This SWPPP was prepared in accordance with SPDES Permit No. GP-0-20-001 and must be kept on the job site and available for use of contractors and sub-contractors. Certifications by applicant/developer and by the contractors/subcontractors are included. A copy of the Notice of Intent (NOI), which must be filed at least 5 days prior to the commencement of any work along with the MS4 SWPPP acceptance form, is included herein. Notice of Termination (NOT) must be filed when all stormwater management facilities are in place and the site has been stabilized with specified vegetation. Sample inspection forms are included. Operation and maintenance plan is attached and included both temporary and permanent facilities maintenance. This SWPPP, together with all required plans, completed inspection forms and log of activities including any mitigation of items noted on inspection forms must be kept on the job site and available for inspection by all regulatory authorities.

FULL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REPORT

Prepared For:

HAMASPIK CHOICE

Village of New Hempstead, Rockland County, New York

Prepared By:

ATZL, NASHER & ZIGLER
Engineers – Surveyors – Planners
232 North Main Street
New City, New York 10956
Tel. (845) 634-4694 • Fax (845) 634-5543

This plan has been prepared to comply with the provisions of the SPDES general permit no. GP-0-20-001, issued by the New York State Department of Environmental Conservation for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared and revised under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations.

Revision 1: December 17, 2024
Date: April 12, 2024
Job No. 5030

Ryan A. Nasher, P.E. License No.: 89066
New York State Professional Engineer

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3.2 FILED OUT NOTICE OF INTENT (N.O.I.)
3.3 MS4 SWPPP ACCEPTANCE FORM

MAPS:

Section 1: O, I, & M

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

SECTION 1:

OPERATION INSPECTION AND MAINTENANCE PLAN REPORT

BY

ATZL, NASHER & ZIGLER
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1.0 INTRODUCTION

1.1 Notice of Intent:

Section 402 of the Clean Water Act requires permits for stormwater discharge from construction activities, which disturb one or more acres of land to obtain a permit. To implement this law, the New York State Department of Environmental Conservation (NYSDEC) issued the General Permit GP-0-20-001 for Stormwater Discharges from Construction Activities. The Notice of Intent (NOI) is the means to obtain coverage under this permit.

1.2 SWPPP Goals and Objective:

The goal of the Stormwater Pollution Prevention Plan (SWPPP) is to control runoff of pollutants from the project site during and after construction activities by complying with the NY State Pollutant Discharge Elimination System (SPDES) Stormwater Permit for construction activities and local rules and regulations. The SWPPP will implement the following practices:

- Reduction or elimination of erosion and sediment loading to waterbodies during construction;
- Control of the impact of stormwater runoff on the water quality of the receiving waters;
- Control of the increased volume and peak rate of runoff during and after construction; and
- Maintenance of stormwater controls during and after completion of construction.

The SWPPP will incorporate the proper selection, sizing and siting of the Stormwater Management Practices (SMPs) to protect water resources from stormwater impacts. The design of the proposed SMPs were determined using current engineering methodologies to provide appropriate sizing criteria to avoid overburdening stormwater conveyance structures. Erosion and Sediment Control (ESC), Water Quantity Control, and Water Quality Controls are inter-related components of the SWPPP.

The SWPPP is intended to be a "living" document. The document should be revised and updated by a qualified professional whenever site conditions dictate. Any proposed revisions shall undergo review by the owner or his designated representative prior to incorporation in the SWPPP and implementation at the site. Any proposed modifications shall be in accordance with the New York State Department of Environmental Conservation's technical standards.

2.0 SITE DESCRIPTION

2.1 Project Name & Location:

Illinois Properties 26 LLC
Village of New Hempstead
Rockland County, New York
Village of New Hempstead Tax Map: Section 42.18, Block 2, Lot 24.

2.2 Owner/Operator Name & Address:

Illinois Properties 26, LLC
Attention: Hillel Kahan
51 Forest Road, Unit 316-84
Monroe, NY 10950
Phone: 845-293-3570
Email: hkahan@platinumdevlp.com

2.3 General Contractor*:

_____
(Company Name)

_____
(Street Address)

_____
(City, State, Zip Code)

_____
(Phone Number)

*Note – General Contractor shall be identified prior to commencement of work.

2.4 Description:

The project is located at 775 North Main Street, in the Village of New Hempstead, Rockland County, New York. The site has an area of about 3.11 acres. The existing site consists of a two-story masonry building, one-story building, parking lot, wood/grass cover and some landscaping areas. The proposed development includes the construction of a two-story addition on the west side of the existing two-story masonry building, parking lot, and some landscaping areas.

Soil Name	Soil Map Symbol	Hydrological Soil Group
Watchaug fine sandy loam	Wc	C
Wethersfield gravelly silt loam, 3 to 8 percent slopes	WeB	C

* Source: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
** HSG "C" was used in the drainage calculations.

Soil disturbing activities will include clearing and grubbing; installation of a stabilized construction entrance; grading (cuts & fills); excavation for the installation of drainage pipes, SMPs, sanitary sewer connections, water main connections, building foundations, stormwater management facilities and the preparation for final planting and seeding.

2.5 Impervious Cover:

Impervious cover within the planned disturbance will increase from 0.834 acres in the existing condition to 1.227 acres in the proposed condition.

2.6 Site Area:

The site is approximately 3.11 acres, and 1.054 acres will be disturbed by the proposed construction activities.

2.7 Location Map:

NORTH

STREET MAP
Source: maps.google.com

2.8 Sequence of Major Activities:

Phasing and schedule of construction is as follows (several phases will overlap):

Phase 1: Clearing and grubbing of designated areas

Phase 2: Land grading according to the approved site development plan

Phase 3: Building construction

Phase 4: Paving and utilities construction

Phase 5: Final Grading, landscaping

The general order of activities will be as follows:

1. Schedule a pre-construction meeting.
2. Locate natural resources and the limit of disturbance per approved plans.
3. Install perimeter erosion and sediment control practices (silt fences).
4. Install construction entrances and temporary staging.
5. Limit grading for installation of E&SC practices.
6. Dispose clearing and grading materials as construction progresses.
7. Stockpile topsoil and stabilize.
8. Perform rough grading/cut & fill and stabilize inactive areas.
9. Install utilities and drainage structures.
10. Construct foundation and building structure as per plan.
11. Apply soil restoration practices as described in the plan.
12. Perform final stabilization, i.e. top soil and landscaping.
13. Remove sediment accumulations and complete permanent post construction SMPs per the approved plan.
14. Remove E&SC practices and apply for a Notice of Termination (N.O.T.).

3.0 CONTROLS

3.1 Erosion and Sediment Controls Stabilization Practices:

3.1.1 Temporary Stabilization:

Topsoil, stockpiles, and soils that are exposed and left bare for a period of 14 days which are not being graded, not under active construction for 14 days or more, or not scheduled for permanent seeding within 14 days will be stabilized with temporary seed and mulch. All grass seed mixtures and application rates shall comply with Sediment and Erosion Control Plan.

Areas of the site, which are to be paved; will be temporarily stabilized by applying stone sub-base until bituminous pavement can be applied.

3.1.2 Permanent Stabilization:

Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent seed no later than 14 days after the last construction activity.

3.2 Structural Practices:

Proposed measures will include silt fences, super silt fence, storm inlet protection, stockpile, concrete washout, and stabilized construction entrance.

3.3 Stormwater Management Water Quality:

Stormwater runoff generated by parking, and the rooftop will be directed towards the proposed underground infiltration system and the bio-filter system through a combination of sheet flow, catch basin, pipes, and a pretreatment system.

The stormwater management system has been designed to comply with the most recent NYSDEC design manual requirements. The underground infiltration system and the bio-filter system is designed to treat the first flush water quality volume of the required impervious area, according to NYSDEC redevelopment rules.

The property owner shall be responsible for the long-term operation, maintenance and inspection of the proposed stormwater management facilities and provide maintenance records to the Village of New Hempstead.

3.3.1 Name of Receiving Waters:

Tributary watercourse to PASCACK BROOK. The site is not located in a designated TMDL watershed area.

3.4 Peak Flow Attenuation:

In order to provide the zero net increase of peak runoff an Underground Infiltration System and a Bio-filter System have been proposed.

3.5 Runoff Conveyance Systems:

The stormwater pipes are design to convey the 10-year peak flow discharge.

3.6 Other Controls:

3.6.1 Waste Materials:

All waste materials will be collected and stored in securely lidded metal dumpsters rented from _____, a solid waste management company located in Rockland County (name of carting company to be identified 30 days prior to commencement of work). The dumpsters will meet Village of New Hempstead, Rockland County, and New York State solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpsters. The dumpsters will be emptied as necessary, and the trash will be hauled off site to _____(destination to be identified 30 days prior to commencement of work). No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and _____, the Job Supervisor, individual who is responsible for managing the day to day site operations, will be responsible for seeing that these procedures are followed (Job Supervisor shall be identified 30 days prior to commencement of work).

3.6.2 Hazardous waste:

All hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. Site personnel will be instructed in these practices and _____, Job Supervisor, individual who is responsible for managing the day to day site operations, will be responsible for seeing that these procedures are followed (Job Supervisor shall be identified 30 days prior to commencement of work).

3.6.3 Sanitary Waste:

A licensed sanitary waste management contractor (sanitary waste management contractor to be identified 30 days prior to commencement of work) will collect all sanitary waste from the portable units.

3.6.4 Offsite Vehicle Tracking:

A stabilized construction entrance and gravel pad will be provided to wash or spray-clean trucks over before leaving the site in order to prevent track-out of dirt, mud, debris and dust. In addition, trucks will be covered with a tarp and at least 6 inches of freeboard clearance will be maintained to keep excessive dust from escaping the truck during hauling operations.

3.7 Timing of Control Measures:

As indicated in the Sequence of Major Activities, the stabilized construction entrance and other sediment and erosion control activities will be constructed prior to earthwork activities on any part of the site. Any soil areas that are exposed and left bare for a period of 14 days which are not being graded, not under active construction for 14 days or more, or not scheduled for permanent seeding within 14 days will be treated with temporary seed and mulch. Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed and mulch. After the entire site is stabilized, accumulated sediments will be removed from the sediment and erosion control structures and the controls will be removed.

3.8 Certification of Compliance With Federal, State And Local Regulations:

The stormwater pollution prevention plan reflects New York State Department of Environmental Conservation requirements for storm water management and erosion and sediment control, as established in Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law. To ensure compliance, this plan was prepared in accordance with guidelines issued with the SPDES General Permit for Storm Water Discharges from Construction Activities that are Classified as "Associated with Construction Activity", published by the NYSDEC.

4.0 MAINTENANCE & INSPECTION PROCEDURES

4.1 Sediment & Erosion Control Inspection And Maintenance Practices:

The following are inspection and maintenance practices that will be used in coordination with the SWPPP Construction Log Book prepared for this project, the template which is included in Appendix A, to maintain sediment and erosion controls:

- The Operator shall have a qualified professional conduct an assessment of the site prior to the commencement of construction and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP, an required by the SPDES General Permit for Stormwater Discharges, have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. Qualified professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, or someone working under the direction and supervision of a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist (person must have experience in the principles and practices of erosion and sediment control). The template for the initial inspection and assessment is included in Appendix A.
- All control measures will be inspected by a qualified professional at least once each week (7 days) and immediately following any storm event of 0.5 inches or greater.
- All measures will be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours of discovery.
- Provide sprinkle water on the dirt road during hot summer or when appropriate to prevent particles to be air born.
- Built up sediment to be removed from the silt fence when it has reached 1/3 the height of the fence. Sediment traps will be cleaned when built up sediments reaches 25 percent of design capacity.
- Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- A maintenance inspection report will be filled out after each inspection and will become part of the SWPPP.
- _____, Job Supervisor – Trained Individual per GP-0-20-001, will select individuals who will be responsible for coordinating efforts with the qualified professional for regular inspections, maintenance and repair activities, and filling out the inspection and maintenance report forms. Inspection reports will summarize:

1. Name of Inspector
2. Qualifications of Inspector
3. Date of Inspection
4. Weather Conditions
5. Areas inspected, including measurements
6. Areas that have undergone temporary and permanent stabilization
7. Indicate all disturbed areas that have not undergone active site work during the previous 14-day period
8. Observed condition of all erosion and sediment control practices
9. Inspect all sediment control practices and record approximate degree of sediment accumulation as a percentage of the sediment storage volume
10. Actions Taken to Correct Problems
11. Incorporate changes necessary to the SWPPP

The template for regular inspections is included in Appendix A.

- Personnel selected for inspection and maintenance responsibilities will receive training from the Job Supervisor and/or the qualified professional. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on site in good working order.
- The Operator shall ensure that a record of all inspection reports is maintained in the SWPPP Construction Log Book. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. Prior to the commencement of construction, the Operator shall certify in the site log book that the SWPPP was prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. The Operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis. The template for SWPPP Construction Log Book is included in Appendix A.
- Prior to filing of the Notice of Termination (NOT) or the end of permit term, the Operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. Final stabilization means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80% has been established, or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structure. The template for final inspections is included in Appendix A.

- Clean out all **temporary** structures and pipes upon completion of the project.
- When the site has been finally stabilized, the operator must submit a Notice of Termination form to terminate coverage under the SPDES General Permit GP 0-20-001. The permittee must identify all of the permanent stormwater management structures that have been constructed. In addition, an manual describing the operation and maintenance practices that will be necessary for the structures to function as designed after the site is stabilized must be finalized and in-place. The permittee must also certify that the permanent structure have been constructed as described in the SWPPP.

The inspection procedures that will be used for the construction of the proposed Stormwater management facilities are included in the CONSTRUCTION INSPECTION CHECKLIST FORM prepared for this project, the template of which is included in Appendix B, to be used to ensure proper construction.

4.2 Summary of SWPPP Required Document Filings:

The following table provides a summary of the required forms and inspections that need to be completed as part of the SWPPP requirements and which checklist or report document forms need to be used for each:

Name of Document	Form to be Used	When to complete
Pre-Construction Meeting Documents Form	Appendix A – SWPPP Construction Site Log Book	Prior to beginning of construction
Owner/Operator Certification	Appendix A, SWPPP Report	Prior to beginning of construction
Prime Contractor Certification	SWPPP Report	Prior to beginning of construction
Sub-Contractor Certification	SWPPP Report	Prior to beginning of construction
Pre-Construction Site Assessment Form	Appendix A	Prior to beginning of construction
Construction Duration Inspection Forms	Appendix A	Every seven days
Three-Month Status Reports	Appendix A	Every three months
SMPs Construction Inspection Checklist Form	Appendix B	During the construction of the proposed stormwater facilities
Final Stabilization and Retention of Records	Appendix B	At completion of project
Spill Control & Prevention Log	Appendix C	Before and after completion of Project
Stormwater Facilities Maintenance Plan and Inspection Checklists	Appendix D	After completion of Project

5.0 NON-STORM WATER DISCHARGES

5.1 Non-Stormwater Discharges:

It is expected that the following non-storm water discharges will occur from the site during the construction period:

- Water from water line flushing.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater (from natural springs)

6.0 INVENTORY FOR POLLUTION PREVENTION PLAN

6.1 Material substances:

The materials or substances listed below are expected to be present on the site during construction:

- Concrete
- Detergents
- Paints (enamels and latex)
- Metal Studs
- Roofing Materials
- Tar and Paving Materials
- Fertilizers
- Petroleum Based Products
- Cleaning Solvents
- Wood
- Masonry Block

7.0 SPILL CONTROL & PREVENTION

7.1 Material Management Practices:

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff:

7.1.1 Good Housekeeping:

The following good housekeeping practices will be followed on site during the construction project:

- An effort will be made to store only enough products required to do the job.
- All materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Product will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The Job Supervisor will inspect daily to ensure proper use and disposal of materials on site.

7.1.2 Hazardous Products:

The following practices will be used to reduce the risks associated with hazardous materials:

- Products will be kept in original containers unless they are not reseal able.
- Original labels and material safety data will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturer's or local and State recommended methods for proper disposal will be followed.

7.2 Product Specific Practices:

The following product specific practices will be followed on site:

7.2.1 Petroleum Products:

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used on site will be applied according to the manufacturer's recommendations.

7.2.2 Fertilizers:

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to stormwater. Storage will be in a covered shed. The content of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

7.2.3 Paints:

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm drainage system, but will be properly disposed of according to manufacturer's instructions or State and local regulations.

7.2.4 Concrete Trucks:

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.

7.3 Spill Control Practices:

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanups:

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage areas on site. Equipment and materials will include, but not be limited to, brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.
- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size of the spill. The Spill Control & Prevention Log form provided in Appendix C should be used for this purpose.
- The spill prevention plan will be adjusted to include measures to prevent a repetitive type of spill from re-occurring and how to clean up the spill if it does re-occur. A description of the spill, what caused it, and the cleanup measures will also be included.
- The Job Supervisor responsible for daily site operations, will be designated as the spill prevention and cleanup coordinator. He will designate at least

three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of the responsible spill personnel will be posted in the material storage area and in the office trailer on site.

8.0 SUPPORTING PLANS & REPORTS

1. Site Plan Drawings prepared by Atzl, Nasher & Zigler
2. Soil & Erosion Control Plans prepared by Atzl, Nasher & Zigler
3. Stormwater Management Design Report by Atzl, Nasher & Zigler

9.0 POLLUTION PREVENTION PLAN CERTIFICATION

9.1 OWNER/OPERATOR CERTIFICATION

"I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and all corresponding attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgement that I will receive as a result of submitting this NOI. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction and agree to comply with all the terms and conditions of the general permit for which this NOI is being submitted."

Signed: _____ Date: _____
(Owner/Operator)

_____
(Printed Name & Title)

_____

_____

_____
(Company Name, Address & Telephone Number)

10.0 CERTIFICATION BY CONTRACTORS

Made pursuant to the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP 0-20-001) for:

Hamaspik Choice, Village of New Hempstead, Rockland County, New York

10.1 Prime Contractor Certification:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the stormwater pollution prevention plan for the construction site identified in this plan as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Prime Contractor:

(Signature)	(Company)
(Name)	(Street Address)
(Title)	(City, State, Zip Code)
(Date)	(Phone Number)

10.2 Sub-Contractor Certification:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the stormwater pollution prevention plan for the construction site identified in this plan as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Sub-Contractor:

(Signature)	(Company)
(Name)	(Street Address)
(Title)	(City, State, Zip Code)
(Date)	(Phone Number)

CONTRACTOR and SUBCONTRACTOR CERTIFICATION STATEMENT

for the New York State Department of Environmental Conservation (DEC) State Pollutant Discharge Elimination System Permit for Stormwater Discharges from Construction Activity (GP-0-20-001)

As per *Part III.A.6* on page 13 of *GP-0-20-001* (effective March 08, 2023):

'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 sub-contractors 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 contractor and subcontractor involved in soil disturbance sign a copy of the following certification statement before they commence any *construction activity*:

_____	**NYR** _____	_____
Name of Construction Site	*DEC Permit ID*	*Municipality (MS4)*

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Responsible Corporate Officer/Partner Signature	Date
Name of above Signatory	Name of Company
Title of above Signatory	Mailing Address
Telephone of Company	City, State, and Zip

Identify the specific elements of the SWPPP the contractor or subcontractor is responsible for:

***'TRAINED CONTRACTOR'* FOR THE CERTIFIED CONTRACTOR OR SUBCONTRACTOR**

_____	_____	_____
Name of Trained Employee	*Title of Trained Employee*	*NYSDEC SWT #*

A copy of this signed contractor certification statement must be maintained at the SWPPP on site

Appendix - A

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-A

CONSTRUCTION SITE LOGBOOK

BY

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NY STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES

SWPPP CONSTRUCTION SITE LOG BOOK

For

HAMASPIK CHOICE
Village of New Hempstead
Rockland County, New York

ATZL, NASHER & ZIGLER
232 North Main Street, New City, NY 10956
Tel: (845) 634-4694, Fax: (845) 634-5543, Email: rnasher@anzny.com

Table of Contents

Properly completing forms such as those contained in this document meet the inspection requirement of NYSDEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

1. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name Hamaspik Choice
Permit No. _____ **Date of Authorization** _____
Name of Operator _____
Prime Contractor _____

a. Preamble to Site Assessment and Inspections -the following information to be read by all person's involved in the construction of stormwater related activities:

The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site log book. The site log book shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law. "

Name (Please Print):_____

Title _____ **Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (Please Print):_____

Title _____ **Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

d. Pre-construction Site Assessment Checklist (NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

Pre-construction Site Assessment Checklist (continued)

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:
Inspection Forms will be filled out during the entire construction phase of the project.
Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

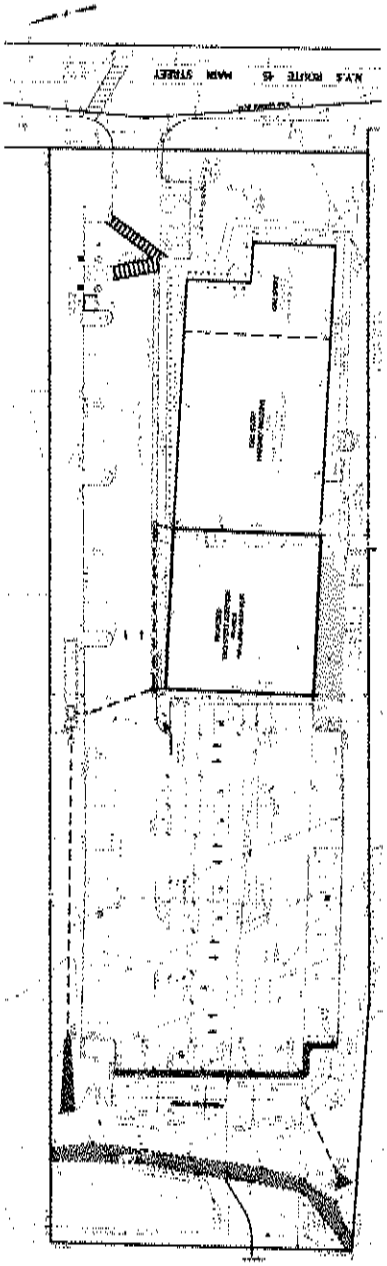
(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

CONSTRUCTION DURATION INSPECTIONS



SITE PLAN/SKETCH

Inspector (Print Name) _____ **Date of Inspection** _____

Qualified Professional (Print Name) _____ **Qualified Professional Signature** _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

CONSTRUCTION DURATION INSPECTIONS

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter and debris appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control

1. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Sediment accumulation is ___% of design capacity.

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.

[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

III. Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative

Name of Permittee or Duly Authorized Representative date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

Appendix-B

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-B

CONSTRUCTION INSPECTION CHECKLISTS

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
NEW CITY, NY 10956
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E-MAIL: rnasher@anzny.com

STORMWATER MANAGEMENT
CONSTRUCTION INSPECTION CHECKLIST FORM

Project: **HAMASPIK CHOICE**
Location: Village of New Hempstead, Rockland County, NY

Site Status: _____

Date of Inspection: _____

Time of Inspection: _____

Weather Conditions
(including recent rainfall): _____

Inspector's Name: _____

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

2. Subgrade Preparation		
Area beneath embankment stripped of all Vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
CONSTRUCTION SEQUENCE	**SATISFACTORY/ UNSATISFACTORY**	**COMMENTS**
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under "haunches" of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		

4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
CONSTRUCTION SEQUENCE	**SATISFACTORY/ UNSATISFACTORY**	**COMMENTS**
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		

Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or Gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable Subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for "honeycomb" prior to backfilling; parge if necessary		
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		

Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel Constructed to design grades and elevations		
CONSTRUCTION SEQUENCE	**SATISFACTORY/ UNSATISFACTORY**	**COMMENTS**
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable Subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with Reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-Section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil Amendments		

Excelsior mat or other stabilization, as per plan		
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

_____
_____
_____
_____
_____

Actions to be Taken:

_____
_____
_____
_____
_____

Appendix – C

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-C

SPILL CONTROL AND PREVENTION LOG

BY

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E-MAIL: rnasher@anzny.com

SPILL CONTROL & PREVENTION LOG
HAMASPIK CHOICE
Village of New Hempstead
Rockland County, New York

Date of Spill	Material Spilled	Spill Location	Cause	Cleanup	Agency Reported (Toxic/Hazardous)	Reoccurance Prevention Measure

Appendix - D

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-D
MAINTENANCE AGREEMENT

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
NEW CITY, NY 10956
TEL: (845) 634-4694
FAX: (845) 634-5543
E-MAIL: rnasher@anzny.com

STORMWATER FACILITIES MAINTENANCE PLAN AGREEMENT
RE: HAMASPIK CHOICE
(TAX MAP DESIGNATION: 42.18-2-24)

Whereas, the Village of Hempstead ("Village") and Illinois Properties 26 LLC ("Facility Owner") want to enter into an agreement to provide for the long term maintenance and continuation of stormwater control measures approved by the Village for the above named project, and

Whereas, the Village and the Facility Owner desire that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, the Village and the Facility Owner agree as follows:

1. This agreement binds the Facility Owner, its successors and assigns, to the maintenance provisions depicted in the approved project plans which are attached as Schedule A of this agreement.

2. The Facility Owner shall erect or post, in the immediate vicinity of the stormwater management facilities, a conspicuous and legible sign of not less than (18" X 24") or (10" X 12" for footprints smaller than 400 sq.ft.) bearing information shown on Schedule B.

3. The Facility Owner shall maintain, clean, repair, replace and continue the stormwater control measures as listed in Schedule C as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: drainage pipes, catch basins, pre-treatment systems, underground infiltration systems, bio-filter system, control structures etc., but only to the extent that the same are shown on Schedule C.

4. The Facility Owner shall be responsible for all expenses related to the maintenance of the stormwater control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.

5. The Facility Owner shall provide for the annual inspection of the stormwater control measures, in perpetuity, to determine the condition and integrity of the measures. A Professional Engineer licensed by the State of New York shall perform such inspection. The inspecting engineer shall prepare and submit to the Village within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the Stormwater control measures.

6. The Facility Owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the Stormwater control measures except in accordance with written approval of the Village.

7. The Facility Owner shall undertake all necessary repairs and replacement of the stormwater control measures at the direction of the Village or in accordance with the recommendations of the inspecting engineer within 60 days of the directive or inspection.

8. The Facility Owner shall provide to the Village, prior to Mayor's endorsement, a security for the maintenance and continuation of the stormwater control measures in the form of a letter of credit or escrow account in the amount of $_____ for a period of 5 years.

9. This agreement shall be recorded in the Office of the County Clerk, County of Rockland.

10. If ever the Village determines that the Facility Owner has failed to construct or maintain the stormwater control measures in accordance with the project plan or has failed to undertake corrective action specified by the Village or by the inspecting engineer, the Village is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures and to affix the expenses thereof as a tax lien against the property.

11. This agreement is effective as of the date of issuance of the first certificate of occupancy for the above referenced project.

Village of New Hempstead **Illinois Properties 26 LLC**

By: _____ By: _____
Abe Sicker, Mayor Hillel Kahan

State of New York, County of Rockland ss.:

On _____, before me, the undersigned, personally appeared Abe Sicker personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

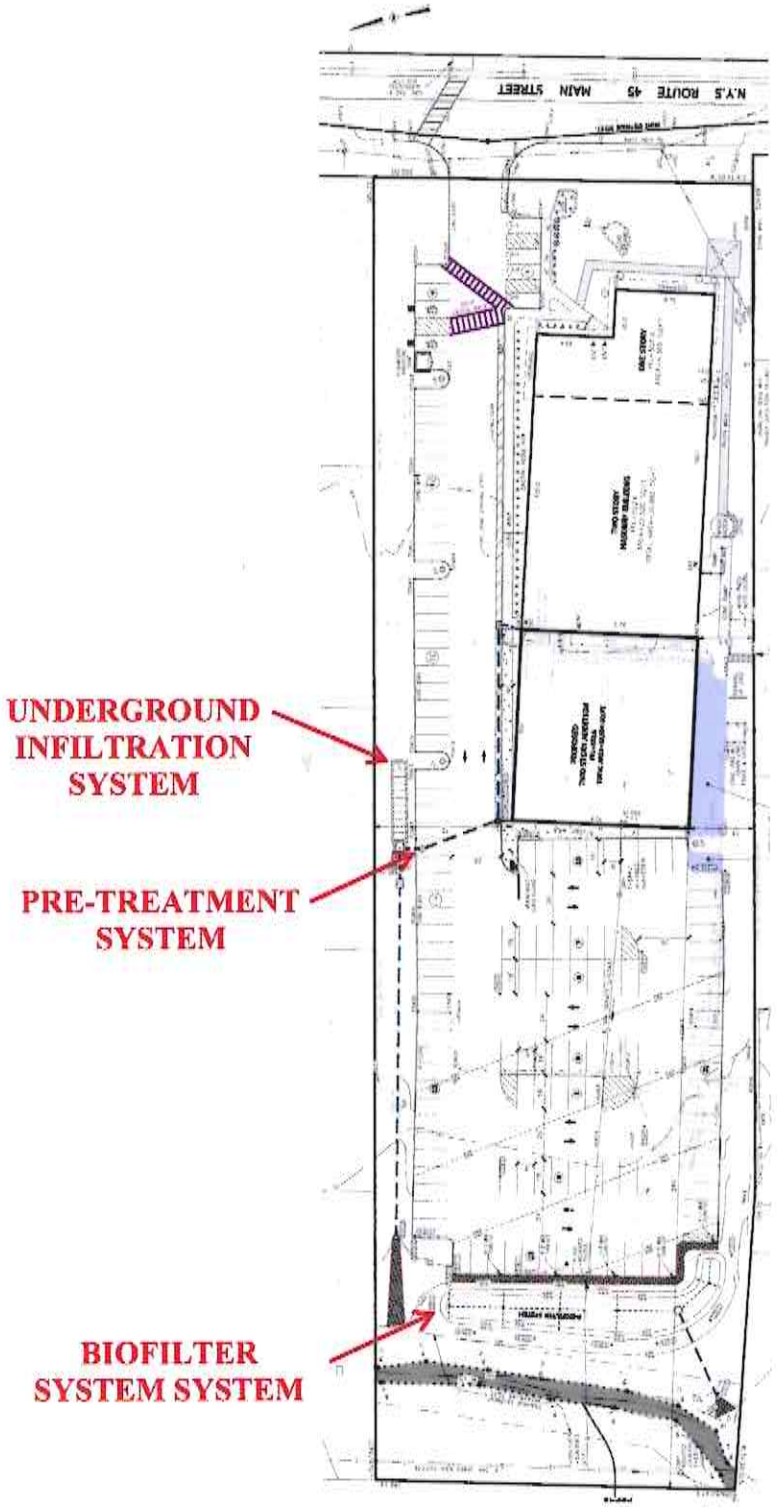
State of New York, County of _____) ss.:

On _____, before me, the undersigned, personally appeared Hillel Kahan personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

SCHEDULE "A"

STORMWATER MANAGEMENT FACILITIES
(UNDERGROUND INFILTRATION SYSTEMS)
LAYOUT & LOCATION



SCHEDULE "B"

STORMWATER MANAGEMENT SYSTEM
INSPECTION AND MAINTENANCE SCHEDULE

Stormwater Structures:

- Stormwater pipe
- Catch Basins
- Pretreatment System (First Defense)
- Underground Infiltration System
- Bio-filter System

Inspections Schedule:

- Stormwater Pipes:
  - Annual, after major storms: Check for debris at inlets, outlets, and cleanouts.
- Catch Basins:
  - Biannual, after major storms (check for trash, excessive sediment, and oil sheen).
- Pre-Treatment System (First Defense):
  - Biannual, after major storms (check for trash, excessive sediment, and oil).
- Underground Infiltration System:
  - Annual, after major storm: Check that pipes are clear of debris.
  - Annual, after major storm: Check that sediment storage does not exceed 15% capacity.
  - Annual, after major storm: Check that pipe dewaters.
  - Annual, after major storm: Check for oil accumulation.
- Bio-retention System:
  - Monthly inspections during construction and on an annual basis thereafter.

Maintenance Schedule:

- Stormwater Pipes:
  - Clean as found necessary by inspection.
- Catch Basins:
  - Must be cleaned of sediment at least once per year during the month of April and at all other times as necessary to prevent the discharge of pollutants from the system.
- Pretreatment device (First Defense):

- Clean out trash, sediment, and oil when necessary.

- Underground Infiltration System:
  - Clear inlets, outlets, and control structure of debris.
  - Clean out oil, trash, and sediment.
  - In subsequent years, inspections can be based on first year observations or local requirements.
  - Inspect the unit immediately after an oil, fuel or chemical spill.
  - A licensed waste management company shall remove oil and sediment and dispose responsibly per NYSDEC and Village of New Hempstead regulations.

- Bio-filter System:
  - Remove accumulated sediment and clean out and/or replace the filter gravel bed at the outfall pipe whenever accumulated sediment reaches a volume of 10% of the available basin capacity.
  - Restore any eroded embankments.
  - Remove accumulated debris within the basin and at outfall structures.

Stormwater Piping
Inspection and Maintenance Checklist

Project: _____

Location: _____

Site Status: _____

Date: _____ **Time:** _____

Inspector Signature: _____ **Inspector Name (print):** _____

Inspection/Maintenance Items	Satisfactory or Unsatisfactory	Comments/Corrective Action
1. Inspection (Quarter-annually, After Major Storms)		
1. Accumulated sediment exceeds 10% of the diameter of the pipe.		
2. Vegetation the reduces free movement of water through pipes.		
3. Pipe damage: Any dent that increases flow area by more than 10% or puncture that impacts performance		
4. Trash accumulated to reduce free movement of water through pipes.		

Inspector shall use one sheet for each individual pipe run.

(Provide sketch to show location of unsatisfactory items)

ACTIONS TO BE TAKEN:

_____

_____

_____

_____

_____

COMMENTS:

_____

_____

_____

_____

_____

Catch Basin
Inspection and Maintenance Checklist

Project: _____

Location: _____

Site Status: _____

Date: _____ **Time:** _____

Inspector Signature: _____ **Inspector Name (print):** _____

Inspection/Maintenance Items	Satisfactory or Unsatisfactory	Comments/Corrective Action
1. Inspection (Quarter-annually, After Major Storms)		
1. Accumulated debris or sediment depth exceed sump or impedes flow from inlet or outlet pipes		
2. Inlet or outlet pipe damaged		
3. Contaminants & pollutants visible		
4. Cover/grate functioning properly		
5. Structure: no cracks larger than 1/2"		
6. Ladder		
7. Mosquito breeding habitat		
2. Sediment		
1. Depth of sediment (inches)*		
2. Depth of oil (inches)**		
3. Sediment and oil have been removed		

*If measured depth of sediment is greater than 3 inches, the system shall be cleaned as per the manufacturer recommendations.
**Any presence of oil shall be removed immediately.

Inspector shall use one sheet for each catch basin/manhole.
(Provide sketch to show location of unsatisfactory items.)

ACTIONS TO BE TAKEN:

COMMENTS:

Pre-Treatment (First Defense) System
Inspection and Maintenance

Project: _____

Location: _____

Site Status: _____

Date: _____ **Time:** _____

Inspector Signature: _____ **Inspector Name (print):** _____

Inspection/Maintenance Items	Satisfactory or Unsatisfactory	Comments/Corrective Action
1. Inlet/Outlet Structures (Quarter-annually, After Major Storms)		
1. Clear of debris and functional?		
2. Trash rack clear of debris and functional?		
3. Sediment accumulation?		
4. Condition of concrete/masonry?		
5. Outfall channels function, not eroding?		
6. If confined space entry is required; OSHA regulations should be followed.		
7. Other? (describe)		
2. Basin Bottom (Quarter-annually, After Major Storms)		
1. Excessive sedimentation?		
2. Any standing water?		
3. Structural Condition (Monthly or as needed)		
1. Structural repairs to inlet and outlets as needed?		
2. Any differential settlement?		

3. Other? (describe)		
4. Sediment		
1. Depth of sediment (inches)*		
2. Depth of oil (inches)**		
3. Sediment and oil have been removed		

*If measured depth of sediment is greater than 3 inches, the system shall be cleaned as per the manufacturer recommendations.
**Any presence of oil shall be removed immediately.

If any of the above inspection items are UNSATISFACTORY, list corrective actions and the corresponding completion dates below:

ACTIONS TO BE TAKEN:

COMMENTS:

Underground Infiltration System
Inspection and Maintenance

Project: _____

Location: _____

Site Status: _____

Date: _____ **Time:** _____

Inspector Signature: _____ **Inspector Name (print):** _____

Inspection/Maintenance Items	Satisfactory or Unsatisfactory	Comments/Corrective Action
1. Inlet/Outlet Structures (Quarter-annually, After Major Storms)		
1. Clear of debris and functional?		
2. Trash rack clear of debris and functional?		
3. Sediment accumulation?		
4. Condition of concrete/masonry?		
5. Outfall channels function, not eroding?		
6. If confined space entry is required; OSHA regulations should be followed.		
7. Other? (describe)		
2. Basin Bottom (Quarter-annually, After Major Storms)		
1. Excessive sedimentation?		
2. Any standing water?		
3. Structural Condition (Monthly or as needed)		
1. Structural repairs to inlet and outlets as needed?		
2. Any differential settlement?		

3. Other? (describe)		
4. Sediment		
1. Depth of sediment (inches)*		
2. Depth of oil (inches)**		
3. Sediment and oil have been removed		

*If measured depth of sediment is greater than 3 inches, the system shall be cleaned as per the manufacturer recommendations.
**Any presence of oil shall be removed immediately.

If any of the above inspection items are UNSATISFACTORY, list corrective actions and the corresponding completion dates below:

ACTIONS TO BE TAKEN:

COMMENTS:

Bio-filter System
Inspection and Maintenance Checklist

Project: _____

Location: _____

Site Status: _____

Date: _____ **Time:** _____

Inspector Signature: _____ **Inspector Name (print):** _____

Inspection/Maintenance Items	Satisfactory or Unsatisfactory	Comments/Corrective Action
1. Debris Cleanout	**(Monthly)**	
1. Bioretention & contributing areas clean of debris		
2. No dumping of yard waste into practice		
3. Litter (branches, etc.) have been removed		
4. Trash accumulated to reduce free movement of water through pipes.		
2. Vegetation	**(Monthly)**	
1. Plant height not less than design water depth		
2. Fertilized per specification		
3. Plant composition according to approved plans		
4. No placement of inappropriate plants		
5. Grass height not greater than 6-inches		
6. No evidence of erosion		
3. Check Dams/Energy Dissipators/Sumps	**(Monthly)**	
1. No evidence of sediment buildup		
2. Sumps should not be more than 50% full of sediment		
3. No evidence of erosion at downstream toe		
4. Dewatering	**(Monthly)**	
1. Dewater between storms		

2. No evidence of standing water		
5. Sediment Deposition	**(Annual)**	
1. Swale clean of sediments		
2. Sediments should be > 20% of swale design depth		
6. Outlet/Overflow Spillway	**(Annual, After Major Storm)**	
1. Good condition, no need for repair		
2. No evidence of erosion		
3. No evidence of any blockages		
7. Integrity of Filter Bed	**(Annual)**	
1. Filter bed has not been blocked or filled inappropriately		

ACTIONS TO BE TAKEN:

COMMENTS:

Appendix - E

HAMASPIK CHOICE

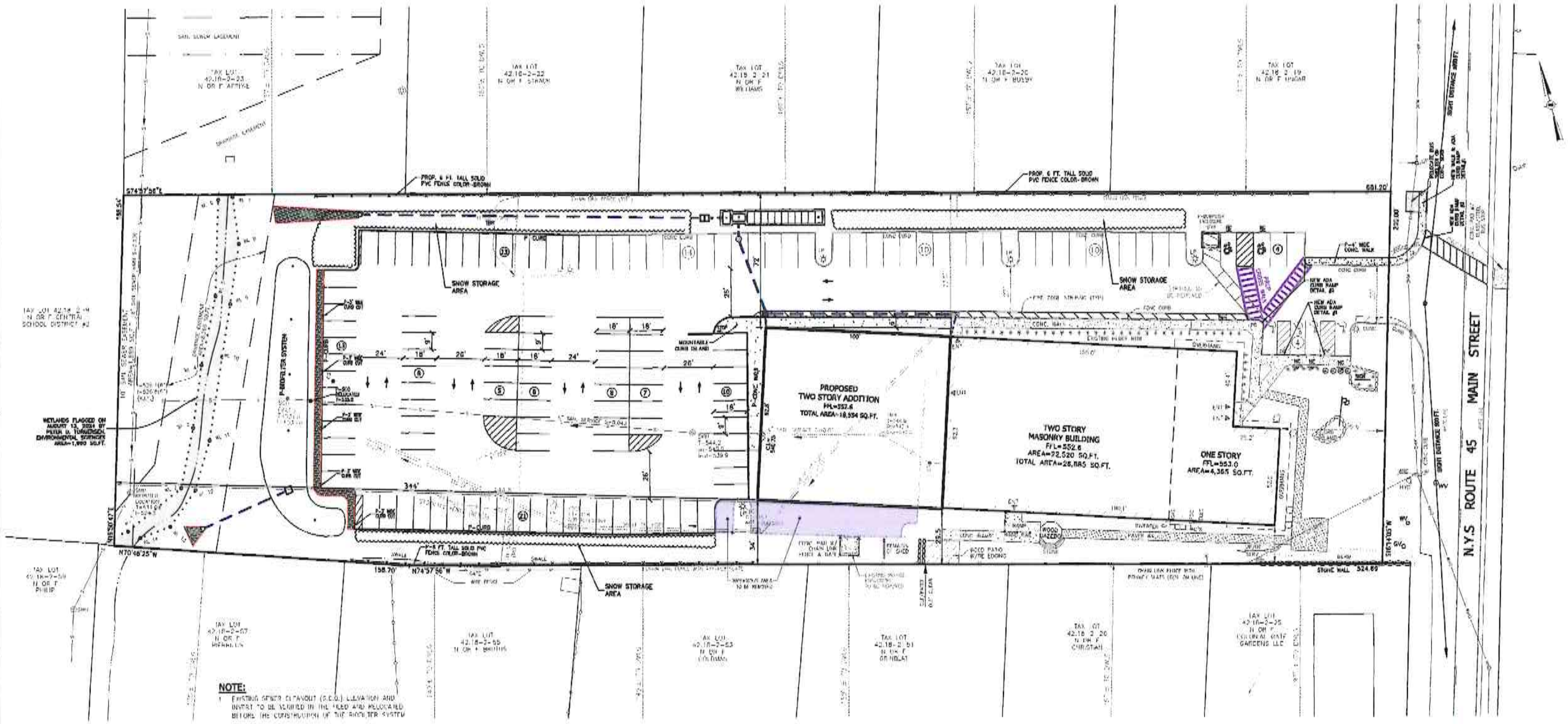
VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-E

CONSTRUCTION PLANS
IN
(11"X17") FORMAT

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
NEW CITY, NY 10956
TEL: (845) 634-4694
FAX: (845) 634-5543
E-MAIL: rnasher@anzny.com



NOTE:

1. EXISTING SEWER CLEANOUT (S.C.O.) ELEVATION AND INVERT TO BE VERIFIED IN THE FIELD AND RELOCATED BEFORE THE CONSTRUCTION OF THE BIOFILTER SYSTEM

NOTES:

1. THE TAX MAP DESIGNATION FOR THE PARCEL THAT IS THE SUBJECT OF THIS SITE PLAN IS SECTION 42.18, BLOCK 2, AND LOT 24, AS SHOWN ON THE VILLAGE OF NEW HEMPSTEAD TAX MAP.
2. AREA OF TRACT: 135,511 SQ.FT.
3. ZONE: NED
4. PROPOSED USE: PROFESSIONAL OFFICE
5. RECORD OWNER: ILLINOIS PROPERTIES 26 LLC, 51 FOREST ROAD, UNIT 316-24, MONROE, NY 10950
6. APPLICANT: ILLINOIS PROPERTIES 26 LLC, 51 FOREST ROAD, UNIT 316-24, MONROE, NY 10950
7. SCHOOL DISTRICT: EAST RAMAPO CENTRAL
8. FIRE DISTRICT: MOLESTON
9. WATER SUPPLY BY: VEOLIA WATER NEW YORK, INC.
10. DATUM: NAVD
11. BEFORE ANY WORK SHALL BE AUTHORIZED, A PRE-CONSTRUCTION MEETING (PCM) SHALL BE HELD ON-SITE WITH THE VILLAGE ENGINEER. AT SUCH TIME A FULL CONSTRUCTION SCHEDULE WILL BE REQUIRED AND STRICTLY ENFORCED. ANY CHANGES OR AMENDMENTS TO THE SCHEDULE MUST BE FILED WITH THE VILLAGE ENGINEER AS DIRECTED DURING THE PCM.
12. ALL UTILITIES UNDERGROUND, ELECTRIC SERVICE SHALL BE IN CONDUIT OF NOT LESS THAN TWO-INCH DIAMETER.
13. THERE ARE NO COVENANTS, DEED RESTRICTIONS, EASEMENTS OR OTHER RESERVATIONS OF LAND RELATIVE TO THIS SITE, EXCEPT AS SHOWN ON THIS PLAN, SUBJECT TO THE FINDINGS OF A COMPLETE AND UP-TO-DATE TITLE SEARCH.
14. NO SIGN(S) OTHER THAN THOSE SHOWN ON THESE DRAWINGS ARE PERMITTED WITHOUT PRIOR APPROVAL OF THE PLANNING BOARD. TENANTS ARE TO BE ADVISED OF THIS.
15. ALL CONSTRUCTION SHALL ADHERE TO ALL APPLICABLE NEW YORK STATE BUILDING CODES, AND CURRENT VILLAGE OF NEW HEMPSTEAD SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
16. ALL DRAWINGS AND PLANS, REQUIRED BY SUBSECTION B(1) OF THIS SECTION SHALL BE SIGNED AND SEALED/STAMPED BY A NEW-YORK-STATE-LICENSED PROFESSIONAL ENGINEER, REGISTERED ARCHITECT OR LAND SURVEYOR, THE PROFESSION OF WHICH LICENSED SIGNATORY SHALL BE DETERMINED BY THE VILLAGE ENGINEER. ADDITIONALLY, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, AN AS-BUILT LANDSCAPING DRAWING SHALL BE SUBMITTED WHICH IS CERTIFIED BY A LANDSCAPE ARCHITECT LICENSED TO PRACTICE IN THE STATE OF NEW YORK. SAID CERTIFIED LANDSCAPING DRAWING SHALL INDICATE DEGREE OF COMPLETION OF SAID LANDSCAPING IMPROVEMENTS IN ACCORDANCE WITH THE APPROVED SITE PLAN. SAID AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE BUILDING INSPECTOR, VILLAGE PLANNER AND VILLAGE ENGINEER FOR APPROVAL.
17. NO LAND DISTURBANCE ACTIVITIES WILL BE PERMITTED UNTIL ALL EROSION CONTROL MEASURES REQUIRED AS PART OF THE EROSION CONTROL PLAN ARE INSTALLED TO THE SATISFACTION OF THE VILLAGE ENGINEER.
18. ALL TRAFFIC SIGNS SHALL CONFORM TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
19. IF ANY EXISTING TREES THAT ARE DESIGNATED TO REMAIN ON THESE PLANS ARE DESTROYED DURING CONSTRUCTION, OR OTHERWISE, THEY SHALL BE REPLACED IN KIND WITH A MINIMUM OF 1.5 TIMES THE CALIPER OF THE TREE REMOVED. MINIMUM CALIPER OF EACH INDIVIDUAL REPLACEMENT TREE SHALL BE FOUR INCHES.
20. INSTALLATION OF ALL UTILITIES AND SITE WORK SHALL BE IN CONFORMANCE WITH OSHA REGULATIONS.
21. RETAINING WALLS OVER FOUR FEET IN HEIGHT SHALL BE DESIGNED AND INSPECTED BY A NEW-YORK-STATE-LICENSED PROFESSIONAL ENGINEER DURING INSTALLATION AND THE ADEQUACY OF THE RETAINING WALL SHALL BE CERTIFIED IN WRITING PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY. WALLS HIGHER THAN FOUR FEET WILL ALSO REQUIRE A BARRIER FENCE ALONG THE TOP OF THE ENTIRE WALL.
22. IT IS THE RESPONSIBILITY OF THE OWNER AND CONTRACTOR(S) TO PROTECT A PROPERTY SITE, AND ITS PERIMETER, UNDER/DURING CONSTRUCTION IN ACCORDANCE WITH THE RELEVANT OSHA REGULATIONS, AS WELL AS THE CONTROLLING NEW YORK STATE AND LOCAL LAWS/REGULATIONS/CODES, AS DETERMINED BY THE VILLAGE'S ENGINEER, BUILDING INSPECTOR AND/OR THE GOVERNING VILLAGE BOARDS, IN ORDER TO MAINTAIN THE HEALTH AND SAFETY OF WORKERS AND THE GENERAL PUBLIC, AS WELL AS PREVENTING UNAUTHORIZED ACCESS. THE SAME NOT LIMITED TO REQUIRING A MINIMUM SIX FOOT-HIGH TEMPORARY FENCE WITH A LOCKED GATE.
23. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE TEMPORARY FENCING TO PROTECT ANY AREA WITH AN EXCAVATION EXCEEDING FOUR FEET IN DEPTH IF LEFT UNATTENDED OVERNIGHT.
24. IN THE EVENT OF UNPLANNED/UNSCHEDULED CONSTRUCTION INACTIVITY FOR A DURATION GREATER THAN 30 CONSECUTIVE CALENDAR DAYS WITHOUT WRITTEN APPROVAL FROM THE VILLAGE ENGINEER, CODE ENFORCEMENT OFFICER OR BUILDING INSPECTOR, THE BOND ESTABLISHED FOR THE PROJECT UPON SITE PLAN APPROVAL MAY BE FORFEITED TO THE VILLAGE FOR SITE RESTORATION ENHANCEMENT ACTIVITIES AND A STOP WORK ORDER WILL BE ISSUED FOR THE PROJECT UNTIL SUCH TIME THAT THE REAUTHORIZES WORK UNDER THE PREVIOUS APPROVAL, AND A NEW BOND IS PROVIDED.
25. THE ZONING BOARD OF APPEALS OF THE VILLAGE OF NEW HEMPSTEAD, ON ______ AS CASE NUMBER ______ IN THE APPLICATION OF ______ GRANTED A VARIANCE(S) FOR ______
26. THE APPLICATIONS TO THE PLANNING BOARD, ZONING BOARD OF APPEALS AND BOARD OF TRUSTEES, OF THE VILLAGE OF NEW HEMPSTEAD, AS MAY BE APPLICABLE, SHALL BE REVIEWED IN COMPLIANCE WITH ARTICLE 12-B OF NEW YORK STATE GENERAL MUNICIPAL LAW.
27. THE UNDERSIGNED, OWNER AND/OR APPLICANT, AS A CONDITION OF APPROVAL OF THIS SITE PLAN, HEREBY AGREES TO COMPLETE THE WITHIN SITE DEVELOPMENT PLAN AS DRAWN AND ALL IMPROVEMENTS SHOWN THEREON. THE APPLICANT/OWNER IS AWARE THAT NO CHANGES IN THIS PLAN MAY BE MADE UNLESS APPROVED BY THE PLANNING BOARD.
28. IF THE LOWEST FLOOR TO BE SEWERED IS BELOW THE UPSTREAM SEWER MANHOLE RIME ELEVATION, AN EXTERIOR CHECK VALVE IS REQUIRED.
29. RESERVE PARKING SPACES SHALL BE CONSTRUCTED WITHIN SIX (6) MONTHS OF THE DATE OF WRITTEN NOTICE FROM THE PLANNING BOARD THAT SUCH SPACES HAVE BEEN DETERMINED TO BE NECESSARY.

VICINITY MAP
SCALE: 1"=300'

BULK REQUIREMENTS:

ZONE NED	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	2 ACRES	128,840 SF/2.957 ACS (NET)	128,840 SF/2.957 ACS (NET)
MINIMUM LOT FRONTAGE	150 FT	200 FT.	200 FT
MINIMUM LOT WIDTH	150 FT.	200 FT	200 FT
MINIMUM FRONT YARD	75 FT.	56.6 FT	56.6 FT
MINIMUM SIDE YARD	50 FT	20.6 FT.	20.9 FT *
MINIMUM TOTAL SIDE YARD	100 FT	98.1 FT.	92.6 FT. *
MINIMUM REAR YARD	50 FT	444.8 FT.	344 FT
MAXIMUM FLOOR AREA RATIO	0.30	0.24	0.38 *
MAXIMUM IMPERVIOUS SURFACE RATIO	0.75	0.51	0.63
MAXIMUM BUILDING STORIES	2 STORIES	2 STORIES	3 STORIES
MAXIMUM BUILDING HEIGHT	35 FT.	35 FT	45 FT.

ZONE CHANGE GRANTED BY THE VILLAGE BOARD ON OCTOBER 31, 2023
* DENOTES VARIANCE REQUIRED
* VARIANCE REQUIRED BUILDING LARGER THAN 20,000 SQ.FT.
PLANNING BOARD APPROVAL REQUIRED FOR WORK WITHIN 100 FT. WETLANDS BUFFER

LOT AREA CALCULATION:

GROSS LOT AREA	=135,511 SQ.FT.
− 95% AREA OF SANITARY SEWER EASEMENT	= 472 SQ.FT.
75% AREA OF DRAINAGE EASEMENT	= 6,199 SQ.FT.
NET LOT AREA	=128,840 SQ.FT.

LOT COVERAGE CALCULATION:

EXISTING

BUILDING	15,587 SQ.FT.
GAZEBO	214 SQ.FT.
CONCRETE WALK	2,827 SQ.FT.
PAVER WALK	1,392 SQ.FT.
MACADAM AREA	45,463 SQ.FT.
TOTAL	65,483 SQ.FT.

PROPOSED

BUILDING	15,597 SQ.FT.
ADDITION	9,277 SQ.FT.
GAZEBO	112 SQ.FT.
CONCRETE WALK	3,324 SQ.FT.
PAVER WALK	1,392 SQ.FT.
MACADAM AREA	49,664 SQ.FT.
RESERVED MACADAM AREA	2,167 SQ.FT.
TOTAL	81,673 SQ.FT.

PARKING:

1 SPACE/250 SQ.FT.
EXISTING:
26,885 SQ.FT./ 250 SQ.FT. = 107.5 OR 108 SPACES REQUIRED
113 SPACES PROVIDED
PROPOSED:
26,885 SQ.FT.(EXISTING) + 18,554 SQ.FT.(ADDITION) = 45,439 SQ.FT.
45,439 SQ.FT./ 250 SQ.FT. = 181.8 OR 182 SPACES REQUIRED
135 SPACES PROVIDED
* VARIANCE FOR 47 SPACES REQUESTED

SITE ADDRESS:

775 ROUTE 45 (NORTH MAIN STREET)
SPRING VALLEY, NY 10977

DRAWING LIST

DRAWING No.	TITLE	ORIGIN DATE	REVISION DATE
DRAWING 1	SITE PLAN	10-31-2022	12-17-2024
DRAWING 2	EXISTING CONDITION PLAN	10-31-2022	12-17-2024
DRAWING 3	AERIAL NEIGHBORHOOD PLAN	10-31-2022	12-17-2024
DRAWING 4	GRADING PLAN	11-15-2023	12-17-2024
DRAWING 5	DRAINAGE DETAILS - 1	11-15-2023	12-17-2024
DRAWING 6	DRAINAGE DETAILS - 2	04-12-2024	12-17-2024
DRAWING 7	EROSION & SEDIMENT CONTROL PLAN	11-15-2023	12-17-2024
DRAWING 8	LIGHTING PLAN	11-15-2023	12-17-2024
DRAWING 9	FIRE TRUCK RADIUS PLAN	11-15-2023	12-17-2024
DRAWING 10	TREE REMOVAL PLAN	06-24-2024	09-11-2024
DRAWING L-701	PLANTING PLAN		

LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING WATER MAIN
- EXISTING FIRE HYDRANT
- EXISTING GAS LINE
- EXISTING CATCH BASIN
- EXISTING DRAINAGE MANHOLE
- EXISTING STORM DRAIN LINE
- EXISTING SEWER MANHOLE
- EXISTING SEWER LINE
- EXISTING SPOT ELEVATION
- EXISTING SIGN
- EXISTING LIGHT POLE
- EXISTING UTILITY POLE
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING CHAIN LINK FENCE
- EXISTING STONEWALL

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

REVISION	DATE	DESCRIPTION
8	12-17-24	PER VILLAGE ENGINEER
7	9-23-24	RESURVEY & PER PB MTG 8-6-24
6	4-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DPW & NYSDOT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. DWLGS.
1	2-6-23	REVISE ADDITION & PARKING

ATZL, NASHER & ZIGLER P.C.
ENGINEERS SURVEYORS PLANNERS
232 North Main Street
New City, New York 10956
Tel: (845) 634-4694
Fax: (845) 634-5543
E-mail: info@anzny.com
Web: www.ANZNY.com

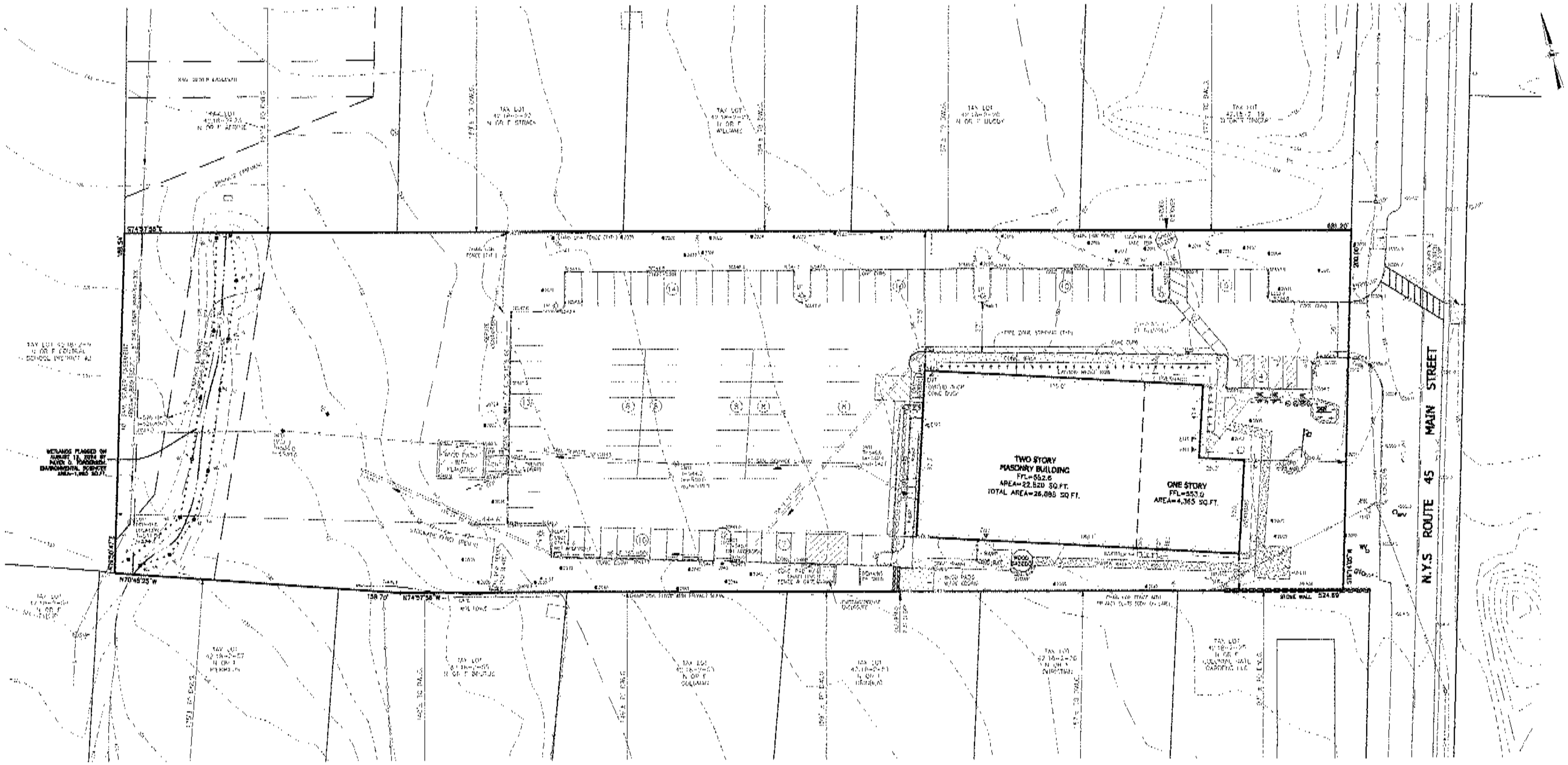
PROJECT:
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:
SITE PLAN

DRAWN BY: LF	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 1

P:\DRAWINGS\5030\5030 SITE PLAN & TEST HOLE 12-17-24.DWG



TREE LIST

NO.	SIZE	TYPE	CONDITION
2001	12"	BIRCH	GOOD
2002	10"	PINE	GOOD
2003	14"	BIRCH	GOOD
2004	10"	PINE	GOOD
2005	9"	PINE	GOOD
2006	9"	BERRY	GOOD
2007	10"	BERRY	GOOD
2008	8"	BERRY	GOOD
2009	9"	BERRY	GOOD
2010	13"	LINDEN	GOOD
2011	17"	LINDEN	GOOD
2012	15"	LINDEN	GOOD
2013	10"	PINE	GOOD
2014	12"	PINE	GOOD
2015	10"	PINE	GOOD
2016	8"	PINE	GOOD
2017	10"	PINE	GOOD
2018	12"	PINE	POOR
2019	12"	OAK	GOOD
2020	13"	OAK	GOOD
2021	21"	PINE	POOR
2022	14"	FIR	POOR
2023	20"	PINE	GOOD
2024	10"	PINE	POOR
2025	14"	ELM	POOR
2026	8"	PINE	POOR
2027	10"	PINE	POOR
2028	14"	PINE	POOR
2029	14"	PINE	POOR
2030	20"	PINE	POOR
2031	10"	MAPLE	GOOD
2032	12"	TAIL MAPLE	GOOD
2033	12"	QUAKING POPLAR	POOR
2034	10"	MAPLE	POOR
2035	12"	LOCUST	POOR
2036	14"	MAPLE	POOR
2037	40"	MAPLE	GOOD
2038	8"	MAPLE	POOR
2039	14"	ELM	POOR
2040	12"	HICKORY	GOOD
2041	12"	MAPLE	GOOD
2042	12"	MAPLE	GOOD
2043	10"	MAPLE	GOOD
2044	20"	MAPLE	GOOD
2045	10"	PINE	GOOD
2046	14"	MAPLE	GOOD
2047	17"	MAPLE	GOOD

TREE LEGEND

- DENOTES EXISTING TREE TO REMAIN
- X DENOTES EXISTING TREE TO BE REMOVED
- DENOTES EXISTING TREE TO BE PROTECTED

BULK REQUIREMENTS:

ZONE: [illegible]	REQUIRED	EXISTING
MINIMUM LOT AREA	2 ACRES	126,298 SF/2.899 ACRES
MINIMUM LOT FRONTAGE	150 FT	200 FT
MINIMUM LOT WIDTH	150 FT	200 FT
MINIMUM FRONT YARD	75 FT	56.6 FT
MINIMUM SIDE YARD	50 FT	20.8 FT
MINIMUM TOTAL SIDE YARD	100 FT	98.1 FT
MINIMUM REAR YARD	50 FT	444.6 FT
MAXIMUM FLOOR AREA RATIO	0.15	0.21
MAXIMUM IMPERVIOUS SURFACE RATIO	0.25	0.52
MAXIMUM BUILDING STORIES	2 STORIES	2 STORIES
MAXIMUM BUILDING HEIGHT	35 FT	35 FT

SPECIAL PERMIT REQUIRED FROM THE VILLAGE BOARD
VARIANCE REQUIRED BUILDING LARGER THAN 20,000 SQ.FT.
PLANNING BOARD APPROVAL REQUIRED FOR WORK WITHIN 100 FT. WETLANDS BUFFER

LOT AREA CALCULATION:

GROSS LOT AREA	135,631 SQ.FT.
- 25% AREA OF SANITARY SEWER EASEMENT	- 479 SQ.FT.
- 25% AREA OF DRAINAGE EASEMENT	- 6,192 SQ.FT.
- 25% WETLAND AREA	- 1,860 SQ.FT.
NET LOT AREA	126,298 SQ.FT.

LOT COVERAGE CALCULATION:

EXISTING

BUILDING	15,507 SQ.FT.
GAZEBO	214 SQ.FT.
CONCRETE WALK	2,785 SQ.FT.
PAVER WALK	2,525 SQ.FT.
MACADAM AREA	45,462 SQ.FT.
TOTAL	66,493 SQ.FT.

PARKING:

1 SPACE/250 SQ.FT.
EXISTING:
26,885 SQ.FT./250 SQ.FT. 107.5 OR 108 SPACES REQUIRED
113 SPACES PROVIDED

LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING WATER MAIN
- EXISTING GAS CUPBOARD
- EXISTING GAS LINE
- EXISTING CATCH BASIN
- EXISTING DRAINAGE MANHOLE
- EXISTING STORM DRAIN LINE
- EXISTING SEWER MANHOLE
- EXISTING SEWER LINE
- EXISTING SPOT ELEVATION
- EXISTING TREE
- EXISTING LIGHT POST
- EXISTING UTILITY POLE
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING CHAIN LINK FENCE
- EXISTING STOCKADE

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

REVISION	DATE	DESCRIPTION
8	12-12-24	PER VILLAGE ENGINEER
7	9-23-24	RESUBMIT & PER PB MTG 7-8-24
6	4-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DPW & NYSDOT COMMENTS
4	4-18-23	NEW ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. DWLGS
1	2-6-23	REVISE ADDITION & PARKING

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
232 North Main Street
New City, New York 10956
Tel. (845) 634-4694
Fax (845) 634-5543
E-mail: info@anzny.com
Web: www.ANZNY.com

PROJECT:

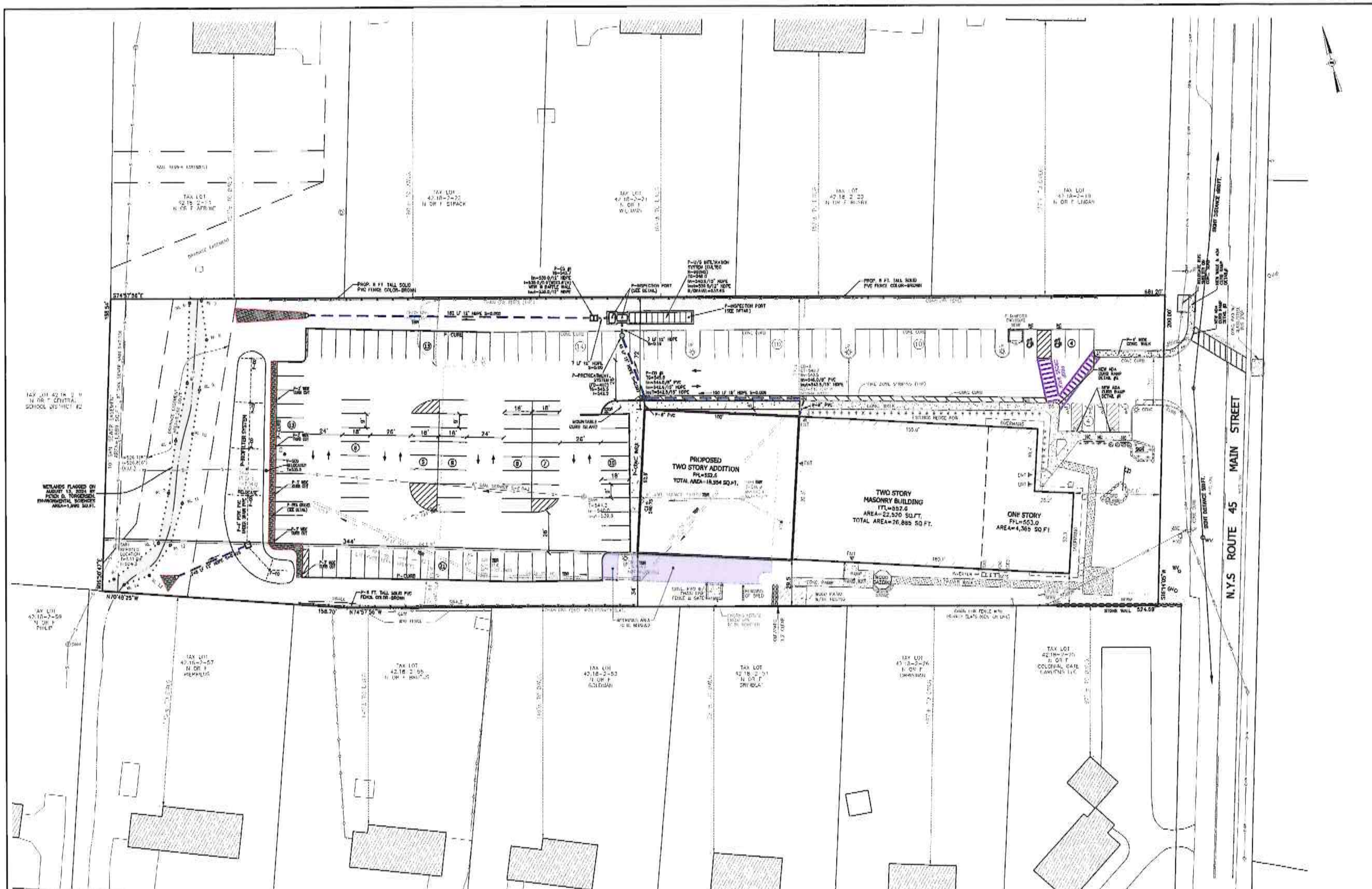
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:

EXISTING CONDITION

DRAWN BY:	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO. 5030	DRAWING NO. 2



8	12-17-24	PER VILLAGE ENGINEER
7	9-23-24	RESURVEY & PER PB MTG 8-6-24
6	4-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DPW & NYSDOT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. DWLGS
1	2-6-23	REVISE ADDITION & PARKING
REVISION	DATE	DESCRIPTION

ATZL, NASHER & ZIGLER P.C.
ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, New York 10956
Tel. (845) 634-4694
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E mail: info@anzny.com
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PROJECT:

HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:

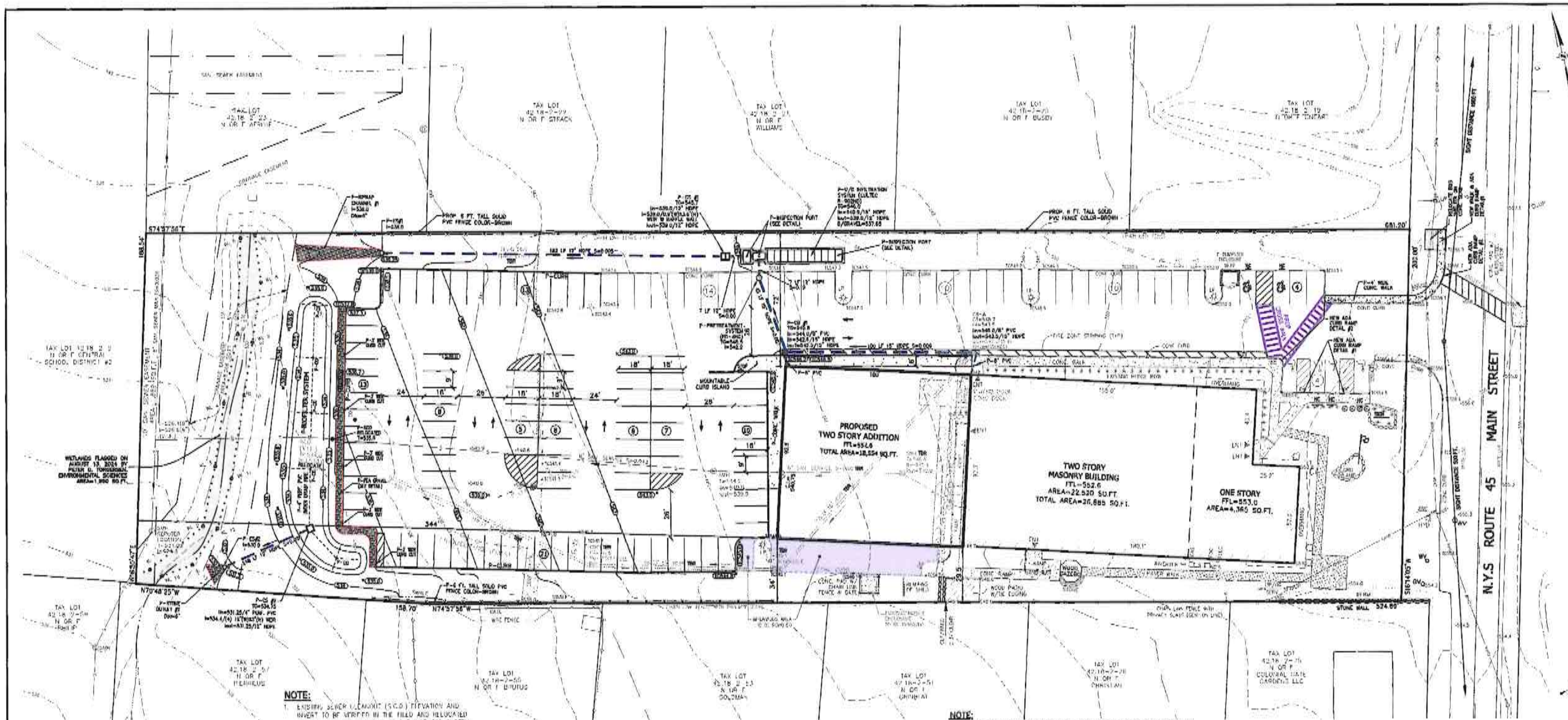
AERIAL NEIGHBORHOOD PLAN

DRAWN BY: LF	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 3

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

P:\DRAWINGS\5030\5030 SITE PLAN & TEST HOLE 12-27-24.DWG



NOTE:

1. EXISTING SEWER CLEANOUT (S.C.O.) ELEVATION AND INVERT TO BE VERIFIED IN THE FIELD AND RELOCATED BEFORE THE CONSTRUCTION OF THE BIOFILTER SYSTEM

NOTE:

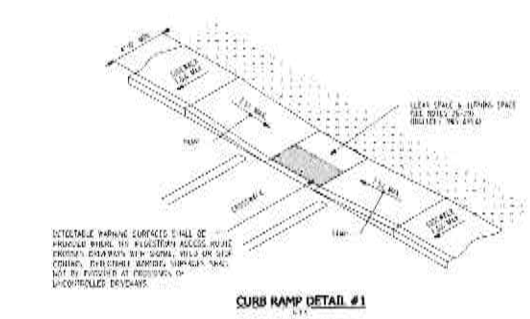
1. ALL SURFACE RUNOFF FROM THE ROOF (TWO STORY ADDITION AND TWO STORY MASONRY BUILDING) SHALL DRAIN TO CATCH BASIN A AND PROPOSED CATCH BASIN No. 1 (CB A AND P-CB #1)

LEGEND

Existing		Proposed	
	EXISTING 2' CONTOUR		PROPOSED 2' CONTOUR
	EXISTING 10' CONTOUR		PROPOSED 10' CONTOUR
	EXISTING WATER MAIN		PROPOSED WATER SERVICE
	EXISTING FIRE HYDRANT		PROPOSED WATER VALVE
	EXISTING GAS LINE		PROPOSED FIRE HYDRANT
	EXISTING CATCH BASIN		PROPOSED GAS SERVICE
	EXISTING DRAINAGE MANHOLE		PROPOSED GAS VALVE
	EXISTING STORM DRAIN LINE		PROPOSED CATCH BASIN
	EXISTING SEWER MANHOLE		PROPOSED STORM DRAIN LINE
	EXISTING SEWER LINE		PROPOSED SEWER CLEANOUT
	EXISTING SPOT ELEVATION		PROPOSED SEWER HOUSE CONNECTION
	EXISTING SIGN		PROPOSED SPOT ELEVATION
	EXISTING LIGHT POLE		PROPOSED WATER SERVICE
	EXISTING UTILITY POLE		PROPOSED GAS SERVICE
	EXISTING WATER VALVE		PROPOSED UNDERGROUND ELECTRIC LINE
	EXISTING GAS VALVE		PROPOSED ROOF DRAIN
	EXISTING CHAIN LINK FENCE		PROPOSED WATERSHED
	EXISTING STONEWALL		

TURNING SPACE AND CLEAR SPACE NOTE:

26. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE OR THE TOP OF CURB RAMP, AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
27. WHERE THERE ARE NO VERTICAL CONSTRAINTS AT THE BACK OF SIDEWALK, (E.G., VERTICAL CURBS, BUILDINGS, FENCES) THE TURNING SPACE DIMENSIONS SHALL BE 4'-0" x 4'-0" MINIMUM. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4'-0" x 5'-0" MINIMUM, THE 5'-0" DIMENSION SHALL BE IN THE DIRECTION OF THE RAMP RUN.
28. TURNING SPACES SHALL NOT BE DESIGNED WITH A SLOPE GREATER THAN 1.5% IN ANY DIRECTION, WHILE PROVIDING POSITIVE DRAINAGE. THE MAXIMUM SLOPE FOR WORK ACCEPTANCE IS 2.0%. THE FOLLOWING EXCEPTIONS ARE ALLOWED:
A. WHERE PEDESTRIAN STREET CROSSINGS ARE PROVIDED AT INTERSECTIONS WHERE THERE IS NO YIELD OR STOP SIGN, OR WHERE THERE IS A TRAFFIC SIGNAL THAT IS DESIGNED FOR THE GREEN PHASE, AND AT MIDBLOCK CROSSINGS, THE CROSS SLOPE OF THE TURNING SPACE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE. WHEN A RAMP EXISTS BETWEEN THE TURNING SPACE AND THE CURB, THE CROSS SLOPE OF THE TURNING SPACE SHOULD BE LESS STEEP THAN THE ROADWAY GRADE AND AS FLAT AS PRACTICABLE WHENEVER POSSIBLE.
29. BELOW THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE OF 4'-0" x 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.



DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE THE PEDESTRIAN ACCESS ROUTE CROSSES DRIVEWAYS WITH SIGNAL, YIELD OR STOP CONTROL. DETECTABLE WARNING SURFACES SHALL NOT BE PROVIDED AT CROSSINGS OF UNCONTROLLED DRIVEWAYS.

CURB RAMP DETAIL #1

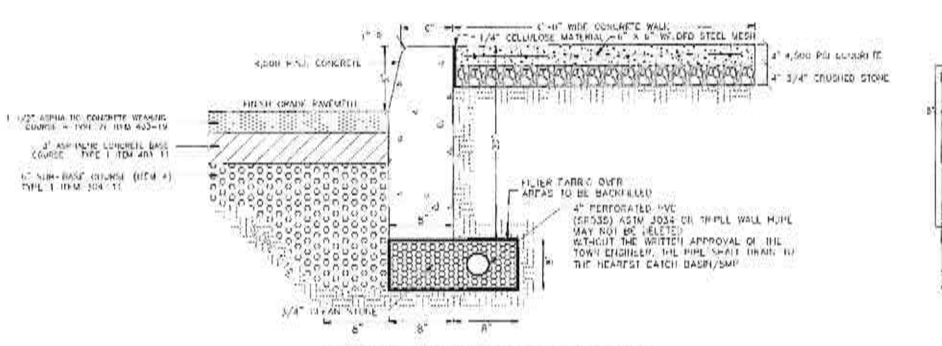
DETECTABLE WARNING NOTES (608-01 SHEET 2 OF 12)

2. DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE THE PEDESTRIAN ACCESS ROUTE CROSSES DRIVEWAYS WITH SIGNAL, YIELD OR STOP CONTROL. DETECTABLE WARNING SURFACES SHALL NOT BE PROVIDED AT CROSSINGS OF UNCONTROLLED DRIVEWAYS.

CURB RAMP NOTES (608-01 SHEET 1 OF 12)

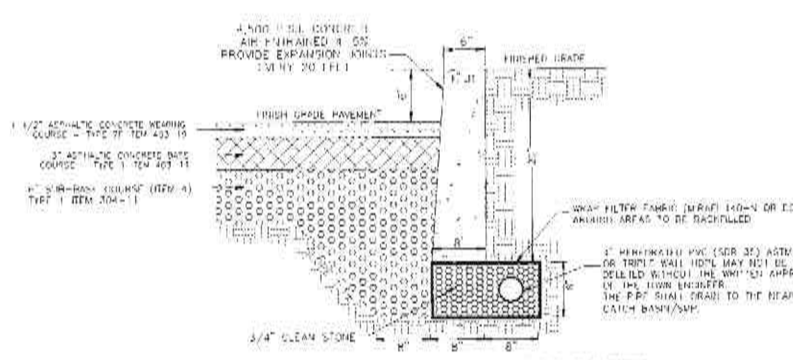
29. BELOW THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE OF 4'-0" x 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.

CURB RAMP DETAIL #2



CONCRETE CURB & OFFSITE SIDEWALK DETAIL

N.T.S.



ASPHALTIC CONCRETE PAVEMENT & CONCRETE CURB DETAIL FOR PARKING AREAS

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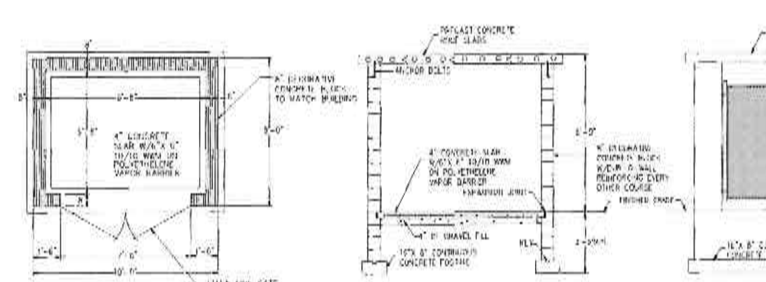
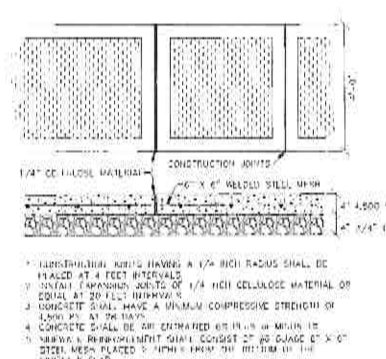


REFUSE DUMPSTER ENCLOSURE DETAIL

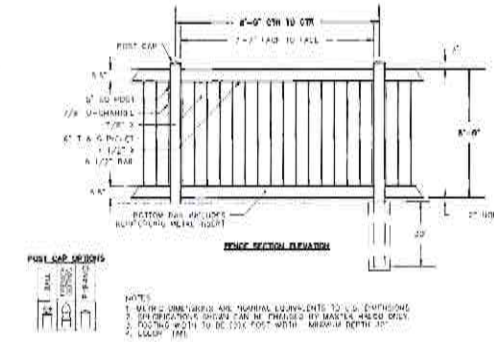
N.T.S.



1. CONSTRUCTION JOINTS HAVING A 1/4 INCH RADIUS SHALL BE PLACED AT 4 FEET INTERVALS.
2. INSTALL EXPANSION JOINTS OF 1/4 INCH CELLULOSE MATERIAL OR EQUAL AT 20 FEET INTERVALS.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS.
4. CONCRETE SHALL BE AIR ENTRAINED 6% PLUS or MINUS 1%.
5. SIDEWALK REINFORCEMENT SHALL CONSIST OF #6 GUAGE 6" X 6" STEEL MESH PLACED 2 INCHES FROM THE BOTTOM OF THE SIDEWALK SLAB.

4 FEET WIDE CONCRETE WALK DETAIL

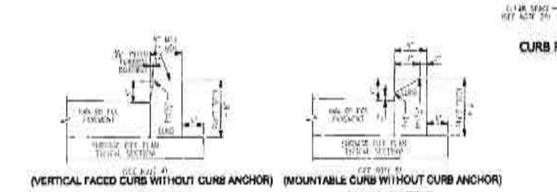
N.T.S.



NOTES:
1. METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS.
2. SPECIFICATIONS SHOWN CAN BE CHANGED BY MASTER HALCO ONLY.
3. FOOTING WIDTH TO BE (3X) POST WIDTH. MINIMUM DEPTH 30".
4. COLOR: TAN

6 FT. TALL PVC FENCE DETAIL

N.T.S.



(VERTICAL FACED CURB WITHOUT CURB ANCHOR)

TYPE VF6 DETAIL

N.T.S.

(MOUNTABLE CURB WITHOUT CURB ANCHOR)

TYPE M6 DETAIL

N.T.S.

NOTES:

1. USE CURB AND CURB AND GUTTER MEETING THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF SECTION 609 OF THE STANDARD SPECIFICATIONS.
2. CURB ANCHOR (NEW CONSTRUCTION): THIS DETAIL SHOWS PLACEMENT OF CURB ANCHORS. PUSH-IN TYPE ANCHORS MAY BE USED (SHOWN ON THE STANDARD SHEET FOR LONGITUDINAL TIES).
3. CURB TYPES VFA, VF6A AND M6A REQUIRE CURB ANCHOR. CURB AND GUTTER TYPES VF6G AND M6G REQUIRE ANCHORS WHEN PLACED ADJACENT TO CONCRETE PAVEMENT OR SHOULDER.
4. WHEN VERTICAL FACED CURB LESS THAN 9" WIDE IS USED WITH CURB BOXES CB1, CB2, AND CB3 AND CONCRETE SIDEWALK IS PLACED ADJACENT TO THIS CURB, SEE STANDARD SHEET MISCELLANEOUS CURB DETAILS FOR CURB BOX JOINTS.
5. USE WITH CURB BOXES: CM1, CM2, AND CM3.

REVISION	DATE	DESCRIPTION
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7	9-23-24	RESURVEY & PER PB MTG 8-6-24
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PROJECT:

HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE

GRADING PLAN

DRAWN BY: LF	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 4

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

SPECIFICATIONS FOR BIOFILTER

MATERIAL SPECIFICATIONS:

THE ALLOWABLE MATERIALS TO BE USED IN BIOFILTER AREA ARE DETAILED IN TABLE 1

PLANTING SOIL:

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIOFILTER AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF NOXIOUS WEEDS.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE 5.2 - 7.0
ORGANIC MATTER 1.5 - 4%
MAGNESIUM 35 LB./AC
PHOSPHORUS P2O5 75 LB./AC
POTASSIUM K2O 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

ALL BIOFILTER AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED. SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

COMPACTION:

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIOFILTER AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIOFILTER AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND STORAGE VOLUMES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIOFILTER FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIOFILTER FACILITY BEFORE BACK FILLING THE REQUIRED SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACK FILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACK FILLING THE BIOFILTER FACILITY, PLACE SOIL IN LIFTS 12" OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIOFILTER BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIOFILTER MATERIALS BY HAND OR WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

PLANT INSTALLATION:

1. MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIOFILTER AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
2. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE.
3. ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
4. TREES SHALL BE BRACED USING 2" X 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
5. GRASSES AND LEGUME SEED SHALL BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON GRASS GROUND COVER PLANTING SPECIFICATIONS.
6. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIOFILTER STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

MISCELLANEOUS:

THE BIOFILTER FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

TABLE 1: MATERIALS SPECIFICATIONS FOR BIOFILTER

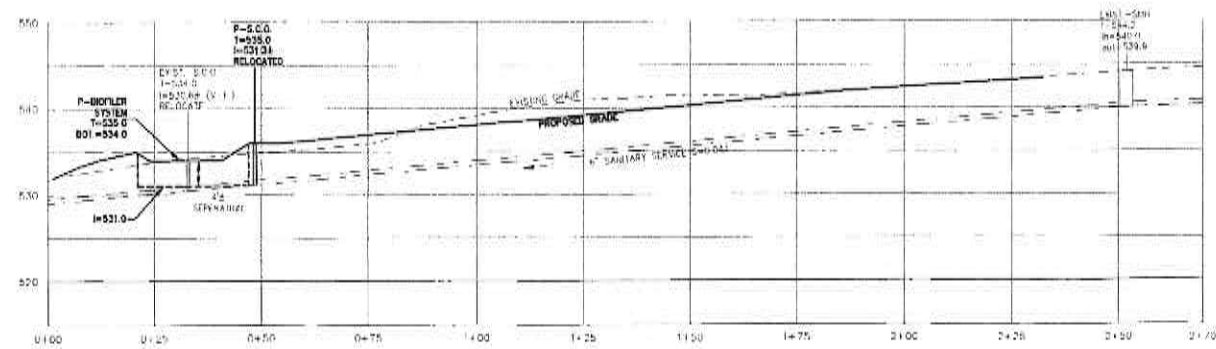
PARAMETER	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE YOUR LOCAL NRCS STANDARDS AND SPECIFICATIONS GUIDANCE	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL	SAND 35 - 60% SILT 30 - 55% CLAY 10 - 25%	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM OR LOAM MULCH
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM
PEA GRAVEL DIAPHRAGM AND CURTAIN DRAIN	PEA GRAVEL: ASTM D 448 ORNAMENTAL STONE: WASHED COBBLES	PEA GRAVEL: NO. 6 STONE: 2" TO 5"	
GEOTEXTILE	CLASS "C" APPARENT OPENING SIZE (ASTM D 4751) GRAB TENSILE STRENGTH (ASTM D-4632) BURST STRENGTH (ASTM D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY

PLANTING NOTES, MAINTENANCE AND SPECIFICATION:

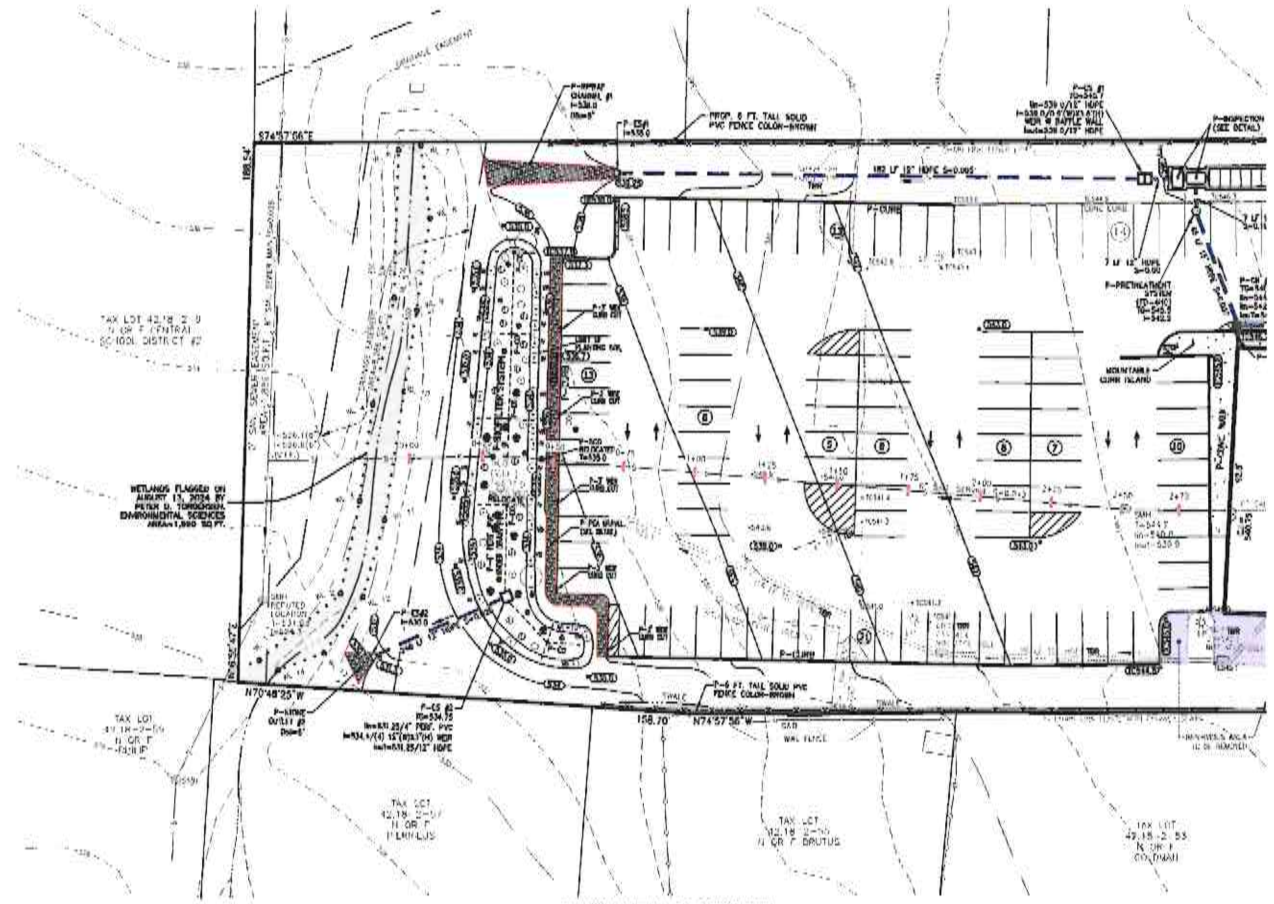
1. ALL PLANTING SHALL BE LOCATED, INSPECTED AND APPROVED BY A CERTIFIED LANDSCAPE ARCHITECT.
2. CONTRACTOR SHALL CHECK SOIL PH PRIOR TO START OF WORK AND AMEND AS REQUIRED TO BALANCE REQUIRED PH RANGE OF 5.2-7.0.
3. PLANTS SHALL BE MIXED IN GROUP IN ALL DESIGNATED ZONES AS SHOWN ON DRAWING.
4. PLANTS TO BE PLACED AT APPROXIMATE SPACING THROUGHOUT IN ZONES AS SHOWN ON DRAWING.
5. PLANTS TO BE PLACED IN GROUPS IN ZONES AS SHOWN ON DRAWING.
6. ALL PLANTS SHALL BE NURSERY GROWN UNLESS OTHERWISE SPECIALLY PERMITTED IN EACH INSTANT.
7. PLANTS SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND BE DENSELY FOLIATED WHEN IN LEAF.
8. PLANTS SHALL BE VIGOROUS AND FREE FROM DEFECTS, DISEASE, INSECT PESTS, EGGS OR LARVAE, SUN SCALES, INJURIES AND ABRASIONS OF THE BARK. THEY SHALL HAVE WELL-DEVELOPED ROOT SYSTEMS.
9. PLANTS SHALL BE CONTAINER GROWN OR BURLAP BALLED. FRESHLY DUG PLANTS, HEELED IN PLANTS OR PLANTS FROM COLD STORAGE SHALL NOT BE ACCEPTABLE.
10. MEASUREMENT OF SHRUBS SHALL BE TAKEN WHEN THEIR BRANCHES ARE IN NORMAL POSITION. THE HEIGHT AND SPREAD DIMENTION SHALL BE APPROVED BY A CERTIFIED LANDSCAPE ARCHITECT.
11. GROUND COVER PLANTS SHALL BE FURNISHED IN POTS, UNLESS OTHERWISE SPECIFIED. THE PLANT SHALL HAVE SUFFICIENT GROWTH TO HOLD SOIL IN PLACE WHEN REMOVE FROM THE POT.
12. ALL THE PLANT SHALL BE SELECTED AND PLANTED AS SPECIFIED IN THE TABULATE LIST ABOVE ACCORDING TO THE NYSDEC STORMWATER MANAGEMENT DESIGN MANUAL IN APPENDIX H.
13. PLANTING SOIL SHALL BE COMPOSED OF A MIXTURE OF ONE PART TOPSOIL AND ONE PART ROOTED MANURE OR PEAT.
14. MULCH SHALL BE IN CONFORMANCE WITH AS SPECIFIED IN NOTE #1 UNDER THE PLANT INSTALLATION GUIDELINE.
15. FERTILIZER SHALL BE A STANDARD COMMERCIAL GRADE OF ORGANIC OR INORGANIC FERTILIZER OF (5 10 5) OR APPROVED EQUAL.
16. ADDITIONAL CRUSHED STONE 1"-2" DIAMETER SHALL BE PLACED A MINIMUM OF 12" BELOW IN EXCAVATED TREE PITS BY OVER DIGGING DEEPER PITS TO A MINIMUM OF 12" DEPTH OR AS DIRECTED, IF THE NATURAL DRAINAGE IS UNSUITABLE FOR PROPER DRAINAGE FROM PITS.
17. PLANT PITS SHALL BE 2X THE WIDTH OF ROOT BALL AND 6". REMOVE EXISTING SOIL FROM PLANT PIT AND BACKFILL WITH A MIXTURE OF ONE PART PEAT HUMUS, ONE PART DEHYDRATED COW MANURE AND FOUR PARTS TOPSOIL. MIX 5-10-5 (50%) SLOW-RELEASE FERTILIZER (ROOTS OR RAPID GRO) IN ALL PLANTING BEDS AT SPECIFIED RATE. FOR EVERGREEN PLANTING ADD 1 lb. per 100 square ft. OF PLANT BED AREA OF AMMONIUM SULFATE AND SUPERPHOSPHATE.
18. MAINTENANCE OF ALL PLANTS SHALL BE REQUIRED FROM THE TIME OF PLANTING UNTIL THE INITIAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, TIGHTENING, AND REPAIRING, RESETTING PLANTS TO PROPER GRADES OR UPRIGHT POSITION AND REMOVAL OF DEAD MATERIALS. NO PLANTS WILL BE ACCEPTABLE UNLESS THEY SHOW A HEALTHY AND SATISFACTORY FOLIAGE CONDITION.

P-BIOFILTER PLANT LIST PER NYSDEC STORMWATER MANAGEMENT DESIGN MANUAL

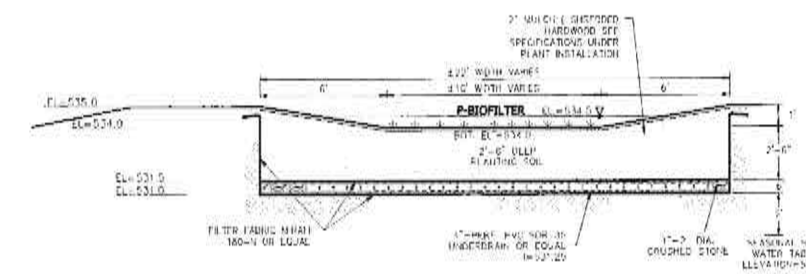
PLANT NAME	SYMBOL	CONT	CAL	QUANTITY
TREE				
RIVER BIRCH (BETULA NIGRA)	BN	B & B	2 1/2"	2
SHRUB				
WINTERBERRY (ILEX VERTICILLATA)	IV	30-36" 5 GAL		15
NORTHERN BURGUNDY ARROWWOOD VIBURNUM (VIBURNUM DENTATUM)	VD	5 GAL		3
LEATHERLEAD VIBURNUM (VIBURNUM RHYTIDOPHYLLUM)	VR	5 GAL		12
GRASSES				
BROWN FOX SEDGE (CAREX VULPINOIDEA)	CV	1 GAL		14
PURPLE CONEFLOWER (ECHINACEA PURPUREA)	EP	2 GAL		18
SOFT RUSH (JUNCUS EFFUSUS)	JE	1 GAL		10
BLACK EYED SUSAN (RUDBECKIA HIRTA MARMALADE)	RH	1 GAL		12



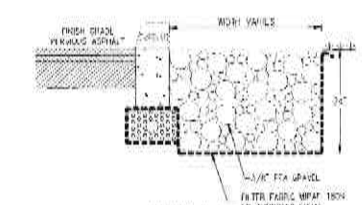
SEWER PROFILE
SCALE: 1"=30'



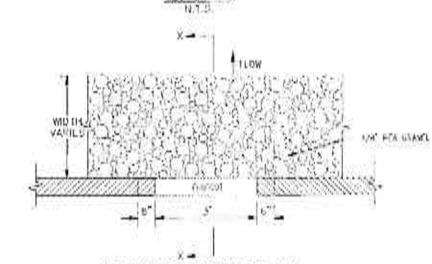
P-BIOFILTER PLAN VIEW
SCALE: 1"=30'



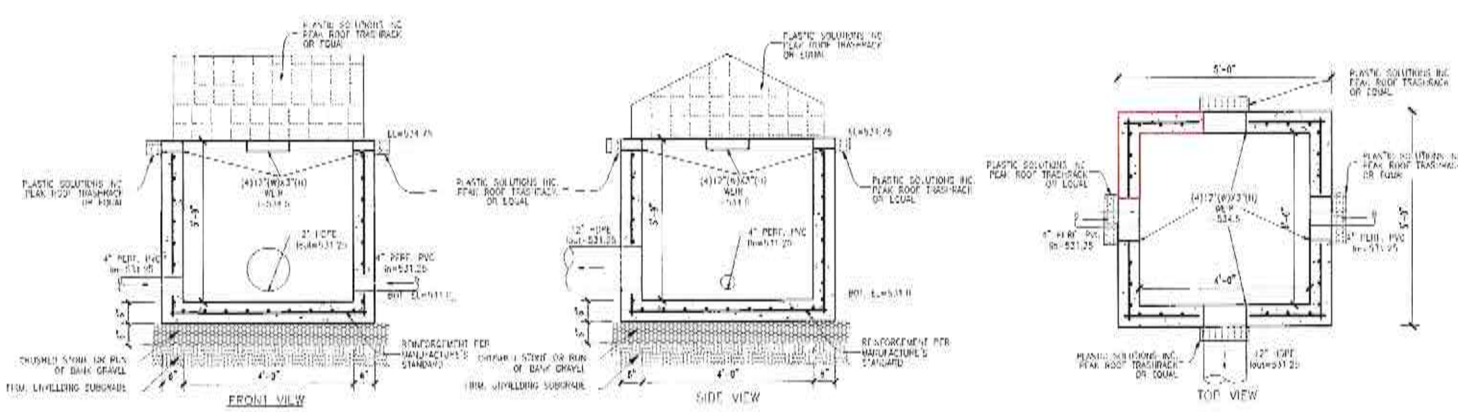
P-BIOFILTER SECTION



SECTION X-X
N.T.S.



3 FT CURB BREAK DETAIL
N.T.S.



P-CS #2 DETAIL
SCALE: 1/2"=1'

REVISION	DATE	DESCRIPTION
8	12-17-24	PER VILLAGE ENGINEER
7	8-23-24	RESURVEY & PER PB MTG 8-6-24
6	4-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DPW & NYSDOT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. DWLGS.
1	7-6-23	REVISE ADDITION & PARKING

THE EDUCATION LAW OF THE STATE OF NEW YORK PROHIBITS ANY PERSON ALTERING ANYTHING ON THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATIONS, UNLESS IT IS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

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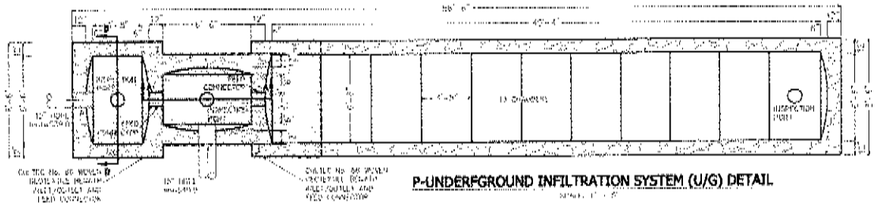
PROJECT:
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

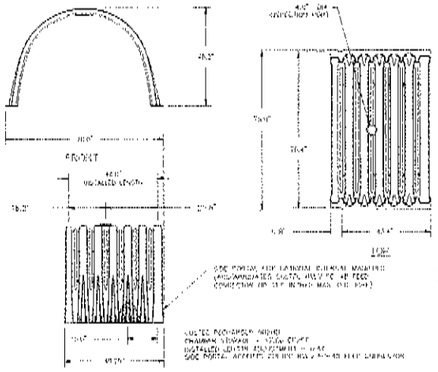
TITLE:
DRAINAGE DETAILS - 1

DRAWN BY: TT	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: AS SHOWN
PROJECT NO: 5030	DRAWING NO: 5

P:\DRAWINGS\5030\5030 SITE PLAN & TEST -DLE 12-17-24.DWG

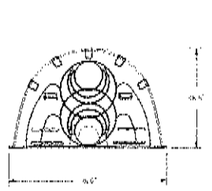


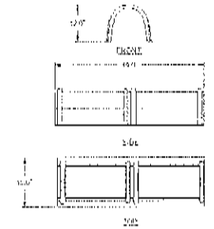
P-UNDERFGROUND INFILTRATION SYSTEM (U/G) DETAIL



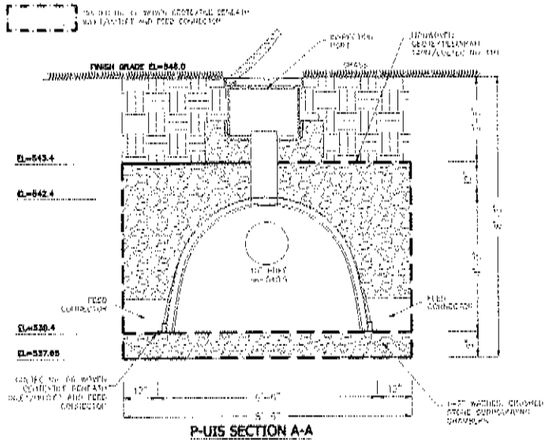
CULTEC RECHARGER 902HD HEAVY DUTY

CULTEC RECHARGER 902HD HEAVY DUTY END CAP

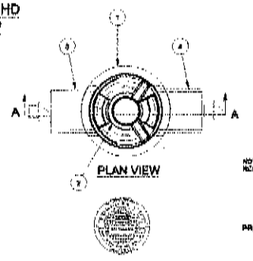




CULTEC HVLV FC-48 FEED CONNECTOR

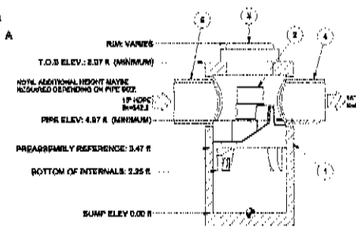


P-UIS SECTION A-A



PLAN VIEW

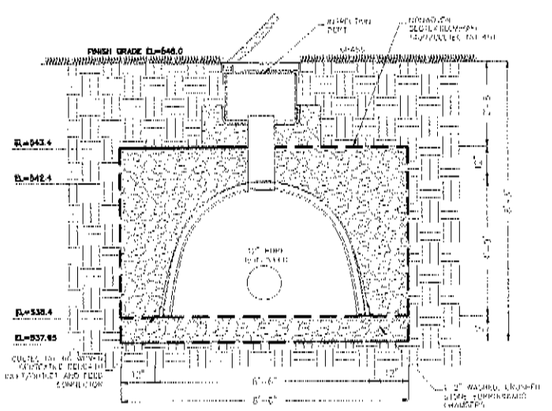
HYDRO FRAME AND COVER (INCLUDED)



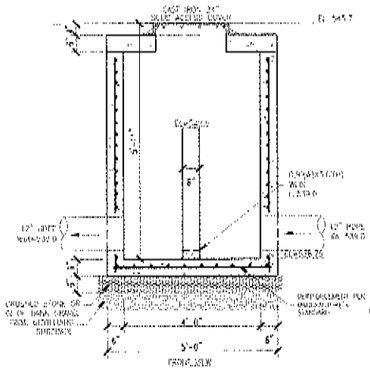
SECTION A-A

PRE-TREATMENT SYSTEM (FIRST DEFENSE FD-4HC OR EQUAL) DETAIL

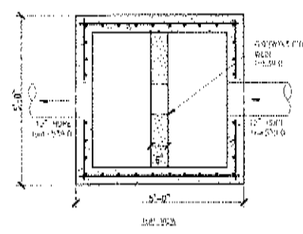
ITEM	QTY	SIZE (in)	PARTS LIST DESCRIPTION
1	1	48	I.D. PRECAST MANHOLE
2	1		INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	FRAME AND COVER (ROUND)
4	1	24 (MAX)	OUTLET PIPE (BY OTHERS)
5	1	24 (MAX)	INLET PIPE (BY OTHERS)



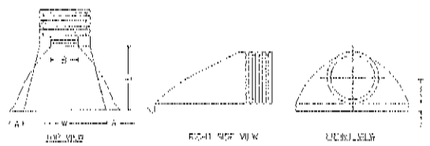
P-UIS SECTION B-B



P-CS #1 DETAIL

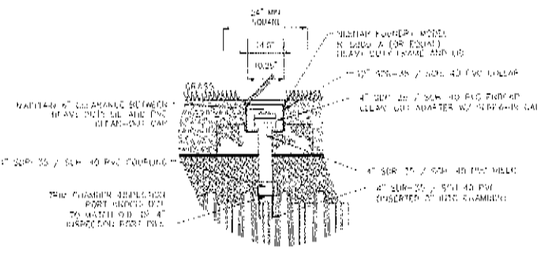


FLARED END SECTION & STONE OUTLET DETAIL

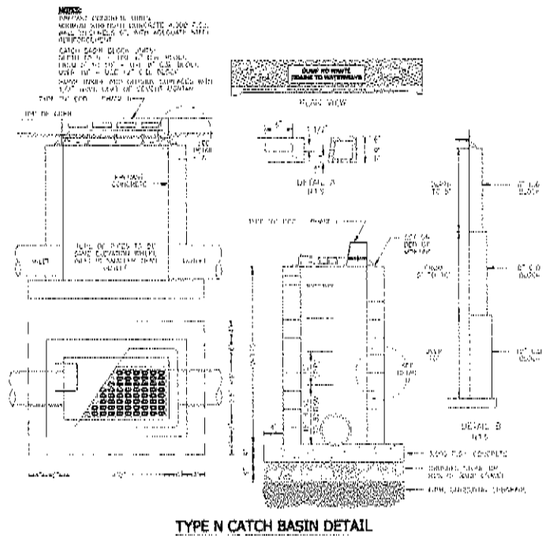


12" FLARED END SECTION DETAIL

PIPE SIZE	A	B (MAX)	D	L	W
12 IN	6'-5 IN	35 IN	6'-5 IN	7'-5 IN	1'-9 IN



INSPECTION PORT DETAIL



TYPE N CATCH BASIN DETAIL

NO.	DATE	DESCRIPTION
11	12-17-24	PER VILLAGE ENGINEER
10	11-25-24	RESPONSES TO PEER REVIEW 11-5-24
9	9-12-24	PER PB SUBMISSION
8	7-15-24	PER TOWN DPW & PLANNER COMMENTS
7	2-16-22	NEW ADDITIONAL TWO STORMS
6	5-26-21	WETLAND BUFFER & ATTORNEY MARKUP
5	2-15-21	ADD TREE LINES, DIST. TO ADJ. SWIMS
4	5-6-20	REVISE ADDRESS & TAXPARCEL

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PROJECT
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

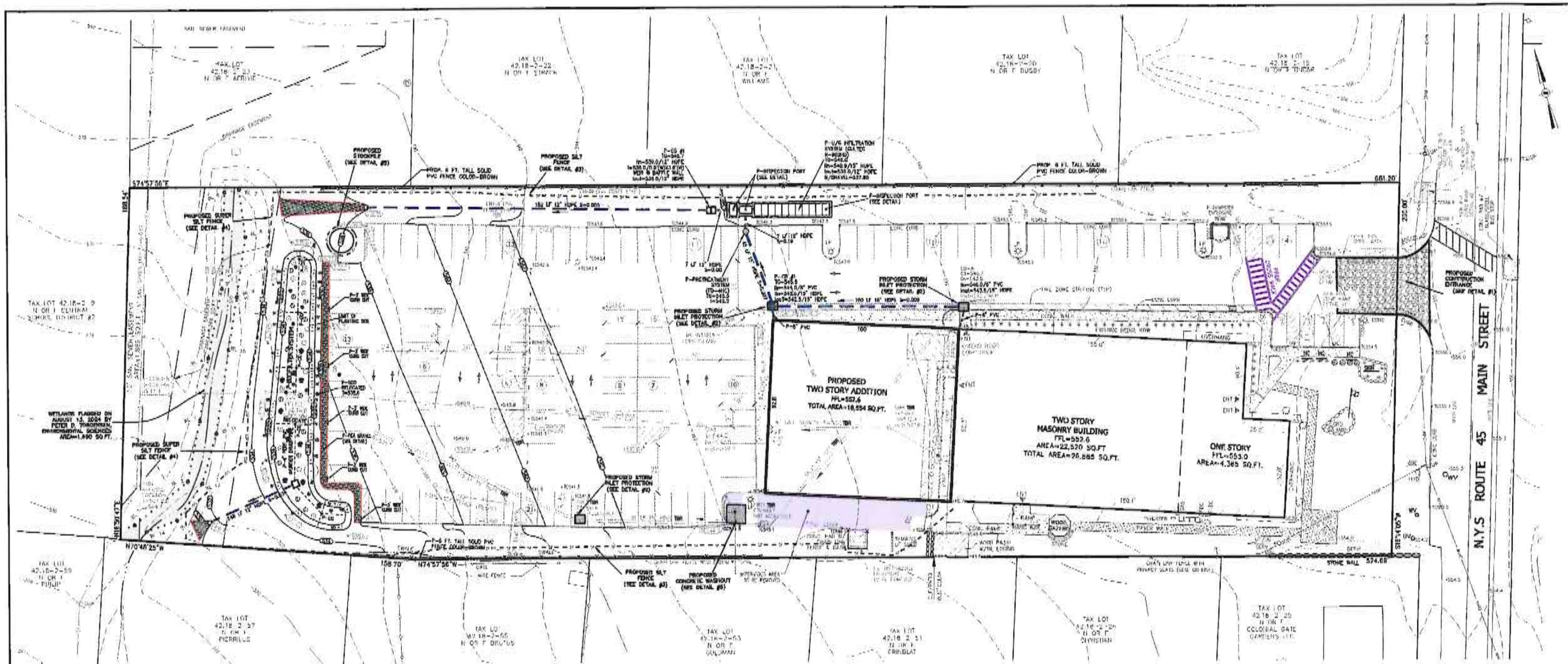
TITLE
DRAWING DETAILS - 2

DRAWN BY: VF	CHECKED BY: JRA
DATE: APRIL 04, 2024	SCALE: AS SHOWN
PROJECT NO: 5030	DRAWING NO: 6

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. L.S. LIC. NO. 50228

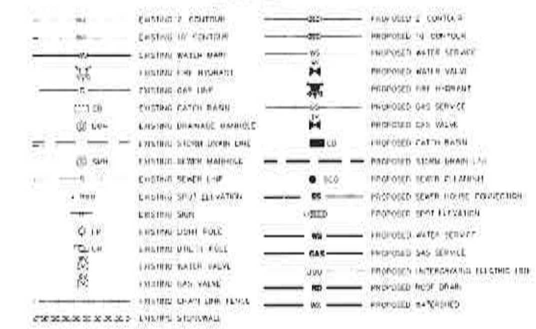
P:\DRAWINGS\2024\5030 SITE PLAN & TEST HOLE 03-15-24.DWG

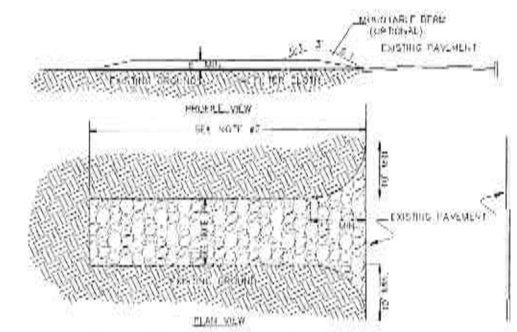


NOTE:

1. EXISTING SEWER CLEANOUT (S.C.O.) ELEVATION AND INVERT TO BE VERIFIED IN THE FIELD AND RELOCATED BEFORE THE CONSTRUCTION OF THE BIOFILTER SYSTEM.

LEGEND





SPECIFICATIONS FOR CONSTRUCTION ENTRANCE

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FT. (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FT. MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN 6 IN.
4. WIDTH – 12 FT. MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCUR. 24 FT. IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACEMENT OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS TO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

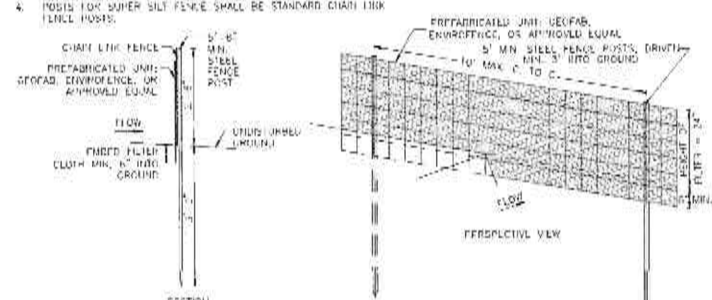
CONSTRUCTION ENTRANCE DETAIL #1

N.T.S.

CONSTRUCTION NOTES FOR PRE FABRICATED SILT FENCE

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
3. THE FABRIC SHALL BE PLACED AGAINST CHAIN LINK FENCE AS SUPPORT BACKING WITH POSTS DRIVEN 3 FEET IN THE GROUND.
4. POSTS FOR SUPER SILT FENCE SHALL BE STANDARD CHAIN LINK FENCE POSTS.



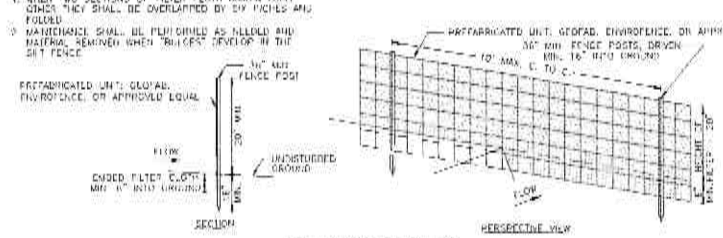
SUPER SILT FENCE DETAIL #4

N.T.S.

CONSTRUCTION NOTES FOR PRE FABRICATED SILT FENCE

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

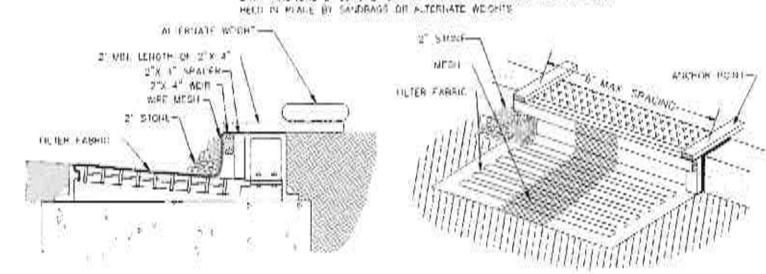


SILT FENCE DETAIL #3

N.T.S.

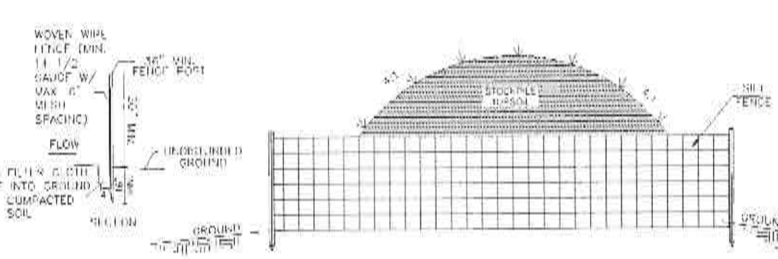
SPECIFICATIONS FOR CURB INLET PROTECTION

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2"X4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30" MINIMUM WIDTH WITH A LENGTH 4" LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2"X4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2"X4" SPACERS 9" LONG SPACED NO MORE THAN 6' APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2"X4" ANCHORS 2' LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.



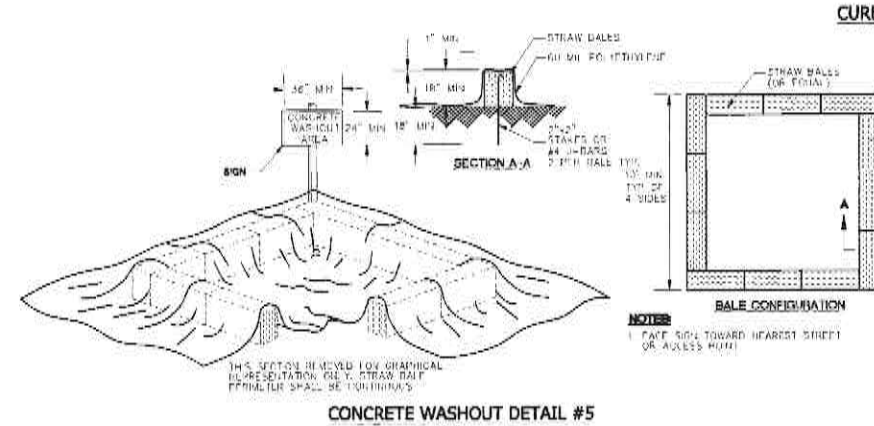
CURB INLET PROTECTION DETAIL #2

N.T.S.



STOCKPILE DETAIL #6

N.T.S.



NOTES:

1. FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT

CONCRETE WASHOUT DETAIL #5

N.T.S.

REVISION	DATE	DESCRIPTION
8	12-17-24	PER VILLAGE ENGINEER
7	9-23-24	RESURVEY & PER PB MTG 5-6-24
6	4-17-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DEW & NYSDOT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	3-20-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. DWGS
1	2-6-23	REVISE ADDITION & PARKING

ATZL, NASHER & ZIGLER P.C.
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PROJECT

HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

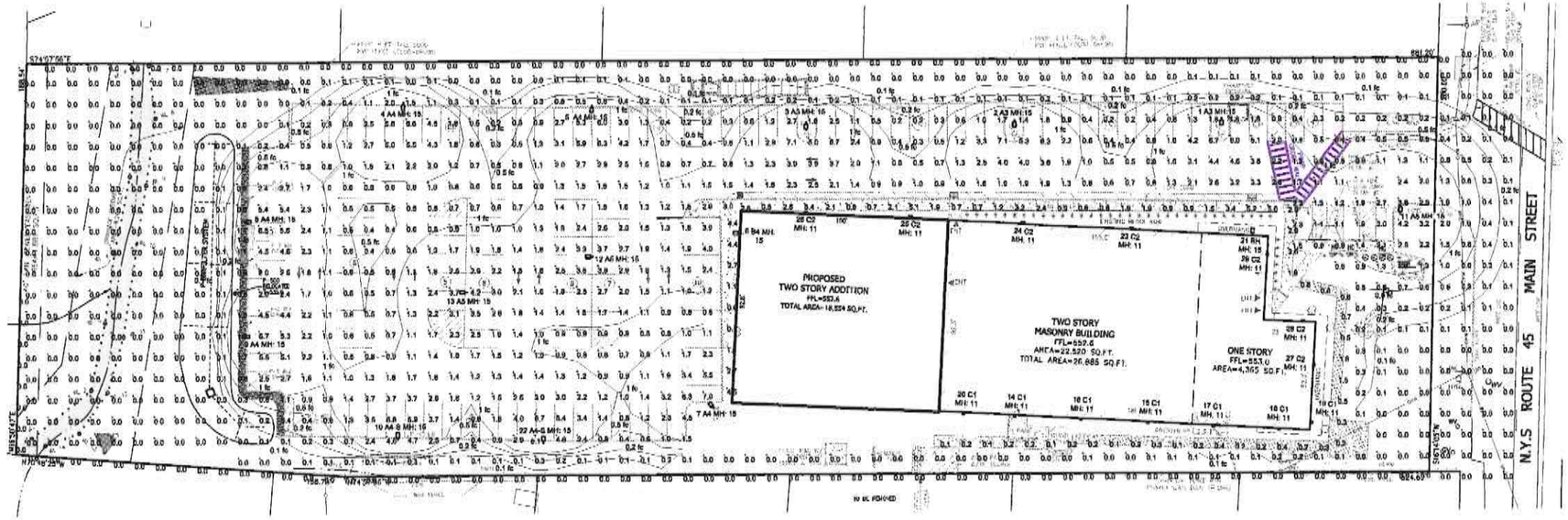
TITLE

EROSION & SEDIMENT CONTROL PLAN

DRAWN BY: LF	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 7

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228



Expanded Luminaire Location Summary

LumNo	Orient	Tilt	Tag	X	Y	MTG HT
1	270	0	A3	831.166	355.647	15
2	270	0	A3	833.185	365.397	15
3	270	0	A3	434.265	385.896	15
4	266.233	0	A4	344.093	365.843	15
5	266.233	0	A4	352.693	903.943	15
6	175	0	B4	403.339	903.003	15
7	130	0	A4	389.062	220.361	15
8	0	0	A4	198.481	310.365	15
9	0	0	A4	187.8	258.3	15
10	90	0	A4-S	240.936	209.779	15
11	90	0	A5	718.3	311.9	15
12	180	0	A5	332.4	292.7	15
13	180	0	A5	272.2	278.1	15
14	265	0	C1	532.603	218.864	11
15	265	0	C1	583.963	213.327	11
16	265	0	C1	634.253	214.944	11
17	265	0	C1	627.84	211.783	11
18	265	0	C1	659.319	210.096	11
19	355	0	C1	674.639	212.849	11
20	265	0	C1	668.026	217.742	11
21	89.999	0	B4	645.954	301.331	15
22	90	0	A4-S	309.338	204.879	15
23	90	0	C2	588.1	304.8	11
24	90	0	C2	536.6	307.8	11
25	90	0	C2	487.9	310.9	11
26	90	0	C2	439.6	313.5	11
27	0	0	C2	676.6	240.2	11
28	90	0	C2	670.8	260.7	11
29	0	0	C2	663.2	292.9	11

Total Quantity: 29

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	3	ALED83TY @60W	Single	TYPE III AREA LIGHT	A3	1.000	7710	66.2	198.6
	5	ALED84TY @60W	Single	TYPE IV AREA LIGHT	A4	1.000	7617	67.2	336
	2	ALED84TY @60W + HSS	Single	TYPE IV AREA LIGHT W/ SHIELD	A4-S	1.000	7070	57.2	114.4
	3	ALED85TY @60W	Single	TYPE V AREA LIGHT	A5	1.000	8136	57.3	171.9
	2	ALED84TWMYA @40W	Single	WALL MOUNT	B4	1.000	5468	40.4	80.8
	7	WPLED5Y	Single	WALLPACK	C1	1.000	128	6.3	37.1
	7	SLIM17FA15ADJ @3K	Single	WALLPACK	C2	1.000	1761	14.2	99.4

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb	Meter Type
Building Perimeter	Illuminance	Fc	1.48	6.4	0.1	14.80	64.00	10	N.A.	Horizontal
Property Line	Illuminance	Fc	0.00	0.0	0.0	N.A	N.A	10	N.A.	Horizontal
Site	Illuminance	Fc	0.64	7.1	0.0	N.A	N.A	10	10	Horizontal
Parking Lot	Illuminance	Fc	1.89	7.1	0.2	9.45	35.50			

ALEDS5TY

RAB

Color: Bronze Weight: 13.2 lbs

Project: Type:

Prepared By: Date:

Driver Info

Type	Constant Current
120V	0.67A
208V	0.39A
240V	0.34A
277V	0.30A

Input Watts: 81.2/157.2/180.5W

LED Info

Watts	80W
Color Temp	5000K (Neutral)
Color Accuracy	83CRI,R1 71R
L70 Lifespan	100,000 Hours
Lumens	11,033/9,336/8,218 lm
Efficacy	136/143/146 lm/W

ALEDSHS

RAB

Color: Bronze Weight: 1.9 lbs

Project: Type:

Prepared By: Date:

PS4-11-15D2

RAB

Square steel post slotted for 2 Area Lights at 180°. Designed for ground mounting. Poles are standard maintenance for quick shipment. Protective packaging ensures poles arrive at the job site good as new.

Color: Bronze Weight: 180.2 lbs

Project: Type:

Prepared By: Date:

RAB

ALEDS3TY

RAB

Color: Bronze Weight: 11.2 lbs

Project: Type:

Prepared By: Date:

Driver Info

Type	Constant Current
120V	0.67A
208V	0.40A
240V	0.34A
277V	0.30A

Input Watts: 79.4/134.7/160.0W

LED Info

Watts	80W
Color Temp	5000K (Neutral)
Color Accuracy	83 CRI
L70 Lifespan	100,000 Hours
Lumens	10,431/9,210/8,308 lm
Efficacy	131/116/104 lm/W

WPLED5Y

RAB

LED 5W Wall packs, patent pending thermal management system, 109,000 hour L70 lifespan, 5-year, no compromise warranty

Color: Bronze Weight: 2.8 lbs

Project: Type:

Prepared By: Date:

Driver Info

Type	Constant Current
120V	0.18A
208V	0.18A
240V	0.18A
277V	N/A

Input Watts: 5.1W

LED Info

Watts	5W
Color Temp	5000K (Neutral)
Color Accuracy	80 CRI
L70 Lifespan	50,000 Hours
Lumens	537 lm
Efficacy	105 lm/W

ALEDS4TY

RAB

Color: Bronze Weight: 13.2 lbs

Project: Type:

Prepared By: Date:

Driver Info

Type	Constant Current
120V	0.67A
208V	0.40A
240V	0.34A
277V	0.30A

Input Watts: 81.1/157.2/180.5W

LED Info

Watts	80W
Color Temp	5000K (Warm)
Color Accuracy	80 CRI
L70 Lifespan	100,000 Hours
Lumens	10,127/9,511/8,488 lm
Efficacy	125/117/104 lm/W

SLIM17FA15ADJ

RAB

Color: Bronze Weight: 10 lbs

Project: Type:

Prepared By: Date:

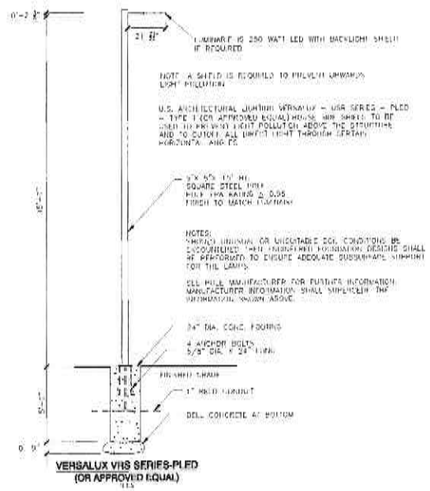
Driver Info

Type	Constant Current
120V	0.11A
208V	0.07A
240V	0.06A
277V	0.05A

Input Watts: 14.4/14.4/14.4W

LED Info

Watts	15W
Color Temp	3000K/4000K/5000K
Color Accuracy	70 CRI
L70 Lifespan	100,000 Hours
Lumens	1761/1904/1852 lm
Efficacy	120/130/127 lm/W



REVISION:	DATE	DESCRIPTION
8	12 17 24	PER VILLAGE ENGINEER
7	9 23 24	BOUNDARY & PER PB MTG 8-6-24
6	8-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DPW & NYSDOT COMMENTS
4	6-18-23	NOTE ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2 15 23	ADD TAPE LINES, DIST. TO ADJ. BLDGS.
1	2 6 23	REVISE ADDITION & PARKING

KYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN A. ATZL
N.Y.S. L.L.S. LIC. NO. 50228

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PROJECT:

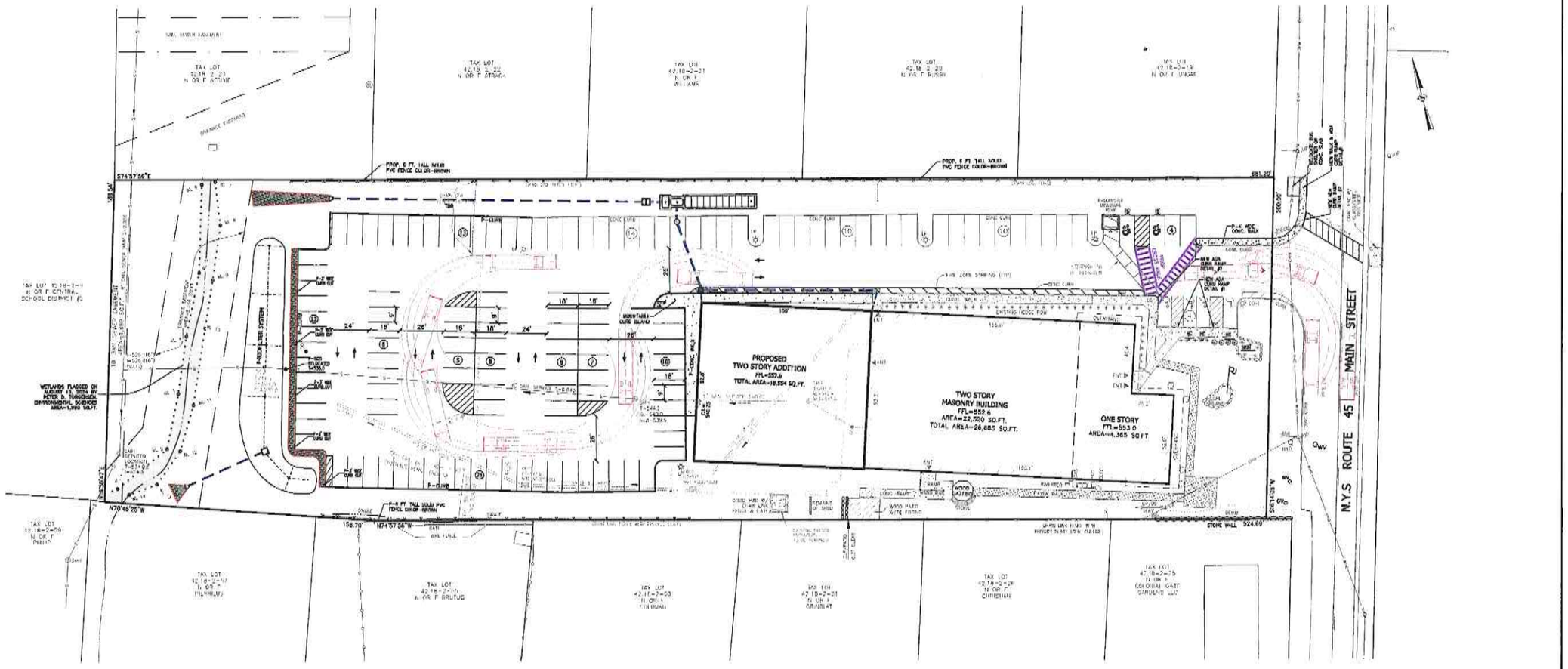
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

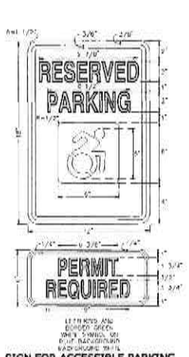
VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:

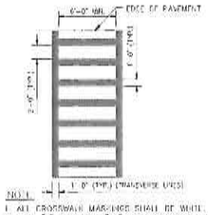
LIGHTING PLAN

DRAWN BY: LF	CHECKED BY: JAA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 8



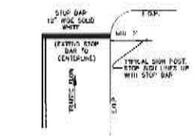


SIGN FOR ACCESSIBLE PARKING
N.T.S.

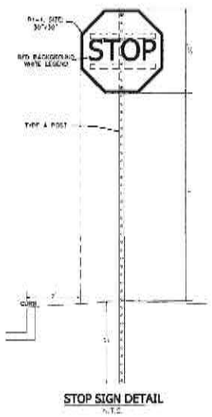


NOTE:
1. ALL CROSSWALK MARKINGS SHALL BE WHITE.
2. TYPE "C" AND TYPE "CA" CROSSWALKS SHALL HAVE THE LONGITUDINAL LINES PARALLEL TO ML CURB LINES.

TYPICAL CROSSWALK DETAIL
N.T.S.



STOP BAR DETAIL
N.T.S.



STOP SIGN DETAIL
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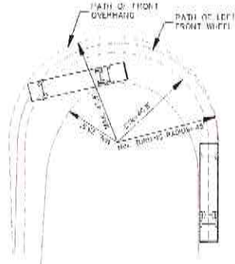
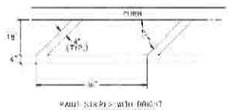
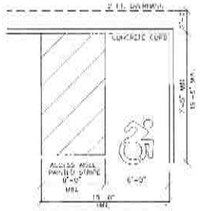
SIGN FOR FIRE LANES
N.T.S.



FIRE TRUCK TURNING RADIUS DETAIL
SCALE: 1"=30'



FIRE LANE STRIPING DETAIL
N.T.S.



VAN ACCESSIBLE PARKING DETAIL
N.T.S.

LEGEND

EXISTING 2' CONTOUR
EXISTING 10' CONTOUR
EXISTING WATER MAIN
EXISTING FIRE HYDRANT
EXISTING GAS LINE
EXISTING CATCH BASIN
EXISTING UNDERGROUND ELECTRIC
EXISTING STORM DRAIN MANHOLE
EXISTING SEWER MANHOLE
EXISTING SEWER LINE
EXISTING SPOT ELEVATION
EXISTING SIGN
EXISTING UTILITY POLE
EXISTING UTILITY POLE
EXISTING WATER VALVE
EXISTING GAS VALVE
EXISTING CURB LINE TYPES
EXISTING RETAINING WALL

REVISION	DATE	DESCRIPTION
9	12-17-24	PER VILLAGE ENGINEER
7	9-23-24	RESURVEY & PER PB MTG 9-6-24
6	6-12-24	FOR PB SUBMISSION
5	11-15-23	PER TOWN DRW & FYSOUT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	2-20-23	OFF AND BUFFER & RESERVE PARKING
2	2-15-23	ADD TEST LINES, DIST TO ADJ DWGS.
1	2-6-23	REVISE ADDITION & PARKING

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PROJECT:
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

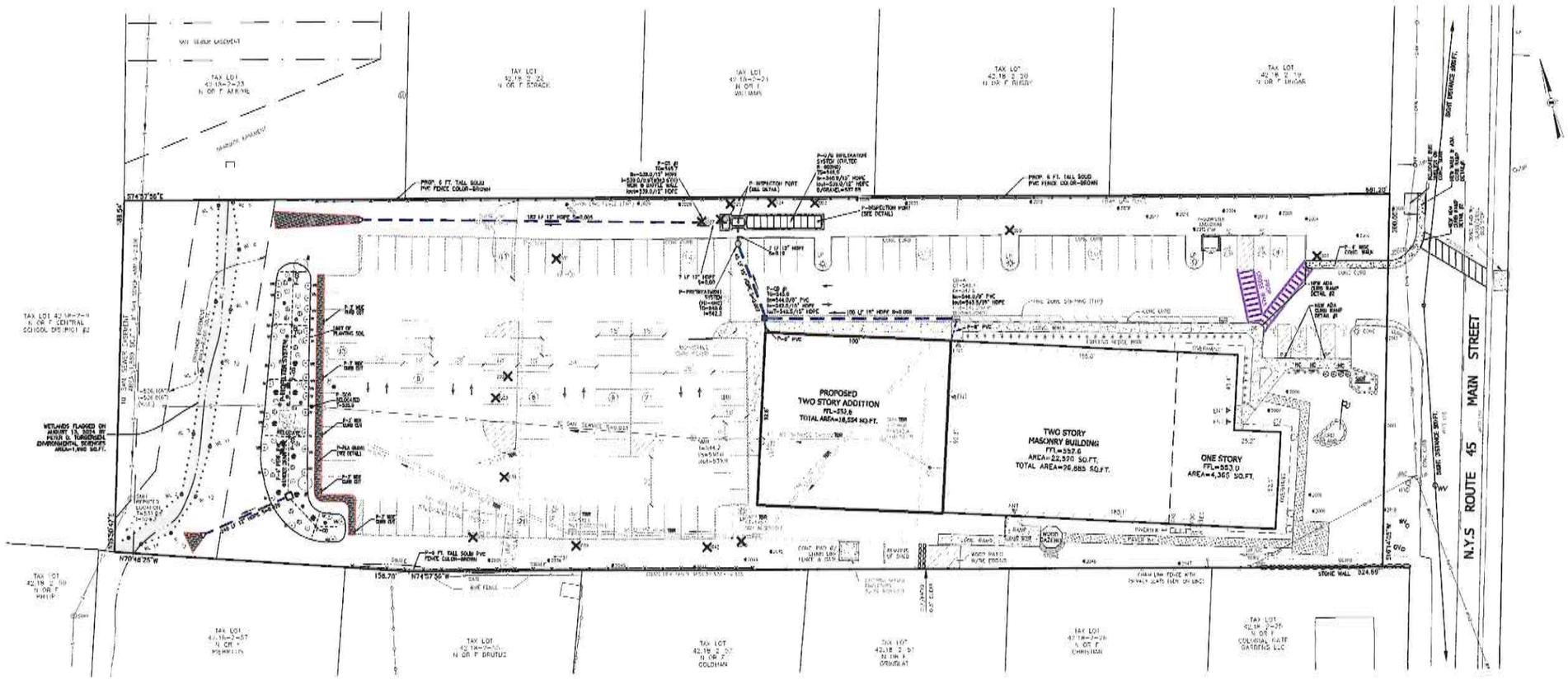
TITLE:
FIRE TRUCK RADIUS PLAN

DRAWN BY: IT	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 9

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZI
N.Y.S. L.L.S. LIC. NO. 50228

S:\DRAWINGS\2022\5030\SITE PLANS & TEST HOLE 2-23-23.DWG



TREE LIST

NO.	SIZE	TYPE	CONDITION
2001	15"	LINDEN	GOOD
2002	12"	PINE	GOOD
2003	14"	LINDEN	GOOD
2004	10"	PINE	GOOD
2005	6"	PINE	GOOD
2006	8"	BERRY	GOOD
2007	11"	BERRY	GOOD
2008	8"	BERRY	GOOD
2009	9"	BERRY	GOOD
2010	15"	LINDEN	GOOD
2011	10"	LINDEN	GOOD
2012	10"	LINDEN	GOOD
2013	11"	PINE	GOOD
2014	10"	PINE	GOOD
2015	15"	OAK	GOOD
2016	8"	PINE	GOOD
2017	14"	PINE	GOOD
2018	10"	PINE	POOR
2019	23"	OAK	GOOD
2020	24"	OAK	GOOD
2021	24"	PINE	POOR
2022	14"	ELM	POOR
2023	24"	PINE	GOOD
2024	18"	PINE	POOR
2025	11"	OAK	GOOD
2026	8"	PINE	GOOD
2027	10"	PINE	GOOD
2028	14"	PINE	POOR
2029	18"	PINE	POOR
2030	28"	PINE	POOR
2031	10"	MAPLE	GOOD
2032	12"	MAPLE	GOOD
2033	10"	MAPLE	POOR
2034	12"	LOCUST	GOOD
2035	24"	MAPLE	POOR
2036	24"	MAPLE	GOOD
2037	8"	MAPLE	POOR
2038	10"	MAPLE	GOOD
2039	10"	MAPLE	GOOD
2040	10"	HICKEY	GOOD
2041	10"	MAPLE	GOOD
2042	15"	MAPLE	GOOD
2043	10"	MAPLE	GOOD
2044	30"	MAPLE	GOOD
2045	10"	PINE	GOOD
2046	14"	MAPLE	GOOD
2047	12"	MAPLE	GOOD

TREE LEGEND

- (D) DENOTES EXISTING TREE TO BE REMOVED
- X DENOTES EXISTING TREE TO BE REMOVED
- (P) DENOTES EXISTING TREE TO BE PROTECTED

LEGEND

EXISTING 3' CONTOUR	PROPOSED 3' CONTOUR
EXISTING 10' CONTOUR	PROPOSED 10' CONTOUR
EXISTING WATER MAIN	PROPOSED WATER SERVICE
EXISTING FIRE HYDRANT	PROPOSED WATER VALVE
EXISTING GAS LINE	PROPOSED FIRE HYDRANT
EXISTING CATCH BASIN	PROPOSED GAS SERVICE
EXISTING DRAINAGE MANHOLE	PROPOSED GAS VALVE
EXISTING STORM DRAIN LINE	PROPOSED CATCH BASIN
EXISTING SEWER MANHOLE	PROPOSED STORM DRAIN LINE
EXISTING SEWER LINE	PROPOSED SEWER (GRAVITY)
EXISTING SPOT ELEVATION	PROPOSED SEWER HOUSE CONNECTION
EXISTING TREE	PROPOSED SPOT ELEVATION
EXISTING LIGHT POLE	PROPOSED WATER SERVICE
EXISTING UTILITY POLE	PROPOSED GAS SERVICE
EXISTING WATER VALVE	PROPOSED UNDERGROUND ELECTRIC LINE
EXISTING GAS VALVE	PROPOSED HEAT CABLE
EXISTING CHAIN LINK FENCE	PROPOSED WATERMAIN
EXISTING STOCKADE FENCE	

#	DATE	DESCRIPTION
8	5-17-24	PER VILLAGE ENGINEER
7	4-25-24	RECURVEY & PER PB MTG 4-9-24
6	4-17-24	FOR PB SUBMISSION
5	11-10-23	NEW TOWN REV & LAYOUT COMMENTS
4	4-18-23	NOTE ADDITION TWO STORIES
3	3-30-23	WETLAND BUFFER & RESERVE PARKING
2	2-15-23	ADD TREE LINES, DIST. TO ADJ. SWLDS
1	2-6-23	REVISE ADDITION & PARKING
REVISION	DATE	DESCRIPTION

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PROJECT:

HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:

TREE REMOVAL PLAN

DRAWN BY: LT	CHECKED BY: JRA
DATE: OCTOBER 31, 2022	SCALE: 1 IN. = 30 FT.
PROJECT NO.: 5030	DRAWING NO.: 10

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. L.S. LIC. NO. 50228

X:\PROJECTS\5000\5030 SITE PLAN & TEST PIT\2-22-23.DWG

Section 2: Drainage

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

SECTION 2:

STORMWATER SYSTEM DESIGN REPORT COMPLYING WITH NYS STORMWATER MANAGEMENT DESIGN MANUAL JANUARY 2015

BY

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Revision 1: December 17, 2024

April 12, 2024

Village of New Hempstead
108 Old Schoolhouse Rd
New City, NY 10956

Att.: Glenn McCreedy, P.E.
Village Engineer

Ref.: Hamaspik Choice (Job #5030)
Village of New Hempstead, Rockland County, New York

Sub: Hydraulic and hydrological study

1.0 REVISION OVERVIEW:

The previous SWPPP report, dated April 12, 2024, proposed an underground infiltration system (Cultec R-902HD) to address the water quantity and quality requirements. However, in order to address the comments from the Village Engineer dated December 02, 2024, the SWPPP report and the construction drawings have been revised. As a result, a bio-filter system has been proposed to treat runoff from the parking area located on the west side of the site. This system provides both peak runoff reduction and water quality treatment. Consequently, the size of the previously proposed underground infiltration system (Cultec R-902HD) has been reduced.

1.1 INTRODUCTION:

The following hydraulic/hydrological study has been prepared for the above-mentioned project to provide zero net increase of the peak runoff and water quality mitigation for the proposed project in the Village of Hempstead, Rockland County, New York. The project disturbed area is 1.054 acres (45,933 sq.ft) which is greater than 1-acre; therefore, a general construction permit is required according to the NYSDEC 2015 version of the design manual.

1.2 SITE LOCATION:

The project is located at 775 North Main Street, in the Village of New Hempstead, Rockland County, New York.

2.0 HYDROLOGICAL SOIL GROUP:

The soil on site is the following, based on data from United States Department of Agriculture (USDA) soil survey.

Soil Name	Soil Map Symbol	Hydrological Soil Group
Watchaug fine sandy loam	Wc	C
Wethersfield gravelly silt loam, 3 to 8 percent slopes	WeB	C

* Source: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

** HSG "C" is used in drainage calculation.

3.1 EXISTING CONDITION:

The existing drainage area consists of one watershed (WS#1). The drainage area consists of woods/grass, parking lot, a two-story masonry building, and some impervious areas. The drainage area is delineated on the Existing Condition Drainage Map (E-1)

3.2 DEVELOPED CONDITION:

The proposed drainage area will remain the same as the existing watershed area (2.43 acres). The developed condition consists in the construction of a two-story addition on the west side of the existing two-story masonry building, a parking lot, and some landscaping areas. The drainage area delineation is shown on the Developed Condition Drainage Map (D-1).

4.0 DRAINAGE STUDY:

Due to the proposed improvement, the peak runoff from the designated drainage area will be increased. The hydrological software, HydroCAD has been used to calculate pre and post peak runoff rates for 1, 10, and 100-year design storm events.

5.0 MITIGATION MEASURES:

The hydrology and hydraulics study for this project has been undertaken to examine the pre and post construction drainage conditions.

To attenuate the post-developed peak flow to pre-developed peak flow, and address water quality mitigation requirements, an Underground Infiltration System and a Bio-filter System have been proposed. The location of the system is shown on the site plan drawings.

- Underground Infiltration System (Cultec R-902HD).
- Bio-filter System

HydroCAD has been used to calculate peak flows for different storm events at the outlet "Point of Interest", for Existing and Developed Condition and to simulate stormwater being routed

through the proposed stormwater management structures in order to determine the final peak runoff of the site. The peak flow in the proposed development site will be decreased by 0.5% to 40.8% at P.O.I.#1 after routing through the proposed SMPs.

If you have further questions or concerns, feel free to contact me. Thank you.

Very truly yours,

Ryan A. Nasher, P.E.

P:\STORMWATER MANAGEMENT\5030\Current SWPPP Report\SWPPP Section 2 - Drainage\5030 Drainage Narrative.docx

Summary Table

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

SUMMARY TABLE

BY

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SUMMARY FLOW

EXSITING AND DEVELOPED CONDITIONS

1, 10, & 100 YEA STORMS PEAK RUNOFF

STORM FREQUENCY (YEAR)	EXISTING CONDITION PEAK FLOW (CFS) (PER HYDROCAD)	DEVELOPED CONDITION PEAK FLOW (CFS) (PER HYDROCAD)	% CHANGE
1	4.51	2.67	-40.8%
10	10.11	9.95	-1.6%
100	19.76	19.66	-0.5%

* Note: Peak flow attenuation and the required water quality treatment volume will be provided by the proposed underground infiltration system (Cultec R-902HD or Approved Equal) and the biofilter system.

Location Maps

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

LOCATION MAPS

BY

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JOB: HAMASPIK CHOICE (5030)
CALCULATED BY: WS DATE: 04/12/24
CHECKED BY: RN DATE: 04/12/24
REVISED: 12/17/24

NORTH

Source: maps.google.com

STREET MAP

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JOB: HAMASPIK CHOICE (5030)
CALCULATED BY: WS DATE: 04/12/24
CHECKED BY: RN DATE: 04/12/24
REVISED: 12/17/24

NORTH

Source: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

SOIL MAP

Drainage Calculations

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

DRAINAGE CALCULATION

BY

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EXISTING CONDITION:

The existing drainage area consists of one watershed (WS#1), with an area of about 2.43 acres. The drainage area consists of woods/grass, parking lot, a two-story masonry building, and some impervious areas. The drainage area is delineated on the Existing Condition Drainage Map (E-1).

WS#1:

The soil within WS#1 belongs to Hydrological Soil Group "C".

A = 2.43 Acres

Composition	HSG C
$A_{Wood/grass}$=	0.512 acs
A_{Grass}=	0.552 acs
$A_{Impervious}$=	1.366 acs

Due to the small size of the watershed, the time of concentration is considered the minimum of 0.1 hours.

WS#1 → P.O.I.#1

DEVELOPED CONDITION:

The developed condition includes two watersheds (WS#1A & WS#1B). The proposed development includes the construction of a two-story addition on the west side of the existing two-story masonry building, a parking lot, and some landscaping areas. The total drainage area (2.43 acs) will remain the same. The drainage area is delineated on Drainage Map Developed Condition (D-1).

WS#1A:

The soil within WS#1A belongs to Hydrological Soil Group "C".

A = 1.023 Acres

Composition	HSG
A_{Grass}=	0.19 acs
$A_{Impervious}$=	0.833 acs

Due to the small size of the watershed, the time of concentration is considered the minimum of 0.1 hours.

WS#1A → UNDERGROUND INFILTRATION SYSTEM → P.O.I.#1

WS#1B:

The soil within WS#1B belongs to Hydrological Soil Group "C".

A = 1.023 Acres

Composition	HSG
A_{Grass}=	0.151 acs
$A_{Impervious}$=	0.872 acs

Due to the small size of the watershed, the time of concentration is considered the minimum of 0.1 hours.

WS#1B → BIO-FILTER SYSTEM → P.O.I.#1

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WS#1C:

The soil within WS#1C belongs to Hydrological Soil Group "C".

A = 0.384 Acres

Composition	HSG
A_{Grass}=	0.326 acs
$A_{Impervious}$=	0.058 acs

Due to the small size of the watershed, the time of concentration is considered the minimum of 0.1 hours.

WS#1C → P.O.I.#1

SMP Design

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

STORMWATER MANAGEMENT PRACTICE DESIGN CALCULATIONS

BY

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JOB: HAMASPIK CHOICE (5030)
CALCULATED BY: WS DATE: 04/12/24
CHECKED BY: RN DATE: 04/12/24
REVISED: 12/17/24

STORMWATER MANAGEMENT PRACTICE SIZING CALCULATIONS

The proposed underground infiltration system and the bio-filter system will provide water quality treatment and peak flow mitigation for the required 1-yr, 10-yr, and 100-yr storm events at the P.O.I.#1

WQv Requirements:

1. **Base Data:**
   - Drainage study area = 2.43 acres
   - Existing Impervious area in disturbance (I_{Ext})= 0.834 acres
   - Proposed impervious area in disturbance = 1.227 acres
   - New Impervious (I_{New})= 1.227 acres – 0.834 acres
   - New Impervious (I_{New})= 0.393 acres

     $Imp_{Treat} = I_{New} + 0.25 * I_{Ext}$

     $Imp_{Treat} = 0.393\ acres + (0.25 * 0.834\ acres)$

     $Imp_{Treat} = 0.602\ acres$
   - 90% Rainfall Depth = 1.5 inches
   - Hydrological Soil Group (HSG): C
   - HSG Specific Reduction Factor, S = 0.3

2. **Water Quality Volume required before Runoff Reduction:**

   The impervious cover,

   $$I = \frac{0.602\ acres}{2.43\ acres} \times 100\% = 24.8\%$$

   The runoff coefficient,

   $R_v = 0.05 + 0.009 \times I$

   $\rightarrow R_v = 0.05 + 0.009 \times 24.8$

   $\rightarrow R_v = 0.27$

Use the 90% rule 1.5" of rainfall in Rockland County,

$WQ_v = 1.5" \times R_v \times A_{Disturbed}$

$\rightarrow WQ_v = 1.5inch\left(\frac{1ft}{12inch}\right) 0.27\ x\ 2.43\ acs$

$\rightarrow WQ_v = 0.083\ acs.ft. = 3{,}614\ cu.ft.$

The required water quality volume, (WQv) = 3,614 cu.ft or 0.083 acs.ft.

$(WQv)_{Required}$ = 0.083 acs.ft. or 3,614 cu.ft

3. **Minimum Runoff Reduction Volume (RRv) Calculations:**

$$RRv = \frac{90\%\ Rainfall\ Amount}{12} * 0.95 * S * AI_{New}$$

$S = 0.3$

$RRv = 1.5inch\left(\frac{1ft}{12inch}\right) * 0.95 * 0.3 * 0.602\ acres$

$RRv = 0.021\ acs.ft. = 934.0\ ft^3$

$(RRv)_{Minimum}$ = 0.021 acs.ft. or 934 cu.ft

4. **Area Reduction Practice:**

- No area reduction practice is proposed.

5. **Area Reduction Practice:**

- *N/A*

6. **Recalculate WQv for Site Area Remaining After Area Reduction:**

The impervious cover,

$I = \frac{0.602\ acres}{2.43\ acres} \times 100\% = 24.8\%$

The runoff coefficient,

$R_v = 0.05 + 0.009 \times I$

$\rightarrow R_v = 0.05 + 0.009 \times 24.8$

$\rightarrow R_v = 0.27$

Use the 90% rule 1.5" of rainfall in Rockland County,

$WQ_v = 1.5" \times R_v \times A_{Disturbed}$

$\rightarrow WQ_v = 1.5inch\left(\frac{1ft}{12inch}\right) 0.27\ x\ 2.43\ acs$

$\rightarrow WQ_v = 0.083\ acs.ft. = 3{,}614\ cu.ft.$

The required water quality volume, (WQv) = 3,614 cu.ft or 0.083 acs.ft.

$(WQv)_{Required}$ = 0.083 acs.ft. or 3,614 cu.ft

7. **Runoff Reduction Volume (RRv) Calculation Per Area Reduction:**

- The Runoff Reduction Volume (RRv) Credit:

$(RRv)_{Area\ Reduction}$ = (#2 Original WQv - #6 Area Reduced WQv)

$\Rightarrow (RRv)_{Area\ Reduction}$ = (0.083 acs.ft. – 0.083 acs.ft.)

$\Rightarrow (RRv)_{Area\ Reduction}$ = 0.00 acs.ft.

$(RRv)_{Per\ Area\ Reduction}$ = 0.0 acs.ft. or 0.0 cu.ft

8. **Incorporate Impervious Arc Disconnection:**

- No rooftop disconnection practices are proposed.

9. **Recalculate WQv with Rv Modified for Impervious Disconnection:**

The impervious cover,

$I = \frac{0.602\ acres}{2.43\ acres} \times 100\% = 24.8\%$

The runoff coefficient,

$R_v = 0.05 + 0.009 \times I$

$\rightarrow R_v = 0.05 + 0.009 \times 24.8$

$\rightarrow R_v = 0.27$

Use the 90% rule 1.5" of rainfall in Rockland County,

$WQ_v = 1.5" \times R_v \times A_{Disturbed}$

$\rightarrow WQ_v = 1.5inch\left(\frac{1ft}{12inch}\right) 0.27\ x\ 2.43\ acs$

$\rightarrow WQ_v = 0.083\ acs.ft. = 3{,}614\ cu.ft.$

The required water quality volume, (WQv) = 3,614 cu.ft or 0.083 acs.ft.

$(WQv)_{Required}$ = 0.083 acs.ft. or 3,614 cu.ft

10. <u>Runoff Reduction Volume (RRv) Per Impervious Area Reduction:</u>

- The Runoff Reduction Volume (RRv) Credit:

$(RRv)_{AI\ Reduction}$ = (#6 Area Reduced WQv - #9 Area Reduced WQv)

$\Rightarrow (RRv)_{AI\ Reduction}$ = (0.083 acs.ft – 0.083 acs.ft)

$\Rightarrow (RRv)_{AI\ Reduction}$ = 0.00 acs.ft

$(WQv)_{Per\ Impervious\ Reduction}$ = 0.0 acs.ft. or 0.0 cu.ft

11. <u>Source Control WQv Treatment Practice:</u>

- An underground infiltration system (Cultec R-902HD or approved equal) and a bio-filter system have been proposed to provide the required WQv.

$\rightarrow WQ_v\ Provided\ by\ the\ U/G\ Infiltration\ System$ = 0.007 acs. ft. @ Elv. 539 (as per Hydrocad)

$\rightarrow WQ_v\ Provided\ by\ the\ Bio-Filter\ System$ = 0.822 acs. ft. @ Elv. 534.5 (as per Hydrocad)

- Required WQv = 3,614 cu.ft. or 0.083 acs.ft.
- WQv Provided = 3,910 cu.ft. or 0.089 acs.ft.

The total provided WQ volume provided is 3,910 cu.ft. >= Required WQv = 3,614 cu.ft.

<u>(O.K.)</u> √

12. <u>The Total Provided Runoff Reduction Volume (RRv) Calculation:</u>

- The Grand Total RRv:

$(RRv)_{Grand\ Total}$ = (#7 $(RRv)_{Area\ Reduction}$ + #10 $(RRv)_{AI\ Reduction}$ + #11 $(RRv)_{SMP\ Provided}$)

$\Rightarrow (RRv)_{Grand\ Total}$ = (0.0 acs.ft. + 0.0 acs.ft. + 0.089 acs.ft.)

$\Rightarrow (RRv)_{Grand\ Total}$ = 0.089 acs.ft.

$(RRv)_{Grand\ Total}$ = 0.089 acs.ft. or 3,910 cu.ft

13. Check if Total Provided RRv is Adequate Compared to the Original WQv:

- The $(RRv)_{Grand\ Total}$ = 0.089 acs.ft > $(WQv)_{Original}$ = 0.083 acs.ft.

↓

(OK – No additional WQv by Standard Practice is required)

14. Check if Total Provided RRv is Adequate Compared to the Minimum RRv:

- The $(RRv)_{Grand\ Total}$ = 0.089 acs.ft >= $(RRv)_{Minimum}$ = 0.021 acs.ft.

↓

(Minimum RRv Requirement is Satisfied)

15. Total Drainage area treated with runoff reduction or source control practices:

- Treated area = #4 DA + #8 DA + #11 DA = 0.0 + 0.00 + 2.046 = 2.046 acres
- Impervious Area = #4 IA + #8 IA + #11 IA = 0.0 + 0.00 + 1.71 = 1.71 acres

16. Are all required areas treated by runoff reduction or source control practices:

Yes, no further action required.

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, NY 10956
Tel: (845) 634-4694
Fax: (845) 634-5543

JOB: HAMASPIK CHOICE (5030)
CALCULATED BY: WS DATE: 04/12/24
CHECKED BY: RN DATE: 04/12/24
REVISED: 12/17/24

WATER QUANTITY CALCULATION

The proposed underground infiltration system and the bio-filter system provides water quantity required for 1-yr, 10-yr, 100-yr storm events at the point of interest. The routing calculation through the proposed systems shows that the zero net increase of peak run off from the site could be achieved as described in the following:

1-yr storm:

Q1 (developed) = 2.67 cfs < Q1 (existing) = 4.51 cfs

U/G Infiltration System 1-yr storage = 648 c.f. @ El. 539.96

Bio-filter System 1-yr storage = 3,855 c.f. @ El. 534.60

10-yr storm:

Q10 (developed) = 9.95 cfs < Q10 (existing) = 10.11 cfs

U/G Infiltration System 10-yr storage = 916 c.f. @ El. 540.81

Bio-filter System 10-yr storage = 4,688 c.f. @ El. 534.87

100-yr storm:

Q100 (developed) = 19.66 cfs < Q100 (existing) = 19.76 cfs

U/G Infiltration System 100-yr storage = 1,297 c.f. @ El. 542.23

Bio-filter System 100-yr storage = 5,047 c.f. @ El. 534.98

(Please see HydroCad calculations for details)

Hydro CAD Model

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

HYDROCAD MODEL
FOR EXISTING AND PROPOSED CONDITIONS
1, 10, AND 100 YEAR STORMS

BY

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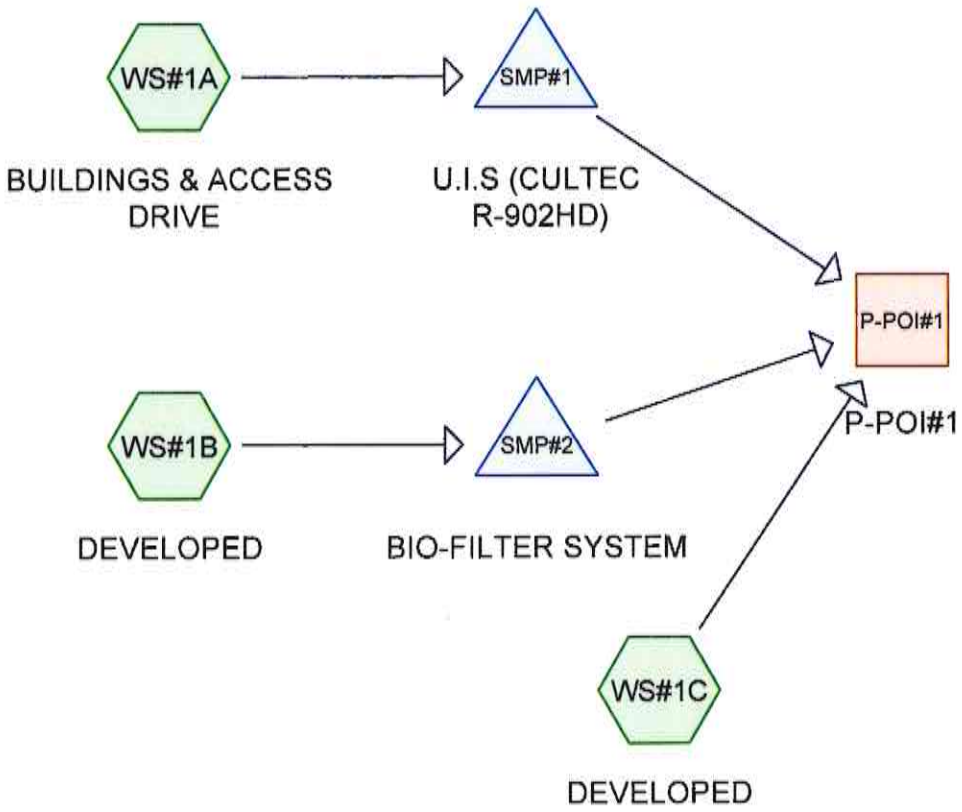
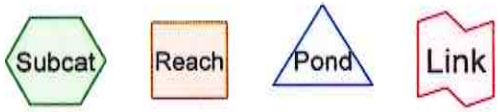
E-MAIL: rnasher@anzny.com

EXISTING CONDITION

DEVELOPED CONDITION





Routing Diagram for 5030 HAMASPIK CHOICE
Prepared by ATZL NASHER & ZIGLER, Printed 12/16/2024
HydroCAD® 10.00-20 s/n 03403 © 2017 HydroCAD Software Solutions LLC

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment WS#1: EXISTING Runoff Area=2.430 ac 56.21% Impervious Runoff Depth=1.62"
Tc=6.0 min CN=88 Runoff=4.51 cfs 0.327 af

Subcatchment WS#1A: BUILDINGS & ACCESS Runoff Area=1.023 ac 81.43% Impervious Runoff Depth=2.13"
Tc=6.0 min CN=94 Runoff=2.41 cfs 0.181 af

Subcatchment WS#1B: DEVELOPED Runoff Area=1.023 ac 85.24% Impervious Runoff Depth=2.13"
Tc=6.0 min CN=94 Runoff=2.41 cfs 0.181 af

Subcatchment WS#1C: DEVELOPED Runoff Area=0.384 ac 15.10% Impervious Runoff Depth=0.97"
Tc=6.0 min CN=78 Runoff=0.41 cfs 0.031 af

Reach E-POI#1: E-POI#1 Inflow=4.51 cfs 0.327 af
Outflow=4.51 cfs 0.327 af

Reach P-POI#1: P-POI#1 Inflow=2.67 cfs 0.291 af
Outflow=2.67 cfs 0.291 af

Pond SMP#1: U.I.S (CULTEC R-902HD) Peak Elev=539.96' Storage=648 cf Inflow=2.41 cfs 0.181 af
Discarded=0.09 cfs 0.081 af Primary=2.18 cfs 0.101 af Outflow=2.27 cfs 0.181 af

Pond SMP#2: BIO-FILTER SYSTEM Peak Elev=534.60' Storage=3,855 cf Inflow=2.41 cfs 0.181 af
Outflow=0.48 cfs 0.159 af

Total Runoff Area = 4.860 ac Runoff Volume = 0.721 af Average Runoff Depth = 1.78"
35.62% Pervious = 1.731 ac 64.38% Impervious = 3.129 ac

Summary for Subcatchment WS#1: EXISTING

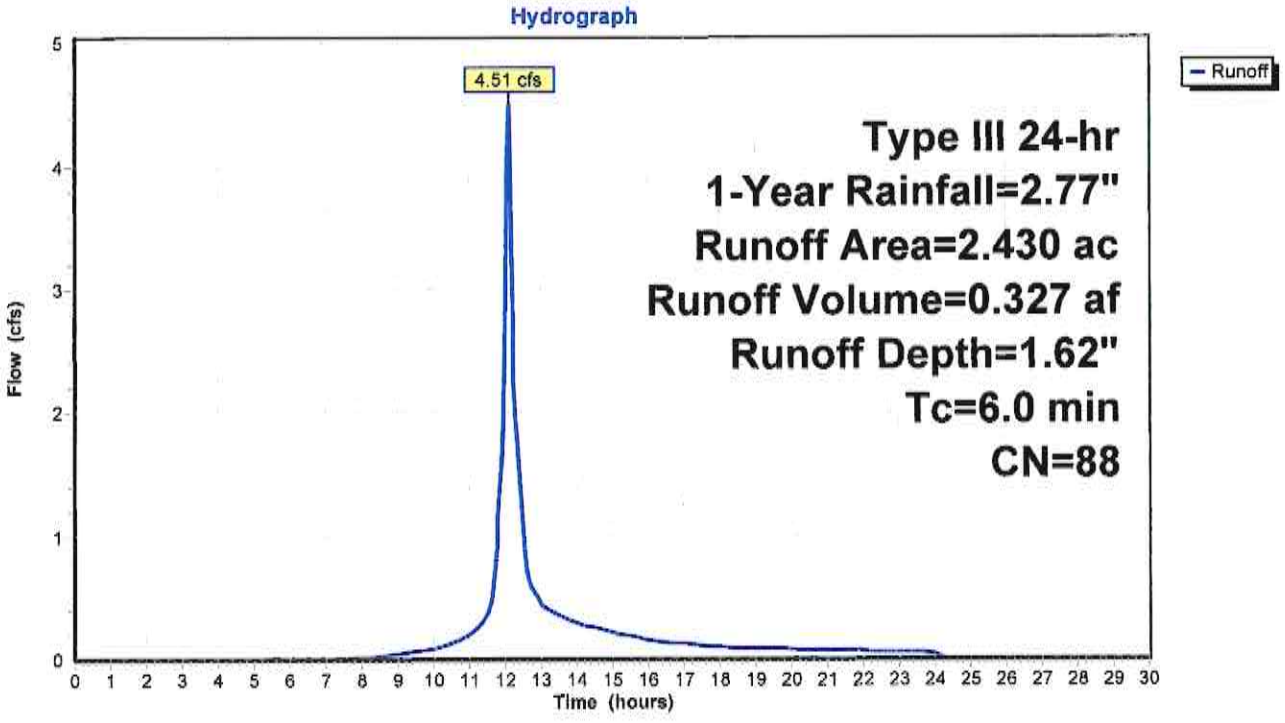
Runoff = 4.51 cfs @ 12.09 hrs, Volume= 0.327 af, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.77"

	Area (ac)	CN	Description
	0.512	76	Woods/grass comb., Fair, HSG C
	0.552	74	>75% Grass cover, Good, HSG C
*	1.366	98	Impervious Cover, HSG C
	2.430	88	Weighted Average
	1.064		43.79% Pervious Area
	1.366		56.21% Impervious Area

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

Subcatchment WS#1: EXISTING



Summary for Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE

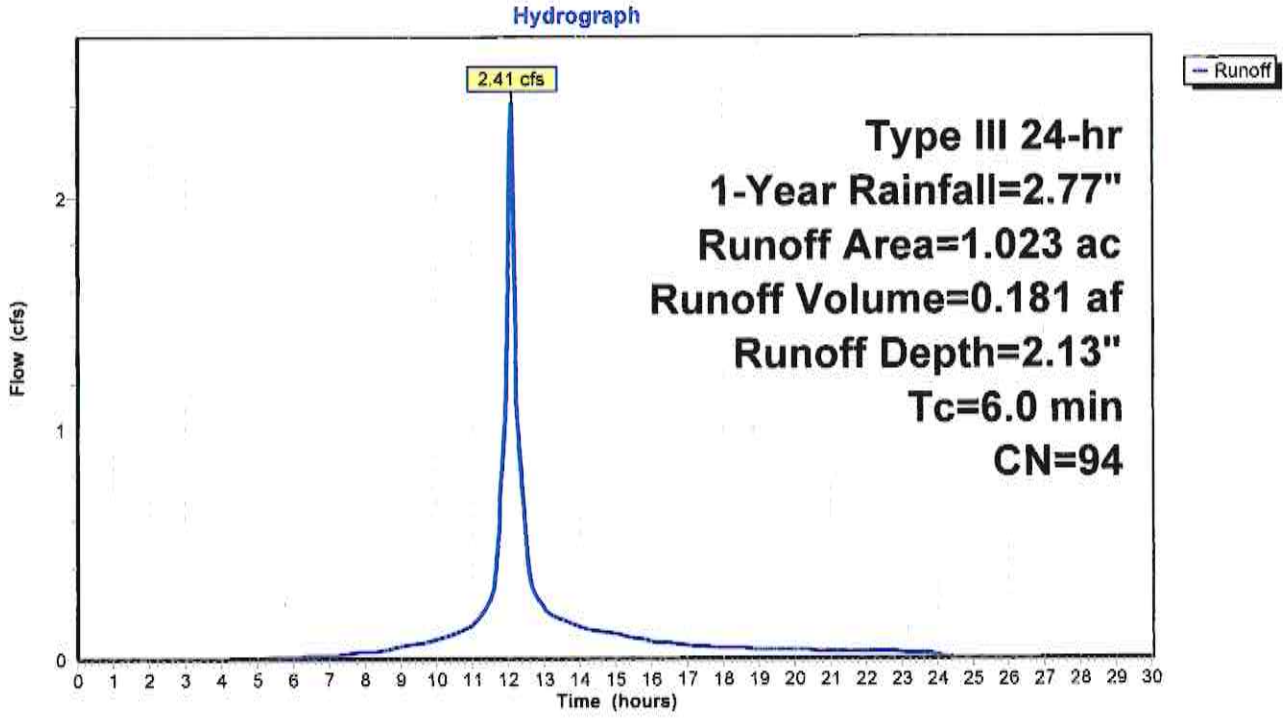
Runoff = 2.41 cfs @ 12.09 hrs, Volume= 0.181 af, Depth= 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.77"

Area (ac)	CN	Description
0.190	74	>75% Grass cover, Good, HSG C
0.833	98	Paved parking, HSG C
1.023	94	Weighted Average
0.190		18.57% Pervious Area
0.833		81.43% Impervious Area

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

Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE



Summary for Subcatchment WS#1B: DEVELOPED

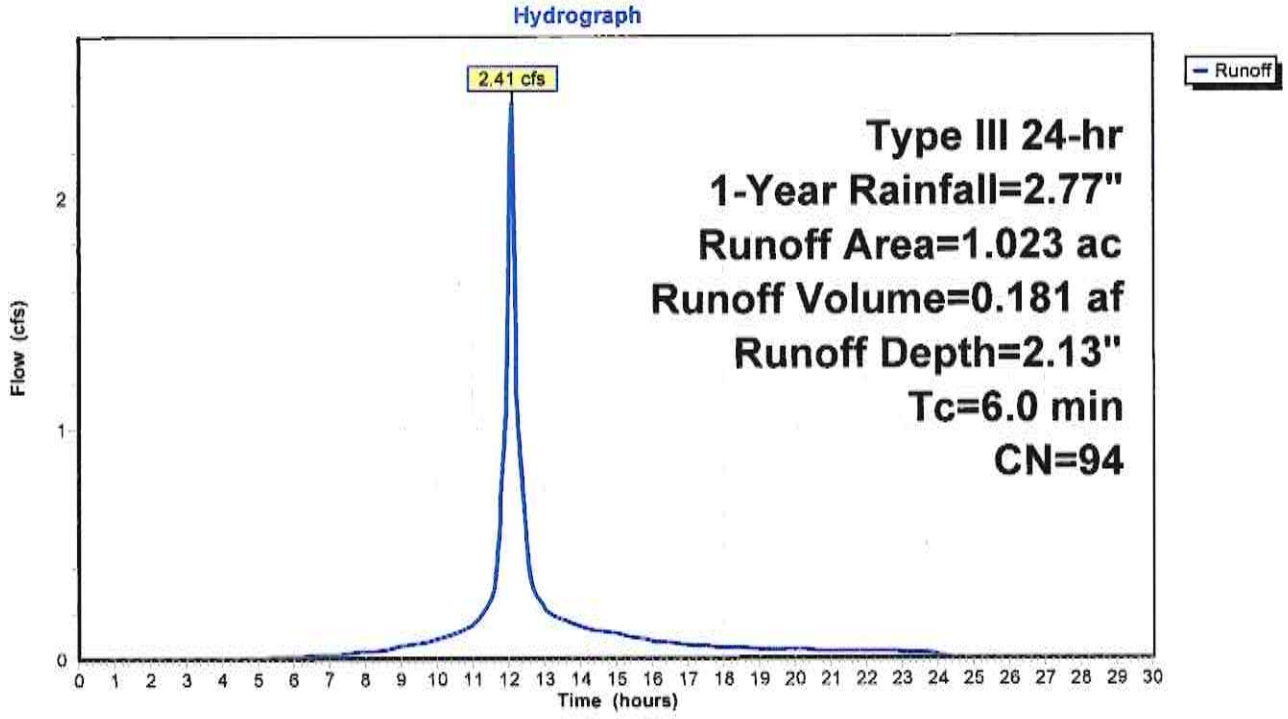
Runoff = 2.41 cfs @ 12.09 hrs, Volume= 0.181 af, Depth= 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.77"

Area (ac)	CN	Description
0.151	74	>75% Grass cover, Good, HSG C
0.872	98	Paved parking, HSG C
1.023	94	Weighted Average
0.151		14.76% Pervious Area
0.872		85.24% Impervious Area

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

Subcatchment WS#1B: DEVELOPED



Summary for Subcatchment WS#1C: DEVELOPED

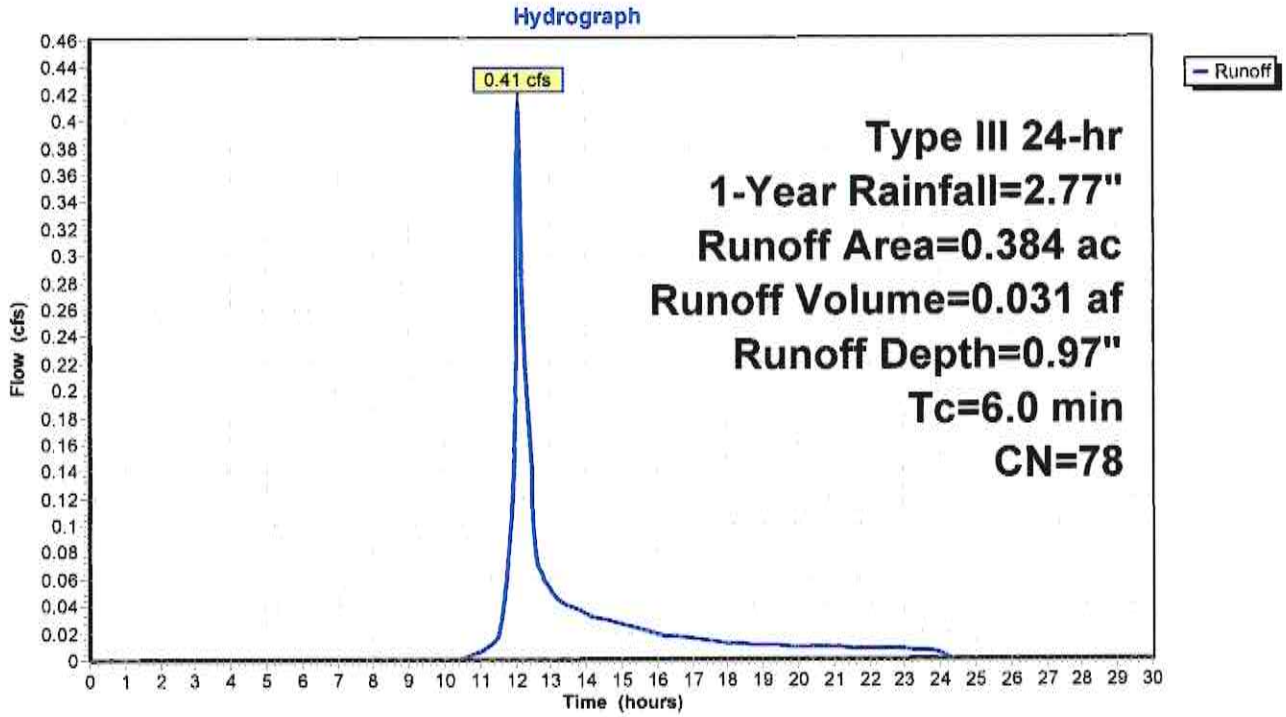
Runoff = 0.41 cfs @ 12.10 hrs, Volume= 0.031 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.77"

Area (ac)	CN	Description
0.326	74	>75% Grass cover, Good, HSG C
0.058	98	Paved parking, HSG C
0.384	78	Weighted Average
0.326		84.90% Pervious Area
0.058		15.10% Impervious Area

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

Subcatchment WS#1C: DEVELOPED

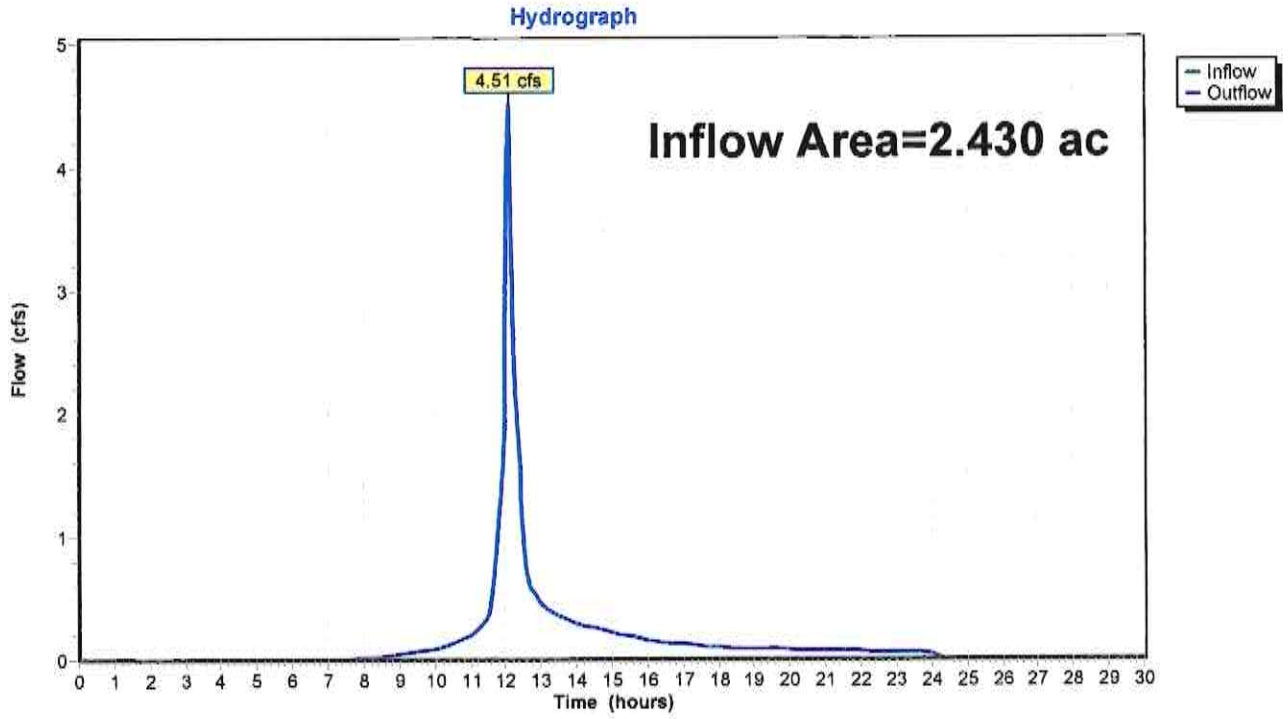


Summary for Reach E-POI#1: E-POI#1

Inflow Area = 2.430 ac, 56.21% Impervious, Inflow Depth = 1.62" for 1-Year event
Inflow = 4.51 cfs @ 12.09 hrs, Volume= 0.327 af
Outflow = 4.51 cfs @ 12.09 hrs, Volume= 0.327 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach E-POI#1: E-POI#1

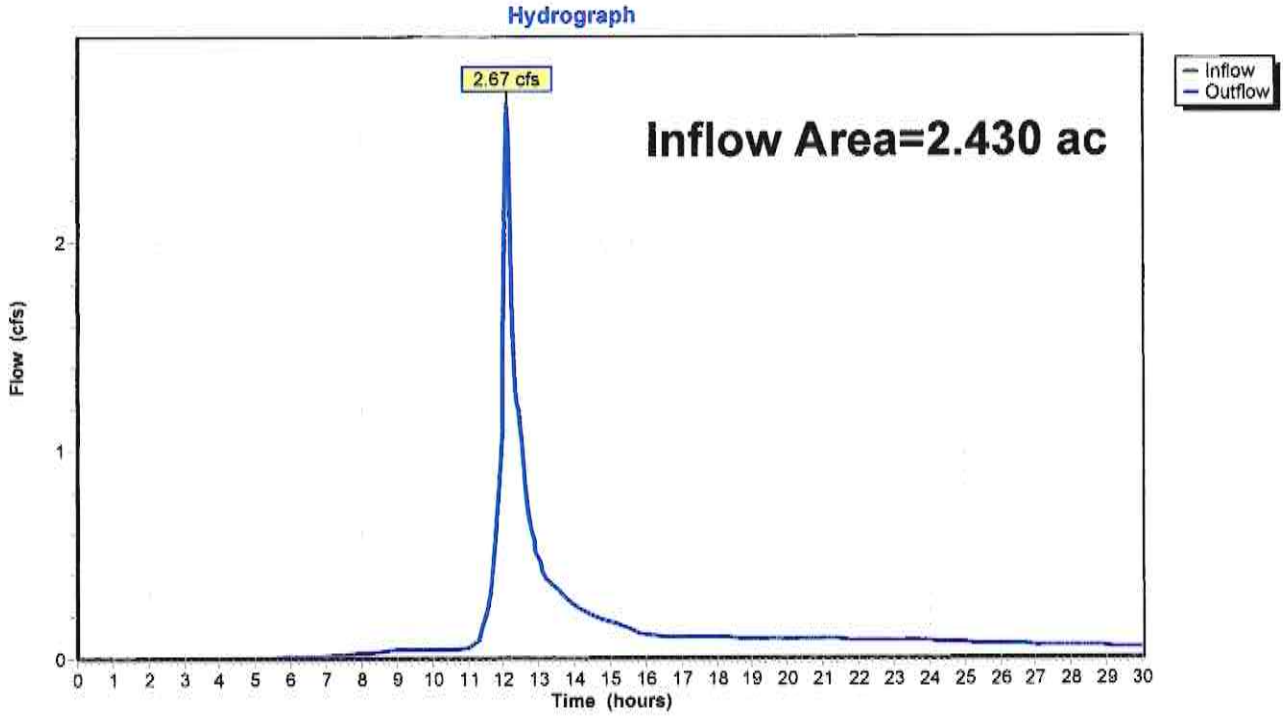


Summary for Reach P-POI#1: P-POI#1

Inflow Area = 2.430 ac, 72.55% Impervious, Inflow Depth > 1.44" for 1-Year event
Inflow = 2.67 cfs @ 12.11 hrs, Volume= 0.291 af
Outflow = 2.67 cfs @ 12.11 hrs, Volume= 0.291 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach P-POI#1: P-POI#1



Summary for Pond SMP#1: U.I.S (CULTEC R-902HD)

Inflow Area = 1.023 ac, 81.43% Impervious, Inflow Depth = 2.13" for 1-Year event
Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.181 af
Outflow = 2.27 cfs @ 12.12 hrs, Volume= 0.181 af, Atten= 6%, Lag= 1.7 min
Discarded = 0.09 cfs @ 12.12 hrs, Volume= 0.081 af
Primary = 2.18 cfs @ 12.12 hrs, Volume= 0.101 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 539.96' @ 12.12 hrs Surf.Area= 431 sf Storage= 648 cf

Plug-Flow detention time= 23.4 min calculated for 0.181 af (100% of inflow)
Center-of-Mass det. time= 23.3 min (815.3 - 792.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	537.65'	652 cf	**8.50'W x 50.70'L x 5.75'H Field A** 2,478 cf Overall - 847 cf Embedded = 1,631 cf x 40.0% Voids
#2A	538.40'	847 cf	**Cultec R-902HD** x 13 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf
		1,499 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	537.65'	**5.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 534.65' Phase-In= 0.01'
#2	Primary	539.00'	**0.9' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.09 cfs @ 12.12 hrs HW=539.94' (Free Discharge)
└**1=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=2.12 cfs @ 12.12 hrs HW=539.94' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.12 cfs @ 3.17 fps)

Pond SMP#1: U.I.S (CULTEC R-902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger® 902HD)
Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf
Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap
Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf

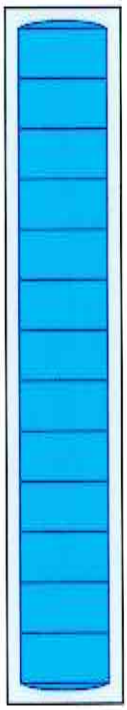
13 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 48.70' Row Length +12.0" End Stone x 2 = 50.70' Base Length
1 Rows x 78.0" Wide + 12.0" Side Stone x 2 = 8.50' Base Width
9.0" Base + 48.0" Chamber Height + 12.0" Cover = 5.75' Field Height

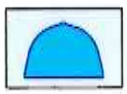
13 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 847.1 cf Chamber Storage

2,478.0 cf Field - 847.1 cf Chambers = 1,630.9 cf Stone x 40.0% Voids = 652.4 cf Stone Storage

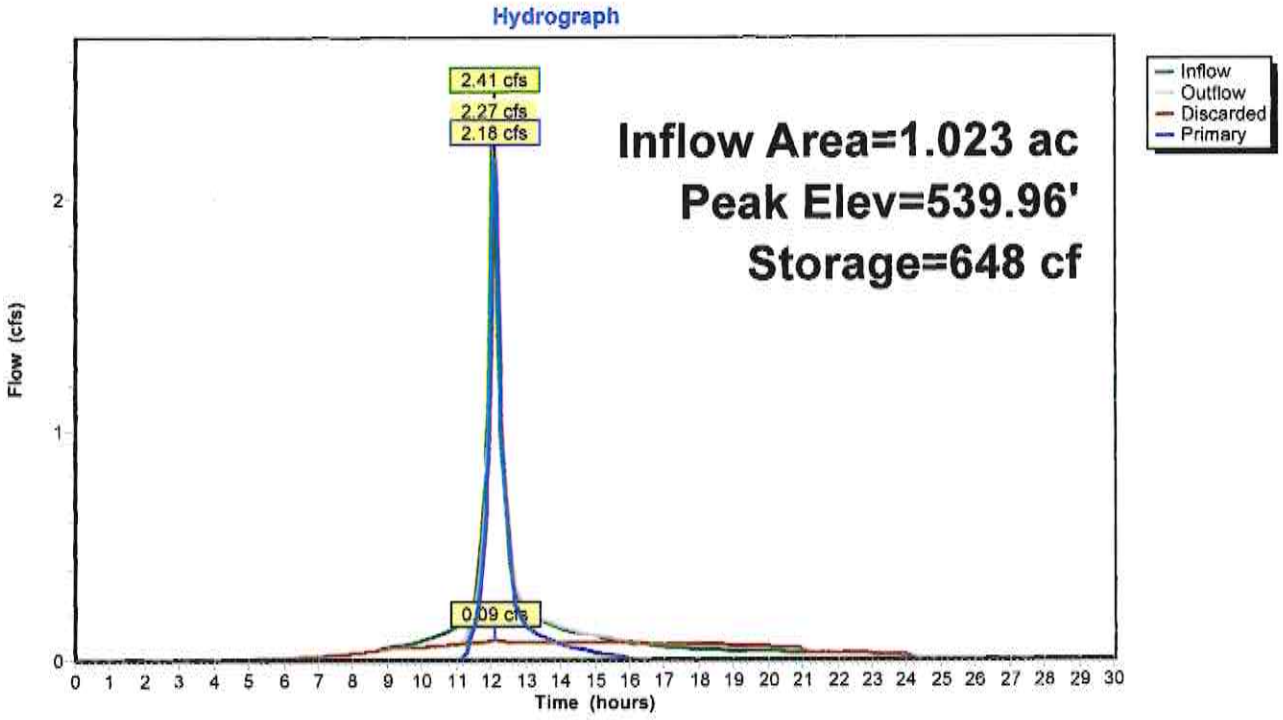
Chamber Storage + Stone Storage = 1,499.4 cf = 0.034 af
Overall Storage Efficiency = 60.5%
Overall System Size = 50.70' x 8.50' x 5.75'

13 Chambers
91.8 cy Field
60.4 cy Stone





Pond SMP#1: U.I.S (CULTEC R-902HD)



Stage-Discharge for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
537.65	0.00	0.00	0.00
537.75	0.05	0.05	0.00
537.85	0.05	0.05	0.00
537.95	0.05	0.05	0.00
538.05	0.06	0.06	0.00
538.15	0.06	0.06	0.00
538.25	0.06	0.06	0.00
538.35	0.06	0.06	0.00
538.45	0.06	0.06	0.00
538.55	0.06	0.06	0.00
538.65	0.07	0.07	0.00
538.75	0.07	0.07	0.00
538.85	0.07	0.07	0.00
538.95	0.07	0.07	0.00
539.05	0.11	0.07	0.03
539.15	0.24	0.07	0.17
539.25	0.42	0.08	0.35
539.35	0.64	0.08	0.56
539.45	0.88	0.08	0.80
539.55	1.14	0.08	1.05
539.65	1.40	0.08	1.32
539.75	1.68	0.08	1.59
539.85	1.96	0.09	1.87
539.95	2.24	0.09	2.15
540.05	2.52	0.09	2.43
540.15	2.79	0.09	2.70
540.25	3.06	0.09	2.97
540.35	3.33	0.09	3.23
540.45	3.58	0.10	3.48
540.55	3.82	0.10	3.72
540.65	4.05	0.10	3.95
540.75	4.27	0.10	4.16
540.85	4.46	0.10	4.36
540.95	4.65	0.10	4.54
541.05	4.81	0.11	4.70
541.15	4.95	0.11	4.85
541.25	5.08	0.11	4.97
541.35	5.41	0.11	5.30
541.45	5.76	0.11	5.64
541.55	6.11	0.11	5.99
541.65	6.46	0.12	6.35
541.75	6.83	0.12	6.71
541.85	7.20	0.12	7.08
541.95	7.58	0.12	7.46
542.05	7.96	0.12	7.84
542.15	8.35	0.12	8.23
542.25	8.75	0.13	8.62
542.35	9.15	0.13	9.02
542.45	9.56	0.13	9.43
542.55	9.97	0.13	9.84
542.65	10.39	0.13	10.26
542.75	10.82	0.13	10.69
542.85	11.25	0.14	11.12
542.95	11.69	0.14	11.55
543.05	12.13	0.14	11.99
543.15	12.58	0.14	12.44
543.25	13.04	0.14	12.89
543.35	**13.50**	**0.14**	**13.35**

Stage-Area-Storage for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
537.65	**431**	0
537.75	431	17
537.85	431	34
537.95	431	52
538.05	431	69
538.15	431	86
538.25	431	103
538.35	431	121
538.45	431	146
538.55	431	180
538.65	431	214
538.75	431	248
538.85	431	281
538.95	431	315
539.05	431	348
539.15	431	382
539.25	431	415
539.35	431	448
539.45	431	481
539.55	431	514
539.65	431	546
539.75	431	579
539.85	431	611
539.95	431	644
540.05	431	676
540.15	431	708
540.25	431	740
540.35	431	771
540.45	431	803
540.55	431	834
540.65	431	865
540.75	431	896
540.85	431	927
540.95	431	957
541.05	431	987
541.15	431	1,017
541.25	431	1,046
541.35	431	1,075
541.45	431	1,103
541.55	431	1,130
541.65	431	1,158
541.75	431	1,184
541.85	431	1,210
541.95	431	1,234
542.05	431	1,258
542.15	431	1,280
542.25	431	1,300
542.35	431	1,318
542.45	431	1,336
542.55	431	1,353
542.65	431	1,370
542.75	431	1,387
542.85	431	1,405
542.95	431	1,422
543.05	431	1,439
543.15	431	1,456
543.25	431	1,474
543.35	431	**1,491**

Summary for Pond SMP#2: BIO-FILTER SYSTEM

Inflow Area = 1.023 ac, 85.24% Impervious, Inflow Depth = 2.13" for 1-Year event
Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.181 af
Outflow = 0.48 cfs @ 12.53 hrs, Volume= 0.159 af, Atten= 80%, Lag= 26.4 min
Primary = 0.48 cfs @ 12.53 hrs, Volume= 0.159 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 534.60' @ 12.53 hrs Surf.Area= 2,886 sf Storage= 3,855 cf

Plug-Flow detention time= 342.1 min calculated for 0.159 af (88% of inflow)
Center-of-Mass det. time= 286.8 min (1,078.8 - 792.0)

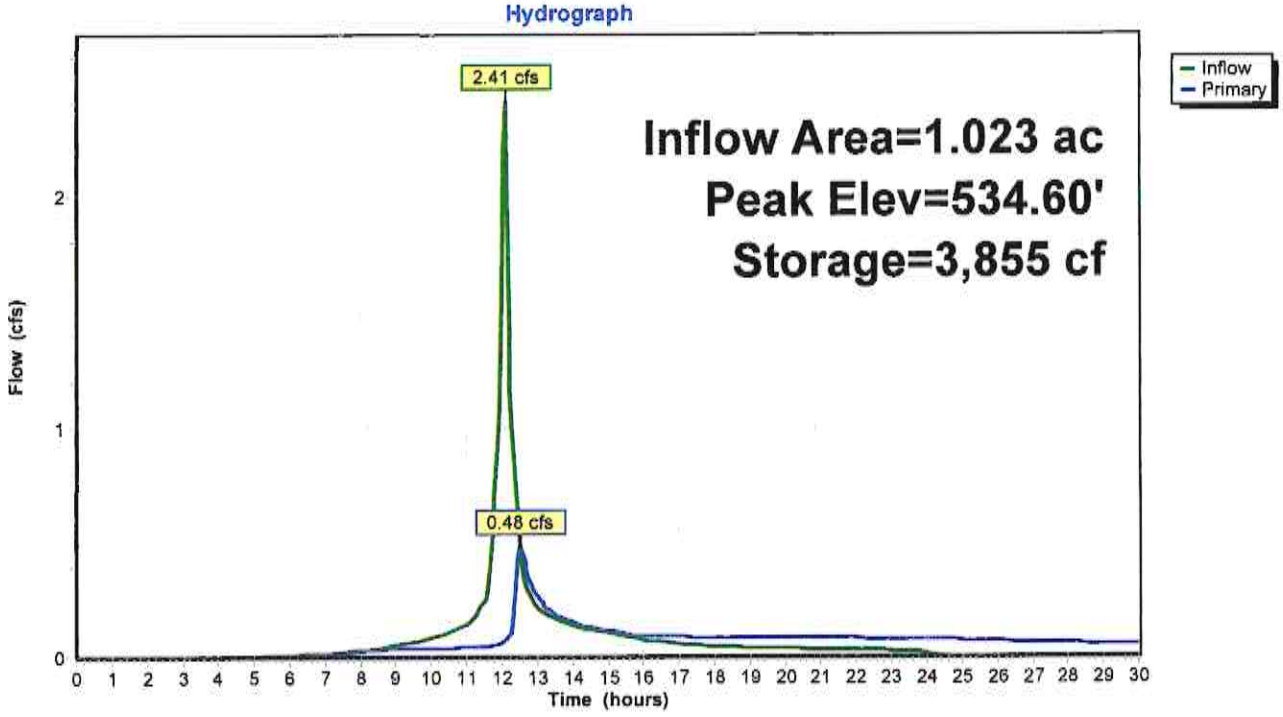
Volume	Invert	Avail.Storage	Storage Description
#1	531.00'	5,104 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
531.00	3,303	0.0	0	0
531.50	3,303	40.0	661	661
534.00	3,303	20.0	1,652	2,312
534.01	2,281	100.0	28	2,340
535.00	3,303	100.0	2,764	5,104

Device	Routing	Invert	Outlet Devices
#1	Primary	531.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 528.00' Phase-In= 0.01'
#2	Primary	534.50'	**1.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)
#3	Primary	534.75'	**3.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)

Primary OutFlow Max=0.47 cfs @ 12.53 hrs HW=534.60' (Free Discharge)
- **1=Exfiltration** (Controls 0.09 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 1.01 fps)
- **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SMP#2: BIO-FILTER SYSTEM



Stage-Discharge for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
531.00	0.00	532.06	0.05	533.12	0.07	534.18	0.08
531.02	0.04	532.08	0.05	533.14	0.07	534.20	0.08
531.04	0.04	532.10	0.05	533.16	0.07	534.22	0.08
531.06	0.04	532.12	0.05	533.18	0.07	534.24	0.08
531.08	0.04	532.14	0.05	533.20	0.07	534.26	0.08
531.10	0.04	532.16	0.05	533.22	0.07	534.28	0.08
531.12	0.04	532.18	0.05	533.24	0.07	534.30	0.08
531.14	0.04	532.20	0.05	533.26	0.07	534.32	0.08
531.16	0.04	532.22	0.05	533.28	0.07	534.34	0.08
531.18	0.04	532.24	0.05	533.30	0.07	534.36	0.08
531.20	0.04	532.26	0.05	533.32	0.07	534.38	0.09
531.22	0.04	532.28	0.05	533.34	0.07	534.40	0.09
531.24	0.04	532.30	0.05	533.36	0.07	534.42	0.09
531.26	0.04	532.32	0.06	533.38	0.07	534.44	0.09
531.28	0.04	532.34	0.06	533.40	0.07	534.46	0.09
531.30	0.04	532.36	0.06	533.42	0.07	534.48	0.09
531.32	0.04	532.38	0.06	533.44	0.07	534.50	0.09
531.34	0.04	532.40	0.06	533.46	0.07	534.52	0.13
531.36	0.04	532.42	0.06	533.48	0.07	534.54	0.19
531.38	0.04	532.44	0.06	533.50	0.07	534.56	0.28
531.40	0.04	532.46	0.06	533.52	0.07	534.58	0.38
531.42	0.04	532.48	0.06	533.54	0.07	534.60	0.50
531.44	0.04	532.50	0.06	533.56	0.07	534.62	0.62
531.46	0.04	532.52	0.06	533.58	0.07	534.64	0.76
531.48	0.04	532.54	0.06	533.60	0.07	534.66	0.90
531.50	0.04	532.56	0.06	533.62	0.07	534.68	1.06
531.52	0.04	532.58	0.06	533.64	0.07	534.70	1.22
531.54	0.05	532.60	0.06	533.66	0.07	534.72	1.38
531.56	0.05	532.62	0.06	533.68	0.07	534.74	1.56
531.58	0.05	532.64	0.06	533.70	0.07	534.76	1.78
531.60	0.05	532.66	0.06	533.72	0.07	534.78	2.13
531.62	0.05	532.68	0.06	533.74	0.07	534.80	2.55
531.64	0.05	532.70	0.06	533.76	0.07	534.82	3.04
531.66	0.05	532.72	0.06	533.78	0.07	534.84	3.57
531.68	0.05	532.74	0.06	533.80	0.07	534.86	4.14
531.70	0.05	532.76	0.06	533.82	0.07	534.88	4.75
531.72	0.05	532.78	0.06	533.84	0.07	534.90	5.40
531.74	0.05	532.80	0.06	533.86	0.07	534.92	6.08
531.76	0.05	532.82	0.06	533.88	0.07	534.94	6.79
531.78	0.05	532.84	0.06	533.90	0.08	534.96	7.53
531.80	0.05	532.86	0.06	533.92	0.08	534.98	8.30
531.82	0.05	532.88	0.06	533.94	0.08	535.00	**9.09**
531.84	0.05	532.90	0.06	533.96	0.08		
531.86	0.05	532.92	0.06	533.98	0.08		
531.88	0.05	532.94	0.06	534.00	0.08		
531.90	0.05	532.96	0.06	534.02	0.08		
531.92	0.05	532.98	0.06	534.04	0.08		
531.94	0.05	533.00	0.06	534.06	0.08		
531.96	0.05	533.02	0.06	534.08	0.08		
531.98	0.05	533.04	0.06	534.10	0.08		
532.00	0.05	533.06	0.06	534.12	0.08		
532.02	0.05	533.08	0.06	534.14	0.08		
532.04	0.05	533.10	0.06	534.16	0.08		

Stage-Area-Storage for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
531.00	**3,303**	0
531.05	3,303	66
531.10	3,303	132
531.15	3,303	198
531.20	3,303	264
531.25	3,303	330
531.30	3,303	396
531.35	3,303	462
531.40	3,303	528
531.45	3,303	595
531.50	3,303	661
531.55	3,303	694
531.60	3,303	727
531.65	3,303	760
531.70	3,303	793
531.75	3,303	826
531.80	3,303	859
531.85	3,303	892
531.90	3,303	925
531.95	3,303	958
532.00	3,303	991
532.05	3,303	1,024
532.10	3,303	1,057
532.15	3,303	1,090
532.20	3,303	1,123
532.25	3,303	1,156
532.30	3,303	1,189
532.35	3,303	1,222
532.40	3,303	1,255
532.45	3,303	1,288
532.50	3,303	1,321
532.55	3,303	1,354
532.60	3,303	1,387
532.65	3,303	1,420
532.70	3,303	1,453
532.75	3,303	1,486
532.80	3,303	1,519
532.85	3,303	1,552
532.90	3,303	1,585
532.95	3,303	1,618
533.00	3,303	1,652
533.05	3,303	1,685
533.10	3,303	1,718
533.15	3,303	1,751
533.20	3,303	1,784
533.25	3,303	1,817
533.30	3,303	1,850
533.35	3,303	1,883
533.40	3,303	1,916
533.45	3,303	1,949
533.50	3,303	1,982
533.55	3,303	2,015
533.60	3,303	2,048
533.65	3,303	2,081
533.70	3,303	2,114
533.75	3,303	2,147
533.80	3,303	2,180
533.85	3,303	2,213
533.90	3,303	2,246
533.95	3,303	2,279
534.00	3,303	2,312
534.05	2,322	2,432
534.10	2,374	2,549
534.15	2,426	2,669
534.20	2,477	2,792
534.25	2,529	2,917
534.30	2,580	3,045
534.35	2,632	3,175
534.40	2,684	3,308
534.45	2,735	3,444
534.50	2,787	3,582
534.55	2,838	3,722
534.60	2,890	3,865
534.65	2,942	4,011
534.70	2,993	4,160
534.75	3,045	4,311
534.80	3,097	4,464
534.85	3,148	4,620
534.90	3,200	4,779
534.95	3,251	4,940
535.00	3,303	**5,104**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment WS#1: EXISTING Runoff Area=2.430 ac 56.21% Impervious Runoff Depth=3.72"
Tc=6.0 min CN=88 Runoff=10.11 cfs 0.753 af

Subcatchment WS#1A: BUILDINGS & ACCESS Runoff Area=1.023 ac 81.43% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=94 Runoff=4.74 cfs 0.371 af

Subcatchment WS#1B: DEVELOPED Runoff Area=1.023 ac 85.24% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=94 Runoff=4.74 cfs 0.371 af

Subcatchment WS#1C: DEVELOPED Runoff Area=0.384 ac 15.10% Impervious Runoff Depth=2.75"
Tc=6.0 min CN=78 Runoff=1.22 cfs 0.088 af

Reach E-POI#1: E-POI#1 Inflow=10.11 cfs 0.753 af
Outflow=10.11 cfs 0.753 af

Reach P-POI#1: P-POI#1 Inflow=9.95 cfs 0.684 af
Outflow=9.95 cfs 0.684 af

Pond SMP#1: U.I.S (CULTEC R-902HD) Peak Elev=540.81' Storage=916 cf Inflow=4.74 cfs 0.371 af
Discarded=0.10 cfs 0.113 af Primary=4.30 cfs 0.258 af Outflow=4.40 cfs 0.371 af

Pond SMP#2: BIO-FILTER SYSTEM Peak Elev=534.87' Storage=4,688 cf Inflow=4.74 cfs 0.371 af
Outflow=4.48 cfs 0.337 af

Total Runoff Area = 4.860 ac Runoff Volume = 1.584 af Average Runoff Depth = 3.91"
35.62% Pervious = 1.731 ac 64.38% Impervious = 3.129 ac

Summary for Subcatchment WS#1: EXISTING

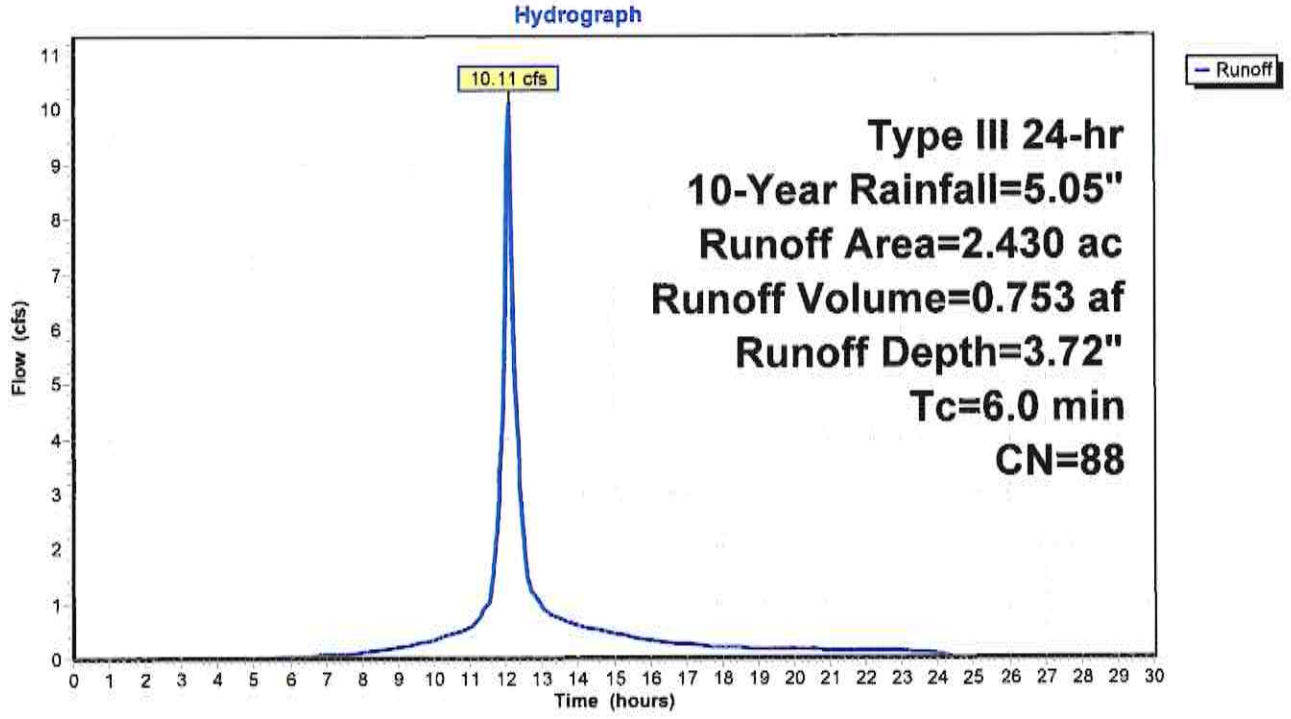
Runoff = 10.11 cfs @ 12.09 hrs, Volume= 0.753 af, Depth= 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.05"

	Area (ac)	CN	Description
	0.512	76	Woods/grass comb., Fair, HSG C
	0.552	74	>75% Grass cover, Good, HSG C
*	1.366	98	Impervious Cover, HSG C
	2.430	88	Weighted Average
	1.064		43.79% Pervious Area
	1.366		56.21% Impervious Area

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

Subcatchment WS#1: EXISTING



Summary for Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE

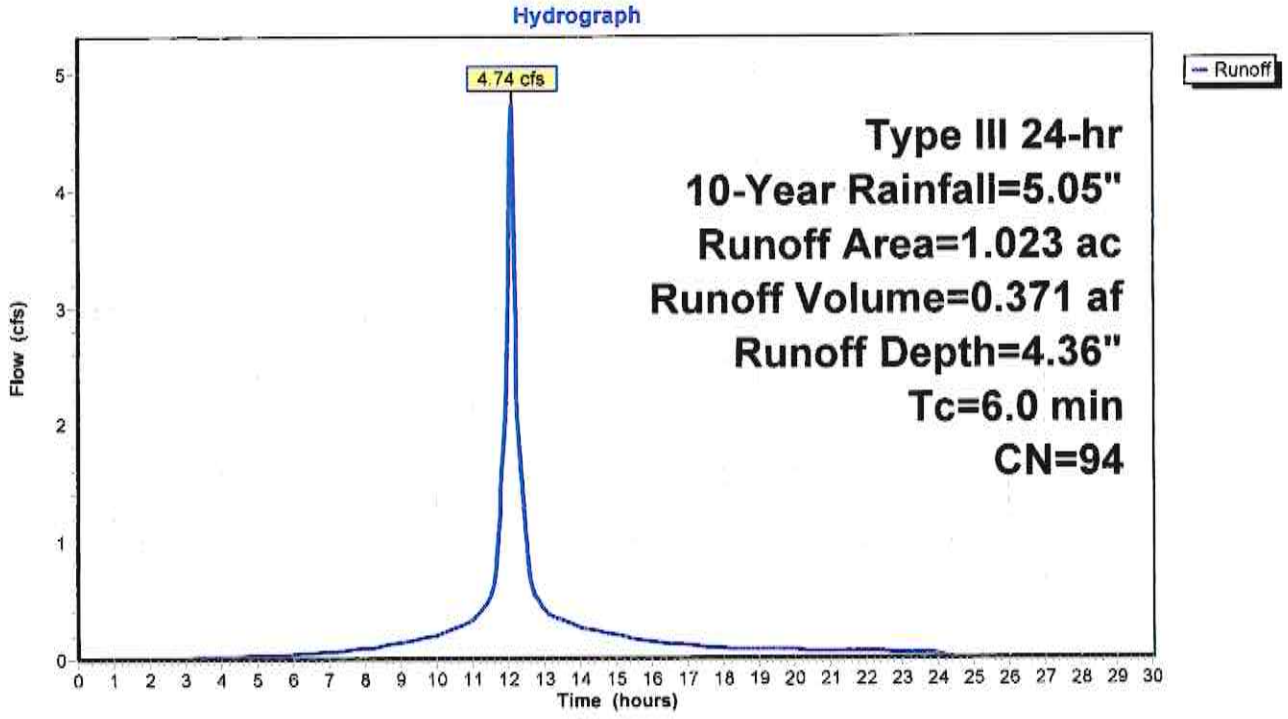
Runoff = 4.74 cfs @ 12.09 hrs, Volume= 0.371 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.05"

Area (ac)	CN	Description
0.190	74	>75% Grass cover, Good, HSG C
0.833	98	Paved parking, HSG C
1.023	94	Weighted Average
0.190		18.57% Pervious Area
0.833		81.43% Impervious Area

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

Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE



Summary for Subcatchment WS#1B: DEVELOPED

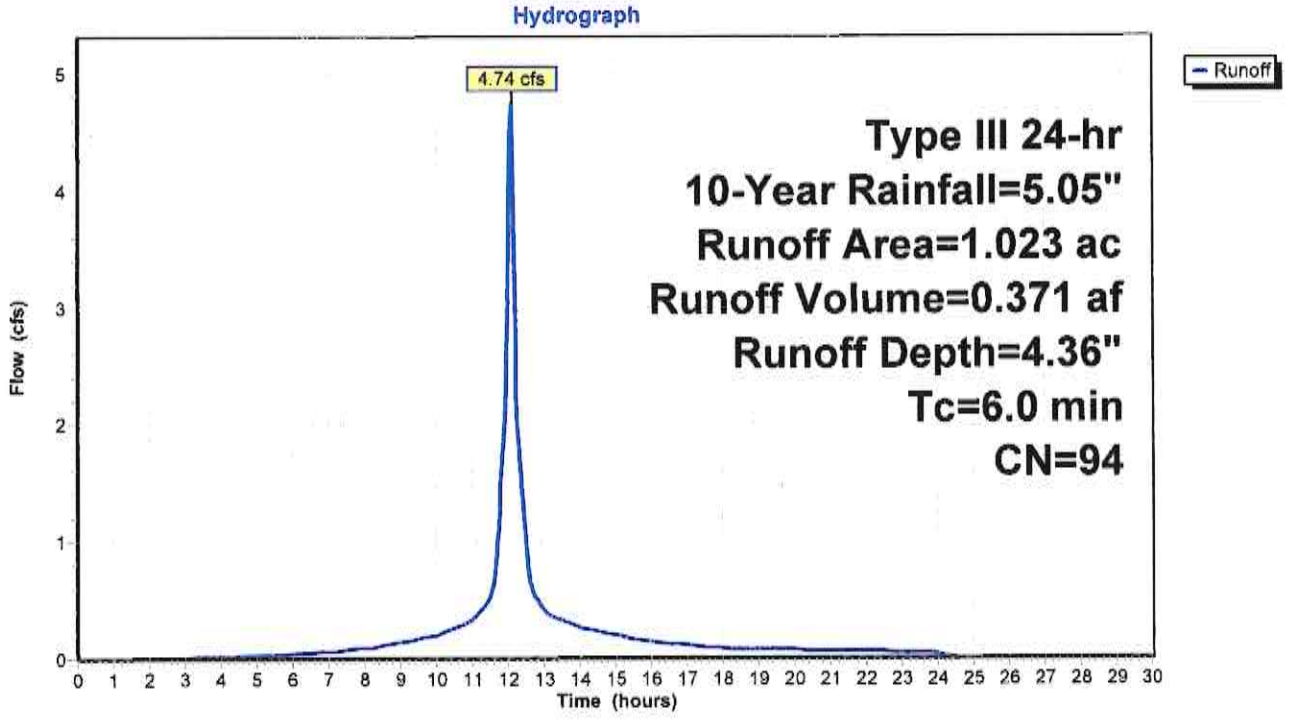
Runoff = 4.74 cfs @ 12.09 hrs, Volume= 0.371 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.05"

Area (ac)	CN	Description
0.151	74	>75% Grass cover, Good, HSG C
0.872	98	Paved parking, HSG C
1.023	94	Weighted Average
0.151		14.76% Pervious Area
0.872		85.24% Impervious Area

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

Subcatchment WS#1B: DEVELOPED



Summary for Subcatchment WS#1C: DEVELOPED

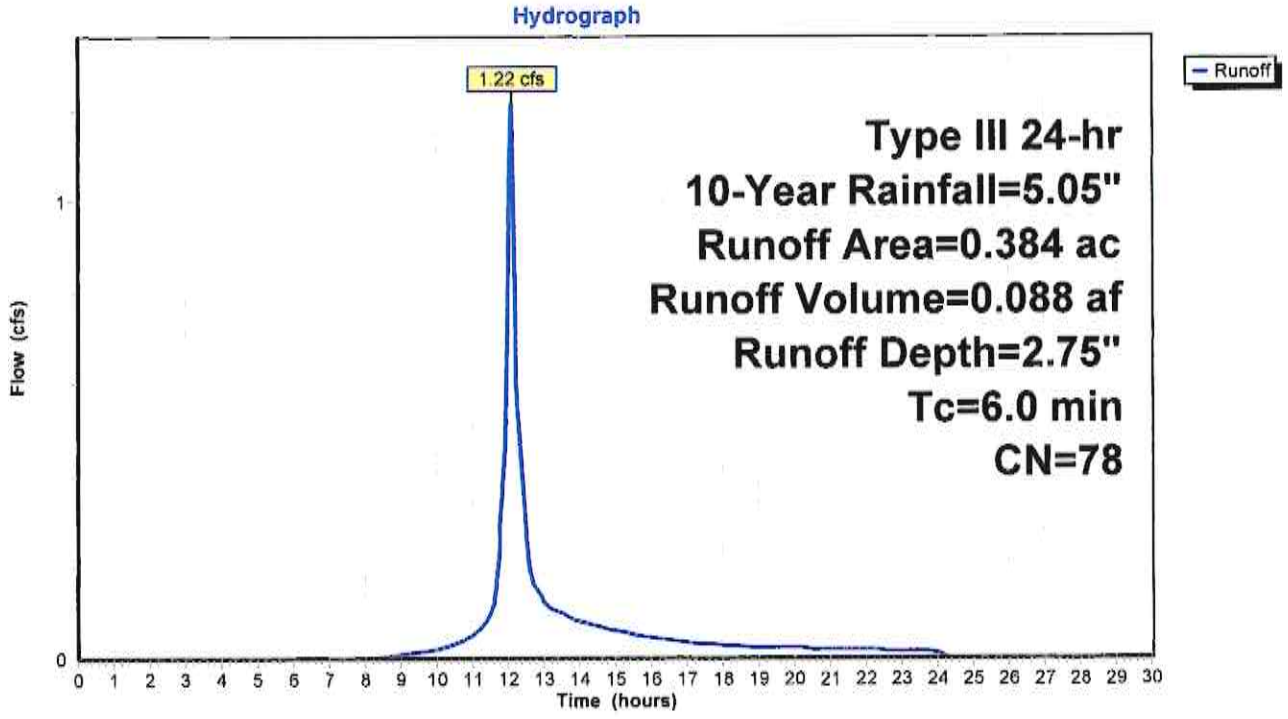
Runoff = 1.22 cfs @ 12.09 hrs, Volume= 0.088 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.05"

Area (ac)	CN	Description
0.326	74	>75% Grass cover, Good, HSG C
0.058	98	Paved parking, HSG C
0.384	78	Weighted Average
0.326		84.90% Pervious Area
0.058		15.10% Impervious Area

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

Subcatchment WS#1C: DEVELOPED

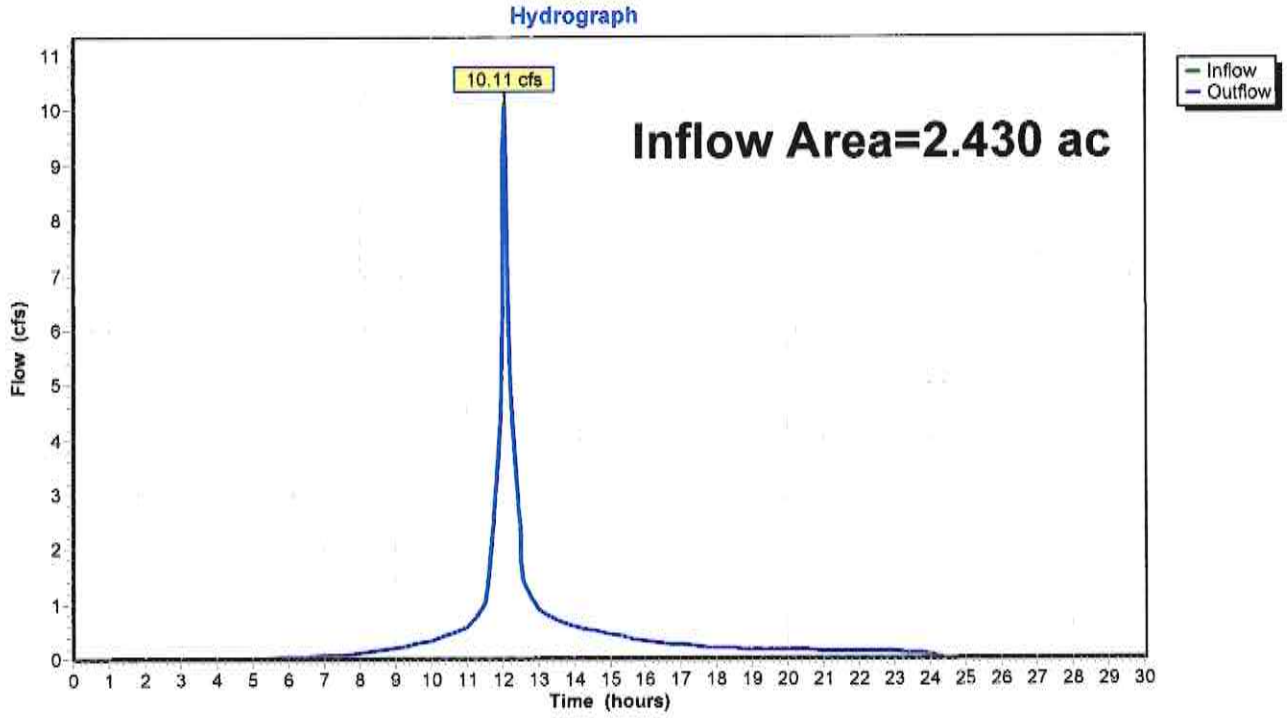


Summary for Reach E-POI#1: E-POI#1

Inflow Area = 2.430 ac, 56.21% Impervious, Inflow Depth = 3.72" for 10-Year event
Inflow = 10.11 cfs @ 12.09 hrs, Volume= 0.753 af
Outflow = 10.11 cfs @ 12.09 hrs, Volume= 0.753 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach E-POI#1: E-POI#1

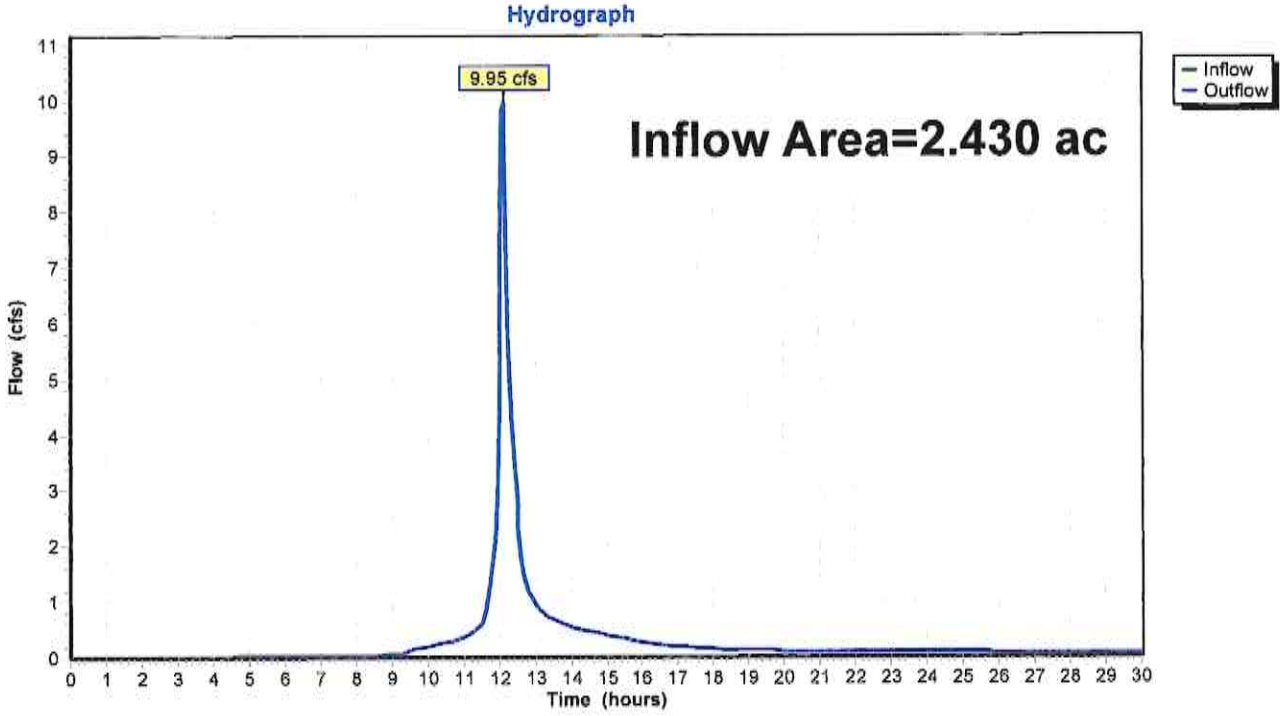


Summary for Reach P-POI#1: P-POI#1

Inflow Area = 2.430 ac, 72.55% Impervious, Inflow Depth > 3.38" for 10-Year event
Inflow = 9.95 cfs @ 12.12 hrs, Volume= 0.684 af
Outflow = 9.95 cfs @ 12.12 hrs, Volume= 0.684 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach P-POI#1: P-POI#1



Summary for Pond SMP#1: U.I.S (CULTEC R-902HD)

Inflow Area = 1.023 ac, 81.43% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 4.74 cfs @ 12.09 hrs, Volume= 0.371 af
Outflow = 4.40 cfs @ 12.12 hrs, Volume= 0.371 af, Atten= 7%, Lag= 1.9 min
Discarded = 0.10 cfs @ 12.12 hrs, Volume= 0.113 af
Primary = 4.30 cfs @ 12.12 hrs, Volume= 0.258 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 540.81' @ 12.12 hrs Surf.Area= 431 sf Storage= 916 cf

Plug-Flow detention time= 20.6 min calculated for 0.371 af (100% of inflow)
Center-of-Mass det. time= 20.6 min (793.8 - 773.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	537.65'	652 cf	**8.50'W x 50.70'L x 5.75'H Field A** 2,478 cf Overall - 847 cf Embedded = 1,631 cf x 40.0% Voids
#2A	538.40'	847 cf	**Cultec R-902HD** x 13 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf
		1,499 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	537.65'	**5.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 534.65' Phase-In= 0.01'
#2	Primary	539.00'	**0.9' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.10 cfs @ 12.12 hrs HW=540.77' (Free Discharge)
└**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=4.20 cfs @ 12.12 hrs HW=540.77' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 4.20 cfs @ 4.35 fps)

Pond SMP#1: U.I.S (CULTEC R-902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger® 902HD)
Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf
Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap
Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf

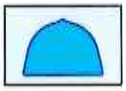
13 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 48.70' Row Length +12.0" End Stone x 2 = 50.70' Base Length
1 Rows x 78.0" Wide + 12.0" Side Stone x 2 = 8.50' Base Width
9.0" Base + 48.0" Chamber Height + 12.0" Cover = 5.75' Field Height

13 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 847.1 cf Chamber Storage

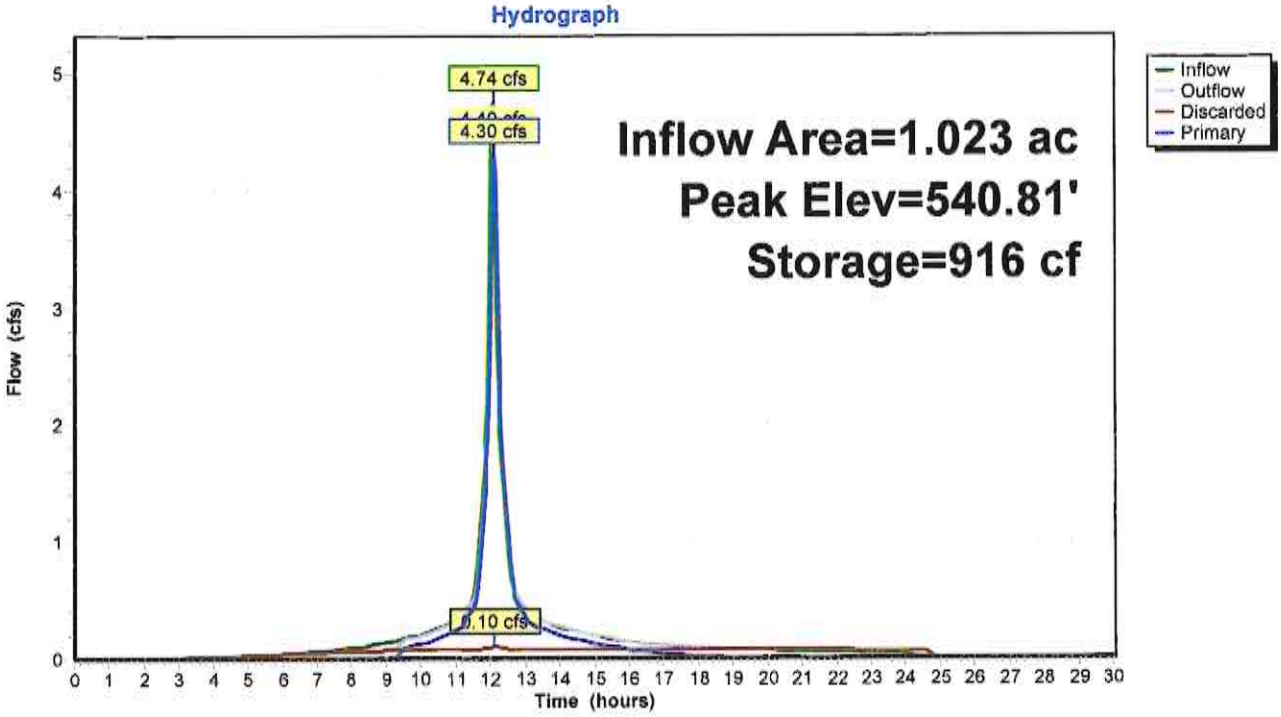
2,478.0 cf Field - 847.1 cf Chambers = 1,630.9 cf Stone x 40.0% Voids = 652.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,499.4 cf = 0.034 af
Overall Storage Efficiency = 60.5%
Overall System Size = 50.70' x 8.50' x 5.75'

13 Chambers
91.8 cy Field
60.4 cy Stone



Pond SMP#1: U.I.S (CULTEC R-902HD)



Stage-Discharge for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
537.65	0.00	0.00	0.00
537.75	0.05	0.05	0.00
537.85	0.05	0.05	0.00
537.95	0.05	0.05	0.00
538.05	0.06	0.06	0.00
538.15	0.06	0.06	0.00
538.25	0.06	0.06	0.00
538.35	0.06	0.06	0.00
538.45	0.06	0.06	0.00
538.55	0.06	0.06	0.00
538.65	0.07	0.07	0.00
538.75	0.07	0.07	0.00
538.85	0.07	0.07	0.00
538.95	0.07	0.07	0.00
539.05	0.11	0.07	0.03
539.15	0.24	0.07	0.17
539.25	0.42	0.08	0.35
539.35	0.64	0.08	0.56
539.45	0.88	0.08	0.80
539.55	1.14	0.08	1.05
539.65	1.40	0.08	1.32
539.75	1.68	0.08	1.59
539.85	1.96	0.09	1.87
539.95	2.24	0.09	2.15
540.05	2.52	0.09	2.43
540.15	2.79	0.09	2.70
540.25	3.06	0.09	2.97
540.35	3.33	0.09	3.23
540.45	3.58	0.10	3.48
540.55	3.82	0.10	3.72
540.65	4.05	0.10	3.95
540.75	4.27	0.10	4.16
540.85	4.46	0.10	4.36
540.95	4.65	0.10	4.54
541.05	4.81	0.11	4.70
541.15	4.95	0.11	4.85
541.25	5.08	0.11	4.97
541.35	5.41	0.11	5.30
541.45	5.76	0.11	5.64
541.55	6.11	0.11	5.99
541.65	6.46	0.12	6.35
541.75	6.83	0.12	6.71
541.85	7.20	0.12	7.08
541.95	7.58	0.12	7.46
542.05	7.96	0.12	7.84
542.15	8.35	0.12	8.23
542.25	8.75	0.13	8.62
542.35	9.15	0.13	9.02
542.45	9.56	0.13	9.43
542.55	9.97	0.13	9.84
542.65	10.39	0.13	10.26
542.75	10.82	0.13	10.69
542.85	11.25	0.14	11.12
542.95	11.69	0.14	11.55
543.05	12.13	0.14	11.99
543.15	12.58	0.14	12.44
543.25	13.04	0.14	12.89
543.35	**13.50**	**0.14**	**13.35**

Stage-Area-Storage for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
537.65	**431**	0
537.75	431	17
537.85	431	34
537.95	431	52
538.05	431	69
538.15	431	86
538.25	431	103
538.35	431	121
538.45	431	146
538.55	431	180
538.65	431	214
538.75	431	248
538.85	431	281
538.95	431	315
539.05	431	348
539.15	431	382
539.25	431	415
539.35	431	448
539.45	431	481
539.55	431	514
539.65	431	546
539.75	431	579
539.85	431	611
539.95	431	644
540.05	431	676
540.15	431	708
540.25	431	740
540.35	431	771
540.45	431	803
540.55	431	834
540.65	431	865
540.75	431	896
540.85	431	927
540.95	431	957
541.05	431	987
541.15	431	1,017
541.25	431	1,046
541.35	431	1,075
541.45	431	1,103
541.55	431	1,130
541.65	431	1,158
541.75	431	1,184
541.85	431	1,210
541.95	431	1,234
542.05	431	1,258
542.15	431	1,280
542.25	431	1,300
542.35	431	1,318
542.45	431	1,336
542.55	431	1,353
542.65	431	1,370
542.75	431	1,387
542.85	431	1,405
542.95	431	1,422
543.05	431	1,439
543.15	431	1,456
543.25	431	1,474
543.35	431	**1,491**

Summary for Pond SMP#2: BIO-FILTER SYSTEM

Inflow Area = 1.023 ac, 85.24% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 4.74 cfs @ 12.09 hrs, Volume= 0.371 af
Outflow = 4.48 cfs @ 12.12 hrs, Volume= 0.337 af, Atten= 5%, Lag= 2.0 min
Primary = 4.48 cfs @ 12.12 hrs, Volume= 0.337 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 534.87' @ 12.12 hrs Surf.Area= 3,170 sf Storage= 4,688 cf

Plug-Flow detention time= 192.6 min calculated for 0.337 af (91% of inflow)
Center-of-Mass det. time= 146.5 min (919.7 - 773.2)

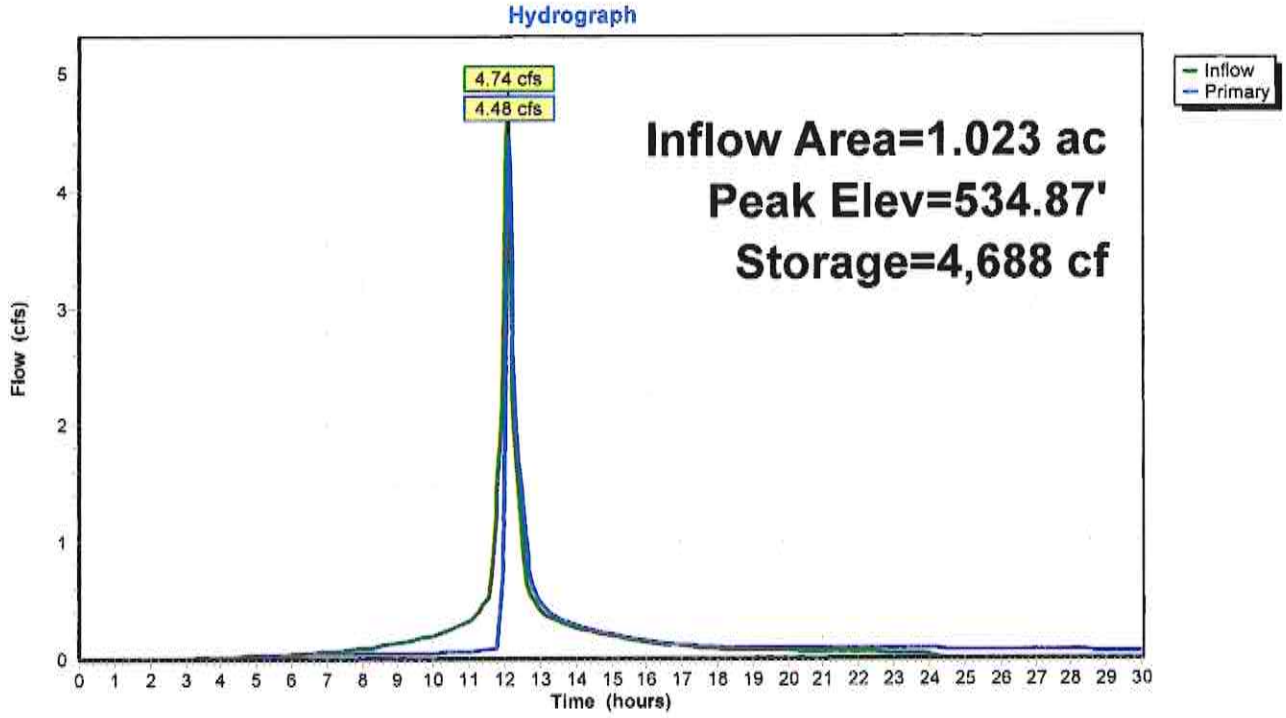
Volume	Invert	Avail.Storage	Storage Description
#1	531.00'	5,104 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
531.00	3,303	0.0	0	0
531.50	3,303	40.0	661	661
534.00	3,303	20.0	1,652	2,312
534.01	2,281	100.0	28	2,340
535.00	3,303	100.0	2,764	5,104

Device	Routing	Invert	Outlet Devices
#1	Primary	531.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 528.00' Phase-In= 0.01'
#2	Primary	534.50'	**1.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)
#3	Primary	534.75'	**3.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)

Primary OutFlow Max=4.28 cfs @ 12.12 hrs HW=534.86' (Free Discharge)
- **1=Exfiltration** (Controls 0.10 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.67 cfs @ 1.97 fps)
- **3=Sharp-Crested Rectangular Weir** (Weir Controls 1.51 cfs @ 1.11 fps)

Pond SMP#2: BIO-FILTER SYSTEM



Stage-Discharge for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
531.00	0.00	532.06	0.05	533.12	0.07	534.18	0.08
531.02	0.04	532.08	0.05	533.14	0.07	534.20	0.08
531.04	0.04	532.10	0.05	533.16	0.07	534.22	0.08
531.06	0.04	532.12	0.05	533.18	0.07	534.24	0.08
531.08	0.04	532.14	0.05	533.20	0.07	534.26	0.08
531.10	0.04	532.16	0.05	533.22	0.07	534.28	0.08
531.12	0.04	532.18	0.05	533.24	0.07	534.30	0.08
531.14	0.04	532.20	0.05	533.26	0.07	534.32	0.08
531.16	0.04	532.22	0.05	533.28	0.07	534.34	0.08
531.18	0.04	532.24	0.05	533.30	0.07	534.36	0.08
531.20	0.04	532.26	0.05	533.32	0.07	534.38	0.09
531.22	0.04	532.28	0.05	533.34	0.07	534.40	0.09
531.24	0.04	532.30	0.05	533.36	0.07	534.42	0.09
531.26	0.04	532.32	0.06	533.38	0.07	534.44	0.09
531.28	0.04	532.34	0.06	533.40	0.07	534.46	0.09
531.30	0.04	532.36	0.06	533.42	0.07	534.48	0.09
531.32	0.04	532.38	0.06	533.44	0.07	534.50	0.09
531.34	0.04	532.40	0.06	533.46	0.07	534.52	0.13
531.36	0.04	532.42	0.06	533.48	0.07	534.54	0.19
531.38	0.04	532.44	0.06	533.50	0.07	534.56	0.28
531.40	0.04	532.46	0.06	533.52	0.07	534.58	0.38
531.42	0.04	532.48	0.06	533.54	0.07	534.60	0.50
531.44	0.04	532.50	0.06	533.56	0.07	534.62	0.62
531.46	0.04	532.52	0.06	533.58	0.07	534.64	0.76
531.48	0.04	532.54	0.06	533.60	0.07	534.66	0.90
531.50	0.04	532.56	0.06	533.62	0.07	534.68	1.06
531.52	0.04	532.58	0.06	533.64	0.07	534.70	1.22
531.54	0.05	532.60	0.06	533.66	0.07	534.72	1.38
531.56	0.05	532.62	0.06	533.68	0.07	534.74	1.56
531.58	0.05	532.64	0.06	533.70	0.07	534.76	1.78
531.60	0.05	532.66	0.06	533.72	0.07	534.78	2.13
531.62	0.05	532.68	0.06	533.74	0.07	534.80	2.55
531.64	0.05	532.70	0.06	533.76	0.07	534.82	3.04
531.66	0.05	532.72	0.06	533.78	0.07	534.84	3.57
531.68	0.05	532.74	0.06	533.80	0.07	534.86	4.14
531.70	0.05	532.76	0.06	533.82	0.07	534.88	4.75
531.72	0.05	532.78	0.06	533.84	0.07	534.90	5.40
531.74	0.05	532.80	0.06	533.86	0.07	534.92	6.08
531.76	0.05	532.82	0.06	533.88	0.07	534.94	6.79
531.78	0.05	532.84	0.06	533.90	0.08	534.96	7.53
531.80	0.05	532.86	0.06	533.92	0.08	534.98	8.30
531.82	0.05	532.88	0.06	533.94	0.08	535.00	**9.09**
531.84	0.05	532.90	0.06	533.96	0.08		
531.86	0.05	532.92	0.06	533.98	0.08		
531.88	0.05	532.94	0.06	534.00	0.08		
531.90	0.05	532.96	0.06	534.02	0.08		
531.92	0.05	532.98	0.06	534.04	0.08		
531.94	0.05	533.00	0.06	534.06	0.08		
531.96	0.05	533.02	0.06	534.08	0.08		
531.98	0.05	533.04	0.06	534.10	0.08		
532.00	0.05	533.06	0.06	534.12	0.08		
532.02	0.05	533.08	0.06	534.14	0.08		
532.04	0.05	533.10	0.06	534.16	0.08		

Stage-Area-Storage for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
531.00	**3,303**	0
531.05	3,303	66
531.10	3,303	132
531.15	3,303	198
531.20	3,303	264
531.25	3,303	330
531.30	3,303	396
531.35	3,303	462
531.40	3,303	528
531.45	3,303	595
531.50	3,303	661
531.55	3,303	694
531.60	3,303	727
531.65	3,303	760
531.70	3,303	793
531.75	3,303	826
531.80	3,303	859
531.85	3,303	892
531.90	3,303	925
531.95	3,303	958
532.00	3,303	991
532.05	3,303	1,024
532.10	3,303	1,057
532.15	3,303	1,090
532.20	3,303	1,123
532.25	3,303	1,156
532.30	3,303	1,189
532.35	3,303	1,222
532.40	3,303	1,255
532.45	3,303	1,288
532.50	3,303	1,321
532.55	3,303	1,354
532.60	3,303	1,387
532.65	3,303	1,420
532.70	3,303	1,453
532.75	3,303	1,486
532.80	3,303	1,519
532.85	3,303	1,552
532.90	3,303	1,585
532.95	3,303	1,618
533.00	3,303	1,652
533.05	3,303	1,685
533.10	3,303	1,718
533.15	3,303	1,751
533.20	3,303	1,784
533.25	3,303	1,817
533.30	3,303	1,850
533.35	3,303	1,883
533.40	3,303	1,916
533.45	3,303	1,949
533.50	3,303	1,982
533.55	3,303	2,015
533.60	3,303	2,048
533.65	3,303	2,081
533.70	3,303	2,114
533.75	3,303	2,147
533.80	3,303	2,180
533.85	3,303	2,213
533.90	3,303	2,246
533.95	3,303	2,279
534.00	3,303	2,312
534.05	2,322	2,432
534.10	2,374	2,549
534.15	2,426	2,669
534.20	2,477	2,792
534.25	2,529	2,917
534.30	2,580	3,045
534.35	2,632	3,175
534.40	2,684	3,308
534.45	2,735	3,444
534.50	2,787	3,582
534.55	2,838	3,722
534.60	2,890	3,865
534.65	2,942	4,011
534.70	2,993	4,160
534.75	3,045	4,311
534.80	3,097	4,464
534.85	3,148	4,620
534.90	3,200	4,779
534.95	3,251	4,940
535.00	3,303	**5,104**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment WS#1: EXISTING Runoff Area=2.430 ac 56.21% Impervious Runoff Depth=7.55"
Tc=6.0 min CN=88 Runoff=19.76 cfs 1.528 af

Subcatchment WS#1A: BUILDINGS & ACCESS Runoff Area=1.023 ac 81.43% Impervious Runoff Depth=8.28"
Tc=6.0 min CN=94 Runoff=8.70 cfs 0.706 af

Subcatchment WS#1B: DEVELOPED Runoff Area=1.023 ac 85.24% Impervious Runoff Depth=8.28"
Tc=6.0 min CN=94 Runoff=8.70 cfs 0.706 af

Subcatchment WS#1C: DEVELOPED Runoff Area=0.384 ac 15.10% Impervious Runoff Depth=6.32"
Tc=6.0 min CN=78 Runoff=2.74 cfs 0.202 af

Reach E-POI#1: E-POI#1 Inflow=19.76 cfs 1.528 af
Outflow=19.76 cfs 1.528 af

Reach P-POI#1: P-POI#1 Inflow=19.66 cfs 1.434 af
Outflow=19.66 cfs 1.434 af

Pond SMP#1: U.I.S (CULTEC R-902HD) Peak Elev=542.23' Storage=1,297 cf Inflow=8.70 cfs 0.706 af
Discarded=0.13 cfs 0.136 af Primary=8.56 cfs 0.569 af Outflow=8.68 cfs 0.706 af

Pond SMP#2: BIO-FILTER SYSTEM Peak Elev=534.98' Storage=5,047 cf Inflow=8.70 cfs 0.706 af
Outflow=8.41 cfs 0.663 af

Total Runoff Area = 4.860 ac Runoff Volume = 3.142 af Average Runoff Depth = 7.76"
35.62% Pervious = 1.731 ac 64.38% Impervious = 3.129 ac

Summary for Subcatchment WS#1: EXISTING

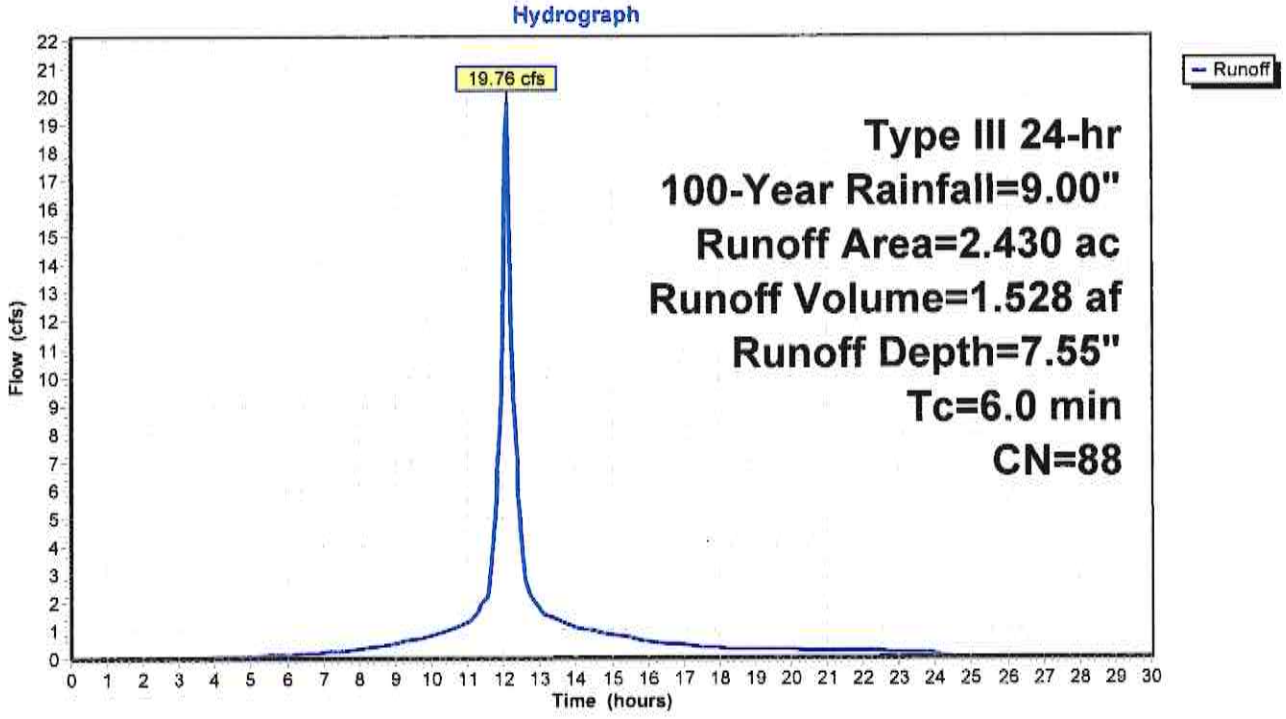
Runoff = 19.76 cfs @ 12.09 hrs, Volume= 1.528 af, Depth= 7.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=9.00"

	Area (ac)	CN	Description
	0.512	76	Woods/grass comb., Fair, HSG C
	0.552	74	>75% Grass cover, Good, HSG C
*	1.366	98	Impervious Cover, HSG C
	2.430	88	Weighted Average
	1.064		43.79% Pervious Area
	1.366		56.21% Impervious Area

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

Subcatchment WS#1: EXISTING



Summary for Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE

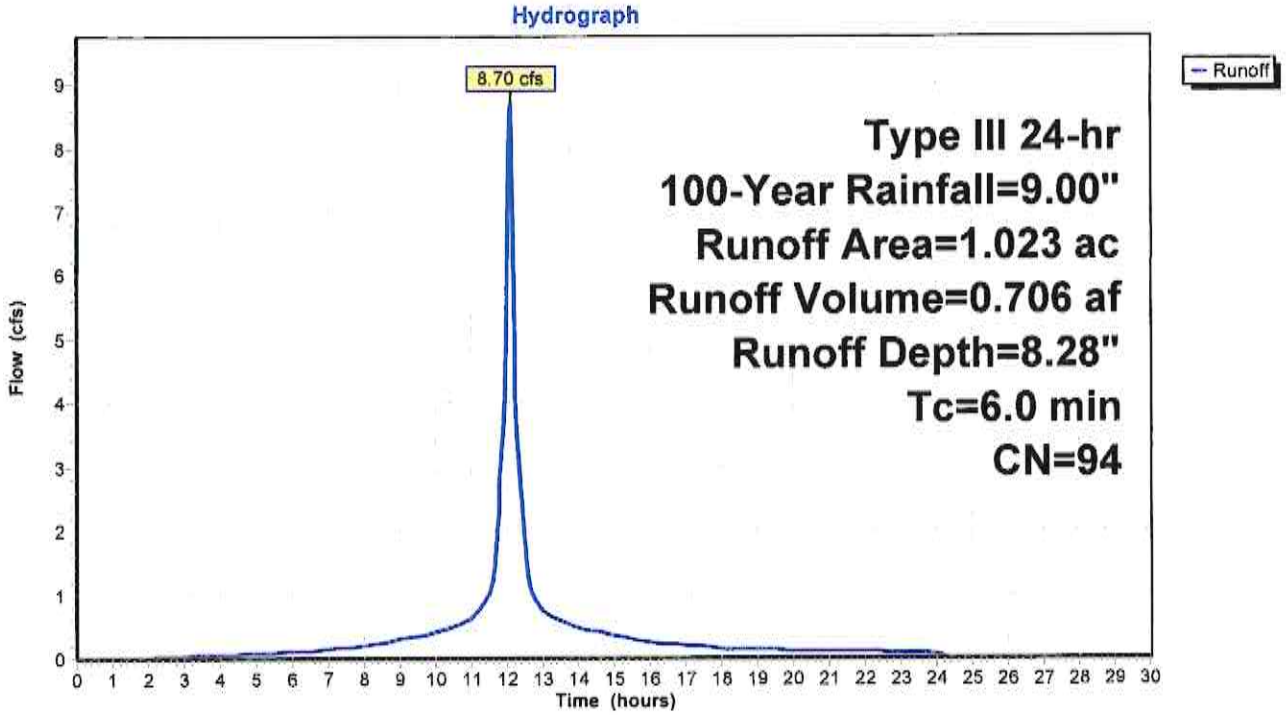
Runoff = 8.70 cfs @ 12.09 hrs, Volume= 0.706 af, Depth= 8.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
0.190	74	>75% Grass cover, Good, HSG C
0.833	98	Paved parking, HSG C
1.023	94	Weighted Average
0.190		18.57% Pervious Area
0.833		81.43% Impervious Area

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

Subcatchment WS#1A: BUILDINGS & ACCESS DRIVE



Summary for Subcatchment WS#1B: DEVELOPED

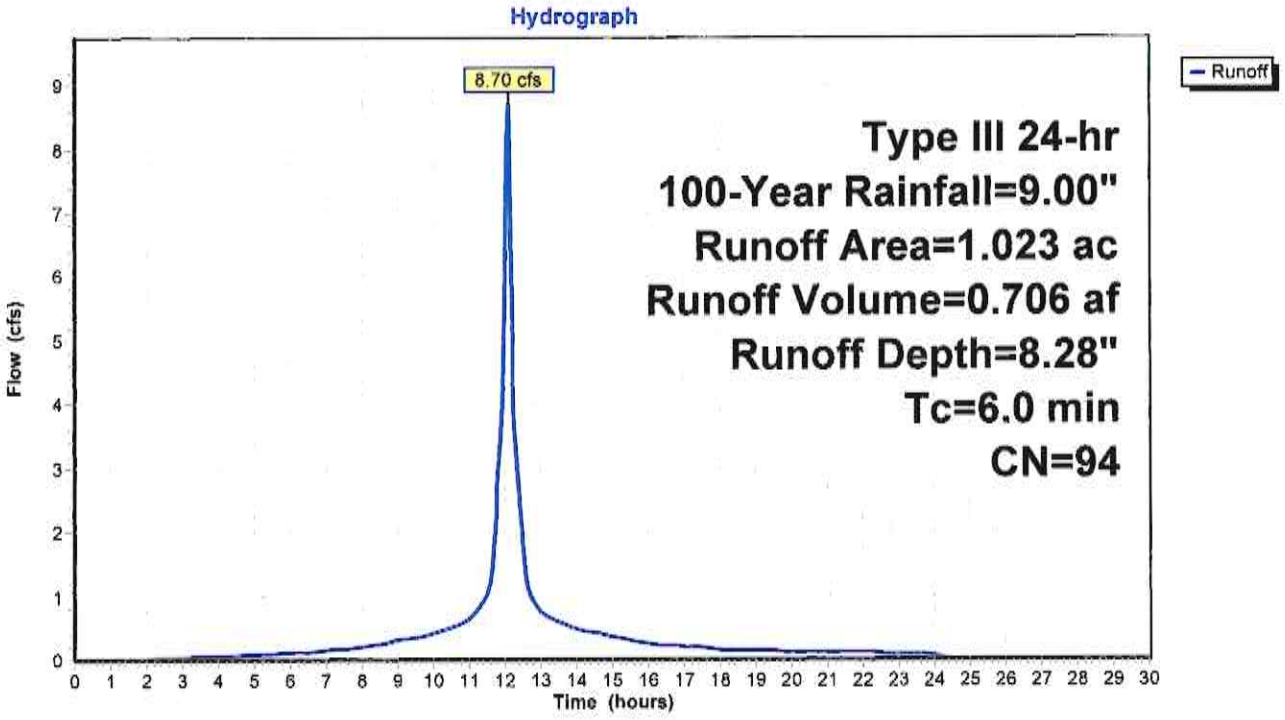
Runoff = 8.70 cfs @ 12.09 hrs, Volume= 0.706 af, Depth= 8.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
0.151	74	>75% Grass cover, Good, HSG C
0.872	98	Paved parking, HSG C
1.023	94	Weighted Average
0.151		14.76% Pervious Area
0.872		85.24% Impervious Area

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

Subcatchment WS#1B: DEVELOPED



Summary for Subcatchment WS#1C: DEVELOPED

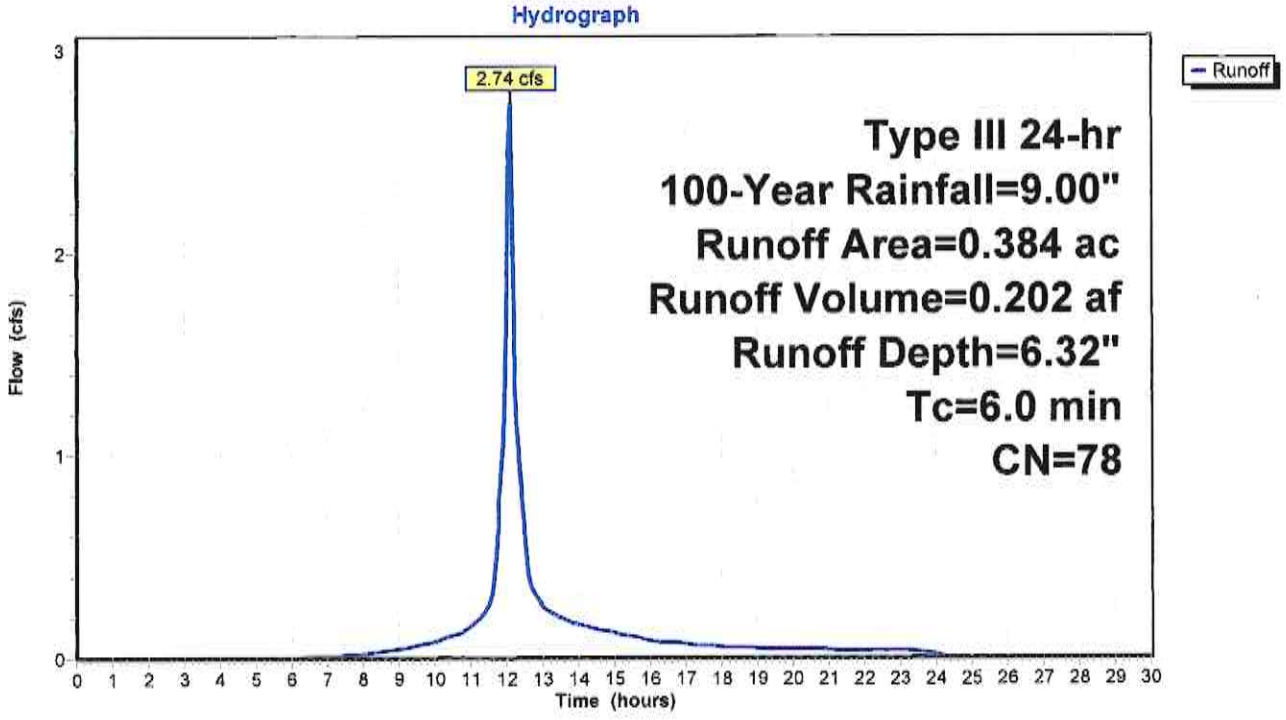
Runoff = 2.74 cfs @ 12.09 hrs, Volume= 0.202 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=9.00"

Area (ac)	CN	Description
0.326	74	>75% Grass cover, Good, HSG C
0.058	98	Paved parking, HSG C
0.384	78	Weighted Average
0.326		84.90% Pervious Area
0.058		15.10% Impervious Area

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

Subcatchment WS#1C: DEVELOPED

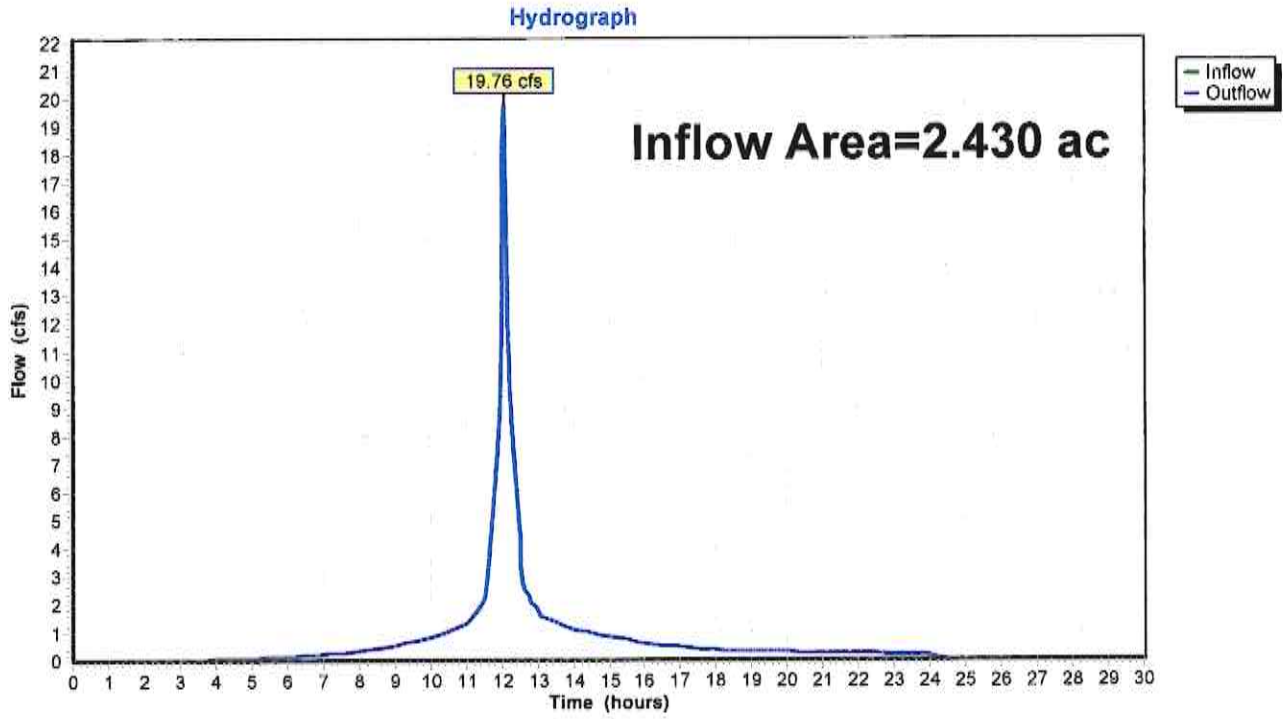


Summary for Reach E-POI#1: E-POI#1

Inflow Area = 2.430 ac, 56.21% Impervious, Inflow Depth = 7.55" for 100-Year event
Inflow = 19.76 cfs @ 12.09 hrs, Volume= 1.528 af
Outflow = 19.76 cfs @ 12.09 hrs, Volume= 1.528 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach E-POI#1: E-POI#1

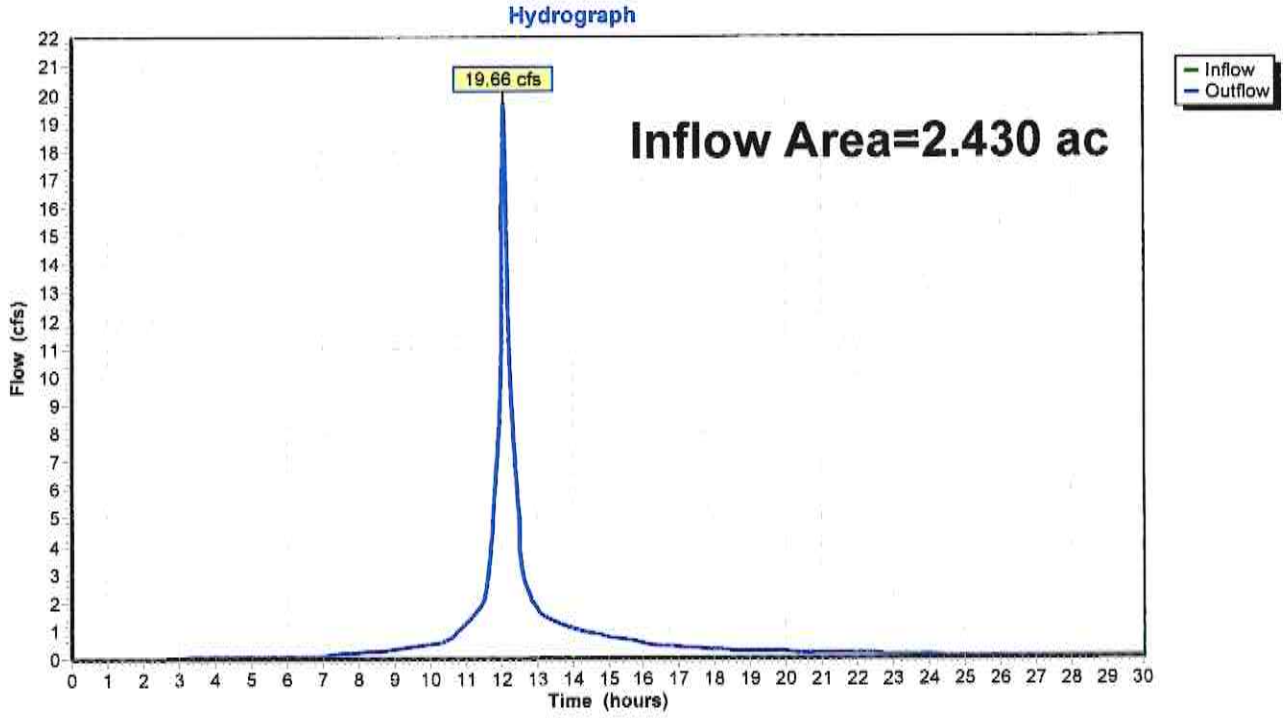


Summary for Reach P-POI#1: P-POI#1

Inflow Area = 2.430 ac, 72.55% Impervious, Inflow Depth > 7.08" for 100-Year event
Inflow = 19.66 cfs @ 12.11 hrs, Volume= 1.434 af
Outflow = 19.66 cfs @ 12.11 hrs, Volume= 1.434 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach P-POI#1: P-POI#1



Summary for Pond SMP#1: U.I.S (CULTEC R-902HD)

Inflow Area = 1.023 ac, 81.43% Impervious, Inflow Depth = 8.28" for 100-Year event
Inflow = 8.70 cfs @ 12.09 hrs, Volume= 0.706 af
Outflow = 8.68 cfs @ 12.11 hrs, Volume= 0.706 af, Atten= 0%, Lag= 1.2 min
Discarded = 0.13 cfs @ 12.11 hrs, Volume= 0.136 af
Primary = 8.56 cfs @ 12.11 hrs, Volume= 0.569 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 542.23' @ 12.11 hrs Surf.Area= 431 sf Storage= 1,297 cf

Plug-Flow detention time= 14.8 min calculated for 0.704 af (100% of inflow)
Center-of-Mass det. time= 14.9 min (773.6 - 758.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	537.65'	652 cf	**8.50'W x 50.70'L x 5.75'H Field A** 2,478 cf Overall - 847 cf Embedded = 1,631 cf x 40.0% Voids
#2A	538.40'	847 cf	**Cultec R-902HD** x 13 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf
		1,499 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	537.65'	**5.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 534.65' Phase-In= 0.01'
#2	Primary	539.00'	**0.9' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.13 cfs @ 12.11 hrs HW=542.19' (Free Discharge)
└**1=Exfiltration** (Controls 0.13 cfs)

Primary OutFlow Max=8.37 cfs @ 12.11 hrs HW=542.19' (Free Discharge)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 8.37 cfs @ 5.84 fps)

Pond SMP#1: U.I.S (CULTEC R-902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger® 902HD)
Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf
Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap
Cap Storage= +2.8 cf x 2 x 1 rows = 5.5 cf

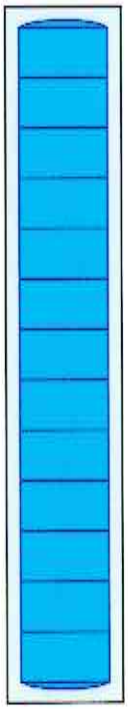
13 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 48.70' Row Length +12.0" End Stone x 2 = 50.70' Base Length
1 Rows x 78.0" Wide + 12.0" Side Stone x 2 = 8.50' Base Width
9.0" Base + 48.0" Chamber Height + 12.0" Cover = 5.75' Field Height

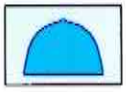
13 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 847.1 cf Chamber Storage

2,478.0 cf Field - 847.1 cf Chambers = 1,630.9 cf Stone x 40.0% Voids = 652.4 cf Stone Storage

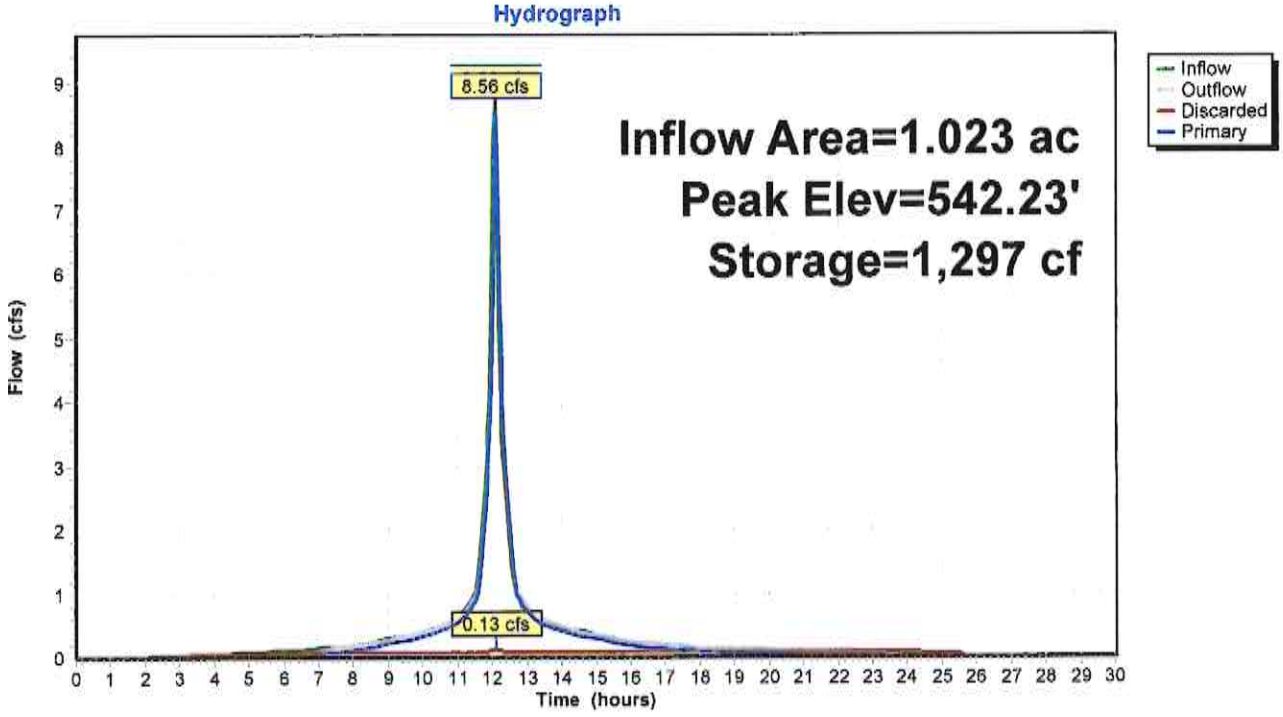
Chamber Storage + Stone Storage = 1,499.4 cf = 0.034 af
Overall Storage Efficiency = 60.5%
Overall System Size = 50.70' x 8.50' x 5.75'

13 Chambers
91.8 cy Field
60.4 cy Stone





Pond SMP#1: U.I.S (CULTEC R-902HD)



Stage-Discharge for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
537.65	0.00	0.00	0.00
537.75	0.05	0.05	0.00
537.85	0.05	0.05	0.00
537.95	0.05	0.05	0.00
538.05	0.06	0.06	0.00
538.15	0.06	0.06	0.00
538.25	0.06	0.06	0.00
538.35	0.06	0.06	0.00
538.45	0.06	0.06	0.00
538.55	0.06	0.06	0.00
538.65	0.07	0.07	0.00
538.75	0.07	0.07	0.00
538.85	0.07	0.07	0.00
538.95	0.07	0.07	0.00
539.05	0.11	0.07	0.03
539.15	0.24	0.07	0.17
539.25	0.42	0.08	0.35
539.35	0.64	0.08	0.56
539.45	0.88	0.08	0.80
539.55	1.14	0.08	1.05
539.65	1.40	0.08	1.32
539.75	1.68	0.08	1.59
539.85	1.96	0.09	1.87
539.95	2.24	0.09	2.15
540.05	2.52	0.09	2.43
540.15	2.79	0.09	2.70
540.25	3.06	0.09	2.97
540.35	3.33	0.09	3.23
540.45	3.58	0.10	3.48
540.55	3.82	0.10	3.72
540.65	4.05	0.10	3.95
540.75	4.27	0.10	4.16
540.85	4.46	0.10	4.36
540.95	4.65	0.10	4.54
541.05	4.81	0.11	4.70
541.15	4.95	0.11	4.85
541.25	5.08	0.11	4.97
541.35	5.41	0.11	5.30
541.45	5.76	0.11	5.64
541.55	6.11	0.11	5.99
541.65	6.46	0.12	6.35
541.75	6.83	0.12	6.71
541.85	7.20	0.12	7.08
541.95	7.58	0.12	7.46
542.05	7.96	0.12	7.84
542.15	8.35	0.12	8.23
542.25	8.75	0.13	8.62
542.35	9.15	0.13	9.02
542.45	9.56	0.13	9.43
542.55	9.97	0.13	9.84
542.65	10.39	0.13	10.26
542.75	10.82	0.13	10.69
542.85	11.25	0.14	11.12
542.95	11.69	0.14	11.55
543.05	12.13	0.14	11.99
543.15	12.58	0.14	12.44
543.25	13.04	0.14	12.89
543.35	**13.50**	**0.14**	**13.35**

Stage-Area-Storage for Pond SMP#1: U.I.S (CULTEC R-902HD)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
537.65	**431**	0
537.75	431	17
537.85	431	34
537.95	431	52
538.05	431	69
538.15	431	86
538.25	431	103
538.35	431	121
538.45	431	146
538.55	431	180
538.65	431	214
538.75	431	248
538.85	431	281
538.95	431	315
539.05	431	348
539.15	431	382
539.25	431	415
539.35	431	448
539.45	431	481
539.55	431	514
539.65	431	546
539.75	431	579
539.85	431	611
539.95	431	644
540.05	431	676
540.15	431	708
540.25	431	740
540.35	431	771
540.45	431	803
540.55	431	834
540.65	431	865
540.75	431	896
540.85	431	927
540.95	431	957
541.05	431	987
541.15	431	1,017
541.25	431	1,046
541.35	431	1,075
541.45	431	1,103
541.55	431	1,130
541.65	431	1,158
541.75	431	1,184
541.85	431	1,210
541.95	431	1,234
542.05	431	1,258
542.15	431	1,280
542.25	431	1,300
542.35	431	1,318
542.45	431	1,336
542.55	431	1,353
542.65	431	1,370
542.75	431	1,387
542.85	431	1,405
542.95	431	1,422
543.05	431	1,439
543.15	431	1,456
543.25	431	1,474
543.35	431	**1,491**

Summary for Pond SMP#2: BIO-FILTER SYSTEM

Inflow Area = 1.023 ac, 85.24% Impervious, Inflow Depth = 8.28" for 100-Year event
Inflow = 8.70 cfs @ 12.09 hrs, Volume= 0.706 af
Outflow = 8.41 cfs @ 12.11 hrs, Volume= 0.663 af, Atten= 3%, Lag= 1.4 min
Primary = 8.41 cfs @ 12.11 hrs, Volume= 0.663 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 534.98' @ 12.11 hrs Surf.Area= 3,285 sf Storage= 5,047 cf

Plug-Flow detention time= 120.8 min calculated for 0.663 af (94% of inflow)
Center-of-Mass det. time= 86.7 min (845.4 - 758.7)

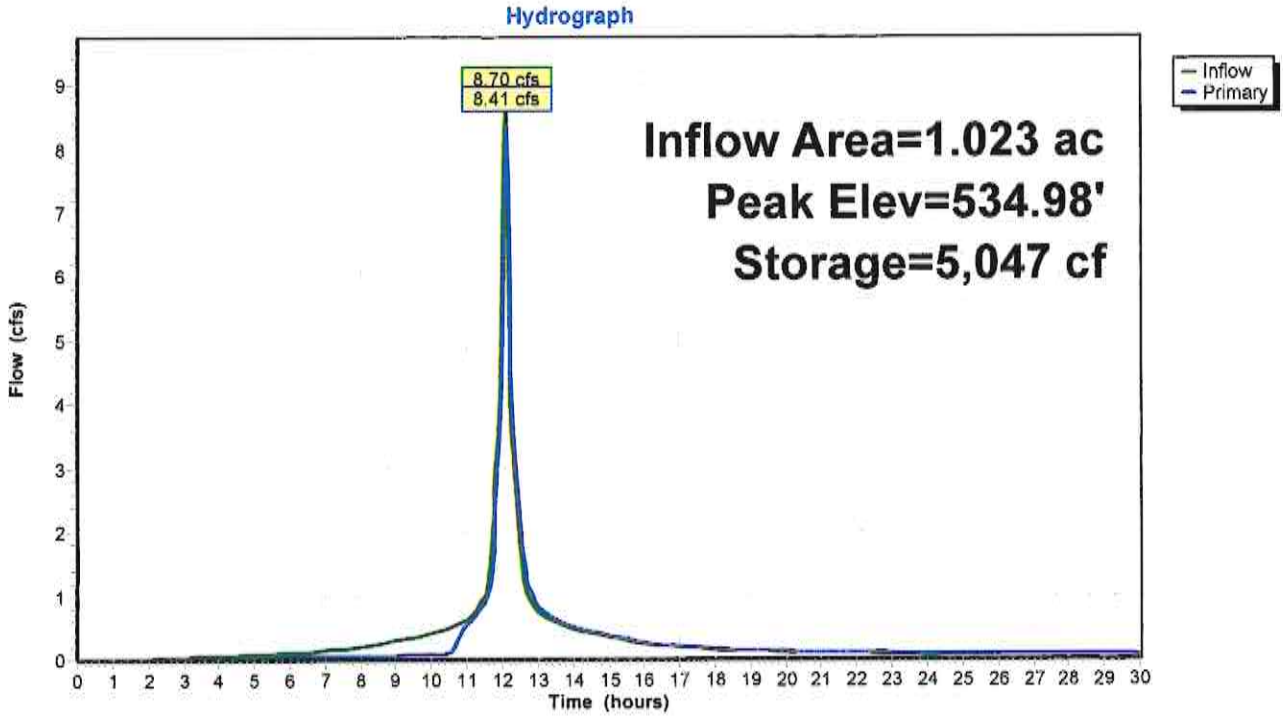
Volume	Invert	Avail.Storage	Storage Description
#1	531.00'	5,104 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
531.00	3,303	0.0	0	0
531.50	3,303	40.0	661	661
534.00	3,303	20.0	1,652	2,312
534.01	2,281	100.0	28	2,340
535.00	3,303	100.0	2,764	5,104

Device	Routing	Invert	Outlet Devices
#1	Primary	531.00'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 528.00' Phase-In= 0.01'
#2	Primary	534.50'	**1.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)
#3	Primary	534.75'	**3.0' long Sharp-Crested Rectangular Weir X 4.00** 2 End Contraction(s)

Primary OutFlow Max=8.22 cfs @ 12.11 hrs HW=534.98' (Free Discharge)
- **1=Exfiltration** (Controls 0.10 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.91 cfs @ 2.26 fps)
- **3=Sharp-Crested Rectangular Weir** (Weir Controls 4.21 cfs @ 1.56 fps)

Pond SMP#2: BIO-FILTER SYSTEM



Stage-Discharge for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
531.00	0.00	532.06	0.05	533.12	0.07	534.18	0.08
531.02	0.04	532.08	0.05	533.14	0.07	534.20	0.08
531.04	0.04	532.10	0.05	533.16	0.07	534.22	0.08
531.06	0.04	532.12	0.05	533.18	0.07	534.24	0.08
531.08	0.04	532.14	0.05	533.20	0.07	534.26	0.08
531.10	0.04	532.16	0.05	533.22	0.07	534.28	0.08
531.12	0.04	532.18	0.05	533.24	0.07	534.30	0.08
531.14	0.04	532.20	0.05	533.26	0.07	534.32	0.08
531.16	0.04	532.22	0.05	533.28	0.07	534.34	0.08
531.18	0.04	532.24	0.05	533.30	0.07	534.36	0.08
531.20	0.04	532.26	0.05	533.32	0.07	534.38	0.09
531.22	0.04	532.28	0.05	533.34	0.07	534.40	0.09
531.24	0.04	532.30	0.05	533.36	0.07	534.42	0.09
531.26	0.04	532.32	0.06	533.38	0.07	534.44	0.09
531.28	0.04	532.34	0.06	533.40	0.07	534.46	0.09
531.30	0.04	532.36	0.06	533.42	0.07	534.48	0.09
531.32	0.04	532.38	0.06	533.44	0.07	534.50	0.09
531.34	0.04	532.40	0.06	533.46	0.07	534.52	0.13
531.36	0.04	532.42	0.06	533.48	0.07	534.54	0.19
531.38	0.04	532.44	0.06	533.50	0.07	534.56	0.28
531.40	0.04	532.46	0.06	533.52	0.07	534.58	0.38
531.42	0.04	532.48	0.06	533.54	0.07	534.60	0.50
531.44	0.04	532.50	0.06	533.56	0.07	534.62	0.62
531.46	0.04	532.52	0.06	533.58	0.07	534.64	0.76
531.48	0.04	532.54	0.06	533.60	0.07	534.66	0.90
531.50	0.04	532.56	0.06	533.62	0.07	534.68	1.06
531.52	0.04	532.58	0.06	533.64	0.07	534.70	1.22
531.54	0.05	532.60	0.06	533.66	0.07	534.72	1.38
531.56	0.05	532.62	0.06	533.68	0.07	534.74	1.56
531.58	0.05	532.64	0.06	533.70	0.07	534.76	1.78
531.60	0.05	532.66	0.06	533.72	0.07	534.78	2.13
531.62	0.05	532.68	0.06	533.74	0.07	534.80	2.55
531.64	0.05	532.70	0.06	533.76	0.07	534.82	3.04
531.66	0.05	532.72	0.06	533.78	0.07	534.84	3.57
531.68	0.05	532.74	0.06	533.80	0.07	534.86	4.14
531.70	0.05	532.76	0.06	533.82	0.07	534.88	4.75
531.72	0.05	532.78	0.06	533.84	0.07	534.90	5.40
531.74	0.05	532.80	0.06	533.86	0.07	534.92	6.08
531.76	0.05	532.82	0.06	533.88	0.07	534.94	6.79
531.78	0.05	532.84	0.06	533.90	0.08	534.96	7.53
531.80	0.05	532.86	0.06	533.92	0.08	534.98	8.30
531.82	0.05	532.88	0.06	533.94	0.08	535.00	**9.09**
531.84	0.05	532.90	0.06	533.96	0.08		
531.86	0.05	532.92	0.06	533.98	0.08		
531.88	0.05	532.94	0.06	534.00	0.08		
531.90	0.05	532.96	0.06	534.02	0.08		
531.92	0.05	532.98	0.06	534.04	0.08		
531.94	0.05	533.00	0.06	534.06	0.08		
531.96	0.05	533.02	0.06	534.08	0.08		
531.98	0.05	533.04	0.06	534.10	0.08		
532.00	0.05	533.06	0.06	534.12	0.08		
532.02	0.05	533.08	0.06	534.14	0.08		
532.04	0.05	533.10	0.06	534.16	0.08		

Stage-Area-Storage for Pond SMP#2: BIO-FILTER SYSTEM

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
531.00	**3,303**	0
531.05	3,303	66
531.10	3,303	132
531.15	3,303	198
531.20	3,303	264
531.25	3,303	330
531.30	3,303	396
531.35	3,303	462
531.40	3,303	528
531.45	3,303	595
531.50	3,303	661
531.55	3,303	694
531.60	3,303	727
531.65	3,303	760
531.70	3,303	793
531.75	3,303	826
531.80	3,303	859
531.85	3,303	892
531.90	3,303	925
531.95	3,303	958
532.00	3,303	991
532.05	3,303	1,024
532.10	3,303	1,057
532.15	3,303	1,090
532.20	3,303	1,123
532.25	3,303	1,156
532.30	3,303	1,189
532.35	3,303	1,222
532.40	3,303	1,255
532.45	3,303	1,288
532.50	3,303	1,321
532.55	3,303	1,354
532.60	3,303	1,387
532.65	3,303	1,420
532.70	3,303	1,453
532.75	3,303	1,486
532.80	3,303	1,519
532.85	3,303	1,552
532.90	3,303	1,585
532.95	3,303	1,618
533.00	3,303	1,652
533.05	3,303	1,685
533.10	3,303	1,718
533.15	3,303	1,751
533.20	3,303	1,784
533.25	3,303	1,817
533.30	3,303	1,850
533.35	3,303	1,883
533.40	3,303	1,916
533.45	3,303	1,949
533.50	3,303	1,982
533.55	3,303	2,015
533.60	3,303	2,048
533.65	3,303	2,081
533.70	3,303	2,114
533.75	3,303	2,147
533.80	3,303	2,180
533.85	3,303	2,213
533.90	3,303	2,246
533.95	3,303	2,279
534.00	3,303	2,312
534.05	2,322	2,432
534.10	2,374	2,549
534.15	2,426	2,669
534.20	2,477	2,792
534.25	2,529	2,917
534.30	2,580	3,045
534.35	2,632	3,175
534.40	2,684	3,308
534.45	2,735	3,444
534.50	2,787	3,582
534.55	2,838	3,722
534.60	2,890	3,865
534.65	2,942	4,011
534.70	2,993	4,160
534.75	3,045	4,311
534.80	3,097	4,464
534.85	3,148	4,620
534.90	3,200	4,779
534.95	3,251	4,940
535.00	3,303	**5,104**

Section 3: NOI & MS4

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

SECTION 3:

SPDES ACKNOWLEDGEMENT LETTER, FILLED OUT NOTICE OF INTENT (N.O.I.), AND MS4 SWPPP ACCEPTANCE FORM

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
NEW CITY, NY 10956
TEL: (845) 634-4694
FAX: (845) 634-5543
E-MAIL: rnasher@anzny.com

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: Hamaspik Choice

eNOI Submission Number: HQ8-XZ4G-REWSM

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

Hamaspik Choice

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

Illinois Properties 26, LLC

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Ryan	A.	Nasher
First name	MI	Last Name

Signature

Date

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.40

(Submission #: HQ8-XZ4G-REWSM, version 1)

Details

Originally Started By	Ryan Nasher
Alternate Identifier	Hamaspik Choice F/K/A Illinois Properties 26 LLC
Submission ID	HQ8-XZ4G-REWSM
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
Illinois Properties 26, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Kahan

Owner/Operator Contact Person First Name
Hillel

Owner/Operator Mailing Address
51 Forest Road, Unit 316-84

City
Monroe

State
New York

Zip
10950

Phone
845-293-3570

Email
hkahan@platinumdevlp.com

Federal Tax ID
NONE PROVIDED

> If the owner/operator is an organization, provide the Federal Tax ID number, or Employer Identification Number (EIN), in the format xx-xxxxxxx. If the owner/operator is an individual and not an organization, enter "Not Applicable" or "N/A" and do not provide the individual's social security number.

Project Location

Project/Site Name
Hamaspik Choice F/K/A Illinois Properties 26 LLC

Street Address (Not P.O. Box)
775 N Main St

Side of Street
West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Spring Valley

State
NY

Zip
10977

DEC Region
3

> The DEC Region must be provided. Please use the NYSDEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm which DEC Region this site is located in. To view the DEC Regions, click on "Other Useful Reference Layers" on the left side of the map, then click on "DEC Administrative Boundary." Zoom out as needed to see the Region boundaries.
>
> For projects that span multiple Regions, please select a primary Region and then provide the additional Regions as a note in Question 39.

County
ROCKLAND

Name of Nearest Cross Street
Rensselaer Drive

Distance to Nearest Cross Street (Feet)
300

Project In Relation to Cross Street
South

Tax Map Numbers Section-Block-Parcel
42.18-2-24

Tax Map Numbers
NONE PROVIDED

> If the project does not have tax map numbers (e.g. linear projects), enter "Not Applicable" or "N/A".

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
41.1441193,-74.0350878

Project Details

2. What is the nature of this project?
Redevelopment with increase in impervious area

> For the purposes of this eNOI, "New Construction" refers to any project that does not involve the disturbance of existing impervious area (i.e. 0 acres). If existing impervious area will be disturbed on the project site, it is considered redevelopment with either increase in impervious area or no increase in impervious area.

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Commercial

Post-Development Future Land Use
Commercial

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
3.1

Total Area to be Disturbed (acres)
1.1

Existing Impervious Area to be Disturbed (acres)
0.8

Future Impervious Area Within Disturbed Area (acres)
1.2

5. Do you plan to disturb more than 5 acres of soil at any one time?
No

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
0.0

B (%)
0.0

C (%)
100

D (%)
0.0

7. Is this a phased project?
No

8. Enter the planned start and end dates of the disturbance activities.

Start Date
02/10/2025

End Date
02/12/2027

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Tributary watercourse to Pascack Brook

> Drainage ditches and storm sewer systems are not considered surface waterbodies. Please identify the surface waterbody that they discharge to. If the nearest surface waterbody is unnamed, provide a description of the waterbody, such as, "Unnamed tributary to Niagara River."

9a. Type of waterbody identified in question 9?
Stream/Creek Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

> Please use the DEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm if this site is located in one of the watersheds of an AA or AA-S classified water. To view the watershed areas, click on "Permit Related Layers" on the left side of the map, then click on "Class AA AAS Watersheds."

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
NONE PROVIDED

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?
Village of New Hempstead

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the 2015 or 2024 NYS Stormwater Management Design Manual?
Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
Atzl, Nasher, & Zigler

Contact Name (Last, First)
Nasher A. Ryan

Mailing Address
232 North Main Street

City
New City

State
New York

Zip
10956

Phone
845-634-4694

Email
rnasher@anzny.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
NONE PROVIDED
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
Mulching
Seeding
Topsoiling

Permanent Structural
Land Grading
Rock Outlet Protection

Other
Concrete Washout, Stockpile

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Locating Development in Less Sensitive Areas

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual.
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
0.083

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.089

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
NONE PROVIDED

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
0.0

CPv Provided (acre-feet)
0.0

36a. The need to provide channel protection has been waived because:
Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
10.11

Post-Development (CFS)
9.95

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
19.76

Post-Development (CFS)
19.66

37a. The need to meet the Qp and Qf criteria has been waived because:
Downstream analysis reveals that the Qp and Qf controls are not required.

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance
The property owner

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
0.833

Total Contributing Impervious Acres for Bioretention (F-5)
0.872

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
None

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
Yes

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload

NONE PROVIDED

Comment

NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form

NONE PROVIDED

Comment

NONE PROVIDED

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Illinois Properties 26, LLC
2. Contact Person:	Hillel Kahan
3. Street Address:	51 Forest Road, Unit 316-84
4. City/State/Zip:	Monroe / N.Y. / 10950
II. Project Site Information	
5. Project/Site Name:	Hamaspik Choice
6. Street Address:	775 North Main Street
7. City/State/Zip:	New Hempstead
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	Glenn Mccreedy, P.E.
9. Title/Position:	Village Engineer
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	Village of New Hempstead
12. MS4 SPDES Permit Identification Number: NYR20A	324
13. Contact Person:	Glenn Mccreedy, P.E.
14. Street Address:	19 Squadron Boulevard, Suite #4
15. City/State/Zip:	New City, New York 10956
16. Telephone Number:	(845) 266-6441 x 101

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name: Glenn Mccreedy, P.E.

Title/Position: Village Engineer

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Appendix – F

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-F

INFILTRATION TEST CERTIFICATION

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
NEW CITY, NY 10956
TEL: (845) 634-4694
FAX: (845) 634-5543
E-MAIL: rnasher@anzny.com

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street, New City, NY 10956
Tel: (845) 634-4694 Fax: (845) 634-5543
Email: rnasher@anzny.com

April 12, 2024

Village of New Hempstead
108 Old Schoolhouse Rd
New City, NY 10956

Att.: Glenn McCreedy, P.E.
Village Engineer

Re: Hamaspik Choice (Job #5030)
Village of New Hempstead
Rockland County, New York

Dear Mr. McCreedy, P.E.,

A soil infiltration test was performed on March 4, 2024. The infiltration test location map is attached to this report for your reference (Page 6). The infiltration test failed due to the presence of groundwater.

The results are as follows.

Test Hole #1

Infiltration test at a depth of 72-inches (6-feet):

Soil Log	Soil Type
0" to 24"	Top-soil
24" to 60"	Sandy Loam

Groundwater was found at 5.0 feet (60-inch) deep at EL. 532.

Test Hole #2

Infiltration test at a depth of 60-inches (5-feet):

Soil Log	Soil Type
0" to 20"	Top-soil
20" to 60"	Sandy Loam

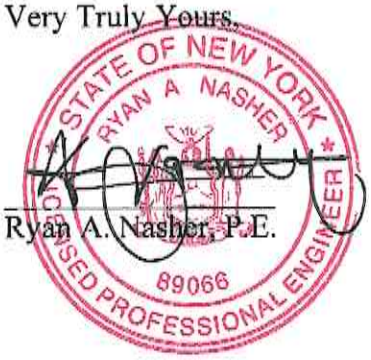
Groundwater was found at 5.0 feet (60-inch) deep at EL. 529.

Note:

- A bio-filter system is proposed on the west side of the site, with its bottom set at elevation 531, while the groundwater elevation is at 529. According to the New York State Stormwater Management Design Manual, a minimum separation of 2 feet is required between the bottom of the system and the groundwater. As demonstrated, the proposed system satisfies this requirement.

If you have any questions, please feel free to contact me, thank you.

Very Truly Yours,



Ryan A. Nasher, P.E.

Figure 1: View of the soil profile (TH #1).

Figure 2: View of groundwater at 5.0 feet (60-inches) deep (TH #1).

Figure 3: View of the soil profile (TH #2).

Figure 4: View of groundwater at 5.0 feet (60-inches) deep (TH #2).

Inf. Test

Job no. 5030 / 03/04/24

TH#1

0"-24" Top-soil
24"-60" Sandy Loam

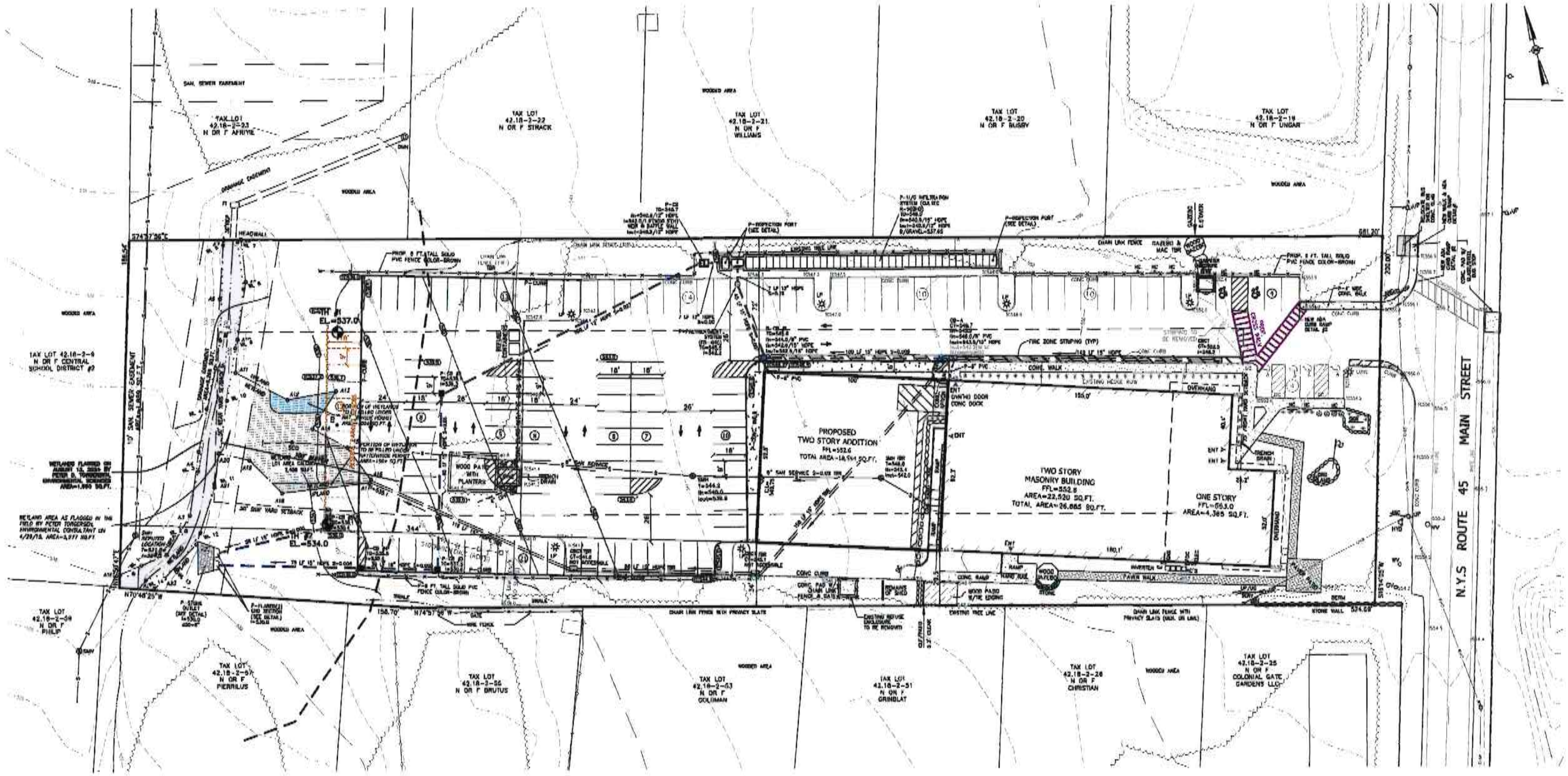
G.W @ 5' deep

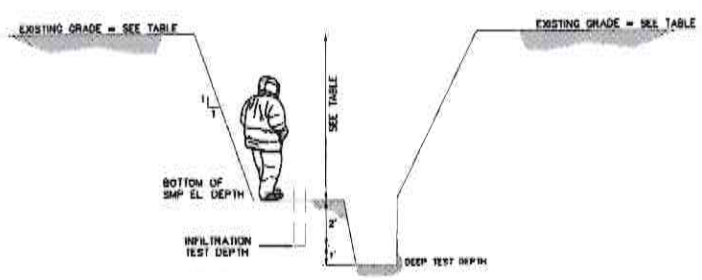
TH#2

0"-20" Top-soil
20"-60" Sandy Loam

G.W@ 5' deep

Figure 5: Field notes.





TYPICAL INFILTRATION TEST CROSS SECTION
N.T.S.

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE AND PRUDENT EXCAVATION OPERATION IN A MANNER SO THAT THE WORKERS, PUBLIC AND AUTHORITIES WILL BE PROTECTED FROM UNREASONABLE HAZARD.
2. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH LOCAL CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. COMPLY WITH OSHA REQUIREMENTS.
3. FOR THE SAFETY OF PERSONNEL, SHEETING SHALL BE USED AS REQUIRED IN ANY TRENCH OR EXCAVATION MORE THAN FIVE (5) FEET ABOVE THE PERSONNEL'S FOOTING.

INFILTRATION AND DEEP TEST FOR STORMWATER MITIGATION PRACTICE

TEST HOLE ID	EXISTING GRADE EL.	PROPOSED GRADE EL.	INFILTRATION TEST DEPTH	DEEP TEST DEPTH
TH #1	EL.=537.0	EL.=537.0	EL.=530.0 (7' DEEP)	EL.=529.0 (8' DEEP)
TH #2	EL.=534.0	EL.=535.0	EL.=530.0 (5' DEEP)	EL.=529.0 (6' DEEP)

LEGEND

EXISTING	PROPOSED
EXISTING 2' CONTOUR	PROPOSED 2' CONTOUR
EXISTING 10' CONTOUR	PROPOSED 10' CONTOUR
EXISTING WATER MAIN	PROPOSED WATER SERVICE
EXISTING FIRE HYDRANT	PROPOSED WATER VALVE
EXISTING GAS LINE	PROPOSED FIRE HYDRANT
EXISTING CATCH BASIN	PROPOSED GAS SERVICE
EXISTING DRAINAGE MANHOLE	PROPOSED GAS VALVE
EXISTING STORM DRAIN LINE	PROPOSED CATCH BASIN
EXISTING SEWER MANHOLE	PROPOSED STORM DRAIN LINE
EXISTING SEWER LINE	PROPOSED SEWER CLEANOUT
EXISTING SPOT ELEVATION	PROPOSED SEWER HOUSE CONNECTION
EXISTING SIGN	PROPOSED SPOT ELEVATION
EXISTING LIGHT POLE	PROPOSED WATER SERVICE
EXISTING UTILITY POLE	PROPOSED GAS SERVICE
EXISTING WATER VALVE	PROPOSED UNDERGROUND ELECTRIC LINE
EXISTING GAS VALVE	PROPOSED ROOF DRAIN
EXISTING CHAIN LINK FENCE	PROPOSED WATERSHED
EXISTING STONEWALL	TEST HOLE LOCATION

RYAN A. NASHER P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228

REVISION	DATE	DESCRIPTION

ATZL, NASHER & ZIGLER P.C.
ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, New York 10956
Tel: (845) 634-4694
Fax: (845) 634-5543
E-mail: info@anzny.com
Web: www.ANZNY.com

PROJECT:
HAMASPIK CHOICE
F/K/A ILLINOIS PROPERTIES 26 LLC

VILLAGE OF NEW HEMPSTEAD
ROCKLAND COUNTY, NEW YORK

TITLE:
INFILTRATION AND DEEP TEST LOCATION

DRAWN BY: IS	CHECKED BY: RN
DATE: DECEMBER 19, 2023	SCALE: 1 IN. = 30 FT.
PROJECT NO: 5030	DRAWING NO: 1

P:\DRAWINGS\5030\5030 SITE PLAN & TEST HOLE 9-25-24.DWG

Appendix - G

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

APPENDIX-G

PRETREATMENT SIZING CALCULATION

BY

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 NORTH MAIN STREET
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ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, NY 10956
Tel: (845) 634-4694
Fax: (845) 634-5543

JOB: HAMASPIK CHOICE (5030)
CALCULATED BY: WS DATE: 12/17/24
CHECKED BY: RN DATE: 12/17/24

PRETREATMENT SIZING CALCULATIONS

- Drainage Area: WS#1A
- Model no.: FD-4HC
- Site Plan, Drawing no. 6, Detail no.: 5

The pretreatment system has been designed to remove 80% of total suspended solids (TSS). This system is designed based on the peak water quality discharge of the drainage area (D-WS#1A), detailed calculations are shown below.

- Drainage Area:

WS#1A:

The soil within WS#1A belongs to Hydrological Soil Group "C".

A = 1.023 Acres

Composition	HSG
A_{Grass}=	0.19 acs
$A_{Impervious}$=	0.833 acs

Water Quality Volume required before Runoff Reduction:

The impervious cover,

$$I = \frac{0.833 acres}{1.023\ acres} \times 100\% = 81.4\%$$

The runoff coefficient,

$$R_v = 0.05 + 0.009 \times I$$

$$\rightarrow R_v = 0.05 + 0.009 \times 81.4$$

$$\rightarrow R_v = 0.78$$

Use the 90% rule 1.5" of rainfall in Rockland County,

$$WQ_v = 1.5" \times R_v \times A_{Disturbed}$$

$$\rightarrow WQ_v = 1.5 inch \left(\frac{1 ft}{12 inch}\right) 0.78\ x\ 1.023\ acs$$

$$\rightarrow WQ_v = 0.1\ acs.ft. = 4{,}361\ cu.ft.$$

$(WQv)_{Required}$ = 0.01 acs.ft. or 4,361 cu.ft

ATZL, NASHER & ZIGLER
ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, NY 10956
Tel: (845) 634-4694
Fax: (845) 634-5543

- Peak Water Quality Discharge Calculation

  - Compute modified CN for 1.5" rainfall

    $P = 1.5"$ (Rockland County)

    $$Q_a = \frac{WQ_v}{Area}$$

    $$Q_a = \frac{4{,}361\ ft^3}{1.023\ acres} * \frac{1\ acre - ft}{43{,}560\ ft^3} * \frac{12\ inch}{1\ ft}$$

    $$Q_a = 1.17\ inch$$

    $$CN = \left[\frac{1000}{10 + 5p + 10Q_a - 10 * (Q_a^2 + 1.25 * Q_a * p)^{0.5}}\right]$$

    $$CN = \left[\frac{1000}{10 + (5 * 1.5") + (10 * 1.17") - 10 * (1.17"^2 + 1.25 * 1.17" * 1.5")^{0.5}}\right]$$

    $CN = 96.8$

    Use $CN = 97$

  - Compute $\frac{I_a}{p}$

    $I_a = 0.2 * S$

    $$S = \frac{1000}{CN} - 10$$

    $$S = \frac{1000}{97} - 10$$

    $S = 0.3$

    $I_a = 0.2 * 0.3$

    $I_a = 0.06$

    $$\frac{I_a}{p} = \frac{0.06}{1.5}$$

$$\frac{I_a}{p} = 0.041$$

Now, use the value of $\frac{I_a}{p}$ and $t_c = 0.1$ hour to find out q_u.

$q_u = 662 \ \frac{csm}{in}$ (Per Type III Rainfall Distribution)

Now, calculate the peak water quality flow (Q_{wp}):

$$Q_{wp} = q_u * A * Q_a$$

$$Q_{wp} = \left(662 \frac{csm}{in}\right)\left(\frac{1.023 \ acres}{640 \ \frac{acres}{mi^2}}\right)(1.17 \ inch)$$

$$Q_{wp} = 1.24 \ cfs$$

The peak water quality discharge, $Q_{wp} = 1.24 \ cfs$.

First Defense® High Capacity

Sizing & Design

This adaptable online treatment system works easily with large pipes, multiple inlet pipes, inlet grates and now, contains a high capacity bypass for the conveyance of large peak flows. Designed with site flexibility in mind, the First Defense® High Capacity allows engineers to maximize available site space without compromising treatment level.

Fig 2. Works with multiple inlet pipes and grates

Inspection and Maintenance

Nobody maintains our systems better than we do. To ensure optimal, ongoing device performance, be sure to recommend Hydro International as a preferred service and maintenance provider to your clients.

Call **1 (800) 848-2706** to schedule an inspection and cleanout or learn more at **hydro-int.com/service**

Sizing Calculator for Engineers

This simple online tool will recommend the best separator, model size and online/offline arrangement based on site-specific data entered by the user.

Go to hydro-int.com/sizing to access the tool.

Fig 3. Maintenance is done with a vactor truck

Table 1. First Defense® High Capacity Design Criteria.

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	110µm						
	(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	1.06 / 30.0	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 / 53.2	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	2.35 / 66.2	2.94 / 83.2	20 / 566	24 / 600	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	4.23 / 119.8	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.

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Stormwater Solutions
hydro-int.com/firstdefensehc
FDHCSS1002

The proposed First Defense (FD-4HC) system provides 1.50 cfs TSS Treatment Rate > Required *Peak Water Quality*$_{Discharge}$ = 1.24 cfs OK

Drainage Maps

HAMASPIK CHOICE

VILLAGE OF HEMPSTEAD
ROCKLAND COUNTY
NEW YORK

DRAINAGE MAPS

BY

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