0.025	0.013	
7:15	2.48	3.48	0.227	0.015	
7:30	1.77	1.38	0.053	0.016	
7:45	1.42	0.87	0.024	0.016	
8:00	1.33	0.87	0.022	0.016	
8:15	1.29	0.73	0.017	0.016	
8:30	1.31	0.86	0.021	0.016	
8:45	1.92	2.20	0.150	0.018	
9:00	1.84	1.36	0.057	0.019	
9:15	1.41	0.83	0.022	0.019	
9:30	1.39	0.76	0.020	0.019	
9:45	2.26	3.40	0.227	0.021	
10:00	1.76	1.13	0.043	0.022	
10:15	1.36	0.76	0.019	0.022	
10:30	1.29	0.74	0.017	0.022	
10:45	1.47	0.91	0.026	0.022	
11:00	1.39	0.87	0.023	0.023	
11:15	2.04	2.36	0.131	0.024	
11:30	1.69	1.30	0.047	0.025	
11:45	1.35	0.83	0.021	0.025	
12:00	1.76	1.37	0.057	0.025	
12:15	1.56	0.65	0.020	0.026	
12:30	1.45	1.07	0.030	0.026	
12:45	2.39	3.43	0.211	0.028	
13:00	1.65	0.89	0.030	0.028	
13:15	1.56	0.85	0.026	0.029	
13:30	1.43	0.77	0.021	0.029	
13:45	1.33	0.84	0.021	0.029	
14:00	2.40	3.15	0.210	0.031	
14:15	1.44	0.97	0.027	0.032	
14:30	1.25	0.77	0.017	0.032	
14:45	1.84	1.35	0.054	0.032	
15:00	1.36	0.96	0.024	0.033	
15:15	2.27	2.87	0.194	0.035	
15:30	1.62	0.97	0.034	0.035	
15:45	1.17	0.73	0.015	0.035	
16:00	1.16	0.58	0.012	0.035	
16:15	1.18	0.63	0.013	0.035	
16:30	1.20	0.63	0.013	0.035	
16:45	2.11	3.08	0.196	0.038	
17:00	1.58	1.21	0.041	0.038	
17:15	1.25	0.87	0.020	0.038	
17:30	1.22	0.62	0.014	0.038	
17:45	1.16	0.58	0.012	0.038	
18:00	1.14	0.56	0.011	0.039	
18:15	1.53	1.09	0.033	0.039	
18:30	1.53	0.96	0.030	0.039	
18:45	1.32	0.70	0.017	0.039	
19:00	1.21	0.75	0.016	0.040	
19:15	1.52	1.09	0.033	0.040	
19:30	1.33	0.92	0.023	0.040	
19:45	2.04	2.40	0.127	0.041	
20:00	1.31	0.85	0.021	0.042	
20:15	1.15	0.76	0.015	0.042	
20:30	1.12	0.49	0.009	0.042	
20:45	1.15	0.61	0.012	0.042	
21:00	1.10	0.61	0.011	0.042	
21:15	1.09	0.48	0.009	0.042	
21:30	1.10	0.52	0.010	0.042	
21:45	1.09	0.51	0.009	0.042	
22:00	1.10	0.52	0.010	0.043	
22:15	1.10	0.51	0.010	0.043	
22:30	1.13	0.67	0.013	0.043	
22:45	1.10	0.66	0.012	0.043	
23:00	1.10	0.55	0.010	0.043	
23:15	2.36	2.74	0.189	0.045	
23:30	1.25	0.71	0.016	0.045	
23:45	1.44	0.80	0.022	0.045	
Daily Totals:				**0.045**	**0.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/28/2018					
0:00	1.11	0.60	0.011	0.000	
0:15	1.07	0.42	0.008	0.000	
0:30	1.06	0.57	0.010	0.000	
0:45	1.06	0.41	0.007	0.000	
1:00	1.06	0.47	0.008	0.000	
1:15	1.06	0.48	0.008	0.001	
1:30	1.06	0.34	0.006	0.001	
1:45	1.06	0.46	0.008	0.001	
2:00	1.06	0.47	0.008	0.001	
2:15	1.06	0.20	0.004	0.001	
2:30	1.08	0.49	0.009	0.001	
2:45	1.05	0.39	0.007	0.001	
3:00	1.05	0.55	0.010	0.001	
3:15	1.10	0.52	0.010	0.001	
3:30	1.10	0.64	0.012	0.001	
3:45	1.09	0.53	0.010	0.001	
4:00	1.26	0.87	0.022	0.002	
4:15	1.88	2.39	0.150	0.003	
4:30	1.75	1.36	0.055	0.004	
4:45	1.28	0.60	0.014	0.004	
5:00	1.28	0.65	0.015	0.004	
5:15	1.40	0.74	0.020	0.004	
5:30	1.23	0.70	0.015	0.004	
5:45	1.15	0.69	0.014	0.005	
6:00	1.14	0.69	0.014	0.005	
6:15	1.16	0.61	0.012	0.005	
6:30	1.27	0.68	0.016	0.005	
6:45	1.18	0.50	0.010	0.005	
7:00	1.21	0.58	0.012	0.005	
7:15	1.23	0.76	0.017	0.005	
7:30	1.22	0.74	0.016	0.006	
7:45	1.74	1.27	0.047	0.006	
8:00	2.28	3.00	0.181	0.008	
8:15	1.50	1.09	0.032	0.008	
8:30	1.47	0.97	0.028	0.009	
8:45	1.44	0.84	0.023	0.009	
9:00	1.31	0.73	0.018	0.009	
9:15	1.67	2.09	0.104	0.010	
9:30	1.84	1.83	0.080	0.011	
9:45	1.43	0.99	0.027	0.011	
10:00	1.30	0.73	0.017	0.011	
10:15	1.23	0.83	0.018	0.012	
10:30	1.40	0.77	0.020	0.012	
10:45	1.27	0.67	0.015	0.012	
11:00	1.31	0.74	0.018	0.012	
11:15	2.45	2.95	0.203	0.014	
11:30	1.53	0.97	0.030	0.015	
11:45	1.28	0.73	0.017	0.015	
12:00	1.33	0.78	0.020	0.015	
12:15	1.68	0.99	0.041	0.015	
12:30	1.83	2.36	0.149	0.017	
12:45	1.97	2.03	0.095	0.018	
13:00	1.24	0.60	0.013	0.018	
13:15	1.41	0.80	0.022	0.018	
13:30	1.23	0.79	0.017	0.018	
13:45	1.23	0.70	0.015	0.019	
14:00	1.14	0.61	0.012	0.019	
14:15	2.46	3.17	0.217	0.021	
14:30	1.33	0.74	0.018	0.021	
14:45	1.12	0.44	0.008	0.021	
15:00	1.18	0.65	0.013	0.021	
15:15	1.12	0.54	0.010	0.022	
15:30	1.14	0.56	0.011	0.022	
15:45	1.79	2.12	0.146	0.023	
16:00	1.85	1.70	0.074	0.024	
16:15	1.14	0.61	0.012	0.024	
16:30	1.11	0.54	0.010	0.024	
16:45	1.20	0.61	0.013	0.024	
17:00	1.09	0.42	0.008	0.024	
17:15	1.46	0.79	0.022	0.025	
17:30	1.08	0.48	0.009	0.025	
17:45	1.14	0.56	0.011	0.025	
18:00	1.10	0.51	0.009	0.025	
18:15	1.78	2.07	0.097	0.026	
18:30	1.38	0.76	0.021	0.026	
18:45	1.06	0.48	0.008	0.026	
19:00	1.02	0.51	0.009	0.026	
19:15	1.01	0.51	0.008	0.026	
19:30	1.05	0.58	0.010	0.027	
19:45	1.06	0.48	0.009	0.027	
20:00	1.04	0.36	0.006	0.027	
20:15	1.03	0.40	0.007	0.027	
20:30	1.26	0.66	0.015	0.027	
20:45	1.15	0.53	0.011	0.027	
21:00	1.20	0.52	0.011	0.027	
21:15	1.09	0.49	0.009	0.027	
21:30	1.01	0.36	0.006	0.027	
21:45	2.14	2.96	0.199	0.029	
22:00	1.55	1.14	0.037	0.030	
22:15	1.05	0.46	0.008	0.030	
22:30	1.03	0.54	0.009	0.030	
22:45	0.99	0.46	0.007	0.030	
23:00	1.00	0.45	0.007	0.030	
23:15	1.02	0.51	0.009	0.030	
23:30	1.00	0.39	0.006	0.030	
23:45	0.98	0.38	0.006	0.030	
Daily Totals:				**0.030**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/29/2018					
0:00	0.97	0.37	0.006	0.000	
0:15	0.97	0.37	0.006	0.000	
0:30	1.65	1.90	0.129	0.001	
0:45	1.84	1.94	0.085	0.002	
1:00	1.13	0.57	0.011	0.002	
1:15	0.99	0.39	0.006	0.003	
1:30	0.98	0.34	0.005	0.003	
1:45	0.97	0.37	0.006	0.003	
2:00	0.97	0.37	0.006	0.003	
2:15	0.97	0.37	0.006	0.003	
2:30	1.00	0.38	0.006	0.003	
2:45	0.96	0.41	0.006	0.003	
3:00	0.97	0.33	0.005	0.003	
3:15	0.98	0.39	0.006	0.003	
3:30	1.08	0.53	0.010	0.003	
3:45	1.03	0.48	0.008	0.003	
4:00	0.97	0.39	0.006	0.003	
4:15	0.98	0.41	0.006	0.003	
4:30	1.06	0.51	0.009	0.003	
4:45	1.12	0.48	0.009	0.004	
5:00	1.10	0.44	0.008	0.004	
5:15	1.31	0.52	0.013	0.004	
5:30	1.46	0.58	0.016	0.004	
5:45	1.55	0.54	0.017	0.004	
6:00	1.75	1.03	0.042	0.005	
6:15	1.23	0.70	0.016	0.005	
6:30	1.05	0.45	0.008	0.005	
6:45	1.03	0.43	0.007	0.005	
7:00	2.14	2.76	0.155	0.006	
7:15	1.35	0.95	0.024	0.007	
7:30	1.35	0.88	0.023	0.007	
7:45	1.65	1.03	0.036	0.007	
8:00	1.31	0.72	0.018	0.008	
8:15	1.30	0.69	0.017	0.008	
8:30	1.45	0.89	0.025	0.008	
8:45	1.99	2.21	0.158	0.010	
9:00	2.07	1.85	0.098	0.011	
9:15	1.28	0.76	0.018	0.011	
9:30	1.57	1.07	0.034	0.011	
9:45	1.31	0.89	0.022	0.011	
10:00	1.86	2.21	0.141	0.013	
10:15	2.00	1.45	0.071	0.014	
10:30	1.25	0.80	0.018	0.014	
10:45	1.21	0.73	0.016	0.014	
11:00	1.31	0.77	0.019	0.014	
11:15	1.39	0.86	0.023	0.014	
11:30	1.42	1.04	0.028	0.015	
11:45	2.06	2.43	0.174	0.017	
12:00	2.04	1.86	0.093	0.017	
12:15	1.43	0.95	0.026	0.018	
12:30	1.47	0.89	0.025	0.018	
12:45	1.28	0.76	0.018	0.018	
13:00	2.26	2.43	0.177	0.020	
13:15	1.65	1.04	0.038	0.020	
13:30	1.25	0.81	0.019	0.021	
13:45	1.40	0.83	0.022	0.021	
14:00	1.36	0.63	0.016	0.021	
14:15	1.17	0.50	0.011	0.021	
14:30	2.49	3.19	0.212	0.023	
14:45	1.36	0.74	0.019	0.024	
15:00	1.05	0.54	0.010	0.024	
15:15	0.96	0.40	0.006	0.024	
15:30	1.47	0.88	0.027	0.024	
15:45	2.10	2.44	0.144	0.025	
16:00	1.38	0.76	0.021	0.026	
16:15	0.98	0.42	0.007	0.026	
16:30	0.94	0.34	0.005	0.026	
16:45	0.97	0.37	0.006	0.026	
17:00	0.94	0.34	0.005	0.026	
17:15	0.93	0.33	0.005	0.026	
17:30	0.95	0.35	0.005	0.026	
17:45	0.94	0.34	0.005	0.026	
18:00	0.95	0.35	0.005	0.026	
18:15	0.93	0.37	0.005	0.026	
18:30	0.92	0.32	0.005	0.026	
18:45	0.95	0.34	0.005	0.026	
19:00	0.93	0.38	0.006	0.026	
19:15	0.93	0.32	0.005	0.026	
19:30	1.77	2.18	0.110	0.028	
19:45	1.33	0.82	0.022	0.028	
20:00	0.97	0.36	0.006	0.028	
20:15	0.93	0.33	0.005	0.028	
20:30	0.93	0.33	0.005	0.028	
20:45	0.92	0.32	0.005	0.028	
21:00	0.92	0.32	0.005	0.028	
21:15	0.93	0.33	0.005	0.028	
21:30	0.92	0.32	0.005	0.028	
21:45	0.91	0.31	0.004	0.028	
22:00	0.92	0.32	0.005	0.028	
22:15	0.95	0.50	0.007	0.028	
22:30	0.92	0.36	0.005	0.028	
22:45	0.91	0.31	0.004	0.028	
23:00	2.10	2.64	0.184	0.030	
23:15	1.44	1.02	0.032	0.031	
23:30	0.97	0.44	0.007	0.031	
23:45	0.92	0.32	0.005	0.031	
Daily Totals:				**0.031**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

FLOW ASSESSMENT SERVICES

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/30/2018					
0:00	0.92	0.32	0.005	0.000	
0:15	0.92	0.32	0.005	0.000	
0:30	0.91	0.31	0.004	0.000	
0:45	0.91	0.31	0.004	0.000	
1:00	0.91	0.31	0.004	0.000	
1:15	0.91	0.31	0.004	0.000	
1:30	0.91	0.31	0.004	0.000	
1:45	0.91	0.31	0.004	0.000	
2:00	0.91	0.31	0.004	0.000	
2:15	0.91	0.31	0.004	0.000	
2:30	1.23	0.48	0.014	0.001	
2:45	1.23	0.70	0.016	0.001	
3:00	0.93	0.33	0.005	0.001	
3:15	0.90	0.30	0.004	0.001	
3:30	1.03	0.52	0.009	0.001	
3:45	0.96	0.45	0.007	0.001	
4:00	0.91	0.38	0.005	0.001	
4:15	0.91	0.26	0.004	0.001	
4:30	1.01	0.50	0.009	0.001	
4:45	0.97	0.46	0.007	0.001	
5:00	0.92	0.38	0.006	0.001	
5:15	0.99	0.53	0.009	0.001	
5:30	1.11	0.57	0.011	0.002	
5:45	1.19	0.57	0.012	0.002	
6:00	1.03	0.44	0.007	0.002	
6:15	1.01	0.33	0.005	0.002	
6:30	1.01	0.33	0.006	0.002	
6:45	1.04	0.41	0.007	0.002	
7:00	2.34	2.99	0.196	0.004	
7:15	1.31	0.82	0.021	0.004	
7:30	1.42	0.85	0.023	0.004	
7:45	1.38	0.80	0.021	0.005	
8:00	1.51	0.95	0.029	0.005	
8:15	1.57	1.05	0.033	0.005	
8:30	1.42	1.00	0.027	0.006	
8:45	1.18	0.64	0.013	0.006	
9:00	1.13	0.66	0.013	0.006	
9:15	1.22	0.73	0.016	0.006	
9:30	2.07	2.72	0.175	0.008	
9:45	1.47	1.03	0.031	0.008	
10:00	1.34	0.71	0.018	0.008	
10:15	1.20	0.65	0.014	0.008	
10:30	2.05	2.66	0.170	0.010	
10:45	1.47	1.02	0.031	0.011	
11:00	1.09	0.61	0.011	0.011	
11:15	1.21	0.77	0.017	0.011	
11:30	1.37	0.84	0.022	0.011	
11:45	2.24	2.34	0.138	0.013	
12:00	1.41	1.05	0.030	0.013	
12:15	1.09	0.59	0.011	0.013	
12:30	1.08	0.56	0.010	0.013	
12:45	1.14	0.63	0.012	0.013	
13:00	1.15	0.62	0.012	0.013	
13:15	1.23	0.73	0.016	0.014	
13:30	1.24	0.72	0.016	0.014	
13:45	1.14	0.65	0.013	0.014	
14:00	1.15	0.70	0.014	0.014	
14:15	1.11	0.56	0.011	0.014	
14:30	2.40	2.96	0.199	0.016	
14:45	1.20	0.70	0.015	0.016	0.01
15:00	1.01	0.43	0.007	0.016	
15:15	0.99	0.47	0.008	0.016	
15:30	1.06	0.57	0.010	0.017	
15:45	0.98	0.45	0.007	0.017	
16:00	1.01	0.42	0.007	0.017	
16:15	1.10	0.63	0.012	0.017	
16:30	0.97	0.41	0.006	0.017	
16:45	0.95	0.35	0.005	0.017	
17:00	0.97	0.32	0.005	0.017	
17:15	1.16	0.69	0.015	0.017	
17:30	1.80	0.36	0.012	0.017	
17:45	1.84	0.22	0.009	0.017	
18:00	1.99	0.67	0.029	0.018	
18:15	1.92	1.49	0.062	0.018	0.01
18:30	1.98	1.22	0.052	0.019	
18:45	2.38	1.95	0.153	0.020	
19:00	1.99	1.56	0.076	0.021	
19:15	1.25	0.57	0.013	0.021	
19:30	1.21	0.37	0.008	0.021	
19:45	1.25	0.52	0.012	0.022	
20:00	1.30	0.52	0.012	0.022	
20:15	1.38	0.54	0.014	0.022	
20:30	1.22	0.40	0.009	0.022	
20:45	1.23	0.41	0.009	0.022	
21:00	1.16	0.39	0.008	0.022	
21:15	1.13	0.38	0.007	0.022	
21:30	1.12	0.32	0.006	0.022	
21:45	1.11	0.31	0.006	0.022	
22:00	1.28	0.50	0.012	0.022	
22:15	1.27	0.46	0.011	0.023	
22:30	1.14	0.49	0.010	0.023	
22:45	1.12	0.34	0.006	0.023	
23:00	1.11	0.31	0.006	0.023	
23:15	1.09	0.29	0.005	0.023	
23:30	1.27	0.47	0.013	0.023	
23:45	1.34	0.63	0.016	0.023	
Daily Totals:				**0.023**	**0.02**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/1/2018					
0:00	1.13	0.37	0.007	0.000	
0:15	1.15	0.42	0.008	0.000	
0:30	2.63	2.96	0.227	0.003	
0:45	1.43	0.69	0.020	0.003	
1:00	1.19	0.41	0.009	0.003	
1:15	1.13	0.32	0.006	0.003	
1:30	1.12	0.32	0.006	0.003	
1:45	1.11	0.31	0.006	0.003	
2:00	1.12	0.32	0.006	0.003	
2:15	1.12	0.32	0.006	0.003	
2:30	1.12	0.32	0.006	0.003	
2:45	1.13	0.33	0.006	0.003	
3:00	1.12	0.32	0.006	0.003	
3:15	1.11	0.26	0.005	0.003	
3:30	1.13	0.33	0.006	0.003	
3:45	1.75	0.99	0.036	0.004	
4:00	1.17	0.48	0.010	0.004	
4:15	1.09	0.33	0.006	0.004	
4:30	1.10	0.30	0.005	0.004	
4:45	1.16	0.36	0.007	0.004	
5:00	1.16	0.43	0.009	0.004	
5:15	2.00	1.89	0.101	0.005	
5:30	2.35	2.45	0.135	0.007	
5:45	2.33	1.78	0.097	0.008	
6:00	2.10	1.49	0.088	0.009	
6:15	1.18	0.41	0.009	0.009	
6:30	1.49	0.46	0.013	0.009	
6:45	1.45	0.26	0.007	0.009	
7:00	2.17	2.53	0.138	0.010	
7:15	1.34	0.68	0.017	0.011	
7:30	1.25	0.51	0.012	0.011	
7:45	1.27	0.51	0.012	0.011	
8:00	1.22	0.39	0.008	0.011	
8:15	1.17	0.39	0.008	0.011	
8:30	1.14	0.36	0.007	0.011	
8:45	1.22	0.44	0.010	0.011	
9:00	1.22	0.36	0.008	0.011	
9:15	1.13	0.33	0.006	0.011	
9:30	1.19	0.50	0.010	0.011	
9:45	1.33	0.72	0.018	0.012	
10:00	1.56	0.64	0.020	0.012	
10:15	1.39	0.56	0.015	0.012	
10:30	2.56	3.05	0.232	0.014	
10:45	1.42	0.70	0.019	0.015	
11:00	1.20	0.41	0.009	0.015	
11:15	1.13	0.31	0.006	0.015	
11:30	1.12	0.31	0.006	0.015	
11:45	1.15	0.35	0.007	0.015	
12:00	1.56	0.72	0.023	0.015	
12:15	1.30	0.50	0.012	0.015	
12:30	1.11	0.35	0.007	0.015	
12:45	1.09	0.23	0.004	0.015	
13:00	1.09	0.29	0.005	0.015	
13:15	1.09	0.29	0.005	0.015	
13:30	1.08	0.29	0.005	0.015	
13:45	1.09	0.29	0.005	0.016	
14:00	1.08	0.28	0.005	0.016	
14:15	1.51	1.61	0.081	0.016	
14:30	1.71	1.17	0.046	0.017	
14:45	1.17	0.52	0.011	0.017	
15:00	1.08	0.40	0.007	0.017	
15:15	1.09	0.37	0.007	0.017	
15:30	1.07	0.30	0.005	0.017	
15:45	1.07	0.27	0.005	0.017	
16:00	1.08	0.29	0.005	0.017	
16:15	1.07	0.27	0.005	0.017	
16:30	1.07	0.27	0.005	0.017	
16:45	1.08	0.28	0.005	0.017	
17:00	1.06	0.26	0.005	0.018	
17:15	1.07	0.27	0.005	0.018	
17:30	1.07	0.27	0.005	0.018	
17:45	1.07	0.27	0.005	0.018	
18:00	1.83	3.56	0.126	0.019	
18:15	1.42	0.72	0.020	0.019	
18:30	1.12	0.39	0.008	0.019	
18:45	1.11	0.40	0.008	0.019	
19:00	1.10	0.35	0.006	0.019	
19:15	1.09	0.33	0.006	0.019	
19:30	1.07	0.27	0.005	0.020	
19:45	1.06	0.27	0.005	0.020	0.01
20:00	1.07	0.27	0.005	0.020	0.01
20:15	1.11	0.33	0.006	0.020	0.01
20:30	1.08	0.28	0.005	0.020	0.01
20:45	1.07	0.27	0.005	0.020	0.01
21:00	1.11	0.36	0.007	0.020	0.02
21:15	1.08	0.32	0.006	0.020	
21:30	1.08	0.29	0.005	0.020	0.01
21:45	1.08	0.28	0.005	0.020	
22:00	1.08	0.29	0.005	0.020	
22:15	1.10	0.30	0.006	0.020	
22:30	1.10	0.30	0.006	0.020	
22:45	1.11	0.31	0.006	0.020	
23:00	1.11	0.31	0.006	0.020	
23:15	1.10	0.30	0.006	0.020	0.01
23:30	1.11	0.31	0.006	0.020	
23:45	1.13	0.33	0.006	0.021	
Daily Totals:				**0.021**	**0.09**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/2/2018					
0:00	1.12	0.32	0.006	0.000	0.01
0:15	1.11	0.31	0.006	0.000	
0:30	1.11	0.31	0.006	0.000	0.01
0:45	1.11	0.31	0.006	0.000	
1:00	1.11	0.31	0.006	0.000	0.01
1:15	1.13	0.32	0.006	0.000	
1:30	1.13	0.33	0.006	0.000	0.01
1:45	1.13	0.33	0.006	0.001	0.01
2:00	1.14	0.36	0.007	0.001	
2:15	1.14	0.34	0.007	0.001	
2:30	1.14	0.36	0.007	0.001	0.01
2:45	1.16	0.55	0.011	0.001	0.02
3:00	2.25	3.02	0.218	0.003	0.01
3:15	1.61	0.83	0.028	0.003	0.02
3:30	1.30	0.65	0.015	0.004	0.03
3:45	1.29	0.67	0.016	0.004	0.06
4:00	1.27	0.65	0.015	0.004	0.06
4:15	1.27	0.65	0.015	0.004	0.03
4:30	1.27	0.62	0.014	0.004	0.01
4:45	1.27	0.53	0.012	0.004	0.01
5:00	1.63	1.10	0.037	0.005	0.01
5:15	1.33	0.75	0.019	0.005	
5:30	1.32	0.63	0.015	0.005	0.01
5:45	1.35	0.68	0.017	0.005	0.01
6:00	1.38	0.59	0.015	0.005	0.01
6:15	1.44	0.83	0.023	0.006	0.03
6:30	1.41	0.73	0.019	0.006	0.05
6:45	1.42	0.79	0.021	0.006	0.03
7:00	1.42	0.72	0.020	0.006	0.02
7:15	1.42	0.66	0.018	0.006	0.01
7:30	1.42	0.71	0.019	0.007	0.02
7:45	1.44	0.78	0.022	0.007	0.01
8:00	1.98	1.89	0.097	0.008	0.02
8:15	1.67	1.12	0.040	0.008	
8:30	1.51	0.88	0.026	0.009	0.02
8:45	1.51	0.87	0.026	0.009	0.02
9:00	1.53	0.87	0.026	0.009	0.01
9:15	1.55	0.81	0.025	0.009	0.01
9:30	1.54	0.78	0.024	0.010	0.01
9:45	1.49	0.75	0.022	0.010	0.01
10:00	1.47	0.85	0.024	0.010	0.02
10:15	1.48	0.86	0.025	0.010	0.01
10:30	2.17	2.55	0.156	0.012	0.01
10:45	1.99	1.34	0.059	0.013	
11:00	1.57	0.90	0.028	0.013	0.01
11:15	1.47	0.72	0.021	0.013	
11:30	1.47	0.77	0.022	0.013	
11:45	1.49	0.71	0.021	0.014	
12:00	1.49	0.79	0.023	0.014	0.01
12:15	1.49	0.78	0.023	0.014	
12:30	1.47	0.83	0.024	0.014	
12:45	2.11	2.45	0.143	0.016	
13:00	1.75	1.22	0.048	0.016	
13:15	1.45	0.58	0.016	0.016	
13:30	1.43	0.50	0.014	0.017	
13:45	1.42	0.57	0.015	0.017	
14:00	1.41	0.67	0.018	0.017	
14:15	1.41	0.65	0.017	0.017	
14:30	1.41	0.66	0.018	0.017	
14:45	1.40	0.60	0.016	0.017	
15:00	1.39	0.65	0.017	0.018	
15:15	1.38	0.61	0.016	0.018	0.01
15:30	2.13	2.55	0.156	0.019	
15:45	1.65	0.92	0.033	0.020	0.01
16:00	1.38	0.60	0.015	0.020	
16:15	1.37	0.58	0.015	0.020	
16:30	1.38	0.68	0.018	0.020	
16:45	1.36	0.56	0.014	0.020	
17:00	1.36	0.52	0.013	0.021	0.01
17:15	1.36	0.64	0.016	0.021	
17:30	1.36	0.58	0.015	0.021	
17:45	1.35	0.57	0.014	0.021	
18:00	1.36	0.59	0.015	0.021	
18:15	1.36	0.54	0.014	0.021	
18:30	1.35	0.58	0.015	0.021	
18:45	1.33	0.55	0.014	0.022	
19:00	1.35	0.57	0.014	0.022	
19:15	1.38	0.67	0.017	0.022	
19:30	1.33	0.59	0.015	0.022	
19:45	1.32	0.54	0.013	0.022	
20:00	1.31	0.53	0.013	0.022	
20:15	2.61	3.39	0.244	0.025	
20:30	1.54	0.83	0.026	0.025	
20:45	1.33	0.50	0.012	0.025	
21:00	1.34	0.57	0.014	0.025	
21:15	1.33	0.66	0.016	0.026	
21:30	1.32	0.50	0.012	0.026	
21:45	1.34	0.76	0.019	0.026	
22:00	1.33	0.75	0.018	0.026	
22:15	1.61	0.89	0.030	0.026	
22:30	1.40	0.82	0.022	0.027	
22:45	1.29	0.58	0.014	0.027	
23:00	1.30	0.55	0.013	0.027	
23:15	1.28	0.46	0.011	0.027	
23:30	1.28	0.49	0.011	0.027	
23:45	1.28	0.49	0.012	0.027	
Daily Totals:				**0.027**	**0.71**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/3/2018					
0:00	1.28	0.50	0.012	0.000	0.01
0:15	1.27	0.47	0.011	0.000	
0:30	2.50	3.52	0.235	0.003	
0:45	1.54	0.89	0.029	0.003	
1:00	1.29	0.60	0.014	0.003	
1:15	1.27	0.48	0.011	0.003	
1:30	1.27	0.50	0.011	0.003	
1:45	1.27	0.48	0.011	0.003	
2:00	1.29	0.50	0.012	0.004	
2:15	1.27	0.52	0.012	0.004	
2:30	1.26	0.44	0.010	0.004	
2:45	1.26	0.32	0.007	0.004	
3:00	1.29	0.50	0.012	0.004	
3:15	1.34	0.69	0.017	0.004	
3:30	1.27	0.53	0.012	0.004	
3:45	1.65	1.65	0.086	0.005	
4:00	1.74	1.29	0.049	0.006	
4:15	1.30	0.63	0.015	0.006	
4:30	1.27	0.51	0.012	0.006	
4:45	1.26	0.52	0.012	0.006	
5:00	1.28	0.70	0.016	0.006	
5:15	1.44	0.88	0.024	0.007	
5:30	1.66	0.72	0.024	0.007	
5:45	1.48	0.77	0.022	0.007	
6:00	1.38	0.78	0.021	0.007	
6:15	1.35	0.84	0.021	0.007	
6:30	1.71	1.08	0.038	0.008	
6:45	1.59	1.01	0.032	0.008	
7:00	1.43	0.92	0.025	0.008	
7:15	1.57	0.79	0.025	0.009	
7:30	1.71	0.80	0.029	0.009	
7:45	2.15	2.35	0.166	0.011	
8:00	2.09	1.70	0.082	0.012	
8:15	1.87	0.67	0.026	0.012	
8:30	2.05	0.88	0.039	0.012	
8:45	2.23	0.69	0.035	0.013	
9:00	1.83	1.18	0.046	0.013	
9:15	1.58	0.90	0.028	0.013	
9:30	1.65	0.86	0.029	0.014	
9:45	1.92	1.25	0.054	0.014	
10:00	2.51	2.99	0.213	0.017	
10:15	1.62	1.11	0.037	0.017	
10:30	1.58	0.69	0.022	0.017	
10:45	1.70	0.79	0.028	0.017	
11:00	1.60	0.75	0.024	0.018	
11:15	2.56	3.38	0.243	0.020	
11:30	2.24	1.99	0.107	0.021	
11:45	1.96	1.01	0.044	0.022	
12:00	1.58	0.98	0.031	0.022	
12:15	2.04	2.17	0.154	0.024	
12:30	2.20	1.51	0.080	0.025	
12:45	1.58	0.86	0.028	0.025	
13:00	1.55	0.81	0.025	0.025	
13:15	2.42	3.09	0.221	0.027	
13:30	1.81	1.15	0.046	0.028	
13:45	1.51	0.62	0.018	0.028	
14:00	1.55	0.78	0.024	0.028	
14:15	1.45	0.55	0.015	0.028	
14:30	2.25	2.14	0.123	0.030	
14:45	1.41	0.57	0.015	0.030	
15:00	1.31	0.53	0.013	0.030	
15:15	1.32	0.38	0.009	0.030	
15:30	1.27	0.54	0.012	0.030	
15:45	1.81	1.70	0.108	0.031	
16:00	2.20	2.29	0.125	0.033	
16:15	1.51	0.69	0.020	0.033	
16:30	1.32	0.56	0.013	0.033	
16:45	1.49	0.73	0.022	0.033	
17:00	1.33	0.55	0.014	0.033	
17:15	1.34	0.66	0.017	0.034	
17:30	1.36	0.60	0.016	0.034	
17:45	1.45	0.67	0.019	0.034	
18:00	1.37	0.59	0.015	0.034	
18:15	1.46	0.65	0.019	0.034	
18:30	1.49	0.53	0.016	0.034	
18:45	2.52	3.29	0.229	0.037	
19:00	1.51	0.69	0.021	0.037	
19:15	1.41	0.60	0.016	0.037	
19:30	1.54	0.70	0.021	0.037	
19:45	1.55	0.70	0.022	0.038	
20:00	1.38	0.56	0.014	0.038	
20:15	1.33	0.52	0.013	0.038	
20:30	1.27	0.42	0.010	0.038	
20:45	1.40	0.52	0.014	0.038	
21:00	1.32	0.47	0.011	0.038	
21:15	1.35	0.56	0.014	0.039	
21:30	1.23	0.44	0.010	0.039	
21:45	1.25	0.45	0.010	0.039	
22:00	2.51	3.23	0.220	0.041	
22:15	1.38	0.63	0.017	0.041	
22:30	1.22	0.52	0.011	0.041	
22:45	1.20	0.48	0.010	0.041	
23:00	1.25	0.53	0.012	0.042	
23:15	1.27	0.44	0.010	0.042	
23:30	1.22	0.41	0.009	0.042	
23:45	1.37	0.53	0.015	0.042	
Daily Totals:				**0.042**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/4/2018					
0:00	1.43	0.64	0.018	0.000	
0:15	1.19	0.47	0.010	0.000	
0:30	1.18	0.40	0.008	0.000	
0:45	1.18	0.39	0.008	0.000	
1:00	1.45	0.57	0.020	0.001	
1:15	1.52	0.87	0.026	0.001	
1:30	1.41	0.69	0.020	0.001	
1:45	1.43	0.65	0.018	0.001	
2:00	1.19	0.43	0.009	0.001	
2:15	1.78	1.19	0.045	0.002	
2:30	1.44	0.88	0.025	0.002	
2:45	1.22	0.65	0.014	0.002	
3:00	1.17	0.47	0.010	0.002	
3:15	1.15	0.44	0.009	0.003	
3:30	1.20	0.45	0.010	0.003	
3:45	1.23	0.64	0.014	0.003	
4:00	1.15	0.43	0.009	0.003	
4:15	1.15	0.37	0.008	0.003	
4:30	1.19	0.48	0.010	0.003	
4:45	1.17	0.48	0.010	0.003	
5:00	1.54	0.89	0.030	0.003	
5:15	1.38	0.67	0.018	0.004	
5:30	1.37	0.66	0.019	0.004	
5:45	2.18	2.68	0.153	0.005	
6:00	1.81	1.21	0.048	0.006	
6:15	1.60	0.90	0.030	0.006	
6:30	1.37	0.71	0.018	0.006	
6:45	1.65	0.94	0.032	0.007	
7:00	1.67	0.79	0.028	0.007	
7:15	1.46	0.67	0.019	0.007	
7:30	1.35	0.69	0.018	0.007	
7:45	1.54	0.80	0.025	0.008	
8:00	1.61	0.84	0.027	0.008	
8:15	1.67	0.79	0.027	0.008	
8:30	1.79	0.96	0.039	0.009	
8:45	1.62	0.75	0.025	0.009	
9:00	2.70	3.67	0.265	0.012	
9:15	1.98	1.19	0.054	0.012	
9:30	1.85	1.05	0.042	0.013	
9:45	2.31	2.69	0.152	0.014	
10:00	1.76	1.00	0.038	0.015	
10:15	1.68	1.02	0.038	0.015	
10:30	2.12	3.50	0.173	0.017	
10:45	2.07	2.24	0.108	0.018	
11:00	1.41	0.71	0.019	0.018	
11:15	1.66	0.72	0.025	0.018	
11:30	1.76	0.90	0.033	0.019	
11:45	1.44	0.71	0.020	0.019	
12:00	2.35	3.29	0.225	0.021	
12:15	1.84	1.21	0.054	0.022	
12:30	1.43	0.62	0.017	0.022	
12:45	1.65	0.71	0.026	0.022	
13:00	2.21	2.56	0.206	0.024	
13:15	2.06	1.96	0.094	0.025	
13:30	1.67	0.75	0.026	0.026	
13:45	1.79	0.95	0.036	0.026	
14:00	1.85	1.69	0.075	0.027	
14:15	1.48	0.80	0.023	0.027	
14:30	1.63	0.93	0.031	0.027	
14:45	2.56	3.08	0.218	0.030	
15:00	1.39	0.84	0.022	0.030	
15:15	1.46	0.82	0.024	0.030	
15:30	1.25	0.65	0.015	0.030	
15:45	1.18	0.38	0.008	0.030	
16:00	2.20	2.89	0.199	0.033	
16:15	1.86	1.33	0.055	0.033	
16:30	1.49	0.80	0.023	0.033	
16:45	1.41	0.95	0.025	0.034	
17:00	1.34	0.67	0.017	0.034	
17:15	1.40	0.52	0.014	0.034	
17:30	1.41	0.55	0.014	0.034	
17:45	1.34	0.64	0.016	0.034	
18:00	1.39	0.59	0.016	0.034	
18:15	1.34	0.55	0.014	0.035	
18:30	2.25	2.21	0.129	0.036	
18:45	1.33	0.58	0.014	0.036	
19:00	1.27	0.60	0.014	0.036	
19:15	1.29	0.48	0.011	0.036	
19:30	1.34	0.63	0.016	0.036	
19:45	1.31	0.55	0.013	0.037	
20:00	1.36	0.52	0.015	0.037	
20:15	1.39	0.69	0.018	0.037	
20:30	1.39	0.64	0.017	0.037	
20:45	1.40	0.71	0.019	0.037	
21:00	1.18	0.37	0.008	0.037	
21:15	1.20	0.36	0.008	0.037	
21:30	1.16	0.35	0.007	0.038	
21:45	2.22	2.78	0.153	0.039	
22:00	1.35	0.64	0.016	0.039	
22:15	1.18	0.40	0.008	0.039	
22:30	1.14	0.47	0.009	0.039	
22:45	1.13	0.48	0.009	0.040	
23:00	1.17	0.48	0.010	0.040	
23:15	1.16	0.47	0.010	0.040	
23:30	1.14	0.46	0.009	0.040	
23:45	1.15	0.38	0.008	0.040	
Daily Totals:				**0.040**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/5/2018					
0:00	1.11	0.37	0.007	0.000	
0:15	1.13	0.56	0.011	0.000	
0:30	1.24	0.47	0.010	0.000	
0:45	1.82	1.92	0.142	0.002	
1:00	1.97	1.63	0.078	0.003	
1:15	1.23	0.50	0.011	0.003	
1:30	1.13	0.40	0.008	0.003	
1:45	1.14	0.46	0.009	0.003	
2:00	1.13	0.43	0.008	0.003	
2:15	1.12	0.42	0.008	0.003	
2:30	1.11	0.34	0.006	0.003	
2:45	1.18	0.47	0.010	0.003	
3:00	1.12	0.41	0.008	0.003	
3:15	1.12	0.32	0.006	0.003	
3:30	1.18	0.48	0.010	0.003	
3:45	1.21	0.53	0.012	0.004	
4:00	1.12	0.42	0.008	0.004	
4:15	1.10	0.32	0.006	0.004	
4:30	1.10	0.39	0.007	0.004	
4:45	1.21	0.48	0.010	0.004	
5:00	1.16	0.47	0.009	0.004	
5:15	1.30	0.49	0.012	0.004	
5:30	1.24	0.51	0.012	0.004	
5:45	1.30	0.65	0.016	0.004	
6:00	1.33	0.65	0.016	0.005	
6:15	1.45	0.77	0.022	0.005	
6:30	1.75	1.11	0.040	0.005	
6:45	1.49	0.88	0.026	0.006	
7:00	1.44	0.72	0.020	0.006	
7:15	1.60	0.90	0.029	0.006	
7:30	2.39	2.97	0.212	0.008	
7:45	1.80	1.32	0.052	0.009	
8:00	1.44	0.89	0.024	0.009	
8:15	1.79	1.30	0.057	0.010	
8:30	1.38	0.69	0.018	0.010	
8:45	2.17	2.43	0.174	0.012	
9:00	2.05	2.20	0.104	0.013	
9:15	1.70	0.89	0.031	0.013	
9:30	1.87	1.06	0.043	0.013	
9:45	1.76	0.98	0.038	0.014	
10:00	1.69	1.01	0.035	0.014	
10:15	1.74	1.00	0.035	0.015	
10:30	1.54	0.95	0.029	0.015	
10:45	2.04	2.25	0.171	0.017	
11:00	1.98	2.16	0.097	0.018	
11:15	1.80	1.26	0.049	0.018	
11:30	1.63	0.87	0.029	0.019	
11:45	1.46	0.67	0.019	0.019	
12:00	1.99	1.31	0.067	0.019	
12:15	1.53	0.93	0.028	0.020	
12:30	1.51	0.74	0.022	0.020	
12:45	2.27	2.73	0.183	0.022	
13:00	2.19	2.65	0.148	0.023	
13:15	1.65	0.70	0.025	0.024	
13:30	1.44	0.61	0.017	0.024	
13:45	1.45	0.75	0.022	0.024	
14:00	1.65	0.85	0.028	0.024	
14:15	2.12	2.41	0.173	0.026	
14:30	1.98	1.79	0.083	0.027	
14:45	1.46	0.90	0.026	0.027	
15:00	1.40	0.70	0.019	0.027	
15:15	1.29	0.43	0.010	0.028	
15:30	1.23	0.51	0.011	0.028	
15:45	2.69	3.51	0.256	0.030	
16:00	1.45	0.78	0.023	0.031	
16:15	1.27	0.57	0.014	0.031	
16:30	1.34	0.80	0.020	0.031	
16:45	1.27	0.63	0.015	0.031	
17:00	1.31	0.57	0.014	0.031	
17:15	1.19	0.31	0.006	0.031	
17:30	1.93	2.24	0.177	0.033	
17:45	1.97	1.88	0.087	0.034	
18:00	1.29	0.62	0.015	0.034	
18:15	1.26	0.55	0.013	0.034	
18:30	1.22	0.50	0.011	0.034	
18:45	1.30	0.65	0.016	0.035	
19:00	1.21	0.41	0.009	0.035	
19:15	1.33	0.61	0.015	0.035	
19:30	1.22	0.50	0.011	0.035	
19:45	1.15	0.40	0.008	0.035	
20:00	1.27	0.53	0.013	0.035	
20:15	1.18	0.36	0.008	0.035	
20:30	1.20	0.44	0.009	0.035	
20:45	1.27	0.53	0.012	0.035	
21:00	2.29	2.40	0.151	0.037	
21:15	1.63	0.85	0.029	0.037	
21:30	1.20	0.52	0.011	0.037	
21:45	1.16	0.27	0.005	0.038	
22:00	1.13	0.32	0.006	0.038	
22:15	1.13	0.33	0.006	0.038	
22:30	1.08	0.28	0.005	0.038	
22:45	1.11	0.31	0.006	0.038	
23:00	1.17	0.50	0.010	0.038	
23:15	1.12	0.47	0.009	0.038	
23:30	1.08	0.42	0.008	0.038	
23:45	1.07	0.29	0.005	0.038	
Daily Totals:				**0.038**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 2
King Street, P/S 2 North Castle, NY 8" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/6/2018					
0:00	1.07	0.27	0.005	0.000	
0:15	1.07	0.28	0.005	0.000	
0:30	1.08	0.30	0.005	0.000	
0:45	1.09	0.35	0.007	0.000	
1:00	1.07	0.27	0.005	0.000	
1:15	2.15	2.18	0.117	0.002	
1:30	1.29	0.60	0.015	0.002	
1:45	1.09	0.39	0.007	0.002	
2:00	1.08	0.28	0.005	0.002	
2:15	1.07	0.35	0.006	0.002	
2:30	1.06	0.27	0.005	0.002	
2:45	1.09	0.33	0.006	0.002	
3:00	1.06	0.38	0.007	0.002	
3:15	1.07	0.34	0.006	0.002	
3:30	1.17	0.40	0.008	0.002	
3:45	1.16	0.45	0.009	0.002	
4:00	1.08	0.31	0.006	0.002	
4:15	1.06	0.26	0.005	0.002	
4:30	1.09	0.29	0.005	0.002	
4:45	1.12	0.56	0.011	0.003	
5:00	1.30	0.67	0.016	0.003	
5:15	2.08	2.54	0.129	0.004	
5:30	1.37	0.62	0.016	0.004	
5:45	1.46	0.70	0.020	0.004	
6:00	1.54	0.90	0.028	0.005	
6:15	1.55	0.84	0.026	0.005	
6:30	1.57	0.98	0.031	0.005	
6:45	1.51	0.90	0.027	0.006	
7:00	1.49	0.87	0.025	0.006	
7:15	1.36	0.64	0.016	0.006	
7:30	1.39	0.66	0.017	0.006	
7:45	1.37	0.74	0.019	0.006	
8:00	1.56	0.88	0.028	0.007	
8:15	2.38	2.79	0.199	0.009	
8:30	1.74	1.20	0.046	0.009	
8:45	1.35	0.70	0.018	0.009	
9:00	1.83	1.37	0.061	0.010	
9:15	1.52	0.97	0.029	0.010	
9:30	1.71	0.98	0.035	0.011	
9:45	1.51	0.91	0.027	0.011	
10:00	2.40	2.92	0.201	0.013	
10:15	1.65	1.09	0.039	0.014	
10:30	1.40	0.67	0.018	0.014	
10:45	1.59	0.94	0.030	0.014	
11:00	1.39	0.77	0.020	0.014	
11:15	1.47	0.85	0.025	0.014	
11:30	2.48	2.49	0.192	0.016	
11:45	2.12	2.00	0.104	0.018	
12:00	1.44	0.85	0.023	0.018	
12:15	1.57	0.91	0.029	0.018	
12:30	1.69	0.78	0.026	0.018	
12:45	1.69	0.47	0.017	0.019	
13:00		0.00		0.019	
13:15		0.00		0.019	
13:30		0.00		0.019	
13:45		0.00		0.019	
14:00		0.00		0.019	
14:15		0.00		0.019	
14:30		0.00		0.019	
14:45		0.00		0.019	
15:00		0.00		0.019	
15:15		0.00		0.019	
15:30		0.00		0.019	
15:45		0.00		0.019	
16:00		0.00		0.019	
16:15		0.00		0.019	
16:30		0.00		0.019	
16:45		0.00		0.019	
17:00		0.00		0.019	
17:15		0.00		0.019	
17:30		0.00		0.019	
17:45		0.00		0.019	
18:00		0.00		0.019	
18:15		0.00		0.019	
18:30		0.00		0.019	
18:45		0.00		0.019	
19:00		0.00		0.019	
19:15		0.00		0.019	
19:30		0.00		0.019	
19:45		0.00		0.019	
20:00		0.00		0.019	
20:15		0.00		0.019	
20:30		0.00		0.019	
20:45		0.00		0.019	
21:00		0.00		0.019	
21:15		0.00		0.019	
21:30		0.00		0.019	
21:45		0.00		0.019	
22:00		0.00		0.019	
22:15		0.00		0.019	
22:30		0.00		0.019	
22:45		0.00		0.019	
23:00		0.00		0.019	
23:15		0.00		0.019	
23:30		0.00		0.019	
23:45		0.00		0.019	
Daily Totals:				**0.019**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/1/2018					
0:00					
0:15					
0:30					
0:45					
1:00					
1:15					
1:30					
1:45					
2:00					
2:15					
2:30					
2:45					
3:00					
3:15					
3:30					
3:45					
4:00					
4:15					
4:30					
4:45					
5:00					
5:15					
5:30					
5:45					
6:00					
6:15					
6:30					
6:45					
7:00					
7:15					
7:30					
7:45					
8:00					
8:15					
8:30					
8:45					
9:00					
9:15					
9:30					
9:45					
10:00					
10:15					
10:30					
10:45					
11:00					
11:15					
11:30					
11:45					
12:00					
12:15					
12:30	0.77	0.76	0.009	0.000	
12:45	0.66	0.75	0.007	0.000	
13:00	0.70	0.73	0.007	0.000	
13:15	1.24	1.65	0.054	0.001	
13:30	2.43	2.65	0.207	0.003	
13:45	1.08	1.55	0.038	0.003	
14:00	0.71	0.65	0.006	0.003	
14:15	0.77	1.03	0.011	0.004	
14:30	0.76	0.67	0.007	0.004	
14:45	1.17	1.12	0.025	0.004	
15:00	0.73	0.92	0.010	0.004	
15:15	2.39	3.33	0.200	0.006	
15:30	0.75	0.93	0.011	0.006	
15:45	0.68	0.83	0.008	0.006	
16:00	0.66	0.82	0.007	0.006	
16:15	0.65	0.75	0.007	0.006	
16:30	0.58	0.55	0.004	0.006	
16:45	0.59	0.62	0.005	0.006	
17:00	0.57	0.69	0.005	0.007	
17:15	0.60	0.61	0.005	0.007	
17:30	0.58	0.58	0.004	0.007	
17:45	0.85	0.88	0.014	0.007	
18:00	0.55	0.66	0.004	0.007	
18:15	0.82	0.93	0.018	0.007	
18:30	0.71	0.83	0.009	0.007	
18:45	0.60	0.55	0.004	0.007	
19:00	0.60	0.64	0.005	0.007	
19:15	2.36	2.75	0.224	0.010	
19:30	1.07	1.61	0.041	0.010	
19:45	0.59	0.64	0.005	0.010	
20:00	0.60	0.62	0.005	0.010	
20:15	0.55	0.67	0.005	0.010	
20:30	0.59	0.57	0.004	0.010	
20:45	0.55	0.66	0.005	0.010	
21:00	0.60	0.62	0.005	0.010	
21:15	0.58	0.70	0.005	0.010	
21:30	0.56	0.68	0.005	0.010	
21:45	0.55	0.66	0.005	0.010	
22:00	0.46	0.53	0.003	0.010	
22:15	0.54	0.65	0.004	0.010	
22:30	0.51	0.61	0.004	0.010	
22:45	0.56	0.67	0.005	0.011	
23:00	0.56	0.67	0.005	0.011	
23:15	0.52	0.67	0.004	0.011	
23:30	0.55	0.66	0.004	0.011	
23:45	0.57	0.69	0.005	0.011	
Daily Totals:				**0.011**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/2/2018					
0:00	0.57	0.70	0.005	0.000	
0:15	0.51	0.61	0.004	0.000	
0:30	0.51	0.51	0.003	0.000	
0:45	0.51	0.61	0.004	0.000	
1:00	0.57	0.59	0.004	0.000	
1:15	0.56	0.68	0.005	0.000	
1:30	0.57	0.69	0.005	0.000	
1:45	1.06	1.34	0.031	0.001	
2:00	0.68	0.68	0.006	0.001	
2:15	0.59	0.58	0.004	0.001	
2:30	0.58	0.38	0.003	0.001	
2:45	0.58	0.71	0.005	0.001	
3:00	2.10	2.68	0.178	0.003	
3:15	0.90	1.04	0.016	0.003	
3:30	0.56	0.47	0.003	0.003	
3:45	0.52	0.62	0.004	0.003	
4:00	0.52	0.63	0.004	0.003	
4:15	0.59	0.57	0.004	0.003	
4:30	0.55	0.48	0.003	0.003	
4:45	0.56	0.67	0.005	0.003	
5:00	0.61	0.70	0.006	0.003	
5:15	0.59	0.62	0.005	0.003	
5:30	0.59	0.73	0.006	0.003	
5:45	1.41	0.82	0.022	0.003	
6:00	1.53	0.82	0.025	0.004	
6:15	0.86	1.59	0.020	0.004	
6:30	0.68	0.60	0.006	0.004	
6:45	0.68	0.70	0.007	0.004	
7:00	1.35	2.24	0.064	0.005	
7:15	1.70	1.72	0.117	0.006	
7:30	1.37	1.82	0.065	0.007	
7:45	0.69	0.73	0.007	0.007	
8:00	0.74	0.85	0.009	0.007	
8:15	0.67	0.78	0.007	0.007	
8:30	0.75	0.77	0.008	0.007	
8:45	1.39	2.12	0.067	0.008	
9:00	1.82	2.35	0.132	0.009	
9:15	1.90	2.65	0.140	0.011	
9:30	0.83	1.04	0.013	0.011	
9:45	0.77	0.94	0.010	0.011	
10:00	0.76	0.82	0.009	0.011	
10:15	0.70	0.83	0.008	0.011	
10:30	0.74	0.99	0.011	0.011	
10:45	0.76	0.88	0.010	0.011	
11:00	1.24	1.48	0.040	0.012	
11:15	2.24	2.57	0.180	0.013	
11:30	1.32	1.84	0.065	0.014	
11:45	0.72	0.90	0.009	0.014	
12:00	0.69	0.70	0.007	0.014	
12:15	0.68	0.79	0.008	0.014	
12:30	1.18	1.38	0.029	0.015	
12:45	1.41	1.98	0.065	0.015	
13:00	0.73	1.51	0.015	0.015	
13:15	2.37	2.81	0.187	0.017	
13:30	0.76	0.96	0.011	0.018	
13:45	0.62	0.69	0.006	0.018	
14:00	0.86	1.48	0.023	0.018	
14:15	0.74	0.80	0.009	0.018	
14:30	0.71	0.81	0.008	0.018	
14:45	1.28	2.01	0.052	0.019	
15:00	0.80	0.97	0.011	0.019	
15:15	1.71	2.08	0.127	0.020	
15:30	2.05	3.10	0.161	0.022	
15:45	0.71	0.79	0.008	0.022	
16:00	0.72	0.76	0.008	0.022	
16:15	0.62	0.53	0.004	0.022	
16:30	0.57	0.69	0.005	0.022	
16:45	0.54	0.55	0.004	0.022	
17:00	0.56	0.68	0.005	0.022	
17:15	0.57	0.62	0.004	0.022	
17:30	0.61	0.76	0.006	0.022	
17:45	0.56	0.68	0.005	0.022	
18:00	0.56	0.68	0.005	0.022	
18:15	0.57	0.69	0.005	0.022	
18:30	0.56	0.64	0.004	0.022	
18:45	0.59	0.73	0.006	0.022	
19:00	0.56	0.67	0.005	0.022	
19:15	0.58	0.71	0.005	0.022	
19:30	0.81	0.88	0.013	0.023	
19:45	2.30	2.67	0.201	0.025	
20:00	0.90	1.15	0.019	0.025	
20:15	0.61	0.64	0.005	0.025	
20:30	0.48	0.56	0.003	0.025	
20:45	0.56	0.67	0.005	0.025	
21:00	0.51	0.47	0.003	0.025	
21:15	0.56	0.68	0.005	0.025	
21:30	0.59	0.72	0.005	0.025	
21:45	1.14	1.71	0.046	0.026	
22:00	0.63	0.65	0.005	0.026	
22:15	0.91	1.01	0.017	0.026	
22:30	1.58	2.56	0.122	0.027	
22:45	1.16	1.67	0.044	0.028	
23:00	0.75	0.86	0.009	0.028	
23:15	0.89	1.13	0.018	0.028	
23:30	0.67	0.64	0.006	0.028	
23:45	0.59	0.72	0.005	0.028	
Daily Totals:				**0.028**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/3/2018					
0:00	0.57	0.69	0.005	0.000	
0:15	0.58	0.62	0.005	0.000	
0:30	0.59	0.72	0.005	0.000	
0:45	0.77	2.01	0.019	0.000	
1:00	2.22	2.70	0.169	0.002	
1:15	0.67	0.67	0.006	0.002	
1:30	0.56	0.66	0.005	0.002	
1:45	0.97	1.51	0.033	0.003	
2:00	0.60	0.51	0.004	0.003	
2:15	0.56	0.68	0.005	0.003	
2:30	0.58	0.60	0.004	0.003	
2:45	0.60	0.61	0.005	0.003	
3:00	0.56	0.58	0.004	0.003	
3:15	0.55	0.66	0.005	0.003	
3:30	0.54	0.71	0.005	0.003	
3:45	0.80	1.01	0.013	0.003	
4:00	1.56	1.76	0.116	0.004	
4:15	1.35	1.68	0.061	0.005	
4:30	0.65	0.77	0.007	0.005	
4:45	0.60	0.66	0.005	0.005	
5:00	0.57	0.69	0.005	0.005	
5:15	0.58	0.51	0.004	0.005	
5:30	0.53	0.56	0.004	0.005	
5:45	0.58	0.73	0.005	0.005	
6:00	0.49	0.49	0.003	0.005	
6:15	0.60	0.74	0.006	0.005	
6:30	1.41	2.48	0.074	0.006	
6:45	1.64	1.86	0.113	0.007	
7:00	1.66	1.93	0.098	0.008	
7:15	0.64	0.74	0.006	0.008	
7:30	0.80	1.33	0.022	0.009	
7:45	0.80	0.92	0.012	0.009	
8:00	0.63	0.63	0.005	0.009	
8:15	0.61	0.54	0.004	0.009	
8:30	0.56	0.45	0.003	0.009	
8:45	0.56	0.48	0.003	0.009	
9:00	0.67	0.48	0.005	0.009	
9:15	0.58	0.59	0.004	0.009	
9:30	1.06	1.61	0.041	0.009	
9:45	0.89	0.89	0.014	0.009	
10:00	0.55	0.66	0.005	0.010	
10:15	0.55	0.66	0.004	0.010	
10:30	0.51	0.61	0.004	0.010	
10:45	1.67	3.29	0.126	0.011	
11:00	0.74	0.86	0.009	0.011	
11:15	0.59	0.51	0.004	0.011	
11:30	0.57	0.69	0.005	0.011	
11:45	0.60	0.62	0.005	0.011	
12:00	0.58	0.49	0.004	0.011	
12:15	0.61	0.68	0.005	0.011	
12:30	0.60	0.73	0.006	0.011	
12:45	0.60	0.72	0.006	0.011	
13:00	0.54	0.64	0.004	0.011	
13:15	0.58	0.70	0.005	0.011	
13:30	0.57	0.69	0.005	0.012	
13:45	0.52	0.61	0.004	0.012	
14:00	0.57	0.69	0.005	0.012	
14:15	0.95	1.42	0.035	0.012	
14:30	1.04	1.21	0.023	0.012	
14:45	0.67	0.56	0.005	0.012	
15:00	0.58	0.71	0.005	0.012	
15:15	2.45	2.67	0.226	0.015	
15:30	1.24	1.79	0.056	0.015	
15:45	0.63	0.78	0.006	0.015	
16:00	0.56	0.68	0.005	0.015	
16:15	0.59	0.72	0.005	0.015	
16:30	0.54	0.53	0.003	0.015	
16:45	0.58	0.71	0.005	0.016	
17:00	0.59	0.72	0.005	0.016	
17:15	0.60	0.77	0.006	0.016	
17:30	0.58	0.60	0.004	0.016	
17:45	0.59	0.52	0.004	0.016	
18:00	0.59	0.71	0.005	0.016	
18:15	0.55	0.42	0.003	0.016	
18:30	0.59	0.72	0.005	0.016	
18:45	0.63	0.59	0.005	0.016	
19:00	0.57	0.57	0.004	0.016	
19:15	0.59	0.43	0.003	0.016	
19:30	0.57	0.62	0.004	0.016	
19:45	0.57	0.60	0.004	0.016	
20:00	0.61	0.56	0.004	0.016	
20:15	0.60	0.73	0.006	0.016	
20:30	1.01	1.19	0.032	0.017	
20:45	0.75	0.86	0.009	0.017	
21:00	0.62	0.76	0.006	0.017	
21:15	0.58	0.70	0.005	0.017	
21:30	0.56	0.49	0.003	0.017	
21:45	0.56	0.60	0.004	0.017	
22:00	0.53	0.52	0.003	0.017	
22:15	3.20	3.64	0.307	0.020	
22:30	1.52	2.52	0.089	0.021	
22:45	0.75	0.79	0.009	0.021	
23:00	0.71	0.70	0.007	0.021	
23:15	0.73	0.85	0.009	0.021	
23:30	0.90	1.47	0.028	0.022	
23:45	1.10	1.75	0.041	0.022	
Daily Totals:				**0.022**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

FLOW ASSESSMENT SERVICES

11/4/2018

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
0:00	0.69	0.73	0.008	0.000	
0:15	0.60	0.67	0.005	0.000	
0:30	0.56	0.50	0.003	0.000	
0:45	0.55	0.44	0.003	0.000	
1:00	0.58	0.59	0.004	0.000	
1:15	0.62	0.52	0.004	0.000	
1:30	0.63	0.40	0.003	0.000	
1:45	0.61	0.36	0.003	0.000	
2:00	0.61	0.65	0.005	0.000	
2:15	0.89	0.93	0.017	0.001	
2:30	0.68	0.72	0.007	0.001	
2:45	0.65	0.61	0.005	0.001	
3:00	0.64	0.46	0.004	0.001	
3:15	0.57	0.72	0.005	0.001	
3:30	0.60	0.52	0.004	0.001	
3:45	0.62	0.43	0.003	0.001	
4:00	0.61	0.63	0.005	0.001	
4:15	0.60	0.55	0.004	0.001	
4:30	0.57	0.56	0.004	0.001	
4:45	0.62	0.66	0.005	0.001	
5:00	0.59	0.64	0.005	0.001	
5:15	1.46	1.54	0.105	0.002	
5:30	2.35	2.70	0.185	0.004	
5:45	0.67	0.66	0.006	0.004	
6:00	0.58	0.40	0.003	0.004	
6:15	0.53	0.49	0.003	0.004	
6:30	0.58	0.71	0.005	0.004	
6:45	0.56	0.58	0.004	0.004	
7:00	0.58	0.61	0.004	0.004	
7:15	0.60	0.55	0.004	0.004	
7:30	0.61	0.63	0.005	0.005	
7:45	0.59	0.72	0.005	0.005	
8:00	0.63	0.59	0.005	0.005	
8:15	0.88	1.03	0.019	0.005	
8:30	0.71	0.70	0.007	0.005	
8:45	0.59	0.72	0.005	0.005	
9:00	0.61	0.51	0.004	0.005	
9:15	0.55	0.66	0.005	0.005	
9:30	0.59	0.73	0.006	0.005	
9:45	0.61	0.60	0.005	0.005	
10:00	0.60	0.62	0.005	0.005	
10:15	0.56	0.56	0.004	0.005	
10:30	0.61	0.64	0.005	0.005	
10:45	0.62	0.65	0.005	0.005	
11:00	0.58	0.51	0.004	0.005	
11:15	0.61	0.62	0.005	0.005	
11:30	0.61	0.75	0.006	0.005	
11:45	0.55	0.62	0.004	0.006	
12:00	0.58	0.71	0.005	0.006	
12:15	0.99	1.30	0.037	0.006	
12:30	1.10	1.34	0.029	0.006	
12:45	0.65	0.64	0.006	0.006	
13:00	0.58	0.61	0.004	0.006	
13:15	0.53	0.55	0.003	0.006	
13:30	0.59	0.52	0.004	0.006	
13:45	0.57	0.57	0.004	0.007	
14:00	0.58	0.53	0.004	0.007	
14:15	0.55	0.53	0.004	0.007	
14:30	0.59	0.65	0.005	0.007	
14:45	0.57	0.58	0.004	0.007	
15:00	0.57	0.49	0.004	0.007	
15:15	2.30	2.57	0.205	0.009	
15:30	0.92	1.09	0.019	0.009	
15:45	0.63	0.53	0.004	0.009	
16:00	0.61	0.63	0.005	0.009	
16:15	0.57	0.58	0.004	0.009	
16:30	0.79	0.94	0.014	0.009	
16:45	0.59	0.68	0.005	0.009	
17:00	0.55	0.50	0.003	0.009	
17:15	0.57	0.59	0.004	0.009	
17:30	0.54	0.46	0.003	0.009	
17:45	0.54	0.44	0.003	0.010	
18:00	0.54	0.65	0.004	0.010	
18:15	0.57	0.64	0.005	0.010	
18:30	0.51	0.50	0.003	0.010	
18:45	0.60	0.60	0.005	0.010	
19:00	0.57	0.53	0.004	0.010	
19:15	0.54	0.56	0.004	0.010	
19:30	0.56	0.46	0.003	0.010	
19:45	0.57	0.60	0.004	0.010	
20:00	0.53	0.57	0.004	0.010	
20:15	0.57	0.70	0.005	0.010	
20:30	0.57	0.69	0.005	0.010	
20:45	0.56	0.47	0.003	0.010	
21:00	0.60	0.46	0.004	0.010	
21:15	0.58	0.71	0.005	0.010	
21:30	0.56	0.58	0.004	0.010	
21:45	0.57	0.47	0.003	0.010	
22:00	0.56	0.67	0.005	0.010	
22:15	0.50	0.59	0.004	0.010	
22:30	0.54	0.66	0.004	0.010	
22:45	0.57	0.61	0.004	0.010	
23:00	0.56	0.67	0.005	0.010	
23:15	0.61	0.66	0.005	0.010	
23:30	0.54	0.60	0.004	0.011	
23:45	0.72	0.89	0.013	0.011	
Daily Totals:				**0.011**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/5/2018					
0:00	1.28	1.82	0.058	0.001	
0:15	0.78	0.89	0.011	0.001	
0:30	3.17	3.61	0.300	0.004	
0:45	1.00	1.27	0.024	0.004	
1:00	0.84	1.07	0.019	0.004	
1:15	0.71	0.64	0.007	0.004	
1:30	0.77	0.81	0.010	0.004	
1:45	0.62	0.70	0.006	0.005	
2:00	0.59	0.53	0.004	0.005	
2:15	0.60	0.61	0.005	0.005	
2:30	0.61	0.66	0.005	0.005	
2:45	0.59	0.71	0.005	0.005	
3:00	0.61	0.56	0.004	0.005	
3:15	0.55	0.66	0.005	0.005	
3:30	0.60	0.74	0.006	0.005	
3:45	0.56	0.60	0.004	0.005	
4:00	0.57	0.69	0.005	0.005	
4:15	0.57	0.69	0.005	0.005	
4:30	0.59	0.61	0.005	0.005	
4:45	0.58	0.71	0.005	0.005	
5:00	0.56	0.68	0.005	0.005	
5:15	0.59	0.55	0.004	0.005	
5:30	0.61	0.72	0.006	0.005	
5:45	0.55	0.53	0.004	0.005	
6:00	0.60	0.62	0.005	0.005	
6:15	0.60	0.73	0.006	0.005	
6:30	1.04	1.07	0.023	0.006	
6:45	0.96	1.00	0.015	0.006	
7:00	0.75	0.88	0.009	0.006	
7:15	1.03	1.22	0.025	0.006	
7:30	0.90	0.97	0.016	0.006	
7:45	3.06	3.64	0.290	0.009	
8:00	0.91	1.45	0.027	0.010	
8:15	0.78	0.89	0.010	0.010	
8:30	0.68	0.70	0.007	0.010	
8:45	0.75	0.86	0.009	0.010	
9:00	0.82	0.79	0.010	0.010	
9:15	0.95	1.51	0.031	0.010	
9:30	0.77	0.95	0.011	0.010	
9:45	0.71	0.83	0.008	0.011	
10:00	1.42	1.83	0.059	0.011	
10:15	1.43	1.10	0.032	0.011	
10:30	3.38	3.72	0.338	0.015	
10:45	3.38	3.55	0.322	0.018	
11:00	3.40	3.61	0.330	0.022	
11:15	1.48	2.30	0.083	0.023	
11:30	0.88	1.29	0.018	0.023	
11:45	1.04	1.06	0.025	0.023	
12:00	0.78	0.77	0.009	0.023	
12:15	1.06	1.69	0.038	0.024	
12:30	0.79	0.72	0.008	0.024	
12:45	3.21	3.61	0.307	0.027	
13:00	0.95	1.55	0.029	0.027	
13:15	0.90	1.05	0.016	0.027	
13:30	0.77	0.72	0.008	0.027	
13:45	1.30	2.54	0.065	0.028	
14:00	0.88	0.95	0.013	0.028	
14:15	2.38	2.63	0.202	0.030	
14:30	1.12	1.73	0.041	0.031	
14:45	0.88	1.06	0.016	0.031	
15:00	0.71	0.77	0.008	0.031	
15:15	0.77	0.99	0.012	0.031	
15:30	0.76	0.75	0.008	0.031	
15:45	0.72	0.67	0.007	0.031	
16:00	1.32	1.99	0.054	0.032	
16:15	1.63	1.76	0.112	0.033	
16:30	1.39	2.18	0.074	0.034	
16:45	0.79	0.88	0.011	0.034	
17:00	0.66	0.67	0.006	0.034	
17:15	0.68	0.68	0.006	0.034	
17:30	0.67	0.60	0.006	0.034	
17:45	0.60	0.74	0.006	0.034	
18:00	1.15	1.59	0.047	0.035	
18:15	0.67	0.76	0.007	0.035	
18:30	0.59	0.63	0.005	0.035	
18:45	0.61	0.51	0.004	0.035	
19:00	2.26	2.52	0.184	0.037	
19:15	0.93	1.18	0.020	0.037	
19:30	0.60	0.64	0.005	0.037	
19:45	0.65	0.65	0.006	0.037	
20:00	0.60	0.74	0.006	0.037	
20:15	0.57	0.57	0.004	0.037	
20:30	0.61	0.74	0.006	0.037	
20:45	0.58	0.61	0.005	0.037	
21:00	0.60	0.62	0.005	0.037	
21:15	0.57	0.58	0.004	0.037	
21:30	0.58	0.70	0.005	0.037	
21:45	0.97	1.13	0.022	0.038	
22:00	0.62	0.70	0.006	0.038	
22:15	0.56	0.68	0.005	0.038	
22:30	0.60	0.63	0.005	0.038	
22:45	0.56	0.67	0.005	0.038	
23:00	0.88	0.85	0.013	0.038	
23:15	1.29	1.75	0.060	0.039	
23:30	2.50	2.90	0.204	0.041	
23:45	0.72	0.69	0.007	0.041	
Daily Totals:				**0.041**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/6/2018					
0:00	0.61	0.42	0.003	0.000	
0:15	0.55	0.55	0.004	0.000	
0:30	0.56	0.54	0.004	0.000	
0:45	0.57	0.46	0.003	0.000	
1:00	0.49	0.57	0.003	0.000	
1:15	0.89	1.54	0.034	0.001	
1:30	1.08	2.35	0.050	0.001	
1:45	0.72	0.83	0.008	0.001	
2:00	0.67	0.78	0.007	0.001	
2:15	0.64	0.70	0.006	0.001	
2:30	1.07	2.32	0.051	0.002	
2:45	0.83	1.83	0.020	0.002	
3:00	0.72	0.74	0.008	0.002	
3:15	0.57	0.56	0.004	0.002	
3:30	0.51	0.48	0.003	0.002	
3:45	1.46	1.61	0.106	0.003	
4:00	1.43	1.90	0.081	0.004	
4:15	0.65	0.60	0.005	0.004	
4:30	0.60	0.47	0.004	0.004	
4:45	0.62	0.76	0.006	0.004	
5:00	0.57	0.60	0.004	0.004	
5:15	0.57	0.58	0.004	0.004	
5:30	0.60	0.74	0.006	0.004	
5:45	1.23	1.87	0.047	0.005	
6:00	0.79	1.00	0.012	0.005	
6:15	0.62	0.68	0.006	0.005	
6:30	2.72	3.39	0.243	0.008	
6:45	0.81	1.03	0.013	0.008	
7:00	0.64	0.72	0.006	0.008	
7:15	0.65	0.63	0.006	0.008	
7:30	0.62	0.53	0.004	0.008	
7:45	0.59	0.60	0.005	0.008	
8:00	2.36	2.48	0.173	0.010	
8:15	3.05	3.47	0.274	0.013	
8:30	2.95	3.42	0.259	0.015	
8:45	2.57	3.29	0.215	0.018	
9:00	0.91	1.16	0.017	0.018	
9:15	3.01	3.44	0.269	0.021	
9:30	0.91	1.55	0.030	0.021	
9:45	0.79	0.78	0.009	0.021	
10:00	0.71	0.81	0.008	0.021	
10:15	0.73	0.75	0.008	0.021	
10:30	1.29	2.27	0.063	0.022	
10:45	2.32	2.72	0.193	0.024	
11:00	2.31	2.76	0.178	0.026	
11:15	0.83	0.98	0.012	0.026	
11:30	1.01	1.64	0.029	0.026	
11:45	0.76	0.86	0.010	0.026	
12:00	0.75	0.88	0.010	0.026	
12:15	1.63	2.42	0.107	0.027	
12:30	1.07	2.24	0.047	0.028	
12:45	3.22	3.55	0.302	0.031	
13:00	1.17	2.42	0.052	0.032	
13:15	0.82	0.97	0.012	0.032	
13:30	0.75	0.94	0.011	0.032	
13:45	1.78	3.03	0.114	0.033	
14:00	1.27	1.64	0.051	0.034	
14:15	2.20	2.76	0.172	0.035	
14:30	0.73	0.75	0.008	0.035	
14:45	0.70	0.72	0.007	0.035	
15:00	0.64	0.61	0.005	0.036	
15:15	1.13	1.50	0.048	0.036	
15:30	1.74	1.84	0.097	0.037	
15:45	0.78	0.87	0.010	0.037	
16:00	2.45	3.27	0.204	0.039	
16:15	0.83	0.89	0.012	0.039	0.01
16:30	0.67	0.77	0.007	0.039	
16:45	0.64	0.65	0.005	0.039	0.02
17:00	0.70	0.61	0.006	0.040	0.03
17:15	0.97	1.31	0.035	0.040	0.01
17:30	1.50	1.98	0.078	0.041	
17:45	1.04	0.54	0.009	0.041	
18:00	2.17	2.38	0.154	0.042	
18:15	0.80	0.55	0.006	0.042	0.01
18:30	0.66	0.63	0.006	0.043	
18:45	0.97	0.70	0.012	0.043	
19:00	0.70	0.64	0.006	0.043	
19:15	0.65	0.58	0.005	0.043	
19:30	0.61	0.60	0.005	0.043	
19:45	0.93	1.31	0.030	0.043	
20:00	0.90	0.97	0.014	0.043	
20:15	0.66	0.81	0.007	0.043	
20:30	2.56	2.48	0.221	0.046	
20:45	1.37	1.70	0.059	0.046	
21:00	0.73	0.79	0.008	0.046	
21:15	0.63	0.54	0.004	0.046	
21:30	0.66	0.82	0.007	0.047	
21:45	0.65	0.55	0.005	0.047	
22:00	0.63	0.53	0.004	0.047	
22:15	0.71	0.78	0.009	0.047	
22:30	0.83	0.83	0.010	0.047	
22:45	0.65	0.53	0.005	0.047	
23:00	0.68	0.74	0.007	0.047	
23:15	0.67	0.46	0.004	0.047	
23:30	0.69	0.73	0.007	0.047	
23:45	0.68	0.46	0.004	0.047	
Daily Totals:				**0.047**	**0.08**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/7/2018					
0:00	1.47	3.10	0.089	0.001	
0:15	1.11	1.95	0.039	0.001	
0:30	1.57	1.77	0.110	0.002	
0:45	2.31	3.15	0.183	0.004	
1:00	1.01	1.58	0.035	0.005	
1:15	1.01	1.75	0.041	0.005	
1:30	0.59	0.72	0.005	0.005	
1:45	0.81	0.96	0.012	0.005	
2:00	0.58	0.58	0.004	0.005	
2:15	0.53	0.52	0.003	0.005	
2:30	0.53	0.47	0.003	0.005	
2:45	0.60	0.47	0.004	0.006	
3:00	0.56	0.48	0.003	0.006	
3:15	0.56	0.64	0.005	0.006	
3:30	0.58	0.71	0.005	0.006	
3:45	0.53	0.45	0.003	0.006	
4:00	0.59	0.52	0.004	0.006	
4:15	0.58	0.60	0.004	0.006	
4:30	0.56	0.44	0.003	0.006	
4:45	0.58	0.71	0.005	0.006	
5:00	1.14	1.46	0.030	0.006	
5:15	0.90	1.11	0.019	0.006	
5:30	2.31	2.67	0.203	0.008	
5:45	0.97	1.14	0.020	0.009	
6:00	0.67	0.66	0.006	0.009	
6:15	0.65	0.81	0.007	0.009	
6:30	0.62	0.64	0.005	0.009	
6:45	0.61	0.59	0.005	0.009	
7:00	0.68	0.74	0.007	0.009	
7:15	1.40	1.93	0.059	0.010	
7:30	3.04	3.55	0.283	0.013	
7:45	0.88	1.39	0.024	0.013	
8:00	1.37	0.71	0.023	0.013	
8:15	0.77	0.86	0.010	0.013	
8:30	2.36	2.55	0.182	0.015	
8:45	2.68	3.30	0.225	0.017	
9:00	1.61	2.36	0.114	0.019	
9:15	1.84	2.47	0.130	0.020	
9:30	0.77	0.93	0.010	0.020	
9:45	0.74	0.68	0.007	0.020	
10:00	0.75	0.87	0.010	0.020	
10:15	1.76	2.53	0.105	0.021	
10:30	2.53	2.84	0.209	0.023	
10:45	1.82	3.02	0.134	0.025	
11:00	0.73	0.76	0.008	0.025	
11:15	0.61	0.66	0.005	0.025	
11:30	0.89	0.83	0.012	0.025	
11:45	1.02	1.74	0.037	0.026	
12:00	0.71	0.77	0.008	0.026	
12:15	2.56	2.95	0.210	0.028	
12:30	1.03	1.68	0.036	0.028	
12:45	1.57	1.91	0.079	0.029	
13:00	0.98	1.06	0.016	0.029	
13:15	1.64	2.25	0.103	0.030	
13:30	2.45	2.75	0.219	0.032	
13:45	1.32	1.91	0.058	0.033	
14:00	0.74	0.85	0.009	0.033	
14:15	0.66	0.61	0.005	0.033	
14:30	0.65	0.73	0.006	0.033	
14:45	0.80	1.01	0.012	0.033	
15:00	1.55	2.32	0.091	0.034	
15:15	1.18	2.22	0.058	0.035	
15:30	0.72	0.83	0.008	0.035	
15:45	2.66	3.09	0.235	0.038	
16:00	0.91	0.85	0.012	0.038	
16:15	0.73	0.83	0.009	0.038	
16:30	0.66	0.77	0.007	0.038	
16:45	0.67	0.76	0.007	0.038	
17:00	0.67	0.83	0.007	0.038	
17:15	0.65	0.54	0.005	0.038	
17:30	0.67	0.70	0.006	0.038	
17:45	0.62	0.63	0.005	0.038	
18:00	0.60	0.66	0.005	0.038	
18:15	1.61	1.56	0.096	0.039	
18:30	1.38	1.74	0.068	0.040	
18:45	0.65	0.61	0.005	0.040	
19:00	0.75	0.46	0.005	0.040	
19:15	0.64	0.59	0.005	0.040	
19:30	0.58	0.71	0.005	0.040	
19:45	0.58	0.59	0.004	0.040	
20:00	0.61	0.66	0.005	0.040	
20:15	2.59	3.04	0.222	0.043	
20:30	0.74	0.64	0.007	0.043	
20:45	0.56	0.61	0.004	0.043	
21:00	0.52	0.62	0.004	0.043	
21:15	0.56	0.60	0.004	0.043	
21:30	0.55	0.59	0.004	0.043	
21:45	0.57	0.62	0.004	0.043	
22:00	0.52	0.44	0.003	0.043	
22:15	0.55	0.54	0.004	0.043	
22:30	0.60	0.62	0.005	0.043	
22:45	0.58	0.57	0.004	0.043	
23:00	0.58	0.61	0.004	0.043	
23:15	0.83	0.96	0.013	0.043	
23:30	0.55	0.64	0.005	0.043	
23:45	0.55	0.67	0.005	0.043	
Daily Totals:				**0.043**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/8/2018					
0:00	0.56	0.49	0.003	0.000	
0:15	0.54	0.60	0.004	0.000	
0:30	0.60	0.49	0.004	0.000	
0:45	0.55	0.58	0.004	0.000	
1:00	0.57	0.58	0.004	0.000	
1:15	0.58	0.61	0.004	0.000	
1:30	0.51	0.38	0.002	0.000	
1:45	0.54	0.62	0.004	0.000	
2:00	0.77	0.88	0.013	0.000	
2:15	0.63	0.61	0.005	0.001	
2:30	0.58	0.37	0.003	0.001	
2:45	0.59	0.59	0.004	0.001	
3:00	0.57	0.62	0.005	0.001	
3:15	0.59	0.58	0.004	0.001	
3:30	0.86	0.95	0.018	0.001	
3:45	0.66	0.64	0.006	0.001	
4:00	0.52	0.55	0.004	0.001	
4:15	2.27	2.82	0.181	0.003	
4:30	0.70	0.67	0.006	0.003	
4:45	0.60	0.60	0.005	0.003	
5:00	0.61	0.76	0.006	0.003	
5:15	0.59	0.55	0.004	0.003	
5:30	0.55	0.66	0.004	0.003	
5:45	0.61	0.48	0.004	0.003	
6:00	0.60	0.64	0.005	0.003	
6:15	0.60	0.64	0.005	0.003	
6:30	0.58	0.43	0.003	0.003	
6:45	0.67	0.66	0.006	0.003	
7:00	0.68	0.63	0.006	0.003	
7:15	1.34	1.38	0.057	0.004	
7:30	1.11	1.05	0.021	0.004	
7:45	2.74	2.73	0.201	0.006	
8:00	1.25	1.93	0.049	0.007	
8:15	0.65	0.75	0.006	0.007	
8:30	0.82	0.75	0.009	0.007	
8:45	0.73	0.92	0.010	0.007	
9:00	0.81	0.88	0.011	0.007	
9:15	0.78	0.75	0.009	0.007	
9:30	0.89	1.52	0.030	0.008	
9:45	1.92	2.53	0.133	0.009	
10:00	0.80	0.77	0.009	0.009	
10:15	2.41	2.67	0.213	0.011	
10:30	1.15	2.52	0.054	0.012	
10:45	1.56	2.07	0.077	0.013	
11:00	0.81	0.81	0.010	0.013	
11:15	0.70	0.83	0.008	0.013	
11:30	0.78	0.85	0.010	0.013	
11:45	1.14	2.16	0.053	0.013	
12:00	0.93	1.18	0.018	0.014	
12:15	3.13	3.57	0.294	0.017	
12:30	0.93	1.09	0.019	0.017	
12:45	0.79	1.17	0.014	0.017	
13:00	0.73	0.83	0.009	0.017	
13:15	0.74	0.83	0.009	0.017	
13:30	0.79	0.77	0.009	0.017	
13:45	0.88	1.44	0.022	0.018	
14:00	1.65	2.42	0.111	0.019	
14:15	1.20	1.83	0.051	0.019	
14:30	0.78	0.69	0.008	0.019	
14:45	2.52	2.64	0.221	0.022	
15:00	1.64	3.14	0.115	0.023	
15:15	0.81	0.95	0.011	0.023	
15:30	1.05	1.67	0.033	0.023	
15:45	0.67	0.72	0.006	0.023	
16:00	0.71	0.80	0.008	0.023	
16:15	1.00	1.45	0.026	0.024	
16:30	1.86	3.22	0.135	0.025	
16:45	0.82	0.93	0.012	0.025	
17:00	0.63	0.57	0.005	0.025	
17:15	0.61	0.68	0.005	0.025	
17:30	1.92	2.37	0.148	0.027	
17:45	0.80	0.84	0.011	0.027	
18:00	0.57	0.54	0.004	0.027	
18:15	0.65	0.58	0.005	0.027	
18:30	0.53	0.53	0.003	0.027	
18:45	0.59	0.57	0.004	0.027	
19:00	0.85	1.06	0.017	0.027	
19:15	0.70	0.56	0.006	0.027	
19:30	0.58	0.70	0.005	0.027	
19:45	0.63	0.57	0.005	0.028	
20:00	0.53	0.59	0.004	0.028	
20:15	0.52	0.63	0.004	0.028	
20:30	0.59	0.72	0.005	0.028	
20:45	0.61	0.47	0.004	0.028	
21:00	0.53	0.51	0.003	0.028	
21:15	0.54	0.65	0.004	0.028	
21:30	0.61	0.62	0.005	0.028	
21:45	0.56	0.68	0.005	0.028	
22:00	0.88	1.09	0.024	0.028	
22:15	1.56	2.54	0.098	0.029	
22:30	1.39	0.68	0.019	0.029	
22:45	2.09	2.77	0.162	0.031	
23:00	0.77	0.77	0.009	0.031	
23:15	0.90	0.92	0.015	0.031	
23:30	0.65	0.55	0.005	0.031	
23:45	0.58	0.59	0.004	0.031	
Daily Totals:				**0.031**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/9/2018					
0:00	0.55	0.67	0.005	0.000	
0:15	0.56	0.56	0.004	0.000	
0:30	0.96	1.13	0.022	0.000	
0:45	0.61	0.58	0.005	0.000	
1:00	0.60	0.63	0.005	0.000	
1:15	0.52	0.63	0.004	0.000	
1:30	0.58	0.46	0.003	0.000	
1:45	0.59	0.64	0.005	0.001	
2:00	0.61	0.63	0.005	0.001	
2:15	0.59	0.61	0.005	0.001	
2:30	0.60	0.74	0.006	0.001	
2:45	0.55	0.46	0.003	0.001	
3:00	0.60	0.64	0.005	0.001	
3:15	1.18	1.60	0.048	0.001	
3:30	0.67	0.73	0.007	0.001	
3:45	0.64	0.68	0.006	0.001	
4:00	0.58	0.50	0.004	0.001	
4:15	0.60	0.61	0.005	0.002	
4:30	0.60	0.51	0.004	0.002	
4:45	0.63	0.53	0.004	0.002	
5:00	0.60	0.73	0.006	0.002	
5:15	0.57	0.56	0.004	0.002	
5:30	2.50	2.99	0.207	0.004	
5:45	0.69	0.76	0.007	0.004	
6:00	0.63	0.50	0.004	0.004	
6:15	0.80	0.93	0.013	0.004	
6:30	0.64	0.74	0.006	0.004	
6:45	0.70	0.71	0.007	0.004	
7:00	0.67	0.83	0.007	0.004	
7:15	0.64	0.75	0.006	0.004	
7:30	0.69	0.73	0.007	0.004	
7:45	0.76	0.81	0.009	0.005	
8:00	0.90	1.90	0.031	0.005	
8:15	1.68	2.53	0.103	0.006	
8:30	1.32	0.87	0.021	0.006	
8:45	2.18	3.24	0.179	0.008	
9:00	0.77	0.97	0.011	0.008	
9:15	0.65	0.69	0.006	0.008	
9:30	0.70	0.83	0.008	0.008	
9:45	0.74	1.11	0.014	0.008	
10:00	0.69	0.68	0.006	0.009	
10:15	1.16	1.83	0.044	0.009	
10:30	0.70	0.82	0.008	0.009	
10:45	1.56	1.70	0.111	0.010	
11:00	1.45	2.62	0.085	0.011	
11:15	1.15	2.14	0.049	0.012	
11:30	0.84	1.41	0.021	0.012	
11:45	1.19	2.22	0.060	0.012	
12:00	0.77	1.43	0.017	0.013	
12:15	2.30	2.61	0.194	0.015	
12:30	0.99	1.58	0.032	0.015	
12:45	0.78	0.98	0.011	0.015	
13:00	0.92	0.92	0.016	0.015	
13:15	1.20	1.60	0.051	0.016	
13:30	1.62	3.07	0.108	0.017	
13:45	1.66	1.87	0.116	0.018	
14:00	1.48	2.36	0.087	0.019	
14:15	0.85	0.85	0.011	0.019	
14:30	0.73	0.77	0.008	0.019	
14:45	0.72	0.76	0.008	0.019	
15:00	1.53	2.36	0.099	0.020	0.02
15:15	1.68	1.54	0.040	0.021	0.03
15:30	2.00	2.59	0.148	0.022	0.03
15:45	0.71	0.72	0.007	0.022	0.01
16:00	0.95	0.75	0.011	0.022	0.04
16:15	0.68	0.90	0.009	0.023	0.03
16:30	0.97	1.06	0.018	0.023	0.03
16:45	0.67	0.84	0.008	0.023	0.03
17:00	0.63	0.70	0.006	0.023	0.08
17:15	1.62	1.66	0.095	0.024	0.06
17:30	1.00	1.11	0.023	0.024	0.03
17:45	2.17	1.73	0.125	0.025	0.04
18:00	1.09	1.37	0.035	0.026	0.05
18:15	0.63	0.59	0.005	0.026	0.05
18:30	0.63	0.70	0.006	0.026	0.08
18:45	0.91	1.16	0.019	0.026	0.09
19:00	1.01	1.20	0.024	0.026	0.07
19:15	2.51	2.62	0.163	0.028	0.03
19:30	0.78	0.80	0.010	0.028	0.01
19:45	0.61	0.69	0.006	0.028	
20:00	0.61	0.70	0.006	0.028	
20:15	0.60	0.57	0.004	0.028	
20:30	1.10	1.61	0.044	0.029	
20:45	0.62	0.58	0.005	0.029	0.01
21:00	1.91	2.44	0.151	0.030	
21:15	0.76	0.82	0.010	0.030	
21:30	0.64	0.62	0.005	0.031	
21:45	0.58	0.47	0.003	0.031	
22:00	0.61	0.62	0.005	0.031	
22:15	0.85	0.94	0.018	0.031	
22:30	1.30	2.45	0.070	0.032	
22:45	1.61	1.84	0.119	0.033	
23:00	1.16	1.71	0.046	0.033	
23:15	0.73	0.85	0.009	0.033	0.01
23:30	0.94	1.60	0.031	0.034	
23:45	0.87	1.48	0.030	0.034	
Daily Totals:				**0.034**	**0.83**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/10/2018					
0:00	0.63	0.77	0.006	0.000	
0:15	0.65	0.81	0.008	0.000	
0:30	0.82	0.95	0.012	0.000	
0:45	0.64	0.79	0.007	0.000	
1:00	2.35	2.76	0.186	0.002	0.01
1:15	0.73	0.78	0.008	0.002	0.01
1:30	0.57	0.70	0.005	0.002	
1:45	0.64	0.65	0.006	0.002	
2:00	0.87	1.29	0.028	0.003	0.01
2:15	0.73	0.76	0.008	0.003	
2:30	0.52	0.41	0.003	0.003	
2:45	0.82	1.00	0.014	0.003	
3:00	1.39	1.52	0.092	0.004	
3:15	1.60	1.96	0.096	0.005	0.01
3:30	0.60	0.60	0.005	0.005	
3:45	0.56	0.34	0.002	0.005	
4:00	0.54	0.43	0.003	0.005	
4:15	0.55	0.48	0.003	0.005	
4:30	0.53	0.49	0.003	0.005	
4:45	0.54	0.49	0.003	0.005	
5:00	0.86	1.06	0.017	0.005	
5:15	0.58	0.56	0.004	0.005	
5:30	0.57	0.62	0.004	0.005	
5:45	0.56	0.53	0.004	0.006	
6:00	0.71	0.78	0.009	0.006	
6:15	0.60	0.74	0.006	0.006	
6:30	1.32	1.42	0.086	0.007	
6:45	1.68	2.57	0.118	0.008	
7:00	0.60	0.61	0.005	0.008	
7:15	0.53	0.43	0.003	0.008	
7:30	0.56	0.67	0.005	0.008	
7:45	0.91	0.89	0.013	0.008	
8:00	0.57	0.68	0.005	0.008	
8:15	0.58	0.60	0.004	0.008	
8:30	0.46	0.47	0.003	0.008	
8:45	0.55	0.53	0.004	0.008	
9:00	0.56	0.68	0.005	0.008	
9:15	0.52	0.34	0.002	0.008	
9:30	0.84	0.70	0.008	0.008	
9:45	0.56	0.63	0.004	0.008	
10:00	0.48	0.57	0.003	0.008	
10:15	2.04	2.62	0.154	0.010	
10:30	0.67	0.73	0.007	0.010	
10:45	0.51	0.52	0.003	0.010	
11:00	0.59	0.71	0.005	0.010	
11:15	0.54	0.54	0.004	0.010	
11:30	0.52	0.56	0.004	0.010	
11:45	0.55	0.52	0.003	0.010	
12:00	0.53	0.37	0.002	0.010	
12:15	0.76	1.38	0.021	0.011	
12:30	0.62	0.73	0.006	0.011	
12:45	0.60	0.68	0.005	0.011	
13:00	1.37	1.29	0.089	0.012	
13:15	1.85	2.52	0.134	0.013	
13:30	0.65	0.60	0.005	0.013	
13:45	0.55	0.46	0.003	0.013	
14:00	0.57	0.49	0.004	0.013	
14:15	0.54	0.53	0.003	0.013	
14:30	0.58	0.52	0.004	0.013	
14:45	0.53	0.42	0.003	0.013	
15:00	0.58	0.48	0.003	0.013	
15:15	0.55	0.48	0.003	0.013	
15:30	0.56	0.58	0.004	0.013	
15:45	0.51	0.61	0.004	0.013	
16:00	0.58	0.52	0.004	0.013	
16:15	0.56	0.57	0.004	0.013	
16:30	0.90	0.94	0.018	0.014	
16:45	0.93	1.46	0.037	0.014	
17:00	0.71	0.78	0.008	0.014	
17:15	0.58	0.63	0.005	0.014	
17:30	0.51	0.44	0.003	0.014	
17:45	0.55	0.48	0.003	0.014	
18:00	1.94	2.56	0.158	0.016	
18:15	0.72	0.83	0.010	0.016	
18:30	0.59	0.71	0.005	0.016	
18:45	0.56	0.68	0.005	0.016	
19:00	0.54	0.58	0.004	0.016	
19:15	0.52	0.46	0.003	0.016	
19:30	0.53	0.38	0.002	0.016	
19:45	0.54	0.55	0.004	0.016	
20:00	0.94	0.74	0.011	0.016	
20:15	0.56	0.60	0.004	0.016	
20:30	0.55	0.50	0.003	0.016	
20:45	0.52	0.63	0.004	0.016	
21:00	0.55	0.54	0.004	0.017	
21:15	0.52	0.62	0.004	0.017	
21:30	0.57	0.50	0.004	0.017	
21:45	0.55	0.56	0.004	0.017	
22:00	0.56	0.50	0.003	0.017	
22:15	0.82	0.64	0.009	0.017	
22:30	0.69	0.79	0.008	0.017	
22:45	0.58	0.42	0.003	0.017	
23:00	0.57	0.49	0.003	0.017	
23:15	0.54	0.51	0.004	0.017	
23:30	2.38	2.62	0.220	0.019	
23:45	1.08	1.63	0.044	0.020	
Daily Totals:				**0.020**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/11/2018					
0:00	0.59	0.51	0.004	0.000	
0:15	0.87	0.92	0.013	0.000	
0:30	1.59	2.33	0.105	0.001	
0:45	0.62	0.66	0.005	0.001	
1:00	0.60	0.59	0.005	0.001	
1:15	0.55	0.66	0.005	0.001	
1:30	0.69	0.81	0.008	0.002	
1:45	0.55	0.56	0.004	0.002	
2:00	0.57	0.57	0.004	0.002	
2:15	0.55	0.67	0.005	0.002	
2:30	0.57	0.45	0.003	0.002	
2:45	0.53	0.63	0.004	0.002	
3:00	0.53	0.42	0.003	0.002	
3:15	0.55	0.55	0.004	0.002	
3:30	0.70	0.78	0.009	0.002	
3:45	0.58	0.58	0.004	0.002	
4:00	0.53	0.63	0.004	0.002	
4:15	0.74	0.81	0.011	0.002	
4:30	0.63	0.71	0.006	0.002	
4:45	1.41	1.63	0.101	0.003	
5:00	2.20	2.81	0.175	0.005	
5:15	0.63	0.67	0.006	0.005	
5:30	0.56	0.68	0.005	0.005	
5:45	0.56	0.56	0.004	0.005	
6:00	0.56	0.61	0.004	0.005	
6:15	0.54	0.48	0.003	0.005	
6:30	0.56	0.57	0.004	0.005	
6:45	0.55	0.38	0.003	0.005	
7:00	0.56	0.49	0.004	0.005	
7:15	0.53	0.45	0.003	0.005	
7:30	0.92	1.37	0.028	0.006	
7:45	0.60	0.53	0.004	0.006	
8:00	0.50	0.60	0.004	0.006	
8:15	0.56	0.58	0.004	0.006	
8:30	0.53	0.55	0.004	0.006	
8:45	0.50	0.50	0.003	0.006	
9:00	0.56	0.58	0.004	0.006	
9:15	0.54	0.50	0.003	0.006	
9:30	0.54	0.47	0.003	0.006	
9:45	0.54	0.61	0.004	0.006	
10:00	0.53	0.36	0.002	0.006	
10:15	0.48	0.42	0.002	0.006	
10:30	0.52	0.54	0.003	0.006	
10:45	0.56	0.46	0.003	0.006	
11:00	0.57	0.47	0.003	0.006	
11:15	0.56	0.51	0.004	0.006	
11:30	0.72	0.89	0.014	0.006	
11:45	0.83	1.01	0.014	0.006	
12:00	2.42	2.49	0.155	0.008	
12:15	0.68	0.65	0.006	0.008	
12:30	0.56	0.67	0.005	0.008	
12:45	0.56	0.35	0.002	0.008	
13:00	0.61	0.75	0.006	0.008	
13:15	0.57	0.61	0.004	0.008	
13:30	0.58	0.63	0.005	0.008	
13:45	0.54	0.49	0.003	0.008	
14:00	0.56	0.56	0.004	0.008	
14:15	0.54	0.36	0.002	0.009	
14:30	0.51	0.45	0.003	0.009	
14:45	0.54	0.60	0.004	0.009	
15:00	0.53	0.46	0.003	0.009	
15:15	0.56	0.68	0.005	0.009	
15:30	0.58	0.36	0.003	0.009	
15:45	0.56	0.58	0.004	0.009	
16:00	0.82	1.03	0.019	0.009	
16:15	0.66	0.76	0.008	0.009	
16:30	0.58	0.60	0.004	0.009	
16:45	0.56	0.62	0.004	0.009	
17:00	1.00	1.52	0.034	0.009	
17:15	0.57	0.51	0.004	0.009	
17:30	0.53	0.45	0.003	0.010	
17:45	0.55	0.45	0.003	0.010	
18:00	2.31	2.87	0.179	0.011	
18:15	0.69	0.77	0.008	0.011	
18:30	0.59	0.64	0.005	0.012	
18:45	0.58	0.46	0.003	0.012	
19:00	0.59	0.48	0.004	0.012	
19:15	0.56	0.55	0.004	0.012	
19:30	0.56	0.58	0.004	0.012	
19:45	0.52	0.47	0.003	0.012	
20:00	0.54	0.47	0.003	0.012	
20:15	0.60	0.60	0.005	0.012	
20:30	0.57	0.35	0.003	0.012	
20:45	0.52	0.38	0.002	0.012	
21:00	0.91	1.12	0.019	0.012	
21:15	0.56	0.43	0.003	0.012	
21:30	0.54	0.43	0.003	0.012	
21:45	0.52	0.60	0.004	0.012	
22:00	0.56	0.36	0.002	0.012	
22:15	0.60	0.60	0.005	0.012	
22:30	0.56	0.58	0.004	0.012	
22:45	0.54	0.49	0.003	0.012	
23:00	0.59	0.48	0.004	0.012	
23:15	0.71	0.89	0.009	0.012	
23:30	2.38	2.62	0.209	0.015	
23:45	1.23	1.70	0.059	0.015	
Daily Totals:				**0.015**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/12/2018					
0:00	0.64	0.63	0.005	0.000	
0:15	0.57	0.56	0.004	0.000	
0:30	0.55	0.44	0.003	0.000	
0:45	0.54	0.46	0.003	0.000	
1:00	0.56	0.47	0.003	0.000	
1:15	0.87	1.36	0.034	0.001	
1:30	0.97	2.26	0.042	0.001	
1:45	0.88	1.41	0.025	0.001	
2:00	0.66	0.62	0.006	0.001	
2:15	0.65	0.64	0.005	0.001	
2:30	1.13	2.37	0.057	0.002	
2:45	0.63	1.04	0.009	0.002	
3:00	0.53	0.55	0.003	0.002	
3:15	0.56	0.68	0.005	0.002	
3:30	0.55	0.57	0.004	0.002	
3:45	0.58	0.41	0.003	0.002	
4:00	0.56	0.58	0.004	0.002	
4:15	0.56	0.47	0.003	0.002	
4:30	0.55	0.46	0.003	0.002	
4:45	0.58	0.64	0.005	0.002	
5:00	0.55	0.58	0.004	0.002	
5:15	0.56	0.68	0.005	0.002	
5:30	0.57	0.54	0.004	0.002	
5:45	0.56	0.43	0.003	0.003	
6:00	0.55	0.49	0.003	0.003	
6:15	0.57	0.58	0.004	0.003	
6:30	0.60	0.63	0.005	0.003	
6:45	0.63	0.61	0.005	0.003	
7:00	1.10	1.75	0.047	0.003	
7:15	1.82	2.60	0.128	0.005	
7:30	0.69	0.87	0.008	0.005	
7:45	0.70	0.63	0.006	0.005	
8:00	0.70	0.77	0.008	0.005	
8:15	0.69	0.76	0.007	0.005	
8:30	2.54	2.88	0.234	0.007	
8:45	1.45	2.86	0.087	0.008	
9:00	0.74	0.98	0.010	0.008	
9:15	0.76	0.94	0.010	0.008	
9:30	1.02	1.12	0.027	0.009	
9:45	0.64	0.68	0.006	0.009	
10:00	0.99	1.58	0.033	0.009	
10:15	0.70	0.87	0.008	0.009	
10:30	2.02	2.60	0.149	0.011	
10:45	0.83	1.81	0.023	0.011	
11:00	0.62	0.75	0.006	0.011	
11:15	0.65	0.80	0.007	0.011	
11:30	0.93	1.92	0.030	0.011	
11:45	1.24	1.48	0.032	0.012	
12:00	0.78	1.28	0.017	0.012	
12:15	2.02	2.59	0.152	0.014	
12:30	0.71	0.82	0.008	0.014	
12:45	0.66	0.70	0.006	0.014	
13:00	0.88	1.51	0.026	0.014	
13:15	1.71	3.23	0.128	0.015	
13:30	1.53	2.55	0.104	0.016	
13:45	0.76	0.82	0.009	0.016	
14:00	2.61	2.86	0.234	0.019	
14:15	1.43	2.39	0.085	0.020	
14:30	0.68	0.67	0.006	0.020	
14:45	0.86	1.01	0.016	0.020	
15:00	1.55	2.42	0.088	0.021	
15:15	2.52	3.51	0.232	0.023	
15:30	0.79	0.84	0.010	0.023	
15:45	0.65	0.79	0.007	0.024	
16:00	0.62	0.64	0.005	0.024	
16:15	0.78	1.43	0.018	0.024	
16:30	0.65	0.64	0.006	0.024	
16:45	0.65	0.78	0.007	0.024	
17:00	0.57	0.49	0.004	0.024	
17:15	0.52	0.62	0.004	0.024	
17:30	0.80	0.88	0.016	0.024	
17:45	0.78	0.86	0.011	0.024	
18:00	0.59	0.59	0.004	0.024	
18:15	0.61	0.63	0.005	0.024	
18:30	1.92	2.71	0.147	0.026	
18:45	0.64	0.63	0.005	0.026	
19:00	0.58	0.45	0.003	0.026	
19:15	0.73	0.73	0.009	0.026	
19:30	0.71	0.88	0.009	0.026	
19:45	0.56	0.33	0.002	0.026	
20:00	0.58	0.56	0.004	0.026	
20:15	0.81	0.99	0.013	0.026	
20:30	0.59	0.64	0.005	0.026	
20:45	2.28	2.90	0.185	0.028	
21:00	0.66	0.80	0.007	0.028	
21:15	0.59	0.59	0.005	0.028	
21:30	0.51	0.47	0.003	0.028	
21:45	0.53	0.64	0.004	0.029	
22:00	0.54	0.64	0.004	0.029	
22:15	0.61	0.77	0.006	0.029	
22:30	0.54	0.65	0.004	0.029	
22:45	0.56	0.53	0.004	0.029	
23:00	0.53	0.64	0.004	0.029	0.01
23:15	0.59	0.59	0.004	0.029	0.01
23:30	0.55	0.66	0.004	0.029	0.01
23:45	0.54	0.65	0.004	0.029	0.01
Daily Totals:				**0.029**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/13/2018					
0:00	1.17	2.75	0.062	0.001	0.02
0:15	1.58	2.23	0.108	0.002	0.01
0:30	1.13	2.08	0.053	0.002	0.02
0:45	2.51	2.69	0.231	0.005	0.02
1:00	1.96	3.19	0.144	0.006	0.02
1:15	0.92	2.22	0.040	0.007	0.01
1:30	0.57	0.57	0.004	0.007	0.02
1:45	0.56	0.30	0.002	0.007	0.01
2:00	0.57	0.46	0.003	0.007	0.01
2:15	0.54	0.64	0.004	0.007	0.02
2:30	0.52	0.42	0.003	0.007	0.03
2:45	0.53	0.63	0.004	0.007	0.03
3:00	0.56	0.56	0.004	0.007	0.02
3:15	0.58	0.57	0.004	0.007	0.02
3:30	0.53	0.50	0.003	0.007	0.02
3:45	0.59	0.47	0.004	0.007	0.02
4:00	0.55	0.44	0.003	0.007	0.02
4:15	0.59	0.46	0.003	0.007	0.03
4:30	0.55	0.53	0.004	0.007	0.03
4:45	0.57	0.48	0.003	0.007	0.03
5:00	0.58	0.46	0.003	0.007	0.04
5:15	1.14	1.59	0.048	0.008	0.03
5:30	1.49	1.74	0.119	0.009	0.04
5:45	2.50	3.54	0.230	0.011	0.03
6:00	0.67	0.79	0.008	0.011	0.01
6:15	0.60	0.61	0.005	0.011	0.02
6:30	0.58	0.63	0.005	0.012	0.04
6:45	0.62	0.67	0.006	0.012	0.02
7:00	0.91	1.56	0.031	0.012	0.05
7:15	2.97	3.43	0.261	0.015	0.04
7:30	3.06	3.58	0.284	0.018	0.03
7:45	2.13	2.73	0.156	0.019	0.06
8:00	1.67	1.90	0.124	0.020	0.04
8:15	2.96	3.66	0.284	0.023	0.04
8:30	0.98	0.83	0.012	0.024	0.03
8:45	1.08	2.19	0.048	0.024	0.03
9:00	0.77	1.15	0.013	0.024	0.03
9:15	0.89	1.56	0.027	0.024	0.01
9:30	2.11	3.21	0.162	0.026	0.01
9:45	1.65	1.80	0.108	0.027	0.01
10:00	2.06	3.25	0.173	0.029	0.01
10:15	0.79	1.20	0.014	0.029	0.01
10:30	0.83	1.05	0.013	0.029	
10:45	2.11	3.23	0.163	0.031	0.01
11:00	1.26	2.32	0.065	0.032	
11:15	2.75	3.51	0.251	0.034	
11:30	0.92	1.57	0.027	0.035	
11:45	0.71	0.83	0.008	0.035	
12:00	1.16	1.99	0.052	0.035	
12:15	1.72	3.07	0.120	0.037	
12:30	1.74	2.03	0.119	0.038	
12:45	0.96	2.65	0.042	0.038	
13:00	1.75	2.15	0.089	0.039	
13:15	2.62	3.32	0.221	0.041	
13:30	1.53	1.61	0.047	0.042	
13:45	2.15	3.22	0.170	0.044	
14:00	0.74	0.81	0.009	0.044	
14:15	1.09	1.55	0.048	0.044	
14:30	1.44	2.49	0.079	0.045	
14:45	1.58	1.75	0.109	0.046	
15:00	1.79	3.08	0.123	0.048	
15:15	0.77	0.88	0.010	0.048	
15:30	0.84	1.01	0.017	0.048	
15:45	0.77	0.99	0.011	0.048	
16:00	1.48	1.53	0.087	0.049	
16:15	2.02	3.16	0.157	0.050	
16:30	0.83	0.93	0.012	0.051	
16:45	0.96	1.55	0.032	0.051	
17:00	0.87	0.97	0.015	0.051	
17:15	2.63	3.33	0.223	0.053	
17:30	0.74	0.85	0.009	0.054	
17:45	0.61	0.68	0.005	0.054	
18:00	0.56	0.54	0.004	0.054	
18:15	0.78	0.86	0.014	0.054	
18:30	0.64	0.71	0.006	0.054	
18:45	1.53	1.61	0.126	0.055	
19:00	1.36	1.47	0.064	0.056	
19:15	0.63	0.65	0.005	0.056	
19:30	0.58	0.71	0.005	0.056	
19:45	0.56	0.68	0.005	0.056	
20:00	0.58	0.71	0.005	0.056	
20:15	0.54	0.41	0.003	0.056	
20:30	0.55	0.30	0.002	0.056	
20:45	1.37	2.31	0.067	0.057	
21:00	0.97	1.54	0.029	0.057	
21:15	2.45	3.08	0.212	0.059	
21:30	0.68	0.84	0.008	0.059	
21:45	0.51	0.54	0.003	0.059	
22:00	0.53	0.54	0.003	0.059	
22:15	0.57	0.45	0.003	0.059	
22:30	0.54	0.65	0.004	0.059	
22:45	0.55	0.31	0.002	0.060	
23:00	0.57	0.70	0.005	0.060	
23:15	0.93	1.53	0.031	0.060	
23:30	1.33	1.63	0.044	0.060	
23:45	0.74	0.93	0.010	0.060	
Daily Totals:				**0.060**	**1.05**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/14/2018					
0:00	2.65	3.55	0.249	0.003	
0:15	0.73	0.76	0.008	0.003	
0:30	0.56	0.53	0.004	0.003	
0:45	0.58	0.70	0.005	0.003	
1:00	0.59	0.45	0.003	0.003	
1:15	0.56	0.55	0.004	0.003	
1:30	0.55	0.66	0.005	0.003	
1:45	0.72	0.90	0.012	0.003	
2:00	0.59	0.51	0.004	0.003	
2:15	0.56	0.59	0.004	0.003	
2:30	0.55	0.44	0.003	0.003	
2:45	0.56	0.59	0.004	0.003	
3:00	0.56	0.31	0.002	0.003	
3:15	0.57	0.58	0.004	0.003	
3:30	0.58	0.48	0.003	0.003	
3:45	0.58	0.60	0.004	0.003	
4:00	1.37	2.03	0.072	0.004	
4:15	1.12	1.91	0.045	0.005	
4:30	2.60	3.26	0.216	0.007	
4:45	0.74	0.71	0.008	0.007	
5:00	0.57	0.53	0.004	0.007	
5:15	0.57	0.44	0.003	0.007	
5:30	0.62	0.62	0.005	0.007	
5:45	0.57	0.59	0.004	0.007	
6:00	0.99	2.31	0.051	0.008	
6:15	2.91	3.53	0.262	0.010	
6:30	3.02	3.57	0.279	0.013	
6:45	2.63	3.23	0.212	0.015	
7:00	2.25	2.99	0.190	0.017	
7:15	2.68	3.45	0.241	0.020	
7:30	0.79	0.83	0.010	0.020	
7:45	0.91	1.38	0.019	0.020	
8:00	1.04	2.50	0.043	0.021	
8:15	0.64	1.09	0.010	0.021	
8:30	0.67	0.78	0.007	0.021	
8:45	0.66	0.77	0.007	0.021	
9:00	1.35	3.29	0.084	0.022	
9:15	0.96	2.34	0.040	0.022	
9:30	3.01	3.35	0.262	0.025	
9:45	0.92	1.18	0.018	0.025	
10:00	0.65	0.82	0.007	0.025	
10:15	0.68	0.85	0.008	0.025	
10:30	0.63	1.47	0.012	0.025	
10:45	1.66	2.89	0.097	0.026	
11:00	0.88	2.49	0.035	0.027	
11:15	2.27	3.14	0.177	0.029	
11:30	0.70	0.83	0.008	0.029	
11:45	0.72	0.72	0.007	0.029	
12:00	0.68	0.84	0.008	0.029	
12:15	0.68	1.46	0.013	0.029	
12:30	1.17	1.88	0.046	0.029	
12:45	0.82	1.65	0.028	0.030	
13:00	2.24	2.41	0.157	0.031	
13:15	0.91	1.39	0.021	0.032	
13:30	1.06	1.95	0.045	0.032	
13:45	1.34	2.85	0.072	0.033	
14:00	2.36	3.42	0.196	0.035	
14:15	0.98	1.56	0.027	0.035	
14:30	0.71	0.70	0.007	0.035	
14:45	0.84	1.52	0.020	0.035	
15:00	1.08	2.88	0.052	0.036	
15:15	0.87	1.45	0.021	0.036	
15:30	0.66	0.71	0.006	0.036	
15:45	0.67	0.70	0.006	0.036	
16:00	1.57	2.74	0.123	0.038	
16:15	2.32	3.14	0.179	0.039	
16:30	0.80	1.59	0.018	0.040	
16:45	0.94	2.32	0.038	0.040	
17:00	0.63	0.59	0.005	0.040	
17:15	0.58	0.70	0.005	0.040	
17:30	0.55	0.51	0.004	0.040	
17:45	0.56	0.53	0.004	0.040	
18:00	0.66	0.72	0.006	0.040	
18:15	0.62	0.76	0.006	0.040	
18:30	0.56	0.53	0.004	0.040	
18:45	0.86	0.87	0.013	0.041	
19:00	0.58	0.64	0.005	0.041	
19:15	0.56	1.48	0.010	0.041	
19:30	1.39	2.75	0.073	0.041	
19:45	1.54	2.67	0.115	0.043	
20:00	1.68	2.71	0.108	0.044	
20:15	0.65	0.80	0.007	0.044	
20:30	0.57	0.69	0.005	0.044	
20:45	0.57	0.70	0.005	0.044	
21:00	0.59	0.58	0.004	0.044	
21:15	1.06	0.44	0.008	0.044	
21:30	0.62	0.61	0.005	0.044	
21:45	0.61	0.61	0.005	0.044	
22:00	2.09	3.70	0.187	0.046	
22:15	0.92	0.74	0.010	0.046	
22:30	0.75	0.70	0.008	0.046	
22:45	0.73	0.91	0.009	0.046	
23:00	0.73	0.92	0.010	0.047	
23:15	0.87	1.00	0.015	0.047	
23:30	0.61	0.59	0.005	0.047	
23:45	0.77	0.71	0.008	0.047	
Daily Totals:				**0.047**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/15/2018					
0:00	0.59	0.58	0.004	0.000	
0:15	0.56	0.56	0.004	0.000	
0:30	0.60	0.61	0.005	0.000	
0:45	0.99	1.26	0.021	0.000	
1:00	2.14	2.70	0.177	0.002	
1:15	1.24	1.87	0.060	0.003	
1:30	0.61	0.65	0.005	0.003	
1:45	0.52	0.43	0.003	0.003	
2:00	0.57	0.69	0.005	0.003	
2:15	0.55	0.43	0.003	0.003	
2:30	0.53	0.41	0.003	0.003	
2:45	0.55	0.44	0.003	0.003	
3:00	0.54	0.53	0.004	0.003	
3:15	0.59	0.34	0.003	0.003	
3:30	0.86	1.36	0.027	0.003	
3:45	0.62	0.71	0.006	0.003	
4:00	0.59	0.36	0.003	0.003	
4:15	0.58	0.55	0.004	0.004	
4:30	0.58	0.31	0.002	0.004	
4:45	0.58	0.59	0.004	0.004	
5:00	0.56	0.48	0.003	0.004	
5:15	0.79	0.85	0.015	0.004	
5:30	0.65	1.72	0.014	0.004	
5:45	2.56	3.44	0.232	0.006	
6:00	0.72	0.77	0.008	0.006	
6:15	0.58	0.59	0.004	0.006	
6:30	0.58	0.65	0.005	0.007	
6:45	0.61	0.68	0.005	0.007	
7:00	0.64	0.79	0.007	0.007	
7:15	0.73	0.66	0.007	0.007	
7:30	0.86	2.48	0.034	0.007	
7:45	0.64	1.07	0.010	0.007	
8:00	0.68	0.72	0.007	0.007	
8:15	0.84	2.36	0.037	0.008	
8:30	2.02	2.64	0.138	0.009	
8:45	2.36	3.54	0.202	0.011	
9:00	1.01	2.02	0.038	0.012	
9:15	1.08	1.17	0.024	0.012	
9:30	1.54	2.62	0.086	0.013	
9:45	1.66	1.89	0.114	0.014	
10:00	1.96	2.69	0.127	0.015	
10:15	0.74	0.93	0.010	0.015	
10:30	0.76	0.95	0.012	0.015	
10:45	1.23	2.19	0.053	0.016	
11:00	1.09	2.36	0.043	0.016	
11:15	2.63	3.24	0.213	0.019	
11:30	1.00	2.05	0.037	0.019	
11:45	0.65	0.67	0.006	0.019	
12:00	0.89	1.52	0.019	0.019	
12:15	1.21	2.45	0.059	0.020	
12:30	2.50	3.52	0.223	0.022	
12:45	1.10	1.82	0.039	0.023	
13:00	0.71	0.73	0.007	0.023	
13:15	0.66	0.74	0.007	0.023	
13:30	0.90	1.75	0.025	0.023	
13:45	0.83	1.84	0.023	0.023	
14:00	2.17	2.49	0.143	0.025	
14:15	0.70	1.04	0.011	0.025	
14:30	0.76	2.19	0.023	0.025	
14:45	1.22	3.07	0.068	0.026	
15:00	2.20	3.24	0.169	0.028	
15:15	0.87	1.54	0.026	0.028	
15:30	0.64	1.33	0.011	0.028	
15:45	0.96	1.65	0.030	0.028	
16:00	1.03	0.90	0.017	0.028	
16:15	1.53	2.56	0.117	0.030	
16:30	1.49	2.02	0.089	0.031	
16:45	0.65	0.76	0.007	0.031	
17:00	0.55	0.55	0.004	0.031	
17:15	0.68	0.70	0.007	0.031	
17:30	0.65	0.66	0.006	0.031	
17:45	0.55	0.60	0.004	0.031	
18:00	0.62	0.73	0.006	0.031	
18:15	0.57	0.69	0.005	0.031	
18:30	0.72	0.80	0.010	0.031	
18:45	0.66	0.75	0.007	0.031	
19:00	0.60	0.50	0.004	0.031	
19:15	0.60	0.45	0.003	0.031	
19:30	0.55	0.64	0.004	0.031	
19:45	0.78	0.98	0.012	0.031	
20:00	1.81	2.54	0.132	0.033	
20:15	1.11	1.76	0.046	0.033	
20:30	0.58	0.67	0.005	0.033	
20:45	0.55	0.66	0.004	0.033	
21:00	0.56	0.43	0.003	0.033	
21:15	0.59	0.73	0.005	0.034	
21:30	0.54	0.65	0.004	0.034	
21:45	0.57	0.69	0.005	0.034	
22:00	0.57	0.69	0.005	0.034	
22:15	0.57	1.57	0.010	0.034	
22:30	1.17	2.34	0.059	0.034	
22:45	0.66	1.38	0.012	0.035	0.01
23:00	1.02	1.53	0.033	0.035	
23:15	0.68	0.64	0.006	0.035	
23:30	0.85	2.41	0.035	0.035	
23:45	0.80	1.45	0.028	0.036	
Daily Totals:				**0.036**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

11/16/2018

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
0:00	0.59	0.51	0.004	0.000	
0:15	0.57	0.48	0.003	0.000	
0:30	0.58	0.53	0.004	0.000	
0:45	0.52	0.35	0.002	0.000	
1:00	0.92	0.39	0.006	0.000	
1:15	1.66	3.06	0.104	0.001	
1:30	2.32	3.37	0.196	0.003	
1:45	1.00	1.70	0.035	0.004	
2:00	0.58	0.66	0.005	0.004	
2:15	0.61	0.75	0.006	0.004	0.01
2:30	0.58	0.70	0.005	0.004	
2:45	0.60	0.74	0.006	0.004	
3:00	0.68	0.70	0.007	0.004	
3:15	0.58	0.54	0.004	0.004	
3:30	0.55	0.45	0.003	0.004	
3:45	0.58	0.65	0.005	0.004	0.01
4:00	0.60	0.73	0.006	0.004	
4:15	0.60	0.74	0.006	0.004	
4:30	0.61	0.75	0.006	0.004	
4:45	0.58	0.50	0.004	0.004	
5:00	0.59	0.73	0.006	0.004	
5:15	0.60	0.74	0.006	0.004	0.01
5:30	0.54	0.64	0.004	0.004	
5:45	0.58	0.58	0.004	0.005	0.03
6:00	1.66	3.40	0.121	0.006	0.03
6:15	2.35	3.52	0.208	0.008	0.03
6:30	1.39	2.24	0.076	0.009	0.03
6:45	0.89	0.93	0.015	0.009	0.02
7:00	0.59	0.64	0.005	0.009	0.03
7:15	0.61	0.58	0.005	0.009	
7:30	0.56	0.54	0.004	0.009	
7:45	0.61	0.67	0.005	0.009	
8:00	0.58	0.62	0.005	0.009	
8:15	0.66	1.52	0.014	0.009	0.01
8:30	1.93	3.10	0.133	0.011	
8:45	2.40	3.19	0.200	0.013	
9:00	1.23	1.97	0.053	0.013	0.05
9:15	0.72	1.11	0.011	0.013	0.05
9:30	0.61	0.75	0.006	0.014	0.04
9:45	0.64	0.70	0.006	0.014	0.04
10:00	0.90	2.81	0.040	0.014	0.04
10:15	2.43	3.38	0.198	0.016	0.03
10:30	0.99	1.65	0.031	0.016	0.06
10:45	0.78	0.88	0.010	0.016	0.05
11:00	0.60	0.75	0.006	0.017	0.03
11:15	0.68	1.59	0.014	0.017	0.05
11:30	0.97	1.74	0.032	0.017	0.04
11:45	2.60	3.38	0.218	0.019	0.03
12:00	0.76	0.88	0.010	0.019	0.03
12:15	0.71	1.45	0.014	0.020	0.02
12:30	1.18	2.74	0.058	0.020	0.02
12:45	2.14	3.31	0.168	0.022	0.01
13:00	0.84	2.11	0.030	0.022	
13:15	0.93	2.49	0.035	0.023	
13:30	1.29	2.80	0.070	0.023	
13:45	1.77	3.19	0.125	0.025	
14:00	2.72	3.21	0.226	0.027	
14:15	0.81	1.53	0.022	0.027	
14:30	0.71	0.79	0.008	0.027	
14:45	0.65	1.54	0.014	0.027	
15:00	0.82	1.19	0.014	0.028	
15:15	1.49	3.04	0.092	0.028	
15:30	1.91	3.25	0.150	0.030	
15:45	1.93	2.88	0.127	0.031	
16:00	1.17	2.24	0.050	0.032	
16:15	0.77	1.67	0.019	0.032	
16:30	0.66	0.99	0.009	0.032	
16:45	0.55	0.57	0.004	0.032	
17:00	0.64	0.67	0.006	0.032	
17:15	0.64	0.64	0.005	0.032	
17:30	0.93	1.41	0.016	0.033	
17:45	2.10	2.44	0.156	0.034	
18:00	1.05	1.63	0.042	0.035	
18:15	0.64	0.73	0.006	0.035	
18:30	0.63	0.56	0.005	0.035	
18:45	0.75	0.62	0.007	0.035	
19:00	0.74	0.69	0.007	0.035	
19:15	1.02	1.19	0.022	0.035	
19:30	1.85	3.54	0.147	0.037	
19:45	0.85	1.00	0.014	0.037	
20:00	0.59	0.60	0.005	0.037	
20:15	0.55	0.67	0.005	0.037	
20:30	0.57	0.69	0.005	0.037	
20:45	0.57	0.49	0.004	0.037	
21:00	0.58	0.70	0.005	0.037	
21:15	0.57	0.70	0.005	0.037	
21:30	0.60	1.59	0.012	0.037	
21:45	1.36	1.79	0.059	0.038	
22:00	2.10	3.51	0.173	0.040	
22:15	0.80	1.00	0.013	0.040	
22:30	0.63	0.61	0.005	0.040	
22:45	0.57	0.47	0.003	0.040	
23:00	0.60	0.64	0.005	0.040	
23:15	0.58	0.71	0.005	0.040	
23:30	0.60	0.61	0.005	0.040	
23:45	0.58	0.59	0.004	0.040	
Daily Totals:				**0.040**	**0.80**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/17/2018					
0:00	0.60	0.63	0.005	0.000	
0:15	0.88	0.92	0.013	0.000	
0:30	1.17	2.42	0.060	0.001	
0:45	1.13	2.80	0.051	0.001	
1:00	2.43	3.06	0.187	0.003	
1:15	0.76	0.96	0.011	0.003	
1:30	0.76	0.85	0.009	0.004	
1:45	0.61	0.75	0.006	0.004	
2:00	0.55	0.55	0.004	0.004	
2:15	0.57	0.59	0.004	0.004	
2:30	0.59	0.71	0.005	0.004	
2:45	0.80	0.81	0.010	0.004	
3:00	1.58	2.65	0.119	0.005	
3:15	1.20	1.85	0.060	0.006	
3:30	0.60	0.67	0.005	0.006	
3:45	0.59	0.60	0.004	0.006	
4:00	0.55	0.69	0.005	0.006	
4:15	0.59	0.45	0.003	0.006	
4:30	0.54	0.50	0.003	0.006	
4:45	0.59	0.73	0.005	0.006	
5:00	0.51	0.60	0.004	0.006	
5:15	0.59	0.73	0.006	0.006	
5:30	0.64	0.59	0.005	0.006	
5:45	0.54	0.65	0.004	0.006	
6:00	0.91	1.44	0.016	0.006	
6:15	0.61	0.71	0.006	0.006	
6:30	0.59	0.73	0.006	0.006	
6:45	0.99	2.55	0.039	0.007	
7:00	1.74	3.30	0.127	0.008	
7:15	1.31	1.83	0.064	0.009	
7:30	0.64	0.59	0.005	0.009	
7:45	0.62	0.62	0.005	0.009	
8:00	0.56	0.67	0.005	0.009	
8:15	0.62	0.66	0.005	0.009	
8:30	0.59	0.72	0.005	0.009	
8:45	0.86	0.58	0.007	0.009	
9:00	0.60	0.65	0.005	0.009	
9:15	0.57	0.57	0.004	0.009	
9:30	0.60	0.74	0.006	0.009	
9:45	1.16	0.60	0.013	0.009	
10:00	1.52	2.55	0.105	0.011	
10:15	1.23	2.26	0.060	0.011	
10:30	0.62	0.69	0.006	0.011	
10:45	0.95	1.09	0.024	0.011	
11:00	1.48	0.77	0.022	0.012	
11:15	1.40	0.77	0.021	0.012	
11:30	1.06	0.92	0.017	0.012	
11:45	0.59	0.61	0.005	0.012	
12:00	0.62	0.59	0.005	0.012	
12:15	0.58	0.68	0.005	0.012	
12:30	0.62	0.54	0.004	0.012	
12:45	0.98	2.26	0.038	0.013	
13:00	1.04	3.46	0.066	0.013	
13:15	0.87	1.59	0.022	0.014	
13:30	0.61	0.53	0.004	0.014	
13:45	0.63	1.71	0.015	0.014	
14:00	1.93	2.29	0.114	0.015	
14:15	1.03	0.81	0.014	0.015	
14:30	0.61	0.65	0.005	0.015	
14:45	0.58	0.58	0.004	0.015	
15:00	0.60	0.48	0.004	0.015	
15:15	0.58	0.61	0.004	0.015	
15:30	0.60	1.45	0.011	0.015	
15:45	0.79	0.54	0.007	0.015	
16:00	0.84	1.83	0.019	0.016	
16:15	2.24	2.55	0.158	0.017	
16:30	0.68	0.79	0.008	0.017	
16:45	0.84	0.85	0.013	0.018	
17:00	0.62	0.51	0.004	0.018	
17:15	0.61	0.75	0.006	0.018	
17:30	0.61	0.55	0.004	0.018	
17:45	0.59	0.63	0.005	0.018	
18:00	0.61	0.61	0.005	0.018	
18:15	0.59	0.72	0.005	0.018	
18:30	0.55	0.67	0.005	0.018	
18:45	0.56	1.43	0.010	0.018	
19:00	0.98	0.67	0.012	0.018	
19:15	1.22	2.32	0.045	0.019	
19:30	1.72	2.65	0.117	0.020	
19:45	1.24	1.53	0.045	0.020	
20:00	0.62	0.62	0.005	0.020	
20:15	0.62	0.51	0.004	0.020	
20:30	0.62	0.52	0.004	0.020	
20:45	0.64	0.79	0.007	0.020	
21:00	1.06	1.51	0.047	0.021	
21:15	0.97	1.79	0.023	0.021	
21:30	2.07	2.54	0.143	0.023	
21:45	0.67	0.61	0.005	0.023	
22:00	0.55	0.48	0.003	0.023	
22:15	0.60	0.64	0.005	0.023	
22:30	0.60	0.47	0.004	0.023	
22:45	0.62	0.58	0.005	0.023	
23:00	0.58	0.59	0.004	0.023	
23:15	0.56	0.66	0.005	0.023	
23:30	0.85	0.71	0.010	0.023	
23:45	0.63	0.44	0.004	0.023	
Daily Totals:				**0.023**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/18/2018					
0:00	0.63	0.82	0.007	0.000	
0:15	0.86	0.88	0.012	0.000	
0:30	2.11	2.39	0.155	0.002	
0:45	1.02	0.71	0.014	0.002	
1:00	0.62	0.58	0.005	0.002	
1:15	0.83	2.27	0.037	0.002	
1:30	0.95	1.48	0.031	0.003	
1:45	0.86	0.97	0.013	0.003	
2:00	0.66	0.70	0.006	0.003	
2:15	0.66	0.75	0.007	0.003	
2:30	1.22	3.09	0.069	0.004	
2:45	0.55	1.35	0.012	0.004	
3:00	0.58	0.71	0.005	0.004	
3:15	0.57	0.56	0.004	0.004	
3:30	0.93	1.04	0.025	0.004	
3:45	1.04	1.55	0.023	0.004	
4:00	2.52	2.75	0.195	0.006	
4:15	0.68	0.75	0.007	0.007	
4:30	0.61	0.64	0.005	0.007	
4:45	0.60	0.61	0.005	0.007	
5:00	0.57	0.69	0.005	0.007	
5:15	0.60	0.74	0.006	0.007	
5:30	0.60	0.68	0.005	0.007	
5:45	0.60	0.42	0.003	0.007	
6:00	0.61	0.75	0.006	0.007	
6:15	0.63	0.62	0.005	0.007	
6:30	0.82	0.75	0.010	0.007	
6:45	0.61	0.66	0.005	0.007	
7:00	0.90	1.91	0.029	0.007	
7:15	0.86	1.95	0.023	0.008	
7:30	2.05	2.33	0.137	0.009	
7:45	0.69	0.58	0.006	0.009	
8:00	0.62	0.55	0.004	0.009	
8:15	0.63	0.77	0.006	0.009	
8:30	0.60	0.65	0.005	0.009	
8:45	0.54	0.65	0.004	0.009	
9:00	0.67	0.59	0.006	0.009	
9:15	0.65	0.53	0.005	0.009	
9:30	0.63	0.68	0.006	0.010	
9:45	0.59	0.62	0.005	0.010	
10:00	0.62	1.34	0.011	0.010	
10:15	0.92	0.93	0.014	0.010	
10:30	2.50	2.90	0.188	0.012	
10:45	0.75	0.79	0.009	0.012	
11:00	0.61	0.64	0.005	0.012	
11:15	0.62	0.57	0.005	0.012	
11:30	0.63	0.54	0.004	0.012	
11:45	0.94	1.06	0.020	0.012	
12:00	0.61	0.60	0.005	0.012	
12:15	0.57	0.69	0.005	0.012	
12:30	0.62	0.76	0.006	0.012	
12:45	0.60	0.78	0.006	0.012	
13:00	0.56	0.54	0.004	0.013	
13:15	0.61	0.75	0.006	0.013	
13:30	0.61	0.60	0.005	0.013	
13:45	0.59	0.72	0.005	0.013	
14:00	0.88	1.96	0.025	0.013	
14:15	2.48	3.28	0.215	0.015	
14:30	1.04	0.72	0.013	0.015	
14:45	0.63	0.74	0.006	0.015	
15:00	0.61	0.77	0.006	0.015	
15:15	0.59	0.51	0.004	0.015	
15:30	0.55	0.45	0.003	0.015	
15:45	0.62	0.56	0.005	0.016	
16:00	0.59	0.45	0.003	0.016	
16:15	0.57	0.52	0.004	0.016	
16:30	0.59	0.63	0.005	0.016	
16:45	0.58	0.62	0.005	0.016	
17:00	0.59	0.40	0.003	0.016	
17:15	1.05	1.63	0.031	0.016	
17:30	1.30	2.58	0.059	0.017	
17:45	2.22	2.65	0.172	0.018	
18:00	0.61	0.68	0.005	0.019	
18:15	0.62	0.65	0.005	0.019	
18:30	0.59	0.63	0.005	0.019	
18:45	0.58	0.70	0.005	0.019	
19:00	0.61	0.75	0.006	0.019	
19:15	0.60	0.73	0.006	0.019	
19:30	0.60	0.63	0.005	0.019	
19:45	0.53	0.43	0.003	0.019	
20:00	0.52	0.61	0.004	0.019	
20:15	0.82	1.03	0.014	0.019	
20:30	0.60	0.73	0.006	0.019	
20:45	0.54	0.65	0.004	0.019	
21:00	1.05	1.47	0.019	0.019	
21:15	1.67	2.67	0.116	0.021	
21:30	1.34	1.55	0.054	0.021	
21:45	0.62	0.59	0.005	0.021	
22:00	0.61	0.75	0.006	0.021	
22:15	0.62	0.40	0.003	0.021	
22:30	0.60	0.63	0.005	0.021	
22:45	0.57	0.61	0.004	0.021	
23:00	0.72	0.75	0.008	0.021	
23:15	0.65	0.74	0.006	0.022	
23:30	0.59	0.56	0.004	0.022	
23:45	0.55	1.54	0.010	0.022	
Daily Totals:				**0.022**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/19/2018					
0:00	1.24	1.94	0.050	0.001	
0:15	0.68	1.49	0.013	0.001	
0:30	1.16	2.02	0.042	0.001	
0:45	2.03	3.23	0.152	0.003	
1:00	1.13	2.42	0.048	0.003	
1:15	0.95	1.37	0.031	0.004	
1:30	0.64	0.69	0.006	0.004	
1:45	0.58	0.71	0.005	0.004	
2:00	0.58	0.70	0.005	0.004	
2:15	0.84	0.74	0.011	0.004	
2:30	0.61	0.60	0.005	0.004	
2:45	0.58	0.57	0.004	0.004	
3:00	0.55	0.66	0.004	0.004	
3:15	0.88	1.60	0.018	0.004	
3:30	2.61	2.49	0.194	0.006	
3:45	0.70	0.64	0.006	0.006	
4:00	0.64	0.70	0.006	0.006	
4:15	0.59	0.50	0.004	0.006	
4:30	0.61	0.52	0.004	0.006	
4:45	0.60	0.52	0.004	0.006	
5:00	0.58	0.71	0.005	0.006	
5:15	0.60	0.72	0.006	0.007	
5:30	0.79	0.63	0.007	0.007	
5:45	0.56	0.56	0.004	0.007	
6:00	0.59	0.72	0.005	0.007	
6:15	0.62	0.71	0.006	0.007	
6:30	0.62	0.43	0.003	0.007	
6:45	1.55	2.47	0.086	0.008	
7:00	1.97	2.88	0.140	0.009	
7:15	1.94	2.25	0.125	0.010	
7:30	0.86	0.67	0.009	0.011	
7:45	0.70	0.88	0.008	0.011	
8:00	0.77	0.82	0.009	0.011	
8:15	0.63	1.48	0.013	0.011	
8:30	1.17	1.97	0.046	0.011	
8:45	1.96	2.41	0.115	0.013	
9:00	2.43	2.94	0.200	0.015	
9:15	1.10	2.01	0.047	0.015	
9:30	0.68	0.79	0.007	0.015	
9:45	1.24	3.02	0.070	0.016	
10:00	1.80	3.00	0.131	0.017	
10:15	1.74	2.35	0.104	0.018	
10:30	0.73	0.94	0.010	0.018	
10:45	0.97	1.69	0.029	0.019	
11:00	1.38	2.13	0.061	0.019	
11:15	1.66	2.59	0.110	0.021	
11:30	1.17	1.83	0.047	0.021	
11:45	0.94	1.25	0.021	0.021	
12:00	0.81	1.66	0.020	0.021	
12:15	1.39	2.33	0.060	0.022	
12:30	2.28	3.51	0.191	0.024	
12:45	0.95	1.66	0.021	0.024	
13:00	1.59	2.07	0.068	0.025	
13:15	2.56	2.53	0.187	0.027	
13:30	1.03	1.98	0.031	0.027	
13:45	1.15	2.00	0.041	0.028	
14:00	2.43	2.53	0.195	0.030	
14:15	1.18	1.38	0.036	0.030	
14:30	0.67	0.82	0.007	0.030	
14:45	0.85	2.19	0.030	0.030	
15:00	1.66	2.23	0.114	0.032	
15:15	1.77	2.17	0.107	0.033	
15:30	0.76	1.55	0.016	0.033	
15:45	1.13	1.47	0.035	0.033	
16:00	1.95	3.25	0.142	0.035	
16:15	1.15	2.20	0.045	0.035	
16:30	0.69	0.77	0.007	0.035	
16:45	0.69	1.24	0.012	0.035	
17:00	1.13	1.65	0.028	0.036	
17:15	2.16	2.51	0.170	0.038	
17:30	0.98	1.09	0.022	0.038	
17:45	0.64	0.59	0.005	0.038	
18:00	0.56	0.55	0.004	0.038	
18:15	0.60	0.52	0.004	0.038	
18:30	0.52	0.62	0.004	0.038	
18:45	0.53	0.48	0.003	0.038	
19:00	0.53	0.64	0.004	0.038	
19:15	0.58	0.59	0.004	0.038	
19:30	0.83	2.02	0.033	0.038	
19:45	1.44	1.83	0.055	0.039	
20:00	2.06	3.24	0.155	0.041	
20:15	0.82	0.68	0.009	0.041	
20:30	0.62	0.53	0.004	0.041	
20:45	0.54	0.65	0.004	0.041	
21:00	0.55	0.60	0.004	0.041	
21:15	0.60	0.47	0.004	0.041	
21:30	0.58	0.65	0.005	0.041	
21:45	0.59	0.45	0.003	0.041	
22:00	0.60	0.46	0.004	0.041	
22:15	0.55	0.67	0.005	0.041	
22:30	1.08	2.12	0.039	0.041	
22:45	1.63	2.61	0.118	0.043	
23:00	1.33	1.59	0.056	0.043	
23:15	0.79	0.66	0.008	0.043	
23:30	0.59	0.65	0.005	0.043	
23:45	0.58	0.70	0.005	0.043	
Daily Totals:				**0.043**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/20/2018					
0:00	0.58	0.71	0.005	0.000	
0:15	0.56	0.68	0.005	0.000	
0:30	0.58	0.33	0.002	0.000	
0:45	0.59	0.51	0.004	0.000	
1:00	0.56	0.34	0.002	0.000	
1:15	0.58	0.70	0.005	0.000	
1:30	0.56	0.68	0.005	0.000	
1:45	0.84	0.75	0.010	0.000	
2:00	2.03	2.46	0.144	0.002	
2:15	1.05	0.68	0.013	0.002	
2:30	0.59	0.55	0.004	0.002	
2:45	0.61	0.58	0.004	0.002	
3:00	0.98	1.18	0.022	0.002	
3:15	0.58	0.55	0.004	0.002	
3:30	0.58	0.61	0.004	0.002	
3:45	0.58	0.49	0.004	0.002	
4:00	0.57	0.69	0.005	0.003	
4:15	0.58	0.70	0.005	0.003	
4:30	2.00	3.26	0.149	0.004	
4:45	0.82	0.81	0.010	0.004	
5:00	0.58	0.59	0.004	0.004	
5:15	0.60	0.61	0.005	0.004	
5:30	0.60	0.73	0.006	0.004	
5:45	0.56	0.68	0.005	0.004	
6:00	0.56	0.67	0.005	0.004	
6:15	0.65	0.76	0.007	0.005	
6:30	0.62	0.76	0.006	0.005	
6:45	0.95	1.49	0.031	0.005	
7:00	0.63	0.75	0.006	0.005	
7:15	0.67	0.76	0.007	0.005	
7:30	0.68	0.62	0.006	0.005	
7:45	0.67	0.78	0.007	0.005	
8:00	1.54	2.53	0.103	0.006	
8:15	1.28	2.52	0.059	0.007	
8:30	2.18	2.78	0.157	0.009	
8:45	0.92	1.21	0.020	0.009	
9:00	0.96	1.35	0.023	0.009	
9:15	0.96	1.83	0.027	0.009	
9:30	2.50	3.32	0.211	0.011	
9:45	1.04	1.33	0.027	0.012	
10:00	0.88	1.80	0.025	0.012	
10:15	0.74	0.86	0.009	0.012	
10:30	0.96	1.71	0.024	0.012	
10:45	0.94	2.09	0.032	0.013	
11:00	1.16	1.91	0.062	0.013	
11:15	2.04	2.88	0.141	0.015	
11:30	0.93	1.01	0.015	0.015	
11:45	0.75	0.91	0.010	0.015	
12:00	1.25	2.76	0.064	0.016	
12:15	1.65	2.76	0.117	0.017	
12:30	1.54	1.79	0.074	0.018	
12:45	0.76	1.01	0.011	0.018	
13:00	0.67	1.41	0.013	0.018	
13:15	1.08	1.01	0.020	0.018	
13:30	0.92	1.59	0.027	0.018	
13:45	2.54	3.37	0.222	0.021	
14:00	0.76	1.21	0.014	0.021	
14:15	0.70	0.80	0.008	0.021	
14:30	0.92	1.44	0.030	0.021	
14:45	2.53	3.29	0.214	0.024	
15:00	0.82	1.64	0.021	0.024	
15:15	0.82	0.87	0.010	0.024	
15:30	0.73	1.48	0.015	0.024	
15:45	1.09	2.10	0.051	0.025	
16:00	1.62	1.87	0.115	0.026	
16:15	1.10	2.31	0.050	0.026	
16:30	0.76	0.80	0.009	0.026	
16:45	0.60	0.69	0.006	0.026	
17:00	0.60	0.73	0.006	0.026	
17:15	0.95	1.63	0.034	0.027	
17:30	0.56	0.59	0.004	0.027	
17:45	0.66	0.83	0.008	0.027	
18:00	1.53	1.70	0.114	0.028	
18:15	1.23	1.68	0.054	0.029	
18:30	0.60	0.63	0.005	0.029	
18:45	0.54	0.53	0.003	0.029	
19:00	0.54	0.54	0.004	0.029	
19:15	0.54	0.46	0.003	0.029	
19:30	0.48	0.39	0.002	0.029	
19:45	0.56	0.68	0.005	0.029	
20:00	0.55	0.69	0.005	0.029	
20:15	0.54	0.66	0.004	0.029	
20:30	0.53	0.64	0.004	0.029	
20:45	0.50	0.60	0.004	0.029	
21:00	0.66	0.81	0.008	0.029	
21:15	1.44	2.03	0.080	0.030	
21:30	1.69	2.10	0.107	0.031	
21:45	0.46	0.61	0.003	0.031	
22:00	0.57	0.52	0.004	0.031	
22:15	0.92	0.71	0.010	0.031	
22:30	0.67	0.69	0.006	0.031	
22:45	0.70	0.81	0.008	0.031	
23:00	0.66	0.72	0.006	0.032	
23:15	0.87	1.05	0.016	0.032	
23:30	0.61	0.61	0.005	0.032	
23:45	0.44	0.50	0.002	0.032	
Daily Totals:				**0.032**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/21/2018					
0:00	0.53	0.55	0.004	0.000	
0:15	0.54	0.56	0.004	0.000	
0:30	0.68	0.48	0.005	0.000	
0:45	1.56	1.74	0.104	0.001	
1:00	1.73	2.17	0.114	0.002	
1:15	0.61	0.57	0.005	0.002	
1:30	0.75	0.94	0.013	0.003	
1:45	0.60	0.73	0.006	0.003	
2:00	0.55	0.45	0.003	0.003	
2:15	0.55	0.45	0.003	0.003	
2:30	0.54	0.64	0.004	0.003	
2:45	0.54	0.44	0.003	0.003	
3:00	0.52	0.53	0.003	0.003	
3:15	0.53	0.45	0.003	0.003	
3:30	0.54	0.56	0.004	0.003	
3:45	0.52	0.55	0.003	0.003	
4:00	0.55	0.49	0.003	0.003	
4:15	0.51	0.35	0.002	0.003	
4:30	0.53	0.34	0.002	0.003	
4:45	1.17	1.87	0.042	0.003	
5:00	1.81	3.36	0.143	0.005	
5:15	0.74	0.83	0.009	0.005	
5:30	0.58	0.62	0.004	0.005	
5:45	0.56	0.67	0.005	0.005	
6:00	0.77	0.65	0.007	0.005	
6:15	0.54	0.59	0.004	0.005	
6:30	0.53	0.55	0.003	0.005	
6:45	0.57	0.62	0.004	0.005	
7:00	0.54	0.60	0.004	0.005	
7:15	0.54	0.60	0.004	0.005	
7:30	0.63	0.69	0.006	0.005	
7:45	1.15	1.73	0.053	0.006	
8:00	0.72	0.78	0.008	0.006	
8:15	0.73	0.80	0.008	0.006	
8:30	0.91	1.62	0.032	0.007	
8:45	2.48	3.12	0.234	0.009	
9:00	1.33	2.25	0.072	0.010	
9:15	0.65	0.87	0.008	0.010	
9:30	0.80	1.81	0.023	0.010	
9:45	0.61	0.66	0.006	0.010	
10:00	0.68	0.73	0.007	0.010	
10:15	0.57	0.69	0.005	0.010	
10:30	0.68	0.78	0.007	0.010	
10:45	1.17	2.18	0.043	0.011	
11:00	0.87	1.77	0.024	0.011	
11:15	2.26	2.50	0.174	0.013	
11:30	0.99	2.05	0.039	0.013	
11:45	0.70	0.86	0.008	0.013	
12:00	0.72	0.87	0.009	0.013	
12:15	0.67	0.83	0.008	0.013	
12:30	0.93	1.69	0.034	0.014	
12:45	0.79	1.56	0.025	0.014	
13:00	0.93	2.07	0.032	0.014	
13:15	2.37	3.38	0.205	0.017	
13:30	0.78	0.93	0.011	0.017	
13:45	0.63	0.72	0.006	0.017	
14:00	0.60	0.72	0.006	0.017	
14:15	0.70	0.84	0.008	0.017	
14:30	0.58	0.67	0.005	0.017	
14:45	0.72	1.34	0.015	0.017	
15:00	1.10	1.75	0.042	0.017	
15:15	1.84	3.34	0.148	0.019	
15:30	0.70	0.83	0.008	0.019	
15:45	0.56	0.60	0.004	0.019	
16:00	0.62	0.73	0.006	0.019	
16:15	1.00	1.98	0.043	0.020	
16:30	0.81	1.08	0.013	0.020	
16:45	0.63	0.70	0.006	0.020	
17:00	0.56	0.66	0.005	0.020	
17:15	0.56	0.57	0.004	0.020	
17:30	0.54	0.62	0.004	0.020	
17:45	0.51	0.44	0.003	0.020	
18:00	0.51	0.61	0.004	0.020	
18:15	0.80	0.97	0.018	0.020	
18:30	1.47	1.71	0.097	0.021	
18:45	1.35	1.52	0.060	0.022	
19:00	0.57	0.60	0.004	0.022	
19:15	0.52	0.62	0.004	0.022	
19:30	0.47	0.44	0.003	0.022	
19:45	0.53	0.42	0.003	0.022	
20:00	0.50	0.58	0.003	0.022	
20:15	0.56	0.67	0.005	0.022	
20:30	0.53	0.53	0.003	0.022	
20:45	0.53	0.42	0.003	0.022	
21:00	0.52	0.62	0.004	0.022	
21:15	0.78	0.58	0.007	0.022	
21:30	0.58	0.59	0.004	0.022	
21:45	0.51	0.50	0.003	0.022	
22:00	0.50	0.42	0.002	0.022	
22:15	0.52	0.52	0.003	0.022	
22:30	1.10	2.38	0.057	0.023	
22:45	0.64	0.68	0.006	0.023	
23:00	0.60	0.67	0.005	0.023	
23:15	0.61	0.70	0.006	0.023	
23:30	0.80	1.48	0.026	0.023	
23:45	0.72	1.41	0.027	0.024	
Daily Totals:				**0.024**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/22/2018					
0:00	0.53	0.57	0.003	0.000	
0:15	0.64	0.73	0.007	0.000	
0:30	1.20	2.70	0.062	0.001	
0:45	0.62	0.63	0.005	0.001	
1:00	0.57	0.64	0.005	0.001	
1:15	0.51	0.34	0.002	0.001	
1:30	0.51	0.60	0.004	0.001	
1:45	0.48	0.49	0.003	0.001	
2:00	0.50	0.56	0.003	0.001	
2:15	0.48	0.43	0.003	0.001	
2:30	0.91	1.41	0.028	0.001	
2:45	0.48	0.51	0.003	0.001	
3:00	0.54	0.58	0.004	0.001	
3:15	0.47	0.48	0.003	0.001	
3:30	0.52	0.44	0.003	0.001	
3:45	0.51	0.43	0.003	0.001	
4:00	0.45	0.33	0.002	0.001	
4:15	0.55	0.56	0.004	0.002	
4:30	0.50	0.35	0.002	0.002	
4:45	0.53	0.42	0.003	0.002	
5:00	0.51	0.46	0.003	0.002	
5:15	0.50	0.44	0.003	0.002	
5:30	0.49	0.40	0.002	0.002	
5:45	0.48	0.43	0.002	0.002	
6:00	0.50	0.60	0.004	0.002	
6:15	0.51	0.50	0.003	0.002	
6:30	0.49	0.52	0.003	0.002	
6:45	0.92	1.33	0.025	0.002	
7:00	1.39	1.61	0.093	0.003	
7:15	1.59	1.99	0.089	0.004	
7:30	0.63	0.67	0.006	0.004	
7:45	0.52	0.66	0.004	0.004	
8:00	0.75	0.87	0.011	0.004	
8:15	0.55	0.49	0.003	0.004	
8:30	1.97	2.53	0.157	0.006	
8:45	0.82	0.56	0.007	0.006	
9:00	0.51	0.53	0.003	0.006	
9:15	0.45	0.47	0.002	0.006	
9:30	0.55	0.53	0.004	0.006	
9:45	0.48	0.56	0.003	0.006	
10:00	0.51	0.43	0.003	0.006	
10:15	0.51	0.52	0.003	0.006	
10:30	0.54	0.45	0.003	0.006	
10:45	0.45	0.50	0.003	0.006	
11:00	0.49	0.54	0.003	0.006	
11:15	0.53	0.56	0.004	0.006	
11:30	0.49	0.54	0.003	0.006	
11:45	0.50	0.46	0.003	0.006	
12:00	0.50	0.49	0.003	0.006	
12:15	0.53	0.52	0.003	0.006	
12:30	0.43	0.46	0.002	0.006	
12:45	0.51	0.52	0.003	0.006	
13:00	0.51	0.52	0.003	0.006	
13:15	0.48	0.41	0.002	0.006	
13:30	0.49	0.42	0.002	0.006	
13:45	0.71	0.83	0.010	0.007	
14:00	0.51	0.54	0.003	0.007	
14:15	0.49	0.38	0.002	0.007	
14:30	0.45	0.49	0.003	0.007	
14:45	0.53	0.55	0.004	0.007	
15:00	0.50	0.44	0.003	0.007	
15:15	1.82	2.45	0.144	0.008	
15:30	0.75	0.88	0.010	0.008	
15:45	0.50	0.66	0.004	0.008	
16:00	0.53	0.55	0.004	0.008	
16:15	0.52	0.53	0.003	0.008	
16:30	0.98	1.52	0.038	0.009	
16:45	0.50	0.52	0.003	0.009	
17:00	0.54	0.65	0.004	0.009	
17:15	0.49	0.43	0.002	0.009	
17:30	0.49	0.35	0.002	0.009	
17:45	0.53	0.43	0.003	0.009	
18:00	0.48	0.57	0.003	0.009	
18:15	0.43	0.47	0.002	0.009	
18:30	0.54	0.44	0.003	0.009	
18:45	0.52	0.45	0.003	0.009	
19:00	0.49	0.51	0.003	0.009	
19:15	0.52	0.42	0.003	0.009	
19:30	0.50	0.39	0.002	0.009	
19:45	0.76	0.93	0.011	0.009	
20:00	0.54	0.59	0.004	0.009	
20:15	0.53	0.43	0.003	0.009	
20:30	0.50	0.44	0.003	0.009	
20:45	0.51	0.35	0.002	0.009	
21:00	0.51	0.44	0.003	0.009	
21:15	0.51	0.53	0.003	0.009	
21:30	0.85	0.91	0.017	0.010	
21:45	1.44	2.56	0.110	0.011	
22:00	0.98	1.53	0.034	0.011	
22:15	0.58	0.66	0.005	0.011	
22:30	0.51	0.43	0.003	0.011	
22:45	0.54	0.64	0.004	0.011	
23:00	0.53	0.41	0.003	0.011	
23:15	0.54	0.55	0.004	0.011	
23:30	0.53	0.47	0.003	0.011	
23:45	0.53	0.46	0.003	0.011	
Daily Totals:				**0.011**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/23/2018					
0:00	0.54	0.49	0.003	0.000	
0:15	0.71	0.72	0.006	0.000	
0:30	0.60	0.67	0.005	0.000	
0:45	0.87	1.34	0.029	0.000	
1:00	1.59	1.78	0.115	0.002	
1:15	1.30	1.76	0.061	0.002	
1:30	0.72	0.73	0.008	0.002	
1:45	0.58	0.66	0.005	0.002	
2:00	0.68	0.60	0.005	0.002	
2:15	0.51	0.46	0.003	0.003	
2:30	0.57	0.56	0.004	0.003	
2:45	0.50	0.51	0.003	0.003	
3:00	1.19	1.67	0.060	0.003	
3:15	0.47	0.42	0.002	0.003	
3:30	0.52	0.62	0.004	0.003	
3:45	0.54	0.55	0.004	0.003	
4:00	0.57	0.54	0.004	0.003	
4:15	0.52	0.42	0.003	0.003	
4:30	0.52	0.53	0.003	0.003	
4:45	0.52	0.48	0.003	0.003	
5:00	0.49	0.58	0.003	0.003	
5:15	0.53	0.54	0.003	0.004	
5:30	0.54	0.62	0.004	0.004	
5:45	0.52	0.45	0.003	0.004	
6:00	0.57	0.62	0.004	0.004	
6:15	0.60	0.60	0.005	0.004	
6:30	0.59	0.66	0.005	0.004	
6:45	0.58	0.64	0.005	0.004	
7:00	0.60	0.67	0.005	0.004	
7:15	0.58	0.62	0.005	0.004	
7:30	0.56	0.67	0.005	0.004	
7:45	0.57	0.65	0.005	0.004	
8:00	0.59	0.45	0.003	0.004	
8:15	0.55	0.65	0.004	0.004	
8:30	0.90	0.68	0.010	0.004	
8:45	0.59	0.58	0.004	0.004	
9:00	1.74	2.71	0.138	0.006	
9:15	0.69	0.74	0.007	0.006	
9:30	0.58	0.70	0.005	0.006	
9:45	0.57	0.69	0.005	0.006	
10:00	0.55	0.73	0.005	0.006	
10:15	0.52	0.56	0.004	0.006	
10:30	0.57	0.61	0.004	0.006	
10:45	0.72	0.90	0.012	0.006	
11:00	1.47	1.77	0.104	0.007	
11:15	0.99	1.57	0.034	0.008	
11:30	0.56	0.62	0.004	0.008	
11:45	0.56	0.64	0.004	0.008	
12:00	0.58	0.61	0.004	0.008	
12:15	0.61	0.66	0.005	0.008	
12:30	0.55	0.63	0.004	0.008	
12:45	0.52	0.62	0.004	0.008	
13:00	0.47	0.55	0.003	0.008	
13:15	0.50	0.64	0.004	0.008	
13:30	0.53	0.61	0.004	0.008	
13:45	0.51	0.55	0.003	0.008	
14:00	0.51	0.53	0.003	0.008	
14:15	2.35	2.62	0.209	0.010	
14:30	0.90	1.46	0.032	0.010	
14:45	0.58	0.71	0.005	0.011	
15:00	0.48	0.52	0.003	0.011	
15:15	0.49	0.51	0.003	0.011	
15:30	0.55	0.67	0.005	0.011	
15:45	0.51	0.57	0.003	0.011	
16:00	0.48	0.57	0.003	0.011	
16:15	0.52	0.62	0.004	0.011	
16:30	0.47	0.48	0.003	0.011	
16:45	0.49	0.53	0.003	0.011	
17:00	0.55	0.59	0.004	0.011	
17:15	0.55	0.67	0.005	0.011	
17:30	0.50	0.59	0.003	0.011	
17:45	0.54	0.65	0.004	0.011	
18:00	0.52	0.62	0.004	0.011	
18:15	0.48	0.57	0.003	0.011	
18:30	0.54	0.62	0.004	0.011	
18:45	0.48	0.56	0.003	0.011	
19:00	0.50	0.54	0.003	0.011	
19:15	0.48	0.56	0.003	0.011	
19:30	0.46	0.41	0.002	0.011	
19:45	0.53	0.56	0.004	0.011	
20:00	0.50	0.46	0.003	0.011	
20:15	0.49	0.57	0.003	0.011	
20:30	0.49	0.50	0.003	0.011	
20:45	0.76	0.48	0.005	0.011	
21:00	0.59	0.60	0.004	0.011	
21:15	0.51	0.60	0.004	0.011	
21:30	0.50	0.59	0.003	0.012	
21:45	0.50	0.45	0.003	0.012	
22:00	0.50	0.60	0.004	0.012	
22:15	0.71	0.55	0.005	0.012	
22:30	1.46	1.72	0.113	0.013	
22:45	1.14	1.68	0.055	0.013	
23:00	0.59	0.61	0.005	0.013	
23:15	0.53	0.57	0.004	0.013	
23:30	0.52	0.35	0.002	0.014	
23:45	0.49	0.48	0.003	0.014	
Daily Totals:				**0.014**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/24/2018					
0:00	0.49	0.44	0.002	0.000	
0:15	0.50	0.51	0.003	0.000	
0:30	0.49	0.50	0.003	0.000	
0:45	0.49	0.58	0.003	0.000	
1:00	0.49	0.50	0.003	0.000	
1:15	0.77	1.35	0.027	0.000	
1:30	1.15	2.24	0.055	0.001	
1:45	0.88	1.55	0.029	0.001	
2:00	2.28	3.34	0.194	0.003	
2:15	0.71	0.81	0.008	0.003	
2:30	1.06	2.42	0.051	0.004	
2:45	0.66	0.93	0.011	0.004	
3:00	0.52	0.67	0.004	0.004	
3:15	0.49	0.42	0.002	0.004	
3:30	0.49	0.43	0.002	0.004	
3:45	0.47	0.51	0.003	0.004	
4:00	0.81	1.55	0.022	0.004	
4:15	0.55	0.58	0.004	0.004	
4:30	0.44	0.41	0.002	0.004	
4:45	0.50	0.53	0.003	0.005	
5:00	0.50	0.51	0.003	0.005	
5:15	0.49	0.40	0.002	0.005	
5:30	0.53	0.55	0.003	0.005	
5:45	0.51	0.54	0.003	0.005	
6:00	0.50	0.58	0.003	0.005	
6:15	0.53	0.54	0.003	0.005	
6:30	0.49	0.52	0.003	0.005	
6:45	0.45	0.52	0.003	0.005	
7:00	0.57	0.56	0.004	0.005	
7:15	0.52	0.51	0.003	0.005	
7:30	0.49	0.58	0.003	0.005	
7:45	0.45	0.41	0.002	0.005	
8:00	0.54	0.63	0.004	0.005	
8:15	0.51	0.54	0.003	0.005	
8:30	0.48	0.49	0.003	0.005	
8:45	0.48	0.56	0.003	0.005	
9:00	0.48	0.50	0.003	0.005	
9:15	0.50	0.48	0.003	0.005	
9:30	0.67	0.48	0.004	0.005	
9:45	0.54	0.59	0.004	0.005	
10:00	0.49	0.54	0.003	0.005	
10:15	0.99	1.46	0.040	0.006	
10:30	0.53	0.64	0.004	0.006	
10:45	1.43	1.62	0.113	0.007	
11:00	1.43	1.81	0.076	0.008	
11:15	0.58	0.61	0.005	0.008	
11:30	0.51	0.60	0.004	0.008	
11:45	0.53	0.49	0.003	0.008	
12:00	0.57	0.68	0.005	0.008	
12:15	0.57	0.63	0.004	0.008	
12:30	0.46	0.56	0.003	0.008	
12:45	0.48	0.45	0.003	0.008	
13:00	0.49	0.58	0.003	0.008	
13:15	0.51	0.43	0.003	0.008	
13:30	0.54	0.64	0.004	0.008	
13:45	0.50	0.37	0.002	0.008	
14:00	0.51	0.61	0.004	0.008	
14:15	0.53	0.54	0.003	0.008	
14:30	0.52	0.43	0.003	0.008	
14:45	0.51	0.47	0.003	0.008	
15:00	0.49	0.51	0.003	0.008	
15:15	0.50	0.59	0.004	0.008	
15:30	0.55	0.66	0.004	0.008	
15:45	0.48	0.49	0.003	0.008	
16:00	0.53	0.38	0.002	0.008	
16:15	0.52	0.45	0.003	0.008	
16:30	0.52	0.58	0.004	0.008	
16:45	0.51	0.52	0.003	0.008	
17:00	0.76	0.55	0.006	0.009	
17:15	0.47	0.47	0.002	0.009	
17:30	0.52	0.45	0.003	0.009	
17:45	1.89	2.55	0.147	0.010	
18:00	0.57	0.56	0.004	0.010	
18:15	0.56	0.68	0.005	0.010	
18:30	0.50	0.47	0.003	0.010	
18:45	0.50	0.50	0.003	0.010	
19:00	0.51	0.53	0.003	0.010	
19:15	0.56	0.38	0.003	0.010	
19:30	1.80	2.49	0.132	0.012	
19:45	0.58	0.67	0.005	0.012	
20:00	0.48	1.44	0.006	0.012	0.01
20:15	1.58	1.92	0.094	0.013	
20:30	0.58	0.65	0.005	0.013	0.02
20:45	0.53	0.58	0.004	0.013	0.03
21:00	0.47	0.49	0.003	0.013	0.04
21:15	1.67	2.48	0.113	0.014	0.05
21:30	0.57	0.69	0.005	0.014	0.05
21:45	2.94	3.54	0.270	0.017	0.05
22:00	1.05	0.88	0.016	0.017	0.05
22:15	0.56	0.67	0.005	0.017	0.07
22:30	0.55	0.62	0.004	0.017	0.07
22:45	0.79	1.38	0.028	0.017	0.08
23:00	1.81	2.58	0.122	0.019	0.11
23:15	0.72	0.75	0.008	0.019	0.09
23:30	2.30	2.58	0.202	0.021	0.07
23:45	1.81	2.54	0.129	0.022	0.03
Daily Totals:				**0.022**	**0.82**

Data reported every: 15 Minutes

Daily Flow Report

FLOW ASSESSMENT SERVICES

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/25/2018					
0:00	1.26	2.87	0.070	0.001	
0:15	0.65	0.81	0.007	0.001	0.01
0:30	0.89	1.44	0.031	0.001	0.02
0:45	2.40	3.32	0.194	0.003	
1:00	1.78	2.27	0.143	0.005	0.01
1:15	2.60	3.02	0.225	0.007	0.03
1:30	0.66	0.72	0.007	0.007	0.06
1:45	0.58	0.68	0.005	0.007	0.05
2:00	0.87	1.66	0.025	0.007	0.04
2:15	0.58	0.64	0.005	0.007	0.04
2:30	1.85	2.67	0.132	0.009	0.04
2:45	2.66	3.42	0.226	0.011	0.02
3:00	0.79	0.95	0.012	0.011	
3:15	1.29	1.60	0.085	0.012	0.01
3:30	3.17	3.62	0.301	0.015	
3:45	0.98	1.16	0.023	0.016	
4:00	0.57	0.62	0.005	0.016	
4:15	0.46	0.53	0.003	0.016	
4:30	0.56	0.62	0.004	0.016	
4:45	0.56	0.68	0.005	0.016	
5:00	1.90	2.61	0.137	0.017	
5:15	2.00	2.72	0.145	0.019	
5:30	0.98	0.79	0.013	0.019	
5:45	2.37	2.52	0.206	0.021	
6:00	2.01	2.71	0.153	0.023	
6:15	0.60	0.70	0.005	0.023	
6:30	0.53	0.57	0.004	0.023	
6:45	0.53	0.49	0.003	0.023	
7:00	0.58	0.63	0.005	0.023	
7:15	0.90	0.80	0.015	0.023	
7:30	2.26	2.71	0.186	0.025	
7:45	1.10	1.59	0.042	0.025	
8:00	0.58	0.61	0.004	0.025	
8:15	3.32	3.68	0.326	0.029	
8:30	1.38	1.80	0.072	0.029	
8:45	0.57	0.65	0.005	0.029	
9:00	0.58	0.65	0.005	0.030	
9:15	0.50	0.59	0.004	0.030	
9:30	0.53	0.59	0.004	0.030	
9:45	0.88	1.38	0.035	0.030	
10:00	2.26	2.57	0.173	0.032	
10:15	1.11	1.56	0.045	0.032	
10:30	2.37	2.59	0.211	0.034	
10:45	2.24	2.85	0.185	0.036	
11:00	0.59	0.66	0.005	0.036	
11:15	0.56	0.61	0.004	0.036	
11:30	0.49	0.57	0.003	0.037	
11:45	0.50	0.48	0.003	0.037	
12:00	2.17	2.68	0.153	0.038	
12:15	0.78	0.68	0.008	0.038	
12:30	0.54	0.61	0.004	0.038	
12:45	3.09	3.56	0.286	0.041	
13:00	0.83	1.14	0.020	0.041	
13:15	0.63	0.78	0.008	0.042	
13:30	0.59	0.76	0.006	0.042	
13:45	0.55	0.66	0.005	0.042	
14:00	0.67	1.39	0.018	0.042	
14:15	2.21	2.77	0.173	0.044	
14:30	0.83	0.96	0.015	0.044	
14:45	2.37	2.58	0.212	0.046	
15:00	2.25	2.73	0.174	0.048	
15:15	0.58	0.63	0.005	0.048	
15:30	0.58	0.70	0.005	0.048	
15:45	0.70	0.78	0.008	0.048	
16:00	0.60	1.46	0.011	0.048	
16:15	2.14	2.70	0.157	0.050	
16:30	1.25	1.62	0.062	0.050	
16:45	2.41	2.66	0.209	0.053	
17:00	1.95	2.24	0.135	0.054	
17:15	0.66	0.56	0.005	0.054	
17:30	0.60	0.68	0.005	0.054	
17:45	0.54	0.54	0.004	0.054	
18:00	0.57	0.65	0.005	0.054	
18:15	1.15	1.54	0.042	0.055	
18:30	2.07	2.58	0.149	0.056	
18:45	0.81	0.79	0.010	0.056	
19:00	2.73	3.66	0.253	0.059	
19:15	1.49	1.79	0.079	0.060	
19:30	0.68	0.80	0.007	0.060	
19:45	0.58	0.67	0.005	0.060	
20:00	0.53	0.69	0.004	0.060	
20:15	0.55	0.56	0.004	0.060	
20:30	0.91	0.72	0.014	0.060	
20:45	1.95	2.37	0.131	0.061	
21:00	1.04	1.17	0.021	0.062	
21:15	0.67	0.74	0.007	0.062	
21:30	3.23	3.55	0.304	0.065	
21:45	1.34	1.55	0.055	0.065	
22:00	0.72	0.70	0.007	0.066	
22:15	0.55	0.69	0.005	0.066	
22:30	0.58	0.67	0.005	0.066	
22:45	0.44	0.41	0.002	0.066	
23:00	0.56	0.62	0.004	0.066	
23:15	2.28	2.67	0.167	0.067	
23:30	1.08	1.27	0.031	0.068	
23:45	0.78	1.37	0.016	0.068	
Daily Totals:				**0.068**	**0.33**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/26/2018					
0:00	3.25	3.64	0.313	0.003	
0:15	1.08	0.97	0.020	0.003	
0:30	0.65	0.73	0.006	0.004	
0:45	0.66	0.80	0.007	0.004	
1:00	0.69	0.78	0.007	0.004	
1:15	0.67	0.55	0.005	0.004	
1:30	1.55	1.80	0.085	0.005	
1:45	1.98	2.26	0.125	0.006	
2:00	0.76	0.75	0.008	0.006	
2:15	1.20	1.69	0.065	0.007	
2:30	3.07	3.56	0.286	0.010	
2:45	1.02	0.86	0.014	0.010	
3:00	0.87	0.84	0.012	0.010	
3:15	0.62	0.70	0.006	0.010	
3:30	0.57	0.69	0.005	0.010	
3:45	0.50	0.56	0.003	0.010	
4:00	1.05	1.27	0.027	0.010	
4:15	1.86	2.30	0.115	0.012	
4:30	0.70	0.62	0.006	0.012	
4:45	2.35	3.23	0.200	0.014	
5:00	1.60	1.72	0.084	0.015	
5:15	0.72	0.68	0.007	0.015	
5:30	0.60	0.51	0.004	0.015	
5:45	0.66	0.74	0.007	0.015	
6:00	0.88	0.73	0.011	0.015	
6:15	0.74	0.84	0.010	0.015	
6:30	2.59	3.25	0.208	0.017	
6:45	0.90	1.41	0.022	0.017	
7:00	2.43	3.46	0.223	0.020	
7:15	1.70	2.50	0.105	0.021	
7:30	0.91	0.84	0.012	0.021	
7:45	0.89	1.03	0.015	0.021	
8:00	1.25	1.68	0.047	0.022	
8:15	1.37	1.88	0.057	0.022	
8:30	3.15	3.61	0.298	0.025	
8:45	2.03	2.91	0.155	0.027	
9:00	1.03	2.44	0.043	0.027	
9:15	0.80	1.08	0.013	0.027	
9:30	0.86	1.45	0.029	0.028	
9:45	2.22	2.76	0.165	0.030	
10:00	0.99	0.93	0.015	0.030	
10:15	0.94	1.11	0.017	0.030	
10:30	0.93	0.90	0.013	0.030	
10:45	1.23	1.74	0.050	0.030	
11:00	2.33	3.56	0.202	0.033	
11:15	1.09	1.18	0.023	0.033	
11:30	0.83	1.07	0.013	0.033	
11:45	0.65	0.75	0.007	0.033	
12:00	0.93	1.74	0.033	0.033	
12:15	0.60	0.84	0.007	0.033	
12:30	0.79	0.77	0.009	0.034	
12:45	0.65	0.74	0.007	0.034	
13:00	1.77	3.10	0.118	0.035	
13:15	0.81	1.37	0.017	0.035	
13:30	3.27	3.67	0.319	0.038	
13:45	1.62	2.54	0.104	0.039	0.01
14:00	0.80	1.68	0.021	0.040	
14:15	0.61	0.70	0.006	0.040	
14:30	0.70	0.69	0.007	0.040	
14:45	0.89	1.57	0.027	0.040	0.02
15:00	0.91	1.07	0.018	0.040	0.04
15:15	0.69	0.74	0.007	0.040	0.05
15:30	0.75	1.01	0.011	0.040	0.16
15:45	0.79	1.48	0.020	0.041	0.09
16:00	1.90	3.03	0.133	0.042	0.06
16:15	0.79	0.93	0.011	0.042	0.04
16:30	2.40	3.54	0.224	0.044	0.06
16:45	1.85	2.79	0.134	0.046	0.07
17:00	1.00	1.56	0.033	0.046	0.03
17:15	0.67	0.81	0.007	0.046	0.05
17:30	0.71	0.83	0.008	0.046	0.08
17:45	0.62	0.74	0.006	0.046	0.08
18:00	0.66	0.71	0.006	0.046	0.05
18:15	0.64	0.72	0.006	0.047	0.05
18:30	0.63	0.70	0.006	0.047	0.05
18:45	0.89	0.76	0.011	0.047	0.03
19:00	2.29	2.59	0.166	0.048	0.03
19:15	1.44	1.99	0.079	0.049	0.02
19:30	0.63	0.66	0.005	0.049	
19:45	0.84	0.64	0.008	0.049	
20:00	0.66	0.75	0.007	0.049	
20:15	2.68	3.36	0.233	0.052	0.01
20:30	0.77	0.83	0.010	0.052	
20:45	0.60	0.62	0.005	0.052	
21:00	0.83	0.59	0.007	0.052	0.01
21:15	0.50	1.34	0.008	0.052	
21:30	1.53	1.39	0.064	0.053	
21:45	0.70	0.86	0.009	0.053	0.01
22:00	0.97	0.53	0.008	0.053	
22:15	0.78	0.88	0.010	0.053	0.01
22:30	1.79	2.50	0.136	0.055	
22:45	1.91	1.65	0.099	0.056	
23:00	0.80	0.79	0.010	0.056	
23:15	0.91	0.70	0.009	0.056	
23:30	0.57	0.64	0.005	0.056	
23:45	0.58	0.62	0.004	0.056	
Daily Totals:				**0.056**	**1.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/27/2018					
0:00	1.43	2.40	0.077	0.001	
0:15	0.70	0.75	0.008	0.001	
0:30	0.58	0.64	0.005	0.001	
0:45	1.41	2.32	0.098	0.002	
1:00	1.96	2.55	0.144	0.003	0.01
1:15	0.58	0.66	0.005	0.004	0.01
1:30	0.59	0.65	0.005	0.004	0.03
1:45	0.47	0.56	0.003	0.004	0.03
2:00	1.48	1.84	0.087	0.004	0.01
2:15	1.20	1.41	0.048	0.005	
2:30	0.53	0.69	0.004	0.005	0.01
2:45	0.56	0.63	0.004	0.005	
3:00	2.40	2.71	0.222	0.007	
3:15	1.68	2.00	0.104	0.008	
3:30	0.95	1.44	0.028	0.009	
3:45	0.55	0.61	0.004	0.009	
4:00	0.54	0.57	0.004	0.009	
4:15	0.54	0.66	0.004	0.009	
4:30	0.58	0.57	0.004	0.009	0.01
4:45	0.87	1.52	0.025	0.009	
5:00	0.60	0.61	0.005	0.009	
5:15	0.56	0.62	0.004	0.009	
5:30	0.73	0.90	0.012	0.009	
5:45	1.77	2.46	0.122	0.011	
6:00	0.65	0.68	0.006	0.011	
6:15	0.90	1.55	0.027	0.011	
6:30	0.66	0.67	0.006	0.011	
6:45	2.38	2.59	0.202	0.013	
7:00	1.42	2.11	0.075	0.014	
7:15	0.66	0.69	0.006	0.014	
7:30	0.58	0.81	0.006	0.014	
7:45	0.83	1.48	0.023	0.014	
8:00	0.66	0.98	0.009	0.014	
8:15	1.08	2.07	0.047	0.015	
8:30	1.27	2.35	0.064	0.016	
8:45	0.80	0.94	0.011	0.016	
9:00	3.03	3.61	0.283	0.019	
9:15	2.16	3.34	0.178	0.021	
9:30	0.84	1.00	0.013	0.021	
9:45	0.59	0.71	0.005	0.021	
10:00	0.64	0.73	0.006	0.021	
10:15	0.67	0.81	0.008	0.021	
10:30	0.70	0.92	0.009	0.021	
10:45	1.17	2.19	0.057	0.022	
11:00	1.47	2.69	0.086	0.022	
11:15	1.54	2.16	0.115	0.024	
11:30	2.98	3.57	0.275	0.027	
11:45	0.94	1.59	0.029	0.027	
12:00	0.69	0.65	0.006	0.027	
12:15	0.67	0.84	0.008	0.027	
12:30	0.76	1.44	0.016	0.027	
12:45	0.83	1.66	0.023	0.027	
13:00	2.24	3.17	0.169	0.029	
13:15	1.21	2.21	0.052	0.030	
13:30	0.68	0.78	0.007	0.030	
13:45	0.68	0.84	0.008	0.030	
14:00	2.35	2.60	0.204	0.032	
14:15	2.90	3.48	0.266	0.035	
14:30	0.83	1.40	0.020	0.035	
14:45	0.62	0.62	0.005	0.035	
15:00	0.75	0.99	0.011	0.035	
15:15	0.70	0.88	0.009	0.035	
15:30	1.21	1.50	0.049	0.036	
15:45	1.56	2.44	0.102	0.037	
16:00	0.70	0.74	0.007	0.037	
16:15	1.05	2.17	0.048	0.037	
16:30	0.61	0.76	0.006	0.037	
16:45	0.53	0.70	0.005	0.037	
17:00	3.35	3.53	0.315	0.041	
17:15	1.12	1.36	0.039	0.041	
17:30	0.60	0.67	0.005	0.041	
17:45	0.55	0.62	0.004	0.041	
18:00	0.54	0.64	0.004	0.041	
18:15	0.73	1.48	0.023	0.042	
18:30	0.67	0.73	0.007	0.042	
18:45	0.56	0.53	0.004	0.042	
19:00	0.50	0.43	0.003	0.042	
19:15	0.55	0.66	0.004	0.042	
19:30	0.50	0.52	0.003	0.042	
19:45	0.78	1.12	0.016	0.042	
20:00	2.32	2.54	0.173	0.044	
20:15	0.68	0.69	0.007	0.044	
20:30	0.79	0.57	0.007	0.044	
20:45	0.61	0.65	0.005	0.044	
21:00	0.52	0.62	0.004	0.044	
21:15	0.53	0.58	0.004	0.044	
21:30	0.55	0.65	0.004	0.044	
21:45	0.51	0.61	0.004	0.044	
22:00	0.54	0.58	0.004	0.044	
22:15	0.48	0.52	0.003	0.044	
22:30	1.13	2.43	0.057	0.045	
22:45	2.94	3.51	0.270	0.048	
23:00	1.11	1.46	0.040	0.048	
23:15	0.61	0.74	0.006	0.048	
23:30	0.80	1.54	0.026	0.048	
23:45	0.80	1.50	0.029	0.049	
Daily Totals:				**0.049**	**0.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/28/2018					
0:00	0.55	0.61	0.004	0.000	
0:15	0.48	0.56	0.003	0.000	
0:30	0.51	0.48	0.003	0.000	
0:45	0.54	0.60	0.004	0.000	
1:00	0.49	0.55	0.003	0.000	
1:15	0.51	0.61	0.004	0.000	
1:30	0.89	1.13	0.020	0.000	
1:45	0.55	0.67	0.005	0.000	
2:00	0.96	1.14	0.024	0.001	
2:15	0.94	1.56	0.037	0.001	
2:30	0.53	0.60	0.004	0.001	
2:45	0.46	0.53	0.003	0.001	
3:00	0.54	0.70	0.005	0.001	
3:15	0.46	0.55	0.003	0.001	
3:30	0.50	0.56	0.003	0.001	
3:45	0.54	0.64	0.004	0.001	
4:00	0.86	1.50	0.026	0.002	
4:15	0.57	0.66	0.005	0.002	
4:30	3.16	3.78	0.313	0.005	
4:45	1.49	1.55	0.074	0.006	
5:00	0.59	0.62	0.005	0.006	
5:15	0.49	0.62	0.004	0.006	
5:30	0.45	0.51	0.003	0.006	
5:45	0.51	0.58	0.004	0.006	
6:00	0.50	0.56	0.003	0.006	
6:15	0.50	0.58	0.003	0.006	
6:30	0.56	0.65	0.005	0.006	
6:45	0.89	1.50	0.030	0.006	
7:00	0.60	0.67	0.005	0.006	
7:15	0.63	0.67	0.006	0.006	
7:30	0.54	0.62	0.004	0.006	
7:45	0.55	0.67	0.004	0.006	
8:00	0.89	1.54	0.031	0.007	
8:15	2.23	3.22	0.171	0.009	
8:30	0.75	0.82	0.009	0.009	
8:45	0.66	1.20	0.011	0.009	
9:00	0.58	0.72	0.006	0.009	
9:15	2.75	3.43	0.245	0.011	
9:30	0.97	1.58	0.033	0.012	
9:45	0.62	0.80	0.007	0.012	
10:00	0.63	0.67	0.006	0.012	
10:15	0.77	0.99	0.011	0.012	
10:30	0.84	1.05	0.019	0.012	
10:45	1.55	2.99	0.100	0.013	
11:00	0.71	0.96	0.010	0.013	
11:15	2.67	2.70	0.206	0.015	
11:30	2.46	3.31	0.205	0.018	
11:45	0.99	1.75	0.036	0.018	
12:00	0.78	1.16	0.014	0.018	
12:15	0.60	0.69	0.005	0.018	
12:30	0.62	0.73	0.006	0.018	
12:45	1.06	2.13	0.047	0.019	
13:00	1.54	2.92	0.091	0.020	
13:15	0.79	1.44	0.019	0.020	
13:30	0.65	0.76	0.007	0.020	
13:45	0.69	0.68	0.006	0.020	
14:00	1.02	1.65	0.037	0.020	
14:15	2.43	2.76	0.225	0.023	
14:30	2.14	3.22	0.172	0.025	
14:45	0.75	1.02	0.011	0.025	
15:00	0.65	0.84	0.007	0.025	
15:15	0.72	1.43	0.018	0.025	
15:30	0.63	0.74	0.006	0.025	
15:45	0.72	0.77	0.008	0.025	
16:00	0.55	0.61	0.004	0.025	
16:15	0.60	0.74	0.006	0.025	
16:30	0.99	1.67	0.037	0.026	
16:45	1.36	2.80	0.076	0.026	
17:00	0.72	0.84	0.008	0.026	
17:15	0.59	0.67	0.005	0.027	
17:30	0.56	0.58	0.004	0.027	
17:45	0.55	0.66	0.004	0.027	
18:00	1.34	1.53	0.099	0.028	
18:15	1.69	1.71	0.098	0.029	
18:30	0.59	0.66	0.005	0.029	
18:45	0.48	0.47	0.003	0.029	
19:00	0.42	0.58	0.003	0.029	
19:15	0.54	0.65	0.004	0.029	
19:30	0.50	0.66	0.004	0.029	
19:45	0.51	0.56	0.003	0.029	
20:00	0.55	0.63	0.004	0.029	
20:15	0.71	0.87	0.011	0.029	
20:30	0.54	0.62	0.004	0.029	
20:45	1.18	1.19	0.027	0.029	
21:00	0.64	0.68	0.006	0.029	
21:15	0.53	0.48	0.003	0.029	
21:30	0.51	0.41	0.002	0.029	
21:45	0.43	0.47	0.002	0.030	
22:00	3.13	3.51	0.286	0.032	
22:15	0.90	0.73	0.010	0.033	
22:30	0.53	0.63	0.004	0.033	
22:45	0.50	0.58	0.003	0.033	
23:00	0.45	0.43	0.002	0.033	
23:15	0.51	0.57	0.003	0.033	
23:30	0.50	0.59	0.004	0.033	
23:45	0.53	0.56	0.004	0.033	
Daily Totals:				**0.033**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/29/2018					
0:00	0.76	0.72	0.008	0.000	
0:15	0.72	0.94	0.010	0.000	
0:30	0.60	0.66	0.005	0.000	
0:45	0.56	0.62	0.004	0.000	
1:00	0.56	0.69	0.005	0.000	
1:15	0.52	0.54	0.003	0.000	
1:30	0.89	0.59	0.008	0.000	
1:45	1.01	0.89	0.014	0.001	
2:00	0.54	0.66	0.004	0.001	
2:15	0.55	0.55	0.004	0.001	
2:30	0.47	0.50	0.003	0.001	
2:45	0.47	0.53	0.003	0.001	
3:00	0.51	0.50	0.003	0.001	
3:15	0.53	0.56	0.004	0.001	
3:30	0.57	0.73	0.005	0.001	
3:45	1.41	1.55	0.100	0.002	
4:00	2.04	2.66	0.154	0.004	
4:15	0.62	0.77	0.006	0.004	
4:30	0.56	0.65	0.005	0.004	
4:45	0.54	0.44	0.003	0.004	
5:00	0.54	0.58	0.004	0.004	
5:15	0.47	0.45	0.002	0.004	
5:30	0.48	0.47	0.003	0.004	
5:45	0.49	0.45	0.003	0.004	
6:00	0.53	0.57	0.004	0.004	
6:15	0.52	0.55	0.003	0.004	
6:30	0.76	0.95	0.014	0.004	
6:45	0.61	0.72	0.006	0.004	
7:00	0.86	1.41	0.035	0.004	
7:15	1.70	2.39	0.098	0.005	
7:30	0.64	0.77	0.007	0.006	
7:45	0.53	0.62	0.004	0.006	
8:00	2.81	3.56	0.257	0.008	
8:15	0.88	2.10	0.033	0.009	
8:30	0.64	0.77	0.007	0.009	
8:45	0.61	0.76	0.006	0.009	
9:00	0.75	0.82	0.009	0.009	
9:15	0.66	0.87	0.008	0.009	
9:30	1.39	2.47	0.073	0.010	
9:45	0.66	0.79	0.007	0.010	
10:00	0.61	0.66	0.005	0.010	
10:15	3.36	3.67	0.330	0.013	
10:30	1.49	2.46	0.090	0.014	
10:45	0.75	1.13	0.013	0.014	
11:00	0.98	1.48	0.025	0.015	
11:15	0.60	0.63	0.005	0.015	
11:30	0.73	1.31	0.014	0.015	
11:45	0.69	0.90	0.009	0.015	
12:00	1.25	2.21	0.062	0.015	
12:15	1.54	2.55	0.091	0.016	

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12:30	1.67	1.78	0.111	0.018	
12:45	1.95	3.14	0.156	0.019	
13:00	0.71	0.87	0.009	0.019	
13:15	0.71	1.83	0.020	0.020	
13:30	1.12	1.69	0.047	0.020	
13:45	1.06	1.70	0.039	0.020	
14:00	1.56	1.86	0.115	0.022	
14:15	2.12	3.20	0.166	0.023	
14:30	0.75	0.86	0.009	0.023	
14:45	0.68	0.89	0.009	0.024	
15:00	0.58	0.66	0.005	0.024	
15:15	0.70	1.27	0.013	0.024	
15:30	0.67	1.35	0.015	0.024	
15:45	1.13	2.15	0.052	0.024	
16:00	1.85	2.53	0.123	0.026	
16:15	1.20	2.09	0.051	0.026	
16:30	0.86	1.72	0.024	0.026	
16:45	0.65	0.75	0.007	0.027	
17:00	2.54	3.51	0.231	0.029	
17:15	0.77	0.97	0.011	0.029	
17:30	0.59	0.64	0.005	0.029	
17:45	0.54	0.59	0.004	0.029	
18:00	0.52	0.56	0.004	0.029	
18:15	0.48	0.52	0.003	0.029	
18:30	0.53	0.54	0.003	0.029	
18:45	0.49	0.51	0.003	0.029	
19:00	0.46	0.54	0.003	0.029	
19:15	0.53	0.54	0.004	0.029	
19:30	0.50	0.58	0.003	0.029	
19:45	0.51	0.52	0.003	0.029	
20:00	0.52	0.43	0.003	0.029	
20:15	0.51	0.57	0.003	0.029	
20:30	0.53	0.60	0.004	0.030	
20:45	0.55	0.52	0.004	0.030	
21:00	0.79	0.55	0.006	0.030	
21:15	0.58	0.61	0.005	0.030	
21:30	0.51	0.52	0.003	0.030	
21:45	0.85	0.70	0.009	0.030	
22:00	0.51	0.45	0.003	0.030	
22:15	0.50	0.44	0.003	0.030	
22:30	0.52	0.50	0.003	0.030	
22:45	2.17	2.74	0.168	0.032	
23:00	0.62	0.78	0.006	0.032	
23:15	0.53	0.63	0.004	0.032	
23:30	0.49	0.54	0.003	0.032	
23:45	0.53	0.50	0.003	0.032	
Daily Totals:				**0.032**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/30/2018					
0:00	0.45	0.52	0.003	0.000	
0:15	0.46	0.61	0.003	0.000	
0:30	0.49	0.45	0.003	0.000	
0:45	0.48	0.48	0.003	0.000	
1:00	0.47	0.55	0.003	0.000	
1:15	0.97	1.45	0.046	0.001	
1:30	1.10	2.41	0.052	0.001	
1:45	0.63	0.68	0.006	0.001	
2:00	0.56	0.67	0.005	0.001	
2:15	0.60	0.62	0.005	0.001	
2:30	1.15	2.36	0.062	0.002	
2:45	2.47	2.57	0.195	0.004	
3:00	0.69	0.79	0.008	0.004	
3:15	0.51	0.61	0.004	0.004	
3:30	0.53	0.56	0.004	0.004	
3:45	0.49	0.49	0.003	0.004	
4:00	0.45	0.50	0.003	0.004	
4:15	0.50	0.56	0.003	0.004	
4:30	0.51	0.49	0.003	0.004	
4:45	0.49	0.55	0.003	0.004	
5:00	0.50	0.59	0.004	0.004	
5:15	0.45	0.41	0.002	0.004	
5:30	0.50	0.53	0.003	0.004	
5:45	0.51	0.57	0.004	0.004	
6:00	0.46	0.47	0.002	0.004	
6:15	0.53	0.61	0.004	0.005	
6:30	1.74	1.44	0.064	0.005	
6:45	0.62	0.64	0.005	0.005	
7:00	0.92	1.43	0.034	0.006	
7:15	0.97	0.79	0.012	0.006	
7:30	2.42	2.58	0.196	0.008	
7:45	0.98	1.56	0.032	0.008	
8:00	0.62	0.63	0.005	0.008	
8:15	0.61	0.73	0.006	0.008	
8:30	0.61	0.69	0.006	0.008	
8:45	0.92	1.09	0.020	0.008	
9:00	0.63	0.71	0.006	0.009	
9:15	0.61	0.68	0.005	0.009	
9:30	0.56	0.71	0.005	0.009	
9:45	1.77	3.09	0.115	0.010	
10:00	0.77	1.41	0.019	0.010	
10:15	2.04	3.26	0.164	0.012	
10:30	0.77	0.88	0.010	0.012	
10:45	0.73	1.43	0.017	0.012	
11:00	0.89	1.51	0.029	0.012	
11:15	0.72	1.26	0.014	0.012	
11:30	1.47	1.70	0.095	0.013	
11:45	1.49	1.96	0.081	0.014	
12:00	1.31	2.38	0.058	0.015	
12:15	1.50	1.25	0.037	0.015	
12:30	1.62	1.27	0.043	0.016	
12:45	1.16	1.73	0.037	0.016	
13:00	0.60	0.63	0.005	0.016	
13:15	0.65	0.82	0.008	0.016	
13:30	2.37	3.34	0.202	0.018	
13:45	0.77	0.75	0.009	0.018	
14:00	0.95	0.87	0.013	0.019	
14:15	0.68	1.02	0.010	0.019	
14:30	0.59	0.72	0.005	0.019	
14:45	0.95	1.59	0.029	0.019	0.01
15:00	0.69	1.42	0.014	0.019	
15:15	0.72	0.87	0.009	0.019	
15:30	2.42	3.47	0.212	0.021	
15:45	0.70	0.66	0.006	0.022	
16:00	1.30	1.78	0.072	0.022	
16:15	0.60	0.74	0.006	0.022	
16:30	0.86	1.72	0.027	0.023	
16:45	0.56	0.60	0.004	0.023	
17:00	0.54	0.60	0.004	0.023	
17:15	0.86	0.80	0.010	0.023	
17:30	0.57	0.64	0.005	0.023	
17:45	0.52	0.50	0.003	0.023	
18:00	0.51	0.50	0.003	0.023	
18:15	0.47	0.62	0.003	0.023	0.01
18:30	1.09	1.48	0.051	0.024	
18:45	0.44	0.50	0.002	0.024	
19:00	1.00	1.58	0.039	0.024	
19:15	0.67	0.76	0.007	0.024	
19:30	2.17	2.45	0.162	0.026	
19:45	0.93	1.53	0.034	0.026	
20:00	0.58	0.59	0.004	0.026	
20:15	0.51	0.45	0.003	0.026	
20:30	0.52	0.62	0.004	0.026	
20:45	0.49	0.58	0.003	0.026	
21:00	1.07	1.56	0.049	0.027	
21:15	0.78	0.93	0.014	0.027	
21:30	0.46	0.52	0.003	0.027	
21:45	0.42	0.49	0.002	0.027	
22:00	0.51	0.54	0.003	0.027	
22:15	0.50	0.49	0.003	0.027	
22:30	0.51	0.58	0.004	0.027	
22:45	0.55	0.43	0.003	0.027	
23:00	0.67	0.48	0.005	0.027	
23:15	0.57	0.60	0.004	0.027	
23:30	0.51	0.50	0.003	0.027	
23:45	0.53	0.51	0.003	0.027	
Daily Totals:				**0.027**	**0.02**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/1/2018					
0:00	1.14	2.62	0.057	0.001	
0:15	0.61	0.70	0.006	0.001	
0:30	0.90	1.45	0.032	0.001	
0:45	1.40	2.20	0.065	0.002	
1:00	2.57	2.88	0.253	0.004	
1:15	1.20	2.33	0.064	0.005	
1:30	0.53	0.55	0.003	0.005	
1:45	0.51	0.52	0.003	0.005	
2:00	0.49	0.51	0.003	0.005	
2:15	0.51	0.49	0.003	0.005	
2:30	0.49	0.58	0.003	0.005	
2:45	0.66	0.70	0.008	0.005	
3:00	0.56	0.60	0.004	0.005	
3:15	0.98	1.55	0.042	0.006	
3:30	0.49	0.58	0.003	0.006	
3:45	0.50	0.49	0.003	0.006	
4:00	0.53	0.56	0.004	0.006	
4:15	0.50	0.54	0.003	0.006	
4:30	0.49	0.58	0.003	0.006	
4:45	0.49	0.52	0.003	0.006	
5:00	0.49	0.57	0.003	0.006	
5:15	0.73	0.53	0.006	0.006	
5:30	0.50	0.50	0.003	0.006	
5:45	0.50	0.67	0.004	0.006	
6:00	0.50	0.55	0.003	0.006	
6:15	0.49	0.45	0.003	0.006	
6:30	0.49	0.49	0.003	0.006	
6:45	0.48	0.48	0.003	0.006	
7:00	1.05	1.42	0.042	0.007	
7:15	1.37	1.58	0.072	0.007	
7:30	2.25	3.35	0.185	0.009	
7:45	0.69	0.76	0.007	0.009	
8:00	0.56	0.57	0.004	0.009	
8:15	0.76	1.26	0.023	0.010	
8:30	0.60	0.72	0.006	0.010	
8:45	0.57	0.60	0.004	0.010	
9:00	0.56	0.64	0.004	0.010	
9:15	0.53	0.56	0.004	0.010	
9:30	0.53	0.55	0.004	0.010	
9:45	0.50	0.56	0.003	0.010	
10:00	0.49	0.44	0.002	0.010	
10:15	0.55	0.66	0.004	0.010	
10:30	0.82	1.35	0.034	0.010	
10:45	0.95	1.06	0.017	0.011	
11:00	2.58	2.98	0.207	0.013	
11:15	0.67	0.80	0.008	0.013	
11:30	0.51	0.56	0.003	0.013	
11:45	0.54	0.61	0.004	0.013	
12:00	0.54	0.59	0.004	0.013	
12:15	0.92	0.81	0.013	0.013	
12:30	1.02	0.74	0.013	0.013	
12:45	0.56	0.58	0.004	0.013	
13:00	0.94	1.05	0.019	0.013	
13:15	0.52	0.58	0.004	0.013	
13:30	0.49	0.55	0.003	0.013	
13:45	0.49	0.52	0.003	0.014	
14:00	0.50	0.49	0.003	0.014	
14:15	0.50	0.58	0.003	0.014	
14:30	0.80	0.58	0.007	0.014	
14:45	1.47	1.61	0.108	0.015	
15:00	1.11	1.78	0.051	0.015	
15:15	0.56	0.61	0.004	0.015	
15:30	0.51	0.55	0.003	0.015	
15:45	0.45	0.47	0.002	0.015	
16:00	0.51	0.60	0.004	0.015	
16:15	0.47	0.49	0.003	0.015	
16:30	0.53	0.64	0.004	0.016	
16:45	0.53	0.64	0.004	0.016	
17:00	0.47	0.48	0.003	0.016	
17:15	0.50	0.59	0.003	0.016	
17:30	0.48	0.54	0.003	0.016	
17:45	0.48	0.46	0.003	0.016	
18:00	0.48	0.50	0.003	0.016	
18:15	0.96	1.57	0.033	0.016	
18:30	2.05	2.56	0.170	0.018	
18:45	0.81	0.97	0.014	0.018	
19:00	0.79	0.96	0.013	0.018	
19:15	0.53	0.52	0.003	0.018	
19:30	0.52	0.62	0.004	0.018	
19:45	1.08	1.52	0.050	0.019	0.01
20:00	0.52	0.42	0.003	0.019	0.01
20:15	0.43	0.48	0.002	0.019	0.01
20:30	0.53	0.55	0.004	0.019	0.01
20:45	0.46	0.39	0.002	0.019	0.01
21:00	0.52	0.55	0.003	0.019	0.02
21:15	0.54	0.56	0.004	0.019	
21:30	0.53	0.57	0.004	0.019	0.01
21:45	0.50	0.59	0.003	0.019	
22:00	0.51	0.54	0.003	0.019	
22:15	0.49	0.49	0.003	0.019	
22:30	0.53	0.45	0.003	0.019	
22:45	0.52	0.57	0.004	0.019	
23:00	0.51	0.53	0.003	0.019	
23:15	0.50	0.52	0.003	0.019	0.01
23:30	0.53	0.52	0.003	0.019	
23:45	0.52	0.54	0.003	0.019	
Daily Totals:				**0.019**	**0.09**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/2/2018					
0:00	0.51	0.55	0.003	0.000	0.01
0:15	0.52	0.69	0.004	0.000	
0:30	0.48	0.50	0.003	0.000	0.01
0:45	0.47	0.52	0.003	0.000	
1:00	0.77	0.91	0.013	0.000	0.01
1:15	0.51	0.61	0.004	0.000	
1:30	0.46	0.51	0.003	0.000	0.01
1:45	0.52	0.48	0.003	0.000	0.01
2:00	0.50	0.52	0.003	0.000	
2:15	0.49	0.58	0.003	0.000	
2:30	0.50	0.52	0.003	0.000	0.01
2:45	0.49	0.58	0.003	0.001	0.02
3:00	0.49	0.52	0.003	0.001	0.01
3:15	1.78	1.97	0.104	0.002	0.02
3:30	0.68	0.68	0.006	0.002	0.03
3:45	0.53	0.48	0.003	0.002	0.06
4:00	0.48	0.56	0.003	0.002	0.06
4:15	0.51	0.61	0.004	0.002	0.03
4:30	0.51	0.42	0.003	0.002	0.01
4:45	0.51	0.61	0.004	0.002	0.01
5:00	1.01	1.48	0.053	0.002	0.01
5:15	2.22	2.90	0.180	0.004	
5:30	0.61	0.69	0.006	0.004	0.01
5:45	0.89	1.38	0.027	0.005	0.01
6:00	0.55	0.54	0.004	0.005	0.01
6:15	0.53	0.57	0.004	0.005	0.03
6:30	0.48	0.53	0.003	0.005	0.05
6:45	0.45	0.54	0.003	0.005	0.03
7:00	0.49	0.57	0.003	0.005	0.02
7:15	0.52	0.61	0.004	0.005	0.01
7:30	0.52	0.54	0.003	0.005	0.02
7:45	0.51	0.47	0.003	0.005	0.01
8:00	0.53	0.59	0.004	0.005	0.02
8:15	1.88	2.40	0.116	0.006	
8:30	0.70	0.65	0.006	0.006	0.02
8:45	0.54	0.62	0.004	0.006	0.02
9:00	0.54	0.55	0.004	0.006	0.01
9:15	1.42	1.66	0.109	0.007	0.01
9:30	1.60	2.07	0.102	0.008	0.01
9:45	0.82	0.69	0.008	0.009	0.01
10:00	0.53	0.57	0.004	0.009	0.02
10:15	0.57	0.62	0.004	0.009	0.01
10:30	0.53	0.64	0.004	0.009	0.01
10:45	0.87	1.46	0.038	0.009	
11:00	1.30	1.87	0.061	0.010	0.01
11:15	0.59	0.66	0.005	0.010	
11:30	0.53	0.58	0.004	0.010	
11:45	0.51	0.55	0.003	0.010	
12:00	0.50	0.53	0.003	0.010	0.01
12:15	2.35	2.69	0.218	0.012	
12:30	1.07	1.40	0.039	0.013	
12:45	0.55	0.73	0.005	0.013	
13:00	0.77	0.93	0.016	0.013	
13:15	0.61	0.74	0.006	0.013	
13:30	0.54	0.67	0.004	0.013	
13:45	0.55	0.65	0.004	0.013	
14:00	0.83	1.39	0.030	0.013	
14:15	1.00	1.48	0.033	0.014	
14:30	0.56	0.67	0.005	0.014	
14:45	0.49	0.62	0.004	0.014	
15:00	0.48	0.51	0.003	0.014	
15:15	0.48	0.59	0.003	0.014	0.01
15:30	1.40	1.59	0.104	0.015	
15:45	2.85	3.48	0.256	0.018	0.01
16:00	1.02	1.41	0.037	0.018	
16:15	0.55	0.54	0.004	0.018	
16:30	0.50	0.55	0.003	0.018	
16:45	0.50	0.65	0.004	0.018	
17:00	0.52	0.52	0.003	0.018	0.01
17:15	0.45	0.52	0.003	0.018	
17:30	0.49	0.52	0.003	0.018	
17:45	0.51	0.55	0.003	0.018	
18:00	0.49	0.53	0.003	0.018	
18:15	0.44	0.50	0.003	0.018	
18:30	0.43	0.49	0.002	0.018	
18:45	0.70	0.65	0.006	0.018	
19:00	0.38	0.54	0.002	0.018	
19:15	0.50	0.53	0.003	0.018	
19:30	0.50	0.49	0.003	0.018	
19:45	0.49	0.53	0.003	0.018	
20:00	0.52	0.72	0.005	0.018	
20:15	0.82	1.32	0.031	0.019	
20:30	1.92	2.58	0.134	0.020	
20:45	0.68	0.71	0.007	0.020	
21:00	0.53	0.62	0.004	0.020	
21:15	0.73	0.62	0.007	0.020	
21:30	0.59	0.72	0.006	0.020	
21:45	0.49	0.56	0.003	0.020	
22:00	1.34	1.60	0.115	0.022	
22:15	2.06	2.79	0.163	0.023	
22:30	0.75	0.80	0.009	0.023	
22:45	0.65	0.78	0.007	0.023	
23:00	0.66	0.74	0.007	0.024	
23:15	0.79	0.65	0.007	0.024	
23:30	0.57	0.69	0.005	0.024	
23:45	0.50	0.50	0.003	0.024	
Daily Totals:				**0.024**	**0.71**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/3/2018					
0:00	0.86	0.78	0.010	0.000	0.01
0:15	0.49	0.64	0.004	0.000	
0:30	0.49	0.59	0.003	0.000	
0:45	1.32	2.28	0.065	0.001	
1:00	0.65	0.74	0.006	0.001	
1:15	0.53	0.54	0.003	0.001	
1:30	0.50	0.53	0.003	0.001	
1:45	0.49	0.55	0.003	0.001	
2:00	0.44	0.50	0.002	0.001	
2:15	2.53	3.37	0.212	0.003	
2:30	0.78	0.93	0.012	0.003	
2:45	0.82	0.99	0.019	0.004	
3:00	0.59	0.76	0.006	0.004	
3:15	0.48	0.60	0.003	0.004	
3:30	0.40	0.48	0.002	0.004	
3:45	0.45	0.54	0.003	0.004	
4:00	0.49	0.61	0.003	0.004	
4:15	0.52	0.60	0.004	0.004	
4:30	0.47	0.56	0.003	0.004	
4:45	1.01	1.28	0.035	0.004	
5:00	0.79	0.61	0.007	0.004	
5:15	0.55	0.60	0.004	0.004	
5:30	0.44	0.51	0.003	0.004	
5:45	2.00	2.66	0.167	0.006	
6:00	0.82	0.94	0.013	0.006	
6:15	0.55	0.59	0.004	0.006	
6:30	0.57	0.69	0.005	0.006	
6:45	0.51	0.61	0.004	0.006	
7:00	0.53	0.61	0.004	0.006	
7:15	0.67	0.62	0.006	0.006	
7:30	0.63	0.69	0.006	0.007	
7:45	0.71	1.15	0.014	0.007	
8:00	1.56	1.66	0.089	0.008	
8:15	1.25	1.71	0.053	0.008	
8:30	0.56	0.65	0.005	0.008	
8:45	2.58	3.44	0.229	0.011	
9:00	0.59	0.78	0.006	0.011	
9:15	0.64	0.73	0.006	0.011	
9:30	0.63	0.79	0.007	0.011	
9:45	0.63	0.70	0.006	0.011	
10:00	0.88	1.08	0.019	0.011	
10:15	1.81	2.60	0.123	0.012	
10:30	0.69	0.79	0.007	0.012	
10:45	2.41	2.82	0.217	0.015	
11:00	1.16	2.18	0.053	0.015	
11:15	0.72	0.76	0.008	0.015	
11:30	1.36	2.42	0.070	0.016	
11:45	1.33	2.95	0.079	0.017	
12:00	2.18	2.74	0.196	0.019	
12:15	0.92	0.93	0.012	0.019	
12:30	0.91	1.37	0.025	0.019	
12:45	1.45	2.88	0.085	0.020	
13:00	0.67	0.93	0.009	0.020	
13:15	1.57	1.87	0.108	0.021	
13:30	3.10	3.64	0.295	0.024	
13:45	1.06	2.35	0.047	0.025	
14:00	0.93	1.55	0.034	0.025	
14:15	0.72	0.89	0.009	0.025	
14:30	0.61	0.74	0.006	0.025	
14:45	0.84	0.85	0.012	0.026	
15:00	1.28	2.79	0.068	0.026	
15:15	0.73	1.21	0.013	0.026	
15:30	1.05	1.52	0.048	0.027	
15:45	0.75	0.99	0.010	0.027	
16:00	2.30	2.77	0.211	0.029	
16:15	1.73	3.08	0.123	0.030	
16:30	0.83	1.40	0.020	0.031	
16:45	0.62	0.71	0.006	0.031	
17:00	0.58	0.72	0.005	0.031	
17:15	0.88	1.04	0.018	0.031	
17:30	0.55	0.63	0.004	0.031	
17:45	0.47	0.61	0.003	0.031	
18:00	0.48	0.51	0.003	0.031	
18:15	0.51	0.55	0.003	0.031	
18:30	0.45	0.52	0.003	0.031	
18:45	0.82	1.33	0.031	0.032	
19:00	1.03	1.49	0.035	0.032	
19:15	1.43	1.76	0.106	0.033	
19:30	1.87	2.31	0.137	0.034	
19:45	0.82	0.99	0.016	0.035	
20:00	0.64	0.83	0.008	0.035	
20:15	0.50	0.55	0.003	0.035	
20:30	0.49	0.58	0.003	0.035	
20:45	0.47	0.54	0.003	0.035	
21:00	0.51	0.57	0.003	0.035	
21:15	0.44	0.51	0.003	0.035	
21:30	0.45	0.52	0.003	0.035	
21:45	0.49	0.45	0.003	0.035	
22:00	0.87	1.34	0.038	0.035	
22:15	1.03	1.48	0.036	0.036	
22:30	1.19	2.49	0.064	0.036	
22:45	1.99	2.67	0.150	0.038	
23:00	0.66	0.79	0.007	0.038	
23:15	0.59	0.72	0.005	0.038	
23:30	1.15	2.26	0.056	0.039	
23:45	0.86	1.47	0.033	0.039	
Daily Totals:				**0.039**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/4/2018					
0:00	0.46	0.53	0.003	0.000	
0:15	0.48	0.62	0.003	0.000	
0:30	0.50	0.60	0.004	0.000	
0:45	0.51	0.50	0.003	0.000	
1:00	0.45	0.51	0.003	0.000	
1:15	0.52	0.51	0.003	0.000	
1:30	0.50	0.52	0.003	0.000	
1:45	0.51	0.52	0.003	0.000	
2:00	0.50	0.55	0.003	0.000	
2:15	0.54	0.56	0.004	0.000	
2:30	0.44	0.51	0.003	0.000	
2:45	0.50	0.49	0.003	0.000	
3:00	0.51	0.56	0.003	0.000	
3:15	0.68	0.80	0.009	0.001	
3:30	0.83	0.97	0.016	0.001	
3:45	0.88	0.69	0.009	0.001	
4:00	0.54	0.60	0.004	0.001	
4:15	0.49	0.52	0.003	0.001	
4:30	0.43	0.51	0.002	0.001	
4:45	0.47	0.51	0.003	0.001	
5:00	0.50	0.59	0.003	0.001	
5:15	2.32	2.92	0.190	0.003	
5:30	0.59	0.71	0.005	0.003	
5:45	0.53	0.63	0.004	0.003	
6:00	0.51	0.61	0.004	0.003	
6:15	0.90	0.77	0.011	0.003	
6:30	0.84	0.69	0.008	0.003	
6:45	0.58	0.66	0.005	0.003	
7:00	2.28	2.85	0.170	0.005	
7:15	0.80	0.99	0.013	0.005	
7:30	0.92	0.70	0.010	0.005	
7:45	0.50	0.63	0.004	0.005	
8:00	0.57	0.67	0.005	0.005	
8:15	0.59	0.75	0.006	0.005	
8:30	1.24	1.46	0.032	0.006	
8:45	0.72	1.28	0.015	0.006	
9:00	0.80	1.48	0.025	0.006	
9:15	2.04	3.28	0.158	0.008	
9:30	1.48	1.66	0.105	0.009	
9:45	1.55	1.95	0.091	0.010	
10:00	0.66	0.78	0.007	0.010	
10:15	0.58	0.68	0.005	0.010	
10:30	1.08	1.37	0.036	0.010	
10:45	1.94	3.17	0.147	0.012	
11:00	1.36	1.82	0.070	0.013	
11:15	1.00	1.68	0.036	0.013	
11:30	2.38	3.31	0.201	0.015	
11:45	0.74	0.85	0.009	0.015	
12:00	0.67	0.82	0.007	0.015	
12:15	0.84	1.42	0.027	0.016	
12:30	0.77	0.65	0.007	0.016	
12:45	1.33	0.84	0.020	0.016	
13:00	2.03	3.13	0.161	0.018	
13:15	0.71	0.74	0.007	0.018	
13:30	1.07	2.20	0.055	0.018	
13:45	0.77	0.83	0.009	0.018	
14:00	2.71	3.54	0.248	0.021	
14:15	0.92	1.04	0.015	0.021	
14:30	0.88	1.54	0.031	0.021	
14:45	0.69	0.75	0.007	0.021	
15:00	0.92	1.39	0.028	0.022	
15:15	1.52	1.85	0.099	0.023	
15:30	1.40	1.89	0.070	0.023	
15:45	0.66	0.77	0.007	0.024	
16:00	0.61	0.73	0.006	0.024	
16:15	0.76	0.95	0.011	0.024	
16:30	1.03	2.06	0.041	0.024	
16:45	0.61	0.69	0.005	0.024	
17:00	2.15	2.81	0.167	0.026	
17:15	0.58	0.63	0.005	0.026	
17:30	0.53	0.60	0.004	0.026	
17:45	0.46	0.54	0.003	0.026	
18:00	0.50	0.57	0.003	0.026	
18:15	0.53	0.59	0.004	0.026	
18:30	1.20	1.37	0.041	0.027	
18:45	0.69	0.60	0.005	0.027	
19:00	1.43	1.61	0.109	0.028	
19:15	1.20	1.76	0.056	0.028	
19:30	0.55	0.58	0.004	0.028	
19:45	0.57	0.64	0.005	0.028	
20:00	0.47	0.52	0.003	0.028	
20:15	0.45	0.52	0.003	0.028	
20:30	0.53	0.55	0.004	0.029	
20:45	0.50	0.52	0.003	0.029	
21:00	0.51	0.59	0.004	0.029	
21:15	0.50	0.46	0.003	0.029	
21:30	0.51	0.49	0.003	0.029	
21:45	0.80	0.88	0.018	0.029	
22:00	0.89	0.84	0.011	0.029	
22:15	1.98	2.63	0.166	0.031	
22:30	0.73	0.60	0.006	0.031	
22:45	0.54	0.56	0.004	0.031	
23:00	0.51	0.56	0.003	0.031	
23:15	0.68	0.80	0.009	0.031	
23:30	0.55	0.67	0.005	0.031	
23:45	0.52	0.62	0.004	0.031	
Daily Totals:				**0.031**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/5/2018					
0:00	0.51	0.53	0.003	0.000	
0:15	0.85	0.76	0.010	0.000	
0:30	0.58	0.68	0.005	0.000	
0:45	0.54	0.61	0.004	0.000	
1:00	0.78	0.91	0.014	0.000	
1:15	0.71	0.76	0.007	0.000	
1:30	1.58	1.81	0.110	0.002	
1:45	1.14	1.71	0.050	0.002	
2:00	0.57	0.66	0.005	0.002	
2:15	0.53	0.58	0.004	0.002	
2:30	0.48	0.52	0.003	0.002	
2:45	0.46	0.54	0.003	0.002	
3:00	0.49	0.58	0.003	0.002	
3:15	0.52	0.55	0.003	0.002	
3:30	0.51	0.53	0.003	0.002	
3:45	0.51	0.48	0.003	0.002	
4:00	0.75	0.56	0.008	0.002	
4:15	0.62	0.58	0.005	0.003	
4:30	0.52	0.60	0.004	0.003	
4:45	0.50	0.48	0.003	0.003	
5:00	0.44	0.54	0.003	0.003	
5:15	0.49	0.52	0.003	0.003	
5:30	0.52	0.57	0.004	0.003	
5:45	0.50	0.47	0.003	0.003	
6:00	0.54	0.62	0.004	0.003	
6:15	0.52	0.62	0.004	0.003	
6:30	0.60	0.74	0.006	0.003	
6:45	0.56	0.61	0.004	0.003	
7:00	0.65	0.78	0.008	0.003	
7:15	0.53	0.64	0.004	0.003	
7:30	1.09	1.68	0.049	0.004	
7:45	1.68	2.57	0.118	0.005	
8:00	1.95	2.57	0.156	0.006	
8:15	1.08	1.49	0.026	0.007	
8:30	0.69	0.95	0.009	0.007	
8:45	0.76	0.88	0.010	0.007	
9:00	1.13	1.44	0.037	0.007	
9:15	1.05	2.01	0.044	0.008	
9:30	2.64	3.52	0.241	0.010	
9:45	0.74	0.82	0.009	0.010	
10:00	0.90	0.73	0.010	0.010	
10:15	0.78	1.14	0.013	0.011	
10:30	0.64	1.19	0.010	0.011	
10:45	0.85	0.75	0.010	0.011	
11:00	1.07	1.72	0.041	0.011	
11:15	1.23	1.70	0.054	0.012	
11:30	2.70	3.40	0.238	0.014	
11:45	0.87	1.30	0.019	0.014	
12:00	0.67	0.69	0.006	0.014	
12:15	1.09	1.47	0.049	0.015	
12:30	0.82	1.51	0.022	0.015	
12:45	0.58	0.75	0.006	0.015	
13:00	1.86	3.13	0.134	0.017	
13:15	2.64	3.46	0.242	0.019	
13:30	1.31	2.31	0.073	0.020	
13:45	0.74	0.73	0.008	0.020	
14:00	0.73	0.90	0.010	0.020	
14:15	0.69	0.81	0.008	0.020	
14:30	0.91	2.09	0.033	0.021	
14:45	1.65	1.81	0.113	0.022	
15:00	1.37	2.87	0.081	0.023	
15:15	0.73	0.81	0.008	0.023	
15:30	1.04	1.00	0.018	0.023	
15:45	0.65	0.80	0.007	0.023	
16:00	0.85	1.06	0.015	0.023	
16:15	2.22	3.41	0.187	0.025	
16:30	0.73	0.77	0.008	0.025	
16:45	0.62	0.68	0.006	0.025	
17:00	1.37	0.70	0.018	0.025	
17:15	1.62	0.57	0.019	0.026	
17:30	0.81	0.64	0.008	0.026	
17:45	0.65	0.50	0.004	0.026	
18:00	1.54	1.70	0.107	0.027	
18:15	1.37	1.82	0.072	0.028	
18:30	0.49	0.59	0.004	0.028	
18:45	0.50	0.53	0.003	0.028	
19:00	0.48	0.51	0.003	0.028	
19:15	0.51	0.50	0.003	0.028	
19:30	0.53	0.63	0.004	0.028	
19:45	0.56	0.54	0.004	0.028	
20:00	0.55	0.58	0.004	0.028	
20:15	0.50	0.59	0.004	0.028	
20:30	0.53	0.57	0.004	0.028	
20:45	0.53	0.66	0.004	0.028	
21:00	0.69	0.51	0.005	0.028	
21:15	1.89	2.37	0.131	0.029	
21:30	1.84	2.36	0.135	0.031	
21:45	0.56	0.67	0.005	0.031	
22:00	0.53	0.57	0.004	0.031	
22:15	0.44	0.50	0.002	0.031	
22:30	0.48	0.46	0.003	0.031	
22:45	0.87	1.10	0.020	0.031	
23:00	0.44	0.58	0.003	0.031	
23:15	0.50	0.56	0.003	0.031	
23:30	0.50	0.47	0.003	0.031	
23:45	0.45	0.59	0.003	0.031	
Daily Totals:				**0.031**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 3
10 new King Court, P/S 3 North Castle, NY 8" Circulaar Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/6/2018					
0:00	0.48	0.54	0.003	0.000	
0:15	0.52	0.57	0.004	0.000	
0:30	0.45	0.51	0.003	0.000	
0:45	0.49	0.50	0.003	0.000	
1:00	0.43	0.47	0.002	0.000	
1:15	1.02	1.60	0.043	0.001	
1:30	1.87	2.69	0.141	0.002	
1:45	1.31	1.86	0.060	0.003	
2:00	0.65	0.77	0.007	0.003	
2:15	0.55	0.59	0.004	0.003	
2:30	1.14	2.42	0.058	0.003	
2:45	0.58	0.60	0.005	0.003	
3:00	0.55	0.59	0.004	0.004	
3:15	0.53	0.41	0.003	0.004	
3:30	0.48	0.43	0.002	0.004	
3:45	0.51	0.50	0.003	0.004	
4:00	0.48	0.61	0.003	0.004	
4:15	0.52	0.58	0.004	0.004	
4:30	0.85	0.76	0.010	0.004	
4:45	0.53	0.61	0.004	0.004	
5:00	0.52	0.69	0.004	0.004	
5:15	0.69	0.58	0.006	0.004	
5:30	1.48	1.80	0.109	0.005	
5:45	1.52	1.64	0.085	0.006	
6:00	0.59	0.54	0.004	0.006	
6:15	0.53	0.63	0.004	0.006	
6:30	0.62	0.71	0.006	0.006	
6:45	0.60	0.74	0.006	0.006	
7:00	0.69	0.69	0.007	0.006	
7:15	0.54	0.60	0.004	0.006	
7:30	0.51	0.62	0.004	0.006	
7:45	0.61	0.97	0.008	0.006	
8:00	0.64	0.90	0.008	0.006	
8:15	0.95	0.58	0.009	0.007	
8:30	1.72	2.35	0.114	0.008	
8:45	2.48	3.36	0.213	0.010	
9:00	0.66	0.68	0.006	0.010	
9:15	0.90	1.49	0.031	0.010	
9:30	0.72	0.59	0.006	0.010	
9:45	0.63	1.09	0.009	0.010	
10:00	0.70	0.65	0.006	0.011	
10:15	1.49	2.92	0.089	0.011	
10:30	2.94	2.78	0.227	0.014	
10:45	1.13	2.36	0.053	0.014	
11:00	0.64	0.92	0.008	0.014	
11:15	0.57	0.71	0.005	0.015	
11:30	0.63	0.72	0.006	0.015	
11:45	0.72	0.62	0.006	0.015	
12:00	1.51	0.70	0.021	0.015	
12:15	1.69	2.58	0.111	0.016	
12:30	0.64	0.73	0.006	0.016	
12:45	0.65	0.79	0.008	0.016	
13:00	0.57	0.69	0.005	0.016	
13:15	0.63	1.38	0.024	0.016	
13:30		0.00		0.016	
13:45		0.00		0.016	
14:00		0.00		0.016	
14:15		0.00		0.016	
14:30		0.00		0.016	
14:45		0.00		0.016	
15:00		0.00		0.016	
15:15		0.00		0.016	
15:30		0.00		0.016	
15:45		0.00		0.016	
16:00		0.00		0.016	
16:15		0.00		0.016	
16:30		0.00		0.016	
16:45		0.00		0.016	
17:00		0.00		0.016	
17:15		0.00		0.016	
17:30		0.00		0.016	
17:45		0.00		0.016	
18:00		0.00		0.016	
18:15		0.00		0.016	
18:30		0.00		0.016	
18:45		0.00		0.016	
19:00		0.00		0.016	
19:15		0.00		0.016	
19:30		0.00		0.016	
19:45		0.00		0.016	
20:00		0.00		0.016	
20:15		0.00		0.016	
20:30		0.00		0.016	
20:45		0.00		0.016	
21:00		0.00		0.016	
21:15		0.00		0.016	
21:30		0.00		0.016	
21:45		0.00		0.016	
22:00		0.00		0.016	
22:15		0.00		0.016	
22:30		0.00		0.016	
22:45		0.00		0.016	
23:00		0.00		0.016	
23:15		0.00		0.016	
23:30		0.00		0.016	
23:45		0.00		0.016	
Daily Totals:				**0.016**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/1/2018					
0:00					
0:15					
0:30					
0:45					
1:00					
1:15					
1:30					
1:45					
2:00					
2:15					
2:30					
2:45					
3:00					
3:15					
3:30					
3:45					
4:00					
4:15					
4:30					
4:45					
5:00					
5:15					
5:30					
5:45					
6:00					
6:15					
6:30					
6:45					
7:00					
7:15					
7:30					
7:45					
8:00					
8:15					
8:30					
8:45					
9:00					
9:15					
9:30					
9:45					
10:00					
10:15					
10:30					
10:45					
11:00					
11:15					
11:30					
11:45					
12:00					
12:15					
12:30					
12:45					
13:00					
13:15					
13:30					
13:45					
14:00	0.30	0.23	0.004	0.000	
14:15	0.93	0.61	0.011	0.000	
14:30	1.80	1.34	0.154	0.002	
14:45	2.34	2.04	0.165	0.003	
15:00	1.24	0.65	0.019	0.004	
15:15	1.07	0.15	0.003	0.004	
15:30	1.07	1.22	0.027	0.004	
15:45	1.16	0.29	0.008	0.004	
16:00	1.08	0.00	0.000	0.004	
16:15	2.95	2.13	0.306	0.007	
16:30	1.99	1.47	0.087	0.008	
16:45	1.31	0.62	0.019	0.008	
17:00	1.22	0.00	0.000	0.008	
17:15	1.17	0.00	0.000	0.008	
17:30	1.18	0.00	0.000	0.008	
17:45	1.18	0.07	0.002	0.008	
18:00	1.20	0.23	0.006	0.008	
18:15	1.20	0.27	0.007	0.009	
18:30	1.13	0.00	0.000	0.009	
18:45	1.13	0.14	0.004	0.009	
19:00	1.09	0.00	0.000	0.009	
19:15	1.08	0.00	0.000	0.009	
19:30	1.07	0.00	0.000	0.009	
19:45	1.16	0.14	0.004	0.009	
20:00	1.25	0.53	0.015	0.009	
20:15	2.13	1.55	0.160	0.010	
20:30	2.98	1.90	0.237	0.013	
20:45	1.50	0.57	0.023	0.013	
21:00	1.25	0.19	0.006	0.013	
21:15	1.15	0.00	0.000	0.013	
21:30	1.11	0.00	0.000	0.013	
21:45	1.38	0.84	0.027	0.013	
22:00	1.41	0.69	0.023	0.014	
22:15	1.34	0.44	0.014	0.014	
22:30	1.19	0.13	0.004	0.014	
22:45	1.12	0.00	0.000	0.014	
23:00	1.14	0.00	0.000	0.014	
23:15	1.13	0.00	0.000	0.014	
23:30	1.25	0.33	0.010	0.014	
23:45	1.30	0.20	0.006	0.014	
Daily Totals:				**0.014**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road — North Castle, NY — 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/2/2018					
0:00	1.21	0.13	0.004	0.000	
0:15	1.18	0.00	0.000	0.000	
0:30	1.19	0.08	0.002	0.000	
0:45	1.14	0.22	0.005	0.000	
1:00	1.10	0.00	0.000	0.000	
1:15	1.07	0.00	0.000	0.000	
1:30	1.02	0.05	0.001	0.000	
1:45	0.99	0.00	0.000	0.000	
2:00	0.98	0.00	0.000	0.000	
2:15	1.02	0.00	0.000	0.000	
2:30	1.04	0.00	0.000	0.000	
2:45	1.00	0.07	0.002	0.000	
3:00	1.00	0.00	0.000	0.000	
3:15	1.31	0.42	0.014	0.000	
3:30	1.66	1.05	0.047	0.001	
3:45	1.36	0.73	0.023	0.001	
4:00	1.37	0.79	0.025	0.001	
4:15	3.06	2.19	0.250	0.004	
4:30	1.56	0.91	0.036	0.004	
4:45	1.41	0.39	0.013	0.004	
5:00	1.38	0.24	0.008	0.004	
5:15	1.28	0.15	0.005	0.005	
5:30	1.13	0.00	0.000	0.005	
5:45	1.08	0.00	0.000	0.005	
6:00	1.10	0.09	0.002	0.005	
6:15	1.19	0.29	0.008	0.005	
6:30	1.15	0.34	0.008	0.005	
6:45	1.30	0.64	0.020	0.005	
7:00	1.28	0.40	0.012	0.005	
7:15	1.19	0.43	0.011	0.005	
7:30	1.23	0.14	0.004	0.005	
7:45	1.19	0.22	0.006	0.005	
8:00	1.39	0.61	0.020	0.005	
8:15	1.48	0.59	0.021	0.006	
8:30	3.54	2.67	0.360	0.009	
8:45	1.65	1.13	0.050	0.010	
9:00	1.47	0.81	0.029	0.010	
9:15	1.43	0.87	0.030	0.011	
9:30	1.30	0.21	0.006	0.011	
9:45	1.32	0.47	0.014	0.011	
10:00	1.47	0.69	0.028	0.011	
10:15	3.76	2.78	0.396	0.015	
10:30	1.74	1.04	0.050	0.016	
10:45	1.45	0.70	0.024	0.016	
11:00	1.46	0.71	0.025	0.016	
11:15	1.34	0.44	0.014	0.016	
11:30	1.21	0.73	0.020	0.017	
11:45	1.25	0.33	0.010	0.017	
12:00	1.21	0.11	0.003	0.017	
12:15	1.25	0.23	0.007	0.017	
12:30	3.35	2.37	0.304	0.020	
12:45	1.60	0.87	0.037	0.020	
13:00	1.69	0.78	0.051	0.021	
13:15	1.35	0.26	0.010	0.021	
13:30	1.25	0.16	0.004	0.021	
13:45	1.19	0.11	0.003	0.021	
14:00	1.15	0.40	0.010	0.021	
14:15	3.07	2.06	0.304	0.024	
14:30	2.00	1.28	0.078	0.025	
14:45	1.34	0.24	0.008	0.025	
15:00	1.20	0.00	0.000	0.025	
15:15	1.13	0.50	0.012	0.025	
15:30	1.19	0.53	0.014	0.025	
15:45	1.42	0.66	0.023	0.026	
16:00	1.21	0.24	0.007	0.026	
16:15	1.70	0.94	0.050	0.026	
16:30	3.77	2.82	0.390	0.030	
16:45	1.80	0.95	0.047	0.031	
17:00	1.27	0.34	0.011	0.031	
17:15	1.16	0.00	0.000	0.031	
17:30	1.44	0.60	0.022	0.031	
17:45	1.45	1.13	0.040	0.032	
18:00	1.48	0.81	0.029	0.032	
18:15	1.45	0.74	0.026	0.032	
18:30	1.45	0.54	0.019	0.032	
18:45	1.45	0.11	0.003	0.032	
19:00	1.25	0.17	0.005	0.032	
19:15	1.20	0.23	0.006	0.033	
19:30	1.22	0.62	0.016	0.033	
19:45	1.22	0.40	0.011	0.033	
20:00	1.23	0.20	0.006	0.033	
20:15	1.38	0.66	0.022	0.033	
20:30	1.44	0.67	0.023	0.033	
20:45	1.43	0.60	0.021	0.034	
21:00	3.10	2.16	0.250	0.036	
21:15	1.69	0.54	0.020	0.036	
21:30	1.50	0.84	0.031	0.037	
21:45	1.75	1.03	0.047	0.037	
22:00	1.71	0.89	0.040	0.038	
22:15	1.88	0.96	0.049	0.038	
22:30	1.83	0.75	0.037	0.038	
22:45	1.70	0.69	0.031	0.039	
23:00	1.67	0.42	0.018	0.039	
23:15	1.62	0.61	0.025	0.039	
23:30	2.03	0.89	0.056	0.040	
23:45	3.41	2.40	0.306	0.043	
Daily Totals:				**0.043**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/3/2018					
0:00	1.65	1.09	0.047	0.000	
0:15	1.41	0.64	0.021	0.001	
0:30	1.37	0.63	0.020	0.001	
0:45	1.36	0.56	0.018	0.001	
1:00	1.36	0.68	0.022	0.001	
1:15	1.36	0.65	0.020	0.002	
1:30	1.51	0.79	0.030	0.002	
1:45	1.65	1.11	0.047	0.002	
2:00	3.33	2.41	0.340	0.006	
2:15	2.27	1.55	0.113	0.007	
2:30	1.62	0.99	0.040	0.007	
2:45	1.56	0.85	0.033	0.008	
3:00	1.50	0.73	0.027	0.008	
3:15	1.47	0.79	0.028	0.008	
3:30	1.48	1.16	0.042	0.009	
3:45	1.64	0.61	0.024	0.009	
4:00	1.52	0.99	0.037	0.009	
4:15	1.50	0.82	0.030	0.010	
4:30	1.50	0.81	0.030	0.010	
4:45	1.52	0.76	0.028	0.010	
5:00	1.48	0.78	0.028	0.011	
5:15	2.75	1.96	0.221	0.013	
5:30	1.77	1.21	0.059	0.014	
5:45	1.47	0.78	0.028	0.014	
6:00	1.48	0.57	0.021	0.014	
6:15	1.41	0.79	0.026	0.014	
6:30	1.42	0.75	0.025	0.015	
6:45	1.38	0.40	0.013	0.015	
7:00	1.36	0.77	0.024	0.015	
7:15	1.36	0.86	0.027	0.015	
7:30	1.31	0.60	0.018	0.016	
7:45	1.44	0.79	0.029	0.016	
8:00	3.14	2.37	0.317	0.019	
8:15	2.06	1.43	0.088	0.020	
8:30	1.39	0.59	0.020	0.020	
8:45	1.18	0.48	0.012	0.020	
9:00	1.16	0.26	0.007	0.020	
9:15	1.16	0.00	0.000	0.020	
9:30	1.22	0.35	0.009	0.021	
9:45	1.18	0.00	0.000	0.021	
10:00	1.22	0.39	0.011	0.021	
10:15	1.17	0.00	0.000	0.021	
10:30	1.18	0.12	0.003	0.021	
10:45	1.08	0.08	0.002	0.021	
11:00	1.16	0.00	0.000	0.021	
11:15	1.14	0.00	0.000	0.021	
11:30	1.10	0.00	0.000	0.021	
11:45	1.83	1.08	0.124	0.022	
12:00	3.10	2.27	0.271	0.025	
12:15	1.52	0.88	0.034	0.025	
12:30	1.25	0.56	0.016	0.025	
12:45	1.22	0.16	0.004	0.025	
13:00	1.12	0.12	0.003	0.025	
13:15	1.10	0.00	0.000	0.025	
13:30	1.06	0.00	0.000	0.025	
13:45	1.18	0.54	0.014	0.026	
14:00	1.13	0.81	0.020	0.026	
14:15	1.07	0.24	0.005	0.026	
14:30	1.09	0.26	0.006	0.026	
14:45	1.13	0.48	0.012	0.026	
15:00	1.08	0.49	0.012	0.026	
15:15	1.13	0.45	0.011	0.026	
15:30	1.10	0.58	0.014	0.026	
15:45	1.07	0.19	0.004	0.026	
16:00	1.04	0.00	0.000	0.026	
16:15	1.01	0.00	0.000	0.026	
16:30	3.81	2.79	0.411	0.031	
16:45	1.69	1.00	0.046	0.031	
17:00	1.27	0.40	0.012	0.031	
17:15	1.09	0.00	0.000	0.031	
17:30	1.06	0.00	0.000	0.031	
17:45	1.06	0.06	0.001	0.031	
18:00	1.01	0.00	0.000	0.031	
18:15	1.01	0.00	0.000	0.031	
18:30	0.98	0.00	0.000	0.031	
18:45	1.08	0.00	0.000	0.031	
19:00	1.05	0.36	0.008	0.031	
19:15	1.04	0.08	0.002	0.031	
19:30	1.00	0.00	0.000	0.031	
19:45	1.02	0.00	0.000	0.031	
20:00	1.00	0.00	0.000	0.031	
20:15	1.07	0.31	0.007	0.031	
20:30	0.99	0.00	0.000	0.031	
20:45	1.01	0.00	0.000	0.031	
21:00	0.95	0.00	0.000	0.031	
21:15	0.93	0.00	0.000	0.031	
21:30	0.93	0.00	0.000	0.031	
21:45	0.93	0.10	0.002	0.032	
22:00	1.00	0.00	0.000	0.032	
22:15	1.02	0.00	0.000	0.032	
22:30	1.00	0.00	0.000	0.032	
22:45	0.99	0.00	0.000	0.032	
23:00	0.96	0.00	0.000	0.032	
23:15	1.94	1.09	0.155	0.033	
23:30	3.69	2.42	0.384	0.037	
23:45	1.63	1.03	0.045	0.038	
Daily Totals:				**0.038**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/4/2018					
0:00	1.26	0.00	0.000	0.000	
0:15	1.17	0.38	0.009	0.000	
0:30	1.08	0.52	0.012	0.000	
0:45	1.02	0.00	0.000	0.000	
1:00	1.03	0.00	0.000	0.000	
1:15	0.97	0.00	0.000	0.000	
1:30	0.94	0.00	0.000	0.000	
1:45	0.95	0.00	0.000	0.000	
2:00	0.94	0.00	0.000	0.000	
2:15	0.93	0.00	0.000	0.000	
2:30	0.93	0.00	0.000	0.000	
2:45	0.93	0.00	0.000	0.000	
3:00	0.93	0.00	0.000	0.000	
3:15	0.96	0.00	0.000	0.000	
3:30	0.96	0.00	0.000	0.000	
3:45	0.96	0.00	0.000	0.000	
4:00	0.96	0.00	0.000	0.000	
4:15	0.94	0.00	0.000	0.000	
4:30	0.98	0.00	0.000	0.000	
4:45	1.04	0.25	0.006	0.000	
5:00	1.09	0.24	0.006	0.000	
5:15	0.99	0.00	0.000	0.000	
5:30	0.95	0.15	0.003	0.000	
5:45	2.69	1.87	0.244	0.003	
6:00	1.70	1.12	0.052	0.003	
6:15	1.28	0.34	0.010	0.004	
6:30	2.17	1.15	0.187	0.005	
6:45	2.58	1.89	0.176	0.007	
7:00	1.81	1.10	0.061	0.008	
7:15	1.33	0.50	0.017	0.008	
7:30	1.11	0.00	0.000	0.008	
7:45	1.13	0.30	0.007	0.008	
8:00	1.14	0.29	0.007	0.008	
8:15	1.12	0.50	0.012	0.008	
8:30	1.09	0.26	0.006	0.008	
8:45	1.07	0.07	0.002	0.009	
9:00	1.19	0.34	0.009	0.009	
9:15	1.40	0.71	0.023	0.009	
9:30	1.45	0.67	0.023	0.009	
9:45	1.47	0.57	0.020	0.009	
10:00	1.47	0.47	0.017	0.009	
10:15	1.54	0.79	0.030	0.010	
10:30	1.44	0.37	0.013	0.010	
10:45	1.36	0.35	0.011	0.010	
11:00	1.44	0.84	0.028	0.010	
11:15	1.49	0.65	0.024	0.011	
11:30	1.39	0.28	0.009	0.011	
11:45	1.41	0.46	0.015	0.011	
12:00	1.35	0.08	0.003	0.011	
12:15	1.32	0.13	0.004	0.011	
12:30	1.32	0.09	0.003	0.011	
12:45	1.30	0.51	0.015	0.011	
13:00	1.30	0.00	0.000	0.011	
13:15	1.21	0.00	0.000	0.011	
13:30	1.23	0.00	0.000	0.011	
13:45	1.30	0.20	0.007	0.011	
14:00	1.33	0.23	0.008	0.011	
14:15	1.23	0.00	0.000	0.011	
14:30	1.27	0.74	0.022	0.011	
14:45	1.25	0.38	0.010	0.012	
15:00	1.37	0.74	0.023	0.012	
15:15	1.39	0.32	0.011	0.012	
15:30	1.31	0.25	0.008	0.012	
15:45	1.19	0.28	0.007	0.012	
16:00	1.40	0.53	0.022	0.012	
16:15	2.28	1.41	0.189	0.014	
16:30	3.12	2.33	0.288	0.017	
16:45	1.47	0.68	0.024	0.018	
17:00	1.22	0.00	0.000	0.018	
17:15	1.21	0.00	0.000	0.018	
17:30	1.17	0.27	0.007	0.018	
17:45	1.08	0.25	0.006	0.018	
18:00	1.05	0.36	0.008	0.018	
18:15	1.04	0.06	0.001	0.018	
18:30	1.09	0.25	0.006	0.018	
18:45	1.10	0.31	0.008	0.018	
19:00	1.04	0.11	0.003	0.018	
19:15	1.04	0.16	0.004	0.018	
19:30	1.10	0.26	0.006	0.018	
19:45	1.33	0.64	0.020	0.018	
20:00	1.44	0.66	0.023	0.019	
20:15	1.15	0.07	0.002	0.019	
20:30	1.12	0.06	0.001	0.019	
20:45	1.12	0.05	0.001	0.019	
21:00	1.08	0.08	0.002	0.019	
21:15	1.05	0.00	0.000	0.019	
21:30	0.97	0.09	0.002	0.019	
21:45	1.02	0.06	0.001	0.019	
22:00	1.08	0.14	0.003	0.019	
22:15	1.17	0.33	0.009	0.019	
22:30	1.08	0.12	0.003	0.019	
22:45	1.01	0.00	0.000	0.019	
23:00	0.98	0.00	0.000	0.019	
23:15	0.92	0.00	0.000	0.019	
23:30	0.91	0.00	0.000	0.019	
23:45	0.96	0.00	0.000	0.019	
Daily Totals:				**0.019**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/5/2018					
0:00	1.00	0.00	0.000	0.000	
0:15	1.00	0.00	0.000	0.000	
0:30	1.05	0.00	0.000	0.000	
0:45	1.00	0.00	0.000	0.000	
1:00	1.00	0.00	0.000	0.000	
1:15	0.96	0.11	0.002	0.000	
1:30	2.90	2.21	0.316	0.003	
1:45	3.19	1.68	0.228	0.006	
2:00	1.51	0.83	0.033	0.006	
2:15	1.18	0.23	0.006	0.006	
2:30	1.03	0.08	0.002	0.006	
2:45	0.97	0.00	0.000	0.006	
3:00	0.96	0.22	0.004	0.006	
3:15	0.94	0.20	0.004	0.006	
3:30	0.94	0.37	0.007	0.006	
3:45	1.04	0.00	0.000	0.006	
4:00	0.99	0.00	0.000	0.006	
4:15	0.99	0.07	0.001	0.006	
4:30	0.96	0.34	0.006	0.006	
4:45	1.20	0.25	0.007	0.006	
5:00	1.07	0.08	0.002	0.006	
5:15	0.97	0.00	0.000	0.006	
5:30	0.95	0.00	0.000	0.006	
5:45	1.06	0.18	0.004	0.006	
6:00	1.05	0.00	0.000	0.006	
6:15	1.05	0.00	0.000	0.006	
6:30	1.02	0.00	0.000	0.006	
6:45	1.08	0.00	0.000	0.006	
7:00	1.14	0.51	0.013	0.007	
7:15	1.19	0.47	0.013	0.007	
7:30	1.52	0.99	0.048	0.007	
7:45	1.31	0.62	0.019	0.007	
8:00	1.09	0.59	0.014	0.008	
8:15	1.05	0.23	0.005	0.008	
8:30	1.05	0.26	0.006	0.008	
8:45	3.20	2.58	0.386	0.012	
9:00	2.98	1.56	0.201	0.014	
9:15	1.55	0.49	0.020	0.014	
9:30	1.22	0.26	0.007	0.014	
9:45	1.29	0.44	0.013	0.014	
10:00	1.27	0.32	0.010	0.014	
10:15	1.26	0.33	0.009	0.014	
10:30	1.76	0.89	0.051	0.015	
10:45	1.38	0.33	0.011	0.015	
11:00	1.51	0.68	0.025	0.015	
11:15	1.68	0.83	0.036	0.016	
11:30	3.53	2.36	0.386	0.020	
11:45	4.47	3.52	0.608	0.026	
12:00	2.87	1.89	0.220	0.028	
12:15	3.93	2.75	0.437	0.033	
12:30	1.67	0.92	0.040	0.033	
12:45	1.39	0.61	0.022	0.034	
13:00	1.26	0.64	0.018	0.034	
13:15	1.12	0.27	0.006	0.034	
13:30	1.01	0.17	0.003	0.034	
13:45	2.23	1.38	0.183	0.036	
14:00	3.22	2.27	0.285	0.039	
14:15	1.47	0.76	0.027	0.039	
14:30	1.13	0.34	0.009	0.039	
14:45	1.14	0.71	0.018	0.039	
15:00	1.10	0.37	0.009	0.039	
15:15	1.01	0.00	0.000	0.039	
15:30	3.60	2.37	0.330	0.043	
15:45	1.54	0.69	0.028	0.043	
16:00	1.13	0.24	0.006	0.043	
16:15	1.72	0.78	0.043	0.044	
16:30	1.29	0.65	0.020	0.044	
16:45	1.28	0.58	0.017	0.044	
17:00	1.25	0.53	0.015	0.044	
17:15	1.28	0.23	0.006	0.044	
17:30	3.76	2.72	0.393	0.048	
17:45	1.63	1.07	0.046	0.049	
18:00	1.22	0.48	0.013	0.049	
18:15	1.11	0.37	0.009	0.049	
18:30	1.03	0.23	0.005	0.049	
18:45	1.10	0.46	0.011	0.049	
19:00	1.05	0.45	0.009	0.049	
19:15	0.99	0.35	0.007	0.049	
19:30	1.50	0.76	0.037	0.050	
19:45	1.04	0.00	0.000	0.050	
20:00	1.12	0.35	0.009	0.050	
20:15	3.61	2.30	0.320	0.053	
20:30	1.64	0.70	0.032	0.053	
20:45	1.18	0.12	0.003	0.054	
21:00	1.12	0.19	0.004	0.054	
21:15	1.07	0.16	0.003	0.054	
21:30	1.04	0.08	0.002	0.054	
21:45	1.03	0.15	0.003	0.054	
22:00	1.04	0.00	0.000	0.054	
22:15	1.03	0.00	0.000	0.054	
22:30	0.98	0.00	0.000	0.054	
22:45	1.02	0.00	0.000	0.054	
23:00	1.00	0.00	0.000	0.054	
23:15	1.07	0.00	0.000	0.054	
23:30	1.15	0.42	0.010	0.054	
23:45	1.64	0.70	0.040	0.054	
Daily Totals:				**0.054**	

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/6/2018					
0:00	1.06	0.20	0.005	0.000	
0:15	1.12	0.26	0.006	0.000	
0:30	2.23	1.09	0.171	0.002	
0:45	2.51	1.62	0.139	0.003	
1:00	1.32	0.53	0.016	0.004	
1:15	1.04	0.07	0.002	0.004	
1:30	1.00	0.00	0.000	0.004	
1:45	0.98	0.00	0.000	0.004	
2:00	0.95	0.00	0.000	0.004	
2:15	0.92	0.00	0.000	0.004	
2:30	0.87	0.00	0.000	0.004	
2:45	0.84	0.00	0.000	0.004	
3:00	0.80	0.00	0.000	0.004	
3:15	0.79	0.00	0.000	0.004	
3:30	0.81	0.00	0.000	0.004	
3:45	0.83	0.00	0.000	0.004	
4:00	2.59	1.50	0.192	0.006	
4:15	1.65	1.00	0.043	0.006	
4:30	1.16	0.30	0.008	0.006	
4:45	1.00	0.00	0.000	0.006	
5:00	2.02	0.98	0.151	0.008	
5:15	1.99	1.08	0.065	0.008	
5:30	1.18	0.24	0.007	0.008	
5:45	0.95	0.00	0.000	0.008	
6:00	0.93	0.00	0.000	0.008	
6:15	0.89	0.00	0.000	0.008	
6:30	0.94	0.00	0.000	0.008	
6:45	0.93	0.00	0.000	0.008	
7:00	0.88	0.00	0.000	0.008	
7:15	1.01	0.25	0.005	0.008	
7:30	2.05	1.08	0.155	0.010	
7:45	2.79	2.04	0.220	0.012	
8:00	1.85	1.18	0.060	0.013	
8:15	1.23	0.69	0.020	0.013	
8:30	1.15	0.27	0.007	0.013	
8:45	1.15	0.40	0.010	0.013	
9:00	1.11	0.79	0.019	0.014	
9:15	3.99	2.73	0.410	0.018	
9:30	3.70	2.58	0.389	0.022	
9:45	3.35	2.15	0.284	0.025	
10:00	2.54	1.53	0.141	0.026	
10:15	2.39	1.45	0.188	0.028	
10:30	2.82	1.78	0.204	0.030	
10:45	1.87	1.06	0.055	0.031	
11:00	1.79	0.94	0.045	0.031	
11:15	1.77	0.90	0.042	0.032	
11:30	1.71	0.90	0.040	0.032	
11:45	1.63	0.81	0.034	0.033	
12:00	4.18	2.79	0.455	0.037	
12:15	1.97	1.15	0.063	0.038	
12:30	1.54	0.85	0.033	0.038	
12:45	1.51	0.85	0.032	0.039	
13:00	1.72	0.98	0.050	0.039	
13:15	1.67	0.92	0.039	0.040	
13:30	2.89	1.81	0.222	0.042	
13:45	2.71	1.79	0.217	0.044	
14:00	3.25	2.22	0.288	0.047	
14:15	1.53	0.76	0.030	0.047	
14:30	1.51	0.87	0.033	0.048	
14:45	1.34	0.40	0.013	0.048	
15:00	1.48	0.62	0.027	0.048	
15:15	3.33	2.37	0.362	0.052	
15:30	2.25	1.22	0.090	0.053	
15:45	1.40	0.67	0.022	0.053	
16:00	1.27	0.70	0.021	0.053	
16:15	1.20	0.51	0.013	0.054	0.01
16:30	1.20	0.48	0.013	0.054	
16:45	1.10	0.45	0.010	0.054	0.02
17:00	3.93	2.94	0.430	0.058	0.03
17:15	1.93	1.10	0.062	0.059	0.01
17:30	1.40	0.39	0.013	0.059	
17:45	1.71	0.49	0.033	0.059	
18:00	1.32	0.74	0.023	0.060	
18:15	1.21	0.51	0.014	0.060	0.01
18:30	1.14	0.36	0.009	0.060	
18:45	1.11	0.19	0.005	0.060	
19:00	3.15	2.15	0.338	0.063	
19:15	1.98	0.94	0.057	0.064	
19:30	1.27	0.28	0.008	0.064	
19:45	1.12	0.00	0.000	0.064	
20:00	1.09	0.00	0.000	0.064	
20:15	1.19	0.41	0.011	0.064	
20:30	1.17	0.18	0.005	0.064	
20:45	1.13	0.08	0.002	0.064	
21:00	1.11	0.10	0.002	0.064	
21:15	1.37	0.77	0.028	0.065	
21:30	0.96	0.00	0.000	0.065	
21:45	3.81	2.58	0.389	0.069	
22:00	1.60	1.08	0.048	0.069	
22:15	1.15	0.00	0.000	0.069	
22:30	1.01	0.00	0.000	0.069	
22:45	0.99	0.00	0.000	0.069	
23:00	1.01	0.07	0.002	0.069	
23:15	0.95	0.12	0.002	0.069	
23:30	0.93	0.00	0.000	0.069	
23:45	0.91	0.07	0.001	0.069	
Daily Totals:				**0.069**	**0.08**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/7/2018					
0:00	0.84	0.00	0.000	0.000	
0:15	0.92	0.00	0.000	0.000	
0:30	0.83	0.00	0.000	0.000	
0:45	0.83	0.00	0.000	0.000	
1:00	0.88	0.00	0.000	0.000	
1:15	0.89	0.00	0.000	0.000	
1:30	0.84	0.00	0.000	0.000	
1:45	4.25	3.05	0.489	0.005	
2:00	1.98	1.20	0.071	0.006	
2:15	1.19	0.17	0.005	0.006	
2:30	0.98	0.00	0.000	0.006	
2:45	0.92	0.00	0.000	0.006	
3:00	0.85	0.00	0.000	0.006	
3:15	0.86	0.00	0.000	0.006	
3:30	1.03	0.19	0.005	0.006	
3:45	1.25	0.31	0.009	0.006	
4:00	1.18	0.13	0.004	0.006	
4:15	0.93	0.00	0.000	0.006	
4:30	0.83	0.00	0.000	0.006	
4:45	0.88	0.00	0.000	0.006	
5:00	1.06	0.09	0.002	0.006	
5:15	0.96	0.06	0.001	0.006	
5:30	0.92	0.20	0.004	0.006	
5:45	0.97	0.14	0.003	0.006	
6:00	0.94	0.07	0.001	0.006	
6:15	0.90	0.00	0.000	0.006	
6:30	1.89	0.95	0.133	0.008	
6:45	3.29	2.10	0.271	0.010	
7:00	1.34	0.35	0.013	0.011	
7:15	1.04	0.00	0.000	0.011	
7:30	0.93	0.00	0.000	0.011	
7:45	1.31	0.40	0.020	0.011	
8:00	1.01	0.66	0.014	0.011	
8:15	0.97	0.27	0.005	0.011	
8:30	2.26	1.58	0.239	0.013	
8:45	2.58	1.65	0.170	0.015	
9:00	1.32	0.36	0.011	0.015	
9:15	1.25	0.45	0.013	0.015	
9:30	1.05	0.23	0.005	0.015	
9:45	4.14	3.43	0.535	0.021	
10:00	1.90	0.87	0.055	0.022	
10:15	2.99	2.22	0.288	0.025	
10:30	1.72	1.07	0.052	0.025	
10:45	1.26	0.63	0.019	0.025	
11:00	1.03	0.31	0.006	0.025	
11:15	1.17	0.64	0.017	0.026	
11:30	1.35	0.48	0.019	0.026	
11:45	3.63	2.80	0.376	0.030	
12:00	1.50	1.11	0.041	0.030	
12:15	1.07	0.68	0.015	0.030	
12:30	1.01	0.43	0.009	0.030	
12:45	0.96	0.39	0.007	0.030	
13:00	0.97	0.49	0.010	0.031	
13:15	2.10	1.42	0.159	0.032	
13:30	2.54	1.83	0.186	0.034	
13:45	1.20	0.59	0.016	0.034	
14:00	1.00	0.40	0.008	0.034	
14:15	1.02	0.31	0.007	0.035	
14:30	1.05	0.32	0.007	0.035	
14:45	3.52	2.51	0.346	0.038	
15:00	1.58	1.02	0.041	0.039	
15:15	1.05	0.00	0.000	0.039	
15:30	1.03	0.18	0.004	0.039	
15:45	0.97	0.25	0.005	0.039	
16:00	0.93	0.29	0.005	0.039	
16:15	0.94	0.34	0.006	0.039	
16:30	0.93	0.22	0.004	0.039	
16:45	2.51	1.85	0.188	0.041	
17:00	2.75	1.89	0.214	0.043	
17:15	1.22	0.36	0.011	0.043	
17:30	1.03	0.00	0.000	0.043	
17:45	0.95	0.00	0.000	0.043	
18:00	1.00	0.38	0.009	0.043	
18:15	1.04	0.21	0.005	0.043	
18:30	0.88	0.00	0.000	0.043	
18:45	0.82	0.00	0.000	0.043	
19:00	0.85	0.00	0.000	0.043	
19:15	0.84	0.00	0.000	0.043	
19:30	1.71	1.98	0.136	0.045	
19:45	1.61	0.90	0.040	0.045	
20:00	1.09	0.13	0.003	0.045	
20:15	1.05	0.24	0.005	0.045	
20:30	0.99	0.44	0.009	0.045	
20:45	0.95	0.37	0.007	0.045	
21:00	0.97	0.38	0.007	0.045	
21:15	1.88	1.09	0.130	0.047	
21:30	2.45	1.83	0.176	0.049	
21:45	1.16	0.29	0.008	0.049	
22:00	0.96	0.00	0.000	0.049	
22:15	0.86	0.00	0.000	0.049	
22:30	1.01	0.58	0.012	0.049	
22:45	0.93	0.00	0.000	0.049	
23:00	0.85	0.00	0.000	0.049	
23:15	0.91	0.00	0.000	0.049	
23:30	0.85	0.00	0.000	0.049	
23:45	0.79	0.00	0.000	0.049	
Daily Totals:				**0.049**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/8/2018					
0:00	0.83	0.00	0.000	0.000	
0:15	0.80	0.00	0.000	0.000	
0:30	0.82	0.00	0.000	0.000	
0:45	0.86	0.00	0.000	0.000	
1:00	0.83	0.00	0.000	0.000	
1:15	0.78	0.00	0.000	0.000	
1:30	0.80	0.00	0.000	0.000	
1:45	0.97	0.15	0.003	0.000	
2:00	0.96	0.18	0.004	0.000	
2:15	0.91	0.00	0.000	0.000	
2:30	0.89	0.00	0.000	0.000	
2:45	1.04	0.27	0.006	0.000	
3:00	0.99	0.00	0.000	0.000	
3:15	0.88	0.00	0.000	0.000	
3:30	0.85	0.00	0.000	0.000	
3:45	0.84	0.00	0.000	0.000	
4:00	0.82	0.00	0.000	0.000	
4:15	0.80	0.00	0.000	0.000	
4:30	0.94	0.07	0.001	0.000	
4:45	0.93	0.20	0.004	0.000	
5:00	0.86	0.00	0.000	0.000	
5:15	1.98	1.84	0.156	0.002	
5:30	2.27	1.38	0.103	0.003	
5:45	1.26	0.24	0.007	0.003	
6:00	1.05	0.00	0.000	0.003	
6:15	0.91	0.00	0.000	0.003	
6:30	0.79	0.00	0.000	0.003	
6:45	0.77	0.00	0.000	0.003	
7:00	0.81	0.00	0.000	0.003	
7:15	0.79	0.00	0.000	0.003	
7:30	0.83	0.00	0.000	0.003	
7:45	0.93	0.00	0.000	0.003	
8:00	0.94	0.24	0.005	0.003	
8:15	0.85	0.00	0.000	0.003	
8:30	0.81	0.12	0.002	0.003	
8:45	0.97	0.98	0.022	0.003	
9:00	3.19	2.35	0.280	0.006	
9:15	1.36	0.74	0.025	0.006	
9:30	1.04	0.41	0.009	0.007	
9:45	1.03	0.21	0.005	0.007	
10:00	0.99	0.25	0.005	0.007	
10:15	0.90	0.08	0.001	0.007	
10:30	0.87	0.00	0.000	0.007	
10:45	1.93	1.31	0.152	0.008	
11:00	2.33	1.52	0.126	0.010	
11:15	1.25	0.17	0.006	0.010	
11:30	3.48	2.43	0.326	0.013	
11:45	1.47	0.66	0.025	0.013	
12:00	1.10	0.29	0.007	0.013	
12:15	1.02	0.00	0.000	0.013	
12:30	1.13	0.41	0.010	0.013	
12:45	1.07	0.25	0.006	0.013	
13:00	1.09	0.32	0.008	0.014	
13:15	2.09	1.41	0.168	0.015	
13:30	2.78	2.04	0.232	0.018	
13:45	1.25	0.53	0.016	0.018	
14:00	1.04	0.35	0.007	0.018	
14:15	0.90	0.00	0.000	0.018	
14:30	0.92	0.12	0.002	0.018	
14:45	0.87	0.17	0.003	0.018	
15:00	0.87	0.13	0.002	0.018	
15:15	2.64	1.79	0.223	0.020	
15:30	1.61	0.75	0.037	0.021	
15:45	1.11	0.29	0.007	0.021	
16:00	2.68	2.15	0.236	0.023	
16:15	1.48	0.88	0.034	0.024	
16:30	1.00	0.40	0.008	0.024	
16:45	1.01	0.41	0.010	0.024	
17:00	1.00	0.32	0.007	0.024	
17:15	0.99	0.26	0.005	0.024	
17:30	0.90	0.17	0.003	0.024	
17:45	0.89	0.14	0.002	0.024	
18:00	0.83	0.06	0.001	0.024	
18:15	2.58	1.90	0.177	0.026	
18:30	1.24	0.51	0.015	0.026	
18:45	2.59	1.45	0.179	0.028	
19:00	1.61	0.84	0.036	0.028	
19:15	1.18	0.36	0.009	0.028	
19:30	0.98	0.00	0.000	0.028	
19:45	0.92	0.00	0.000	0.028	
20:00	0.89	0.00	0.000	0.028	
20:15	0.86	0.00	0.000	0.028	
20:30	0.96	0.13	0.003	0.028	
20:45	0.90	0.00	0.000	0.028	
21:00	0.89	0.00	0.000	0.028	
21:15	0.89	0.11	0.002	0.028	
21:30	0.85	0.00	0.000	0.028	
21:45	0.82	0.00	0.000	0.028	
22:00	0.88	0.00	0.000	0.028	
22:15	0.88	0.00	0.000	0.028	
22:30	0.92	0.00	0.000	0.028	
22:45	0.83	0.00	0.000	0.028	
23:00	0.79	0.00	0.000	0.028	
23:15	0.89	0.13	0.002	0.028	
23:30	1.07	0.35	0.010	0.029	
23:45	3.08	1.87	0.293	0.032	
Daily Totals:				**0.032**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/9/2018					
0:00	1.86	1.02	0.057	0.001	
0:15	1.18	0.33	0.009	0.001	
0:30	1.02	0.00	0.000	0.001	
0:45	0.91	0.00	0.000	0.001	
1:00	0.87	0.00	0.000	0.001	
1:15	0.86	0.00	0.000	0.001	
1:30	0.81	0.00	0.000	0.001	
1:45	0.80	0.00	0.000	0.001	
2:00	0.89	0.11	0.002	0.001	
2:15	0.83	0.06	0.001	0.001	
2:30	0.75	0.00	0.000	0.001	
2:45	0.73	0.00	0.000	0.001	
3:00	0.73	0.00	0.000	0.001	
3:15	0.73	0.00	0.000	0.001	
3:30	0.79	0.00	0.000	0.001	
3:45	0.83	0.00	0.000	0.001	
4:00	0.81	0.00	0.000	0.001	
4:15	0.75	0.00	0.000	0.001	
4:30	0.80	0.00	0.000	0.001	
4:45	0.86	0.22	0.004	0.001	
5:00	0.88	0.18	0.003	0.001	
5:15	0.79	0.00	0.000	0.001	
5:30	0.75	0.00	0.000	0.001	
5:45	0.74	0.00	0.000	0.001	
6:00	0.79	0.08	0.001	0.001	
6:15	0.82	0.00	0.000	0.001	
6:30	2.02	1.25	0.170	0.003	
6:45	2.28	1.38	0.112	0.004	
7:00	1.28	0.38	0.012	0.004	
7:15	1.12	0.00	0.000	0.004	
7:30	1.06	0.00	0.000	0.004	
7:45	1.16	0.63	0.016	0.004	
8:00	1.19	0.44	0.012	0.004	
8:15	1.25	0.50	0.014	0.004	
8:30	1.15	0.52	0.013	0.004	
8:45	1.03	0.15	0.003	0.004	
9:00	0.97	0.07	0.001	0.004	
9:15	0.98	0.00	0.000	0.004	
9:30	1.05	0.15	0.003	0.005	
9:45	3.00	2.17	0.319	0.008	
10:00	1.58	1.12	0.049	0.008	
10:15	0.98	0.47	0.009	0.008	
10:30	0.91	0.21	0.004	0.008	
10:45	0.91	0.62	0.011	0.009	
11:00	0.86	0.00	0.000	0.009	
11:15	0.99	0.40	0.008	0.009	
11:30	0.87	0.17	0.003	0.009	
11:45	0.87	0.10	0.002	0.009	
12:00	2.49	1.50	0.184	0.011	
12:15	1.65	0.85	0.038	0.011	
12:30	1.17	0.36	0.009	0.011	
12:45	1.35	0.46	0.023	0.011	
13:00	1.16	0.00	0.000	0.011	
13:15	1.07	0.00	0.000	0.011	
13:30	3.35	2.19	0.283	0.014	
13:45	1.55	0.74	0.029	0.015	
14:00	1.22	0.34	0.009	0.015	
14:15	1.32	0.46	0.016	0.015	
14:30	1.13	0.11	0.003	0.015	
14:45	1.07	0.08	0.002	0.015	
15:00	3.94	2.53	0.403	0.019	0.02
15:15	1.55	0.94	0.038	0.020	0.03
15:30	1.13	0.00	0.000	0.020	0.03
15:45	1.09	0.00	0.000	0.020	0.01
16:00	1.27	0.51	0.015	0.020	0.04
16:15	1.28	0.56	0.016	0.020	0.03
16:30	3.23	2.06	0.304	0.023	0.03
16:45	2.04	1.09	0.066	0.024	0.03
17:00	1.32	0.66	0.020	0.024	0.08
17:15	1.27	0.56	0.016	0.024	0.06
17:30	1.47	0.84	0.030	0.024	0.03
17:45	1.47	0.84	0.030	0.025	0.04
18:00	1.35	0.72	0.022	0.025	0.05
18:15	1.30	0.67	0.020	0.025	0.05
18:30	1.55	0.89	0.035	0.026	0.08
18:45	3.13	1.83	0.223	0.028	0.09
19:00	1.63	0.90	0.037	0.028	0.07
19:15	3.30	1.91	0.253	0.031	0.03
19:30	1.72	0.86	0.038	0.031	0.01
19:45	1.53	0.82	0.031	0.032	
20:00	1.42	0.63	0.021	0.032	
20:15	1.58	0.70	0.030	0.032	
20:30	3.03	1.85	0.231	0.035	
20:45	1.48	0.59	0.022	0.035	0.01
21:00	1.31	0.54	0.016	0.035	
21:15	1.29	0.46	0.013	0.035	
21:30	1.25	0.65	0.018	0.035	
21:45	1.24	0.63	0.017	0.035	
22:00	1.18	0.40	0.010	0.036	
22:15	3.25	2.11	0.263	0.038	
22:30	1.52	0.77	0.029	0.039	
22:45	1.70	0.65	0.040	0.039	
23:00	1.14	0.00	0.000	0.039	
23:15	1.12	0.13	0.003	0.039	0.01
23:30	1.11	0.00	0.000	0.039	
23:45	1.10	0.00	0.000	0.039	
Daily Totals:				**0.039**	**0.83**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/10/2018					
0:00	3.04	2.33	0.245	0.003	
0:15	1.63	0.88	0.037	0.003	
0:30	1.15	0.37	0.009	0.003	
0:45	1.25	0.51	0.016	0.003	
1:00	1.11	0.46	0.011	0.003	0.01
1:15	1.02	0.07	0.002	0.003	0.01
1:30	1.01	0.18	0.004	0.003	
1:45	0.99	0.29	0.006	0.003	
2:00	2.00	0.99	0.150	0.005	0.01
2:15	2.49	1.74	0.170	0.007	
2:30	1.26	0.56	0.016	0.007	
2:45	1.05	0.00	0.000	0.007	
3:00	1.01	0.00	0.000	0.007	
3:15	0.99	0.00	0.000	0.007	0.01
3:30	0.97	0.00	0.000	0.007	
3:45	0.96	0.00	0.000	0.007	
4:00	0.93	0.00	0.000	0.007	
4:15	1.89	0.98	0.138	0.008	
4:30	1.83	1.03	0.057	0.009	
4:45	1.15	0.38	0.010	0.009	
5:00	0.99	0.00	0.000	0.009	
5:15	0.95	0.00	0.000	0.009	
5:30	0.95	0.00	0.000	0.009	
5:45	0.92	0.08	0.001	0.009	
6:00	0.93	0.00	0.000	0.009	
6:15	0.92	0.00	0.000	0.009	
6:30	0.90	0.00	0.000	0.009	
6:45	0.91	0.07	0.001	0.009	
7:00	0.91	0.00	0.000	0.009	
7:15	0.91	0.06	0.001	0.009	
7:30	0.92	0.00	0.000	0.009	
7:45	1.90	0.99	0.140	0.011	
8:00	1.80	1.15	0.061	0.011	
8:15	1.10	0.28	0.007	0.011	
8:30	1.05	0.36	0.007	0.011	
8:45	0.92	0.14	0.003	0.011	
9:00	0.92	0.26	0.005	0.011	
9:15	0.88	0.08	0.001	0.011	
9:30	0.85	0.08	0.001	0.011	
9:45	0.86	0.08	0.001	0.011	
10:00	0.86	0.00	0.000	0.011	
10:15	0.87	0.15	0.003	0.011	
10:30	0.90	0.00	0.000	0.011	
10:45	0.86	0.42	0.007	0.012	
11:00	0.86	0.48	0.008	0.012	
11:15	1.93	1.02	0.139	0.013	
11:30	1.89	1.23	0.072	0.014	
11:45	1.27	0.47	0.014	0.014	
12:00	0.97	0.28	0.005	0.014	
12:15	0.92	0.13	0.002	0.014	
12:30	0.92	0.00	0.000	0.014	
12:45	0.89	0.00	0.000	0.014	
13:00	0.91	0.00	0.000	0.014	
13:15	0.94	0.31	0.006	0.014	
13:30	0.94	0.20	0.004	0.014	
13:45	0.95	0.68	0.013	0.014	
14:00	0.91	0.00	0.000	0.014	
14:15	1.96	1.30	0.143	0.016	
14:30	1.82	1.13	0.063	0.016	
14:45	1.21	0.68	0.019	0.017	
15:00	0.89	0.00	0.000	0.017	
15:15	0.85	0.00	0.000	0.017	
15:30	0.90	0.00	0.000	0.017	
15:45	0.87	0.00	0.000	0.017	
16:00	0.87	0.00	0.000	0.017	
16:15	0.87	0.00	0.000	0.017	
16:30	0.89	0.26	0.004	0.017	
16:45	0.84	0.00	0.000	0.017	
17:00	0.81	0.00	0.000	0.017	
17:15	0.87	0.19	0.003	0.017	
17:30	0.82	0.08	0.001	0.017	
17:45	0.79	0.00	0.000	0.017	
18:00	0.77	0.00	0.000	0.017	
18:15	0.81	0.00	0.000	0.017	
18:30	0.78	0.00	0.000	0.017	
18:45	0.77	0.00	0.000	0.017	
19:00	0.77	0.00	0.000	0.017	
19:15	2.68	1.94	0.198	0.019	
19:30	1.17	0.50	0.014	0.019	
19:45	0.91	0.34	0.006	0.019	
20:00	0.83	0.00	0.000	0.019	
20:15	0.86	0.30	0.005	0.019	
20:30	0.81	0.00	0.000	0.019	
20:45	0.83	0.17	0.003	0.019	
21:00	0.85	0.27	0.004	0.019	
21:15	0.79	0.09	0.001	0.019	
21:30	0.77	0.07	0.001	0.019	
21:45	0.75	0.09	0.001	0.019	
22:00	0.76	0.08	0.001	0.019	
22:15	0.74	0.00	0.000	0.019	
22:30	0.74	0.00	0.000	0.019	
22:45	0.79	0.28	0.004	0.019	
23:00	0.76	0.25	0.003	0.019	
23:15	0.76	0.05	0.001	0.019	
23:30	0.75	0.09	0.001	0.019	
23:45	0.76	0.20	0.003	0.019	
Daily Totals:				**0.019**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/11/2018					
0:00	0.75	0.23	0.003	0.000	
0:15	0.78	0.43	0.006	0.000	
0:30	0.76	0.00	0.000	0.000	
0:45	3.06	2.41	0.274	0.003	
1:00	1.23	0.73	0.021	0.003	
1:15	0.89	0.00	0.000	0.003	
1:30	0.79	0.00	0.000	0.003	
1:45	0.75	0.00	0.000	0.003	
2:00	0.75	0.00	0.000	0.003	
2:15	0.74	0.00	0.000	0.003	
2:30	0.73	0.00	0.000	0.003	
2:45	0.73	0.05	0.001	0.003	
3:00	0.76	0.00	0.000	0.003	
3:15	0.77	0.06	0.001	0.003	
3:30	0.89	0.33	0.006	0.003	
3:45	0.84	0.26	0.004	0.003	
4:00	0.60	0.00	0.000	0.003	
4:15	0.61	0.00	0.000	0.003	
4:30	0.62	0.09	0.001	0.003	
4:45	2.01	1.74	0.130	0.005	
5:00	0.86	0.49	0.008	0.005	
5:15	0.66	0.07	0.001	0.005	
5:30	0.59	0.00	0.000	0.005	
5:45	0.60	0.00	0.000	0.005	
6:00	1.55	1.17	0.125	0.006	
6:15	1.63	1.32	0.066	0.007	
6:30	0.82	0.42	0.007	0.007	
6:45	0.64	0.00	0.000	0.007	
7:00	0.59	0.00	0.000	0.007	
7:15	0.57	0.00	0.000	0.007	
7:30	0.57	0.00	0.000	0.007	
7:45	0.61	0.00	0.000	0.007	
8:00	0.61	0.06	0.001	0.007	
8:15	0.62	0.00	0.000	0.007	
8:30	0.67	0.00	0.000	0.007	
8:45	0.64	0.00	0.000	0.007	
9:00	0.66	0.14	0.002	0.007	
9:15	0.73	0.09	0.001	0.007	
9:30	0.74	0.37	0.005	0.007	
9:45	0.79	0.37	0.005	0.007	
10:00	0.67	0.19	0.002	0.007	
10:15	0.61	0.06	0.001	0.007	
10:30	0.63	0.00	0.000	0.007	
10:45	0.65	0.00	0.000	0.007	
11:00	0.69	0.07	0.001	0.007	
11:15	0.65	0.06	0.001	0.007	
11:30	0.65	0.00	0.000	0.007	
11:45	0.67	0.00	0.000	0.007	
12:00	0.68	0.00	0.000	0.007	
12:15	0.90	0.39	0.008	0.007	
12:30	0.68	0.00	0.000	0.007	
12:45	0.66	0.00	0.000	0.007	
13:00	1.57	0.96	0.114	0.008	
13:15	2.25	1.45	0.116	0.009	
13:30	0.95	0.53	0.010	0.010	
13:45	0.78	0.34	0.005	0.010	
14:00	0.72	0.31	0.004	0.010	
14:15	0.70	0.00	0.000	0.010	
14:30	0.71	0.40	0.005	0.010	
14:45	0.73	0.23	0.003	0.010	
15:00	0.70	0.00	0.000	0.010	
15:15	0.75	0.26	0.003	0.010	
15:30	0.71	0.20	0.003	0.010	
15:45	0.67	0.00	0.000	0.010	
16:00	0.74	0.48	0.006	0.010	
16:15	0.71	0.16	0.002	0.010	
16:30	0.69	0.07	0.001	0.010	
16:45	0.73	0.07	0.001	0.010	
17:00	0.73	0.38	0.005	0.010	
17:15	0.70	0.17	0.002	0.010	
17:30	0.69	0.00	0.000	0.010	
17:45	0.69	0.15	0.002	0.010	
18:00	0.69	0.00	0.000	0.010	
18:15	0.67	0.00	0.000	0.010	
18:30	0.68	0.05	0.001	0.010	
18:45	0.66	0.00	0.000	0.010	
19:00	1.58	0.70	0.084	0.011	
19:15	2.04	1.35	0.095	0.012	
19:30	0.93	0.74	0.013	0.012	
19:45	0.80	0.52	0.008	0.012	
20:00	0.77	0.36	0.005	0.012	
20:15	0.68	0.00	0.000	0.012	
20:30	0.70	0.00	0.000	0.012	
20:45	0.67	0.00	0.000	0.012	
21:00	0.67	0.00	0.000	0.012	
21:15	1.04	0.55	0.016	0.012	
21:30	0.70	0.09	0.001	0.012	
21:45	0.64	0.00	0.000	0.012	
22:00	0.71	0.09	0.001	0.012	
22:15	0.68	0.16	0.002	0.012	
22:30	0.68	0.00	0.000	0.012	
22:45	0.66	0.00	0.000	0.012	
23:00	0.69	0.00	0.000	0.012	
23:15	0.69	0.00	0.000	0.012	
23:30	0.67	0.00	0.000	0.012	
23:45	0.68	0.00	0.000	0.012	
Daily Totals:				**0.012**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/12/2018					
0:00	0.67	0.00	0.000	0.000	
0:15	0.65	0.00	0.000	0.000	
0:30	0.66	0.00	0.000	0.000	
0:45	3.10	2.10	0.234	0.002	
1:00	1.15	0.82	0.021	0.003	
1:15	0.79	0.28	0.004	0.003	
1:30	0.68	0.00	0.000	0.003	
1:45	0.63	0.00	0.000	0.003	
2:00	0.62	0.00	0.000	0.003	
2:15	0.61	0.00	0.000	0.003	
2:30	0.61	0.00	0.000	0.003	
2:45	0.62	0.00	0.000	0.003	
3:00	0.62	0.00	0.000	0.003	
3:15	0.62	0.00	0.000	0.003	
3:30	0.62	0.06	0.001	0.003	
3:45	0.62	0.00	0.000	0.003	
4:00	0.65	0.07	0.001	0.003	
4:15	0.66	0.07	0.001	0.003	
4:30	0.66	0.00	0.000	0.003	
4:45	0.67	0.15	0.002	0.003	
5:00	0.69	0.16	0.002	0.003	
5:15	0.67	0.14	0.002	0.003	
5:30	0.65	0.14	0.001	0.003	
5:45	0.63	0.00	0.000	0.003	
6:00	2.14	1.36	0.129	0.004	
6:15	1.29	0.87	0.027	0.004	
6:30	0.84	0.49	0.008	0.005	
6:45	0.74	0.13	0.002	0.005	
7:00	0.75	0.00	0.000	0.005	
7:15	0.75	0.00	0.000	0.005	
7:30	0.75	0.31	0.004	0.005	
7:45	0.74	0.21	0.003	0.005	
8:00	0.71	0.00	0.000	0.005	
8:15	0.84	0.32	0.005	0.005	
8:30	2.53	2.01	0.188	0.007	
8:45	1.05	0.74	0.016	0.007	
9:00	0.84	0.11	0.002	0.007	
9:15	0.79	0.49	0.007	0.007	
9:30	0.85	0.15	0.003	0.007	
9:45	3.06	2.77	0.299	0.010	
10:00	1.35	0.91	0.030	0.010	
10:15	0.91	0.45	0.008	0.010	
10:30	0.84	0.77	0.012	0.011	
10:45	0.83	0.28	0.004	0.011	
11:00	0.79	0.28	0.004	0.011	
11:15	0.87	0.36	0.006	0.011	
11:30	1.88	1.21	0.140	0.012	
11:45	1.60	1.19	0.056	0.013	
12:00	0.89	0.30	0.006	0.013	
12:15	0.77	0.00	0.000	0.013	
12:30	0.75	0.46	0.006	0.013	
12:45	0.79	0.39	0.006	0.013	
13:00	0.82	0.39	0.006	0.013	
13:15	2.44	2.23	0.230	0.015	
13:30	1.50	1.30	0.054	0.016	
13:45	0.92	0.52	0.009	0.016	
14:00	0.98	0.54	0.014	0.016	
14:15	0.81	0.57	0.008	0.016	
14:30	2.02	1.93	0.165	0.018	
14:45	1.35	0.98	0.035	0.018	
15:00	0.83	0.31	0.005	0.018	
15:15	2.29	1.76	0.193	0.020	
15:30	1.25	0.91	0.028	0.021	
15:45	0.80	0.30	0.005	0.021	
16:00	0.72	0.09	0.001	0.021	
16:15	1.68	1.24	0.141	0.022	
16:30	1.92	1.57	0.106	0.023	
16:45	0.91	0.51	0.009	0.023	
17:00	0.74	0.18	0.002	0.023	
17:15	0.76	0.00	0.000	0.023	
17:30	1.00	0.84	0.019	0.024	
17:45	0.68	0.00	0.000	0.024	
18:00	0.67	0.00	0.000	0.024	
18:15	0.66	0.00	0.000	0.024	
18:30	0.65	0.00	0.000	0.024	
18:45	0.63	0.00	0.000	0.024	
19:00	0.62	0.00	0.000	0.024	
19:15	0.63	0.00	0.000	0.024	
19:30	1.63	1.13	0.144	0.025	
19:45	1.57	1.23	0.057	0.026	
20:00	0.85	0.37	0.006	0.026	
20:15	0.71	0.00	0.000	0.026	
20:30	0.70	0.00	0.000	0.026	
20:45	0.75	0.26	0.003	0.026	
21:00	0.67	0.00	0.000	0.026	
21:15	0.66	0.00	0.000	0.026	
21:30	0.67	0.00	0.000	0.026	
21:45	0.68	0.00	0.000	0.026	
22:00	2.24	1.87	0.164	0.028	
22:15	0.93	0.55	0.010	0.028	
22:30	0.75	0.00	0.000	0.028	
22:45	1.00	0.46	0.019	0.028	
23:00	0.80	0.23	0.004	0.028	0.01
23:15	0.66	0.00	0.000	0.028	0.01
23:30	0.73	0.12	0.002	0.028	0.01
23:45	0.71	0.50	0.006	0.028	0.01
Daily Totals:				**0.028**	**0.04**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/13/2018					
0:00	0.74	0.06	0.001	0.000	0.02
0:15	0.69	0.00	0.000	0.000	0.01
0:30	0.76	0.20	0.003	0.000	0.02
0:45	0.82	0.49	0.007	0.000	0.02
1:00	0.89	0.47	0.008	0.000	0.02
1:15	0.92	0.51	0.009	0.000	0.01
1:30	1.78	1.41	0.131	0.002	0.02
1:45	1.44	1.09	0.043	0.002	0.01
2:00	2.56	2.20	0.238	0.005	0.01
2:15	1.35	1.11	0.038	0.005	0.02
2:30	0.90	0.50	0.009	0.005	0.03
2:45	0.85	0.40	0.006	0.005	0.03
3:00	0.93	0.52	0.009	0.005	0.02
3:15	1.18	0.78	0.025	0.006	0.02
3:30	0.96	0.62	0.012	0.006	0.02
3:45	0.93	0.57	0.010	0.006	0.02
4:00	0.94	0.56	0.010	0.006	0.02
4:15	0.94	0.58	0.011	0.006	0.03
4:30	0.95	0.56	0.010	0.006	0.03
4:45	0.98	0.67	0.013	0.006	0.03
5:00	1.01	0.70	0.014	0.006	0.04
5:15	1.10	0.84	0.019	0.007	0.03
5:30	1.04	0.66	0.014	0.007	0.04
5:45	0.99	0.58	0.011	0.007	0.03
6:00	1.04	0.62	0.013	0.007	0.01
6:15	1.05	0.61	0.013	0.007	0.02
6:30	1.36	0.94	0.037	0.007	0.04
6:45	3.68	3.43	0.453	0.012	0.02
7:00	1.68	1.32	0.065	0.013	0.05
7:15	1.09	0.71	0.016	0.013	0.04
7:30	1.12	0.91	0.022	0.013	0.03
7:45	1.20	0.86	0.023	0.013	0.06
8:00	1.19	1.16	0.030	0.014	0.04
8:15	1.25	1.52	0.044	0.014	0.04
8:30	3.63	3.22	0.418	0.019	0.03
8:45	2.34	1.84	0.170	0.020	0.03
9:00	2.16	1.89	0.150	0.022	0.03
9:15	2.63	2.49	0.269	0.025	0.01
9:30	2.55	2.43	0.230	0.027	0.01
9:45	1.13	1.09	0.027	0.027	0.01
10:00	1.14	0.90	0.022	0.028	0.01
10:15	1.14	0.86	0.021	0.028	0.01
10:30	0.95	1.21	0.022	0.028	
10:45	2.54	1.64	0.171	0.030	0.01
11:00	2.56	2.19	0.239	0.032	
11:15	2.21	1.85	0.141	0.034	
11:30	1.31	1.01	0.031	0.034	
11:45	1.19	0.86	0.023	0.034	
12:00	1.55	1.59	0.054	0.035	
12:15	2.60	2.26	0.231	0.037	
12:30	3.00	2.08	0.266	0.040	
12:45	1.26	0.84	0.024	0.040	
13:00	1.14	1.02	0.025	0.041	
13:15	1.08	0.76	0.017	0.041	
13:30	1.06	0.61	0.013	0.041	
13:45	3.76	3.47	0.474	0.046	
14:00	1.69	1.32	0.063	0.047	
14:15	2.09	1.73	0.183	0.048	
14:30	2.76	2.42	0.262	0.051	
14:45	1.81	1.77	0.123	0.052	
15:00	2.37	1.58	0.161	0.054	
15:15	1.13	0.76	0.019	0.054	
15:30	0.92	0.47	0.009	0.054	
15:45	1.00	1.23	0.025	0.055	
16:00	2.61	2.46	0.268	0.057	
16:15	1.39	1.17	0.041	0.058	
16:30	0.90	0.66	0.012	0.058	
16:45	0.79	0.00	0.000	0.058	
17:00	0.78	0.06	0.001	0.058	
17:15	2.04	2.18	0.209	0.060	
17:30	1.76	0.90	0.056	0.061	
17:45	0.96	0.65	0.013	0.061	
18:00	0.78	0.22	0.003	0.061	
18:15	0.76	0.13	0.002	0.061	
18:30	2.38	2.23	0.213	0.063	
18:45	0.98	0.09	0.001	0.063	
19:00	0.78	0.10	0.001	0.063	
19:15	0.67	0.10	0.001	0.063	
19:30	0.62	0.00	0.000	0.063	
19:45	0.60	0.00	0.000	0.063	
20:00	2.31	2.24	0.241	0.066	
20:15	1.29	1.15	0.036	0.066	
20:30	0.86	0.41	0.007	0.066	
20:45	0.72	0.00	0.000	0.066	
21:00	0.63	0.00	0.000	0.066	
21:15	0.62	0.05	0.000	0.066	
21:30	0.70	0.12	0.002	0.066	
21:45	0.63	0.24	0.003	0.066	
22:00	0.65	0.12	0.001	0.066	
22:15	1.56	1.26	0.127	0.068	
22:30	2.17	1.54	0.144	0.069	
22:45	1.27	1.27	0.041	0.070	
23:00	0.89	0.59	0.010	0.070	
23:15	0.67	0.34	0.004	0.070	
23:30	0.62	0.41	0.004	0.070	
23:45	0.55	0.51	0.004	0.070	
Daily Totals:				**0.070**	**1.05**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/14/2018					
0:00	0.54	0.00	0.000	0.000	
0:15	0.62	0.17	0.002	0.000	
0:30	0.62	0.07	0.001	0.000	
0:45	0.65	0.00	0.000	0.000	
1:00	1.41	1.31	0.106	0.001	
1:15	2.25	2.20	0.181	0.003	
1:30	0.93	0.73	0.013	0.003	
1:45	0.68	0.21	0.002	0.003	
2:00	0.62	0.07	0.001	0.003	
2:15	0.56	0.16	0.001	0.003	
2:30	0.53	0.07	0.001	0.003	
2:45	0.51	0.00	0.000	0.003	
3:00	0.50	0.00	0.000	0.003	
3:15	0.55	0.00	0.000	0.003	
3:30	0.56	0.08	0.001	0.003	
3:45	0.58	0.12	0.001	0.003	
4:00	0.56	0.00	0.000	0.003	
4:15	0.57	0.00	0.000	0.003	
4:30	0.60	0.17	0.002	0.003	
4:45	0.63	0.24	0.003	0.003	
5:00	0.64	0.17	0.002	0.003	
5:15	0.69	0.28	0.003	0.003	
5:30	1.65	1.05	0.132	0.005	
5:45	2.14	2.14	0.170	0.006	
6:00	0.95	0.74	0.014	0.007	
6:15	0.72	0.11	0.002	0.007	
6:30	0.62	0.00	0.000	0.007	
6:45	0.64	0.00	0.000	0.007	
7:00	0.74	0.10	0.001	0.007	
7:15	0.69	0.47	0.006	0.007	
7:30	3.14	3.00	0.328	0.010	
7:45	2.03	1.96	0.168	0.012	
8:00	2.29	2.20	0.201	0.014	
8:15	2.58	2.74	0.292	0.017	
8:30	1.92	1.83	0.122	0.018	
8:45	0.94	0.67	0.013	0.018	
9:00	0.99	0.76	0.016	0.019	
9:15	0.81	0.52	0.008	0.019	
9:30	0.78	0.26	0.004	0.019	
9:45	0.76	0.54	0.007	0.019	
10:00	0.82	0.71	0.011	0.019	
10:15	1.56	1.29	0.136	0.020	
10:30	1.45	0.31	0.007	0.020	
10:45	2.35	2.45	0.211	0.023	
11:00	1.09	0.83	0.020	0.023	
11:15	0.81	0.46	0.007	0.023	
11:30	0.73	0.31	0.004	0.023	
11:45	0.74	0.20	0.003	0.023	
12:00	0.82	0.47	0.007	0.023	
12:15	2.56	2.40	0.291	0.026	
12:30	1.68	1.11	0.062	0.027	
12:45	0.93	0.76	0.014	0.027	
13:00	0.76	0.52	0.007	0.027	
13:15	1.10	0.98	0.031	0.027	
13:30	0.73	0.39	0.005	0.027	
13:45	0.71	0.72	0.009	0.027	
14:00	1.64	1.91	0.146	0.029	
14:15	1.71	1.66	0.087	0.030	
14:30	0.87	0.56	0.010	0.030	
14:45	0.82	0.61	0.009	0.030	
15:00	0.73	0.25	0.003	0.030	
15:15	2.78	2.90	0.299	0.033	
15:30	1.00	0.82	0.017	0.033	
15:45	0.74	0.32	0.004	0.033	
16:00	0.70	0.24	0.003	0.033	
16:15	0.83	0.60	0.009	0.033	
16:30	0.69	0.82	0.009	0.034	
16:45	0.66	0.37	0.004	0.034	
17:00	0.64	0.33	0.004	0.034	
17:15	2.54	3.32	0.303	0.037	
17:30	1.56	1.57	0.070	0.038	
17:45	0.95	0.77	0.015	0.038	
18:00	0.71	0.23	0.003	0.038	
18:15	0.67	0.00	0.000	0.038	
18:30	0.66	0.41	0.005	0.038	
18:45	0.58	0.18	0.002	0.038	
19:00	0.67	0.39	0.004	0.038	
19:15	0.67	0.33	0.004	0.038	
19:30	0.59	0.00	0.000	0.038	
19:45	0.62	0.08	0.001	0.038	
20:00	0.63	0.76	0.008	0.038	
20:15	0.61	0.21	0.002	0.038	
20:30	0.61	0.13	0.001	0.038	
20:45	0.59	0.36	0.003	0.038	
21:00	3.01	3.20	0.332	0.042	
21:15	1.16	0.98	0.027	0.042	
21:30	0.77	0.13	0.002	0.042	
21:45	0.64	0.00	0.000	0.042	
22:00	0.62	0.00	0.000	0.042	
22:15	0.60	0.00	0.000	0.042	
22:30	0.59	0.00	0.000	0.042	
22:45	0.62	0.00	0.000	0.042	
23:00	0.60	0.00	0.000	0.042	
23:15	2.75	2.71	0.263	0.045	
23:30	1.00	0.82	0.018	0.045	
23:45	0.72	0.19	0.003	0.045	
Daily Totals:				**0.045**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/15/2018					
0:00	0.61	0.00	0.000	0.000	
0:15	0.59	0.00	0.000	0.000	
0:30	0.61	0.15	0.002	0.000	
0:45	0.64	0.23	0.002	0.000	
1:00	0.62	0.00	0.000	0.000	
1:15	0.61	0.00	0.000	0.000	
1:30	0.59	0.00	0.000	0.000	
1:45	0.72	0.48	0.007	0.000	
2:00	0.69	0.49	0.006	0.000	
2:15	3.05	2.94	0.314	0.003	
2:30	1.11	1.03	0.026	0.004	
2:45	0.85	0.78	0.013	0.004	
3:00	0.67	0.33	0.004	0.004	
3:15	0.57	0.00	0.000	0.004	
3:30	0.53	0.00	0.000	0.004	
3:45	0.56	0.00	0.000	0.004	
4:00	0.65	0.56	0.006	0.004	
4:15	0.57	0.20	0.002	0.004	
4:30	0.55	0.28	0.002	0.004	
4:45	0.52	0.00	0.000	0.004	
5:00	0.57	0.07	0.001	0.004	
5:15	0.61	0.35	0.004	0.004	
5:30	0.64	0.33	0.003	0.004	
5:45	0.60	0.00	0.000	0.004	
6:00	0.59	0.00	0.000	0.004	
6:15	0.59	0.00	0.000	0.004	
6:30	0.60	0.00	0.000	0.004	
6:45	1.46	0.94	0.104	0.005	
7:00	2.16	2.09	0.170	0.007	
7:15	0.90	0.94	0.016	0.007	
7:30	0.80	0.94	0.013	0.007	
7:45	0.71	0.42	0.005	0.007	
8:00	0.91	0.61	0.012	0.007	
8:15	0.73	0.28	0.004	0.007	
8:30	0.79	0.44	0.006	0.008	
8:45	0.66	0.17	0.002	0.008	
9:00	0.73	0.44	0.006	0.008	
9:15	0.72	0.37	0.005	0.008	
9:30	1.01	1.31	0.046	0.008	
9:45	2.14	2.11	0.170	0.010	
10:00	2.41	2.17	0.205	0.012	
10:15	1.20	1.10	0.032	0.012	
10:30	0.84	0.63	0.010	0.012	
10:45	0.80	0.48	0.007	0.013	
11:00	1.76	1.56	0.163	0.014	
11:15	1.50	1.72	0.071	0.015	
11:30	0.85	0.56	0.009	0.015	
11:45	0.79	0.54	0.008	0.015	
12:00	0.70	0.61	0.007	0.015	
12:15	0.74	1.23	0.017	0.015	
12:30	2.54	2.30	0.212	0.018	
12:45	1.01	0.78	0.016	0.018	
13:00	1.18	1.08	0.032	0.018	
13:15	0.74	0.25	0.003	0.018	
13:30	0.71	0.37	0.005	0.018	
13:45	2.97	2.82	0.300	0.021	
14:00	1.07	0.85	0.020	0.022	
14:15	0.80	0.39	0.006	0.022	
14:30	0.74	0.15	0.002	0.022	
14:45	0.75	0.23	0.003	0.022	
15:00	1.63	1.18	0.142	0.023	
15:15	1.65	1.67	0.083	0.024	
15:30	0.88	0.58	0.010	0.024	
15:45	0.73	0.25	0.003	0.024	
16:00	0.71	0.11	0.001	0.024	
16:15	2.46	2.70	0.230	0.027	
16:30	1.02	0.80	0.017	0.027	
16:45	0.83	0.60	0.009	0.027	
17:00	0.89	0.70	0.012	0.027	
17:15	1.00	0.89	0.018	0.027	
17:30	1.76	1.51	0.142	0.029	
17:45	1.48	1.50	0.061	0.029	
18:00	0.88	0.80	0.013	0.029	
18:15	0.83	0.40	0.006	0.029	
18:30	0.84	0.92	0.014	0.030	
18:45	0.81	0.50	0.007	0.030	
19:00	0.85	0.72	0.012	0.030	
19:15	0.85	0.65	0.010	0.030	
19:30	0.86	0.74	0.012	0.030	
19:45	0.85	0.60	0.010	0.030	
20:00	0.87	0.81	0.013	0.030	
20:15	1.01	0.64	0.016	0.030	
20:30	0.89	0.39	0.007	0.030	
20:45	0.90	0.61	0.011	0.031	
21:00	0.94	0.88	0.016	0.031	
21:15	2.37	2.25	0.179	0.033	
21:30	1.19	1.03	0.029	0.033	
21:45	1.00	0.54	0.012	0.033	
22:00	1.08	0.90	0.020	0.033	
22:15	0.98	0.67	0.013	0.033	
22:30	0.93	0.71	0.013	0.034	
22:45	0.95	0.79	0.015	0.034	0.01
23:00	0.93	0.81	0.015	0.034	
23:15	0.90	0.61	0.011	0.034	
23:30	0.94	0.81	0.015	0.034	
23:45	0.92	0.63	0.011	0.034	
Daily Totals:				**0.034**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/16/2018					
0:00	0.99	0.78	0.016	0.000	
0:15	0.87	0.71	0.012	0.000	
0:30	0.84	0.78	0.012	0.000	
0:45	0.85	0.59	0.009	0.001	
1:00	0.85	0.62	0.010	0.001	
1:15	0.91	0.80	0.014	0.001	
1:30	1.32	1.56	0.075	0.002	
1:45	1.75	1.85	0.102	0.003	
2:00	0.91	0.72	0.013	0.003	
2:15	0.87	0.29	0.005	0.003	0.01
2:30	0.86	0.65	0.010	0.003	
2:45	2.78	2.70	0.264	0.006	
3:00	1.09	0.99	0.024	0.006	
3:15	0.91	0.83	0.014	0.006	
3:30	0.87	0.77	0.013	0.006	
3:45	0.88	0.63	0.011	0.006	0.01
4:00	0.89	0.71	0.012	0.006	
4:15	0.90	0.59	0.010	0.007	
4:30	1.17	0.98	0.033	0.007	
4:45	1.00	0.73	0.015	0.007	
5:00	0.83	0.83	0.013	0.007	
5:15	0.76	0.25	0.003	0.007	0.01
5:30	0.80	0.37	0.005	0.007	
5:45	0.86	0.65	0.011	0.007	0.03
6:00	0.86	0.36	0.006	0.007	0.03
6:15	1.15	0.43	0.008	0.008	0.03
6:30	0.85	0.82	0.013	0.008	0.03
6:45	0.86	0.53	0.009	0.008	0.02
7:00	1.00	0.79	0.016	0.008	0.03
7:15	1.19	1.40	0.051	0.008	
7:30	2.81	2.85	0.284	0.011	
7:45	1.13	0.92	0.023	0.012	
8:00	0.91	0.61	0.011	0.012	
8:15	0.94	0.77	0.015	0.012	0.01
8:30	1.10	0.75	0.021	0.012	
8:45	0.96	0.68	0.013	0.012	
9:00	1.06	0.79	0.018	0.012	0.05
9:15	1.16	1.00	0.025	0.013	0.05
9:30	1.17	1.02	0.026	0.013	0.04
9:45	1.54	1.82	0.089	0.014	0.04
10:00	2.87	2.89	0.287	0.017	0.04
10:15	1.26	1.13	0.036	0.017	0.03
10:30	1.07	0.95	0.021	0.017	0.06
10:45	0.93	0.90	0.016	0.018	0.05
11:00	0.94	0.75	0.014	0.018	0.03
11:15	0.98	0.75	0.015	0.018	0.05
11:30	2.72	2.73	0.257	0.021	0.04
11:45	1.15	1.06	0.027	0.021	0.03
12:00	1.10	0.92	0.023	0.021	0.03
12:15	1.02	0.86	0.018	0.021	0.02
12:30	1.03	0.86	0.018	0.022	0.02
12:45	1.06	0.77	0.017	0.022	0.01
13:00	2.40	2.40	0.203	0.024	
13:15	1.21	1.14	0.030	0.024	
13:30	1.09	1.11	0.026	0.024	
13:45	1.05	0.84	0.018	0.025	
14:00	2.83	2.97	0.279	0.027	
14:15	1.19	1.07	0.028	0.028	
14:30	1.04	0.83	0.018	0.028	
14:45	1.04	0.89	0.019	0.028	
15:00	2.50	2.54	0.261	0.031	
15:15	2.09	2.08	0.160	0.033	
15:30	1.05	0.89	0.020	0.033	
15:45	0.98	0.78	0.015	0.033	
16:00	1.16	0.86	0.022	0.033	
16:15	0.93	0.66	0.012	0.033	
16:30	0.88	0.64	0.011	0.033	
16:45	2.44	2.36	0.242	0.036	
17:00	1.46	1.43	0.058	0.037	
17:15	0.89	0.57	0.010	0.037	
17:30	0.81	0.57	0.009	0.037	
17:45	0.94	0.78	0.014	0.037	
18:00	0.84	0.58	0.009	0.037	
18:15	0.77	0.50	0.007	0.037	
18:30	1.12	0.95	0.028	0.037	
18:45	0.88	0.73	0.013	0.037	
19:00	2.27	2.88	0.209	0.040	
19:15	1.16	1.00	0.027	0.040	
19:30	0.81	0.49	0.007	0.040	
19:45	0.74	0.36	0.005	0.040	
20:00	0.81	0.39	0.007	0.040	
20:15	0.83	0.41	0.006	0.040	
20:30	0.79	0.52	0.007	0.040	
20:45	2.49	2.88	0.241	0.043	
21:00	1.01	0.84	0.018	0.043	
21:15	0.77	0.71	0.010	0.043	
21:30	0.87	0.69	0.012	0.043	
21:45	0.72	0.00	0.000	0.043	
22:00	0.83	0.47	0.007	0.043	
22:15	0.72	0.53	0.007	0.043	
22:30	0.71	0.67	0.008	0.043	
22:45	0.76	0.65	0.009	0.043	
23:00	0.75	0.44	0.006	0.044	
23:15	2.49	2.65	0.228	0.046	
23:30	1.05	0.87	0.019	0.046	
23:45	1.00	0.74	0.017	0.046	
Daily Totals:				**0.046**	**0.80**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/17/2018					
0:00	0.74	0.23	0.003	0.000	
0:15	0.73	0.06	0.001	0.000	
0:30	0.73	0.00	0.000	0.000	
0:45	0.87	0.67	0.012	0.000	
1:00	0.79	0.45	0.007	0.000	
1:15	0.74	0.18	0.002	0.000	
1:30	0.71	0.00	0.000	0.000	
1:45	0.72	0.10	0.001	0.000	
2:00	1.64	1.09	0.128	0.002	
2:15	2.13	2.17	0.161	0.003	
2:30	1.02	0.67	0.014	0.003	
2:45	0.85	0.24	0.004	0.003	
3:00	0.80	0.08	0.001	0.003	
3:15	0.80	0.00	0.000	0.003	
3:30	0.81	0.00	0.000	0.003	
3:45	0.83	0.10	0.001	0.003	
4:00	0.85	0.24	0.004	0.004	
4:15	2.26	2.23	0.206	0.006	
4:30	1.30	1.20	0.040	0.006	
4:45	0.88	0.53	0.009	0.006	
5:00	0.83	0.53	0.008	0.006	
5:15	0.79	0.50	0.007	0.006	
5:30	0.78	0.00	0.000	0.006	
5:45	0.81	0.16	0.002	0.006	
6:00	0.81	0.00	0.000	0.006	
6:15	0.82	0.10	0.002	0.006	
6:30	0.85	0.00	0.000	0.006	
6:45	0.83	0.34	0.005	0.006	
7:00	0.99	0.72	0.015	0.007	
7:15	0.90	0.22	0.004	0.007	
7:30	0.87	0.00	0.000	0.007	
7:45	0.87	0.10	0.002	0.007	
8:00	0.86	0.28	0.005	0.007	
8:15	2.20	2.10	0.199	0.009	
8:30	1.32	1.34	0.043	0.009	
8:45	0.93	0.51	0.009	0.009	
9:00	0.87	0.40	0.007	0.009	
9:15	0.84	0.17	0.003	0.009	
9:30	0.85	0.65	0.010	0.010	
9:45	0.85	0.00	0.000	0.010	
10:00	1.02	0.32	0.006	0.010	
10:15	0.88	0.36	0.006	0.010	
10:30	0.84	0.32	0.005	0.010	
10:45	0.82	0.34	0.005	0.010	
11:00	0.85	0.29	0.005	0.010	
11:15	2.17	2.09	0.186	0.012	
11:30	1.31	1.27	0.041	0.012	
11:45	0.96	0.58	0.011	0.012	
12:00	0.87	0.23	0.004	0.012	
12:15	0.86	0.00	0.000	0.012	
12:30	0.94	0.43	0.008	0.012	
12:45	0.89	0.46	0.008	0.013	
13:00	0.87	0.61	0.010	0.013	
13:15	0.90	0.36	0.006	0.013	
13:30	0.89	0.71	0.012	0.013	
13:45	0.92	0.41	0.007	0.013	
14:00	0.89	0.45	0.008	0.013	
14:15	2.53	2.75	0.237	0.015	
14:30	1.14	0.89	0.022	0.016	
14:45	0.92	0.47	0.008	0.016	
15:00	0.87	0.24	0.004	0.016	
15:15	1.37	1.20	0.078	0.017	
15:30	1.79	1.84	0.104	0.018	
15:45	1.04	0.68	0.015	0.018	
16:00	0.89	0.12	0.002	0.018	
16:15	0.89	0.24	0.004	0.018	
16:30	0.86	0.26	0.004	0.018	
16:45	0.85	0.14	0.002	0.018	
17:00	0.89	0.21	0.004	0.018	
17:15	1.07	1.19	0.035	0.018	
17:30	2.09	2.34	0.174	0.020	
17:45	1.07	0.67	0.015	0.020	
18:00	0.90	0.14	0.002	0.020	
18:15	0.86	0.31	0.005	0.020	
18:30	0.84	0.11	0.002	0.020	
18:45	0.86	0.29	0.005	0.020	
19:00	0.82	0.32	0.005	0.021	
19:15	0.83	0.19	0.003	0.021	
19:30	0.83	0.22	0.003	0.021	
19:45	0.82	0.23	0.003	0.021	
20:00	0.88	0.61	0.010	0.021	
20:15	0.84	0.51	0.008	0.021	
20:30	0.87	0.30	0.005	0.021	
20:45	2.15	2.14	0.190	0.023	
21:00	1.36	1.16	0.039	0.023	
21:15	1.00	0.46	0.009	0.023	
21:30	0.91	0.10	0.002	0.023	
21:45	1.18	0.81	0.024	0.024	
22:00	0.90	0.09	0.001	0.024	
22:15	0.89	0.32	0.005	0.024	
22:30	1.37	1.39	0.081	0.025	
22:45	2.05	2.12	0.153	0.026	
23:00	1.12	0.81	0.020	0.026	
23:15	0.92	0.18	0.003	0.026	
23:30	0.89	0.00	0.000	0.026	
23:45	0.89	0.20	0.004	0.026	
Daily Totals:				**0.026**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/18/2018					
0:00	0.92	0.75	0.013	0.000	
0:15	0.88	0.20	0.003	0.000	
0:30	1.09	0.59	0.014	0.000	
0:45	0.93	0.23	0.004	0.000	
1:00	0.90	0.00	0.000	0.000	
1:15	0.89	0.00	0.000	0.000	
1:30	0.88	0.06	0.001	0.000	
1:45	2.05	1.85	0.165	0.002	
2:00	1.29	1.03	0.032	0.002	
2:15	0.97	0.28	0.006	0.002	
2:30	0.87	0.00	0.000	0.002	
2:45	0.85	0.07	0.001	0.002	
3:00	0.84	0.00	0.000	0.002	
3:15	0.85	0.14	0.002	0.003	
3:30	0.85	0.26	0.004	0.003	
3:45	0.86	0.27	0.004	0.003	
4:00	0.89	0.32	0.005	0.003	
4:15	0.95	0.34	0.006	0.003	
4:30	0.88	0.28	0.005	0.003	
4:45	1.60	1.30	0.112	0.004	
5:00	1.50	1.39	0.056	0.005	
5:15	1.74	1.53	0.130	0.006	
5:30	1.67	1.55	0.074	0.007	
5:45	1.32	0.43	0.019	0.007	
6:00	0.90	0.00	0.000	0.007	
6:15	0.85	0.00	0.000	0.007	
6:30	0.86	0.00	0.000	0.007	
6:45	0.86	0.00	0.000	0.007	
7:00	0.88	0.10	0.002	0.007	
7:15	0.88	0.10	0.002	0.007	
7:30	0.94	0.30	0.006	0.007	
7:45	0.90	0.23	0.004	0.007	
8:00	0.90	0.31	0.005	0.007	
8:15	0.90	0.27	0.005	0.007	
8:30	1.69	1.41	0.126	0.008	
8:45	1.83	1.74	0.102	0.009	
9:00	1.11	0.40	0.010	0.010	
9:15	0.94	0.11	0.002	0.010	
9:30	0.98	0.32	0.006	0.010	
9:45	0.95	0.46	0.009	0.010	
10:00	0.91	0.36	0.006	0.010	
10:15	0.86	0.14	0.002	0.010	
10:30	0.93	0.65	0.012	0.010	
10:45	0.92	0.22	0.004	0.010	
11:00	0.95	0.00	0.000	0.010	
11:15	1.00	0.43	0.009	0.010	
11:30	0.97	0.36	0.007	0.010	
11:45	2.31	2.37	0.188	0.012	
12:00	1.20	0.60	0.017	0.012	
12:15	0.99	0.28	0.005	0.012	
12:30	0.89	0.20	0.003	0.012	
12:45	0.90	0.34	0.006	0.012	
13:00	0.89	0.10	0.002	0.012	
13:15	0.96	0.60	0.011	0.013	
13:30	0.90	0.00	0.000	0.013	
13:45	0.91	0.00	0.000	0.013	
14:00	0.88	0.59	0.010	0.013	
14:15	0.91	0.36	0.006	0.013	
14:30	0.90	0.27	0.005	0.013	
14:45	0.90	0.00	0.000	0.013	
15:00	0.91	0.30	0.005	0.013	
15:15	0.89	0.40	0.007	0.013	
15:30	2.05	2.85	0.183	0.015	
15:45	1.33	1.26	0.042	0.015	
16:00	1.03	0.49	0.010	0.015	
16:15	0.97	0.68	0.013	0.016	
16:30	0.90	0.00	0.000	0.016	
16:45	0.94	0.26	0.005	0.016	
17:00	0.96	0.77	0.015	0.016	
17:15	0.91	0.45	0.008	0.016	
17:30	0.89	0.22	0.004	0.016	
17:45	0.96	0.25	0.005	0.016	
18:00	0.86	0.19	0.003	0.016	
18:15	1.04	0.51	0.015	0.016	
18:30	0.97	0.42	0.008	0.016	
18:45	1.67	1.42	0.128	0.018	
19:00	1.93	1.58	0.117	0.019	
19:15	1.13	0.65	0.016	0.019	
19:30	0.95	0.13	0.003	0.019	
19:45	0.90	0.00	0.000	0.019	
20:00	0.86	0.00	0.000	0.019	
20:15	0.88	0.00	0.000	0.019	
20:30	0.86	0.00	0.000	0.019	
20:45	0.91	0.18	0.003	0.019	
21:00	0.88	0.49	0.008	0.019	
21:15	0.88	0.22	0.004	0.019	
21:30	0.87	0.00	0.000	0.019	
21:45	0.85	0.00	0.000	0.019	
22:00	0.87	0.00	0.000	0.019	
22:15	0.87	0.00	0.000	0.019	
22:30	2.28	2.22	0.219	0.021	
22:45	1.42	1.18	0.042	0.022	
23:00	0.99	0.59	0.012	0.022	
23:15	0.86	0.23	0.004	0.022	
23:30	0.83	0.00	0.000	0.022	
23:45	0.84	0.00	0.000	0.022	
Daily Totals:				**0.022**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road — North Castle, NY — 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/19/2018					
0:00	0.85	0.00	0.000	0.000	
0:15	0.84	0.00	0.000	0.000	
0:30	0.83	0.00	0.000	0.000	
0:45	0.83	0.00	0.000	0.000	
1:00	0.90	0.00	0.000	0.000	
1:15	0.90	0.00	0.000	0.000	
1:30	0.89	0.11	0.002	0.000	
1:45	1.52	1.11	0.099	0.001	
2:00	2.37	2.53	0.209	0.003	
2:15	1.19	0.85	0.023	0.003	
2:30	0.97	0.27	0.005	0.004	
2:45	0.91	0.00	0.000	0.004	
3:00	0.89	0.00	0.000	0.004	
3:15	0.89	0.00	0.000	0.004	
3:30	0.87	0.00	0.000	0.004	
3:45	0.87	0.00	0.000	0.004	
4:00	1.00	0.13	0.003	0.004	
4:15	0.94	0.82	0.015	0.004	
4:30	1.69	1.32	0.133	0.005	
4:45	2.23	1.67	0.151	0.007	
5:00	1.16	0.90	0.023	0.007	
5:15	0.99	0.49	0.010	0.007	
5:30	0.86	0.23	0.004	0.007	
5:45	0.89	0.60	0.010	0.007	
6:00	0.89	0.00	0.000	0.007	
6:15	0.89	0.00	0.000	0.007	
6:30	0.87	0.00	0.000	0.007	
6:45	0.87	0.00	0.000	0.007	
7:00	0.91	0.00	0.000	0.007	
7:15	0.91	0.24	0.004	0.007	
7:30	0.93	0.57	0.010	0.007	
7:45	1.04	0.58	0.012	0.007	
8:00	1.04	0.62	0.013	0.008	
8:15	2.55	2.66	0.283	0.011	
8:30	1.57	1.42	0.060	0.011	
8:45	0.98	0.33	0.007	0.011	
9:00	0.89	0.00	0.000	0.011	
9:15	0.91	0.20	0.003	0.011	
9:30	0.95	0.67	0.013	0.011	
9:45	0.98	0.63	0.012	0.012	
10:00	0.89	0.37	0.006	0.012	
10:15	2.87	2.50	0.286	0.015	
10:30	1.27	0.53	0.013	0.015	
10:45	1.18	0.74	0.021	0.015	
11:00	1.01	0.17	0.003	0.015	
11:15	2.43	2.52	0.259	0.018	
11:30	1.58	0.75	0.024	0.018	
11:45	1.09	0.78	0.018	0.018	
12:00	1.01	0.56	0.012	0.018	
12:15	0.94	0.29	0.005	0.018	
12:30	2.21	2.06	0.191	0.020	
12:45	1.45	1.22	0.044	0.021	
13:00	1.17	0.75	0.019	0.021	
13:15	1.16	0.90	0.023	0.021	
13:30	1.45	1.24	0.046	0.022	
13:45	2.72	2.97	0.285	0.025	
14:00	1.19	1.26	0.033	0.025	
14:15	1.02	0.64	0.014	0.025	
14:30	2.39	2.64	0.218	0.027	
14:45	1.31	1.05	0.032	0.028	
15:00	1.00	0.43	0.009	0.028	
15:15	2.20	2.23	0.192	0.030	
15:30	1.28	1.16	0.035	0.030	
15:45	1.00	0.88	0.018	0.030	
16:00	0.91	0.61	0.010	0.030	
16:15	1.59	1.19	0.127	0.032	
16:30	1.76	1.89	0.103	0.033	
16:45	1.03	0.48	0.011	0.033	
17:00	0.88	0.25	0.004	0.033	
17:15	1.98	2.16	0.166	0.035	
17:30	1.16	0.49	0.011	0.035	
17:45	0.87	0.00	0.000	0.035	
18:00	0.82	0.28	0.004	0.035	
18:15	0.76	0.29	0.004	0.035	
18:30	2.00	1.94	0.168	0.037	
18:45	1.23	0.86	0.024	0.037	
19:00	0.90	0.38	0.007	0.037	
19:15	0.77	0.62	0.009	0.037	
19:30	0.77	0.53	0.007	0.037	
19:45	0.77	0.13	0.002	0.037	
20:00	0.79	0.16	0.002	0.037	
20:15	0.80	0.24	0.004	0.037	
20:30	0.79	0.37	0.005	0.037	
20:45	0.81	0.26	0.004	0.037	
21:00	0.99	0.77	0.018	0.038	
21:15	2.55	2.09	0.211	0.040	
21:30	1.17	0.84	0.022	0.040	
21:45	0.87	0.53	0.009	0.040	
22:00	0.79	0.06	0.001	0.040	
22:15	0.82	0.13	0.002	0.040	
22:30	0.82	0.17	0.003	0.040	
22:45	0.83	0.09	0.001	0.040	
23:00	0.81	0.23	0.003	0.040	
23:15	0.87	0.20	0.003	0.040	
23:30	1.00	0.22	0.005	0.040	
23:45	1.04	0.48	0.010	0.040	
Daily Totals:				**0.040**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/20/2018					
0:00	1.75	2.18	0.141	0.001	
0:15	1.54	1.44	0.060	0.002	
0:30	1.11	0.53	0.012	0.002	
0:45	0.97	0.00	0.000	0.002	
1:00	0.96	0.00	0.000	0.002	
1:15	0.96	0.08	0.002	0.002	
1:30	0.97	0.00	0.000	0.002	
1:45	0.94	0.00	0.000	0.002	
2:00	0.97	0.11	0.002	0.002	
2:15	0.97	0.60	0.012	0.002	
2:30	0.96	0.24	0.005	0.002	
2:45	0.96	0.26	0.005	0.002	
3:00	1.00	0.19	0.004	0.003	
3:15	2.21	1.86	0.177	0.004	
3:30	1.44	1.11	0.041	0.005	
3:45	1.11	0.41	0.010	0.005	
4:00	1.03	0.00	0.000	0.005	
4:15	1.04	0.00	0.000	0.005	
4:30	1.00	0.36	0.007	0.005	
4:45	0.98	0.27	0.005	0.005	
5:00	1.00	0.47	0.010	0.005	
5:15	1.00	0.10	0.002	0.005	
5:30	1.11	0.49	0.013	0.005	
5:45	1.02	0.09	0.002	0.005	
6:00	2.01	1.99	0.134	0.007	
6:15	1.18	0.66	0.017	0.007	
6:30	1.03	0.00	0.000	0.007	
6:45	0.98	0.09	0.002	0.007	
7:00	1.07	0.37	0.010	0.007	
7:15	1.19	0.57	0.015	0.007	
7:30	1.03	0.29	0.006	0.007	
7:45	1.01	0.00	0.000	0.007	
8:00	1.07	0.25	0.006	0.007	
8:15	1.13	0.55	0.014	0.007	
8:30	1.02	0.35	0.007	0.008	
8:45	1.16	0.41	0.011	0.008	
9:00	1.10	0.39	0.009	0.008	
9:15	1.14	0.41	0.011	0.008	
9:30	2.99	2.81	0.283	0.011	
9:45	1.49	0.85	0.034	0.011	
10:00	1.33	1.01	0.032	0.011	
10:15	1.27	0.72	0.021	0.012	
10:30	1.22	0.67	0.018	0.012	
10:45	2.84	2.78	0.271	0.015	
11:00	1.22	1.17	0.033	0.015	
11:15	1.27	0.53	0.013	0.015	
11:30	1.05	0.67	0.015	0.015	
11:45	1.04	0.58	0.013	0.015	
12:00	1.08	0.61	0.014	0.016	
12:15	1.85	1.64	0.150	0.017	
12:30	1.86	1.99	0.113	0.018	
12:45	1.15	0.73	0.018	0.019	
13:00	1.09	0.86	0.020	0.019	
13:15	1.41	0.94	0.033	0.019	
13:30	2.51	2.63	0.258	0.022	
13:45	1.80	1.50	0.073	0.023	
14:00	1.21	0.56	0.015	0.023	
14:15	1.14	0.29	0.007	0.023	
14:30	1.11	0.45	0.011	0.023	
14:45	2.02	1.55	0.159	0.025	
15:00	2.37	2.19	0.187	0.026	
15:15	1.21	0.70	0.019	0.027	
15:30	1.18	0.55	0.014	0.027	
15:45	1.09	0.35	0.008	0.027	
16:00	2.43	2.39	0.206	0.029	
16:15	1.22	0.75	0.021	0.029	
16:30	1.00	0.33	0.007	0.029	
16:45	1.18	0.51	0.016	0.029	
17:00	0.98	0.26	0.005	0.030	
17:15	2.20	1.89	0.182	0.031	
17:30	1.39	1.14	0.038	0.032	
17:45	1.18	0.64	0.017	0.032	
18:00	1.00	0.19	0.004	0.032	
18:15	0.98	0.09	0.002	0.032	
18:30	1.05	0.83	0.018	0.032	
18:45	0.97	0.50	0.010	0.032	
19:00	0.99	0.27	0.005	0.032	
19:15	2.22	2.11	0.190	0.034	
19:30	1.35	1.04	0.035	0.035	
19:45	1.03	0.47	0.010	0.035	
20:00	0.97	0.41	0.008	0.035	
20:15	0.94	0.24	0.005	0.035	
20:30	1.01	0.44	0.009	0.035	
20:45	1.11	0.61	0.014	0.035	
21:00	0.96	0.37	0.007	0.035	
21:15	0.94	0.09	0.002	0.035	
21:30	0.91	0.00	0.000	0.035	
21:45	0.95	0.05	0.001	0.035	
22:00	0.98	0.47	0.009	0.035	
22:15	0.98	0.11	0.002	0.035	
22:30	1.76	1.09	0.128	0.037	
22:45	1.63	1.41	0.065	0.037	
23:00	1.05	0.40	0.010	0.038	
23:15	0.90	0.08	0.001	0.038	
23:30	0.93	0.22	0.004	0.038	
23:45	1.00	0.44	0.010	0.038	
Daily Totals:				**0.038**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/21/2018					
0:00	1.04	0.46	0.010	0.000	
0:15	0.87	0.09	0.002	0.000	
0:30	0.84	0.00	0.000	0.000	
0:45	0.84	0.00	0.000	0.000	
1:00	0.91	0.00	0.000	0.000	
1:15	0.84	0.38	0.006	0.000	
1:30	0.81	0.35	0.005	0.000	
1:45	0.87	0.32	0.005	0.000	
2:00	2.31	2.03	0.199	0.002	
2:15	1.41	1.47	0.050	0.003	
2:30	0.99	0.43	0.009	0.003	
2:45	0.87	0.29	0.005	0.003	
3:00	0.87	0.06	0.001	0.003	
3:15	0.99	0.62	0.013	0.003	
3:30	0.96	0.39	0.008	0.003	
3:45	0.82	0.00	0.000	0.003	
4:00	0.81	0.06	0.001	0.003	
4:15	0.91	0.14	0.003	0.003	
4:30	0.87	0.00	0.000	0.003	
4:45	0.94	0.91	0.017	0.003	
5:00	1.04	0.47	0.010	0.004	
5:15	0.99	0.31	0.006	0.004	
5:30	0.97	0.16	0.003	0.004	
5:45	0.99	0.00	0.000	0.004	
6:00	1.68	0.96	0.103	0.005	
6:15	2.37	2.09	0.178	0.007	
6:30	1.24	0.75	0.021	0.007	
6:45	1.03	0.54	0.011	0.007	
7:00	0.96	0.56	0.011	0.007	
7:15	0.95	0.00	0.000	0.007	
7:30	0.98	0.35	0.007	0.007	
7:45	0.98	0.40	0.008	0.007	
8:00	0.98	0.48	0.009	0.007	
8:15	1.01	0.42	0.008	0.007	
8:30	1.07	0.48	0.011	0.007	
8:45	1.08	0.65	0.015	0.008	
9:00	1.36	0.82	0.033	0.008	
9:15	1.29	0.87	0.026	0.008	
9:30	1.28	0.77	0.022	0.008	
9:45	1.94	1.40	0.141	0.010	
10:00	3.08	2.60	0.295	0.013	
10:15	1.47	0.96	0.035	0.013	
10:30	1.40	1.04	0.035	0.014	
10:45	1.52	1.01	0.040	0.014	
11:00	1.34	0.69	0.022	0.014	
11:15	1.27	0.58	0.017	0.015	
11:30	1.19	0.37	0.010	0.015	
11:45	1.14	0.40	0.010	0.015	
12:00	1.14	0.43	0.011	0.015	
12:15	1.15	0.34	0.009	0.015	
12:30	2.79	2.34	0.233	0.017	
12:45	1.36	0.89	0.029	0.018	
13:00	1.22	0.39	0.011	0.018	
13:15	1.21	0.51	0.014	0.018	
13:30	1.14	0.32	0.008	0.018	
13:45	1.39	1.07	0.038	0.018	
14:00	1.19	0.39	0.010	0.019	
14:15	2.05	2.16	0.163	0.020	
14:30	1.99	1.66	0.105	0.021	
14:45	1.28	0.66	0.019	0.022	
15:00	1.21	0.52	0.014	0.022	
15:15	1.25	0.68	0.019	0.022	
15:30	1.25	0.61	0.017	0.022	
15:45	1.22	0.57	0.015	0.022	
16:00	1.21	0.59	0.016	0.022	
16:15	1.82	1.39	0.123	0.024	
16:30	2.37	2.13	0.184	0.026	
16:45	1.30	0.69	0.021	0.026	
17:00	1.18	0.12	0.003	0.026	
17:15	1.14	0.00	0.000	0.026	
17:30	1.29	0.71	0.021	0.026	
17:45	1.29	0.72	0.021	0.026	
18:00	1.16	0.30	0.008	0.026	
18:15	1.11	0.17	0.004	0.026	
18:30	1.11	0.07	0.002	0.026	
18:45	1.13	0.29	0.007	0.026	
19:00	1.14	0.27	0.006	0.027	
19:15	1.11	0.00	0.000	0.027	
19:30	1.11	0.27	0.007	0.027	
19:45	2.33	2.02	0.191	0.029	
20:00	1.47	1.06	0.040	0.029	
20:15	1.20	0.49	0.013	0.029	
20:30	1.14	0.29	0.007	0.029	
20:45	1.11	0.00	0.000	0.029	
21:00	1.09	0.00	0.000	0.029	
21:15	1.16	0.35	0.009	0.029	
21:30	1.09	0.19	0.004	0.029	
21:45	1.08	0.36	0.008	0.029	
22:00	1.03	0.09	0.002	0.029	
22:15	1.02	0.23	0.005	0.030	
22:30	0.99	0.00	0.000	0.030	
22:45	1.00	0.11	0.002	0.030	
23:00	0.98	0.15	0.003	0.030	
23:15	1.01	0.11	0.002	0.030	
23:30	1.03	0.32	0.007	0.030	
23:45	1.01	0.06	0.001	0.030	
Daily Totals:				**0.030**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/22/2018					
0:00	1.02	0.12	0.003	0.000	
0:15	0.98	0.24	0.005	0.000	
0:30	1.13	0.51	0.012	0.000	
0:45	1.98	1.47	0.157	0.002	
1:00	1.74	1.44	0.073	0.003	
1:15	1.16	0.50	0.013	0.003	
1:30	1.04	0.00	0.000	0.003	
1:45	2.01	2.44	0.144	0.004	
2:00	1.30	0.88	0.027	0.005	
2:15	1.12	0.27	0.007	0.005	
2:30	1.06	0.00	0.000	0.005	
2:45	1.15	0.40	0.010	0.005	
3:00	1.07	0.36	0.008	0.005	
3:15	1.02	0.00	0.000	0.005	
3:30	0.99	0.00	0.000	0.005	
3:45	0.97	0.00	0.000	0.005	
4:00	0.97	0.08	0.002	0.005	
4:15	0.96	0.00	0.000	0.005	
4:30	0.94	0.00	0.000	0.005	
4:45	0.99	0.20	0.004	0.005	
5:00	0.98	0.10	0.002	0.005	
5:15	0.97	0.00	0.000	0.005	
5:30	0.97	0.00	0.000	0.005	
5:45	1.01	0.24	0.005	0.005	
6:00	1.06	0.51	0.011	0.005	
6:15	1.03	0.11	0.002	0.005	
6:30	1.01	0.00	0.000	0.005	
6:45	0.97	0.00	0.000	0.005	
7:00	0.96	0.00	0.000	0.005	
7:15	1.00	0.25	0.005	0.005	
7:30	1.01	0.00	0.000	0.005	
7:45	1.01	0.33	0.007	0.005	
8:00	0.99	0.08	0.002	0.005	
8:15	2.43	1.98	0.201	0.007	
8:30	1.55	0.70	0.030	0.008	
8:45	1.18	0.00	0.000	0.008	
9:00	1.12	0.00	0.000	0.008	
9:15	1.09	0.00	0.000	0.008	
9:30	1.09	0.19	0.004	0.008	
9:45	1.83	1.26	0.124	0.009	
10:00	1.87	1.51	0.087	0.010	
10:15	1.24	0.56	0.016	0.010	
10:30	1.17	0.45	0.011	0.010	
10:45	1.17	0.48	0.012	0.010	
11:00	1.13	0.09	0.002	0.010	
11:15	1.15	0.12	0.003	0.010	
11:30	1.16	0.32	0.008	0.010	
11:45	1.22	0.49	0.014	0.011	
12:00	1.20	0.54	0.014	0.011	
12:15	1.14	0.25	0.006	0.011	
12:30	1.16	0.26	0.007	0.011	
12:45	1.17	0.35	0.009	0.011	
13:00	1.11	0.06	0.001	0.011	
13:15	1.14	0.23	0.006	0.011	
13:30	1.15	0.11	0.003	0.011	
13:45	1.10	0.00	0.000	0.011	
14:00	1.17	0.27	0.007	0.011	
14:15	1.15	0.17	0.004	0.011	
14:30	1.12	0.00	0.000	0.011	
14:45	1.14	0.20	0.005	0.011	
15:00	1.16	0.17	0.004	0.011	
15:15	1.27	0.51	0.015	0.011	
15:30	1.19	0.18	0.005	0.011	
15:45	1.13	0.08	0.002	0.011	
16:00	1.11	0.00	0.000	0.011	
16:15	1.12	0.00	0.000	0.011	
16:30	2.73	2.26	0.224	0.014	
16:45	1.47	0.76	0.028	0.014	
17:00	1.29	0.15	0.004	0.014	
17:15	1.23	0.00	0.000	0.014	
17:30	1.21	0.00	0.000	0.014	
17:45	1.18	0.00	0.000	0.014	
18:00	1.16	0.00	0.000	0.014	
18:15	1.16	0.00	0.000	0.014	
18:30	1.21	0.00	0.000	0.014	
18:45	1.23	0.32	0.009	0.014	
19:00	1.22	0.09	0.002	0.014	
19:15	1.20	0.00	0.000	0.014	
19:30	1.21	0.11	0.003	0.014	
19:45	1.22	0.32	0.009	0.014	
20:00	1.24	0.33	0.009	0.014	
20:15	1.21	0.07	0.002	0.014	
20:30	1.19	0.05	0.001	0.014	
20:45	1.21	0.09	0.002	0.014	
21:00	1.20	0.06	0.001	0.015	
21:15	1.18	0.00	0.000	0.015	
21:30	1.16	0.00	0.000	0.015	
21:45	1.15	0.00	0.000	0.015	
22:00	1.16	0.00	0.000	0.015	
22:15	1.17	0.15	0.004	0.015	
22:30	1.16	0.08	0.002	0.015	
22:45	1.17	0.18	0.004	0.015	
23:00	3.03	2.72	0.297	0.018	
23:15	1.54	0.84	0.033	0.018	
23:30	1.27	0.31	0.009	0.018	
23:45	1.17	0.00	0.000	0.018	
Daily Totals:				**0.018**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/23/2018					
0:00	1.14	0.00	0.000	0.000	
0:15	1.12	0.00	0.000	0.000	
0:30	1.18	0.24	0.006	0.000	
0:45	1.16	0.00	0.000	0.000	
1:00	1.16	0.00	0.000	0.000	
1:15	1.13	0.00	0.000	0.000	
1:30	1.14	0.00	0.000	0.000	
1:45	1.13	0.10	0.002	0.000	
2:00	1.15	0.00	0.000	0.000	
2:15	2.48	1.77	0.194	0.002	
2:30	1.62	1.09	0.048	0.003	
2:45	1.28	0.36	0.011	0.003	
3:00	1.17	0.00	0.000	0.003	
3:15	1.12	0.00	0.000	0.003	
3:30	1.12	0.00	0.000	0.003	
3:45	1.14	0.00	0.000	0.003	
4:00	1.13	0.00	0.000	0.003	
4:15	1.16	0.13	0.004	0.003	
4:30	1.23	0.71	0.020	0.003	
4:45	1.28	0.51	0.015	0.003	
5:00	1.29	0.34	0.010	0.003	
5:15	1.28	0.38	0.011	0.003	
5:30	1.28	0.00	0.000	0.003	
5:45	1.27	0.32	0.009	0.003	
6:00	1.31	0.37	0.011	0.004	
6:15	1.28	0.44	0.013	0.004	
6:30	1.30	0.43	0.013	0.004	
6:45	1.30	0.53	0.016	0.004	
7:00	1.34	0.39	0.012	0.004	
7:15	1.34	0.20	0.006	0.004	
7:30	1.27	0.25	0.007	0.004	
7:45	1.31	0.45	0.013	0.004	
8:00	1.30	0.42	0.012	0.005	
8:15	1.32	0.49	0.015	0.005	
8:30	1.32	0.59	0.018	0.005	
8:45	1.32	0.55	0.017	0.005	
9:00	1.30	0.51	0.015	0.005	
9:15	1.27	0.40	0.012	0.005	
9:30	1.29	0.38	0.011	0.005	
9:45	1.38	0.45	0.015	0.006	
10:00	2.28	1.58	0.161	0.007	
10:15	2.31	1.93	0.158	0.009	
10:30	1.29	0.66	0.019	0.009	
10:45	1.22	0.13	0.004	0.009	
11:00	1.18	0.00	0.000	0.009	
11:15	1.20	0.26	0.008	0.009	
11:30	1.29	0.60	0.018	0.009	
11:45	1.30	0.62	0.018	0.010	
12:00	1.33	0.70	0.021	0.010	
12:15	2.13	1.49	0.152	0.011	
12:30	1.91	1.45	0.084	0.012	
12:45	1.30	0.72	0.021	0.013	
13:00	1.29	0.71	0.021	0.013	
13:15	1.30	0.26	0.008	0.013	
13:30	1.30	0.62	0.018	0.013	
13:45	1.29	0.62	0.018	0.013	
14:00	1.28	0.60	0.017	0.013	
14:15	1.27	0.77	0.022	0.014	
14:30	1.28	0.55	0.016	0.014	
14:45	1.28	0.58	0.017	0.014	
15:00	1.28	0.77	0.022	0.014	
15:15	1.27	0.41	0.012	0.014	
15:30	3.17	2.74	0.313	0.018	
15:45	1.52	0.98	0.038	0.018	
16:00	1.32	0.63	0.019	0.018	
16:15	1.32	0.20	0.006	0.018	
16:30	1.30	0.71	0.021	0.018	
16:45	1.28	0.83	0.024	0.019	
17:00	1.29	0.75	0.022	0.019	
17:15	1.27	0.35	0.010	0.019	
17:30	1.26	0.34	0.010	0.019	
17:45	1.26	0.00	0.000	0.019	
18:00	1.26	0.00	0.000	0.019	
18:15	1.28	0.32	0.009	0.019	
18:30	1.27	0.61	0.018	0.019	
18:45	1.26	0.19	0.005	0.019	
19:00	1.25	0.00	0.000	0.019	
19:15	1.26	0.00	0.000	0.019	
19:30	1.27	0.28	0.008	0.020	
19:45	1.27	0.14	0.004	0.020	
20:00	1.30	0.37	0.011	0.020	
20:15	1.30	0.58	0.017	0.020	
20:30	1.31	0.51	0.015	0.020	
20:45	1.39	0.65	0.023	0.020	
21:00	1.38	0.75	0.024	0.021	
21:15	1.34	0.57	0.018	0.021	
21:30	1.32	0.56	0.017	0.021	
21:45	1.31	0.34	0.010	0.021	
22:00	1.31	0.16	0.005	0.021	
22:15	1.34	0.39	0.012	0.021	
22:30	1.32	0.16	0.005	0.021	
22:45	1.33	0.42	0.013	0.021	
23:00	1.31	0.62	0.019	0.022	
23:15	1.72	0.68	0.037	0.022	
23:30	1.30	0.47	0.014	0.022	
23:45	2.69	2.66	0.248	0.025	
Daily Totals:				**0.025**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road　　North Castle, NY　　12" Circular Line

FLOW ASSESSMENT SERVICES

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/24/2018					
0:00	1.82	1.14	0.057	0.001	
0:15	1.61	0.84	0.034	0.001	
0:30	1.60	0.78	0.031	0.001	
0:45	1.60	0.76	0.030	0.002	
1:00	1.59	0.29	0.012	0.002	
1:15	1.50	0.33	0.012	0.002	
1:30	1.49	0.17	0.006	0.002	
1:45	1.49	0.50	0.018	0.002	
2:00	1.50	0.51	0.019	0.002	
2:15	1.49	0.76	0.028	0.003	
2:30	1.48	0.00	0.000	0.003	
2:45	1.49	0.37	0.013	0.003	
3:00	2.19	1.33	0.139	0.004	
3:15	2.39	1.74	0.139	0.006	
3:30	1.57	0.69	0.027	0.006	
3:45	1.53	0.54	0.020	0.006	
4:00	1.54	0.18	0.007	0.006	
4:15	1.53	0.10	0.004	0.006	
4:30	1.53	0.00	0.000	0.006	
4:45	1.53	0.00	0.000	0.006	
5:00	1.53	0.54	0.020	0.006	
5:15	1.52	0.51	0.019	0.007	
5:30	1.52	0.34	0.013	0.007	
5:45	1.52	0.51	0.019	0.007	
6:00	1.51	0.59	0.022	0.007	
6:15	1.50	0.56	0.021	0.007	
6:30	1.49	0.17	0.006	0.007	
6:45	1.52	0.34	0.013	0.008	
7:00	1.51	0.64	0.024	0.008	
7:15	1.48	0.57	0.020	0.008	
7:30	1.50	0.38	0.014	0.008	
7:45	1.49	0.79	0.028	0.009	
8:00	1.48	0.58	0.021	0.009	
8:15	1.51	0.48	0.018	0.009	
8:30	1.52	0.67	0.025	0.009	
8:45	1.49	0.59	0.021	0.009	
9:00	1.50	0.65	0.024	0.010	
9:15	1.52	0.65	0.024	0.010	
9:30	1.50	0.65	0.024	0.010	
9:45	1.48	0.70	0.025	0.010	
10:00	1.55	0.78	0.030	0.011	
10:15	1.53	0.70	0.027	0.011	
10:30	1.52	0.75	0.028	0.011	
10:45	1.51	0.65	0.024	0.012	
11:00	1.51	0.60	0.022	0.012	
11:15	2.50	1.93	0.181	0.014	
11:30	1.95	1.26	0.073	0.014	
11:45	1.50	0.64	0.023	0.015	
12:00	2.14	1.13	0.148	0.016	
12:15	2.03	1.41	0.088	0.017	
12:30	1.48	0.60	0.022	0.017	
12:45	1.35	0.00	0.000	0.017	
13:00	1.31	0.00	0.000	0.017	
13:15	1.30	0.00	0.000	0.017	
13:30	1.31	0.00	0.000	0.017	
13:45	1.32	0.00	0.000	0.017	
14:00	1.29	0.00	0.000	0.017	
14:15	1.34	0.00	0.000	0.017	
14:30	1.30	0.00	0.000	0.017	
14:45	1.29	0.00	0.000	0.017	
15:00	1.33	0.23	0.007	0.017	
15:15	1.38	0.52	0.017	0.018	
15:30	1.37	0.43	0.014	0.018	
15:45	1.34	0.00	0.000	0.018	
16:00	1.31	0.00	0.000	0.018	
16:15	1.30	0.07	0.002	0.018	
16:30	1.33	0.26	0.009	0.018	
16:45	1.49	0.59	0.021	0.018	
17:00	1.49	0.58	0.021	0.018	
17:15	1.51	0.58	0.021	0.019	
17:30	1.51	0.61	0.022	0.019	
17:45	1.52	0.52	0.019	0.019	
18:00	1.51	0.54	0.020	0.019	
18:15	1.55	0.38	0.014	0.019	
18:30	1.54	0.60	0.023	0.020	
18:45	2.29	1.40	0.157	0.021	
19:00	2.23	1.64	0.118	0.022	
19:15	1.60	0.68	0.028	0.023	
19:30	1.58	0.68	0.027	0.023	
19:45	1.59	0.76	0.030	0.023	
20:00	0.93	0.68	0.012	0.023	0.01
20:15	0.92	0.51	0.009	0.024	
20:30	0.91	0.23	0.004	0.024	0.02
20:45	0.91	0.39	0.007	0.024	0.03
21:00	0.92	0.65	0.012	0.024	0.04
21:15	2.32	2.14	0.201	0.026	0.05
21:30	1.37	1.35	0.047	0.026	0.05
21:45	1.17	1.10	0.028	0.027	0.05
22:00	1.19	1.08	0.028	0.027	0.05
22:15	1.16	1.10	0.028	0.027	0.07
22:30	1.14	0.93	0.023	0.027	0.07
22:45	2.23	2.52	0.208	0.030	0.08
23:00	2.41	2.36	0.209	0.032	0.11
23:15	1.32	1.20	0.036	0.032	0.09
23:30	1.32	1.37	0.042	0.033	0.07
23:45	1.28	1.22	0.035	0.033	0.03
Daily Totals:				**0.033**	**0.82**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/25/2018					
0:00	1.19	1.12	0.029	0.000	
0:15	1.19	1.08	0.028	0.001	0.01
0:30	2.42	2.49	0.205	0.003	0.02
0:45	2.57	2.78	0.274	0.006	
1:00	1.68	1.03	0.061	0.006	0.01
1:15	1.01	0.79	0.016	0.006	0.03
1:30	0.96	0.70	0.013	0.007	0.06
1:45	1.75	1.66	0.143	0.008	0.05
2:00	2.34	1.21	0.136	0.009	0.04
2:15	2.66	2.81	0.295	0.013	0.04
2:30	2.12	1.82	0.142	0.014	0.04
2:45	1.16	0.94	0.024	0.014	0.02
3:00	1.08	0.86	0.019	0.014	
3:15	1.07	0.76	0.017	0.015	0.01
3:30	1.25	0.73	0.023	0.015	
3:45	2.50	2.72	0.280	0.018	
4:00	2.02	1.49	0.113	0.019	
4:15	1.06	0.42	0.009	0.019	
4:30	1.72	1.71	0.146	0.021	
4:45	2.48	2.38	0.212	0.023	
5:00	1.10	0.84	0.020	0.023	
5:15	0.94	0.53	0.010	0.023	
5:30	0.88	0.45	0.007	0.023	
5:45	0.87	0.53	0.009	0.023	
6:00	0.94	0.73	0.013	0.023	
6:15	2.25	2.52	0.230	0.026	
6:30	1.69	0.83	0.028	0.026	
6:45	1.08	1.13	0.025	0.026	
7:00	2.84	3.37	0.317	0.030	
7:15	1.58	1.37	0.063	0.030	
7:30	0.98	0.59	0.012	0.030	
7:45	0.90	0.27	0.005	0.030	
8:00	0.89	0.67	0.011	0.031	
8:15	0.88	0.43	0.007	0.031	
8:30	0.98	0.95	0.019	0.031	
8:45	2.80	2.98	0.284	0.034	
9:00	1.29	1.00	0.030	0.034	
9:15	1.02	0.68	0.014	0.034	
9:30	2.95	3.17	0.326	0.038	
9:45	1.24	1.14	0.035	0.038	
10:00	0.95	0.52	0.010	0.038	
10:15	0.92	0.38	0.007	0.038	
10:30	1.03	0.76	0.017	0.038	
10:45	0.98	0.49	0.010	0.038	
11:00	0.98	0.58	0.011	0.039	
11:15	2.62	2.22	0.207	0.041	
11:30	1.24	1.17	0.033	0.041	
11:45	2.53	2.62	0.278	0.044	
12:00	1.68	0.74	0.025	0.044	
12:15	1.34	0.80	0.026	0.045	
12:30	0.92	0.32	0.006	0.045	
12:45	0.89	0.54	0.009	0.045	
13:00	0.95	0.69	0.013	0.045	
13:15	0.99	0.58	0.012	0.045	
13:30	0.94	0.44	0.008	0.045	
13:45	2.54	2.50	0.273	0.048	
14:00	2.35	1.67	0.159	0.050	
14:15	1.07	0.71	0.016	0.050	
14:30	0.93	0.47	0.009	0.050	
14:45	0.96	0.62	0.012	0.050	
15:00	0.97	0.54	0.010	0.050	
15:15	0.86	0.12	0.002	0.050	
15:30	2.05	1.19	0.131	0.051	
15:45	1.19	0.92	0.025	0.052	
16:00	2.56	2.56	0.275	0.055	
16:15	1.71	1.33	0.070	0.055	
16:30	0.94	0.20	0.004	0.055	
16:45	0.80	0.00	0.000	0.055	
17:00	0.75	0.00	0.000	0.055	
17:15	0.79	0.36	0.005	0.055	
17:30	2.25	2.39	0.234	0.058	
17:45	1.41	0.59	0.015	0.058	
18:00	2.47	2.67	0.270	0.061	
18:15	1.49	1.36	0.056	0.061	
18:30	0.94	0.51	0.010	0.061	
18:45	0.83	0.08	0.001	0.061	
19:00	1.12	0.97	0.029	0.062	
19:15	0.85	0.00	0.000	0.062	
19:30	0.87	0.16	0.003	0.062	
19:45	2.09	1.59	0.143	0.063	
20:00	1.23	0.35	0.007	0.063	
20:15	2.86	3.10	0.299	0.066	
20:30	1.25	0.96	0.029	0.067	
20:45	0.93	0.00	0.000	0.067	
21:00	0.93	0.00	0.000	0.067	
21:15	0.95	0.45	0.009	0.067	
21:30	0.91	0.35	0.006	0.067	
21:45	0.87	0.00	0.000	0.067	
22:00	1.62	1.21	0.128	0.068	
22:15	1.80	0.54	0.017	0.068	
22:30	1.01	0.00	0.000	0.068	
22:45	2.86	3.12	0.308	0.072	
23:00	1.23	1.01	0.030	0.072	
23:15	0.96	0.39	0.007	0.072	
23:30	0.87	0.00	0.000	0.072	
23:45	0.81	0.00	0.000	0.072	
Daily Totals:				**0.072**	**0.33**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road — North Castle, NY — 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/26/2018					
0:00	0.77	0.00	0.000	0.000	
0:15	0.76	0.00	0.000	0.000	
0:30	1.56	1.16	0.125	0.001	
0:45	1.59	0.62	0.019	0.001	
1:00	0.98	0.60	0.012	0.002	
1:15	2.67	2.36	0.241	0.004	
1:30	1.13	0.68	0.018	0.004	
1:45	0.90	0.00	0.000	0.004	
2:00	0.81	0.00	0.000	0.004	
2:15	0.77	0.00	0.000	0.004	
2:30	0.77	0.00	0.000	0.004	
2:45	1.41	1.15	0.102	0.005	
3:00	2.00	1.50	0.122	0.007	
3:15	0.99	0.28	0.006	0.007	
3:30	1.59	1.14	0.117	0.008	
3:45	2.36	2.31	0.189	0.010	
4:00	1.06	0.85	0.019	0.010	
4:15	0.87	0.53	0.009	0.010	
4:30	0.77	0.00	0.000	0.010	
4:45	0.90	0.58	0.011	0.010	
5:00	1.04	0.95	0.020	0.011	
5:15	0.98	0.53	0.011	0.011	
5:30	1.94	1.38	0.120	0.012	
5:45	1.12	0.17	0.003	0.012	
6:00	2.62	3.22	0.270	0.015	
6:15	1.28	1.09	0.034	0.015	
6:30	0.92	0.09	0.002	0.015	
6:45	0.81	0.00	0.000	0.015	
7:00	0.78	0.00	0.000	0.015	
7:15	0.80	0.00	0.000	0.015	
7:30	0.81	0.00	0.000	0.015	
7:45	2.45	2.21	0.200	0.017	
8:00	1.09	0.35	0.008	0.017	
8:15	2.93	3.31	0.323	0.021	
8:30	1.34	0.78	0.021	0.021	
8:45	1.08	0.79	0.019	0.021	
9:00	0.86	0.16	0.002	0.021	
9:15	0.86	0.23	0.004	0.021	
9:30	1.81	1.68	0.174	0.023	
9:45	3.03	3.26	0.349	0.027	
10:00	1.25	1.26	0.037	0.027	
10:15	1.18	0.78	0.022	0.027	
10:30	1.02	0.54	0.011	0.027	
10:45	1.00	0.57	0.011	0.027	
11:00	2.26	1.58	0.142	0.029	
11:15	1.08	0.88	0.020	0.029	
11:30	0.99	0.54	0.011	0.029	
11:45	1.00	0.57	0.012	0.029	
12:00	1.69	1.50	0.145	0.031	
12:15	2.46	2.09	0.203	0.033	
12:30	1.16	0.86	0.022	0.033	
12:45	1.24	0.69	0.021	0.033	
13:00	1.04	0.65	0.014	0.034	
13:15	0.95	0.53	0.010	0.034	
13:30	0.93	0.42	0.008	0.034	
13:45	0.95	0.46	0.008	0.034	0.01
14:00	0.97	0.26	0.005	0.034	
14:15	0.98	0.32	0.006	0.034	
14:30	2.48	2.57	0.273	0.037	
14:45	2.67	2.97	0.276	0.040	0.02
15:00	1.35	0.95	0.031	0.040	0.04
15:15	1.14	0.79	0.020	0.040	0.05
15:30	1.07	0.78	0.017	0.040	0.16
15:45	1.31	1.14	0.037	0.041	0.09
16:00	1.45	1.56	0.054	0.041	0.06
16:15	1.27	1.41	0.041	0.042	0.04
16:30	1.11	1.23	0.029	0.042	0.06
16:45	1.13	1.10	0.027	0.042	0.07
17:00	1.95	2.11	0.165	0.044	0.03
17:15	2.34	2.38	0.197	0.046	0.05
17:30	1.55	1.48	0.064	0.047	0.08
17:45	3.23	3.62	0.400	0.051	0.08
18:00	1.64	1.59	0.069	0.052	0.05
18:15	1.30	1.27	0.038	0.052	0.05
18:30	1.15	1.31	0.033	0.052	0.05
18:45	1.19	1.26	0.033	0.053	0.03
19:00	1.23	1.25	0.035	0.053	0.03
19:15	1.36	1.08	0.034	0.053	0.02
19:30	1.16	0.92	0.023	0.054	
19:45	1.15	0.93	0.023	0.054	
20:00	1.13	0.84	0.020	0.054	
20:15	2.94	3.03	0.313	0.057	0.01
20:30	1.42	1.15	0.040	0.058	
20:45	1.17	0.85	0.022	0.058	
21:00	1.13	0.68	0.016	0.058	0.01
21:15	1.77	1.65	0.135	0.060	
21:30	2.46	2.32	0.212	0.062	
21:45	1.21	0.94	0.025	0.062	0.01
22:00	1.12	0.62	0.015	0.062	
22:15	1.11	0.58	0.014	0.062	0.01
22:30	1.12	0.72	0.017	0.063	
22:45	1.12	0.58	0.014	0.063	
23:00	1.07	0.62	0.014	0.063	
23:15	1.08	0.63	0.014	0.063	
23:30	1.08	0.77	0.017	0.063	
23:45	2.95	3.28	0.333	0.067	
Daily Totals:				**0.067**	**1.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/27/2018					
0:00	1.36	0.58	0.016	0.000	
0:15	1.12	0.00	0.000	0.000	
0:30	1.23	0.54	0.022	0.000	
0:45	1.12	0.30	0.007	0.000	
1:00	1.04	0.07	0.002	0.000	0.01
1:15	1.01	0.14	0.003	0.001	0.01
1:30	0.98	0.00	0.000	0.001	0.03
1:45	0.98	0.12	0.002	0.001	0.03
2:00	2.93	3.56	0.342	0.004	0.01
2:15	1.34	1.03	0.033	0.004	
2:30	1.05	0.70	0.015	0.005	0.01
2:45	1.04	0.70	0.015	0.005	
3:00	1.01	0.59	0.012	0.005	
3:15	1.00	0.51	0.010	0.005	
3:30	0.99	0.44	0.009	0.005	
3:45	1.05	0.35	0.009	0.005	
4:00	1.52	1.19	0.092	0.006	
4:15	2.72	2.34	0.241	0.009	
4:30	1.19	1.43	0.037	0.009	0.01
4:45	1.02	0.57	0.012	0.009	
5:00	0.96	0.00	0.000	0.009	
5:15	0.96	0.43	0.008	0.009	
5:30	0.94	0.67	0.012	0.009	
5:45	0.89	0.18	0.003	0.009	
6:00	0.89	0.00	0.000	0.009	
6:15	0.91	0.00	0.000	0.009	
6:30	0.94	0.22	0.005	0.009	
6:45	1.70	1.84	0.128	0.011	
7:00	1.52	1.15	0.053	0.011	
7:15	1.09	0.91	0.021	0.012	
7:30	1.15	1.05	0.026	0.012	
7:45	1.12	0.79	0.019	0.012	
8:00	2.60	3.16	0.264	0.015	
8:15	1.20	1.11	0.031	0.015	
8:30	1.03	0.63	0.013	0.015	
8:45	1.01	0.59	0.012	0.015	
9:00	1.01	0.60	0.012	0.015	
9:15	0.99	0.63	0.013	0.016	
9:30	0.95	0.34	0.006	0.016	
9:45	0.99	0.70	0.014	0.016	
10:00	1.77	1.92	0.148	0.017	
10:15	2.76	3.11	0.286	0.020	
10:30	1.19	1.09	0.030	0.021	
10:45	1.05	0.78	0.017	0.021	
11:00	1.08	0.45	0.010	0.021	
11:15	1.22	0.36	0.008	0.021	
11:30	1.11	0.62	0.015	0.021	
11:45	1.10	0.64	0.015	0.021	
12:00	1.05	0.51	0.011	0.021	
12:15	1.88	1.48	0.125	0.023	
12:30	1.80	1.89	0.137	0.024	
12:45	2.35	2.66	0.213	0.026	
13:00	1.33	0.98	0.032	0.027	
13:15	1.10	0.58	0.014	0.027	
13:30	1.10	0.60	0.014	0.027	
13:45	1.03	0.29	0.006	0.027	
14:00	1.05	0.56	0.013	0.027	
14:15	2.03	1.41	0.124	0.029	
14:30	1.25	0.00	0.000	0.029	
14:45	1.08	0.00	0.000	0.029	
15:00	1.38	0.00	0.000	0.029	
15:15	2.57	2.70	0.281	0.031	
15:30	2.20	1.56	0.136	0.033	
15:45	1.23	0.69	0.019	0.033	
16:00	1.08	0.43	0.010	0.033	
16:15	1.06	0.51	0.011	0.033	
16:30	1.01	0.36	0.007	0.033	
16:45	0.97	0.31	0.006	0.033	
17:00	0.98	0.00	0.000	0.033	
17:15	0.96	0.00	0.000	0.033	
17:30	2.36	1.93	0.179	0.035	
17:45	1.23	0.57	0.016	0.035	
18:00	1.76	1.27	0.122	0.037	
18:15	2.81	2.72	0.280	0.040	
18:30	1.23	0.99	0.028	0.040	
18:45	0.97	0.31	0.006	0.040	
19:00	0.87	0.00	0.000	0.040	
19:15	0.88	0.16	0.003	0.040	
19:30	0.91	0.00	0.000	0.040	
19:45	0.90	0.34	0.006	0.040	
20:00	0.86	0.30	0.005	0.040	
20:15	0.85	0.05	0.001	0.040	
20:30	0.92	0.00	0.000	0.040	
20:45	0.93	0.00	0.000	0.040	
21:00	0.90	0.00	0.000	0.040	
21:15	2.38	2.06	0.186	0.042	
21:30	1.32	0.46	0.014	0.042	
21:45	1.12	0.00	0.000	0.042	
22:00	1.04	0.00	0.000	0.042	
22:15	1.00	0.00	0.000	0.042	
22:30	1.02	0.00	0.000	0.042	
22:45	1.43	0.88	0.036	0.043	
23:00	1.07	0.40	0.009	0.043	
23:15	1.08	0.51	0.012	0.043	
23:30	1.11	0.51	0.012	0.043	
23:45	1.80	1.18	0.134	0.044	
Daily Totals:				**0.044**	**0.11**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/28/2018					
0:00	2.61	2.02	0.205	0.002	
0:15	1.20	0.55	0.016	0.002	
0:30	0.98	0.15	0.003	0.002	
0:45	1.06	0.64	0.014	0.002	
1:00	0.92	0.00	0.000	0.002	
1:15	0.86	0.00	0.000	0.002	
1:30	0.84	0.00	0.000	0.002	
1:45	0.79	0.00	0.000	0.002	
2:00	0.75	0.00	0.000	0.002	
2:15	0.71	0.00	0.000	0.002	
2:30	0.70	0.00	0.000	0.002	
2:45	0.71	0.00	0.000	0.002	
3:00	0.73	0.19	0.002	0.003	
3:15	0.74	0.09	0.001	0.003	
3:30	1.77	2.71	0.147	0.004	
3:45	1.19	0.88	0.024	0.004	
4:00	0.93	0.42	0.007	0.004	
4:15	0.83	0.11	0.002	0.004	
4:30	0.76	0.00	0.000	0.004	
4:45	0.78	0.15	0.002	0.004	
5:00	0.88	0.71	0.012	0.005	
5:15	0.82	0.24	0.004	0.005	
5:30	0.82	0.95	0.014	0.005	
5:45	2.90	2.98	0.300	0.008	
6:00	1.35	1.00	0.034	0.008	
6:15	1.04	0.49	0.010	0.008	
6:30	0.94	0.19	0.004	0.008	
6:45	0.89	0.00	0.000	0.008	
7:00	0.93	0.00	0.000	0.008	
7:15	0.90	0.00	0.000	0.008	
7:30	0.91	0.00	0.000	0.008	
7:45	0.90	0.48	0.008	0.008	
8:00	0.91	0.34	0.006	0.009	
8:15	0.95	0.70	0.013	0.009	
8:30	0.94	0.41	0.008	0.009	
8:45	0.92	0.11	0.002	0.009	
9:00	0.95	0.66	0.012	0.009	
9:15	1.62	1.27	0.106	0.010	
9:30	2.23	2.25	0.180	0.012	
9:45	1.17	0.82	0.021	0.012	
10:00	1.06	0.43	0.008	0.012	
10:15	0.97	1.26	0.022	0.012	
10:30	2.30	2.48	0.195	0.014	
10:45	1.13	0.82	0.020	0.015	
11:00	1.03	0.65	0.014	0.015	
11:15	1.00	0.60	0.012	0.015	
11:30	0.96	0.35	0.007	0.015	
11:45	0.92	0.25	0.005	0.015	
12:00	0.98	0.64	0.013	0.015	
12:15	0.90	0.45	0.008	0.015	
12:30	3.30	3.56	0.403	0.019	
12:45	1.61	1.27	0.059	0.020	
13:00	1.08	0.68	0.016	0.020	
13:15	1.17	0.97	0.025	0.020	
13:30	1.10	0.73	0.017	0.021	
13:45	0.84	0.40	0.006	0.021	
14:00	0.75	0.06	0.001	0.021	
14:15	1.54	1.39	0.133	0.022	
14:30	1.51	1.60	0.068	0.023	
14:45	1.01	0.75	0.016	0.023	
15:00	0.97	0.65	0.014	0.023	
15:15	0.87	0.68	0.011	0.023	
15:30	3.18	3.44	0.370	0.027	
15:45	1.51	1.39	0.056	0.028	
16:00	1.05	0.65	0.014	0.028	
16:15	1.02	0.68	0.014	0.028	
16:30	0.92	0.43	0.008	0.028	
16:45	0.91	0.39	0.007	0.028	
17:00	0.85	0.38	0.006	0.028	
17:15	0.77	0.30	0.004	0.028	
17:30	0.76	0.10	0.001	0.028	
17:45	0.75	0.00	0.000	0.028	
18:00	0.78	0.38	0.005	0.028	
18:15	0.94	0.60	0.012	0.028	
18:30	0.77	0.31	0.004	0.028	
18:45	0.68	0.18	0.002	0.029	
19:00	0.68	0.00	0.000	0.029	
19:15	2.93	3.30	0.326	0.032	
19:30	1.28	1.09	0.034	0.032	
19:45	0.95	0.36	0.007	0.032	
20:00	0.75	0.15	0.002	0.032	
20:15	0.79	0.00	0.000	0.032	
20:30	0.68	0.00	0.000	0.032	
20:45	0.61	0.00	0.000	0.032	
21:00	0.70	0.35	0.004	0.032	
21:15	0.70	0.33	0.004	0.032	
21:30	0.72	0.00	0.000	0.032	
21:45	0.74	0.32	0.004	0.032	
22:00	0.67	0.27	0.003	0.033	
22:15	0.77	0.27	0.004	0.033	
22:30	0.71	0.00	0.000	0.033	
22:45	0.78	0.36	0.005	0.033	
23:00	2.23	2.33	0.228	0.035	
23:15	2.38	2.34	0.197	0.037	
23:30	1.42	0.90	0.031	0.037	
23:45	1.02	0.33	0.007	0.037	
Daily Totals:				**0.037**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/29/2018					
0:00	0.84	0.00	0.000	0.000	
0:15	0.89	0.00	0.000	0.000	
0:30	0.83	0.00	0.000	0.000	
0:45	0.86	0.32	0.005	0.000	
1:00	0.84	0.00	0.000	0.000	
1:15	0.82	0.00	0.000	0.000	
1:30	0.78	0.00	0.000	0.000	
1:45	0.87	0.44	0.008	0.000	
2:00	0.92	0.31	0.006	0.000	
2:15	0.88	0.08	0.001	0.000	
2:30	0.84	0.09	0.002	0.000	
2:45	1.04	0.39	0.008	0.000	
3:00	0.85	0.46	0.008	0.000	
3:15	0.75	0.20	0.003	0.000	
3:30	0.73	0.00	0.000	0.000	
3:45	0.66	0.00	0.000	0.000	
4:00	0.69	0.15	0.002	0.000	
4:15	0.67	0.08	0.001	0.000	
4:30	0.64	0.08	0.001	0.000	
4:45	0.73	0.10	0.001	0.000	
5:00	2.33	2.31	0.223	0.003	
5:15	1.52	0.89	0.040	0.003	
5:30	1.00	0.20	0.005	0.003	
5:45	0.79	0.20	0.003	0.003	
6:00	0.70	0.00	0.000	0.003	
6:15	0.70	0.00	0.000	0.003	
6:30	0.66	0.00	0.000	0.003	
6:45	0.67	0.09	0.001	0.003	
7:00	0.67	0.00	0.000	0.003	
7:15	0.69	0.00	0.000	0.003	
7:30	0.73	0.00	0.000	0.003	
7:45	0.75	0.23	0.003	0.003	
8:00	0.74	0.10	0.001	0.003	
8:15	0.76	0.57	0.008	0.003	
8:30	0.84	0.74	0.012	0.004	
8:45	2.05	2.24	0.157	0.005	
9:00	1.15	0.64	0.016	0.005	
9:15	2.51	2.70	0.230	0.008	
9:30	1.27	1.01	0.030	0.008	
9:45	0.97	0.95	0.018	0.008	
10:00	0.96	0.31	0.006	0.008	
10:15	0.92	0.56	0.010	0.008	
10:30	0.97	0.83	0.016	0.009	
10:45	0.97	0.51	0.010	0.009	
11:00	1.29	1.32	0.040	0.009	
11:15	1.85	1.50	0.133	0.010	
11:30	2.84	2.30	0.259	0.013	
11:45	1.20	0.95	0.026	0.013	
12:00	0.89	0.42	0.007	0.014	
12:15	0.85	0.10	0.002	0.014	
12:30	0.86	0.39	0.007	0.014	
12:45	0.85	0.57	0.009	0.014	
13:00	0.77	0.76	0.010	0.014	
13:15	0.90	0.53	0.009	0.014	
13:30	1.51	1.26	0.097	0.015	
13:45	1.31	1.36	0.045	0.015	
14:00	2.07	2.15	0.154	0.017	
14:15	1.15	0.67	0.017	0.017	
14:30	1.04	0.25	0.006	0.017	
14:45	0.95	0.14	0.003	0.017	
15:00	0.96	0.08	0.001	0.017	
15:15	2.49	2.38	0.244	0.020	
15:30	1.52	1.67	0.072	0.021	
15:45	1.01	0.93	0.019	0.021	
16:00	1.25	0.97	0.032	0.021	
16:15	0.92	0.57	0.011	0.021	
16:30	0.85	0.26	0.004	0.021	
16:45	0.95	0.56	0.011	0.021	
17:00	0.92	0.58	0.011	0.021	
17:15	2.33	2.02	0.182	0.023	
17:30	1.03	1.04	0.022	0.024	
17:45	0.91	0.57	0.010	0.024	
18:00	1.54	1.40	0.109	0.025	
18:15	2.04	2.26	0.169	0.027	
18:30	0.99	0.67	0.014	0.027	
18:45	0.84	0.48	0.007	0.027	
19:00	0.80	0.17	0.003	0.027	
19:15	0.86	0.58	0.009	0.027	
19:30	0.98	0.60	0.012	0.027	
19:45	1.09	0.38	0.013	0.027	
20:00	0.77	0.53	0.007	0.027	
20:15	0.72	0.41	0.005	0.027	
20:30	0.68	0.29	0.003	0.027	
20:45	0.63	0.16	0.002	0.027	
21:00	0.66	0.17	0.002	0.027	
21:15	0.69	0.09	0.001	0.027	
21:30	0.73	0.44	0.006	0.027	
21:45	0.75	0.39	0.005	0.028	
22:00	0.72	0.37	0.005	0.028	
22:15	0.70	0.55	0.007	0.028	
22:30	0.68	0.33	0.004	0.028	
22:45	0.65	0.00	0.000	0.028	
23:00	0.65	0.00	0.000	0.028	
23:15	0.67	0.17	0.002	0.028	
23:30	0.64	0.44	0.005	0.028	
23:45	1.51	2.28	0.126	0.029	
Daily Totals:				**0.029**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
11/30/2018					
0:00	1.52	1.64	0.070	0.001	
0:15	0.92	0.57	0.010	0.001	
0:30	0.74	0.10	0.001	0.001	
0:45	0.70	0.06	0.001	0.001	
1:00	0.73	0.00	0.000	0.001	
1:15	0.73	0.00	0.000	0.001	
1:30	0.74	0.00	0.000	0.001	
1:45	0.71	0.00	0.000	0.001	
2:00	0.73	0.30	0.004	0.001	
2:15	0.70	0.18	0.002	0.001	
2:30	0.68	0.04	0.000	0.001	
2:45	0.85	0.43	0.008	0.001	
3:00	0.76	0.20	0.003	0.001	
3:15	0.73	0.28	0.004	0.001	
3:30	0.70	0.28	0.003	0.001	
3:45	2.38	2.08	0.227	0.003	
4:00	1.73	1.69	0.092	0.004	
4:15	0.98	0.51	0.010	0.005	
4:30	0.83	0.14	0.002	0.005	
4:45	0.95	0.47	0.009	0.005	
5:00	0.91	0.55	0.010	0.005	
5:15	0.83	0.44	0.007	0.005	
5:30	0.75	0.12	0.002	0.005	
5:45	0.71	0.00	0.000	0.005	
6:00	0.72	0.00	0.000	0.005	
6:15	0.76	0.06	0.001	0.005	
6:30	0.77	0.16	0.002	0.005	
6:45	0.76	0.08	0.001	0.005	
7:00	0.78	0.17	0.002	0.005	
7:15	0.72	0.00	0.000	0.005	
7:30	0.75	0.08	0.001	0.005	
7:45	0.80	0.30	0.004	0.005	
8:00	0.77	0.24	0.003	0.005	
8:15	0.83	0.55	0.008	0.005	
8:30	1.06	1.39	0.041	0.006	
8:45	2.52	2.55	0.223	0.008	
9:00	1.09	0.91	0.021	0.008	
9:15	0.90	0.41	0.007	0.008	
9:30	0.89	0.60	0.011	0.008	
9:45	0.82	0.81	0.012	0.008	
10:00	0.81	0.46	0.007	0.008	
10:15	0.83	0.49	0.008	0.009	
10:30	0.83	0.31	0.005	0.009	
10:45	2.67	2.89	0.263	0.011	
11:00	1.20	1.02	0.028	0.012	
11:15	1.67	1.48	0.123	0.013	
11:30	1.71	1.62	0.075	0.014	
11:45	1.10	0.65	0.016	0.014	
12:00	1.18	0.92	0.024	0.014	
12:15	0.96	0.28	0.005	0.014	
12:30	0.79	0.36	0.005	0.014	
12:45	2.31	2.14	0.212	0.016	
13:00	1.38	1.02	0.034	0.017	
13:15	0.99	0.37	0.008	0.017	
13:30	0.86	0.11	0.002	0.017	
13:45	0.83	0.00	0.000	0.017	
14:00	0.79	0.00	0.000	0.017	
14:15	0.77	0.00	0.000	0.017	
14:30	1.62	1.21	0.127	0.018	
14:45	1.81	1.77	0.105	0.019	0.01
15:00	1.08	0.92	0.021	0.020	
15:15	0.90	0.47	0.008	0.020	
15:30	0.88	0.32	0.005	0.020	
15:45	0.88	0.30	0.005	0.020	
16:00	0.80	0.11	0.002	0.020	
16:15	0.70	0.07	0.001	0.020	
16:30	1.51	1.20	0.126	0.021	
16:45	1.93	1.97	0.139	0.022	
17:00	0.85	0.63	0.010	0.023	
17:15	0.62	0.43	0.004	0.023	
17:30	0.52	0.00	0.000	0.023	
17:45	0.91	0.77	0.020	0.023	
18:00	0.54	0.00	0.000	0.023	
18:15	0.51	0.00	0.000	0.023	0.01
18:30	0.53	0.00	0.000	0.023	
18:45	0.53	0.57	0.005	0.023	
19:00	0.52	0.35	0.003	0.023	
19:15	0.55	0.00	0.000	0.023	
19:30	0.55	0.00	0.000	0.023	
19:45	0.53	0.00	0.000	0.023	
20:00	0.60	0.20	0.003	0.023	
20:15	2.01	2.30	0.161	0.025	
20:30	0.81	0.74	0.012	0.025	
20:45	1.40	1.32	0.115	0.026	
21:00	1.36	1.61	0.060	0.027	
21:15	0.73	0.41	0.006	0.027	
21:30	0.54	0.00	0.000	0.027	
21:45	0.51	0.00	0.000	0.027	
22:00	0.50	0.00	0.000	0.027	
22:15	0.50	0.00	0.000	0.027	
22:30	0.50	0.00	0.000	0.027	
22:45	0.51	0.17	0.001	0.027	
23:00	0.49	0.29	0.002	0.027	
23:15	0.94	0.54	0.017	0.027	
23:30	0.52	0.00	0.000	0.027	
23:45	0.50	0.60	0.004	0.027	
Daily Totals:				**0.027**	**0.02**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road　　North Castle, NY　　12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/1/2018					
0:00	0.47	0.05	0.000	0.000	
0:15	0.48	0.00	0.000	0.000	
0:30	0.49	0.00	0.000	0.000	
0:45	0.50	0.06	0.000	0.000	
1:00	0.51	0.31	0.002	0.000	
1:15	0.51	0.16	0.001	0.000	
1:30	0.48	0.15	0.001	0.000	
1:45	2.29	2.76	0.203	0.002	
2:00	0.84	1.06	0.017	0.002	
2:15	2.33	2.78	0.203	0.004	
2:30	0.89	1.06	0.019	0.005	
2:45	0.61	0.44	0.005	0.005	
3:00	0.52	0.00	0.000	0.005	
3:15	0.52	0.00	0.000	0.005	
3:30	0.48	0.00	0.000	0.005	
3:45	0.50	0.00	0.000	0.005	
4:00	0.49	0.00	0.000	0.005	
4:15	0.46	0.00	0.000	0.005	
4:30	0.49	0.00	0.000	0.005	
4:45	0.56	0.25	0.002	0.005	
5:00	0.57	0.47	0.004	0.005	
5:15	0.54	0.07	0.001	0.005	
5:30	0.50	0.00	0.000	0.005	
5:45	0.54	0.18	0.001	0.005	
6:00	0.56	0.08	0.001	0.005	
6:15	0.56	0.17	0.002	0.005	
6:30	0.57	0.28	0.002	0.005	
6:45	0.64	0.41	0.004	0.005	
7:00	0.65	0.46	0.005	0.005	
7:15	0.66	0.44	0.005	0.005	
7:30	0.86	0.55	0.009	0.005	
7:45	0.65	0.07	0.001	0.005	
8:00	0.58	0.00	0.000	0.005	
8:15	2.06	2.14	0.194	0.007	
8:30	1.11	1.25	0.034	0.007	
8:45	0.72	0.30	0.004	0.008	
9:00	0.59	0.00	0.000	0.008	
9:15	0.56	0.00	0.000	0.008	
9:30	2.17	2.60	0.180	0.009	
9:45	0.87	0.86	0.015	0.010	
10:00	0.71	0.42	0.005	0.010	
10:15	0.61	0.19	0.002	0.010	
10:30	0.63	0.56	0.006	0.010	
10:45	0.60	0.25	0.002	0.010	
11:00	0.61	0.32	0.003	0.010	
11:15	0.60	0.39	0.004	0.010	
11:30	0.61	0.48	0.005	0.010	
11:45	0.60	0.10	0.001	0.010	
12:00	0.99	1.06	0.050	0.010	
12:15	2.06	2.30	0.169	0.012	
12:30	0.83	0.77	0.012	0.012	
12:45	0.68	0.20	0.002	0.012	
13:00	0.62	0.00	0.000	0.012	
13:15	0.62	0.33	0.003	0.012	
13:30	0.59	0.34	0.003	0.012	
13:45	0.63	0.56	0.006	0.012	
14:00	0.60	0.48	0.005	0.012	
14:15	0.60	0.17	0.002	0.012	
14:30	0.58	0.23	0.002	0.012	
14:45	0.57	0.00	0.000	0.012	
15:00	0.56	0.27	0.002	0.012	
15:15	0.60	0.00	0.000	0.012	
15:30	0.60	0.00	0.000	0.012	
15:45	0.61	0.24	0.002	0.013	
16:00	1.93	1.76	0.155	0.014	
16:15	1.02	1.09	0.024	0.014	
16:30	0.70	0.49	0.006	0.014	
16:45	0.61	0.07	0.001	0.014	
17:00	0.59	0.11	0.001	0.014	
17:15	0.63	0.26	0.003	0.014	
17:30	0.62	0.34	0.003	0.015	
17:45	0.63	0.51	0.005	0.015	
18:00	0.59	0.24	0.002	0.015	
18:15	0.59	0.08	0.001	0.015	
18:30	1.03	1.06	0.029	0.015	
18:45	0.64	0.32	0.003	0.015	
19:00	0.61	0.29	0.003	0.015	
19:15	0.61	0.35	0.003	0.015	
19:30	0.59	0.23	0.002	0.015	
19:45	1.82	2.78	0.156	0.017	0.01
20:00	1.01	0.89	0.019	0.017	0.01
20:15	0.74	0.38	0.005	0.017	0.01
20:30	0.64	0.00	0.000	0.017	0.01
20:45	0.62	0.00	0.000	0.017	0.01
21:00	0.73	0.63	0.008	0.017	0.02
21:15	0.83	0.62	0.009	0.017	
21:30	0.78	0.49	0.007	0.017	0.01
21:45	0.79	0.55	0.008	0.017	
22:00	0.78	0.52	0.007	0.017	
22:15	0.74	0.42	0.005	0.017	
22:30	0.70	0.21	0.003	0.017	
22:45	0.69	0.29	0.003	0.017	
23:00	0.73	0.56	0.007	0.018	
23:15	0.68	0.42	0.005	0.018	0.01
23:30	0.65	0.00	0.000	0.018	
23:45	0.63	0.00	0.000	0.018	
Daily Totals:				**0.018**	**0.09**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/2/2018					
0:00	0.65	0.00	0.000	0.000	0.01
0:15	0.66	0.00	0.000	0.000	
0:30	0.68	0.00	0.000	0.000	0.01
0:45	0.96	0.46	0.011	0.000	
1:00	0.76	0.18	0.003	0.000	0.01
1:15	0.76	0.37	0.005	0.000	
1:30	0.76	0.32	0.004	0.000	0.01
1:45	0.76	0.27	0.004	0.000	0.01
2:00	0.76	0.31	0.004	0.000	
2:15	0.83	0.47	0.007	0.000	
2:30	0.82	0.42	0.006	0.000	0.01
2:45	0.82	0.46	0.007	0.001	0.02
3:00	0.80	0.23	0.003	0.001	0.01
3:15	0.81	0.57	0.008	0.001	0.02
3:30	0.87	0.67	0.011	0.001	0.03
3:45	0.91	0.63	0.011	0.001	0.06
4:00	1.03	0.83	0.018	0.001	0.06
4:15	1.29	1.65	0.054	0.002	0.03
4:30	1.72	2.28	0.129	0.003	0.01
4:45	0.65	0.94	0.010	0.003	0.01
5:00	0.54	0.87	0.007	0.003	0.01
5:15	0.76	1.00	0.017	0.003	
5:30	0.57	0.82	0.007	0.003	0.01
5:45	0.55	0.76	0.006	0.003	0.01
6:00	0.54	0.68	0.006	0.004	0.01
6:15	1.38	1.47	0.104	0.005	0.03
6:30	1.59	1.97	0.102	0.006	0.05
6:45	0.67	1.00	0.011	0.006	0.03
7:00	0.66	0.96	0.011	0.006	0.02
7:15	0.58	0.85	0.008	0.006	0.01
7:30	0.55	0.77	0.006	0.006	0.02
7:45	0.56	0.75	0.006	0.006	0.01
8:00	0.57	0.75	0.007	0.006	0.02
8:15	0.58	0.85	0.008	0.006	
8:30	0.58	0.75	0.007	0.006	0.02
8:45	0.57	0.71	0.006	0.006	0.02
9:00	0.57	0.71	0.006	0.006	0.01
9:15	0.61	0.86	0.008	0.007	0.01
9:30	0.63	0.88	0.009	0.007	0.01
9:45	0.91	1.17	0.024	0.007	0.01
10:00	0.67	0.99	0.011	0.007	0.02
10:15	0.66	0.94	0.011	0.007	0.01
10:30	2.71	2.91	0.268	0.010	0.01
10:45	0.87	1.07	0.020	0.010	
11:00	0.62	0.80	0.008	0.010	0.01
11:15	0.62	0.67	0.007	0.010	
11:30	0.65	0.77	0.008	0.010	
11:45	0.78	0.86	0.013	0.010	
12:00	0.62	0.65	0.007	0.011	0.01
12:15	0.61	0.64	0.006	0.011	
12:30	0.61	0.70	0.007	0.011	
12:45	0.58	0.52	0.005	0.011	
13:00	0.60	0.57	0.005	0.011	
13:15	1.33	1.56	0.106	0.012	
13:30	2.34	2.79	0.222	0.014	
13:45	0.72	0.94	0.012	0.014	
14:00	0.63	0.10	0.001	0.014	
14:15	0.65	0.00	0.000	0.014	
14:30	0.64	0.45	0.005	0.014	
14:45	0.61	0.56	0.006	0.014	
15:00	0.60	0.28	0.003	0.014	
15:15	0.61	0.43	0.004	0.015	0.01
15:30	0.62	0.56	0.006	0.015	
15:45	0.61	0.48	0.005	0.015	0.01
16:00	0.64	0.55	0.006	0.015	
16:15	0.71	0.61	0.008	0.015	
16:30	0.62	0.75	0.007	0.015	
16:45	2.49	3.27	0.262	0.018	
17:00	1.66	2.04	0.122	0.019	0.01
17:15	0.68	0.73	0.008	0.019	
17:30	0.63	0.17	0.002	0.019	
17:45	0.65	0.65	0.007	0.019	
18:00	0.64	0.52	0.006	0.019	
18:15	0.63	0.40	0.004	0.019	
18:30	0.62	0.51	0.005	0.019	
18:45	0.62	0.53	0.005	0.019	
19:00	0.64	0.28	0.003	0.019	
19:15	0.60	0.10	0.001	0.019	
19:30	0.60	0.46	0.005	0.019	
19:45	0.54	0.62	0.005	0.019	
20:00	0.57	0.26	0.002	0.019	
20:15	0.54	0.37	0.003	0.019	
20:30	0.52	0.00	0.000	0.019	
20:45	0.54	0.22	0.002	0.019	
21:00	0.56	0.23	0.002	0.019	
21:15	0.55	0.00	0.000	0.019	
21:30	0.55	0.00	0.000	0.019	
21:45	2.01	2.23	0.155	0.021	
22:00	0.81	0.72	0.011	0.021	
22:15	0.75	0.35	0.005	0.021	
22:30	1.02	0.80	0.024	0.022	
22:45	0.73	0.00	0.000	0.022	
23:00	0.69	0.00	0.000	0.022	
23:15	1.47	1.16	0.116	0.023	
23:30	1.53	1.77	0.077	0.024	
23:45	0.79	0.63	0.009	0.024	
Daily Totals:				**0.024**	**0.71**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/3/2018					
0:00	0.67	0.35	0.004	0.000	0.01
0:15	0.76	0.18	0.002	0.000	
0:30	0.79	0.00	0.000	0.000	
0:45	0.75	0.00	0.000	0.000	
1:00	0.72	0.00	0.000	0.000	
1:15	0.70	0.00	0.000	0.000	
1:30	0.70	0.00	0.000	0.000	
1:45	0.70	0.00	0.000	0.000	
2:00	0.69	0.22	0.003	0.000	
2:15	0.69	0.27	0.003	0.000	
2:30	0.69	0.28	0.003	0.000	
2:45	0.70	0.28	0.003	0.000	
3:00	0.68	0.18	0.002	0.000	
3:15	1.49	1.44	0.133	0.002	
3:30	2.07	1.68	0.145	0.003	
3:45	0.87	0.56	0.009	0.003	
4:00	0.82	0.06	0.001	0.003	
4:15	0.75	0.00	0.000	0.003	
4:30	0.75	0.00	0.000	0.003	
4:45	0.79	0.70	0.010	0.003	
5:00	0.77	0.56	0.008	0.003	
5:15	0.74	0.09	0.001	0.003	
5:30	0.72	0.00	0.000	0.003	
5:45	0.71	0.08	0.001	0.003	
6:00	0.70	0.18	0.002	0.003	
6:15	0.70	0.32	0.004	0.003	
6:30	0.70	0.34	0.004	0.004	
6:45	1.16	1.43	0.068	0.004	
7:00	2.26	2.67	0.203	0.006	
7:15	0.85	0.90	0.015	0.007	
7:30	0.82	0.90	0.014	0.007	
7:45	0.84	1.01	0.016	0.007	
8:00	0.84	0.64	0.010	0.007	
8:15	0.83	0.87	0.013	0.007	
8:30	1.09	1.03	0.030	0.007	
8:45	0.78	0.67	0.009	0.007	
9:00	0.78	0.84	0.012	0.008	
9:15	0.79	0.59	0.008	0.008	
9:30	1.69	2.65	0.135	0.009	
9:45	0.82	1.10	0.017	0.009	
10:00	1.97	2.46	0.171	0.011	
10:15	0.80	1.03	0.015	0.011	
10:30	0.80	0.87	0.013	0.011	
10:45	0.78	0.77	0.011	0.011	
11:00	1.04	1.21	0.031	0.012	
11:15	0.91	0.70	0.012	0.012	
11:30	0.91	0.35	0.006	0.012	
11:45	1.55	1.35	0.110	0.013	
12:00	2.58	2.75	0.259	0.016	
12:15	0.95	1.00	0.019	0.016	

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12:30	0.82	0.56	0.009	0.016	
12:45	0.76	0.49	0.007	0.016	
13:00	1.45	1.44	0.111	0.017	
13:15	2.08	2.36	0.171	0.019	
13:30	0.77	0.85	0.012	0.019	
13:45	0.77	0.40	0.005	0.019	
14:00	0.81	0.21	0.003	0.019	
14:15	0.74	0.08	0.001	0.019	
14:30	2.21	2.53	0.245	0.022	
14:45	1.93	2.45	0.165	0.024	
15:00	0.79	0.76	0.011	0.024	
15:15	0.77	0.37	0.005	0.024	
15:30	0.75	0.51	0.007	0.024	
15:45	0.76	0.55	0.007	0.024	
16:00	0.73	0.43	0.006	0.024	
16:15	0.73	0.57	0.007	0.024	
16:30	0.71	0.09	0.001	0.024	
16:45	1.49	1.59	0.122	0.025	
17:00	1.17	1.47	0.045	0.026	
17:15	2.01	3.10	0.195	0.028	
17:30	0.99	1.17	0.026	0.028	
17:45	0.78	0.46	0.006	0.028	
18:00	0.75	0.09	0.001	0.028	
18:15	0.74	0.21	0.003	0.028	
18:30	0.72	0.00	0.000	0.028	
18:45	0.73	0.37	0.005	0.028	
19:00	0.71	0.25	0.003	0.028	
19:15	0.74	0.10	0.001	0.028	
19:30	0.76	0.00	0.000	0.028	
19:45	0.76	0.11	0.002	0.028	
20:00	0.75	0.00	0.000	0.028	
20:15	0.73	0.09	0.001	0.028	
20:30	2.11	2.49	0.214	0.031	
20:45	1.11	1.23	0.031	0.031	
21:00	0.80	0.56	0.008	0.031	
21:15	0.76	0.13	0.002	0.031	
21:30	0.75	0.00	0.000	0.031	
21:45	0.74	0.10	0.001	0.031	
22:00	0.72	0.00	0.000	0.031	
22:15	0.71	0.00	0.000	0.031	
22:30	0.70	0.00	0.000	0.031	
22:45	0.71	0.35	0.004	0.031	
23:00	0.70	0.00	0.000	0.031	
23:15	0.70	0.00	0.000	0.031	
23:30	0.71	0.12	0.002	0.031	
23:45	2.20	2.26	0.219	0.033	
Daily Totals:				**0.033**	**0.01**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/4/2018					
0:00	1.23	1.48	0.048	0.001	
0:15	0.78	0.59	0.008	0.001	
0:30	0.73	0.19	0.003	0.001	
0:45	0.76	0.68	0.009	0.001	
1:00	0.76	0.42	0.006	0.001	
1:15	0.73	0.30	0.004	0.001	
1:30	0.69	0.42	0.005	0.001	
1:45	0.69	0.12	0.001	0.001	
2:00	0.69	0.00	0.000	0.001	
2:15	0.70	0.26	0.003	0.001	
2:30	0.77	0.39	0.007	0.001	
2:45	0.73	0.00	0.000	0.001	
3:00	0.65	0.00	0.000	0.001	
3:15	0.65	0.00	0.000	0.001	
3:30	0.66	0.00	0.000	0.001	
3:45	0.63	0.00	0.000	0.001	
4:00	0.63	0.00	0.000	0.001	
4:15	0.64	0.00	0.000	0.001	
4:30	0.63	0.00	0.000	0.001	
4:45	0.63	0.00	0.000	0.001	
5:00	0.66	0.00	0.000	0.001	
5:15	1.73	1.62	0.121	0.002	
5:30	0.87	0.96	0.017	0.002	
5:45	0.73	0.35	0.005	0.002	
6:00	0.65	0.00	0.000	0.002	
6:15	0.64	0.00	0.000	0.002	
6:30	1.89	2.18	0.140	0.004	
6:45	0.77	0.69	0.010	0.004	
7:00	0.70	0.29	0.003	0.004	
7:15	0.70	0.27	0.003	0.004	
7:30	0.72	0.34	0.004	0.004	
7:45	0.74	0.41	0.005	0.004	
8:00	0.73	0.21	0.003	0.004	
8:15	2.22	2.45	0.184	0.006	
8:30	0.87	0.89	0.015	0.006	
8:45	0.78	0.54	0.008	0.006	
9:00	0.75	0.52	0.007	0.006	
9:15	0.74	0.35	0.005	0.006	
9:30	0.76	0.55	0.007	0.007	
9:45	0.74	0.36	0.005	0.007	
10:00	0.76	0.56	0.008	0.007	
10:15	1.43	1.24	0.088	0.008	
10:30	1.89	2.14	0.141	0.009	
10:45	1.63	1.65	0.128	0.010	
11:00	1.26	1.54	0.053	0.011	
11:15	0.68	0.62	0.007	0.011	
11:30	0.64	0.10	0.001	0.011	
11:45	0.60	0.39	0.004	0.011	
12:00	2.04	2.27	0.200	0.013	
12:15	1.22	1.39	0.040	0.014	
12:30	1.08	1.56	0.051	0.014	
12:45	1.93	2.24	0.148	0.016	
13:00	0.75	0.72	0.010	0.016	
13:15	0.66	0.38	0.004	0.016	
13:30	0.64	0.00	0.000	0.016	
13:45	0.61	0.29	0.003	0.016	
14:00	1.42	2.36	0.127	0.017	
14:15	1.38	1.63	0.065	0.018	
14:30	0.73	0.69	0.009	0.018	
14:45	0.71	0.81	0.010	0.018	
15:00	1.34	1.31	0.097	0.019	
15:15	2.28	2.33	0.192	0.021	
15:30	0.86	0.79	0.013	0.021	
15:45	0.74	0.37	0.005	0.021	
16:00	0.74	0.36	0.005	0.021	
16:15	0.74	0.62	0.008	0.021	
16:30	2.14	2.29	0.204	0.023	
16:45	1.11	1.09	0.028	0.024	
17:00	0.74	0.38	0.005	0.024	
17:15	0.69	0.00	0.000	0.024	
17:30	0.70	0.27	0.003	0.024	
17:45	0.65	0.00	0.000	0.024	
18:00	1.51	1.16	0.123	0.025	
18:15	1.81	1.79	0.110	0.026	
18:30	0.86	0.60	0.010	0.026	
18:45	0.76	0.29	0.004	0.026	
19:00	0.68	0.00	0.000	0.026	
19:15	0.71	0.17	0.002	0.026	
19:30	0.73	0.51	0.006	0.027	
19:45	0.70	0.00	0.000	0.027	
20:00	0.68	0.00	0.000	0.027	
20:15	2.09	2.10	0.191	0.029	
20:30	1.14	1.21	0.033	0.029	
20:45	0.79	0.51	0.007	0.029	
21:00	0.73	0.67	0.009	0.029	
21:15	0.68	0.00	0.000	0.029	
21:30	0.72	0.56	0.007	0.029	
21:45	0.67	0.00	0.000	0.029	
22:00	0.67	0.00	0.000	0.029	
22:15	0.66	0.00	0.000	0.029	
22:30	0.68	0.00	0.000	0.029	
22:45	0.69	0.20	0.002	0.029	
23:00	0.66	0.00	0.000	0.029	
23:15	0.63	0.00	0.000	0.029	
23:30	2.46	2.42	0.205	0.031	
23:45	1.22	1.20	0.036	0.032	
Daily Totals:				**0.032**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/5/2018					
0:00	0.90	0.69	0.012	0.000	
0:15	0.82	0.57	0.009	0.000	
0:30	0.79	0.42	0.006	0.000	
0:45	0.74	0.24	0.003	0.000	
1:00	0.69	0.08	0.001	0.000	
1:15	0.65	0.00	0.000	0.000	
1:30	0.67	0.00	0.000	0.000	
1:45	0.64	0.21	0.002	0.000	
2:00	0.63	0.00	0.000	0.000	
2:15	0.64	0.09	0.001	0.000	
2:30	0.63	0.00	0.000	0.000	
2:45	2.03	1.80	0.165	0.002	
3:00	1.07	1.16	0.028	0.002	
3:15	0.80	0.54	0.008	0.002	
3:30	0.73	0.43	0.005	0.003	
3:45	0.69	0.00	0.000	0.003	
4:00	0.66	0.00	0.000	0.003	
4:15	0.68	0.00	0.000	0.003	
4:30	0.68	0.00	0.000	0.003	
4:45	0.74	0.37	0.005	0.003	
5:00	0.71	0.47	0.006	0.003	
5:15	0.71	0.15	0.002	0.003	
5:30	0.69	0.00	0.000	0.003	
5:45	0.68	0.06	0.001	0.003	
6:00	0.69	0.15	0.002	0.003	
6:15	0.70	0.20	0.002	0.003	
6:30	0.69	0.19	0.002	0.003	
6:45	0.71	0.00	0.000	0.003	
7:00	0.71	0.28	0.003	0.003	
7:15	0.70	0.19	0.002	0.003	
7:30	0.79	0.44	0.006	0.003	
7:45	0.80	0.39	0.006	0.003	
8:00	0.80	0.64	0.009	0.003	
8:15	0.84	0.55	0.009	0.003	
8:30	0.82	0.55	0.008	0.003	
8:45	1.66	1.64	0.133	0.005	
9:00	1.54	1.46	0.063	0.005	
9:15	2.12	1.93	0.159	0.007	
9:30	1.14	1.16	0.030	0.007	
9:45	0.84	0.59	0.009	0.007	
10:00	0.80	0.60	0.009	0.007	
10:15	0.81	1.00	0.015	0.008	
10:30	1.57	1.03	0.110	0.009	
10:45	2.06	2.23	0.167	0.010	
11:00	0.92	0.92	0.017	0.011	
11:15	0.78	0.40	0.006	0.011	
11:30	0.80	0.24	0.003	0.011	
11:45	1.04	0.93	0.022	0.011	
12:00	0.88	0.71	0.012	0.011	
12:15	0.86	0.72	0.012	0.011	
12:30	2.29	2.20	0.172	0.013	
12:45	2.13	2.24	0.174	0.015	
13:00	1.08	1.07	0.026	0.015	
13:15	0.80	0.48	0.007	0.015	
13:30	0.74	0.52	0.007	0.015	
13:45	0.75	0.52	0.007	0.015	
14:00	0.75	0.43	0.006	0.015	
14:15	1.56	1.49	0.130	0.017	
14:30	2.29	2.35	0.189	0.019	
14:45	0.87	0.76	0.013	0.019	
15:00	0.77	0.57	0.008	0.019	
15:15	0.85	0.77	0.013	0.019	
15:30	0.90	0.88	0.017	0.019	
15:45	0.79	0.53	0.007	0.019	
16:00	2.18	1.99	0.176	0.021	
16:15	1.19	1.24	0.036	0.021	
16:30	0.81	0.51	0.008	0.022	
16:45	0.75	0.32	0.004	0.022	
17:00	0.74	0.26	0.003	0.022	
17:15	1.50	1.36	0.112	0.023	
17:30	1.90	2.01	0.129	0.024	
17:45	0.87	0.66	0.011	0.024	
18:00	0.81	0.38	0.006	0.024	
18:15	0.76	0.53	0.007	0.024	
18:30	0.82	0.43	0.006	0.024	
18:45	0.78	0.11	0.002	0.024	
19:00	0.82	0.79	0.012	0.025	
19:15	2.20	2.12	0.195	0.027	
19:30	1.23	1.22	0.039	0.027	
19:45	0.82	0.83	0.012	0.027	
20:00	0.78	0.33	0.005	0.027	
20:15	0.77	0.13	0.002	0.027	
20:30	0.74	0.30	0.004	0.027	
20:45	0.77	0.44	0.006	0.027	
21:00	0.73	0.22	0.003	0.027	
21:15	0.82	0.70	0.011	0.027	
21:30	0.78	0.45	0.006	0.028	
21:45	0.82	0.67	0.010	0.028	
22:00	0.82	0.47	0.007	0.028	
22:15	0.83	0.51	0.008	0.028	
22:30	2.38	2.11	0.214	0.030	
22:45	1.40	1.39	0.053	0.031	
23:00	0.87	0.69	0.011	0.031	
23:15	0.84	0.78	0.012	0.031	
23:30	0.84	0.56	0.009	0.031	
23:45	0.83	0.57	0.009	0.031	
Daily Totals:				**0.031**	**0.00**

Data reported every: 15 Minutes

Daily Flow Report

Site:
Site 4
Airport Road North Castle, NY 12" Circular Line

Time	Depth (in)	Velocity (fps)	Flow (mgd)	Cumm Flow (mg)	Rain (in)
12/6/2018					
0:00	0.83	0.38	0.006	0.000	
0:15	0.84	0.08	0.001	0.000	
0:30	1.05	0.48	0.017	0.000	
0:45	0.84	0.66	0.010	0.000	
1:00	0.85	0.43	0.007	0.000	
1:15	0.85	0.42	0.007	0.000	
1:30	0.85	0.00	0.000	0.000	
1:45	0.89	0.69	0.012	0.001	
2:00	0.91	0.59	0.010	0.001	
2:15	0.91	0.54	0.009	0.001	
2:30	1.17	1.03	0.032	0.001	
2:45	2.80	3.08	0.283	0.004	
3:00	1.17	1.13	0.031	0.004	
3:15	0.87	0.66	0.011	0.005	
3:30	0.82	0.27	0.004	0.005	
3:45	0.74	0.00	0.000	0.005	
4:00	0.69	0.00	0.000	0.005	
4:15	0.69	0.00	0.000	0.005	
4:30	0.69	0.00	0.000	0.005	
4:45	0.70	0.00	0.000	0.005	
5:00	0.79	0.15	0.002	0.005	
5:15	0.80	0.41	0.006	0.005	
5:30	0.73	0.00	0.000	0.005	
5:45	0.70	0.00	0.000	0.005	
6:00	0.68	0.00	0.000	0.005	
6:15	0.74	0.00	0.000	0.005	
6:30	0.74	0.00	0.000	0.005	
6:45	2.19	2.92	0.197	0.007	
7:00	1.15	1.30	0.035	0.007	
7:15	0.76	0.54	0.007	0.007	
7:30	0.77	0.36	0.006	0.007	
7:45	0.77	0.52	0.007	0.007	
8:00	0.75	0.35	0.005	0.007	
8:15	0.77	0.45	0.006	0.007	
8:30	0.72	0.29	0.004	0.007	
8:45	0.74	0.40	0.006	0.008	
9:00	0.89	0.51	0.010	0.008	
9:15	0.78	0.51	0.007	0.008	
9:30	0.72	0.34	0.004	0.008	
9:45	2.35	2.24	0.220	0.010	
10:00	1.36	1.26	0.050	0.011	
10:15	0.64	0.54	0.006	0.011	
10:30	0.72	0.69	0.009	0.011	
10:45	0.59	0.15	0.001	0.011	
11:00	0.59	0.27	0.003	0.011	
11:15	0.61	0.24	0.002	0.011	
11:30	1.37	1.44	0.116	0.012	
11:45	2.31	2.35	0.184	0.014	
12:00	0.90	1.03	0.018	0.014	
12:15	0.86	0.73	0.014	0.014	
12:30	0.70	0.40	0.005	0.014	
12:45	0.68	0.00	0.000	0.014	
13:00	0.75	0.53	0.007	0.014	
13:15	2.12	2.44	0.202	0.016	
13:30	1.31	1.20	0.041	0.017	
13:45	0.81	0.57	0.008	0.017	
14:00	0.73	0.53	0.007	0.017	
14:15	0.23	0.09	0.001	0.017	
14:30				0.017	
14:45				0.017	
15:00				0.017	
15:15				0.017	
15:30				0.017	
15:45				0.017	
16:00				0.017	
16:15				0.017	
16:30				0.017	
16:45				0.017	
17:00				0.017	
17:15				0.017	
17:30				0.017	
17:45				0.017	
18:00				0.017	
18:15				0.017	
18:30				0.017	
18:45				0.017	
19:00				0.017	
19:15				0.017	
19:30				0.017	
19:45				0.017	
20:00				0.017	
20:15				0.017	
20:30				0.017	
20:45				0.017	
21:00				0.017	
21:15				0.017	
21:30				0.017	
21:45				0.017	
22:00				0.017	
22:15				0.017	
22:30				0.017	
22:45				0.017	
23:00				0.017	
23:15				0.017	
23:30				0.017	
23:45				0.017	
Daily Totals:				**0.017**	**0.00**

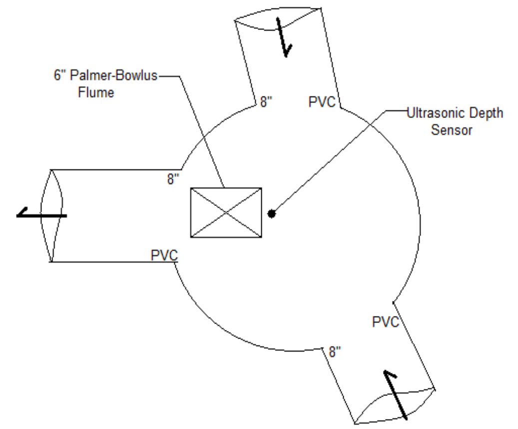
Data reported every: 15 Minutes

Appendix 3

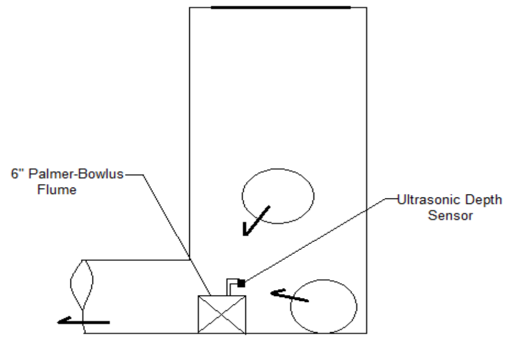
METER SITE INFORMATION FIELD LOG

PROJECT: North Castle, NY	**DATE:** November 6, 2018	**JOB#:** 18108
LOCATION: Cooney Hill Road, Pump Station 1	**MH#:**	**METER SITE:** Site 1
GPS/COMMENTS: 41.095802, -73.728711		

	Size (")	Material	Flow Depth (")	Debris (")	Shape	MH Depth
Incoming	8	PVC	1	0	Circular	04' 08"
Incoming	8	PVC	0	0	Circular	04' 08"
Incoming						
Outgoing	8	PVC	1	0	Circular	04' 09"



SURCHARGE INFORMATION	WEIR INFORMATION	
SURCHARGE NONE EVIDENT: X	**LENGTH:**	**HEIGHT ABOVE WEIR:**
SURCHARGED MARKS TO:	**BREADTH:**	**OVERFLOW OCCURS AT:**
SURCHARGE CURRENTLY TO:	**LEVEL:**	

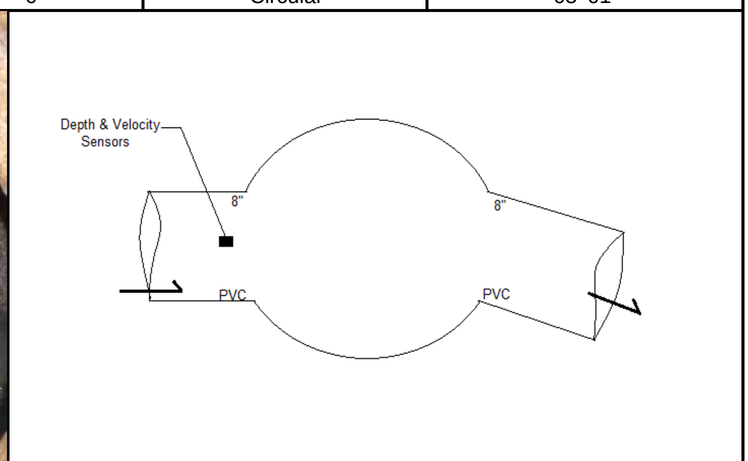


FLOW ASSESSMENT SERVICES

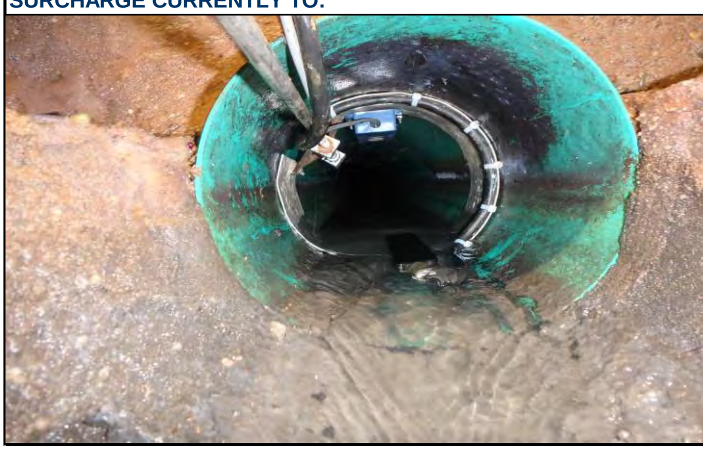
METER SITE INFORMATION FIELD LOG

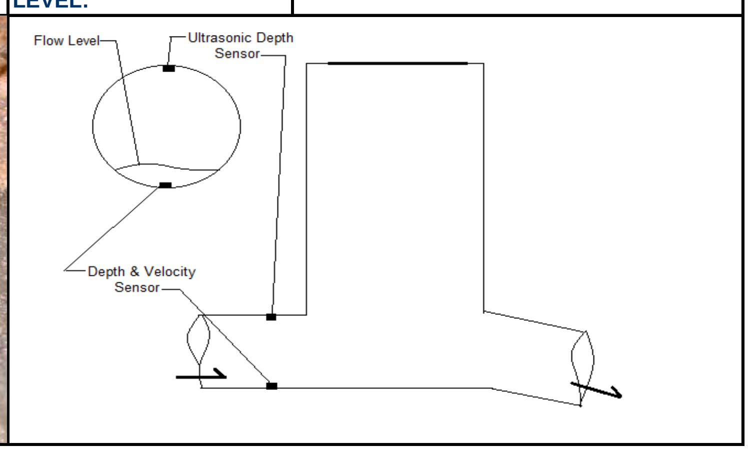
PROJECT: North Castle, NY	**DATE:** November 2, 2018	**JOB#:** 18108
LOCATION: King Street Pump Station 2	**MH#:**	**METER SITE:** Site 2
GPS/COMMENTS: 41.089889, -73.720336		

	Size (")	Material	Flow Depth (")	Debris (")	Shape	MH Depth
Incoming	8	PVC	1.4	0	Circular	05' 00"
Incoming						
Incoming						
Outgoing	8	PVC	1.4	0	Circular	05' 01"



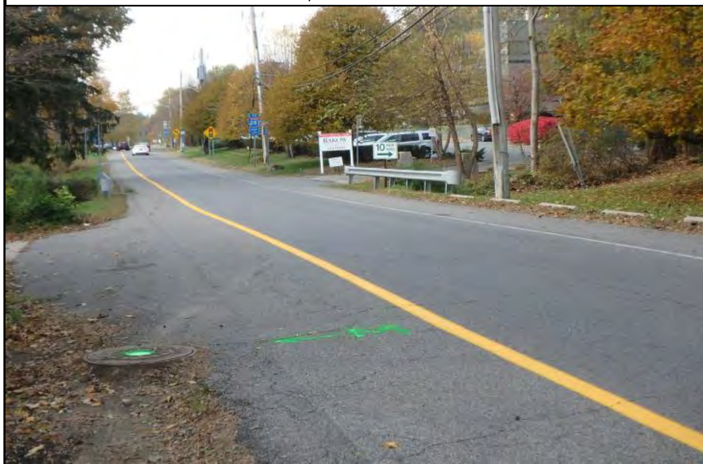
SURCHARGE INFORMATION	WEIR INFORMATION	
SURCHARGE NONE EVIDENT: X	**LENGTH:**	**HEIGHT ABOVE WEIR:**
SURCHARGED MARKS TO:	**BREADTH:**	**OVERFLOW OCCURS AT:**
SURCHARGE CURRENTLY TO:	**LEVEL:**	



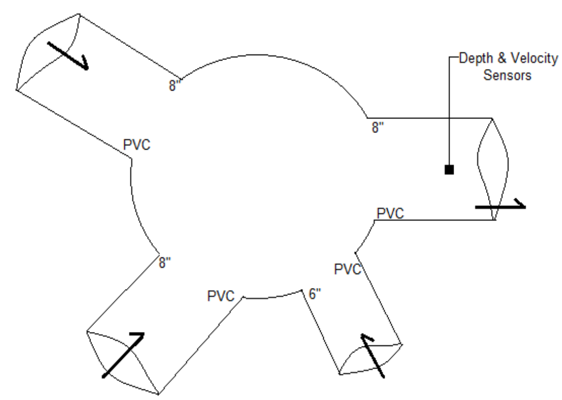


METER SITE INFORMATION FIELD LOG

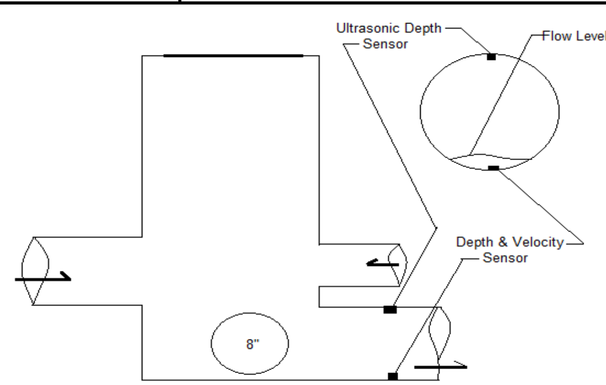
PROJECT: North Castle, NY	**DATE:** November 1, 2018	**JOB#:** 18108
LOCATION: 10 New King Court, Pump Station 3	**MH#:**	**METER SITE:** Site 3
GPS/COMMENTS: 41.082296, -73.714195		



	Size (")	Material	Flow Depth (")	Debris (")	Shape	MH Depth
Incoming	8	PVC	0.5	0	Circular	06' 07"
Incoming	8	PVC	0.25	0	Circular	06' 05"
Incoming	6	PVC	0.125	0	Circular	06' 00"
Outgoing	8	PVC	0.5	0	Circular	06' 08"

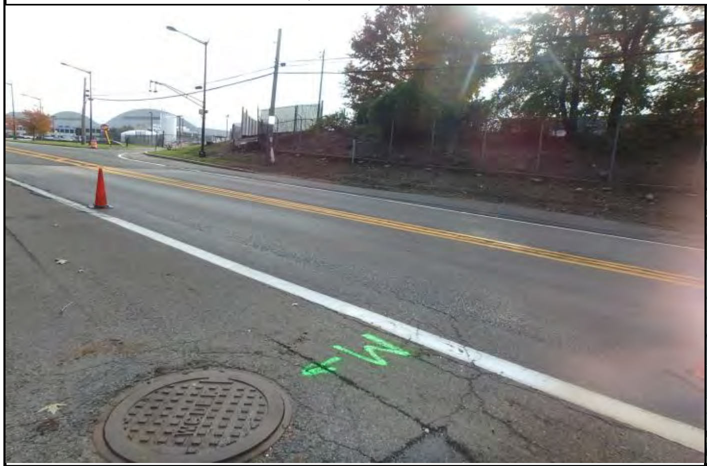


SURCHARGE INFORMATION	WEIR INFORMATION	
SURCHARGE NONE EVIDENT: X	**LENGTH:**	**HEIGHT ABOVE WEIR:**
SURCHARGED MARKS TO:	**BREADTH:**	**OVERFLOW OCCURS AT:**
SURCHARGE CURRENTLY TO:	**LEVEL:**	

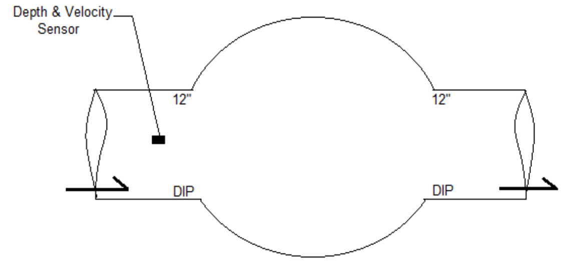


METER SITE INFORMATION FIELD LOG

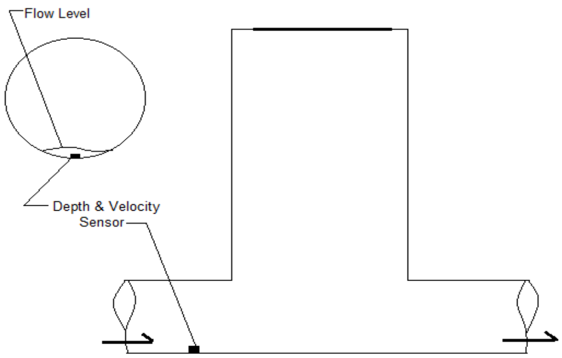
PROJECT: North Castle, NY	**DATE:** November 1, 2018	**JOB#:** 18108
LOCATION: Airport Road	**MH#:** 43	**METER SITE:** Site 4
GPS/COMMENTS: 41.073731, -73.706410		




	Size (")	Material	Flow Depth (")	Debris (")	Shape	MH Depth
Incoming	12	DIP	0.5	0	Circular	04' 08"
Incoming						
Incoming						
Outgoing	12	DIP	0.5	0	Circular	04' 09"

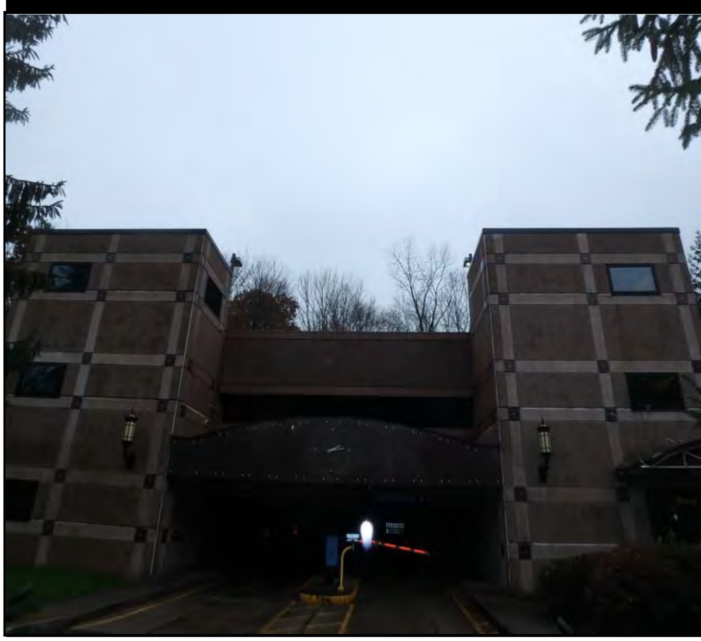
SURCHARGE INFORMATION	WEIR INFORMATION	
SURCHARGE NONE EVIDENT: X	**LENGTH:**	**HEIGHT ABOVE WEIR:**
SURCHARGED MARKS TO:	**BREADTH:**	**OVERFLOW OCCURS AT:**
SURCHARGE CURRENTLY TO:	**LEVEL:**	

RAIN GAUGE SITE INFORMATION FIELD LOG

PROJECT: North Castle, NY	**DATE:** November 6, 2018	**JOB #:** 18108
LOCATION: 113 King Street		
GPS/COMMENTS: 41.090554, -73.723462		

LOCATION



Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station
Flow Rate Analyses

Current Buildout @ Full Occupancy w/Proposed Project Flow Rate Analysis

SBL	Current Occupant	Type of Use	Qty	Unit	BA [4] /Employee	RDM [3]	DCP	Hydraulic Loading Rate [1] (1a)	(1b)	Unit	Flow Rate (gpd)
113.04-1-2	Swiss Re	Office Campus	430,940	SF	260		1657	15	12	gpd/employee	19,890
		Cafeteria (# Seats assumed)	125	Seats				15	12	gpd/seat	1,500
113.04-1-20	Takeda	Residential - Single Family	4	Bdrm		3.76	15	150		gpd/bedroom	600
113.04-1-3	Citigroup	Office	41,414	SF	228		182	15	12	gpd/employee	2,180
		Cafeteria (# Seats assumed)	25	Seats				15	12	gpd/seat	300
118.02-1-1	Proposed Airport Campus[5]	Office	105,000	SF	210		500	15	12	gpd/employee	6,000
		Hotel	125	Rooms			125	110		gpd/unit	13,750
		Restaurant (in Hotel)	150	Seats			150	35	28	gpd/seat	4,200
		Residential - 1 Bedroom (49 units)	49	BRs		1.66	81	110		gpd/bedroom	5,390
		Residential - 2 Bedroom (100 units)	200	BRs		2.51	502	110		gpd/bedroom	22,000
		Residential - 3 Bedroom (22 units)	66	BRs		3.08	203	110		gpd/bedroom	7,260
Total Design Contributing Population (DCP) =							3,416	**Average Daily Flow, gpd =**			**83,070**
Peaking Factor, PF [2]			PF = $\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$		Where P = design contributing population (DCP) in thousands						3.39
								Peak Hourly Flow, gpd =			**281,607**

Future Buildout Flow Rate Analysis

SBL	Current Occupant	Type of Use	Qty	Unit	BA [4]/ Employee	RDM [3]	DCP	Hydraulic Loading Rate [1] (1a)	(1b)	Unit	Flow Rate (gpd)
113.04-1-2	Swiss Re[6]	Residential - 1 Bedroom (82 units)	82	BRs		1.66	136	110		gpd/bedroom	9,020
		Residential - 2 Bedroom (168 units)	336	BRs		2.51	843	110		gpd/bedroom	36,960
		Hotel	80	Rooms			80	110		gpd/unit	8,800
113.04-1-20	Takeda	Residential	4	Bdrm		3.76	15	150		gpd/bedroom	600
113.04-1-3	Citigroup	Office	41,414	SF	228		182	15	12	gpd/employee	2,180
		Cafeteria (# Seats assumed)	25	Seats				15	12	gpd/seat	300
118.02-1-1	Future Airport Campus[7]	Hotel	125	Rooms			125	110		gpd/unit	13,750
		Restaurant (in Hotel)	150	Seats			150	35	28	gpd/seat	4,200
		Residential - 1 Bedroom (116 units)	116	BRs		1.66	193	110		gpd/bedroom	12,760
		Residential - 2 Bedroom (235 units)	470	BRs		2.51	1180	110		gpd/bedroom	51,700
		Residential - 3 Bedroom (22 units)	66	BRs		3.08	203	110		gpd/bedroom	7,260
Total Design Contributing Population (DCP) =							3,107	**Average Daily Flow, gpd =**			**147,530**
Peaking Factor, PF [2]			PF = $\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$		Where P = design contributing population (DCP) in thousands						3.43
								Peak Hourly Flow, gpd =			**506,028**

References/Notes:

1. New York State Design Standards for Intermediate-Sized Wastewater Treatment Systems dated March 5, 2014:
   a) Typical per unit hydraulic loading rates taken from Table B-3 of NYS Design Standards.
   b) Unit flow rates reduced by 20% for the use of water saving plumbing fixtures, Part B.6.b.
2. Recommended Standards for Wastewater Facilities, 2014 Edition, Figure 1 Ratio of Peak Hourly Flow to Design Average Flow.
3. Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers (RDM), Estimates of the Occupants of New Housing.
4. Building area per employee, ITE Land Use Code 714.
5. Uses based on "Overall Preferred Development Plan," Drawing C-100 dated 3/20/2020 and prepared by JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC.

6. Based on the theoretical maximum development scenario under the Proposed Zoning, accounting for the maximum buildout potential of the Swiss Re parcel and complete discontinuation of the current office use.

7. Based on the theoretical maximum development scenario under the Proposed Zoning, accounting for the maximum buildout potential of the MBIA parcel and complete discontinuation of the current office use.

Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station
Equivalent Pipe Length and Friction Loss Calculations

	Coef., "C"	Pipe Size	Quantity	Eqv. Length	Length
Flanged Base Elbow	100	4	1	11.4	11.4
Flanged Elbow	100	4	2	11.4	22.8
Flanged Swing Check Valve	100	4	1	33.6	33.6
Flanged Tee Run	100	4	1	7.9	7.9
Flanged Gate Valve	100	4	2	2.7	5.4
Equivalent Pipe Length Pump Station Fittings =					81.1
Coef., "C" =					120
Coef., "C" Adjustment =					0.7135
Equivalent Pipe Length of Pump Station Fittings =					113.67

Equivalent length of 6 inch forcemain as 4 inch forcemain				
Pipe Class	SDR21	PVC	PVC	PVC
Size (in.) =		4	6	4
Flow Rate, gpm =		190	190	190
Design Coef., "C"		120	120	120
Force Main Pipe Length, Ft. =		1410	1046	
Force Main Equivalent Pipe Length, Ft. =		1410.0	1046.0	1555.0
Friction / 1000 Ft. =		5.2	0.7	5.2
Total Friction Loss, Hf =		7.3	0.8	8.1
		8.1		

Total Forcemain Equivalent Pipe Length		
Force Main Pipe Length, Ft. =		1555.0
Force Main Pipe Length in Pump Station, Ft. =		3.0
Pump Station Bend and Fitting Losses, Ft. =		113.7
Force Main Fitting Losses, Ft. =	5%	77.8
Force Main Equivalent Pipe Length, Ft. =		1749.4

Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station - Modified Design

DESIGN FLOW RATE		
Flow Condition	**GPD**	**GPM**
Current Buildout @ Full Occupancy w/Proposed Project Flow Rate	83,070	57.7
Future Buildout Flow Rate	147,530	102.5

PUMP STATION DATA	
Station Grade Elev.	374.25
Wet Well Floor Elev.	360.91
Invert In	367.75
Invert at Discharge Manhole	400.00
Discharge Pipe Size	4

FORCE MAIN DATA		
Pipe Class	SDR21	PVC
Force Main Equivalent Pipe Length, Ft. =		1,749
Size (in.) =		4
Design Coef., "C"		120
Friction / 1000 Ft. =		28.55
Friction Loss, Hf =		49.95

SYSTEM HEAD DATA					
System Head Loss			Manufacturers	Total Dynamic Head (TDH)	
Pump Rate (gpm)	Friction Loss per 1000 ft.	Hf (ft.)	Pump Head Curve	Lead Pump (feet)	Lag Pump (feet)
50	2.4	4.2	100	40.3	39.3
100	8.7	15.2	95	51.3	50.3
150	18.4	32.2	90	68.3	67.3
200	31.4	54.9	85	91.0	90.0
250	47.5	83.0	82	119.1	118.1

HEAD CALCULATION		
Pump Flow Rate, Pump A, Qdp =	190	gpm
Force Main Velocity, Pump A =	4.9	fps
Force Main Velocity, 6 inch =	2.2	fps
Static Head (Maximum)	37.1	ft.
Friction / 1000 Ft. =	28.6	
Friction Loss, Hf =	49.9	ft.
TDH (Maximum) =	87.0	ft.

Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station - Modified Design

WET WELL VOLUME			
Width =		10.0	Feet
Length =		10.00	Feet
Vol./ Ft. of Depth		748	gallons / foot
Lead Pump On Depth	12	1.00	Feet
Vww, Volume of Wet Well (Lead Pump)		748	gallons
Lag Pump On Depth	12	1.00	Feet
Vww, Volume of Wet Well (Lead plus Lag Pump)		1496	gallons

STATION ELEVATION DATA		
Description		**Elevation**
Wet Well Floor Elev.		361.40
Minimum Submerged Depth	18.0	1.50
Lead Pump Off Elev.		362.90
Lead Pump On Elev.		363.90
Lag Pump On Elev.		364.90
Alarm On Elev.	12.0	365.90
Invert In	22.2	367.75

PUMP CYCLE TIMES

Average Cycle Time (Tavg) $= \dfrac{Vww}{Q(dp) - Q(I)} + \dfrac{Vww}{Q(I)}$

10 < Tavg < 30

Design Fill Time (Lead Pump) = Wet Well Volume ÷ Design Average Inflow < 30 Minutes

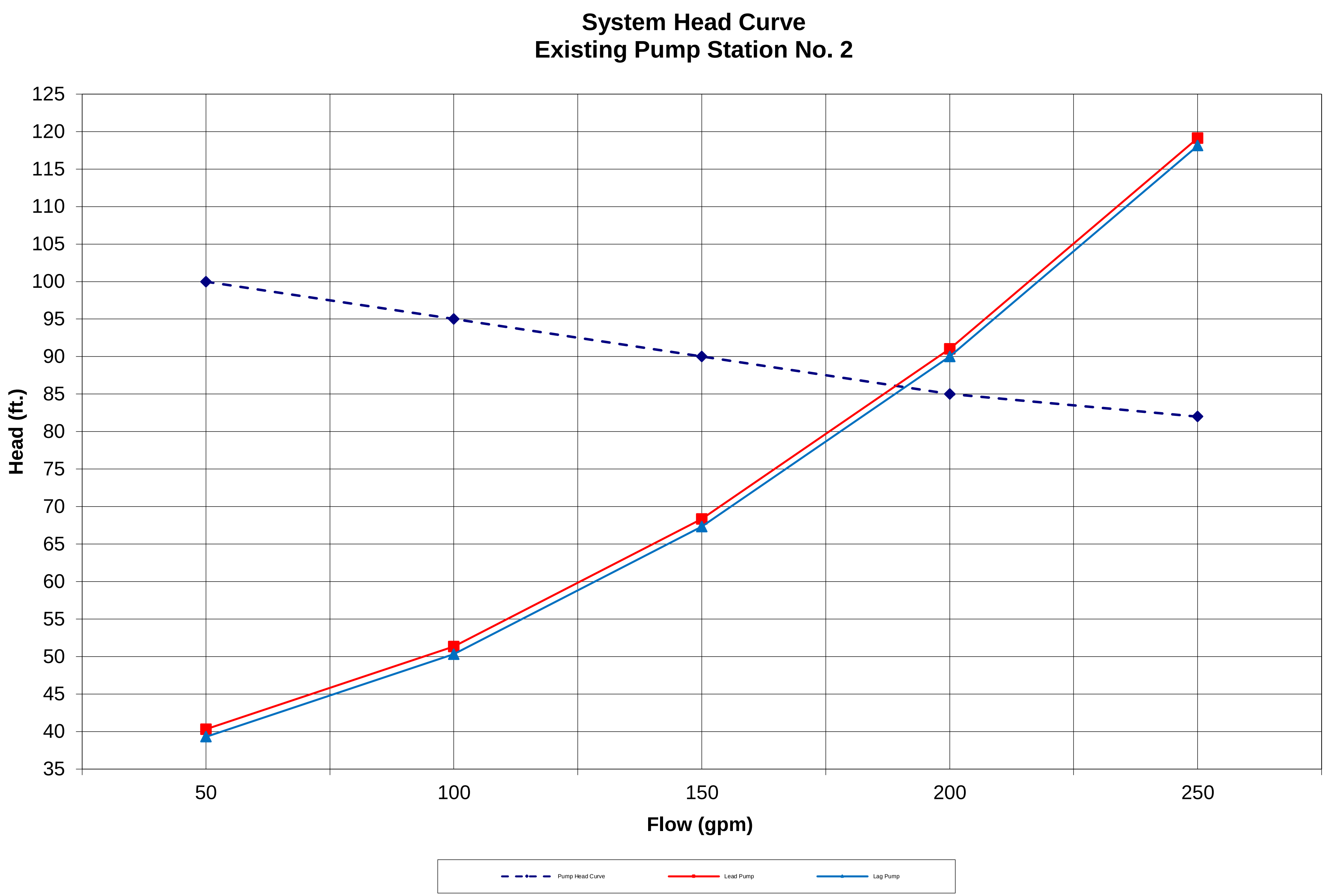
Design Condition	**Current Buildout @ Full Occupancy w/Proposed Project Flow Rate**	**Future Buildout Flow Rate**
Average Inflow (I) (gpm) =	57.7	102.5
Average Cycle Time (Tavg), Min. =	18.6	15.8
Fill Time (Lead Pump) =	13.0	7.3

WET WELL STORAGE VOLUME		
Description		**Elevation**
Lead Pump Off Elev. =		362.90
Invert In =		367.75
Wet Well Storage Depth =	Feet	4.85
Vol./ Ft. of Depth =	Gallons / foot	748
Wet Well Storage Volume =	Gallons	3628
Design Average Inflow (I) =	gpm	58
Wet Well Storage Time =	minutes	63

Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station - Modified Design

PUMP ELECTRICAL DATA	
Manufacturer	FLYGT
Model No.	3140 CT
Impeller	481
HP	14.8
Volts	230
Phase	3
RPM	1750

FORCE MAIN VOLUME		
Pipe volume =	0.65	Gallons/foot
Force Main Length =	1749	Length
Total Force Main Volume =	1142	Gallons
Design Average Pumped Volume per Cycle =	748	Gallons/cycle
No. of Pump Cycles to Purge Force Main =	1.5	No. Cycles
Average Cycle Time (Tavg) =	19	Minutes
Average Force Main Residence Time =	28	Minutes


System Head Curve
Existing Pump Station No. 2
Head (ft.)
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
50
100
150
200
250
Flow (gpm)
Pump Head Curve
Lead Pump
Lag Pump

Town of North Castle Sewer District 3
Pump Station No. 2
Duplex Dry Pit Submersible Pump Station - Modified Design

SUMMARY TABLE		
Description	**Current Buildout @ Full Occupancy w/Proposed Project Flow**	**Future Buildout Flow**
Design Average Inflow (I) (gpm) =	57.7	102.5
Pump Flow Rate, Pump A, Qdp (gpm) =	**190.0**	
4" Force Main Velocity, Pump A (fps) =	**4.9**	
6" Force Main Velocity, Pump A (fps) =	**2.2**	
Static Head (Maximum) (feet) =	37.1	
Friction Loss, Hf (feet) =	49.9	
TDH (Maximum) (feet) =	87.0	
Design Average Cycle Time (Tavg) (min.) =	**18.6**	**15.8**
Wet Well Floor Elev. =	361.40	
Minimum Submerged Depth (ft.) =	1.50	
Lead Pump Off Elev. =	362.90	
Lead Pump On Elev. =	363.90	
Lag Pump On Elev. =	364.90	
Alarm On Elev. =	365.90	
Invert In Elev. =	367.75	

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station
Flow Rate Analyses

Current Buildout @ Full Occupancy w/Proposed Project Flow Rate Analysis

SBL	Current Occupant	Type of Use	Qty	Unit	BA (4) /Employee	RDM (3)	DCP	Hydraulic Loading Rate (1) (1a)	(1b)	Unit	Flow Rate (gpd)
113.04-1-2	Swiss Re	Office Campus	430,940	SF	260		1657	15	12	gpd/employee	19,890
		Cafeteria (# Seats assumed)	125	Seats				15	12	gpd/seat	1,500
113.04-1-20	Takeda	Residential - Single Family	4	Bdrm		3.76	15	150		gpd/bedroom	600
113.04-1-3	Citigroup	Office	41,414	SF	228		182	15	12	gpd/employee	2,180
		Cafeteria (# Seats assumed)	25	Seats				15	12	gpd/seat	300
118.02-1-1	Proposed Airport Campus(5)	Office	105,000	SF	210		500	15	12	gpd/employee	6,000
		Hotel	125	Rooms			125	110		gpd/unit	13,750
		Restaurant (in Hotel)	150	Seats			150	35	28	gpd/seat	4,200
		Residential - 1 Bedroom (49 units)	49	BRs		1.66	81	110		gpd/bedroom	5,390
		Residential - 2 Bedroom (100 units)	200	BRs		2.51	502	110		gpd/bedroom	22,000
		Residential - 3 Bedroom (22 units)	66	BRs		3.08	203	110		gpd/bedroom	7,260
118.02-2-1	New King Street Associates	Office	20,408	SF	228		90	15	12	gpd/employee	1,075
118.02-2-2	New King Holding LLC	Office	48,600	SF	228		213	15	12	gpd/employee	2,558
118.02-2-3	New King Street LLC	Office	21,888	SF	228		96	15	12	gpd/employee	1,152
119.03-1-1	11 New King Street LLC	Office	2,400	SF	295		8	15	12	gpd/employee	98
		Warehouse	3,000	SF	781		4		15	gpd/employee	58
119.03-1-2	Safe Flight Instrument Co.	Office	5,500	SF	295		19	15	12	gpd/employee	224
		Warehouse	22,740	SF	781		29		15	gpd/employee	437
Total Design Contributing Population (DCP) =							3,874	**Average Daily Flow, gpd =**			**88,672**
Peaking Factor, PF (2)		PF = $\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$		Where P = design contributing population (DCP) in thousands							3.35
								Peak Hourly Flow, gpd =			**297,051**

Future Buildout Flow Rate Analysis

SBL	Current Occupant	Type of Use	Qty	Unit	BA (4)/ Employee	RDM (3)	DCP	Hydraulic Loading Rate (1) (1a)	(1b)	Unit	Flow Rate (gpd)
113.04-1-2	Swiss Re(6)	Residential - 1 Bedroom (82 units)	82	BRs		1.66	136	110		gpd/bedroom	9,020
		Residential - 2 Bedroom (168 units)	336	BRs		2.51	843	110		gpd/bedroom	36,960
		Hotel	80	Rooms			80	110		gpd/unit	8,800
113.04-1-20	Takeda	Residential	4	Bdrm		3.76	15	150		gpd/bedroom	600
113.04-1-3	Citigroup	Office	41,414	SF	228		182	15	12	gpd/employee	2,180
		Cafeteria (# Seats assumed)	25	Seats				15	12	gpd/seat	300
118.02-1-1	Future Airport Campus(7)	Hotel	125	Rooms			125	110		gpd/unit	13,750
		Restaurant (in Hotel)	150	Seats			150	35	28	gpd/seat	4,200
		Residential - 1 Bedroom (116 units)	116	BRs		1.66	193	110		gpd/bedroom	12,760
		Residential - 2 Bedroom (235 units)	470	BRs		2.51	1180	110		gpd/bedroom	51,700
		Residential - 3 Bedroom (22 units)	66	BRs		3.08	203	110		gpd/bedroom	7,260
118.02-2-1	New King Street Associates	Office	20,408	SF	228		90	15	12	gpd/employee	1,075
118.02-2-2	New King Holding LLC	Office	48,600	SF	228		213	15	12	gpd/employee	2,558
118.02-2-3	New King Street LLC	Office	21,888	SF	228		96	15	12	gpd/employee	1,152
119.03-1-1	11 New King Street LLC	Office	2,400	SF	295		8	15	12	gpd/employee	98
		Warehouse	3,000	SF	781		4		15	gpd/employee	58
119.03-1-2	Safe Flight Instrument Co.	Office	5,500	SF	295		19	15	12	gpd/employee	224
		Warehouse	22,740	SF	781		29		15	gpd/employee	437
Total Design Contributing Population (DCP) =							3,565	**Average Daily Flow, gpd =**			**153,132**
Peaking Factor, PF (2)		PF = $\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$		Where P = design contributing population (DCP) in thousands							3.38
								Peak Hourly Flow, gpd =			**517,586**

References/Notes:

1. New York State Design Standards for Intermediate-Sized Wastewater Treatment Systems dated March 5, 2014
    a) Typical per unit hydraulic loading rates taken from Table B-3 of NYS Design Standards
    b) Unit flow rates reduced by 20% for the use of water saving plumbing fixtures, Part B.6.b
2. Recommended Standards for Wastewater Facilities, 2014 Edition, Figure 1 Ratio of Peak Hourly Flow to Design Average Flow
3. Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers (RDM), Estimates of the Occupants of New Housing
4. Building area per employee, ITE Land Use Codes 150 and 714.
5. Uses based on "Overall Preferred Development Plan," Drawing C-100 dated 3/20/2020 and prepared by JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC.

6. Based on the theoretical maximum development scenario under the Proposed Zoning, accounting for the maximum buildout potential of the Swiss Re parcel and complete discontinuation of the current office use.

7. Based on the theoretical maximum development scenario under the Proposed Zoning, accounting for the maximum buildout potential of the MBIA parcel and complete discontinuation of the current office use.

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station
Equivalent Pipe Length Calculations

Pump Station Bend and Fitting Losses					
	Coef., "C"	Pipe Size	Quantity	Eqv. Length	Length
Flanged Base Elbow	100	6	1	16.70	16.70
Flanged Elbow	100	6	1	16.70	16.70
Flanged Swing Check Valve	100	6	1	50.50	50.50
Flanged Gate Valve	100	6	2	4.00	8.00
Flanged Tee Branch, Tee	100	6	1	12.30	12.30
Pump Station Bend Losses, Ft. =					104.20
Design Coefficient, "C" =					120.00
Coef., "C" Adjustment Factor =					0.71
Equivalent Pipe Length of Pump Station Bends and Fittings =					146.04

Total Forcemain Equivalent Pipe Length		
Force Main Pipe Length, Ft. =		1837.00
Force Main Pipe Length in Pump Station, Ft. =		3.00
Pump Station Bend and Fitting Losses, Ft. =		146.04
Force Main Fitting Losses, Ft. =	5%	91.85
Force Main Equivalent Pipe Length, Ft. =		2077.89

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station

DESIGN FLOW RATE		
Flow Condition	**GPD**	**GPM**
Current Buildout @ Full Occupancy w/Proposed Project Flow Rate	88,672	61.6
Future Buildout Flow Rate	153,132	106.3

PUMP STATION DATA	
Station Grade Elev.	405.00
Wet Well Floor Elev.	386.41
Invert In	393.00
Invert at Discharge Manhole	425.94
Discharge Pipe Size	6

FORCE MAIN DATA		
Pipe Class	SDR21	PVC
Force Main Equivalent Pipe Length, Ft. =		2,078
Size (in.) =		6
Design Coef., "C"		120
Friction / 1000 Ft. =		7.86
Friction Loss, Hf =		16.33

SYSTEM HEAD DATA					
System Head Loss			Manufacturers	Total Dynamic Head (TDH)	
Pump Rate (gpm)	Friction Loss per 1000 ft.	Hf (ft.)	Pump Head Curve	Lead Pump (feet)	Lag Pump (feet)
150	2.6	5.31	67	42.34	41.34
200	4.4	9.05	63	46.08	45.08
250	6.6	13.69	57	50.72	49.72
300	9.2	19.18	49	56.21	55.21
350	12.3	25.52	42	62.55	61.55

HEAD CALCULATION	
Pump Flow Rate, Pump A, Qdp =	275 gpm
Force Main Velocity, Pump A =	3.1 fps
Static Head (Maximum)	38.0 ft.
Friction / 1000 Ft. =	7.9
Friction Loss, Hf =	16.3 ft.
TDH (Maximum) =	54.4 ft.

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station

WET WELL VOLUME		
Width =		10.0 Feet
Length =		13.0 Feet
Vol./ Ft. of Depth		972 gallons / foot
Lead Pump On Depth	12	1.00 Feet
Vww, Volume of Wet Well (Lead Pump)		972 gallons
Lag Pump On Depth	12	1.00 Feet
Vww, Volume of Wet Well (Lead plus Lag Pump)		1945 gallons

STATION ELEVATION DATA		
Description		**Elevation**
Wet Well Floor Elev.		385.99
Minimum Submerged Depth	23.0	1.92
Lead Pump Off Elev.		387.91
Lead Pump On Elev.		388.91
Lag Pump On Elev.		389.91
Alarm On Elev.	12.0	390.91
Invert In	25.1	393.00

PUMP CYCLE TIMES

Average Cycle Time (Tavg) $= \dfrac{Vww}{Q(dp) - Q(I)} + \dfrac{Vww}{Q(I)}$

10 < Tavg < 30

Design Fill Time (Lead Pump) = Wet Well Volume ÷ Design Average Inflow < 30 Minutes

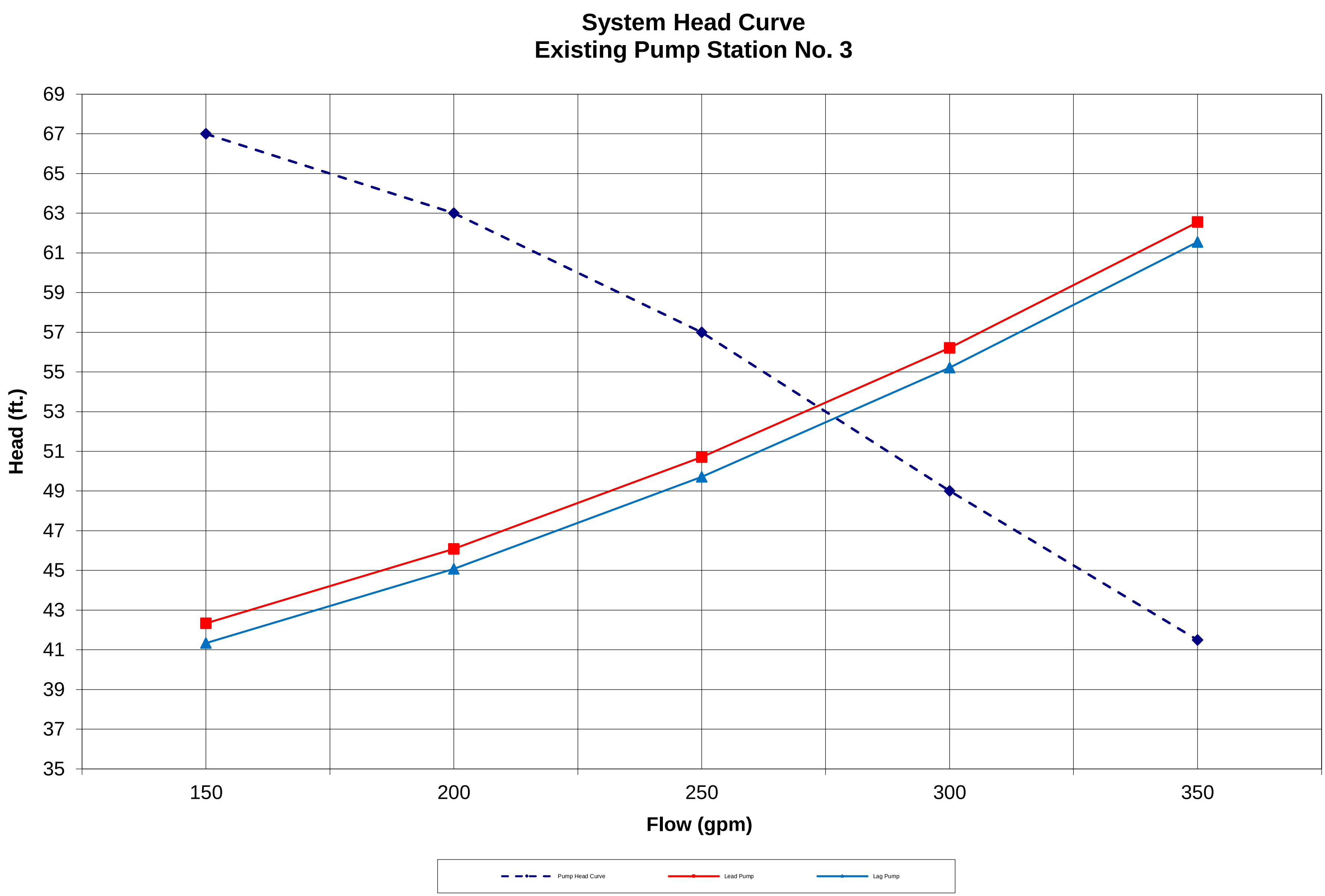
Design Condition	**Current Buildout @ Full Occupancy w/Proposed Project Flow Rate**	**Future Buildout Flow Rate**
Design Average Inflow (I) (gpm) =	61.6	106.3
Design Average Cycle Time (Tavg), Min. =	20.3	14.9
Design Fill Time (Lead Pump) =	15.8	9.1

WET WELL STORAGE VOLUME		
Description		**Elevation**
Lead Pump Off Elev. =		387.91
Invert In =		393.00
Wet Well Storage Depth =	Feet	5.09
Vol./ Ft. of Depth =	Gallons / foot	972
Wet Well Storage Volume =	Gallons	4950
Design Average Inflow (I) =	gpm	62
Wet Well Storage Time =	minutes	80

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station

PUMP ELECTRICAL DATA	
Manufacturer	FLYGT
Model No.	3127
Impeller	462
HP	7.4
Volts	230
Phase	3
RPM	1750

FORCE MAIN VOLUME		
Pipe volume =	0.65	Gallons/foot
Force Main Length =	2078	Length
Total Force Main Volume =	1356	Gallons
Design Average Pumped Volume per Cycle =	972	Gallons/cycle
No. of Pump Cycles to Purge Force Main =	1.39	No. Cycles
Design Average Cycle Time (Tavg) =	20	Minutes
Average Force Main Residence Time =	28	Minutes


System Head Curve
Existing Pump Station No. 3
Head (ft.)
69
67
65
63
61
59
57
55
53
51
49
47
45
43
41
39
37
35
150
200
250
300
350
Flow (gpm)
Pump Head Curve
Lead Pump
Lag Pump

Town of North Castle Sewer District 3
Pump Station No. 3
Duplex Dry Pit Submersible Pump Station

SUMMARY TABLE		
Description	**Current Buildout @ Full Occupancy w/Proposed Project Flow**	**Future Buildout Flow**
Design Average Inflow (I) (gpm) =	61.6	106.3
Pump Flow Rate, Pump A, Qdp (gpm) =	**275.0**	
Force Main Velocity, Pump A (fps) =	**3.1**	
Static Head (Maximum) (feet) =	38.0	
Friction Loss, Hf (feet) =	16.3	
TDH (Maximum) (feet) =	54.4	
Design Average Cycle Time (Tavg) (min.) =	**20.3**	**14.9**
Wet Well Floor Elev. =	385.99	
Minimum Submerged Depth (ft.) =	1.92	
Lead Pump Off Elev. =	387.91	
Lead Pump On Elev. =	388.91	
Lag Pump On Elev. =	389.91	
Alarm On Elev. =	390.91	
Invert In Elev. =	393.00	