APPENDIX E

Stormwater Pollution Prevention Plan Report (April 2021), as prepared by Key Civil Engineering, P.C.; correspondence with NYSDEC; and Percolation Test performed by Slacke Boring Co.

CIVIL ENGINEERING

664 Blue Point Road, Unit B, Holtsville, New York 11742
P: (631) 961 – 0506 F: (631) 619 – 0367
www.keycivilengineering.com

STORMWATER POLLUTION PREVENTION PROGRAM

PREPARED FOR PROJECT:

HK VENTURES, LLC
INDUSTRIAL PARK

CONSTRUCTION ACTIVITIES
BY OWNER:
HK VENTURES, LLC
147 STEAMBOAT ROAD
GREAT NECK, NY 11024

SITE LOCATED AT:
4285 Middle Country Road
Calverton, NY 11933
COUNTY OF SUFFOLK AND STATE OF NY
SCTM: DISTRICT: 600, SECTION: 116, BLOCK 1, LOT 2
REGULATED MS4: TOWN OF RIVERHEAD, SPDES ID: NYR20A020

PREPARED BY:

KEY CIVIL ENGINEERING, P.C.
PROJECT # 19026

Jaclyn Peranteau, PE
NYS License No.: 083937

APRIL 2021

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1. INTRODUCTION

HK Ventures, LLC (property owner) is proposing an industrial park with eight (8) single story prefabricated metal buildings for manufacturing (indoor) and warehouse uses. The overall site area for the subject parcel is 1,317,884 SF (30.25 Acres). The project consists of two phases for operation but will be constructed in three phases (Phase 1A, Phase 1B, & Phase 2). All three construction phases shall be constructed separately with each phase fully stabilized prior to the disturbance of the following phase. The disturbance for each construction phase at any one time is as follows; Phase IA = 10.75 Acres, Phase IB = 12.64 Acres, and Phase 2 = 6.86. The recharge basin will be constructed in Construction Phase 1A. Buildings 1 to 4 and a 1,500 SF commissary will be constructed during Phase 1B (Building 1 & 3 GFA = 56,000 SF per building, building 2 GFA = 56,672 SF, & building 4 GFA = 56,297 SF). Buildings 5 to 8 will be constructed during Phase 2 (building 5 GFA = 49,000 SF, building 6 GFA = 48,510 SF, building 7 GFA = 44,100 SF, & building 8 GFA = 44,550 SF). The commissary is for on-site personnel only and is not open to the general public. Buildings 1, 3, 5, & 7 will incorporate at grade loading spaces for smaller delivery trucks in the rear of each tenant space while buildings 2, 4, 6, & 8 will incorporate the use of depressed loading docks in the rear of each tenant space. The associated site work includes a new parking lot, concrete sidewalks, concrete curbing, site grading, landscaping, lighting, a recharge basin connected to eighty-two drywells, a sanitary sewer conveyance system to an on-site sewage treatment plant (STP), and a kitchen waste system for the commissary which will connect to the sewer conveyance system. The site is bounded by vacant space to the north, industrial use to the south, west, and agricultural space to the east. The subject property is located at 4285 Middle Country Road, in Calverton, New York (SCTM #: 0600-116.00-01.00-002.000), and on the south side of Middle Country Road, approximately 367 feet east of Fresh Pond Avenue.

The objectives of this SWPPP are to:

- Allow disturbance of over 5 acres at one time.
- Temporary shutdown between project Phase I and project Phase II. Refer to SF-10 and SF-11 forms.
- Address the required components for a Stormwater Pollution Prevention Program (SWPPP) as required under New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) Permit for Stormwater Discharges from Construction Activity (GP-0-20-001).
- Implement best management practices (BMPs) to minimize erosion and sedimentation from rainfall at the construction site, and to identify, reduce, eliminate, or prevent the pollution of stormwater.
- Prevent violations of surface water quality, ground water quality, or sediment management standards.
- Eliminate the discharges of unpermitted process wastewater to stormwater drainage systems and surface waters of the state. It will briefly discuss the proposed site development and provide a detailed analysis of the proposed stormwater management system.

2. PROGRAM ADMINISTRATION

This SWPPP covers the stormwater pollution prevention practices that the General Contractor shall employ in accordance with the NYSDEC Permit Number GP-0-20-001 governing stormwater discharges during construction. The General Contractor's participation in this program is mandatory. If the General Contractor does not comply with the requirements set forth by the NYSDEC, then they will be subject to various remedies, including without limitation, reimbursement for costs, expenses, fines and civil penalties incurred by the Operator, and/or liquidated damages.

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The Town of Riverhead through the MS4 Program was authorized to regulate the discharge of stormwater from construction activities on commercial sites where more than one (1) acre of soil is disturbed, including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land. Preliminary approval from NYS DEC has been obtained to disturb more than 5 acres at one time. Final approval will be required prior to start of construction. Please note a copy of this SWPPP will be submitted to NYSDEC to obtain such approval. To obtain coverage under the General Permit, a completed Notice of Intent (NOI) form along with the MS4 Approval Form, found in Appendix I, must be sent to NYS DEC Central Office through the NYSDEC eBusiness Portal System. If the SWPPP conforms with NYSDEC technical standards, construction may start 5 business days after receipt of the NOI by the NYSDEC. For cases where the NOI identifies non-conformance with NYSDEC technical standards, applicant shall allow 60 business days from the receipt of the NOI for review of the application and SWPPP by the NYSDEC Regional Office prior to commencement of construction activities.

The General Contractor shall maintain copies at the job site of any local and state regulations which are applicable to stormwater management, erosion control, and pollution minimization and shall comply fully with such regulations. The General Contractor shall submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. Any changes to the approved Soil Erosion & Sediment Control Plan must be coordinated with a Licensed Engineer, or NYSDEC Certified Inspector.

RESPONSIBILITIES OF GENERAL CONTRACTOR

The Owner, under the supervision of a licensed Engineer or NYSDEC Certified Inspector, shall work with the General Contractor to implement best management practices towards the protection of groundwater and minimization of sediment transport off site. The General Contractor shall manage the discharge of stormwater from the site in accordance with the NYSDEC Construction General Permit for Construction Activities conditions and requirements and the provisions of this report. The General Contractor shall be responsible for constructing the stormwater management practices in accordance with the requirements and provide trained contractor(s) to conduct the daily inspections required by the SWPPP. The General Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the General Contractor's failure to comply with the permit provisions. It shall be the responsibility of the General Contractor to make any changes to the SWPPP necessary when the General Contractor or any of his subcontractors elects to use, borrow or fill from material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by other NYSDEC or local jurisdictional entity regulations. The General Contractor should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

NOTICE OF INTENT (NOI)

The Owner/Operator shall submit to the NYSDEC an NOI & MS4 Acceptance letter for permit coverage under GP-0-20-001. Confirmation of delivery of the NOI to the NYSDEC shall be included in the SWPPP Appendix (postal receipt or electronic acknowledgement) upon receipt. The signatory on the NOI must

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also sign all documents (i.e., inspection reports) associated with the SWPPP, or designate a duly authorized representative as the signatory. Copies of all documentation received or prepared relating to SWPPP activities shall be maintained in the Owner/Operator & General Contractor's SWPPP reports, at a minimum. Form SF-2 "Owner / Operator and Duly Authorized Representative" (blank sample form provided in Appendix II) is to be used for designating duly authorized representatives.

GENERAL CONTRACTOR CERTIFICATION & TRAINING

As identified in the NYS DEC General Permit GP-0-20-001 Part III.A.6., an employee of the Contractor shall have received four (4) hours of NYS DEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYS DEC endorsed entity within the last three (3) years and shall herein be referred to as the Trained Contractor. The Trained Contractor may also meet the requirements of a Qualified Inspector as defined by the NYS General Permit GP-0-20-001 on page 44 in lieu of meeting the requirements of a Trained Contractor. Proof of proper training shall be presented at the pre-construction meeting. This Trained Contractor is responsible for the day to day implementation of this SWPPP.

A Pre-Construction Meeting shall be administered by the Operator's Project Manager and Operator's licensed Engineer, Landscape Architect, or Qualified Inspector with the Trained Contractor. This meeting shall emphasize the following topics:

- Implementation of erosion and sediment control plans
- Installation of erosion and sediment control measures
- Inspection of erosion and sediment control measures
- Maintenance of erosion and sediment control measures
- Water quality controls and best management practices
- Record keeping regarding inspections and maintenance

At this meeting, the Trained Contractor(s) responsible for on-site SWPPP implementation shall receive a copy of this SWPPP report for use in the implementation of the SWPPP that must be kept on-site.

The following is information on how to get the Trained Contractor certification:

Online training: http://training.jrfa.com/nysba_jrfa/

NYSDEC E&SC Training Information:

http://www.dec.ny.gov/chemical/8699.html

The county Soil & Water Conservation Districts generally offer classes (call for class scheduled).

http://www.nassauswcd.org/4-hour-esc-training.html
https://www.suffolkcountyny.gov/Departments/Soil-and-Water-Conservation-District
https://planning.westchestergov.com/soil-water-conservation

REQUIREMENTS FOR THE GENERAL CONTRACTOR AND SUBCONTRACTOR(S)

The SWPPP Binder shall provide forms for both the General Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the General Contractor and all subcontractors who will implement the measures identified in the SWPPP. The General Contractor shall sign Form SF-3, "Trained Contractor's Certification" (blank sample form provided in Appendix II), verifying that they have been instructed on how to comply with and fully understand the requirements of the NYSDEC GP-0-20-001 permit requirements and SWPPP. These certifications must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" identified

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in the GP-0-20-001 prior to the initiation of any Construction Activities and shall be filed in the General Contractor & Owner/Operator's SWPPP Binders.

SWPPP LOCATION REQUIREMENTS

The SWPPP Binder is intended to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project by the General Contractor. It shall be readily available upon request by the Trained Contractor, Qualified Inspector, Operator's personnel, or NYSDEC or any other agency with regulatory authority over stormwater issues. The binder shall be kept on-site until the site complies with the Final Stabilization section of this document. In addition, the General Contractor shall post the Construction Notice in an on-site public location. (Refer to sample form SF-4 "Construction Site Notice" in Appendix II).

SWPPP

Two (2) copies of the SWPPP Binder shall be provided by the Operator's Engineer. One (1) copy shall be provided to the General Contractor's Trained Contractor and one (1) copy shall be provided to the Owner/Operator or their representative.

The Owner/Operator's representative must review the SWPPP Binder at each Project Review and evaluate for compliance. All Inspection and Maintenance Forms must be signed by the Owner / Operator (or their duly authorized representative) at this review and copies be submitted to the General Contractor.

Both SWPPP binders shall be kept up to date with forms and documentation regarding site SWPPP activities.

INSPECTIONS AND RECORD-KEEPING

Inspections during construction by the Qualified Inspector are required at least every seven (7) calendar days and shall continue until the site complies with the Final Stabilization section of this document. As the Owner has received authorization from the NYSDEC to disturb more than (5) acres of soil at any one time, the Qualified Inspector shall conduct at least two (2) site inspections every seven (7) calendar days. The inspections shall be separated by a minimum of two (2) full calendar days and shall continue until the site complies with the Final Stabilization section of this document. Additional inspections may be required pertaining to the type of Soil Erosion and Sediment Control Practice being used. The Trained Contractor shall refer to the NYSDEC's *New York State Standards and Specifications for Erosion and Sediment Control* (aka "blue book") and details provided by this SWPPP report.

At a minimum, inspections shall include all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed to operate correctly, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

It is imperative that the Qualified Inspector and Trained Contractor document the inspection and maintenance of all erosion and sediment control measures as soon as possible after the inspections and/or maintenance are completed, but no later than 48 hours. These records are used to prove that the required

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inspections and maintenance were performed and copies shall be kept with each copy of the SWPPP binder. In addition, the Trained Contractor must certify acknowledgment of site inspections, adequacy of stabilization, and maintenance within 7 days of the activity. After stabilization is completed, the Trained Contactor shall provide the Owner/Operator a record copy of the SWPPP binder with copies of all associated permits and inspection reports. These shall be maintained by the Owner/Operator for a minimum of five (5) years after the project is stabilized and/or complete.

Following construction, inspection of permanent stormwater management systems shall be performed by the Owner/Operator at the frequency identified under Post-construction Inspection of Stormwater Management Systems on plan drawings C-30 to C-34. Inspections must be conducted by a, "Qualified Inspector" as defined in the NYS General Permit GP-0-20-001 on page 44, designated by the Owner/Operator. Each inspection must be followed up by a report documenting the Qualified Inspector's findings which shall specify the required maintenance and/or repair for the erosion and sedimentation control measures and stormwater management systems. (Refer to sample forms "Permanent Stormwater Structure [Inspection Form / Maintenance Log]" in Appendix VII)

SWPPP MODIFICATIONS

Inspection reports shall also identify if any revisions or amendments to the SWPPP are warranted due to unexpected conditions during construction activities or the means and methods used for construction. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended when:

- There is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP. In addition to modifying the SWPPP, the Soil Erosion & Sediment Control Plan may also require an amendment.
- Inspections or investigations by site staff, or by local, state or federal officials, determine that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site.
- A release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under the Code of Federal Regulations Title 40: Protection of Environment, Part 110, Part 307 or under the Official Compilation of Codes, Rules and Regulations of New York State, Title 6, Environmental Conservation Rules and Regulations, Part 611; Environmental Priorities and Procedures in Environmental Clean Up, occurs during a 24 hour period. Revisions to the SWPPP must be completed within seven (7) calendar days of knowledge of the release.
- There is an off-site borrow or fill area that is used solely for the construction project. The modification will include, at a minimum, a revision to the SWPPP and site maps, and the General Contractor's implementation and inspection responsibilities may require modification.

Based on the results of the inspection, the SWPPP must be modified as necessary to include additional or modified Best Management Practice (BMP's) designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Any such changes to the SWPPP must be made in writing on the "Modification Report" (Form SF-6, blank sample form provided in Appendix II).

The SWPPP is a dynamic document, and must be continually updated by the Owner/Operator, under the supervision of a licensed Engineer, Landscape Architect or NYSDEC Certified Inspector, throughout

construction. It is the responsibility of the Owner/Operator, under the supervision of a Licensed Engineer, Landscape Architect or NYSDEC Certified Inspector, to update this manual and perform the required activities. Any changes to the approved Soil Erosion & Sediment Control Plan must be coordinated with a Licensed Engineer.

STABILIZATION AND TEMPORARY CEASE WORK

Stabilization occurs when all construction and related soil disturbing activities have been completed for construction Phases 1A & 1B, the construction area is fully stabilized including a uniform perennial vegetative cover with a density of 80% for the entire pervious surface or equivalent permanent stabilization measures have been established, and the facility no longer discharges stormwater associated with construction activities. Upon achieving this milestone, the Trained Contractor shall complete the following forms for construction Phase 1A & construction Phase1B: "Temporary Suspension (e.g. Winter Shutdown) Checklist & Certification (Form SF-10), "Partial Project Completion Shutdown Checklist & Certification" (Form SF-11), and "Final Stabilization Certification/Termination Checklist" (Form SF-12). Blank samples of the forms are provided within Appendix II.

FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE

Final stabilization occurs when all construction and related soil disturbing activities have been completed, the site is fully stabilized including a uniform perennial vegetative cover with a density of 80% for the entire pervious surface or equivalent permanent stabilization measures have been established, and the facility no longer discharges stormwater associated with construction activities. Upon achieving this milestone, the Trained Contractor shall also complete the "Final Stabilization Certification/Termination Checklist" (Form SF-12, blank sample form provided in Appendix II).

Upon final stabilization, a Notice of Termination (NOT) form is filed by the Owner with the MS4. Once the MS4 has accepted and executed the NOT, the Owner/Operator will file the NOT with the NYS DEC (a blank NOT application is provided in Appendix VII). A copy of the NYS DEC email indicating that the NOT has been processed and coverage under the General Permit has been terminated shall be included in the record SWPPP binders.

This filing terminates coverage under the General Permit and terminates the General Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections and maintenance of any permanent stormwater management facilities and practices must be continued by the Owner/Operator.

3. SITE INFORMATION

A. EXISTING CONDITIONS

The site is 30.25 acres (1,317,884 SF) in area and is located on the south side of Middle Country Road (NY-25). The subject site is currently an undeveloped lot consisting of meadows, grasslands, and light forest. The site is bounded by vacant space to the north, industrial use to the south and west, and agricultural space to the east.

B. PROPOSED CONDITIONS

The project consists of two phases for operation but will be constructed in three phases (Phase 1A, Phase 1B, & Phase 2). All three construction phases shall be constructed separately with each phase fully stabilized prior to the disturbance of the following phase. The disturbance for each construction phase at any one time is as follows; Phase IA = 10.75 Acres, Phase IB = 12.64 Acres, and Phase 2 = 6.86. The recharge basin will be constructed in Construction Phase 1A. Buildings 1 to 4 and a 1,500 SF commissary will be constructed during Phase 1B (Building 1 & 3 GFA = 56,000 SF per building, building 2 GFA = 56,672 SF, & building 4 GFA = 56,297 SF). Buildings 5 to 8 will be constructed during Phase 2 (building 5 GFA = 49,000 SF, building 6 GFA = 48,510 SF, building 7 GFA = 44,100 SF, & building 8 GFA = 44,550 SF). The commissary is for on-site personnel only and is not open to the general public. Buildings 1, 3, 5, & 7 will incorporate at grade loading spaces for smaller delivery trucks in the rear of each tenant space while buildings 2, 4, 6, & 8 will incorporate the use of depressed loading docks in the rear of each tenant space. The associated site work includes a new parking lot, concrete sidewalks, concrete curbing, site grading, landscaping, lighting, a recharge basin connected to eighty-two drywells, a sanitary sewer conveyance system to an on-site sewage treatment plant (STP), and a kitchen waste system for the commissary which will connect to the sewer conveyance system.

The breakdown of post development conditions under project Phase I consist of; 226,469 SF of new building area, 199,934 SF of new pervious area, and 291,557 SF of impervious area. Project Phase II consists of; 186,160 SF of new building area, 181,305 SF of new pervious area, and 232,459 SF of impervious area.

The proposed on-site drainage system (recharge basin and drywells) complies with state and local stormwater management requirements. The New York State Stormwater Management Design Manual which identifies the 90% rainfall event for this region as 1.4 inches. Following that guidance, the water quality volume (WQv) was calculated using 1.4 inches of rainfall and the resulting volume (2.434 acre-feet) will be fully captured and treated by the stormwater management system. The proposed on-site recharge basin and drywell storage through infiltration is determined to be 316,526 cubic-feet.

In accordance with Sections 4.4 (page 4-8) of the NYSDEC Stormwater Design Manual, the need to provide channel protection has been waived because the reduction of the total Channel Protection Storage Volume (CPv) is achieved on site through runoff reduction techniques or infiltration systems.

In accordance with Sections 4.4 thru 4.6 (pages 4-10 through 4-13) of the NYSDEC Stormwater Design Manual, Total Overbank Flood Control (Qp) and Total Extreme Flood Control (Qf) requirements are met by the proposed on-site recharge basin and drywell drainage system.

As the stormwater infiltrates the soil through the on-site recharge basin and drywells, this treatment of the stormwater through infiltration will remove at least 80% of the total suspended solids and 40% of total pollutants and will handle a 10-year and 100-year storm event without stormwater leaving the site.

The proposed stormwater system will consist of on-site recharge basin and drywells, perforated pipes, and stone swales throughout the site. Roof runoff from the buildings is collected in gutters

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and downspouts and piped directly into the drywells. Proposed surface topography generally contains slopes averaging 1.5-3.0% around the buildings and in most paved areas. Surface water from the paved areas will be collected by catch basin curb inlets and connected to drywells via 18" diameter HDPE pipes.

All trash, litter, construction materials, and debris will be removed from the site or stored within a trash compactor and dumpster as the local municipality dictates. All such materials will be removed at a regular interval or as containers become full. All such containers shall be placed on site to cause minimal impact to other sites and should be protected as the local municipality dictates.

C. GROUNDWATER

Soil borings B-1 to B4 were performed to a depth of 40 feet below grade surface by Slacke Test Boring Co., dated February 24, 2020 and soil borings B-5 to B-8 were performed to a depth of 40 feet below grade surface by Slacke Test Boring Co., dated February 12, 2021 (see soil boring reports in Appendix IV). Soil boring B-3 was conducted at an approximate elevation of 79.00. Soil boring B-3 reports groundwater elevation 36.2 feet below grade; therefore, groundwater can be anticipated at elevation 42.80 in NAVD 88 datum.

The nearest USGS New York Active Water Level Network station 405542072463001, located approximately 367 feet west of the subject site indicates the highest water level is at elevation 38.18 in NAVD 88 Datum.

Per the NYSDEC & the Peconic Estuary Partnership (PEP), the southern portion of the subject site, approximately 195,561 SF (4.49 Acres) is located within the Peconic Estuary watershed. Two proposed sanitary sewer manholes and approximately 300 linear feet of sewer main are located within the boundary of the estuary as indicated on the Overall Sanitary & Utility Plan (Sheet C-13). Although this portion of the sanitary sewer conveyance system falls within the estuary's boundary, the Water Table Contours and Locations of Observation Wells in Suffolk County Map, dated March 1995, from the Suffolk Country Department of Health Services Division of Environmental Quality indicates groundwater from the entire site will flow towards the Long Island Sound. Therefore, the proposed manholes and sanitary conveyance pipes within the boundary are not tributary to the Peconic Estuary watershed.

D. FLOOD ZONE

According to the Flood Insurance Rate Map (FIRM) prepared by Federal Emergency Management Agency (FEMA), the site is located within FEMA Map Number 36103C0442H which has an effective date of September 25, 2009. FEMA has also published a preliminary Flood Insurance Rate Map, panel. Based on this map, taken from the Federal Emergency Agency website, the site is in an area of minimal flood hazard. The FIRMette map, showing the site and adjacent area, retrieved from the website is included in Appendix IV of this report.

E. SOIL CONDITIONS

According to the NRCS soil survey obtained from the USDA website, soils on the site consist of a combination of PlB, RdB, PmC3, RdA soils. The on-site soil can be categorized as 100% hydrologic group A per the Soil Conservation Service. The soil information is indicated in the USDA NRCS Soils Report with Hydrologic Soul Group Map in Appendix IV.

F. WETLANDS & ENDANGERED SPECIES

The U.S. Fish and Wildlife Service 's National Wetlands Inventory "Wetlands Mapper" indicates that the site does not have any wetlands on or within 300 feet of the subject property. Supporting documentation, US F&WS National Wetlands Inventory map, is presented in Appendix IV.

The New York State Department of Environmental Conservation's "Environmental Resource Mapper" indicates that the site does not have any wetlands on or within 300 feet of the subject property. Further, the site is not within any area where rare plants, animals, or significant natural communities exist. Supporting documentation, NYSDEC Environmental Resource Mapper, is presented in Appendix IV.

An expanded property inspection and analysis of the subject property was conducted by Land Use Ecological Services, Inc to determine the presence or absence of freshwater wetlands. The site inspection revealed a very shallow depression towards the front of the site along Middle Country Road (NYS-25). After closer investigation of the plant species in proximity of said depression, no indicators of freshwater wetlands plant species were observed. The depression could be due to re-grading of the subject site as indicated by the presence of the Black Locust and Black Cherry which are the dominate species within this area. Enclosed within Appendix IV is the signed letter from the Land Use Ecological Services, Inc. president, Charles W. Bowman, dated April 15, 2020.

4. CONSTRUCTION DRAWINGS

Included in this report are the following plan drawings in Appendix VI:

- Property Survey – Depicts existing conditions of the entire site.
- Cover Sheet (C-1) – Provides overall project data as well as aerial, vicinity, and phasing maps.
- Notes Sheet (C-2) – Provides project notes.
- Overall Site Plan (C-3) – Depicts overall site layout, and proposed improvements.
- Partial Site Plans (C-4 to C-7) - Depicts comprehensive site layout, and proposed improvements.
- Overall Grading & Drainage Plan (C-2) – Illustrates grading contours, drainage tributary map, drainage calculations, and the proposed stormwater management system for the entire site.
- Partial Grading & Drainage Plans (C-9 to C-12) - Illustrates proposed slopes, grading, and details of the proposed stormwater management system for the entire site.
- Overall Sanitary & Utility Plan (C-13) – Indicates location of building sanitary systems, water main extension, water service locations, and utility locations.
- Partial Sanitary & Utility Plans (C-14 to C-17) - Indicates location of building sanitary systems, water main extension, water service locations, and utility locations.
- Sanitary Notes, Details, Borings (C-18) – Provides construction notes and details for sanitary systems and borings B-1 to B-4.
- Overall Landscape Plan (C-19) – Identifies proposed landscaping for the project.
- Partial Landscape Plans (C-20) to (C-23) – Identifies proposed landscaping for the project. The plan specifies placement of tree plantings and ground cover.
- Overall Lighting Plan (C-23) – Identifies proposed site lighting.
- Partial Lighting Plans (C-25) to (C-28) – Identifies proposed site lighting.
- Overall Construction Phasing Plan (C-29) – Illustrates the intended construction phasing plan for each section of the proposed development.

- Overall Soil Erosion & Sediment Control Plan (C-30) - Identifies proposed site erosion control and best management practices for the proposed construction activities and provides the required phasing for construction activities in each disturbance section.
- Site Details (C-31) to (C-34) – Includes site details in addition to those depicted on other plans.
- Fire Marshal Plan (C-5) – Indicates location of all fire hydrants, water mains, services, and on-site drive aisle dimensions for emergency access.

CONSTRUCTION SCHEDULE

Subject to change based on start of construction date, weather and any other unforeseen situations that may delay construction. Any changes will be updated within the SWPPP accordingly. Work outlined should take between 12/2021 to 06/2025.

- Site work will consist of site clearing, site stabilization, installation of curbs, installation of drainage systems, installation of site electrical, grading, installation of landscaping, installation of pavement subgrade, wearing courses, and final clean-up.

5. SOIL STABILIZATION MEASURES

Initial pavement and grading shall commence once the proposed erosion and sediment control practices are in place, i.e. stabilized construction entrance, silt fence, etc. All grading and excavation will be conducted such that associated stormwater run-off is directed to inlets with inlet protection or silt fence.

- Minimize exposed soil areas through temporary seeding and construction sequencing;
- Place structures to manage stormwater runoff and erosion; and
- Establish a permanent vegetative cover or other forms of stabilization as soon as practicable.

All manufactured control measures must be installed and maintained in accordance with the manufacturer's specifications. The following sections describe the erosion and sedimentation controls that will be used on this site. The Owner/Operator, under the supervision of a licensed Engineer or NYSDEC certified inspector, will implement and add to these site conditions, when required.

Stabilization practices will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.

DUST CONTROL

A water spray or mist shall be applied to control dust at earth work sites or access roads when necessary.

DISTURBED SOIL RESTORATION

Disturbed soil areas will be raked, seeded, and covered with straw mulch after excavation and, earth work have been completed. Disturbed areas shall not be permitted to remain in their disturbed state for more than seven (7) days unless directed otherwise by the Engineering Inspector. Mulch materials will be spread uniformly by hand or machine at a rate of approximately 100 pounds per 1,000 square feet. Mulch will be spread such that at least 75 percent of the ground surface is covered. Mulching may be used with

temporary or permanent seeding, or with slope stabilization techniques. Hydro mulch may also be used for temporary soil stabilization.

MULCHING

Straw mulching will be employed on all inactive and disturbed areas that will remain unstabilized for more than 14 days. Mulch materials will be spread uniformly by hand or machine at a rate of approximately 100 pounds per 1,000 square feet. Mulch will be spread such that at least 75 percent of the ground surface is covered. Mulching may be used with temporary or permanent seeding, or with slope stabilization techniques. Hydro mulch may also be used for temporary soil stabilization.

TEMPORARY SEEDING

A temporary vegetative cover will be established on areas of exposed soils (including stockpiles) that remain inactive and unstabilized for a period of more than 14 days for slopes. The seeded surfaces will be covered with a layer of straw mulch or hydro mulch as described above.

PERMANENT SEEDING

Upon completion of final grading, any areas not covered by pavement, other forms of stabilization, or other methods of landscaping will be seeded with an erosion control seed mix. On slopes 4:1 and greater, loamed and seeded areas will be mulched with hay to prevent erosion prior to germination of the seed.

STOCKPILING

Stockpiling is used to conserve topsoil and friable fine textured subsoils that must be stripped from the excavated areas and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized, which can be done by vegetation, geotextile, or plastic covers. This can be aided by orienting the stockpile lengthwise into prevailing winds. A down-slope perimeter sediment control system, such as silt fencing, shall be installed and maintained to contain soil. If staging/stockpiling areas are within the project's limit of disturbance, the proposed perimeter controls may suffice.

6. EROSION AND SEDIMENT CONTROL PRACTICES

All temporary erosion control practices shall be in place prior to construction and shall remain until the limits of disturbed areas are stabilized. Structural erosion and sedimentation controls to be used on the site include the following:

SILT FENCE BARRIERS

Prior to any ground disturbance, a barrier of silt fence shall be placed at the down gradient limit of work. When necessary, additional silt fence barriers will be installed immediately down gradient of erosion-prone areas, such as the base of steep exposed slopes and around the base of stockpiles, throughout the construction phase of the project. The barriers will be entrenched into the substrate to prevent underflow.

The erosion control barriers will be inspected weekly and after every storm event. Once sediment buildup has reached half the height of the silt fence (or more often as site conditions and schedule dictates) any sediment that has collected behind the barriers will be removed and will be either reused at the site or disposed of at a suitable offsite location. Any damaged sections of silt fence will be repaired or replaced.

CIVIL ENGINEERING

INLET PROTECTION

The proposed inlets will be protected from sediment inflow during the work period with inlet protection as specified by the "Blue Book". The contractor may use the type suitable for the situation and their means and methods unless otherwise noted on the plan drawings. The contractor must submit specifications for any Type V inlet protection to the Engineer for review before use. A layer of filter fabric, silt fence materials, or geotextile is NOT an acceptable inlet protection practice. These protection measures will be inspected weekly and will be routinely maintained until the drainage area tributary to each inlet has been stabilized by vegetation and/or covered by pavement. Any sediment that collects behind the barrier or in the sacks will be removed and will be either reused on-site or disposed of at a suitable off-site location.

STABILIZED CONSTRUCTION EXITS & TIRE CLEANING

Stone anti-tracking pads will be installed at each access point to the work area to prevent the off-site transport of sediment by construction vehicles. The stabilized construction exits will be at least fifty feet long and will consist of a 4-inch thick layer of crushed stone (1 to 4 inches in diameter). The stone will be placed over a layer of non-woven filter fabric. The anti-tracking pads will remain in place until a binder coat of pavement has been established in areas to be paved. Visible mud shall be cleaned by hand using a broom and water spray from vehicle tires and treads as practical before vehicles exit the site.

PAVEMENT SWEEPING

The sweeping program will remove sediments and contaminants directly from paved surfaces before their release into stormwater runoff. Pavement sweeping has been demonstrated to be an effective initial treatment for reducing pollutant loading into stormwater. At a minimum, any dirt, sediment, mud, etc. tracked off the site shall be swept by hand or mechanical means (use of water or other spray is prohibited) at the end of every day of construction activities.

CATCH BASIN AND DRYWELL CLEANING

Sediments and other contaminants that are not removed by pavement sweeping are transported by stormwater runoff to the site's catch basin and leaching structure system. Once in the catch basin or leaching structure, they settle to the bottom of the system. This material will be removed on a regular basis to prevent contaminants from migrating out of the drainage system during high flow events or reducing the infiltration capacity of the permanent structures.

LANDSCAPING

Wherever possible, existing vegetation is maintained on the site. Landscape materials installed in new planting beds and lawn areas shall be planted with native and drought-tolerant species that do not require intensive applications of fertilizer or water. When required, fertilizer and pesticide applications will be managed to prevent stormwater runoff from coming in contact with these products.

7. MAINTENANCE SCHEDULE

Any needed repairs will be made immediately to maintain all practices as designed and installed for their appropriate phase of the project. The Operator shall follow the guidelines set forth in this report during and

post construction for the lifetime of this establishment. Documentation of maintenance activities shall be kept by the Owner/Operator.

Regular maintenance of erosion and sediment controls are necessary in order to ensure they are performing as intended. Without appropriate maintenance, they may become ineffective and require costly improvements and/or replacement. The following descriptions outline typical maintenance needs for each practice.

SILT FENCE BARRIERS

Repair or replace damaged silt fence immediately as necessary to maintain a barrier. Remove sediment from behind the fence when it accumulates to 1/3 the original height. Dispose of removed sediment in accordance with all laws, rules, and applicable regulations. Typical silt fence damage includes, but is not limited to: undercutting, splits, tears, slumping/sagging, and weathered fabric. Inspect all temporary silt fences immediately after each rainfall. Immediately correct any deficiencies. Review silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Install additional silt fences or other appropriate BMPs where deficiencies exist.

INLET PROTECTION

Inspect inlets and outlets after severe storms to check for bypassed material. Repair washouts or other damage as needed. Clean the inside of the storm drain inlets as needed to remove sediment and debris. Inspect fiber rolls, compost socks, silt fence, and sandbag barriers for tears, gashes, or holes. Repair or replace as needed. Check sandbags for proper arrangement and displacement. Replace or repair damaged bales as needed. Make sure stakes are securely driven in the ground and are in good shape. Replace damaged stakes. Replace or clean any filter fabric when the fabric becomes clogged with sediment. Remove sediments when depth reaches 1/3 of the barrier height. Incorporate removed sediment into the project or dispose of it in accordance with all laws, rules, and applicable regulations. Follow any manufacturer specifications for maintenance and operation for type V inlet protection.

STABILIZED CONSTRUCTION ACCESS

Inspect routinely for damage and assess effectiveness of the stabilized construction access. Repair/replace if access is clogged with sediment. Keep all temporary roadway ditches clear. Maintain stabilized construction entrances to prevent tracking of sediment off of the site. Remove and replace aggregate when voids are filled. Sweep and remove soil tracked onto paved surfaces. Refresh with additional stone if small portions are sediment laden.

CATCH BASIN AND DRYWELL CLEANING

Inspect structures that receive runoff where inlet protection has failed or regularly where inlet protection is not utilized or is temporarily removed for work. Where sediment is found to enter an inlet or drywell without inlet protection, immediately install inlet protection. Where sediment buildup is found in catch basins, remove sediment buildup and consider additional measures to protect the inlet. Inspect drywells that have received sediment laden runoff 24 and 48 hours after rainfall events to ensure they are functioning.

LANDSCAPING

All seeded areas will be fertilized, reseeded as necessary, and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

CIVIL ENGINEERING

MULCHING

Maintain unbroken, temporary mulched ground cover throughout the period of construction when soils are not being reworked.

TEMPORARY AND PERMANENT SEEDING

Use additional seed where density is insufficient for resisting erosion. Consider an alternate soil stabilization method if temporary seeding does not provide adequate cover and/or is found to be ineffective.

STOCKPILING

Inspect stockpiles for spills outside of the perimeter controls and clean up any discharge. Repair and/or replace sediment perimeter controls and covers as needed to keep them functioning properly

DUST CONTROL

Check areas protected to ensure coverage. Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

8. POLLUTION PREVENTION MEASURES

The General Contractor shall implement pollution prevention measures related to on-site management and handling of materials so as to minimize any potential exposure to stormwater. Some materials, which may be present on the construction site and have a potential to contribute towards pollution, include:

- Concrete/Additives/Waste
- Detergents
- Paints/Solvents
- Acids
- Solid and Construction Wastes
- Cleaning Solvents
- Petroleum based products
- Pesticides and Fertilizers
- Sanitary Waste

The following pollution prevention measures shall be implemented by the General Contractor to address the identified potential sources of pollutants:

- Good Housekeeping of Construction Site
- Hazardous Products and Waste Storage/Use Procedures
- Petroleum Products Inventory Storage/Use Procedures
- Fertilizer Storage/Use Procedures
- Paints, Solvents, and Cleaning Compounds Storage/Use Procedures
- Concrete Truck Washout, Solid Waste, and Construction Waste Storage
- Sanitary Waste Management
- Contaminated Soils
- Spill Prevention and Response Procedures
- Recognition of Permissible Non-stormwater Discharges

Additional explanation of each pollution prevention measure is provided below.

GOOD HOUSEKEEPING OF CONSTRUCTION SITE

The following good housekeeping practices shall be followed on-site during the construction project.

- An effort shall be made to store only enough products required to do the job.
- All materials stored on-site shall be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers shall be stored with secured covers when not in use. Drip pans shall be provided under all dispensers. Products shall be kept in their original containers with the original manufacturer's label in legible condition.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- All of a product shall be used up to the extent practical before disposing of the container.
- Manufacturer's recommendations for proper use and disposal shall be followed.
- The job site superintendent shall be responsible for daily inspections to ensure proper use and disposal of materials.
- Remove incidental sediment tracked or dropped off-site by physical means such as sweeping.
- Maintain dust control measures such as vegetative cover, spray adhesives, sprinkling, or wind barriers through dry weather periods.

HAZARDOUS PRODUCTS AND WASTE STORAGE/USE PROCEDURES

The General Contractor shall maintain Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that are used on the job site and shall be responsible for the proper management of potential wastes that may result from these products. An MSDS shall be posted in the immediate area where such product is stored and/or used and another copy of each MSDS must be maintained in an MSDS file at the job site construction office. Each employee who handles substances with hazardous properties shall be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product being used, particularly information regarding spill control techniques.

In addition, products shall be stored in original containers with the original labels in legible condition. Original labels and material safety data sheets (MSDS's) shall be compiled for each material used. If surplus product must be disposed of, the General Contractor must follow the manufacturers or applicable jurisdictional requirements for proper disposal. Site personnel shall be instructed in these practices by the General Contractor's superintendent, who shall also be responsible for seeing that these practices are followed.

PETROLEUM PRODUCTS INVENTORY STORAGE/USE PROCEDURES

All on-site vehicles and equipment shall be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers and clearly labeled. Any petroleum storage tanks stored on-site shall be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Drip pans shall be provided for all dispensers. Any asphalt substances used on-site shall be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on Soil Erosion & Sediment Control Plan (C-5) by the General Contractor once

CIVIL ENGINEERING

the locations have been determined. Fuel tanks and dispensers shall be locked at all times and located in a secured area.

FERTILIZER STORAGE/USE PROCEDURES

Fertilizers shall be applied only at the rates specified on the landscaping plans or at the minimum amounts recommended by the manufacturer. Following application, the fertilizer shall be mixed into the soil to limit direct contact with stormwater.

PAINTS, SOLVENTS, AND CLEANING COMPOUNDS STORAGE/USE PROCEDURES

All containers shall be tightly sealed and stored when not in use. Excess paint and solvents shall not be discharged to any stormwater management system and shall be properly disposed of according to the manufacturer's instructions or state and federal regulations.

CONCRETE TRUCK WASHOUT, SOLID WASTE, AND CONSTRUCTION WASTE STORAGE

Concrete trucks shall be allowed to wash out or discharge surplus concrete or drum wash water on the site only in the specifically designated diked areas designed to prevent contact between the concrete and/or washout and stormwater which shall be discharged from the site. The project may require the use of multiple concrete washout areas. All concrete washout areas shall be located in an area where the likelihood of the area contributing to stormwater discharges is negligible. If required, additional Best Management Practices must be implemented to prevent concrete wastes from contributing to stormwater discharges. The hardened residue from the concrete washout areas shall be disposed of in the same manner as other non-hazardous construction waste materials. The job site superintendent shall be responsible for ensuring that these procedures are followed.

All waste materials shall be collected and stored in a covered container leased from a local waste management company licensed to do business in New York State and the local jurisdiction. The container must comply with all local and state solid waste management regulations. All trash and construction debris from the site shall be deposited in the container. The container shall be emptied a minimum of once per week or more often if necessary, and the trash shall be hauled to a landfill approved by the local jurisdiction. No construction waste materials shall be buried on site. All personnel shall be instructed regarding the correct procedures for waste disposal.

All waste containers shall be located in an area where the likelihood of the containers contributing to stormwater discharges is negligible. If required, additional Best Management Practices must be implemented, such as sandbags around the base, to prevent wastes from contributing to stormwater discharges.

SANITARY WASTE MANAGEMENT

All sanitary waste shall be collected from the portable units a minimum of once per week by a licensed portable facility provider in compliance with local and state regulations. Sanitary waste units shall be located in an area where the likelihood of the unit contributing to stormwater discharges is negligible. If required, additional BMP’s must be implemented to prevent wastes from contributing to stormwater discharges.

CIVIL ENGINEERING

CONTAMINATED SOILS

If contaminated soils are encountered during site redevelopment activities they shall be excavated, segregated, and stockpiled on and covered with polyethylene sheeting. Representative samples shall be collected for waste classification and disposal analyses. Soils requiring off-site management shall be transported in lined, permitted tandem trucks or dump trailers for transportation under manifest or bill-of-lading to a permitted soils treatment and recycling facility. Soils that are contaminated at or below concentrations which would allow such material to remain on site shall be used as on-site backfill as appropriate.

SPILL PREVENTION AND RESPONSE PROCEDURES

The General Contractor shall train designated personnel in spill prevention and response procedures. Spilled hazardous materials or hazardous wastes must be contained and remediated to avoid possible contact with stormwater. In order to minimize the potential for a spill of hazardous materials to come into contact with stormwater, the following steps shall be implemented:

1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) shall be stored in a secure location and covered when not in use.

2. The minimum practical quantity of all such materials shall be kept on the job site.

3. A spill response kit (e.g., absorbent materials, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be maintained at the job site for use in the event of a spill.

4. Manufacturer's recommended methods for spill cleanup shall be clearly posted and site personnel shall be trained regarding these procedures and the location of the information and cleanup supplies.

In the event of spills of reportable quantity, the following procedures shall be followed:

1. All spills shall be cleaned up immediately after discovery.

2. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

3. The project manager and the Engineer of Record shall be notified immediately.

   Spills of toxic or hazardous materials shall be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 110, 40 CFR 117, and 40 CFR 302) must be immediately reported to the EPA National Response Center, telephone 1-800-424-8802 and the NYS DEC Spill Hotline 1-800-457-7362.

4. If the spill exceeds a Reportable Quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances

leading to the release, and the date of the release. The plans must identify measures to respond to such releases and to prevent the recurrence of such releases.

The job site superintendent shall be the spill prevention and response coordinator. He shall designate the individuals who shall receive spill prevention and response training. These individuals shall each become responsible for a particular phase of prevention and response. The names of these personnel shall be posted in the material storage area and in the office trailer on-site.

RECOGNITION OF PERMISSIBLE NON-STORMWATER DISCHARGES

As described under Part I, Section C3 of the GP-0-20-001, the permit may authorize the following non-stormwater discharges:

- Discharges from firefighting activities;
- Fire hydrant flushing;
- Water to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP;
- Routine external building wash down which does not use detergents;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all prior spills were removed) and where detergents are not used;
- Air conditioning condensate;
- Springs;
- Foundation or footing drains where flows are not contaminated with process materials such as solvents.

The General Contractor shall seek authorization for any discharges not covered by GP-0-20-001.

9. WATER QUALITY REQUIREMENTS

This project will generate site run-off in an area of soil disturbance greater than five (5) acres from the proposed construction activity. Therefore, the following information is provided:

1. Town of Riverhead stormwater design calculations are on the Overall Grading & Drainage Plan (Sheet C-8) and detailed descriptions of each post-construction stormwater control practice, including dimensions, materials, and installation details are on the Site Details II (Sheet C-32) and as described in the Engineer's Report included in the Appendix IV of this report. The approved site plans shall supersede these attachments as appropriate.

2. Dimensions, materials and installation details for post-construction stormwater control practices are specified on the Overall Grading & Drainage Plan (Sheet C-8) and Overall Soil Erosion & Sediment Control Plan (Sheet C-30) included in Appendix VI of this report.

3. Hydrologic and hydraulic analysis for the structural components of the stormwater control system for applicable design storms are included in the Engineer's Report (Appendix IV of this report).

4. The proposed post-development stormwater management practices satisfy the WQv requirement.

5. Total Channel Protection Storage Volume (CPv), Total Overbank Flood Control (Qp) and Total Extreme Flood Control (Qf) requirements are in conformance with Sections 4.4 thru 4.6 of the Stormwater Design Guidelines, as the ultimate discharge point is an on-site recharge basin and subsurface drywells.

10. DUE DILIGENCE

It should be understood that the information presented herein is based on a culmination of this firm's observations, design and review of the published information readily available at the time of this report. This report is subject to addition and/or revision based on the disclosure of information derived from further review and/or actual submission to the applicable governing agencies. This firm reserves the right to update/amend this report as further information becomes available.

11. REFERENCES

Town of Riverhead "Road and Drainage Standards – Town of Riverhead" 2018 Edition

New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-20-001, Expires January 28, 2025

New York State Stormwater Management Design Manual, January 2015

New York State Standards and Specifications for Erosion and Sediment Control, November 2016

APPENDIX I:
APPLICATIONS & APPROVALS

- * NYS DEC NOI ACKNOWLEDGEMENT OF INTENT
- MS4 STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ACCEPTANCE FORM
- eNOI (NOTICE OF INTENT) FOR COVERAGE UNDER STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY
- OWNER/OPERATOR CERTIFICATE FORM
- SWPPP PREPARER CERTIFICATION FORM

* TO BE INCLUDED ONCE RECEIVED / COMPLETED

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.30

(Submission #: HP0-70FZ-17QQE, version 1)

Details

Submission Alias	19026_NOI for coverage under Stormwater General Permit for Construction Activity
Originally Started By	Lawrence Crehan Jr
Submission ID	HP0-70FZ-17QQE
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
HK Ventures, LLC

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

Owner/Operator Contact Person First Name
Scott

Owner/Operator Mailing Address
147 Steamboat Road

City
Great Neck

State
NY

Zip
11024

Phone
516-855-7268

Email
sjohns@linxind.com

Federal Tax ID
NONE PROVIDED

Project Location

Project/Site Name
HK Ventures, LLC Industrial Park

Street Address (Not P.O. Box)
4285 Middle Country Road

Side of Street
South

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Calverton

State
NY

Zip
11933

DEC Region
1

County
SUFFOLK

Name of Nearest Cross Street
Fresh Pond Avenue

Distance to Nearest Cross Street (Feet)
367

Project In Relation to Cross Street
East

Tax Map Numbers Section-Block-Parcel
116-1-2

Tax Map Numbers
2

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
40.9280721545909,-72.7720575628471

Project Details

2. What is the nature of this project?
New Construction

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

Pre-Development Existing Landuse
Pasture/Open Land

Post-Development Future Land Use
Industrial

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)
30.3

Total Area to be Disturbed (acres)
30.3

Existing Impervious Area to be Disturbed (acres)
0.00

Future Impervious Area Within Disturbed Area (acres)
21.5

5. Do you plan to disturb more than 5 acres of soil at any one time?
Yes

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

A (%)
100.00

B (%)
0.00

C (%)
0.00

D (%)
0.00

7. Is this a phased project?
Yes

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

Start Date
12/1/2021

End Date
6/1/2025

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Peconic Lake

9a. Type of waterbody identified in question 9?
Lake Off Site

Other Waterbody Type Off Site Description
Lake

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?
Yes

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

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

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey?
No

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

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

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

16. What is the name of the municipality/entity that owns the separate storm sewer system?
Town of Riverhead

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

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

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

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

Required SWPPP Components

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

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

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

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

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

SWPPP Preparer
Key Civil Engineering, P.C.

Contact Name (Last, Space, First)
Jaclyn Peranteau, P.E.

Mailing Address
664 Blue Point Road, Unit B

City
Holtsville

State
NY

Zip
11742

Phone
631-961-0506

Email
jackie@keycivilengineering.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
Sediment Basin
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
Mulching
Protecting Vegetation
Seeding
Temporary Swale
Topsoiling

Permanent Structural
Land Grading

Other
NONE PROVIDED

Post-Construction Criteria

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

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Buffers

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
2.434

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)
7.27

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)
2.44

CPv Provided (acre-feet)
7.27

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)
29.71

Post-Development (CFS)
127.13

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
101.58

Post-Development (CFS)
219.54

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

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

If Yes, Identify the entity responsible for the long term Operation and Maintenance
HK Ventures, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
The proposed stormwater management system (including the proposed recharge basin and drywells is designed to capture and infiltrate the entire reduction volume requirement and has a volume capacity of 316,526 cubic-feet (7.27 Acre-feet). As such, runoff generated from the 10- and 100-year storm events will be contained entirely in the onsite stormwater management system. Further, there will be no stormwater runoff discharged from the subject property, yielding a post-development flow rate for both the 10- and 100-yr storm event of 0.00 cubic feet per second. No increase in runoff/flow rate is proposed and no increase to the frequency of magnitude of out-of-bank flooding is proposed, therefore the proposed post-development stormwater management practices satisfy the Qp requirements.

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)
0.00

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
0.00

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0.00

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0.00

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
0.00

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
0.00

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
0.00

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
0.00

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
0.00

Total Contributing Impervious Acres for Rain Garden (RR-6)
0.00

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
0.00

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
0.00

Total Contributing Impervious Acres for Porous Pavement (RR-9)
0.00

Total Contributing Impervious Acres for Green Roof (RR-10)
0.00

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
0.00

Total Contributing Impervious Acres for Infiltration Basin (I-2)
18.24

Total Contributing Impervious Acres for Dry Well (I-3)
3.26

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
0.00

Total Contributing Impervious Acres for Bioretention (F-5)
0.00

Total Contributing Impervious Acres for Dry Swale (O-1)
0.00

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
0.00

Total Contributing Impervious Acres for Wet Pond (P-2)
0.00

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
0.00

Total Contributing Impervious Acres for Multiple Pond System (P-4)
0.00

Total Contributing Impervious Acres for Pocket Pond (P-5)
0.00

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
0.00

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
0.00

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
0.00

Total Contributing Impervious Acres for Organic Filter (F-4)
0.00

Total Contributing Impervious Acres for Shallow Wetland (W-1)
0.00

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
0.00

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
0.00

Total Contributing Impervious Acres for Pocket Wetland (W-4)
0.00

Total Contributing Impervious Acres for Wet Swale (O-2)
0.00

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

Total Contributing Impervious Area for Hydrodynamic
0.00

Total Contributing Impervious Area for Wet Vault
0.00

Total Contributing Impervious Area for Media Filter
0.00

"Other" Alternative SMP?
0.00

Total Contributing Impervious Area for "Other"
0.00

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.
Individual SPDES

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

If Other, then identify
SPDES (P/C/I) Discharge of Treated Sanitary Sewage

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

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:	HK Ventures, LLC
2. Contact Person:	Scott Johns
3. Street Address:	147 Steamboat Road
4. City/State/Zip:	Great Neck, NY 11024
II. Project Site Information	
5. Project/Site Name:	HK Ventures, LLC Industrial Park
6. Street Address:	4285 Middle Country Road
7. City/State/Zip:	Calverton, NY 11933
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	Town of Riverhead
12. MS4 SPDES Permit Identification Number: NYR20A	020
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

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

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-15-002)

Project/Site Name: _____

eNOI Submission Number: _____

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

Certification Statement - Owner/Operator

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

Uri		**Hason**
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-0-15-002)

Project Site Information

Project/Site Name

Owner/Operator Information

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

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-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First name MI Last Name

Signature Date

APPENDIX II:
FORMS

- PRE-CONSTRUCTION MEETING AGENDA & ATTENDANCE (SF-1)
- OWNER/OPERATOR & DULY AUTHORIZED REPRESENTATIVE (SF-2)
- CONTRACTOR & SUBCONTRACTOR TRAINED CONTRACTOR CERTIFICATION (SF-3)
- CONSTRUCTION SITE NOTICE (SF-4)
- IMPLEMENTATION SCHEDULE (SF-5)
- MODIFICATION REPORT (SF-6)
- REPORTABLE QUANTITY RELEASE FORM (SF-7)
- INSPECTION REPORT (SF-8)
- PROJECT RAINFALL LOG (SF-9)
- TEMPORARY SUSPENSION (E.G. WINTER SHUTDOWN) CHECKLIST & CERTIFICATION (SF-10)
- PARTIAL PROJECT COMPLETION SHUTDOWN CHECKLIST & CERTIFICATION(SF-11)
- FINAL STABILIZATION AND NOTICE OF TERMINATION CHECKLIST & CERTIFICATION (SF-12)

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PRE-CONSTRUCTION MEETING AGENDA & ATTENDANCE (Page 1 of 2)

(SF-1)

STORMWATER POLLUTION PREVENTION PROGRAM

DATE: _____

TIME: _____

Agenda

Item	Topic	Discussed	Further action or Information Required (Yes or No)
1	Overview of NYSDEC SPDES Permit Program		
2	SF-1 Review pre-construction meeting items and sign-in		
3	SF-2 Identify Owner/Operator and duly authorized representative.		
4	Review with them their responsibilities.		
5	SF-3 Identify Trained Contractor(s).		
6	Review with them their responsibilities.		
7	SF-4 Construction Site Notice		
8	SF-5 Implementation Schedule		
9	SF-6 SWPPP Modification		
10	SF-7 Reportable Quantity Release Form		
11	SF-8 Identify Qualified Inspector & review Inspection Report		
12	SF-9 Rainfall Log		
13	SF-10 Final Stabilization / Notice of Termination Checklist		
14	Review of SWPPP Plan (to include all temporary and permanent SMPs and stabilization measures)		
15	Locating waste containers, portable toilets, concrete washout areas, fueling areas, and tank storage area on designated BMP Plans		
16	Posting SE&SC Plan at job trailer		
17	Posting requirements for the Notice of Intent (NOI), Notice of Coverage (NOC) and Construction Site Notice		
18	Allowable non-stormwater discharges and handling procedures		
19	Materials management to include proper material storage, etc.		
20	Import/Export Documentation		
21	Permanent Stormwater Structure Maintenance Form(s)		
22	Records Retention Requirements		
23	Phasing of Project: Phase I		

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PRE-CONSTRUCTION MEETING (CONTINUED)

Attendance Roster

Name	Company	Telephone Number	Email	Signature
		( ) -		
		( ) -		
		( ) -		
		( ) -		
		( ) -		
		( ) -		
		( ) -		
		( ) -		
		( ) -		

Items which require further action or additional information: _____

_____

_____

Additional items discussed (not addressed above): _____

_____

_____

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OWNER/OPERATOR AND DULY AUTHORIZED REPRESENTATIVE
(SF-2)
STORMWATER POLLUTION PREVENTION PROGRAM

The SWPPP and other information requested by the Department shall be signed by a person described in the Signatory Requirements prescribed by Part VII.H.1 on page 32 of GP-0-20-001 or by a duly authorized representative of that person.

I hereby certify that I am the owner, a duly authorized representative, or designate an authorized representative allowing such party to sign the Stormwater Pollution Prevention Plan and associated forms and documents.

Being the Owner / Operator, I shall ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed.

Owner/Operator: _____

Signature of Owner/Operator: _____

Title: _____

Date: _____

Authorized Representative must be an individual or position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company.

Name of Authorized Representative: _____

Signature of Authorized Representative: _____

Title: _____

Company: _____

Date: _____

Signature of Owner/Operator Authorizing the Representative: _____

Date: _____

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CONTRACTOR & SUB-CONTRACTOR TRAINED CONTRACTOR CERTIFICATION (SF-3)

STORMWATER POLLUTION PREVENTION PROGRAM

The owner or operator of each construction activity identified in Tables 1 and 2 of Appendix B of Permit No. GP-0-20-001 shall have a trained contractor inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

TRAINED CONTRACTOR'S CERTIFICATION:

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 shall identify at least one person from their company that will be responsible for implementation of the SWPPP who shall be a Trained Contractor. This Trained Contractor shall have received four (4) hours of Department endorsed training in proper erosion and sediment control principals from a Soil and Water Conservation District, or other Department endorsed entity within the last three (3) years or shall meet the requirements of a Qualified Inspector as defined by the NYS General Permit GP-0-20-001 on page 40.

> "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."

This Trained Contractor is responsible for the day to day implementation of the SWPPP elements during construction including those listed on the Implementation Schedule.

Trained Contractor:

Name(print): _____ Signature: _____

Title: _____ Company: _____

Email: _____ Telephone: _____

Address: _____

Qualification of 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.

Owner or Authorized Representative name: _____

Owner or Authorized Representative signature: _____ Date: _____

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CONSTRUCTION SITE NOTICE
(SF-4)
STORMWATER POLLUTION PREVENTION PROGRAM

The following information is posted in compliance with the New York State DEC Construction General Permit GP-0-20-001

NYSDEC SPDES Permit Number:	**NYR_ _ _ _ _ _**
Brief Project Description:	The project consists of two phases for operation but will be constructed in three phases (Phase 1A, Phase 1B, & Phase 2). The recharge basin will be constructed in Construction Phase 1A. Buildings 1 to 4 and a 1,500 SF commissary will be constructed during Phase 1B (Building 1 & 3 GFA = 56,000 SF per building, building 2 GFA = 56,672 SF, & building 4 GFA = 56,297 SF). Buildings 5 to 8 will be constructed during Phase 2 (building 5 GFA = 49,000 SF, building 6 GFA = 48,510 SF, building 7 GFA = 44,100 SF, & building 8 GFA = 44,550 SF). site work includes a new parking lot, concrete sidewalks, concrete curbing, site grading, landscaping, lighting, a recharge basin connected to eighty-two drywells, a sanitary sewer conveyance system to an on-site sewage treatment plant (STP), and a kitchen waste system for the commissary.
SWPPP Binder Located at:	
Site Storm Water Contact:	
Secondary Contact (Trained Contractor On-Site Daily):	

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A Stormwater Pollution Prevention Program (SWPPP) has been developed and implemented according to Permit requirements. A full copy of the SWPPP for this construction project can be found at the location noted above.

This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that permittees allow members of the public access to a construction site.

This notice must be posted conspicuously near the main entrance of the construction site and shall also include the NYSDEC SPDES Permit Number GP-0-20-001 for the project or a "completed" copy of the Notice of Intent (NOI) to obtain coverage under GP-0-20-001. This notice must be updated whenever information relating to the SWPPP or contact persons changes.

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IMPLEMENTATION SCHEDULE
(SF-5)
STORMWATER POLLUTION PREVENTION PROGRAM

The Contractor will be responsible for implementing all erosion control and stormwater management control structures. The Contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor.

Construction Activity	Proposed Initiation Date	Proposed Completion Date	Contractor Responsible for Implementation
Pre-Construction			
-Tree Protection			
-Surface Water Protection/Exist Inlet Protection			
-Sediment Basins/Diversion Swales			
-Stabilized Construction Entrance/Exit			
-Perimeter Sediment Control/Silt Fence			
- Soil Stockpile Storage			
- Construction Staging Area			
Earthwork			
-Apply Dust Control			
-Temporary Run-off and Drainage Control			
-Sweep the Soil on Roadways			
Building Construction			
-Excavation for Foundation, Dewatering as Needed			
-Stockpile Stabilization			
Run-Off and Drainage Control			
-Install New Drainage System			
-Install Inlet Protection for New System			
Grading & Drainage/Utility Installation and Stabilization			
-Grade site areas			
-Stabilize Exposed Areas			
-Install Erosion Control Measures			
Finalize Grading & Landscaping			
-Establish Permanent Vegetation			
-Remove Temporary ESC Measures			
Post Construction Stormwater Management			
-Clean all drainage structures and interconnecting pipe			

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MODIFICATION REPORT
(SF-6)
STORMWATER POLLUTION PREVENTION PROGRAM

CHANGES REQUIRED FOR STORMWATER POLLUTION PREVENTION PROGRAM

The owner or operator must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the owner or operator shall amend the SWPPP:

a. whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the site;
b. whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
c. to address issues or deficiencies identified during an inspection by the trained contractor, qualified inspector, the Department, or other regulatory authority.

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge or potential for discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP, if required inspections or regulatory officials determine that discharges are causing water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site, or based on the results of an inspection, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems.

DATE OF SWPPP REVISION: _____
Revisions must be implemented within seven (7) calendar days.

CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PROGRAM: _____

_____

_____

_____

REASONS FOR CHANGES: _____

_____

_____

_____

Owner/Operator or Designated Representative: _____

Signature: _____ Date: _____

Trained Contractor: _____ Signature: _____ Date: _____

Qualified Inspector: _____ Signature: _____ Date: _____

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REPORTABLE QUANTITY RELEASE FORM
(SF-7)
STORMWATER POLLUTION PREVENTION PROGRAM

The discharges of hazardous substances or oil in stormwater discharges from construction sites must be prevented or minimized in accordance with the SWPPP. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40CFR110, 40CFR117, 40CFR302 and 6NYCRR part 611 occurs, the following steps must be taken:

1. All measures must be taken to contain and abate the spill and to prevent the discharge of the pollutant(s) to stormwater and/or groundwater on or off-site.

2. Notice must be provided to the National Response Center (NRC) at 1-800-424-8802 and NYS DEC Spill Response Unit at 1-800-457-7362 in accordance with regulations referenced above as soon as site staff has knowledge of the discharge.

3. Contact the [corporate] Project Manager or Engineer of Record immediately upon knowledge of release.

4. The SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases.

Date of Spill	Material Spilled	Approximate Quantity of Spill (in gallons)	Agency(s) Notified	Date of Notification	SWPPP Revision Date

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INSPECTION REPORT (Page 1 of 3)
(SF-8)
STORMWATER POLLUTION PREVENTION PROGRAM

As required by SPDES General Permit GP-0-20-001 Part IV.C, the Owner or Operator shall have a Qualified Inspector conduct site inspections. The Trained contractor cannot conduct the Qualified Inspector site inspections unless they meet the Qualified Inspector qualifications in Appendix A of GP-0-20-001.

For construction sites where soil disturbance activities are on-going and the Owner or Operator has received authorization in accordance with Part II.C.3 of GP-0-20-001 to disturb greater than five (5) acres of soil at any one time, the Qualified Inspector shall conduct two (2) site inspections every seven (7) calendar days and within 48 hours after a rainfall event of 0.25" or more. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

Within one (1) business day of the completion of an inspection, the qualified inspector shall notify the owner/operator and appropriate contractor or subcontractor of any corrective actions that need to be taken.

Inspection Type: ☐ **Routine** ☐ **Post-Storm**

Date: _____ **Weather:** _____

Time: _____ **Soil Condition:** _____

Qualified Inspector's Certification Statement:

"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 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."

Qualified Inspector performing inspection:

Name: _____

Title: _____

Signature: _____

Qualification (PE, CPESC, PLA, or SWT #): _____

If the above Qualified Inspector is working under a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s), identify that person here:

Name: Jaclyn Peranteau, P.E.
Title: Principal
Qualification: NYS PE License #083739

Post-Construction Stormwater Management Practices:

Current Phase of Construction of PCSMPs: _____
Identified as not in conformance with SWPPP and technical standards: _____

_____

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

Inspection Areas	N/A	Satisfactory	Marginal	Unsatisfactory	Comments/Corrective Action Required
Construction entrance/exit					
Perimeter silt fence					
Inlet protection					
Material staging area					
Sediment basin					
Condition of runoff discharge from site					
Condition of on-site or adjacent surface water(s)					
Discharge of sediments or pollutants from site					
Stabilize exposed areas to remain exposed					
Topsoil or other stockpile areas					
Waste storage area					
Concrete washout area					
Other:_____					

Acknowledgement

I _____ , certify that I acknowledge the information in this report, that the Trained Contractor(s) (if other than myself), appropriate contractor(s), and Owner/Operator have been notified, I will ensure that corrective actions are implemented within one (1) business day of notification, that the corrective actions will be completed in a reasonable time frame, and I will email photos of corrected areas/practices to the Qualified Inspector and Owner/Operator.

Signature of the Trained Contractor: _____ Date:_____

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

PROJECT RAINFALL LOG
(SF-9)

YEAR: 20_____ Weather Station ID:_____

	JAN	FEB	MAR	APR	MAY	JUNE		JULY	AUG	SEPT	OCT	NOV	DEC	
1							1							1
2							2							2
3							3							3
4							4							4
5							5							5
6							6							6
7							7							7
8							8							8
9							9							9
10							10							10
11							11							11
12							12							12
13							13							13
14							14							14
15							15							15
16							16							16
17							17							17
18							18							18
19							19							19
20							20							20
21							21							21
22							22							22
23							23							23
24							24							24
25							25							25
26							26							26
27							27							27
28							28							28
29							29							29
30		-					30							30
31		-		-		-	31			-		-		31

T : Negligible Amount

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

Qualified Inspector Signature: _____

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

TEMORARY SUSPENSION (e.g. Winter Shutdown) CHECKLIST & CERTIFICATION (SF-10)

STORMWATER POLLUTION PREVENTION PROGRAM

☐ All soil disturbing activities have been temporarily halted.

☐ *Temporary stabilization* measures have been applied to all disturbed areas.

Temporary Stabilization - Exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats). Refer to the "Blue Book" dated November 2016 for Standards and Specification for Winter Stabilization, p2.38)

TRAINED CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that all disturbed areas and soils at the construction site have been temporarily stabilized as defined by GP-0-20-001*."*

Trained Contractor Name: _____

Trained Contractor Signature: _____

Company Name: _____

Date of Temporary Suspension: _____

Expected Date of Resuming Soil Disturbance: _____

The trained contractor can stop conducting the maintenance inspections. The trained contractor shall begin conducting the maintenance inspections in accordance with Part IV.B.1 of the SPDES Permit as soon as soil disturbance activities resume.

The qualified inspector shall continue inspections and shall conduct a site inspection at least once every thirty (30) calendar days.

The Owner or Operator shall notify the DOW Water (SPDES) Program contact as listed on the MS4 acceptance form at the Regional Office (listed in Appendix F of the GP-0-20-001) in writing prior to reducing the frequency of inspections.

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

PARTIAL PROJECT COMPLETION SHUTDOWN CHECKLIST & CERTIFICATION
(SF-11)
STORMWATER POLLUTION PREVENTION PROGRAM

☐ All soil disturbing activities have been shutdown.

☐ All areas disturbed as of the project shutdown have achieved *final stabilization*.

☐ All post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

Final Stabilization - All soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

TRAINED CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that all disturbed areas and soils at the construction site have achieved Final Stabilization as defined by GP-0-20-001 *and all post-construction stormwater management practices required for the completed portion have been constructed in conformance with the SWPPP and are operational."*

Trained Contractor Name: _____

Trained Contractor Signature: _____

Company Name: _____

Date of Temporary Suspension: _____

Expected Date of Resuming Soil Disturbance: _____

The trained contractor can stop conducting the maintenance inspections. The trained contractor shall begin conducting the maintenance inspections in accordance with Part IV.B.1 of the SPDES Permit as soon as soil disturbance activities resume.

The qualified inspector shall continue inspections and shall conduct a site inspection at least once every thirty (30) calendar days.

The Owner or Operator shall notify the DOW Water (SPDES) Program contact as listed on the MS4 acceptance at the Regional Office (listed in Appendix F of the GP-0-20-001) in writing prior to reducing the frequency of inspections. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the owner or operator shall have the qualified inspector perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form to the address in Part II.A.1 of this permit.

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

FINAL STABILIZATION AND NOTICE OF TERMINATION CHECKLIST & CERTIFICATION

(SF-12)

STORMWATER POLLUTION PREVENTION PROGRAM

☐ All soil disturbed areas and soils have achieved *final stabilization*.

☐ Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.

☐ All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a minimum *density* of 80%.

Final Stabilization - All soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

TRAINED CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that all disturbed areas and soils at the construction site have achieved Final Stabilization as defined by GP-0-20-001 *and all temporary erosion and sediment control measures have been removed or will be removed at the appropriate time."*

Trained Contractor Name: _____

Trained Contractor Signature: _____

Company Name: _____

Date: _____

APPENDIX III:
NYS DEC GP-0-20-001

- NYSDEC GENERAL PERMIT

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharge*s.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW’s, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

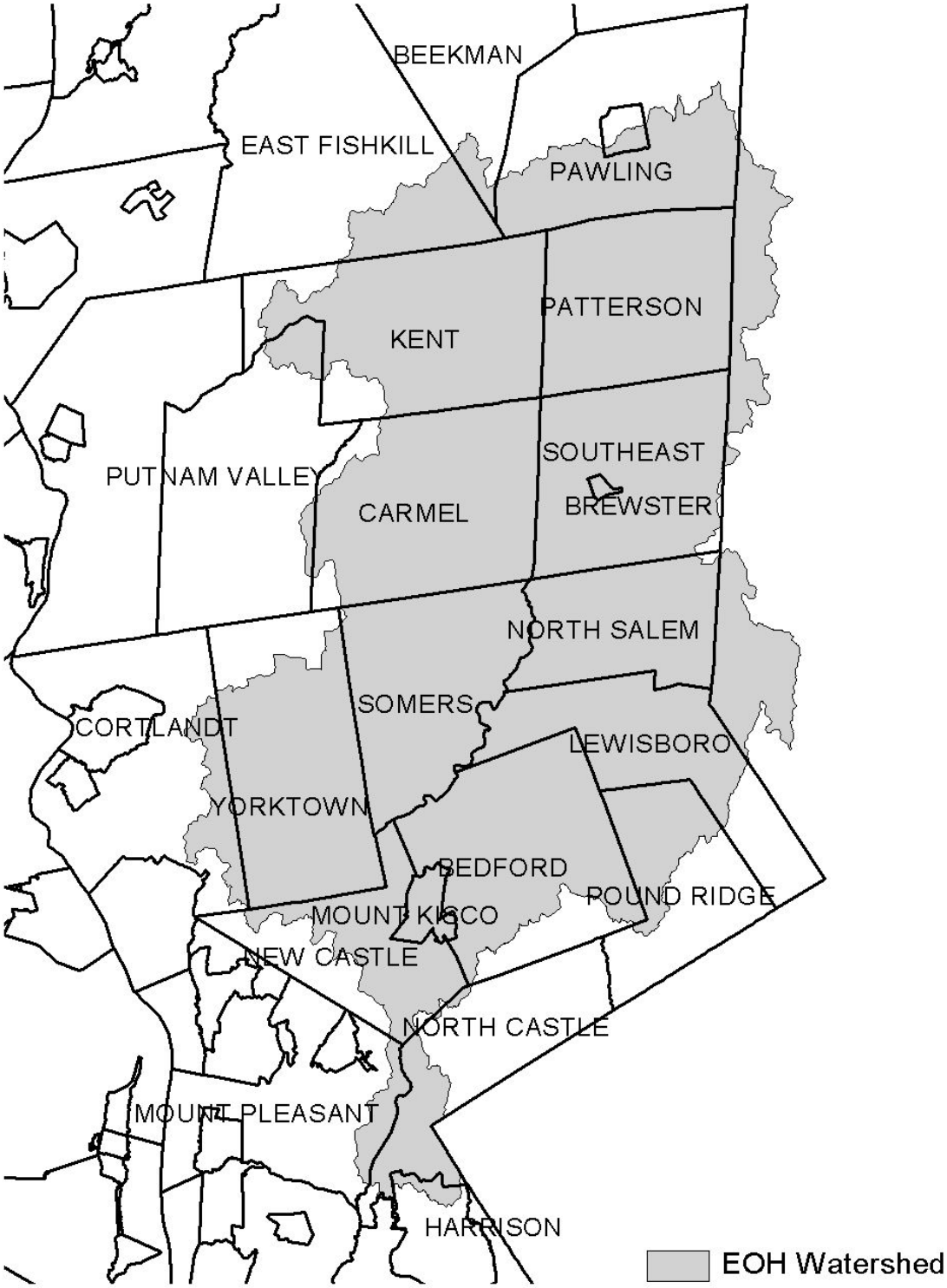


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

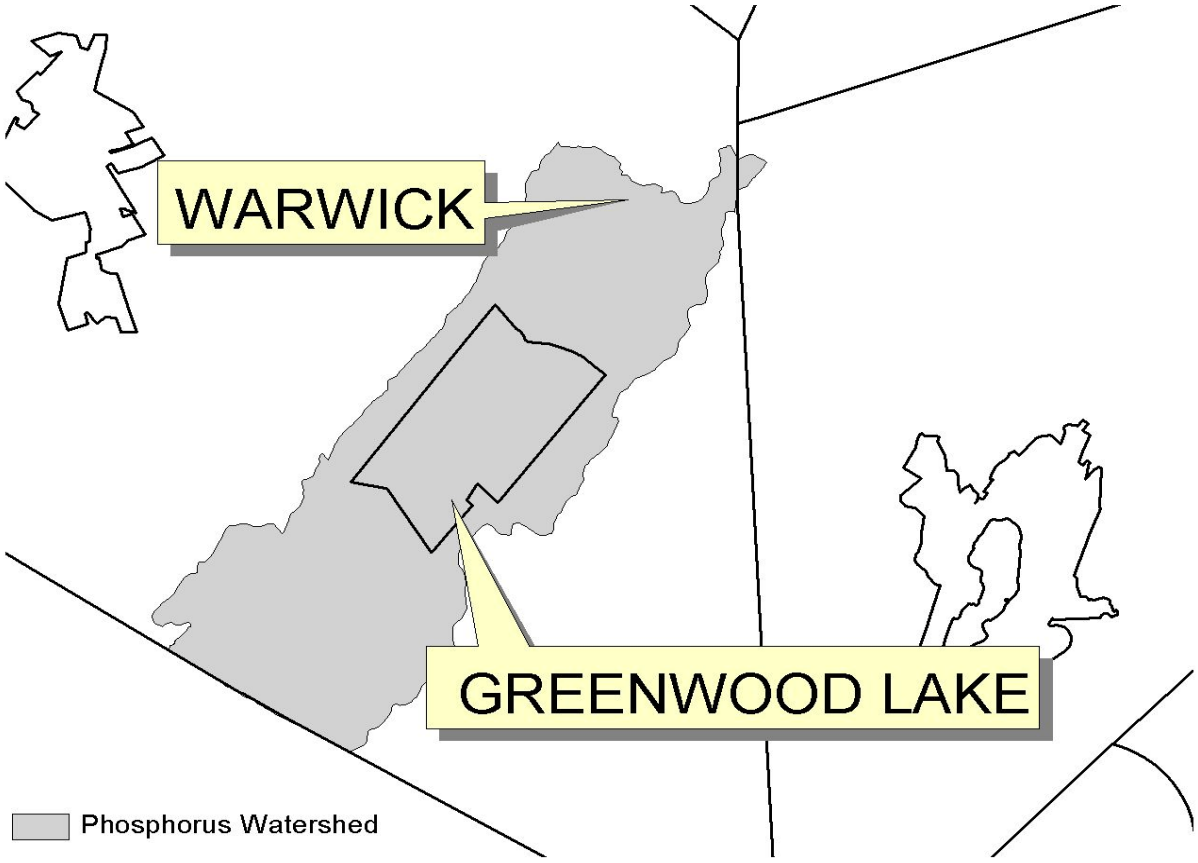


Figure 4 - Oscawana Lake Watershed

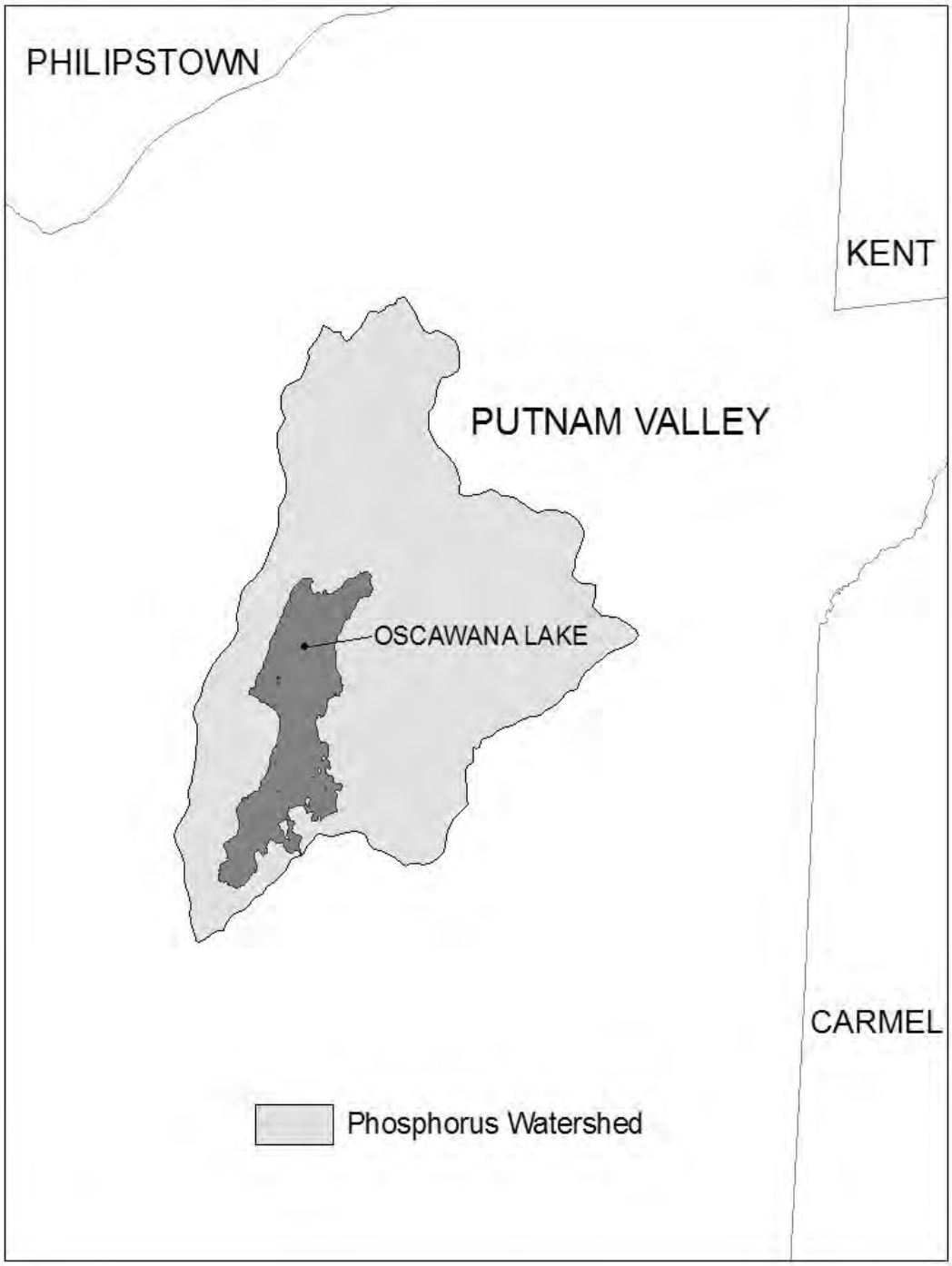
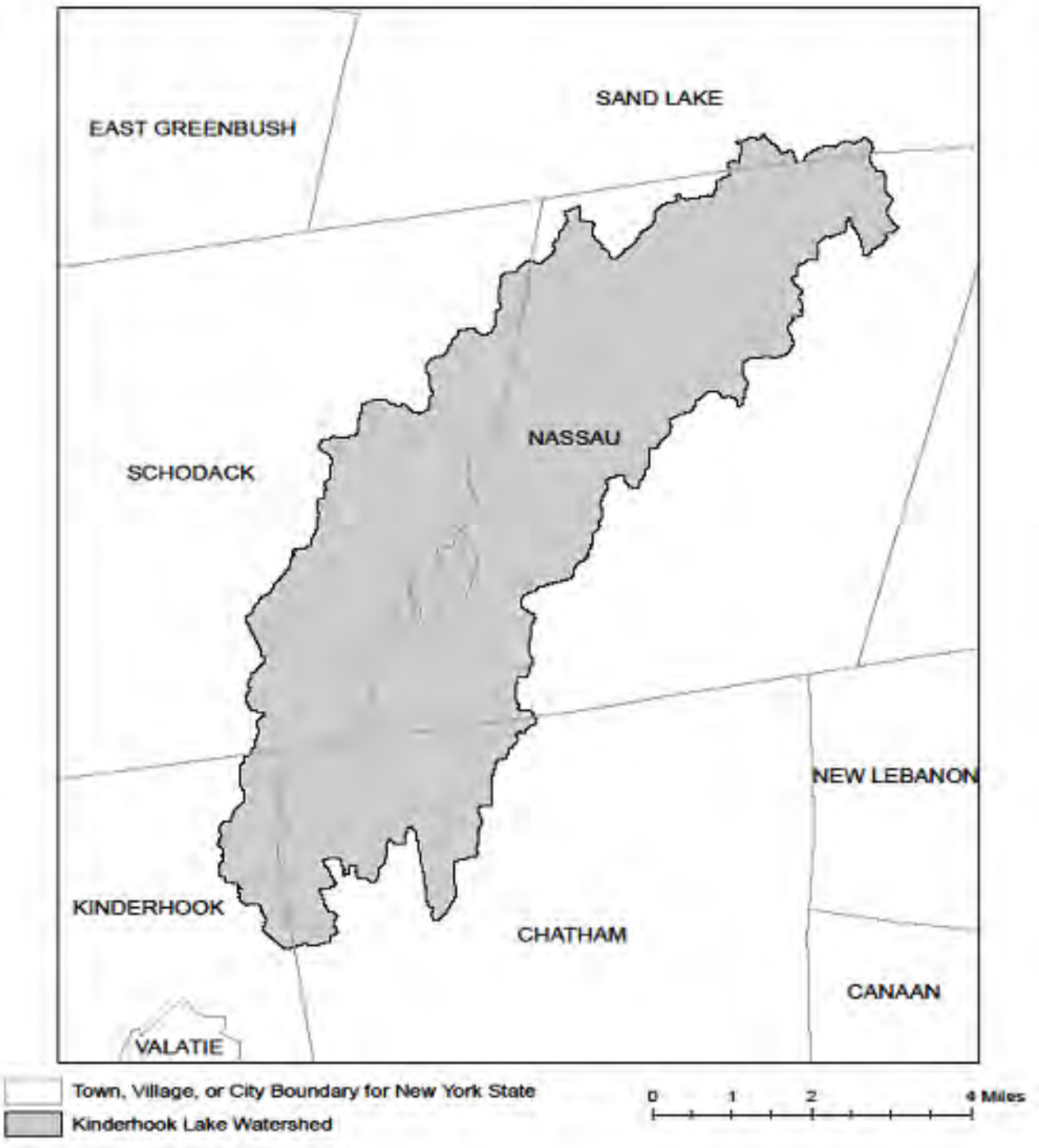


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1W White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX IV: HYDROLOGY

- ENGINEER'S REPORT & WATER QUALITY CALCULATIONS
- HYDOCAD REPORTS
- NYS RAINFALL MAPS
- FLOOD INSURANCE RATE MAP
- NRCS SOILS MAP
- J.R. HOLZMACHER P.E., LLC GEOTECHNICAL EVALUATION REPORT

CIVIL ENGINEERING
664 Blue Point Road, Unit B Holtsville, NY 11742
P: (631) 961 - 0506 F: (631) 619 - 0367
www.keycivilengineering.com

ENGINEER'S REPORT
OF
STORM WATER QUALITY & QUANTITY

PREPARED FOR:

HK VENTURES, LLC
INDUSTRIAL PARK

OWNER / APPLICANT
HK VENTURES, LLC
147 STEAMBOAT ROAD
GREAT NECK, NY 11024

SITE LOCATED AT:
4285 Middle Country Road
Calverton, NY 11933
COUNTY OF SUFFOLK AND STATE OF NY
SCTM: DISTRICT: 600, SECTION: 116, BLOCK 1, LOT 2
REGULATED MS4: TOWN OF RIVERHEAD, SPDES ID: NYR20A020

PREPARED BY:
KEY CIVIL ENGINEERING, PC
PROJECT # 19026

APRIL 2021

CIVIL & CONSULTING ENGINEERS

AREA BREAKDOWN

Total Site Area	= 30.25 Acres (1,317,884 sf)
EXISTING CONDITIONS	
Meadows, grassland or brushland Area	= 13.83 Acres (±602,629 sf)
Forested Area	= 16.42 Acres (±715,255 sf)
Total Area of Disturbance	= 30.25 Acres (1,317,884 sf)
Meadows, grassland or brushland Area	= 13.83 Acres (±602,629 sf)
Forested Area	= 16.42 Acres (±715,255 sf)
PROJECT PHASE I – PROPOSED POST DEVELOPMENT CONDITIONS	
Impervious Area (Includes Building Area)	= 11.89 Acres (518,026 sf)
Pervious Area (Includes Pervious Paver areas)	= 4.59 Acres (199,934 sf)
PROJECT PHASE II – PROPOSED POST DEVELOPMENT CONDITIONS	
Impervious Area (Includes Building Area)	= 9.61 Acres (418,619 sf)
Pervious Area (Includes Pervious Paver areas)	= 4.16 Acres (181,305 sf)
Total Area of Disturbance	= 30.25 Acres (1,317,884 sf)
Impervious Area (Includes Building Area)	= 21.50 Acres (936,645 sf)
Pervious Area (Includes Pervious Paver areas)	= 8.75 Acres (381,239 sf)

WATER QUALITY VOLUME (WQV, 90% OF RAINFALL VOLUME)
As shown on the NYS Stormwater Quality and Quantity Calculations in Appendix IV, the WQv requirement is 106,025 cubic feet (2.434 acre-feet).

Per the Overall & Partial Grading & Drainage Plans (Sheets C-8 to C-12), the on-site recharge basin and drywells provide a total volume of stormwater retained on-site by the stormwater management system and removed through infiltration is 316,526 cubic-feet (7.27 Acre-feet).

Therefore, the proposed post-development stormwater management practices satisfy the WQv requirement.

TOTAL CHANNEL PROTECTION STORAGE VOLUME (CPV, 1-YEAR STORM VOLUME):
The need to provide channel protection has been waived because the reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems. As shown on the NYS Stormwater Quality and Quantity Calculations in Appendix IV, the CPv requirement is 106,392 CF (2.44 acre-feet). The total CPv provided is 316,526 cubic-feet (7.27 Acre-feet) and is greater than the CPv required.

Therefore, the proposed post-development storm water management practices satisfy the CPv requirement.

TOTAL OVERBANK FLOOD CONTROL CRITERIA (QP, 10-YEAR RUNOFF VOLUME), TOTAL EXTREME FLOOD CONTROL CRITERIA (QF, 100-YEAR RUNOFF VOLUME):
In accordance with Sections 4.5 and 4.6 of the NYSDEC Stormwater Design Manual, the proposed post-development stormwater management practices satisfy the Qp and Qf requirements. The Qp and Qf

requirements are met by the proposed on-site stormwater management system. The Qp and Qf volume reduction requirements were computed following the NYS Stormwater Management Design Manual, Sections 4.5 (pages 4-10 through 4-11) and 4.6 (pages 4-12 through 4-13).

NOAA rainfall data (included in Appendix IV) identifies the 24 hour, 10 and 100-year storm events as follows:

10-yr 24-hr = 5.57 inches
100-yr 24-hr = 8.77 inches

The USDA NRCS TR-20 method was used to calculate pre- and post-development runoff volumes for use in computing Qp and Qf criteria. Enclosed are the hydrographs for pre- and post-development conditions and are summarized as follows:

Qp (10 year 24-hour storm)
Pre development = 122,271 cu-ft (2.81 Ac-ft)
= 29.71 cfs
Post development = 160,744 cu-ft (3.69 Ac-ft)
= 127.13 cfs

Qf (100 year 24-hour storm)
Pre development = 302,959 cu-ft (6.95 Ac-ft)
= 101.58 cfs
Post development = 299,631 cu-ft (6.88 Ac-ft)
= 219.54 cfs

The NYS Stormwater Quality and Quantity Calculations in Appendix IV find that the Qp and Qf reduction volumes required are as follows:

Qp (10-yr) = 74,424 cu-ft (1.71 Ac-ft)
Qf (100-yr) = 88,391 cu-ft (2.03 Ac-ft)

The proposed stormwater management system (including the proposed recharge basin and drywells is designed to capture and infiltrate the entire reduction volume requirement and has a volume capacity of 316,526 cubic-feet (7.27 Acre-feet). As such, runoff generated from the 10- and 100-year storm events will be contained entirely in the on-site stormwater management system. Further, there will be no stormwater runoff discharged from the subject property, yielding a post-development flow rate for both the 10- and 100-yr storm event of 0.00 cubic feet per second.

No increase in runoff/flow rate is proposed and no increase to the frequency of magnitude of out-of-bank flooding is proposed, therefore the proposed post-development stormwater management practices satisfy the Qp requirements.

The boundaries of the pre-development 100-year flood plain are maintained and no increase in runoff/flow rate is proposed, therefore the proposed post-development stormwater management practices satisfy the Qf requirements.

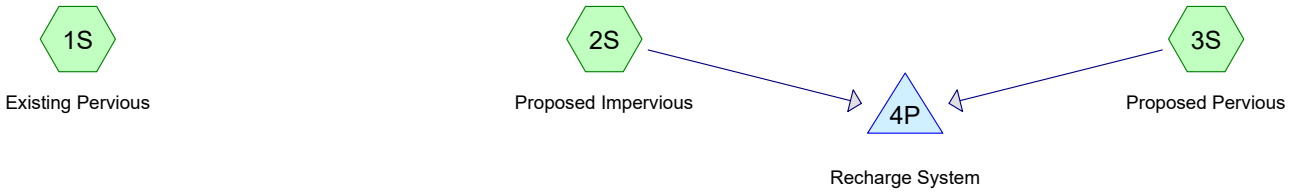
NYS Stormwater Quality and Quantity Calculations

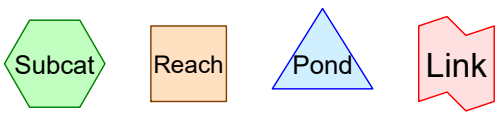
WQv - Water Quality Volume [ref: NYSSWMDM Section 4.2]					
P90 = 90% NYS rainfall	1.40	inches / day	CN:		
A = Total Study Area	1,317,884	SF	80.9	30.254	acres
Proposed Impervious Area	936,645	SF	98	21.502	acres
Proposed Pervious Area	381,239	SF	39	8.752	acres
I = Percent Impervious Cover	71	percent			
Rv = 0.05 + 0.009(I)	0.69	-			
WQv = [(P90)*(Rv)*(A)]/12	**2.434**	**acre-feet**			
REQUIRED **WQv** **=**	**106,025**	**CF**	**Required Storage**		

CPv - Channel Protection Volume [ref: NYSSWMDM Section 4.4]			
Ia, Initial Abstraction	0.472	-	
P1 = 1-year storm rainfall	3.00	inches / hour	
Ia / P	0.157	-	
Tc, Time of Concentration	0.1	hours	
qu, Unit Peak Discharge	636	csm/in	see TR55 exhibit 4-I to 4-III
qo / qi, Discharge Ratio	0.03	-	see NYS SWDM figure 8.5
V1-yr, Runoff Volume	3.58	acre-ft	from TR-20 calculations
V1-yr, Runoff Volume	156,061	CF	from TR-20 calculations
Q, runoff	1.42	inches	
Vs/Vr, Storage / Runoff volume	0.682	-	
Vs = CPv	2.44	acre-ft	
REQUIRED **CPv** **=**	**106,392**	**CF**	**Required Storage**

Qp - Overbank Flood Protection (10-yr) [ref: NYSSWMDM Section 4.5]			
qo, peak pre-devloped runoff	29.71	CFS	
qi, peak post-developed runoff	127.13	CFS	
qo / qi, Discharge Ratio	0.234	-	
Vs/Vr	0.463	-	see NYSSWDM Figure 8.6
V, Post-developed Volume of runoff	160,744	CF	Post-developed runoff volume
Vs, Volume of Storage Required	1.709	acre-ft	
REQUIRED **Vs** **=**	**74,424**	**CF**	**Required Storage**

Qf - Extreme Flood Protection (100-yr) [ref: NYSSWMDM Section 4.6]			
qo, peak pre-devloped runoff	101.58	CFS	
qi, peak post-developed runoff	219.54	CFS	
qo / qi, Discharge Ratio	0.463	-	
Vs/Vr	0.295	-	see NYSSWDM Figure 8.6
V, Post-developed Volume of runoff	299,631	CF	Post-developed runoff volume
Vs, Volume of Storage Required	2.029	acre-ft	
REQUIRED **Vs** **=**	**88,391**	**CF**	**Required Storage**


1S
Existing Pervious
2S
Proposed Impervious
3S
Proposed Pervious
4P
Recharge System


Subcat
Reach
Pond
Link

Summary for Subcatchment 1S: Existing Pervious

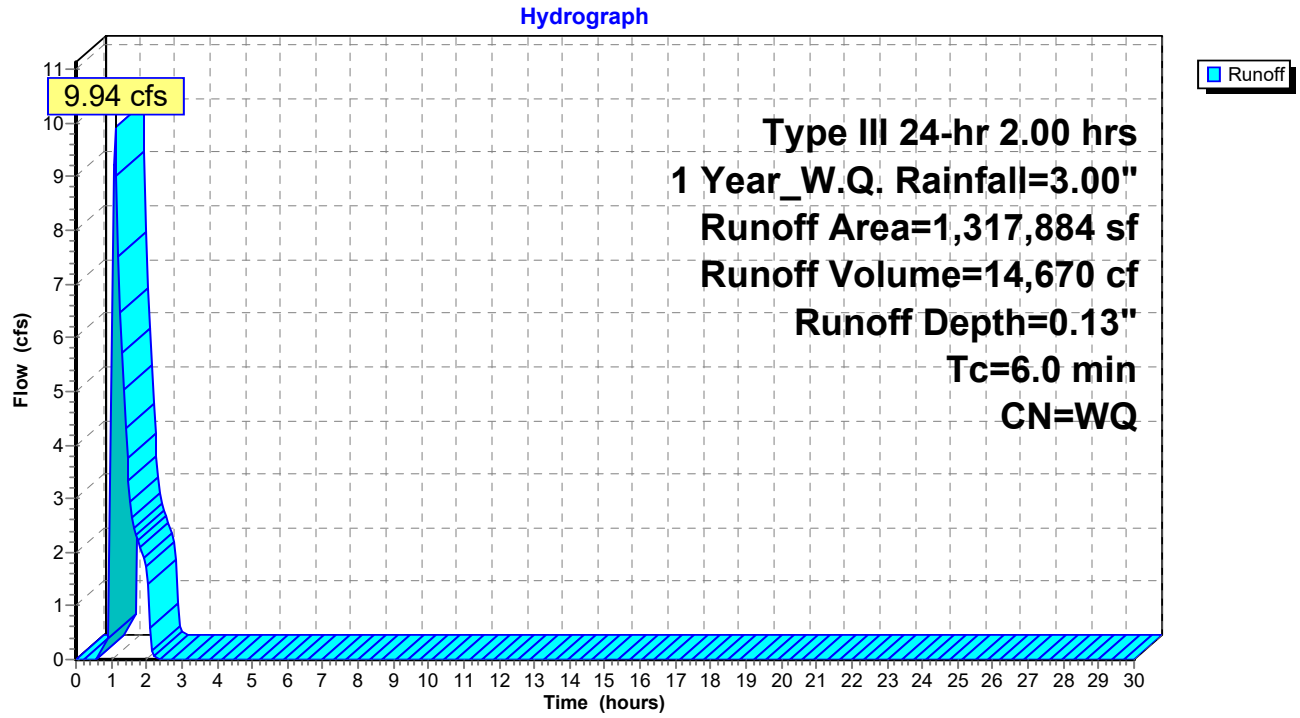
Runoff = 9.94 cfs @ 1.12 hrs, Volume= 14,670 cf, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2.00 hrs 1 Year_W.Q. Rainfall=3.00"

Area (sf)	CN	Description
602,629	39	>75% Grass cover, Good, HSG A
715,255	57	Woods/grass comb., Poor, HSG A
1,317,884		Weighted Average
1,317,884	49	100.00% Pervious Area

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

Subcatchment 1S: Existing Pervious



Hydrograph for Subcatchment 1S: Existing Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.22	0.00	0.00
1.00	1.50	0.00	**0.02**
1.50	2.78	0.04	**3.32**
2.00	**3.00**	**0.07**	1.73
2.50	3.00	0.07	0.00
3.00	3.00	0.07	0.00
3.50	3.00	0.07	0.00
4.00	3.00	0.07	0.00
4.50	3.00	0.07	0.00
5.00	3.00	0.07	0.00
5.50	3.00	0.07	0.00
6.00	3.00	0.07	0.00
6.50	3.00	0.07	0.00
7.00	3.00	0.07	0.00
7.50	3.00	0.07	0.00
8.00	3.00	0.07	0.00
8.50	3.00	0.07	0.00
9.00	3.00	0.07	0.00
9.50	3.00	0.07	0.00
10.00	3.00	0.07	0.00
10.50	3.00	0.07	0.00
11.00	3.00	0.07	0.00
11.50	3.00	0.07	0.00
12.00	3.00	0.07	0.00
12.50	3.00	0.07	0.00
13.00	3.00	0.07	0.00
13.50	3.00	0.07	0.00
14.00	3.00	0.07	0.00
14.50	3.00	0.07	0.00
15.00	3.00	0.07	0.00
15.50	3.00	0.07	0.00
16.00	3.00	0.07	0.00
16.50	3.00	0.07	0.00
17.00	3.00	0.07	0.00
17.50	3.00	0.07	0.00
18.00	3.00	0.07	0.00
18.50	3.00	0.07	0.00
19.00	3.00	0.07	0.00
19.50	3.00	0.07	0.00
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22.50	3.00	0.07	0.00
23.00	3.00	0.07	0.00
23.50	3.00	0.07	0.00
24.00	3.00	0.07	0.00
24.50	3.00	0.07	0.00
25.00	3.00	0.07	0.00
25.50	3.00	0.07	0.00
26.00	3.00	0.07	0.00
26.50	3.00	0.07	0.00
27.00	3.00	0.07	0.00
27.50	3.00	0.07	0.00
28.00	3.00	0.07	0.00
28.50	3.00	0.07	0.00
29.00	3.00	0.07	0.00
29.50	3.00	0.07	0.00
30.00	3.00	0.07	0.00

Summary for Subcatchment 2S: Proposed Impervious

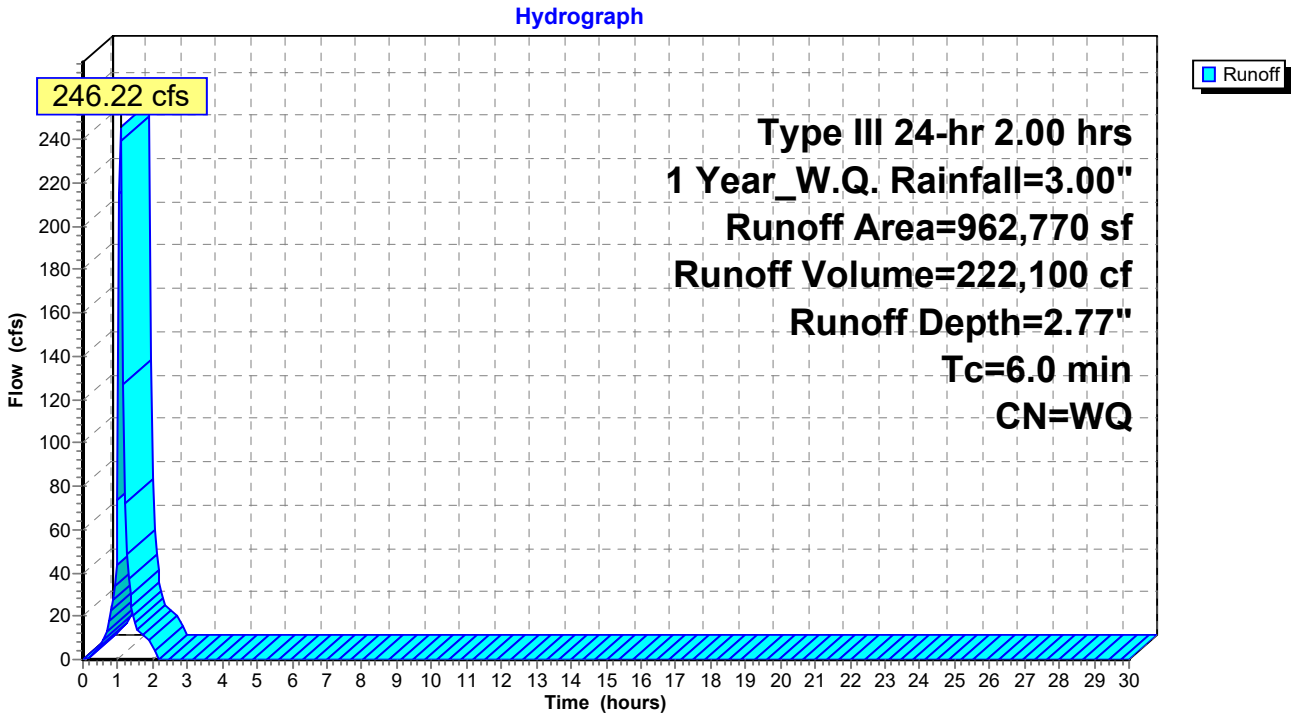
Runoff = 246.22 cfs @ 1.08 hrs, Volume= 222,100 cf, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2.00 hrs 1 Year_W.Q. Rainfall=3.00"

Area (sf)	CN	Description
425,464	98	Roofs, HSG A
537,306	98	Paved parking, HSG A
962,770		Weighted Average
962,770	98	100.00% Impervious Area

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

Subcatchment 2S: Proposed Impervious



Hydrograph for Subcatchment 2S: Proposed Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.22	0.08	7.05
1.00	1.50	1.28	**73.37**
1.50	2.78	2.55	**17.38**
2.00	**3.00**	**2.77**	7.78
2.50	3.00	2.77	0.00
3.00	3.00	2.77	0.00
3.50	3.00	2.77	0.00
4.00	3.00	2.77	0.00
4.50	3.00	2.77	0.00
5.00	3.00	2.77	0.00
5.50	3.00	2.77	0.00
6.00	3.00	2.77	0.00
6.50	3.00	2.77	0.00
7.00	3.00	2.77	0.00
7.50	3.00	2.77	0.00
8.00	3.00	2.77	0.00
8.50	3.00	2.77	0.00
9.00	3.00	2.77	0.00
9.50	3.00	2.77	0.00
10.00	3.00	2.77	0.00
10.50	3.00	2.77	0.00
11.00	3.00	2.77	0.00
11.50	3.00	2.77	0.00
12.00	3.00	2.77	0.00
12.50	3.00	2.77	0.00
13.00	3.00	2.77	0.00
13.50	3.00	2.77	0.00
14.00	3.00	2.77	0.00
14.50	3.00	2.77	0.00
15.00	3.00	2.77	0.00
15.50	3.00	2.77	0.00
16.00	3.00	2.77	0.00
16.50	3.00	2.77	0.00
17.00	3.00	2.77	0.00
17.50	3.00	2.77	0.00
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19.50	3.00	2.77	0.00
20.00	3.00	2.77	0.00
20.50	3.00	2.77	0.00
21.00	3.00	2.77	0.00
21.50	3.00	2.77	0.00
22.00	3.00	2.77	0.00
22.50	3.00	2.77	0.00
23.00	3.00	2.77	0.00
23.50	3.00	2.77	0.00
24.00	3.00	2.77	0.00
24.50	3.00	2.77	0.00
25.00	3.00	2.77	0.00
25.50	3.00	2.77	0.00
26.00	3.00	2.77	0.00
26.50	3.00	2.77	0.00
27.00	3.00	2.77	0.00
27.50	3.00	2.77	0.00
28.00	3.00	2.77	0.00
28.50	3.00	2.77	0.00
29.00	3.00	2.77	0.00
29.50	3.00	2.77	0.00
30.00	3.00	2.77	0.00

Summary for Subcatchment 3S: Proposed Pervious

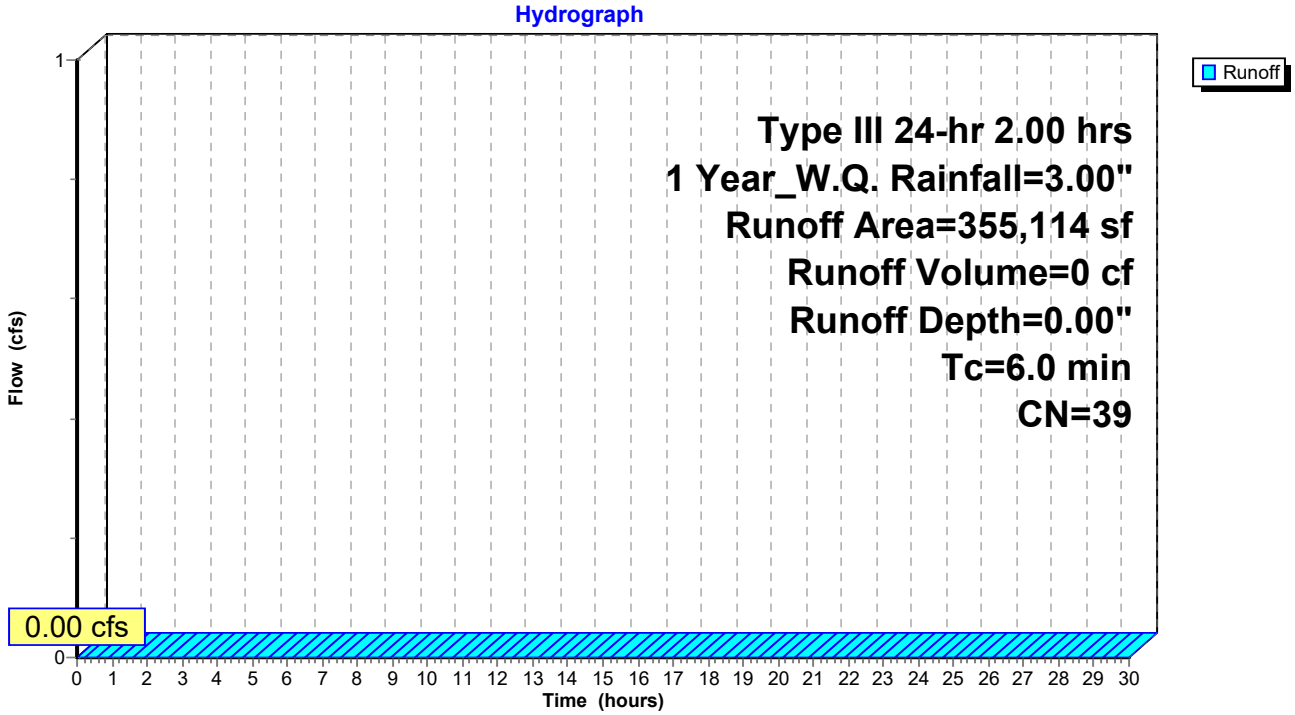
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2.00 hrs 1 Year_W.Q. Rainfall=3.00"

Area (sf)	CN	Description
355,114	39	Pasture/grassland/range, Good, HSG A
355,114	39	100.00% Pervious Area

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

Subcatchment 3S: Proposed Pervious



Hydrograph for Subcatchment 3S: Proposed Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	**0.00**	**0.00**
0.50	0.22	0.00	0.00
1.00	1.50	0.00	0.00
1.50	2.78	0.00	0.00
2.00	**3.00**	0.00	0.00
2.50	3.00	0.00	0.00
3.00	3.00	0.00	0.00
3.50	3.00	0.00	0.00
4.00	3.00	0.00	0.00
4.50	3.00	0.00	0.00
5.00	3.00	0.00	0.00
5.50	3.00	0.00	0.00
6.00	3.00	0.00	0.00
6.50	3.00	0.00	0.00
7.00	3.00	0.00	0.00
7.50	3.00	0.00	0.00
8.00	3.00	0.00	0.00
8.50	3.00	0.00	0.00
9.00	3.00	0.00	0.00
9.50	3.00	0.00	0.00
10.00	3.00	0.00	0.00
10.50	3.00	0.00	0.00
11.00	3.00	0.00	0.00
11.50	3.00	0.00	0.00
12.00	3.00	0.00	0.00
12.50	3.00	0.00	0.00
13.00	3.00	0.00	0.00
13.50	3.00	0.00	0.00
14.00	3.00	0.00	0.00
14.50	3.00	0.00	0.00
15.00	3.00	0.00	0.00
15.50	3.00	0.00	0.00
16.00	3.00	0.00	0.00
16.50	3.00	0.00	0.00
17.00	3.00	0.00	0.00
17.50	3.00	0.00	0.00
18.00	3.00	0.00	0.00
18.50	3.00	0.00	0.00
19.00	3.00	0.00	0.00
19.50	3.00	0.00	0.00
20.00	3.00	0.00	0.00
20.50	3.00	0.00	0.00
21.00	3.00	0.00	0.00
21.50	3.00	0.00	0.00
22.00	3.00	0.00	0.00
22.50	3.00	0.00	0.00
23.00	3.00	0.00	0.00
23.50	3.00	0.00	0.00
24.00	3.00	0.00	0.00
24.50	3.00	0.00	0.00
25.00	3.00	0.00	0.00
25.50	3.00	0.00	0.00
26.00	3.00	0.00	0.00
26.50	3.00	0.00	0.00
27.00	3.00	0.00	0.00
27.50	3.00	0.00	0.00
28.00	3.00	0.00	0.00
28.50	3.00	0.00	0.00
29.00	3.00	0.00	0.00
29.50	3.00	0.00	0.00
30.00	3.00	0.00	0.00

Summary for Pond 4P: Recharge System

Inflow Area = 1,317,884 sf, 73.05% Impervious, Inflow Depth = 2.02" for 1 Year_W.Q. event
Inflow = 246.22 cfs @ 1.08 hrs, Volume= 222,100 cf
Outflow = 14.80 cfs @ 1.56 hrs, Volume= 222,580 cf, Atten= 94%, Lag= 28.4 min
Discarded = 14.80 cfs @ 1.56 hrs, Volume= 222,580 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 60.84' @ 1.56 hrs Surf.Area= 34,374 sf Storage= 156,061 cf

Plug-Flow detention time= 106.9 min calculated for 221,840 cf (100% of inflow)
Center-of-Mass det. time= 107.4 min (175.6 - 68.2)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	57,001 cf	**12.00'D x 8.00'H Drywell** x 63
#2	55.00'	12,893 cf	**12.00'D x 6.00'H Drywell** x 19
#3	55.00'	311,797 cf	**South Recharge Basin (Irregular)** Listed below (Recalc)
		381,691 cf	Total Available Storage

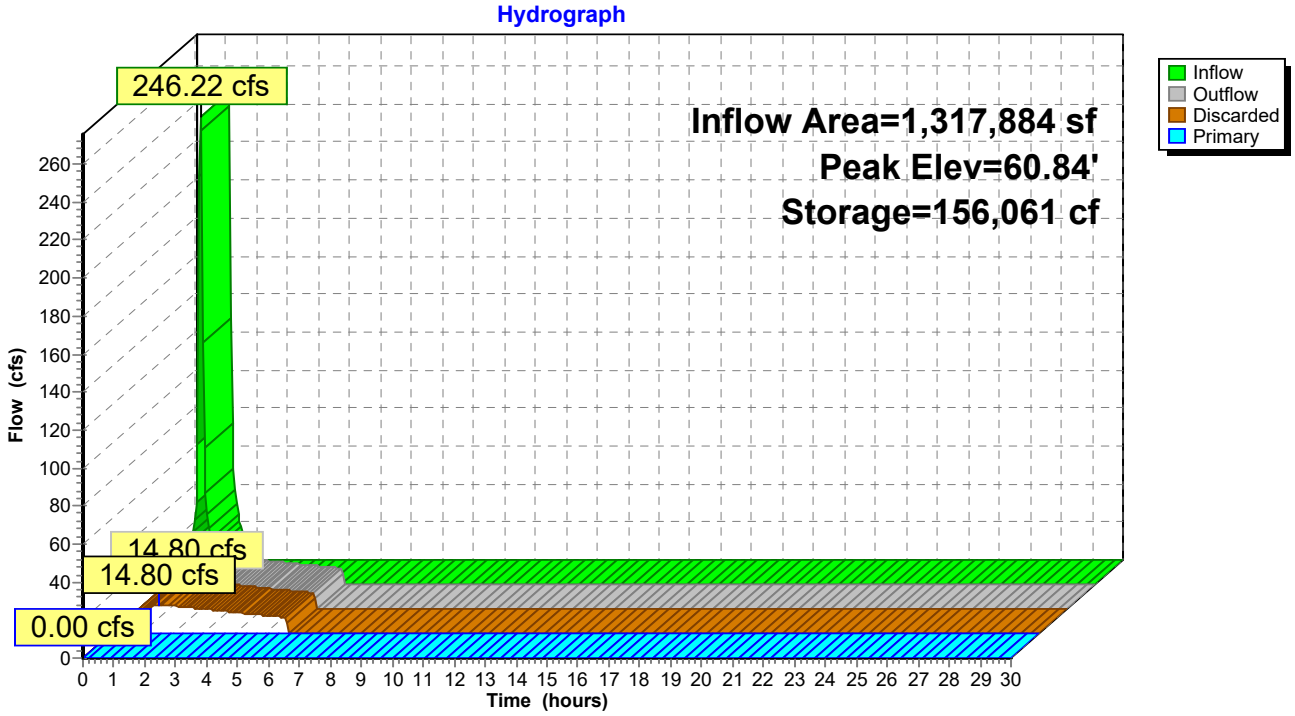
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	10,204	776.0	0	0	10,204
56.00	12,570	801.0	11,366	11,366	13,439
57.00	15,012	827.0	13,773	25,139	16,904
58.00	17,530	852.0	16,255	41,394	20,348
59.00	20,123	877.0	18,812	60,206	23,895
60.00	22,793	902.0	21,444	81,650	27,544
61.00	25,538	928.0	24,152	105,802	31,440
62.00	28,358	953.0	26,936	132,738	35,298
63.00	31,255	978.0	29,795	162,533	39,259
64.00	34,228	1,003.0	32,730	195,263	43,323
65.00	37,272	1,026.0	35,739	231,002	47,173
66.00	40,386	1,049.0	38,819	269,821	51,110
67.00	43,586	1,074.0	41,976	311,797	55,465

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**100.0' long (Profile 2) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.90 3.26 3.44
#2	Discarded	55.00'	**18.600 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=14.80 cfs @ 1.56 hrs HW=60.84' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 14.80 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Recharge System



Hydrograph for Pond 4P: Recharge System

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	55.00	0.00	0.00	**0.00**
1.00	**73.37**	**25,891**	**56.24**	**9.65**	**9.65**	0.00
2.00	**7.78**	**149,338**	**60.65**	**14.56**	**14.56**	0.00
3.00	0.00	102,366	59.17	12.85	12.85	0.00
4.00	0.00	59,243	57.62	11.12	11.12	0.00
5.00	0.00	22,197	56.07	9.48	9.48	0.00
6.00	0.00	0	55.00	0.00	0.00	0.00
7.00	0.00	0	55.00	0.00	0.00	0.00
8.00	0.00	0	55.00	0.00	0.00	0.00
9.00	0.00	0	55.00	0.00	0.00	0.00
10.00	0.00	0	55.00	0.00	0.00	0.00
11.00	0.00	0	55.00	0.00	0.00	0.00
12.00	0.00	0	55.00	0.00	0.00	0.00
13.00	0.00	0	55.00	0.00	0.00	0.00
14.00	0.00	0	55.00	0.00	0.00	0.00
15.00	0.00	0	55.00	0.00	0.00	0.00
16.00	0.00	0	55.00	0.00	0.00	0.00
17.00	0.00	0	55.00	0.00	0.00	0.00
18.00	0.00	0	55.00	0.00	0.00	0.00
19.00	0.00	0	55.00	0.00	0.00	0.00
20.00	0.00	0	55.00	0.00	0.00	0.00
21.00	0.00	0	55.00	0.00	0.00	0.00
22.00	0.00	0	55.00	0.00	0.00	0.00
23.00	0.00	0	55.00	0.00	0.00	0.00
24.00	0.00	0	55.00	0.00	0.00	0.00
25.00	0.00	0	55.00	0.00	0.00	0.00
26.00	0.00	0	55.00	0.00	0.00	0.00
27.00	0.00	0	55.00	0.00	0.00	0.00
28.00	0.00	0	55.00	0.00	0.00	0.00
29.00	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Recharge System

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
55.00	0.00	0.00	**0.00**
55.15	8.53	8.53	0.00
55.30	8.68	8.68	0.00
55.45	8.83	8.83	0.00
55.60	8.98	8.98	0.00
55.75	9.14	9.14	0.00
55.90	9.30	9.30	0.00
56.05	9.46	9.46	0.00
56.20	9.61	9.61	0.00
56.35	9.76	9.76	0.00
56.50	9.92	9.92	0.00
56.65	10.08	10.08	0.00
56.80	10.24	10.24	0.00
56.95	10.40	10.40	0.00
57.10	10.56	10.56	0.00
57.25	10.72	10.72	0.00
57.40	10.88	10.88	0.00
57.55	11.04	11.04	0.00
57.70	11.21	11.21	0.00
57.85	11.37	11.37	0.00
58.00	11.54	11.54	0.00
58.15	11.70	11.70	0.00
58.30	11.87	11.87	0.00
58.45	12.03	12.03	0.00
58.60	12.20	12.20	0.00
58.75	12.37	12.37	0.00
58.90	12.54	12.54	0.00
59.05	12.71	12.71	0.00
59.20	12.88	12.88	0.00
59.35	13.05	13.05	0.00
59.50	13.22	13.22	0.00
59.65	13.40	13.40	0.00
59.80	13.57	13.57	0.00
59.95	13.75	13.75	0.00
60.10	13.92	13.92	0.00
60.25	14.10	14.10	0.00
60.40	14.27	14.27	0.00
60.55	14.45	14.45	0.00
60.70	14.63	14.63	0.00
60.85	14.81	14.81	0.00
61.00	14.99	14.99	0.00
61.15	15.17	15.17	0.00
61.30	15.35	15.35	0.00
61.45	15.53	15.53	0.00
61.60	15.71	15.71	0.00
61.75	15.89	15.89	0.00
61.90	16.08	16.08	0.00
62.05	16.26	16.26	0.00
62.20	16.45	16.45	0.00
62.35	16.63	16.63	0.00
62.50	16.82	16.82	0.00
62.65	17.01	17.01	0.00
62.80	17.20	17.20	0.00
62.95	17.39	17.39	0.00
63.10	17.58	17.58	0.00
63.25	17.76	17.76	0.00
63.40	17.96	17.96	0.00
63.55	18.15	18.15	0.00
63.70	18.34	18.34	0.00
63.85	18.53	18.53	0.00
64.00	18.73	18.73	0.00
64.15	18.92	18.92	0.00
64.30	19.12	19.12	0.00
64.45	19.31	19.31	0.00
64.60	19.51	19.51	0.00
64.75	19.71	19.71	0.00
64.90	19.91	19.91	0.00
65.05	20.11	20.11	0.00
65.20	20.30	20.30	0.00
65.35	20.50	20.50	0.00
65.50	20.70	20.70	0.00
65.65	20.91	20.91	0.00
65.80	21.11	21.11	0.00
65.95	21.31	21.31	0.00
66.10	21.52	21.52	0.00
66.25	21.72	21.72	0.00
66.40	21.93	21.93	0.00
66.55	22.13	22.13	0.00
66.70	22.34	22.34	0.00
66.85	22.55	22.55	0.00
67.00	**22.76**	**22.76**	0.00

Summary for Subcatchment 1S: Existing Pervious

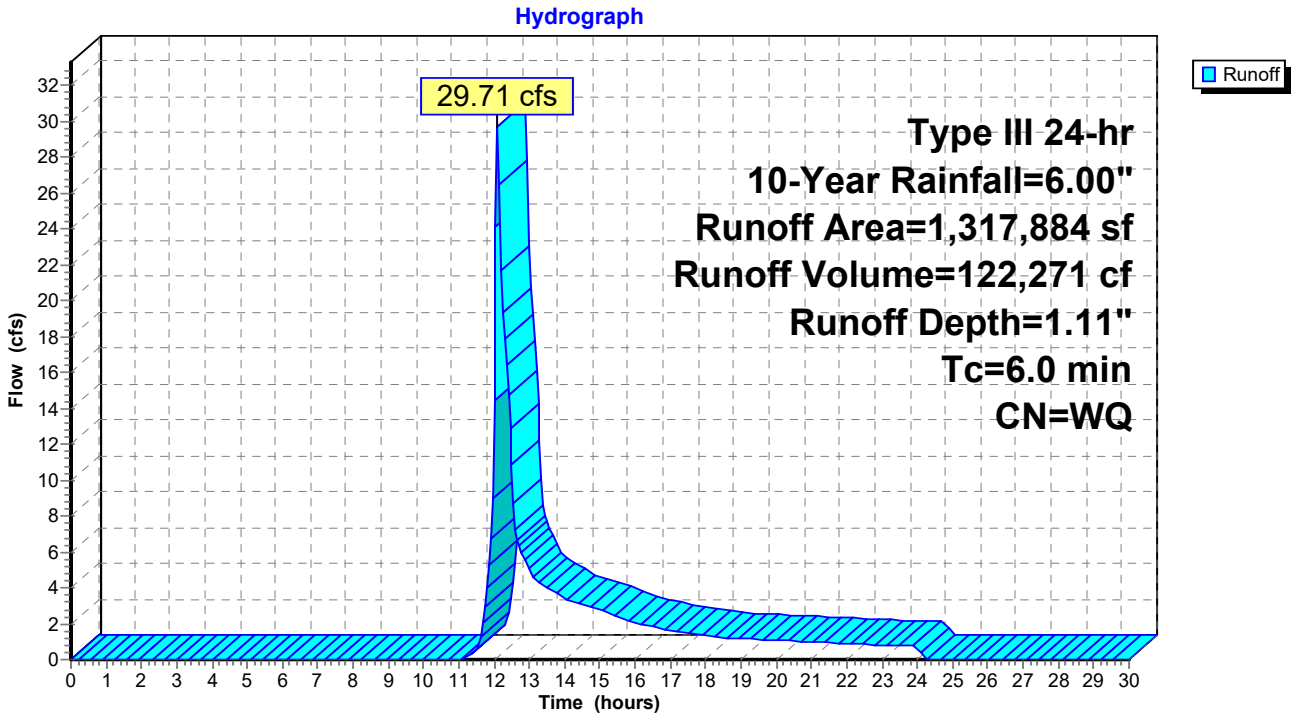
Runoff = 29.71 cfs @ 12.11 hrs, Volume= 122,271 cf, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=6.00"

Area (sf)	CN	Description
602,629	39	>75% Grass cover, Good, HSG A
715,255	57	Woods/grass comb., Poor, HSG A
1,317,884		Weighted Average
1,317,884	49	100.00% Pervious Area

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

Subcatchment 1S: Existing Pervious



Hydrograph for Subcatchment 1S: Existing Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.06	0.00	0.00
1.50	0.09	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.22	0.00	0.00
4.00	0.26	0.00	0.00
4.50	0.30	0.00	0.00
5.00	0.34	0.00	0.00
5.50	0.39	0.00	0.00
6.00	0.43	0.00	0.00
6.50	0.48	0.00	0.00
7.00	0.54	0.00	0.00
7.50	0.61	0.00	0.00
8.00	0.68	0.00	0.00
8.50	0.77	0.00	0.00
9.00	0.87	0.00	0.00
9.50	1.00	0.00	0.00
10.00	1.13	0.00	0.00
10.50	1.30	0.00	0.00
11.00	1.50	0.00	0.00
11.50	1.79	0.00	0.61
12.00	3.00	0.07	**14.45**
12.50	4.21	0.36	**10.81**
13.00	4.50	0.46	4.94
13.50	4.70	0.53	4.06
14.00	4.87	0.59	3.44
14.50	5.00	0.64	3.08
15.00	5.13	0.69	2.76
15.50	5.23	0.73	2.40
16.00	5.32	0.77	2.02
16.50	5.39	0.80	1.81
17.00	5.46	0.83	1.65
17.50	5.52	0.85	1.47
18.00	5.57	0.87	1.29
18.50	5.61	0.90	1.21
19.00	5.66	0.92	1.17
19.50	5.70	0.93	1.11
20.00	5.74	0.95	1.06
20.50	5.78	0.97	1.02
21.00	5.82	0.99	0.98
21.50	5.85	1.00	0.94
22.00	5.88	1.02	0.90
22.50	5.92	1.03	0.86
23.00	5.95	1.05	0.81
23.50	5.97	1.06	0.77
24.00	**6.00**	**1.07**	0.72
24.50	6.00	1.07	0.00
25.00	6.00	1.07	0.00
25.50	6.00	1.07	0.00
26.00	6.00	1.07	0.00
26.50	6.00	1.07	0.00
27.00	6.00	1.07	0.00
27.50	6.00	1.07	0.00
28.00	6.00	1.07	0.00
28.50	6.00	1.07	0.00
29.00	6.00	1.07	0.00
29.50	6.00	1.07	0.00
30.00	6.00	1.07	0.00

Summary for Subcatchment 2S: Proposed Impervious

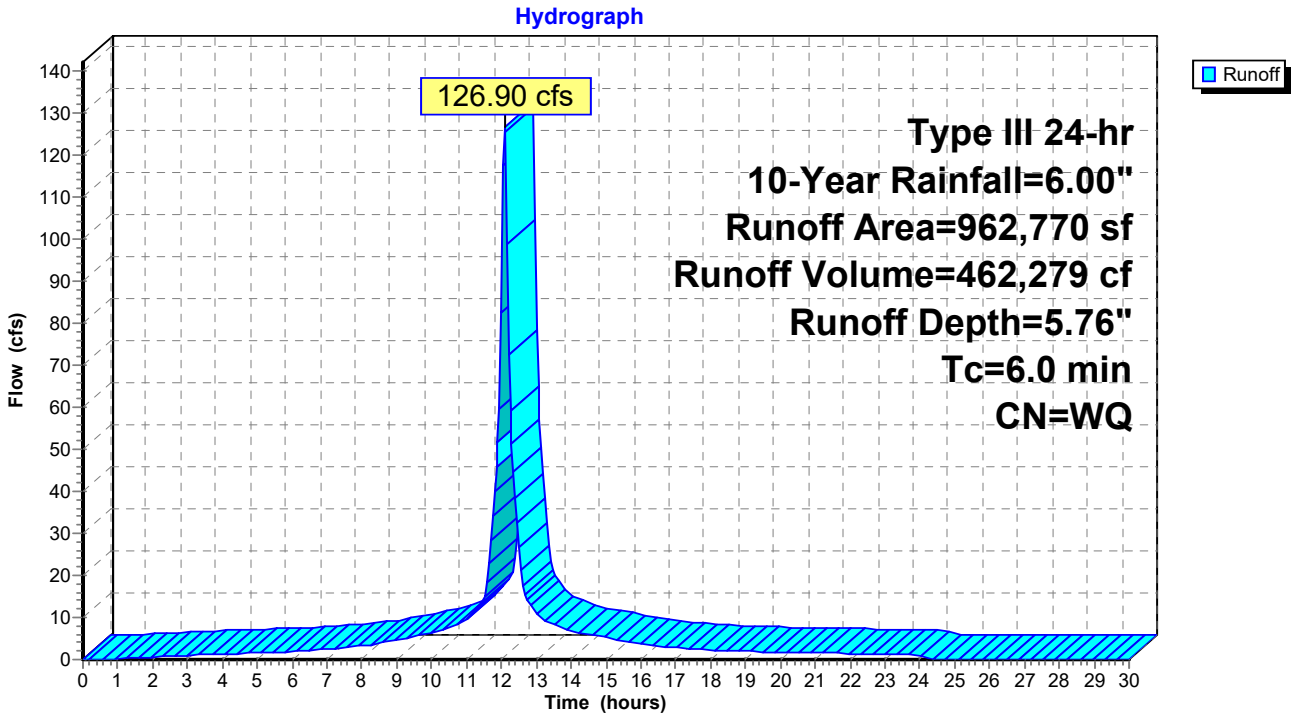
Runoff = 126.90 cfs @ 12.09 hrs, Volume= 462,279 cf, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=6.00"

Area (sf)	CN	Description
425,464	98	Roofs, HSG A
537,306	98	Paved parking, HSG A
962,770		Weighted Average
962,770	98	100.00% Impervious Area

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

Subcatchment 2S: Proposed Impervious



Hydrograph for Subcatchment 2S: Proposed Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.06	0.00	0.16
1.50	0.09	0.01	0.43
2.00	0.12	0.02	0.61
2.50	0.15	0.04	0.80
3.00	0.18	0.06	0.98
3.50	0.22	0.08	1.14
4.00	0.26	0.11	1.30
4.50	0.30	0.14	1.45
5.00	0.34	0.18	1.59
5.50	0.39	0.22	1.73
6.00	0.43	0.26	1.86
6.50	0.48	0.30	2.16
7.00	0.54	0.36	2.51
7.50	0.61	0.42	2.86
8.00	0.68	0.49	3.21
8.50	0.77	0.57	3.90
9.00	0.87	0.67	4.68
9.50	1.00	0.79	5.46
10.00	1.13	0.92	6.24
10.50	1.30	1.08	7.70
11.00	1.50	1.28	9.31
11.50	1.79	1.56	14.60
12.00	3.00	2.77	**82.59**
12.50	4.21	3.98	**26.76**
13.00	4.50	4.26	10.88
13.50	4.70	4.46	8.44
14.00	4.87	4.63	6.84
14.50	5.00	4.77	5.92
15.00	5.13	4.89	5.15
15.50	5.23	4.99	4.38
16.00	5.32	5.08	3.61
16.50	5.39	5.15	3.20
17.00	5.46	5.22	2.87
17.50	5.52	5.28	2.53
18.00	5.57	5.33	2.20
18.50	5.61	5.38	2.06
19.00	5.66	5.42	1.96
19.50	5.70	5.46	1.85
20.00	5.74	5.50	1.75
20.50	5.78	5.54	1.68
21.00	5.82	5.58	1.60
21.50	5.85	5.61	1.52
22.00	5.88	5.65	1.45
22.50	5.92	5.68	1.37
23.00	5.95	5.71	1.30
23.50	5.97	5.74	1.22
24.00	**6.00**	**5.76**	1.15
24.50	6.00	5.76	0.00
25.00	6.00	5.76	0.00
25.50	6.00	5.76	0.00
26.00	6.00	5.76	0.00
26.50	6.00	5.76	0.00
27.00	6.00	5.76	0.00
27.50	6.00	5.76	0.00
28.00	6.00	5.76	0.00
28.50	6.00	5.76	0.00
29.00	6.00	5.76	0.00
29.50	6.00	5.76	0.00
30.00	6.00	5.76	0.00

Summary for Subcatchment 3S: Proposed Pervious

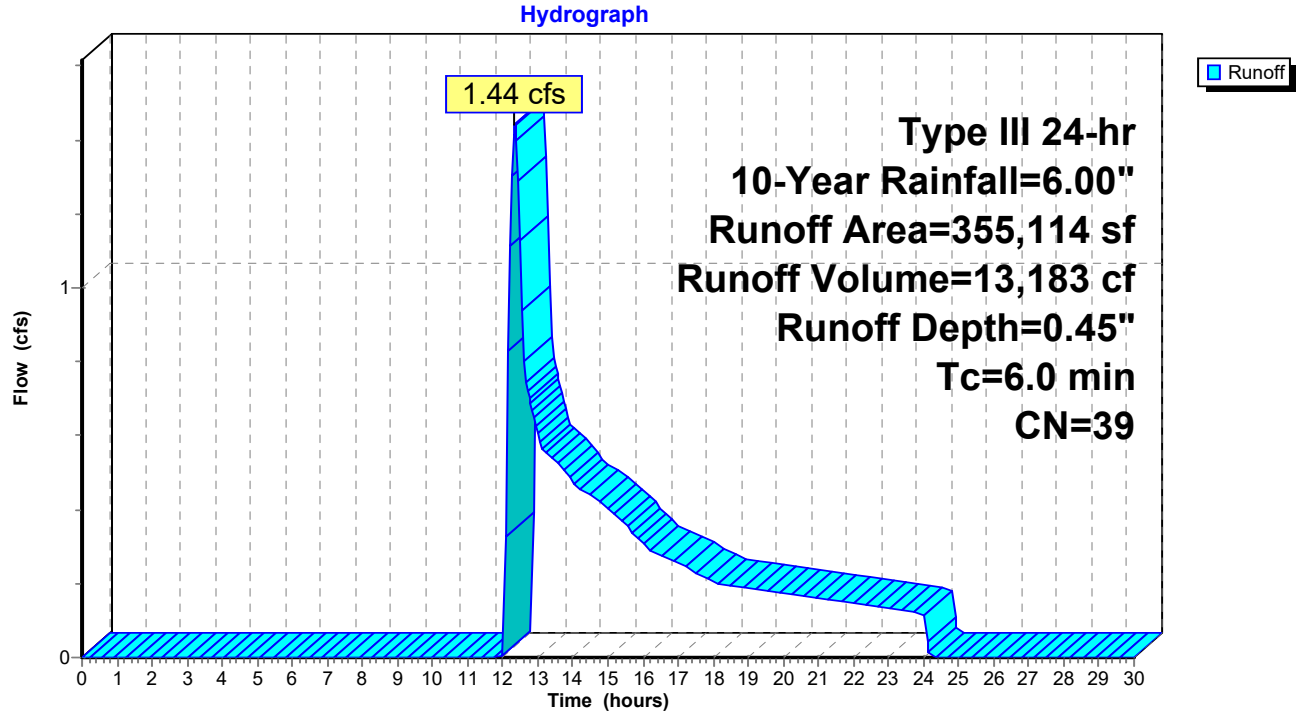
Runoff = 1.44 cfs @ 12.34 hrs, Volume= 13,183 cf, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=6.00"

Area (sf)	CN	Description
355,114	39	Pasture/grassland/range, Good, HSG A
355,114	39	100.00% Pervious Area

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

Subcatchment 3S: Proposed Pervious



Hydrograph for Subcatchment 3S: Proposed Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.06	0.00	0.00
1.50	0.09	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.22	0.00	0.00
4.00	0.26	0.00	0.00
4.50	0.30	0.00	0.00
5.00	0.34	0.00	0.00
5.50	0.39	0.00	0.00
6.00	0.43	0.00	0.00
6.50	0.48	0.00	0.00
7.00	0.54	0.00	0.00
7.50	0.61	0.00	0.00
8.00	0.68	0.00	0.00
8.50	0.77	0.00	0.00
9.00	0.87	0.00	0.00
9.50	1.00	0.00	0.00
10.00	1.13	0.00	0.00
10.50	1.30	0.00	0.00
11.00	1.50	0.00	0.00
11.50	1.79	0.00	0.00
12.00	3.00	0.00	**0.00**
12.50	4.21	0.07	**1.13**
13.00	4.50	0.11	0.60
13.50	4.70	0.14	0.53
14.00	4.87	0.17	0.47
14.50	5.00	0.20	0.44
15.00	5.13	0.23	0.40
15.50	5.23	0.25	0.36
16.00	5.32	0.27	0.31
16.50	5.39	0.29	0.28
17.00	5.46	0.30	0.26
17.50	5.52	0.32	0.23
18.00	5.57	0.33	0.20
18.50	5.61	0.34	0.19
19.00	5.66	0.35	0.19
19.50	5.70	0.36	0.18
20.00	5.74	0.37	0.17
20.50	5.78	0.38	0.17
21.00	5.82	0.39	0.16
21.50	5.85	0.40	0.15
22.00	5.88	0.41	0.15
22.50	5.92	0.42	0.14
23.00	5.95	0.43	0.14
23.50	5.97	0.44	0.13
24.00	**6.00**	**0.45**	0.12
24.50	6.00	0.45	0.00
25.00	6.00	0.45	0.00
25.50	6.00	0.45	0.00
26.00	6.00	0.45	0.00
26.50	6.00	0.45	0.00
27.00	6.00	0.45	0.00
27.50	6.00	0.45	0.00
28.00	6.00	0.45	0.00
28.50	6.00	0.45	0.00
29.00	6.00	0.45	0.00
29.50	6.00	0.45	0.00
30.00	6.00	0.45	0.00

Summary for Pond 4P: Recharge System

Inflow Area = 1,317,884 sf, 73.05% Impervious, Inflow Depth = 4.33" for 10-Year event
Inflow = 127.13 cfs @ 12.09 hrs, Volume= 475,462 cf
Outflow = 14.96 cfs @ 12.73 hrs, Volume= 475,512 cf, Atten= 88%, Lag= 38.6 min
Discarded = 14.96 cfs @ 12.73 hrs, Volume= 475,512 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 60.98' @ 12.73 hrs Surf.Area= 34,755 sf Storage= 160,744 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 82.5 min (833.6 - 751.1)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	57,001 cf	**12.00'D x 8.00'H Drywell** x 63
#2	55.00'	12,893 cf	**12.00'D x 6.00'H Drywell** x 19
#3	55.00'	311,797 cf	**South Recharge Basin (Irregular)** Listed below (Recalc)
		381,691 cf	Total Available Storage

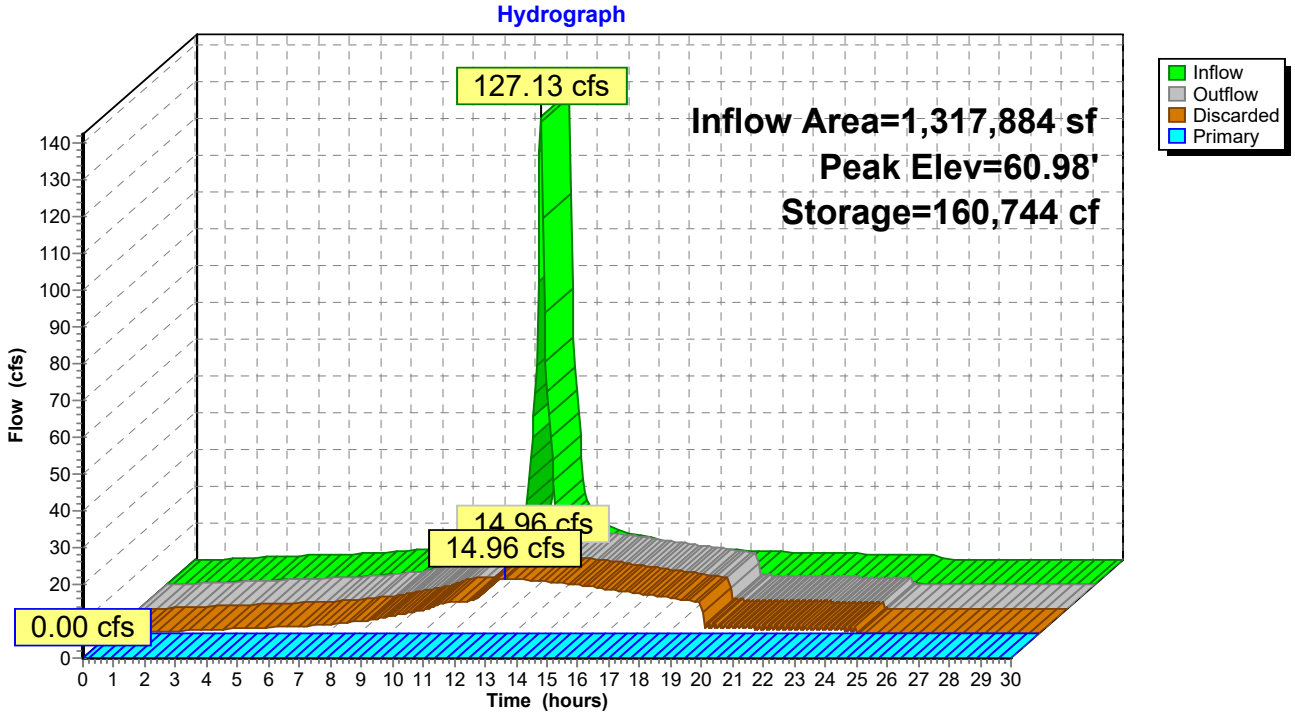
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	10,204	776.0	0	0	10,204
56.00	12,570	801.0	11,366	11,366	13,439
57.00	15,012	827.0	13,773	25,139	16,904
58.00	17,530	852.0	16,255	41,394	20,348
59.00	20,123	877.0	18,812	60,206	23,895
60.00	22,793	902.0	21,444	81,650	27,544
61.00	25,538	928.0	24,152	105,802	31,440
62.00	28,358	953.0	26,936	132,738	35,298
63.00	31,255	978.0	29,795	162,533	39,259
64.00	34,228	1,003.0	32,730	195,263	43,323
65.00	37,272	1,026.0	35,739	231,002	47,173
66.00	40,386	1,049.0	38,819	269,821	51,110
67.00	43,586	1,074.0	41,976	311,797	55,465

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**100.0' long (Profile 2) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.90 3.26 3.44
#2	Discarded	55.00'	**18.600 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=14.96 cfs @ 12.73 hrs HW=60.98' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 14.96 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Recharge System



Hydrograph for Pond 4P: Recharge System

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	55.00	0.00	0.00	**0.00**
1.00	0.16	0	55.00	0.16	0.16	0.00
2.00	0.61	0	55.00	0.61	0.61	0.00
3.00	0.98	0	55.00	0.98	0.98	0.00
4.00	1.30	0	55.00	1.30	1.30	0.00
5.00	1.59	0	55.00	1.59	1.59	0.00
6.00	1.86	0	55.00	1.86	1.86	0.00
7.00	2.51	0	55.00	2.51	2.51	0.00
8.00	3.21	0	55.00	3.21	3.21	0.00
9.00	4.68	0	55.00	4.68	4.68	0.00
10.00	6.24	0	55.00	6.24	6.24	0.00
11.00	9.31	532	55.03	8.41	8.41	0.00
12.00	**82.59**	**54,809**	**57.45**	**10.93**	**10.93**	0.00
13.00	**11.49**	**159,054**	**60.93**	**14.90**	**14.90**	0.00
14.00	7.31	139,028	60.34	14.20	14.20	0.00
15.00	5.55	112,516	59.51	13.23	13.23	0.00
16.00	3.92	83,885	58.53	12.13	12.13	0.00
17.00	3.12	54,900	57.45	10.94	10.94	0.00
18.00	2.40	27,643	56.32	9.73	9.73	0.00
19.00	2.14	2,905	55.15	8.53	8.53	0.00
20.00	1.93	0	55.00	1.32	1.32	0.00
21.00	1.76	0	55.00	1.15	1.15	0.00
22.00	1.60	0	55.00	0.99	0.99	0.00
23.00	1.43	0	55.00	0.83	0.83	0.00
24.00	1.27	0	55.00	0.66	0.66	0.00
25.00	0.00	0	55.00	0.00	0.00	0.00
26.00	0.00	0	55.00	0.00	0.00	0.00
27.00	0.00	0	55.00	0.00	0.00	0.00
28.00	0.00	0	55.00	0.00	0.00	0.00
29.00	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Recharge System

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
55.00	0.00	0.00	**0.00**
55.15	8.53	8.53	0.00
55.30	8.68	8.68	0.00
55.45	8.83	8.83	0.00
55.60	8.98	8.98	0.00
55.75	9.14	9.14	0.00
55.90	9.30	9.30	0.00
56.05	9.46	9.46	0.00
56.20	9.61	9.61	0.00
56.35	9.76	9.76	0.00
56.50	9.92	9.92	0.00
56.65	10.08	10.08	0.00
56.80	10.24	10.24	0.00
56.95	10.40	10.40	0.00
57.10	10.56	10.56	0.00
57.25	10.72	10.72	0.00
57.40	10.88	10.88	0.00
57.55	11.04	11.04	0.00
57.70	11.21	11.21	0.00
57.85	11.37	11.37	0.00
58.00	11.54	11.54	0.00
58.15	11.70	11.70	0.00
58.30	11.87	11.87	0.00
58.45	12.03	12.03	0.00
58.60	12.20	12.20	0.00
58.75	12.37	12.37	0.00
58.90	12.54	12.54	0.00
59.05	12.71	12.71	0.00
59.20	12.88	12.88	0.00
59.35	13.05	13.05	0.00
59.50	13.22	13.22	0.00
59.65	13.40	13.40	0.00
59.80	13.57	13.57	0.00
59.95	13.75	13.75	0.00
60.10	13.92	13.92	0.00
60.25	14.10	14.10	0.00
60.40	14.27	14.27	0.00
60.55	14.45	14.45	0.00
60.70	14.63	14.63	0.00
60.85	14.81	14.81	0.00
61.00	14.99	14.99	0.00
61.15	15.17	15.17	0.00
61.30	15.35	15.35	0.00
61.45	15.53	15.53	0.00
61.60	15.71	15.71	0.00
61.75	15.89	15.89	0.00
61.90	16.08	16.08	0.00
62.05	16.26	16.26	0.00
62.20	16.45	16.45	0.00
62.35	16.63	16.63	0.00
62.50	16.82	16.82	0.00
62.65	17.01	17.01	0.00
62.80	17.20	17.20	0.00
62.95	17.39	17.39	0.00
63.10	17.58	17.58	0.00
63.25	17.76	17.76	0.00
63.40	17.96	17.96	0.00
63.55	18.15	18.15	0.00
63.70	18.34	18.34	0.00
63.85	18.53	18.53	0.00
64.00	18.73	18.73	0.00
64.15	18.92	18.92	0.00
64.30	19.12	19.12	0.00
64.45	19.31	19.31	0.00
64.60	19.51	19.51	0.00
64.75	19.71	19.71	0.00
64.90	19.91	19.91	0.00
65.05	20.11	20.11	0.00
65.20	20.30	20.30	0.00
65.35	20.50	20.50	0.00
65.50	20.70	20.70	0.00
65.65	20.91	20.91	0.00
65.80	21.11	21.11	0.00
65.95	21.31	21.31	0.00
66.10	21.52	21.52	0.00
66.25	21.72	21.72	0.00
66.40	21.93	21.93	0.00
66.55	22.13	22.13	0.00
66.70	22.34	22.34	0.00
66.85	22.55	22.55	0.00
67.00	**22.76**	**22.76**	0.00

Summary for Subcatchment 1S: Existing Pervious

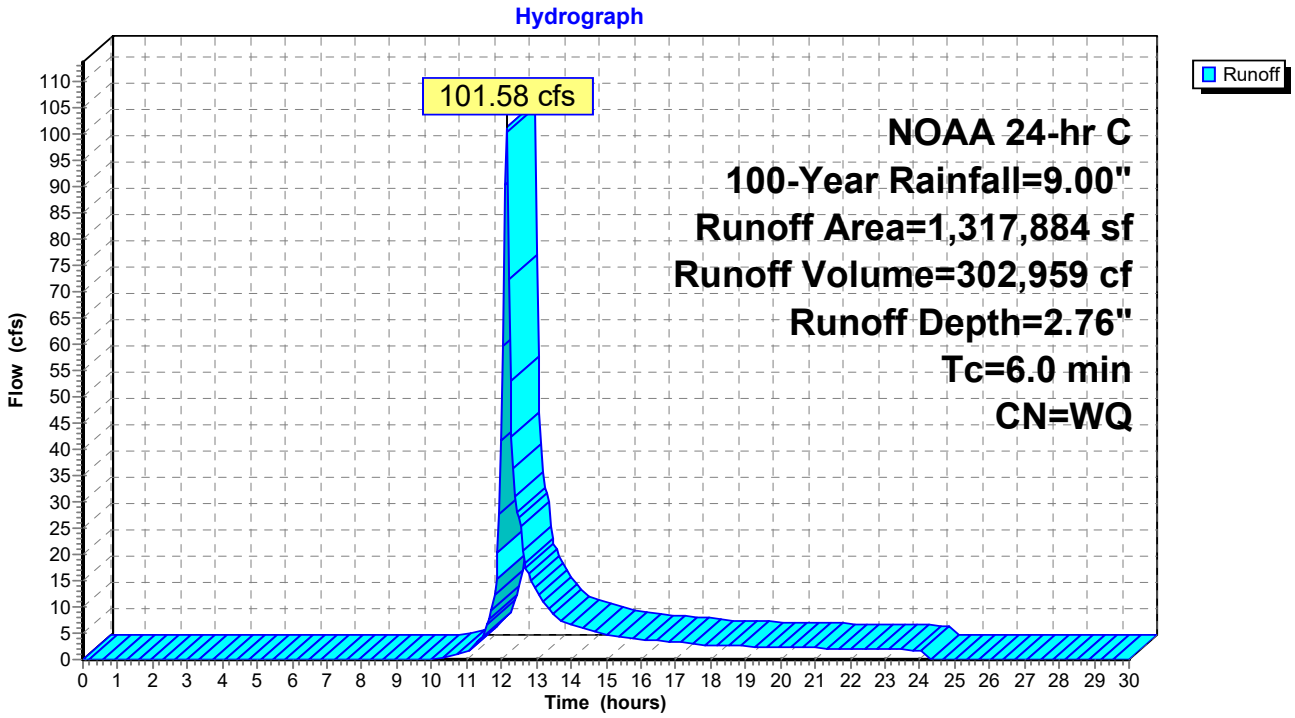
Runoff = 101.58 cfs @ 12.14 hrs, Volume= 302,959 cf, Depth= 2.76"

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

Area (sf)	CN	Description
602,629	39	>75% Grass cover, Good, HSG A
715,255	57	Woods/grass comb., Poor, HSG A
1,317,884		Weighted Average
1,317,884	49	100.00% Pervious Area

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

Subcatchment 1S: Existing Pervious



Hydrograph for Subcatchment 1S: Existing Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.00
1.00	0.10	0.00	0.00
1.50	0.15	0.00	0.00
2.00	0.20	0.00	0.00
2.50	0.26	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.38	0.00	0.00
4.00	0.44	0.00	0.00
4.50	0.51	0.00	0.00
5.00	0.57	0.00	0.00
5.50	0.64	0.00	0.00
6.00	0.71	0.00	0.00
6.50	0.79	0.00	0.00
7.00	0.88	0.00	0.00
7.50	0.97	0.00	0.00
8.00	1.08	0.00	0.00
8.50	1.19	0.00	0.00
9.00	1.31	0.00	0.00
9.50	1.46	0.00	0.00
10.00	1.64	0.00	0.16
10.50	1.85	0.00	0.57
11.00	2.16	0.00	1.60
11.50	2.66	0.03	4.33
12.00	4.29	0.39	**41.77**
12.50	6.34	1.24	**27.01**
13.00	6.84	1.49	13.21
13.50	7.15	1.66	8.52
14.00	7.36	1.78	6.72
14.50	7.54	1.88	5.71
15.00	7.69	1.96	4.63
15.50	7.81	2.03	4.14
16.00	7.92	2.10	3.87
16.50	8.03	2.16	3.58
17.00	8.12	2.22	3.30
17.50	8.21	2.27	3.00
18.00	8.29	2.32	2.70
18.50	8.36	2.36	2.56
19.00	8.43	2.40	2.50
19.50	8.49	2.44	2.43
20.00	8.56	2.49	2.36
20.50	8.62	2.52	2.28
21.00	8.68	2.56	2.21
21.50	8.74	2.60	2.14
22.00	8.80	2.63	2.06
22.50	8.85	2.67	1.98
23.00	8.90	2.70	1.92
23.50	8.95	2.73	1.83
24.00	**9.00**	**2.76**	2.02
24.50	9.00	2.76	0.00
25.00	9.00	2.76	0.00
25.50	9.00	2.76	0.00
26.00	9.00	2.76	0.00
26.50	9.00	2.76	0.00
27.00	9.00	2.76	0.00
27.50	9.00	2.76	0.00
28.00	9.00	2.76	0.00
28.50	9.00	2.76	0.00
29.00	9.00	2.76	0.00
29.50	9.00	2.76	0.00
30.00	9.00	2.76	0.00

Summary for Subcatchment 2S: Proposed Impervious

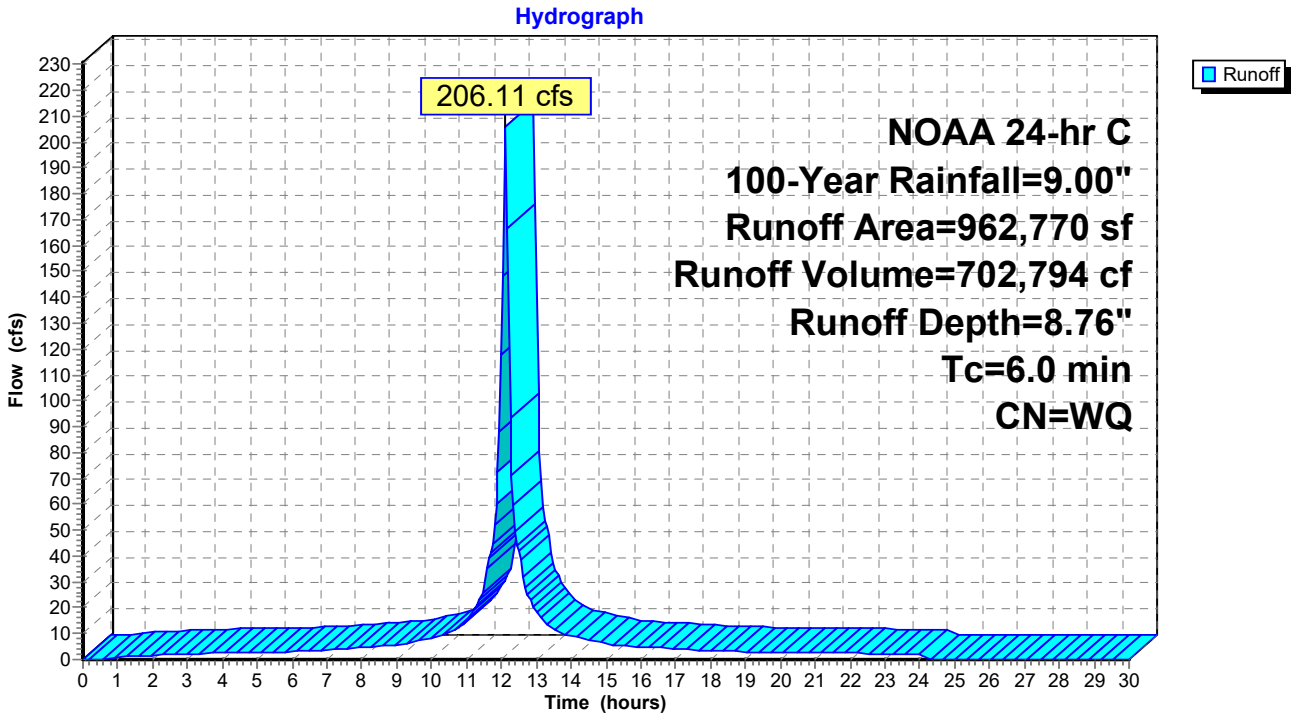
Runoff = 206.11 cfs @ 12.13 hrs, Volume= 702,794 cf, Depth= 8.76"

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

Area (sf)	CN	Description
425,464	98	Roofs, HSG A
537,306	98	Paved parking, HSG A
962,770		Weighted Average
962,770	98	100.00% Impervious Area

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

Subcatchment 2S: Proposed Impervious



Hydrograph for Subcatchment 2S: Proposed Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.03
1.00	0.10	0.01	0.77
1.50	0.15	0.04	1.28
2.00	0.20	0.07	1.63
2.50	0.26	0.11	1.90
3.00	0.32	0.16	2.13
3.50	0.38	0.21	2.33
4.00	0.44	0.26	2.48
4.50	0.51	0.32	2.64
5.00	0.57	0.38	2.78
5.50	0.64	0.45	2.91
6.00	0.71	0.52	3.04
6.50	0.79	0.59	3.43
7.00	0.88	0.67	3.84
7.50	0.97	0.77	4.25
8.00	1.08	0.87	4.67
8.50	1.19	0.98	5.07
9.00	1.31	1.10	5.49
9.50	1.46	1.24	6.89
10.00	1.64	1.42	8.40
10.50	1.85	1.63	9.92
11.00	2.16	1.93	15.32
11.50	2.66	2.43	25.39
12.00	4.29	4.05	**117.58**
12.50	6.34	6.10	**41.79**
13.00	6.84	6.60	18.90
13.50	7.15	6.91	11.74
14.00	7.36	7.12	9.05
14.50	7.54	7.30	7.55
15.00	7.69	7.45	6.03
15.50	7.81	7.57	5.33
16.00	7.92	7.68	4.93
16.50	8.03	7.79	4.53
17.00	8.12	7.88	4.14
17.50	8.21	7.97	3.74
18.00	8.29	8.05	3.34
18.50	8.36	8.12	3.16
19.00	8.43	8.19	3.06
19.50	8.49	8.25	2.95
20.00	8.56	8.32	2.86
20.50	8.62	8.38	2.75
21.00	8.68	8.44	2.65
21.50	8.74	8.50	2.55
22.00	8.80	8.56	2.45
22.50	8.85	8.61	2.35
23.00	8.90	8.66	2.27
23.50	8.95	8.71	2.16
24.00	**9.00**	**8.76**	2.38
24.50	9.00	8.76	0.00
25.00	9.00	8.76	0.00
25.50	9.00	8.76	0.00
26.00	9.00	8.76	0.00
26.50	9.00	8.76	0.00
27.00	9.00	8.76	0.00
27.50	9.00	8.76	0.00
28.00	9.00	8.76	0.00
28.50	9.00	8.76	0.00
29.00	9.00	8.76	0.00
29.50	9.00	8.76	0.00
30.00	9.00	8.76	0.00

Summary for Subcatchment 3S: Proposed Pervious

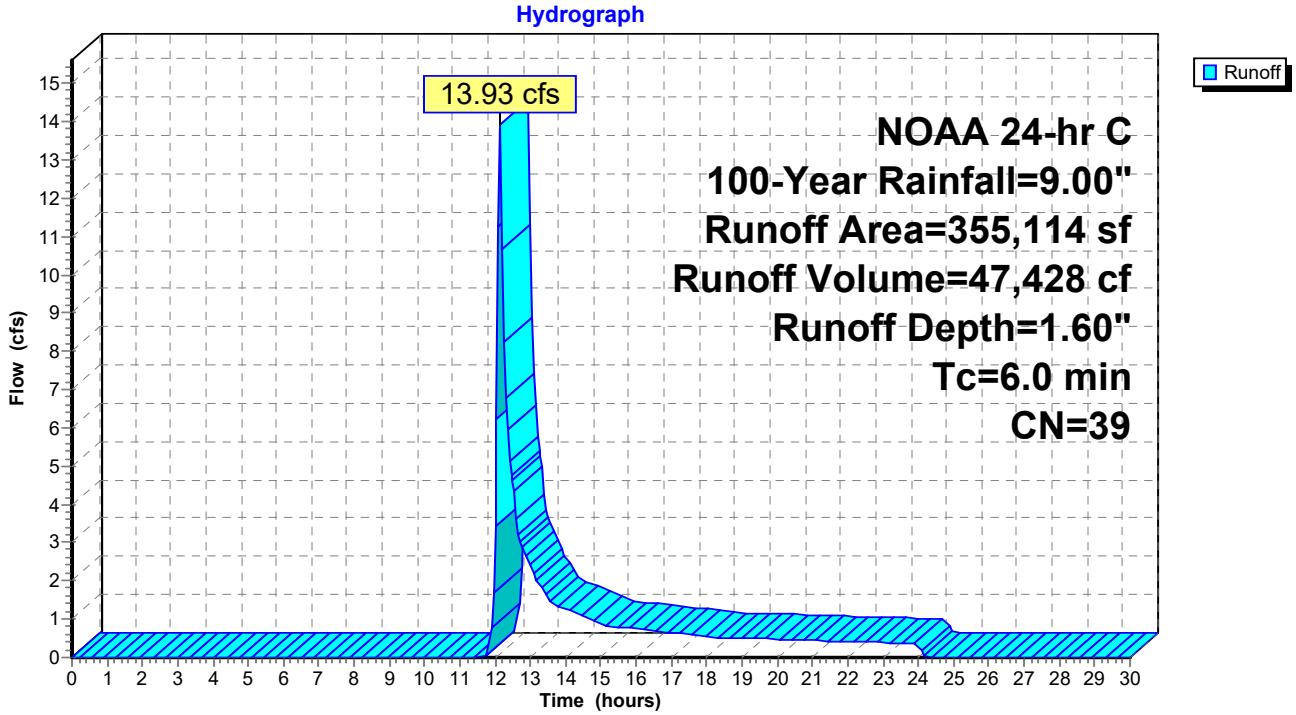
Runoff = 13.93 cfs @ 12.15 hrs, Volume= 47,428 cf, Depth= 1.60"

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

Area (sf)	CN	Description
355,114	39	Pasture/grassland/range, Good, HSG A
355,114	39	100.00% Pervious Area

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

Subcatchment 3S: Proposed Pervious



Hydrograph for Subcatchment 3S: Proposed Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.00
1.00	0.10	0.00	0.00
1.50	0.15	0.00	0.00
2.00	0.20	0.00	0.00
2.50	0.26	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.38	0.00	0.00
4.00	0.44	0.00	0.00
4.50	0.51	0.00	0.00
5.00	0.57	0.00	0.00
5.50	0.64	0.00	0.00
6.00	0.71	0.00	0.00
6.50	0.79	0.00	0.00
7.00	0.88	0.00	0.00
7.50	0.97	0.00	0.00
8.00	1.08	0.00	0.00
8.50	1.19	0.00	0.00
9.00	1.31	0.00	0.00
9.50	1.46	0.00	0.00
10.00	1.64	0.00	0.00
10.50	1.85	0.00	0.00
11.00	2.16	0.00	0.00
11.50	2.66	0.00	0.00
12.00	4.29	0.08	**3.45**
12.50	6.34	0.55	**4.61**
13.00	6.84	0.71	2.38
13.50	7.15	0.82	1.58
14.00	7.36	0.90	1.26
14.50	7.54	0.97	1.09
15.00	7.69	1.03	0.89
15.50	7.81	1.08	0.80
16.00	7.92	1.12	0.75
16.50	8.03	1.17	0.70
17.00	8.12	1.21	0.65
17.50	8.21	1.25	0.59
18.00	8.29	1.28	0.53
18.50	8.36	1.31	0.51
19.00	8.43	1.34	0.50
19.50	8.49	1.37	0.49
20.00	8.56	1.40	0.47
20.50	8.62	1.43	0.46
21.00	8.68	1.46	0.45
21.50	8.74	1.48	0.43
22.00	8.80	1.51	0.42
22.50	8.85	1.53	0.40
23.00	8.90	1.56	0.39
23.50	8.95	1.58	0.37
24.00	**9.00**	**1.60**	0.41
24.50	9.00	1.60	0.00
25.00	9.00	1.60	0.00
25.50	9.00	1.60	0.00
26.00	9.00	1.60	0.00
26.50	9.00	1.60	0.00
27.00	9.00	1.60	0.00
27.50	9.00	1.60	0.00
28.00	9.00	1.60	0.00
28.50	9.00	1.60	0.00
29.00	9.00	1.60	0.00
29.50	9.00	1.60	0.00
30.00	9.00	1.60	0.00

Summary for Pond 4P: Recharge System

Inflow Area = 1,317,884 sf, 73.05% Impervious, Inflow Depth = 6.83" for 100-Year event
Inflow = 219.54 cfs @ 12.13 hrs, Volume= 750,221 cf
Outflow = 20.00 cfs @ 13.06 hrs, Volume= 750,266 cf, Atten= 91%, Lag= 55.7 min
Discarded = 20.00 cfs @ 13.06 hrs, Volume= 750,266 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 64.97' @ 13.06 hrs Surf.Area= 46,440 sf Storage= 299,631 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 134.0 min (884.7 - 750.6)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	57,001 cf	**12.00'D x 8.00'H Drywell** x 63
#2	55.00'	12,893 cf	**12.00'D x 6.00'H Drywell** x 19
#3	55.00'	311,797 cf	**South Recharge Basin (Irregular)** Listed below (Recalc)
		381,691 cf	Total Available Storage

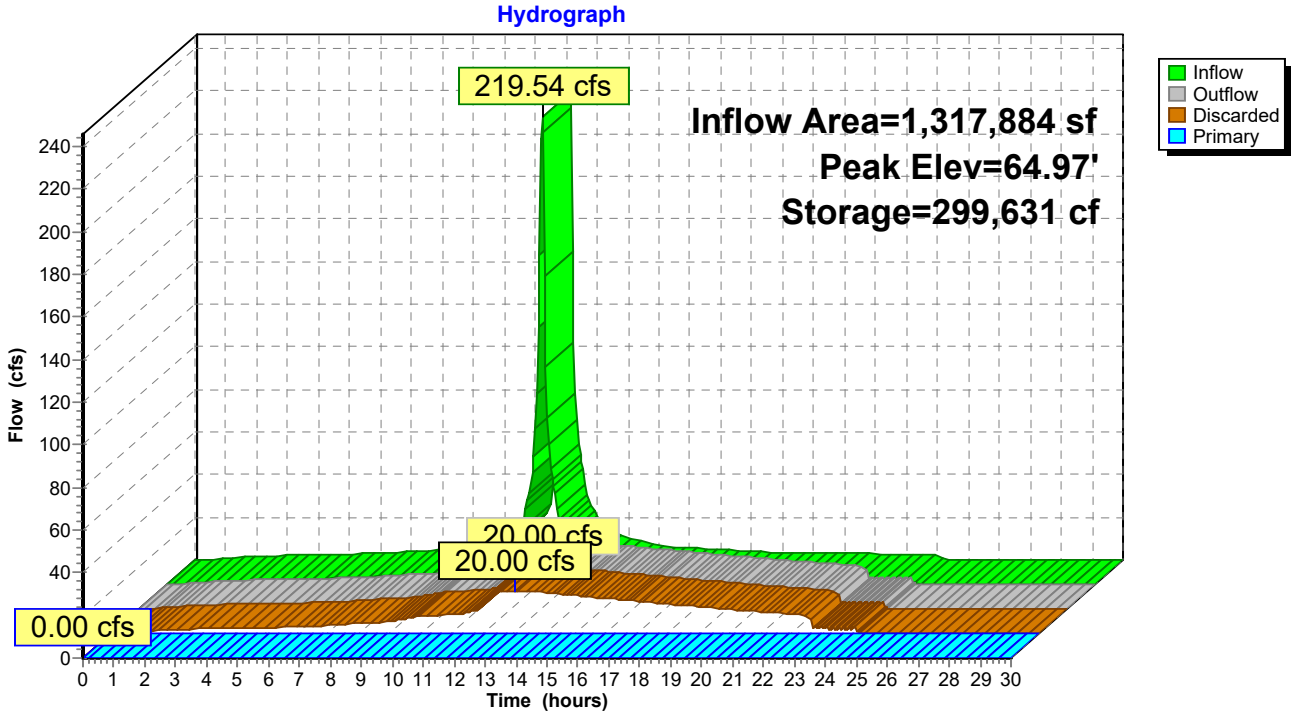
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
55.00	10,204	776.0	0	0	10,204
56.00	12,570	801.0	11,366	11,366	13,439
57.00	15,012	827.0	13,773	25,139	16,904
58.00	17,530	852.0	16,255	41,394	20,348
59.00	20,123	877.0	18,812	60,206	23,895
60.00	22,793	902.0	21,444	81,650	27,544
61.00	25,538	928.0	24,152	105,802	31,440
62.00	28,358	953.0	26,936	132,738	35,298
63.00	31,255	978.0	29,795	162,533	39,259
64.00	34,228	1,003.0	32,730	195,263	43,323
65.00	37,272	1,026.0	35,739	231,002	47,173
66.00	40,386	1,049.0	38,819	269,821	51,110
67.00	43,586	1,074.0	41,976	311,797	55,465

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**100.0' long (Profile 2) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.90 3.26 3.44
#2	Discarded	55.00'	**18.600 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=19.99 cfs @ 13.06 hrs HW=64.97' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 19.99 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Recharge System



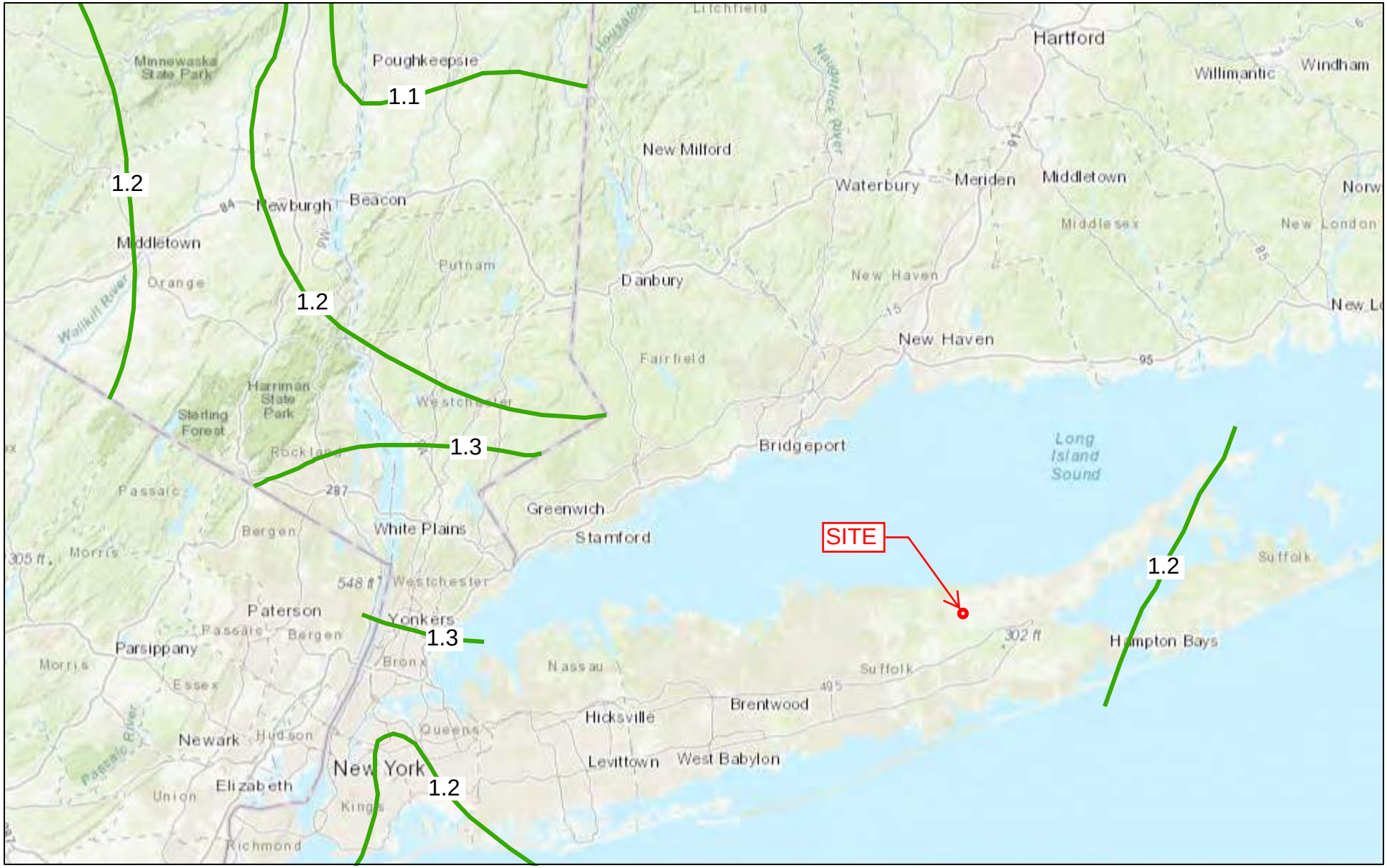
Hydrograph for Pond 4P: Recharge System

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	55.00	0.00	0.00	**0.00**
1.00	0.77	0	55.00	0.77	0.77	0.00
2.00	1.63	0	55.00	1.63	1.63	0.00
3.00	2.13	0	55.00	2.13	2.13	0.00
4.00	2.48	0	55.00	2.48	2.48	0.00
5.00	2.78	0	55.00	2.78	2.78	0.00
6.00	3.04	0	55.00	3.04	3.04	0.00
7.00	3.84	0	55.00	3.84	3.84	0.00
8.00	4.67	0	55.00	4.67	4.67	0.00
9.00	5.49	0	55.00	5.49	5.49	0.00
10.00	8.40	44	55.00	8.27	8.27	0.00
11.00	15.32	8,318	55.42	8.80	8.80	0.00
12.00	**121.03**	105,141	59.26	12.95	12.95	0.00
13.00	**21.28**	**299,491**	**64.96**	**19.99**	**19.99**	0.00
14.00	10.31	**279,179**	**64.40**	**19.25**	**19.25**	0.00
15.00	6.92	243,308	63.34	17.88	17.88	0.00
16.00	5.68	203,722	62.23	16.48	16.48	0.00
17.00	4.79	165,650	61.13	15.14	15.14	0.00
18.00	3.87	129,088	60.03	13.84	13.84	0.00
19.00	3.55	94,808	58.91	12.56	12.56	0.00
20.00	3.33	64,222	57.81	11.33	11.33	0.00
21.00	3.10	37,136	56.73	10.16	10.16	0.00
22.00	2.87	13,344	55.66	9.05	9.05	0.00
23.00	2.66	0	55.00	2.10	2.10	0.00
24.00	2.79	0	55.00	2.24	2.24	0.00
25.00	0.00	0	55.00	0.00	0.00	0.00
26.00	0.00	0	55.00	0.00	0.00	0.00
27.00	0.00	0	55.00	0.00	0.00	0.00
28.00	0.00	0	55.00	0.00	0.00	0.00
29.00	0.00	0	55.00	0.00	0.00	0.00
30.00	0.00	0	55.00	0.00	0.00	0.00

Stage-Discharge for Pond 4P: Recharge System

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
55.00	0.00	0.00	**0.00**
55.15	8.53	8.53	0.00
55.30	8.68	8.68	0.00
55.45	8.83	8.83	0.00
55.60	8.98	8.98	0.00
55.75	9.14	9.14	0.00
55.90	9.30	9.30	0.00
56.05	9.46	9.46	0.00
56.20	9.61	9.61	0.00
56.35	9.76	9.76	0.00
56.50	9.92	9.92	0.00
56.65	10.08	10.08	0.00
56.80	10.24	10.24	0.00
56.95	10.40	10.40	0.00
57.10	10.56	10.56	0.00
57.25	10.72	10.72	0.00
57.40	10.88	10.88	0.00
57.55	11.04	11.04	0.00
57.70	11.21	11.21	0.00
57.85	11.37	11.37	0.00
58.00	11.54	11.54	0.00
58.15	11.70	11.70	0.00
58.30	11.87	11.87	0.00
58.45	12.03	12.03	0.00
58.60	12.20	12.20	0.00
58.75	12.37	12.37	0.00
58.90	12.54	12.54	0.00
59.05	12.71	12.71	0.00
59.20	12.88	12.88	0.00
59.35	13.05	13.05	0.00
59.50	13.22	13.22	0.00
59.65	13.40	13.40	0.00
59.80	13.57	13.57	0.00
59.95	13.75	13.75	0.00
60.10	13.92	13.92	0.00
60.25	14.10	14.10	0.00
60.40	14.27	14.27	0.00
60.55	14.45	14.45	0.00
60.70	14.63	14.63	0.00
60.85	14.81	14.81	0.00
61.00	14.99	14.99	0.00
61.15	15.17	15.17	0.00
61.30	15.35	15.35	0.00
61.45	15.53	15.53	0.00
61.60	15.71	15.71	0.00
61.75	15.89	15.89	0.00
61.90	16.08	16.08	0.00
62.05	16.26	16.26	0.00
62.20	16.45	16.45	0.00
62.35	16.63	16.63	0.00
62.50	16.82	16.82	0.00
62.65	17.01	17.01	0.00
62.80	17.20	17.20	0.00
62.95	17.39	17.39	0.00
63.10	17.58	17.58	0.00
63.25	17.76	17.76	0.00
63.40	17.96	17.96	0.00
63.55	18.15	18.15	0.00
63.70	18.34	18.34	0.00
63.85	18.53	18.53	0.00
64.00	18.73	18.73	0.00
64.15	18.92	18.92	0.00
64.30	19.12	19.12	0.00
64.45	19.31	19.31	0.00
64.60	19.51	19.51	0.00
64.75	19.71	19.71	0.00
64.90	19.91	19.91	0.00
65.05	20.11	20.11	0.00
65.20	20.30	20.30	0.00
65.35	20.50	20.50	0.00
65.50	20.70	20.70	0.00
65.65	20.91	20.91	0.00
65.80	21.11	21.11	0.00
65.95	21.31	21.31	0.00
66.10	21.52	21.52	0.00
66.25	21.72	21.72	0.00
66.40	21.93	21.93	0.00
66.55	22.13	22.13	0.00
66.70	22.34	22.34	0.00
66.85	22.55	22.55	0.00
67.00	**22.76**	**22.76**	0.00

90 Percentile Rainfall



July 2019

NYSDEC Stormwater Interactive Map

1:1,155,581

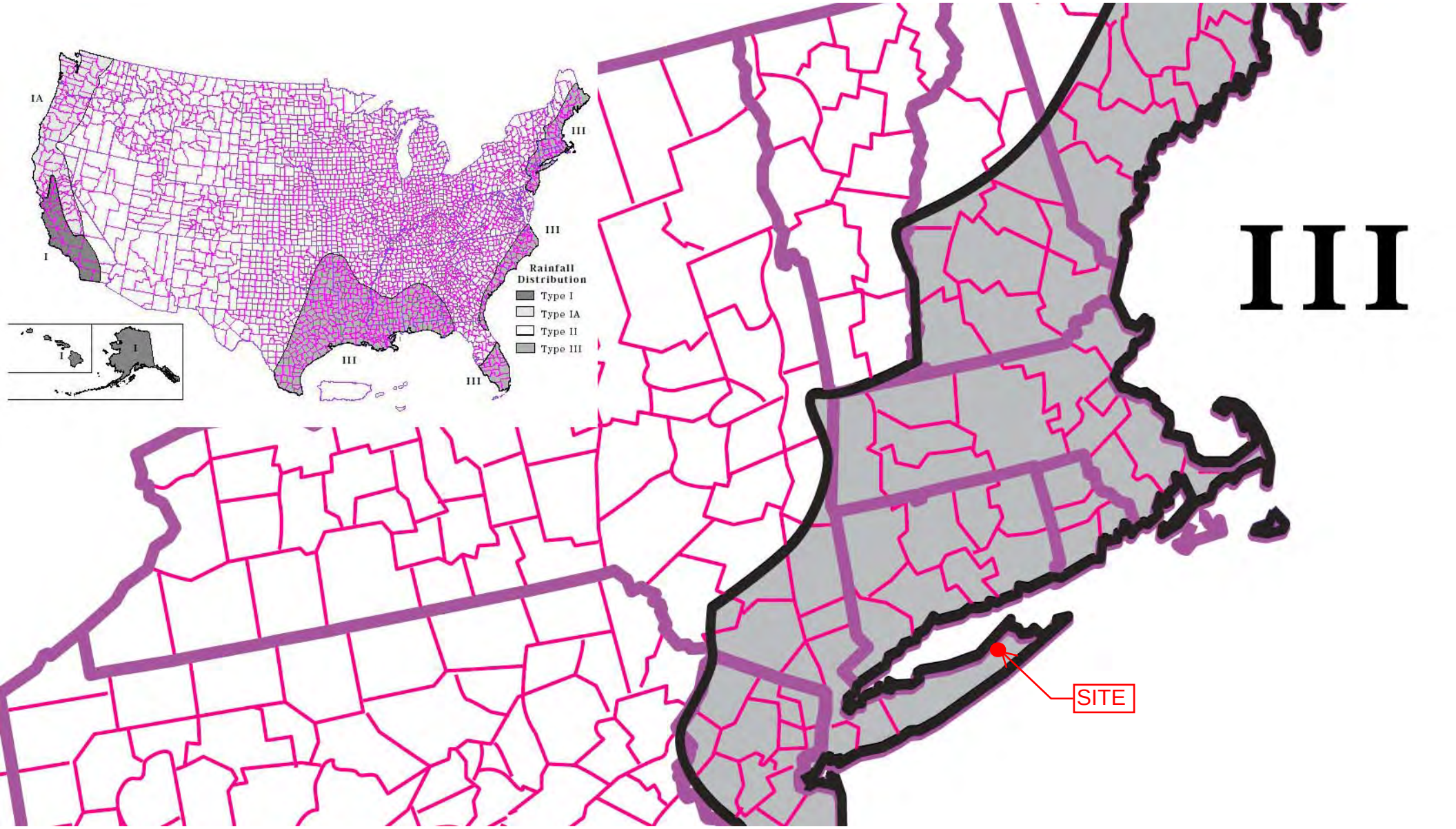
0 10 20 40 mi

0 15 30 60 km

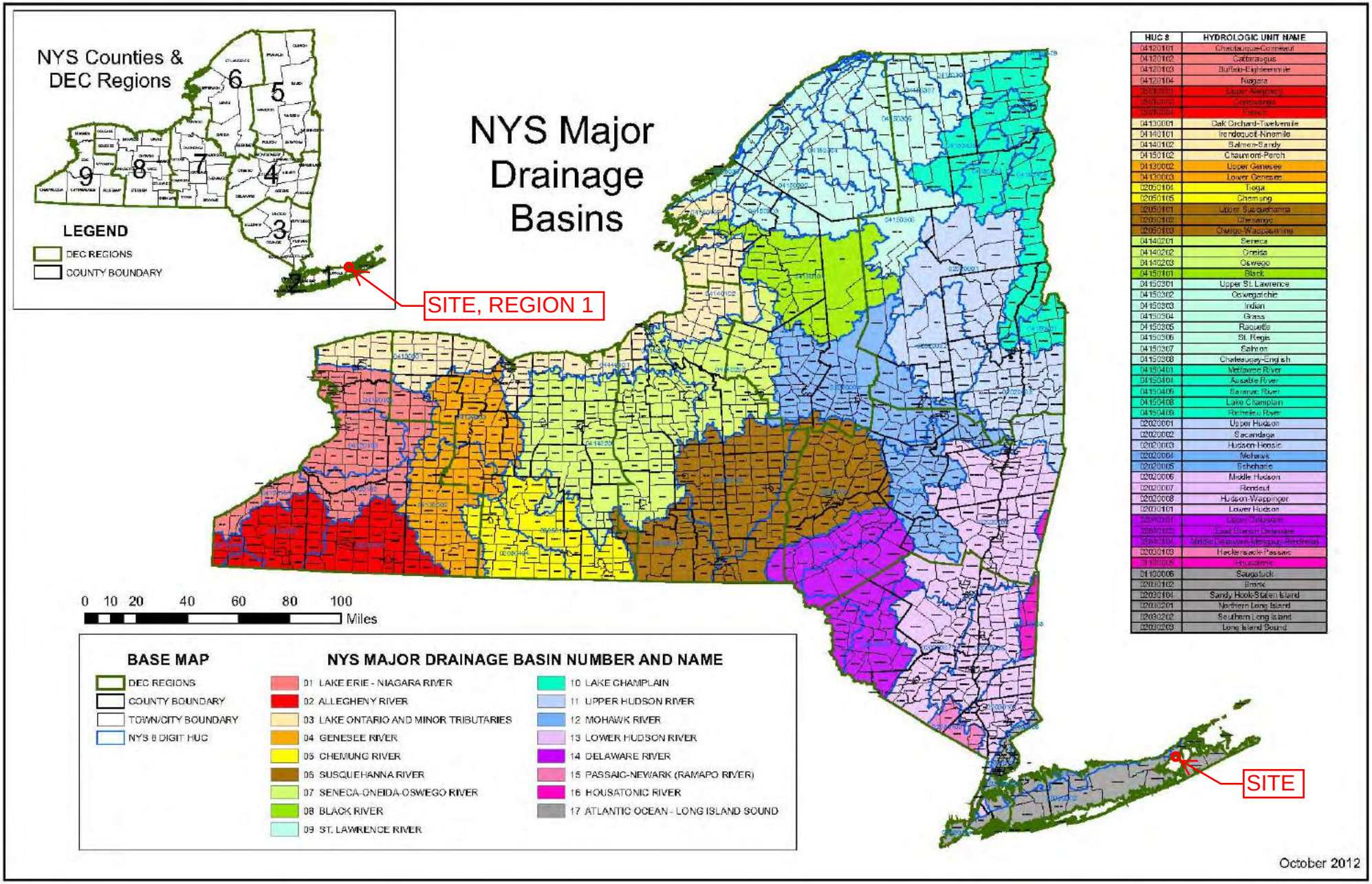
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

NYS Department of Environmental Conservation

Not a legal document



SCS 24-hour Synthetic Rainfall Distribution


NYS Counties & DEC Regions
LEGEND
DEC REGIONS
COUNTY BOUNDARY
SITE, REGION 1
NYS Major Drainage Basins
0 10 20 40 60 80 100
Miles
BASE MAP
DEC REGIONS
COUNTY BOUNDARY
TOWN/CITY BOUNDARY
NYS 8 DIGIT HUC
NYS MAJOR DRAINAGE BASIN NUMBER AND NAME
01 LAKE ERIE - NIAGARA RIVER
02 ALLEGHENY RIVER
03 LAKE ONTARIO AND MINOR TRIBUTARIES
04 GENESEE RIVER
05 CHEMUNG RIVER
06 SUSQUEHANNA RIVER
07 SENECA-ONEIDA-OSWEGO RIVER
08 BLACK RIVER
09 ST. LAWRENCE RIVER
10 LAKE CHAMPLAIN
11 UPPER HUDSON RIVER
12 MOHAWK RIVER
13 LOWER HUDSON RIVER
14 DELAWARE RIVER
15 PASSAIC-NEWARK (RAMAPO RIVER)
16 HOUSATONIC RIVER
17 ATLANTIC OCEAN - LONG ISLAND SOUND
HUC 8
HYDROLOGIC UNIT NAME
04120101 Chautauqua-Conneaut
04120102 Cattaraugus
04120103 Buffalo-Eighteenmile
04120104 Niagara
Upper Allegheny
Conewango
French
04130001 Oak Orchard-Twelvemile
04140101 Irondequoit-Ninemile
04140102 Salmon-Sandy
04150102 Chaumont-Perch
04130002 Upper Genesee
04130003 Lower Genesee
02050104 Tioga
02050105 Chemung
02050101 Upper Susquehanna
02050102 Chenango
02050103 Otselic-Wappasening
04140201 Seneca
04140202 Oneida
04140203 Oswego
04150101 Black
04150301 Upper St. Lawrence
04150302 Oswegatchie
04150303 Indian
04150304 Grass
04150305 Raquette
04150306 St. Regis
04150307 Salmon
04150308 Chateaugay-English
04150401 Metawee River
04150404 Ausable River
04150405 Saranac River
04150408 Lake Champlain
04150409 Richelieu River
02020001 Upper Hudson
02020002 Sacandaga
02020003 Hudson-Hoosic
02020004 Mohawk
02020005 Schoharie
02020006 Middle Hudson
02020007 Rondout
02020008 Hudson-Wappinger
02030101 Lower Hudson
Upper Delaware
Lead Coreon Delaware
Middle Delaware-Mongaup-Neversink
02030103 Hackensack-Passaic
Housatonic
04100006 Saugatuck
02030102 Bronx
02030104 Sandy Hook-Staten Island
02030201 Northern Long Island
02030202 Southern Long Island
02030203 Long Island Sound
SITE
October 2012

NOAA Atlas 14, Volume 10, Version 3
Location name: Calverton, New York, USA*
Latitude: 40.9265°, Longitude: -72.7693°
Elevation: 71.73 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	100
5-min	0.327 (0.259-0.414)	0.402 (0.318-0.509)	0.524 (0.414-0.666)	0.626 (0.491-0.798)	0.765 (0.580-1.02)	0.869 (0.645-1.18)	0.980 (0.707-1.38)	1.11 (0.751-1.58)	1.31 (0.848-1.91)	1.47 (0.932-2
10-min	0.463 (0.368-0.587)	0.569 (0.451-0.722)	0.742 (0.585-0.943)	0.886 (0.695-1.13)	1.08 (0.822-1.44)	1.23 (0.914-1.67)	1.39 (1.00-1.95)	1.58 (1.07-2.23)	1.85 (1.20-2.70)	2.09 (1.32-3
15-min	0.545 (0.432-0.691)	0.670 (0.531-0.849)	0.874 (0.689-1.11)	1.04 (0.818-1.33)	1.27 (0.967-1.70)	1.45 (1.08-1.96)	1.63 (1.18-2.30)	1.85 (1.25-2.63)	2.18 (1.41-3.18)	2.46 (1.55-3
30-min	0.788 (0.625-0.998)	0.966 (0.765-1.23)	1.26 (0.991-1.60)	1.50 (1.18-1.92)	1.83 (1.39-2.44)	2.08 (1.55-2.82)	2.35 (1.69-3.30)	2.66 (1.80-3.77)	3.13 (2.03-4.57)	3.53 (2.23-5
60-min	1.03 (0.817-1.31)	1.26 (1.00-1.60)	1.64 (1.30-2.09)	1.96 (1.53-2.50)	2.39 (1.81-3.18)	2.71 (2.02-3.68)	3.06 (2.21-4.30)	3.47 (2.34-4.91)	4.08 (2.65-5.95)	4.60 (2.91-6
2-hr	1.36 (1.09-1.71)	1.68 (1.34-2.11)	2.19 (1.74-2.77)	2.62 (2.07-3.33)	3.21 (2.45-4.25)	3.65 (2.73-4.93)	4.12 (3.00-5.78)	4.69 (3.19-6.61)	5.57 (3.62-8.07)	6.31 (4.01-9
3-hr	1.58 (1.27-1.98)	1.95 (1.56-2.45)	2.56 (2.04-3.22)	3.06 (2.42-3.87)	3.75 (2.87-4.95)	4.26 (3.20-5.74)	4.82 (3.52-6.73)	5.49 (3.73-7.71)	6.52 (4.25-9.42)	7.41 (4.71-1
6-hr	2.01 (1.62-2.51)	2.48 (2.00-3.09)	3.24 (2.60-4.05)	3.87 (3.08-4.86)	4.74 (3.65-6.21)	5.38 (4.06-7.20)	6.08 (4.46-8.43)	6.92 (4.73-9.65)	8.20 (5.37-11.8)	9.30 (5.93-1
12-hr	2.49 (2.02-3.08)	3.05 (2.47-3.77)	3.97 (3.20-4.93)	4.73 (3.79-5.90)	5.78 (4.47-7.51)	6.56 (4.97-8.70)	7.40 (5.43-10.2)	8.39 (5.76-11.6)	9.89 (6.50-14.1)	11.2 (7.14-1
24-hr	2.88 (2.35-3.54)	3.56 (2.90-4.38)	4.66 (3.78-5.75)	5.57 (4.50-6.91)	6.83 (5.32-8.83)	7.76 (5.92-10.2)	8.77 (6.48-12.0)	9.98 (6.87-13.7)	11.8 (7.78-16.7)	13.4 (8.58-1
2-day	3.17 (2.60-3.87)	3.97 (3.26-4.85)	5.28 (4.32-6.47)	6.37 (5.17-7.85)	7.87 (6.18-10.1)	8.97 (6.89-11.8)	10.2 (7.60-13.9)	11.7 (8.07-16.0)	14.0 (9.27-19.7)	16.1 (10.3-2
3-day	3.42 (2.82-4.16)	4.28 (3.53-5.21)	5.70 (4.67-6.95)	6.87 (5.60-8.42)	8.48 (6.68-10.9)	9.66 (7.45-12.7)	11.0 (8.22-15.0)	12.6 (8.72-17.2)	15.2 (10.0-21.3)	17.4 (11.2-2
4-day	3.67 (3.04-4.45)	4.57 (3.77-5.54)	6.03 (4.96-7.34)	7.24 (5.92-8.86)	8.91 (7.04-11.4)	10.1 (7.84-13.3)	11.5 (8.64-15.6)	13.2 (9.15-17.9)	15.9 (10.5-22.2)	18.3 (11.8-2
7-day	4.40 (3.66-5.30)	5.33 (4.43-6.44)	6.86 (5.67-8.30)	8.12 (6.67-9.88)	9.87 (7.83-12.5)	11.1 (8.65-14.5)	12.6 (9.47-17.0)	14.3 (9.98-19.4)	17.2 (11.4-23.8)	19.6 (12.7-2
10-day	5.09 (4.25-6.12)	6.05 (5.04-7.28)	7.61 (6.32-9.18)	8.91 (7.34-10.8)	10.7 (8.51-13.5)	12.0 (9.34-15.5)	13.5 (10.1-18.0)	15.2 (10.6-20.5)	18.0 (12.0-25.0)	20.5 (13.3-2
20-day	7.17 (6.02-8.56)	8.19 (6.87-9.79)	9.86 (8.24-11.8)	11.3 (9.33-13.5)	13.2 (10.5-16.4)	14.6 (11.3-18.5)	16.1 (12.1-21.1)	17.9 (12.5-23.8)	20.4 (13.7-28.0)	22.5 (14.7-3
30-day	8.90 (7.51-10.6)	9.98 (8.40-11.9)	11.7 (9.83-14.0)	13.2 (11.0-15.8)	15.2 (12.1-18.8)	16.7 (13.0-21.0)	18.3 (13.6-23.7)	19.9 (14.1-26.5)	22.3 (15.0-30.4)	24.1 (15.7-3
45-day	11.1 (9.38-13.1)	12.2 (10.3-14.5)	14.0 (11.8-16.7)	15.6 (13.0-18.6)	17.7 (14.1-21.7)	19.3 (15.0-24.1)	20.9 (15.6-26.7)	22.5 (15.9-29.7)	24.6 (16.6-33.4)	26.1 (17.1-3
60-day	12.9 (11.0-15.3)	14.1 (11.9-16.7)	16.0 (13.5-18.9)	17.6 (14.7-20.9)	19.7 (15.8-24.1)	21.4 (16.7-26.6)	23.0 (17.1-29.3)	24.6 (17.4-32.3)	26.5 (17.9-35.9)	27.8 (18.2-3

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimate upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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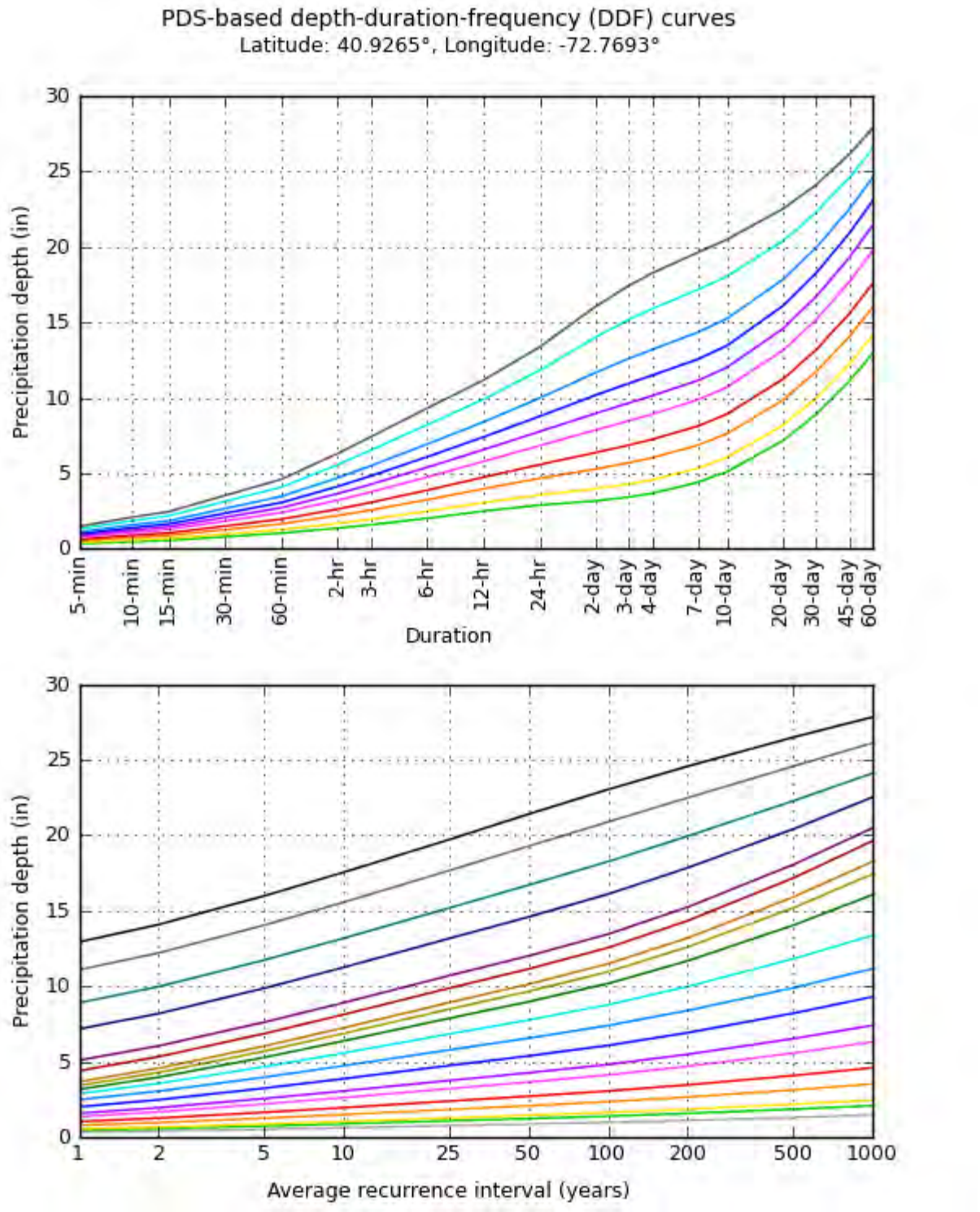
PF graphical



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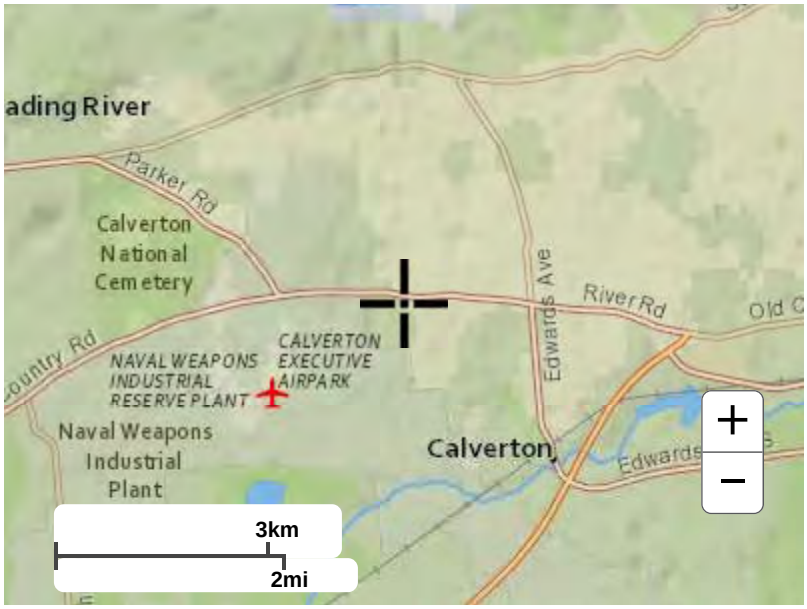
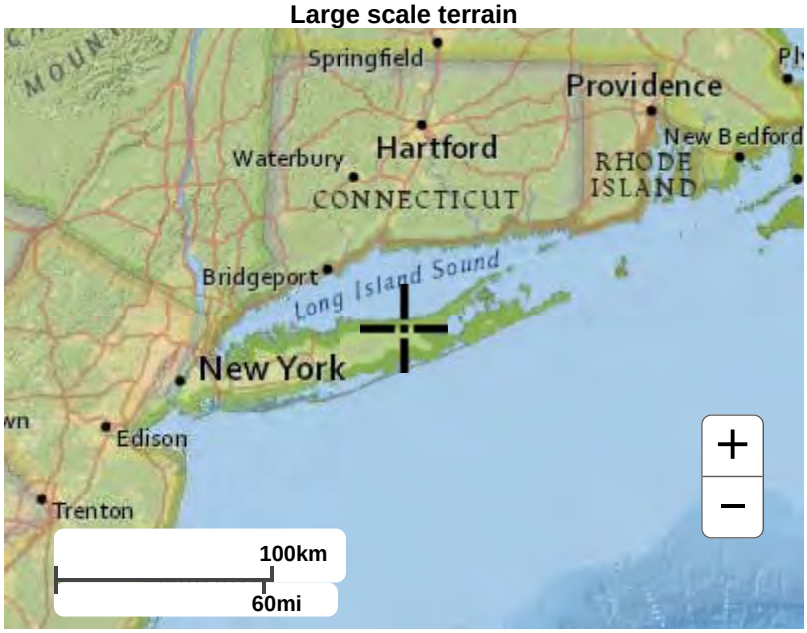
Maps & aerials

Small scale terrain

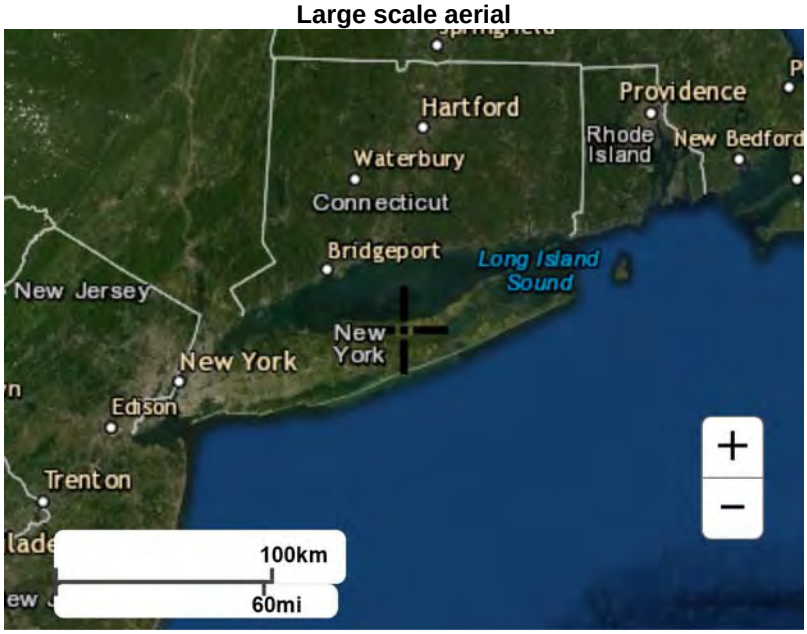


Large scale terrain



Large scale map

Large scale aerial



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Map Scale: 1:4,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 17, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PlA	Plymouth loamy sand, 0 to 3 percent slopes	5.6	17.2%
PlB	Plymouth loamy sand, 3 to 8 percent slopes	9.8	30.4%
PmB3	Plymouth gravelly loamy sand, 3 to 8 percent slopes, eroded	2.5	7.8%
PmC3	Plymouth gravelly loamy sand, 8 to 15 percent slopes, eroded	0.7	2.0%
RdA	Riverhead sandy loam, 0 to 3 percent slopes	8.9	27.5%
RdB	Riverhead sandy loam, 3 to 8 percent slopes	4.9	15.1%
Totals for Area of Interest		**32.3**	**100.0%**

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NEW YORK 11754 • (631) 269-7930 • FAX (631) 269-7932

Date February 24, 2020

Client HK Ventures, LLC **Phone** _____

Job No. 20-063 **Boring No.** 1

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine Dark Brown and Brown Topsoil with Organics and Decaying Vegetation into Fine Silty Sand, some Clean Sand, trace Fine to Coarse Gravel (SM)		
		Sample # 1 @ 0" to 2'	1-2-1-2	24"
2'	4'	Fine to Medium Brown and Light Brown Silty Sand, some Clean Sand into Clean Fine to Medium Sand, trace Fine to Small Gravel (SM/SW)		
		Sample # 2 @ 2' to 4' WEIGHT OF HAMMER	WOH-2-1-2	24"
4'	8'	Fine to Coarse Light Brown CLean Sand, trace Fine to Small Gravel (SW)		
		Sample # 3 @ 4' to 6'	2-1-3-6	24"
		Sample # 4 @ 6' to 8'	5-7-7-8	24"
8'	10'	Fine to Coarse Light Brown and Pale Brown Sand, trace Fine to Small Gravel, occasional Large Stone	(SW)	
		Sample # 5 @ 8' to 10'	3-5-5-5	24"
10'	12'	Fine to Medium Pale Brown Clean Sand, some Coarse Sand, trace Fine to Small Gravel (SW)		
		Sample # 6 @ 10' to 12'	5-6-5-6	24"
12'	17'	Fine to Coarse Pale Brown Sand, trace Fine to Coarse Gravel, some Small Stone (SW)		
		Sample # 7 @ 15' to 17'	4-6-5-5	24"
17'	22'	Fine to Medium Pale Brown Sand, some Fine to Large Gravel (SW)		
		Sample # 8 @ 20' to 22'	3-5-6-6	24"
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

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Date February 24, 2020

Client HK Ventures LLC **Phone**

Job No. 20-063 **Boring No.** 1

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 of 2		
22'	27'	Fine to Coarse Pale Brown and Light Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 9 @ 25' to 27'	6-9-9-10	24"
27'	32'	Fine to Medium Light Brown Sand, trace Fine to Coarse Gravel, occasional Small Stone (SW)		
		Sample # 10 @ 30' to 32'	6-8-9-10	24"
32'	37'	Fine to Medium Light Brown and Pale Brown Sand, trace Fine to Coarse Gravel, occasional Large Stone (SW)		
		Sample # 11 @ 35' to 37'	5-8-9-9	24"
37'	40'	Fine to Medium Pale Brown Sand, trace Fine Gravel (SW)		
		Sample # 12 @ 38' to 40'	5-7-6-8	24"
		END OF BORING: 40'0"		

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Date February 24, 2020

Client HK Ventures, LLC **Phone**

Job No. 20-063 **Boring No.** 2

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine Dark Brown and Brown Topsoil with Organics and Broken Roots, Some Fine Silty Sand into Fine Silty Sand, trace Fine to Small Gravel (SM)		
		Sample # 1 @ 0" to 2'	2-1-2-1	24"
2'	4'	Fine to Medium Brown and Light Brown Sand, some Clean Sand, trace Fine to Small Gravel (SM/SW)		
		Sample # 2 @ 2' to 4' WEIGHT OF HAMMER	1-WOH-2-3	24"
4'	6'	Fine to Coarse Light Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 3 @ 4' to 6'	4-5-4-4	24"
6'	10'	Fine to Coarse Light Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 4 @ 6' to 8'	5-5-5-5	24"
		Sample # 5 @ 8' to 10'	2-3-4-5	24"
10'	12'	Fine to Coarse Pale Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 6 @ 10' to 12'	4-5-5-6	24"
12'	17'	Fine to Medium Pale Brown Sand, trace Fine Gravel (SW)		
		Sample # 7 @ 15' to 17'	3-4-4-6	24"
17'	22'	Fine to Medium Pale Brown and Light Brown Sand, some Fine to Large Gravel (SW)		
		Sample # 8 @ 20' to 22'	4-5-6-8	24"
22'	27'	Fine to Coarse Light Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 9 @ 25' to 27'	7-10-10-11	24"
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

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Date February 24, 2020

Client HK Ventures LLC **Phone**

Job No. 20-063 **Boring No.** 2

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
27'	32'	Fine to Medium Light Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 10 @ 30' to 32'	6-9-9-9	24"
32'	37'	Fine to Medium Light Brown and Pale Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 11 @ 35' to 37'	7-12-11-12	24"
37'	40'	Medium to Fine Pale Brown and Light Brown Sand, some Fine to Small Gravel into Fine Sand, trace Fine Gravel (SW/SP)		
		Sample # 12 @ 38' to 40'	10-11-10-10	24"
		END OF BORING: 40'0"		

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Date February 24, 2020

Client HK Ventures, LLC **Phone**

Job No. 20-063 **Boring No.** 3

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS 36.2 FEET **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine Dark Brown and Brown Topsoil with Decaying Vegetation and Fine Silty Sand into Fine Silty Sand, trace Fine to Small Gravel (SM)		
		Sample # 1 @ 0" to 2'	2-1-2-2	24"
2'	4'	Fine to Medium Brown and Light Brown Silty Sand, some Clean Sand into Fine to Coarse Clean Sand, some Fine to Small Gravel (SM/SW)		
		Sample # 2 @ 2' to 4'	2-4-3-2	24"
4'	6'	Fine to Coarse Light Brown and Rust Brown Sand, some Fine to Large Gravel, some Clay (SW/CL)		
		Sample # 3 @ 4' to 6'	5-6-6-6	24"
6'	8'	Fine to Coarse Rust Brown and Gray Clean Sand and Clay into Coarse to Fine Clean Sand, some Fine to Small Gravel (SM/SW)		
		Sample # 4 @ 6' to 8'	5-5-5-6	24"
8'	10'	Coarse to Fine Rust Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 5 @ 8' to 10'	3-4-4-5	24"
10'	12'	Fine to Medium Rust Brown and Light Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 6 @ 10' to 12'	3-4-4-4	24"
12'	17'	Fine to Medium Light Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 7 @ 15' to 17'	2-3-4-5	24"
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

SLACKE TEST BORING

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Date February 24, 2020

Client HK Ventures, LLC **Phone**

Job No. 20-063 **Boring No.** 3

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS 36.2 Feet **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
17'	22'	Fine to Coarse Light Brown Sand, some Fine to Small Gravel, occasional Large Stone (SW)		
		Sample # 8 @ 20' to 22'	4-5-6-5	24"
22'	27'	Fine to Medium Light Brown and Pale Brown Sand, trace Fine to Coarse Gravel, occasional Small Stone (SW)		
		Sample # 9 @ 25' to 27'	3-5-5-7	24"
27'	32'	Fine to Medium Pale Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 10 @ 30' to 32'	3-5-7-8	24"
32'	37'	Fine Light Brown Sand, trace Fine Gravel (SP) (WET/MOIST)		
		Sample # 11 @ 35' to 37'	4-6-5-6	24"
37'	40'	Medium Light Brown Sand, trace Fine Gravel (SP) (WET)		
		Sample # 12 @ 38' to 40'	5-8-8-8	24"
		END OF BORING: 40'0"		

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Date February 24, 2020

Client HK Ventures, LLC **Phone**

Job No. 20-063 **Boring No.** 4

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine Dark Brown and Brown Silty Sand and Topsoil with Organics into Fine Silty Sand and Clean Sand, trace Fine to Small Gravel (SM)		
		Sample # 1 @ 0" to 2'	2-1-1-2	24"
2'	4'	Fine to Coarse Brown and Rust Brown Silty Sand and Medium Clean Sand into Fine to Coarse Clean Sand, some Fine to Small Gravel (SM/SW)		
		Sample # 2 @ 2' to 4' WEIGHT OF HAMMER	1-WOH-2-2	24"
4'	6'	Fine to Coarse Light Brown and Rust Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 3 @ 4' to 6'	2-5-7-8	24"
6'	8'	Fine to Coarse Pale Brown and Rust Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 4 @ 6' to 8'	6-8-5-6	24"
8'	10'	Coarse to Fine Pale Brown Sand, trace Fine to Medium Gravel (SW)		
		Sample # 5 @ 8' to 10'	4-5-5-6	24"
10'	12'	Fine to Medium Pale Brown Sand, trace Fine to Small Gravel (SW)		
		Sample # 6 @ 10' to 12'	5-5-6-6	24"
12'	17'	Fine to Medium Light Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 7 @ 15' to 17'	5-6-6-8	24"
17'	22'	Fine to Coarse Light Brown and Pale Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 8 @ 20' to 22'	5-7-7-9	24"

BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2

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Date February 24, 2020

Client HK Ventures, LLC **Phone**

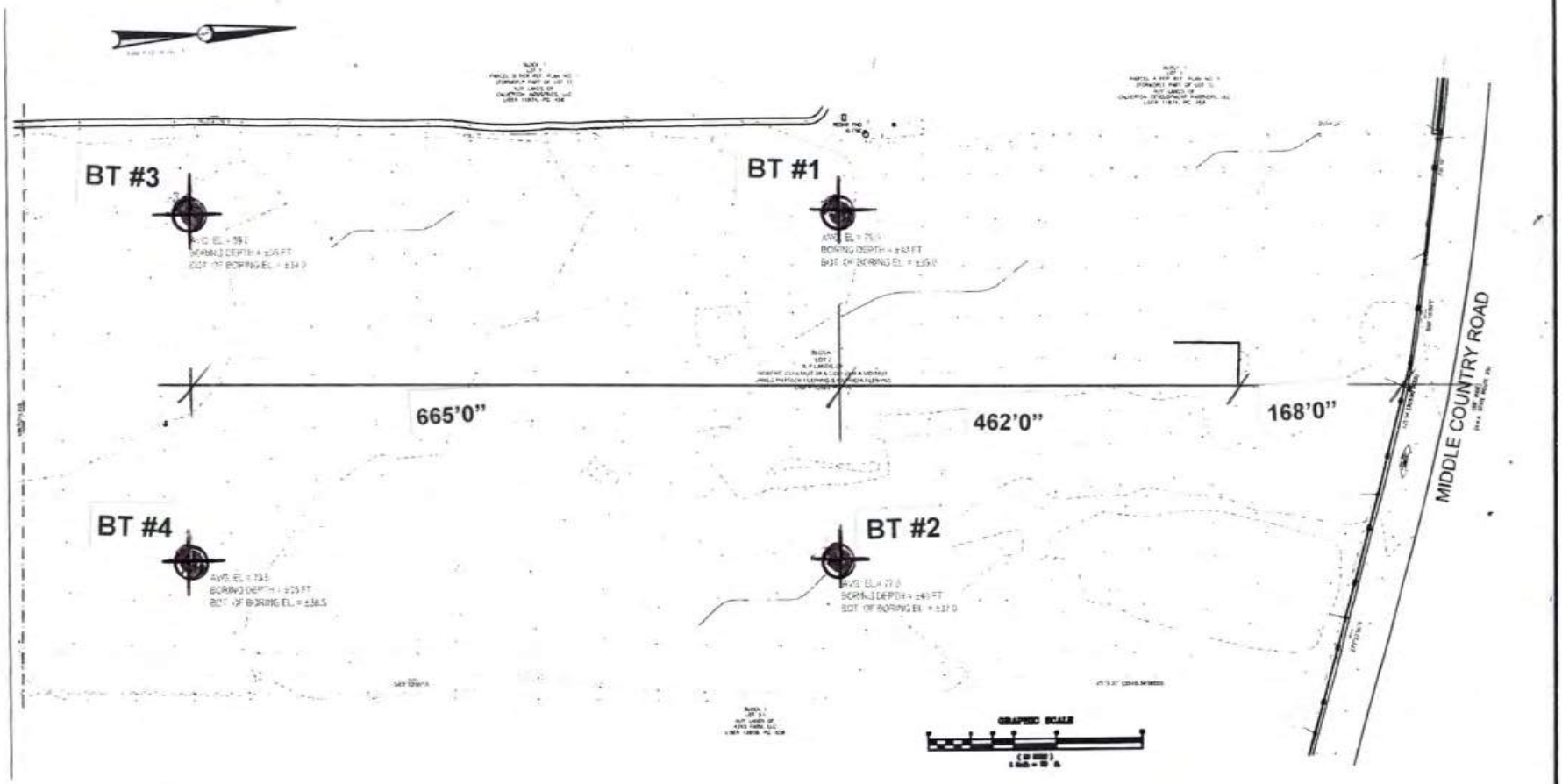
Job No. 20-063 **Boring No.** 4

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE** **LOW TIDE**

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
22'	27'	Fine to Coarse Light Brown and Pale Brown Sand, some Fine to Small Gravel, occasional Large Stone (SW)		
		Sample # 9 @ 25' to 27'	6-8-10-10	24"
27'	32'	Fine to Medium Light Brown Sand, some Fine to Small Gravel (SW)		
		Sample # 10 @ 30' to 32'	6-9-9-11	24"
32'	37'	Fine to Medium Light Brown and Pale Brown Clean Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 11 @ 35' to 37'	5-8-7-10	24"
37'	40'	Fine to Medium Pale Brown Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 12 @ 38' to 40'	7-9-9-11	24"
		END OF BORING: 40'0"		



JOB DESCRIPTION / LOCATION 4285 MIDDLE COUNTRY ROAD CALVERTON, NEW YORK	**JOB NUMBER** 20-063
	SCALE NTS
	DRAWN BY CLB
	DATE 2/24/20
	DRAWING NUMBER 5 OF 5

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 5

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine to Medium Clean Sand and Silty Sand, trace Fine to Small Gravel (SM/SW)		
		Sample # 1 @ 0" to 2'	3-5-6-7	24"
2'	4'	Fine to Medium Light Brown Clean Sand, trace Silty Sand, trace Fine to Small Gravel (SW)		
		Sample # 2 @ 2' to 4'	8-8-7-5	24"
4'	6'	Fine to Medium Brown and Light Brown Silty Sand, trace Fine Gravel into Fine to Medium Clean Sand. trace Fine Gravel (SM/SW)		
		Sample # 3 @ 4' to 6'	2-2-4-5	24"
6'	8'	Fine to Coarse Rust Brown Clean Sand, some Fine to Small Gravel (SW)		
		Sample # 4 @ 6' to 8'	4-5-7-8	24"
8'	12'	Fine to Medium Pale Brown Clean Sand, some Fine to Small Gravel, trace Large Gravel (SW)		
		Sample # 5 @ 8' to 10'	8-8-7-8	24"
		Sample # 6 @ 10' to 12'	7-8-6-7	24"
12'	17'	Fine to Medum Pale Brown Clean Sand, trace Fine Gravel (SW)		
		Sample # 7 @ 15' to 17'	7-7-8-8	24"
17'	22'	Fine to Medium Pale Brown Clean Sand, some Fine to Large Gravel, some Crushed Gravel (SW)		
		Sample # 8 @ 20' to 22'	7-9-9-12	24"
22'	32'	Fine to Coarse Pale Brown Clean Sand, some Fine to Coarse Gravel (SW)		
		Sample # 9 @ 25' to 27'	8-10-11-14	24"
		Sample # 10 @ 30' to 32'	10-12-16-17	24"
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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Date February 12, 2021

Client HK Ventures, LLC **Phone** _____

Job No. 21-055 **Boring No.** 5

Job Location 4285 Middle Country Road, Calverton, New York Page 2 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____ **LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
32'	40'	Fine to Coarse Pale Brown Clean Sand, trace Fine to Coarse Gravel (SW)		
		Sample # 11 @ 35' to 37'	9-9-12-14	24"
		Sample # 12 @ 38' to 40'	8-12-13-16	24"
		END OF BORING: 40'0"		
		NOTE: Slight Moisture Present End of Spoon at 39'6"		

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Subsurface Soils & Foundation Explorations

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 6

Job Location 4285 Middle Country Road, Calverton, New York Page 1 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine Dark Brown and Gray Topsoil with Organics and Fine Silty Sand, trace Fine to Small Gravel, some Clean Sand (SM)		
		Sample # 1 @ 0" to 2'	5-2-2-3	24"
2'	4'	Fine to Medium Gray and Light Brown Clean Sand and Silty Sand, trace Fine to Small Gravel (SM/SW)		
		Sample # 2 @ 2' o 4'	3-3-4-5	24"
4'	6'	Fine to Medium Light Brown and Gray Clean Sand, trace Fine to Small Gravel into Fine Silty Sand, trace Fine to Small Gravel (SW//SM)		
		Sample # 3 @ 4' to 6'	2-4-4-6	24"
6'	8'	Fine Gray and Light Brown Silty Sand, trace Fine to Small Gravel into Fine to Medium Clean Sand, trace Fine Gravel (SM/SW)		
		Sample # 4 @ 6' to 8'	4-5-7-9	24"
8'	10'	Fine to Coarse Light Brown and Rust Brown Clean Sand, some Fine to Small Gravel (SW)		
		Sample # 5 @ 8' to 10'	4-5-5-6	24"
10'	12'	Fine to Coarse Light Brown and Rust Brown Clean Sand, trace Fine to Small Gravel (SW)		
		Sample # 6 @ 10' to 12'	6-6-6-8	24"
12'	17'	Fine to Coarse Light Brown Clean Sand, trace Fine to Small Gravel (SW)		
		Sample # 7 @ 15' to 17'	6-5-5-6	24"
17'	22'	Coarse to Fine Light Brown and Rust Brown Clean Sand , some Fine to Small Gravel (SW)		
		Sample # 8 @ 20' to 22'	4-4-5-6	24"
22'	27'	Medium to Coarse Light Brown and Pale Brown Clean Sand, trace Fine Sand, some Fine to Small Gravel (SW)		
		Sample # 9 @ 25' to 27'	3-4-8-8	
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 6

Job Location 4285 Middle Country Road, Calverton, New York Page 2 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
27'	32'	Fine to Coarse Light Brown Clean Sand, some Fine to Small Gravel (SW)		
		Sample # 10 @ 30' to 32'	4-7-8-9	24"
32'	37'	Fine to Coarse Light Brown Clean Sand, trace Fine to Small Gravel (SW)		
		Sample # 11 @ 35' to 37'	4-8-12-14	24"
37'	40'	Coarse to Fine Light Brown Sand Pale Brown Clean Sand into Fine Sand, some Fine to Small Gravel (SW)		
		Sample # 12 @ 38' to 40'	6-7-9-9	24"
		END OF BORING: 40'0"		

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 7

Job Location 4285 Middle Country Road, Calverton, New York Page 1 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine to Medium Brown Clean Sand and Silty Sand, some Fine to Small Gravel, trace Organics (SM/SW)		
		Sample # 1 @ 0" to 2'	2-5-7-7	24"
2'	4'	Fine to Medium Light Brown Clean Sand, trace Fine to Small Gravel, trace Silty Sand (SW)		
		Sample # 2 @ 2' to 4'	7-6-6-6	24"
4'	6'	Fine to Medium Light Brown and Gray Clean Sand, some Fine to Small Gravel into Fine Silty Sand, some Fine to Small Gravel (SW/SM)		
		Sample # 3 @ 4' to 6'	2-3-3-4	24"
6'	8'	Fine Gray and Light Brown Silty Sand, trace Fine Gravel into Fine to Medium Clean Sand, trace Fine to Small Gravel (SM/SW		
		Sample # 4 @ 6' to 8'	5-5-3-3	24"
8'	10'	Fine to Coarse Pale Brown Clean Sand, some Fine to Coarse Gravel (SW)		
		Sample # 5 @ 8' to 10'	3-4-5-7	24"
10'	12'	Fine to Coarse Pale Brown Clean Sand, some Fine to Small Gravel, trace Large Gravel (SW)		
		Sample # 6 @ 10' to 12'	2-4-5-5	24"
12'	17'	Fine to Coarse Pale Brown Clean Sand, some Fine to Small Gravel, trace Large Gravel (SW)		
		Sample # 7 @ 15' to 17'	3-3-3-4	24"
17'	22'	Fine to Coarse Pale Brown Clean Sand, trace Fine to Coarse Gravel (SW)		
		Sample 3 8 @ 20' to 22'	3-2-2-2	24"
22'	27'	Fine to Medium Pale Brown Clean Sand, some Fine to Small Gravel (SW)		
		Sample # 9 @ 25' to 27'	5-5-7-7	24"
		BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2		

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 7

Job Location 4285 Middle Country Road, Calverton, New York Page 2 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
27'	32'	Fine to Medium Pale Brown Clean Sand, trace Fine to Small Gravel (SW)		
		Sample # 10 @ 30' to 32'	4-4-6-8	24"
32'	37'	Fine to Medium Pale Brown Clean Sand, trace Fine Gravel (SW)		
		Sample # 11 @ 35' to 37'	4-7-7-10	24"
37'	40'	Fine to Medium Pale Brown Clean Sand, trace Fine Gravel (SW) Moist at 39'6" below grade.		
		Sample # 12 @ 38' to 40'	8-9-9-12	24"
		END OF BORING: 40'0"		

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

Job No. 21-055 **Boring No.** 8

Job Location 4285 Middle Country Road, Calverton, New York Page 1 of 2

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____ **LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
Ground Surface	2'	Fine to Medium Brown and Gray Topsoil, some Organics, some Fine to Medium Silty Sand, trace Fine to Small Gravel into Fine Silty Sand and Clean Sand, some Gravel (SM/SW) Sample # 1 @ 0" to 2'	2-3-5-4	24"
2'	4'	Fine to Medium Gray and Rust Brown Clean Sand and Silty Sand into Medium to Fine Sand, trace Silt, some Fine to Small Gravel (SM/SW) Sample # 2 @ 2' to 4'	4-5-4-4	24"
4'	6'	Fine to Coarse Rust Brown and Light Brown Silty Sand and Clean Sand, trace Fine to Small Gravel (SW/SM) Sample # 3 @ 4' to 6'	4-4-5-6	24"
6'	8'	Fine to Coarse Gray and Rust Brown Silty Sand, trace Fine to Coarse Gravel into Fine to Coarse Clean Sand, some Fine to Small Gravel (SM/SW) Sample # 4 @ 6' to 8'	4-4-6-6	24"
8'	10'	Fine to Medium Rust Brown and Pale Brown Clean Sand, trace Fine to Small Gravel (SW) Sample # 5 @ 8' to 10'	4-4-7-10	24"
10'	12'	Fine to Medium Pale Brown Clean Sand, trace Fine to Coarse Gravel, occasional Large Stone (SW) Sample # 6 @ 10' to 12'	8-8-10-10	24"
12'	17'	Fine to Coarse Pale Brown Clean Sand, trace Fine to Coarse Gravel (SW) Sample # 7 @ 15' to 17'	3-7-8-10	24"
17'	22'	Fine to Coarse Pale Brown Clean Sand, some Fine to Small Gravel, occasional Large Stone (SW) Sample # 8 @ 20' TO 22'	5-6-8-9	24"
22'	27'	Fine to Coarse Pale Brown Clean Sand, some Fine to Small Gravel (SW) Sample # 9 @ 25' to 27' BORING CONTINUED TO 40'0" REFER TO PAGE 2 OF 2	5-6-8-9	24"

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Date February 12, 2021

Client HK Venture, LLC **Phone** _____

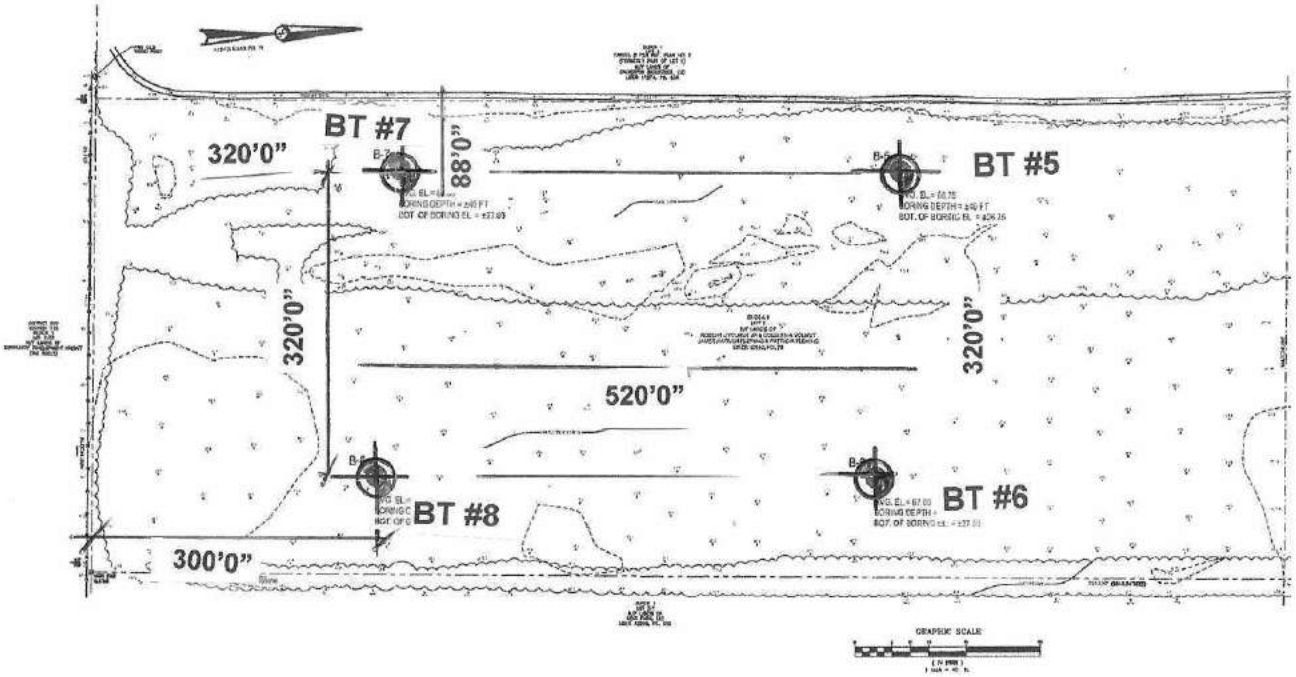
Job No. 21-055 **Boring No.** 8

Job Location 4285 Middle Country Road, Calverton, New York

WATER LEVEL IS DRY **BELOW GROUND SURFACE. RECORDED HIGH TIDE**_____**LOW TIDE**_____

DRILLING METHOD: GEOPROBE

DEPTH From	DEPTH To	CLASSIFICATION OF SOIL	30" Blows Sample Spoon	Penetration of Spoon in Inches
		CONTINUED FROM PAGE 1 OF 2		
27'	32'	Fine to Coarse Pale Brown Clean Sand, trace Fine to Coarse Gravel, occasional Small Stone (SW)		
		Sample # 10 @ 30' to 32'	7-9-10-11	24"
32'	37'	Fine to Coarse Pale Brown and Light Brown Clean Sand, some Fine to Coarse Gravel (SW)		
		Sample # 11 @ 35' to 37'	5-10-11-13	24"
37'	40'	Fine to Coarse Light Brown Clean Sand, some Fine to Small Gravel (SW)		
		Sample # 12 @ 38' to 40'	12-12-13-12	24"
		END OF BORING: 40'0"		



JOB DESCRIPTION / LOCATION	JOB NUMBER
4285 MIDDLE COUNTRY ROAD CALVERTON, NEW YORK	21-055
	SCALE: NTS
	DRAWN BY: BD
	DATE: 2/12/21
	DRAWING NUMBER: 1 OF 1

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

SLACKE TEST BORING

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Loretta A. Luning, *President*
Angelo DeLiso, *Partner/Director of Field Operations*

PERCOLATION TEST

Location: 4285 Middle Country Road, Calverton, New York

Procedure: Utilized 2.75 I.D. Casing set at 22.0 Feet below grade.
Utilized two gallons of water to perform test in saturated soils.

Notes:

1) Completed Drilling Boring No. 8 and performed Percolation Tests.
2) True Groundwater Level was not encountered.
4) Soils Classified as Fine to Coarse Pale Brown Sand, some Fine to Small Gravel.

Time Measurement to Water Level from Existing Grade.

Minutes	Perc Test #1	Perc Test #2	Perc Test #3
0:00	18.50	18.10	17.50
1:00	19.75	19.30	18.00
2:00	20.29	20.25	18.60
3:00	20.71	20.50	18.86
4:00	21.00	21.04	19.00
5:00	21.47	21.55	19.25
6:00	21.70	21.68	19.60
7:00	Bottom	22.00	19.80
8:00		Bottom	21.35
9:00			22.00
10:00			Bottom
15:00			

Observations:

1) Soils below 8.0 Feet of existing grade consist of clean Sand and Gravel (SW).
2) Upper soils exhibit a mix of Clean Sand and Silty Sand with Gravel and are classified as SM/SW.

Founded 1963
Felix & Sally Ann Slacke

J.R. Holzmacher P.E., LLC

3555 Veterans Memorial Highway, Suite A, Ronkonkoma, New York 11779-7636
Tel: (631) 234-2220 Fax: (631) 234-2221 e-mail: info@holzmacher.com

March 19, 2021

Jaclyn Peranteau, PE
Key Civil Engineering, PC
664 Blue Point Road, Unit B
Holtsville, New York 11742

Re: Geotechnical Evaluation Report for
4285 Middle Country Road,
Calverton, New York 11933

Dear Ms. Peranteau,

J.R. Holzmacher P.E., LLC (JRH) Consulting Engineers has prepared this Geotechnical Evaluation Report (GER) for the above referenced site. The soil borings described in this report were completed by Slacke Test Boring (Slacke). Field data was used in rendering geotechnical evaluation and judgment of subsoil suitability in connection with commercial construction at the above referenced site. No materials testing or laboratory analysis were requested or performed on any of the soil samples.

EXPLORATION PROGRAM

The soil borings were completed on February 24, 2020 and February 21, 2021 to determine the nature and condition of the soils below the existing ground surface at the site. The boring program consisted of drilling eight (8) soil borings, B-1 through B-8. All borings were drilled to a depth of 40-feet below grade.

The soil borings were completed by Slacke without oversight by JRH personnel. Samples were collected by a Geoprobe using a split-spoon core barrel sampler. The sampler was driven in six-inch increments by using the equivalent force of the fall of a 140-pound hammer dropped from a height of thirty inches. Samples were collected using a standard 2" by 24" long split spoon sampler driven into the soil. The driller who recorded the Standard Penetration Test (SPT) values characterized the samples recovered during the performance of the test. Based on these descriptions and measurements, a geologic soil-boring log was prepared.

The general subsurface conditions encountered during the field exploration program are provided in the soil boring log found in Appendix A. Soil stratification is based on the examination of recovered soil samples and interpretation of the field boring log. The stratification lines, dimensions, and values in this report represent approximate boundaries between soil types; however, the actual transitions and dimensions may be more gradual. While the boring is representative of the subsurface conditions at its respective location and within its respective vertical reach, variations over the site may exist.

METHODOLOGY

The scope of work was to drill through unconsolidated soils with a Geoprobe to 40-feet below grade or until refusal at eight (8) boring locations or until refusal in order to obtain geotechnical information. Samples were logged and collected at various depths. The borings were logged with respect to blow counts and classified according to the unified soils classification system (USCS). The borings and all samplings were performed in accordance with ASTM D1586-18. Restoration consisted of backfilling the boring holes with sand.

Representative samples were routinely obtained during the drilling process at select intervals by applying a two-inch diameter split spoon-sampling tube, driven by the 30-inch fall of a 140-pound hammer. The number of blows required to drive the sample spoon from 6-inches to 18-inches represents the standard penetration resistance (N) of the soil and is an indicator of its bearing capacity.

All drilling and testing procedures were performed by applying the guidelines and procedures of ASTM designations:

- ASTM D1586 Penetration Test and Split Barrel Sampling of Soils.
- ASTM D2488 Recommended Practice for Description of Soils.
- ASTM D2487 Standard Practice for Classification of Soils (USCS)

Sectional linear samples were also secured in conjunction with the performance of the standard penetration and density test. The soil profiles reported in the boring log should be reviewed for specific information at individual test depths.

SUMMARY

This report was developed from conventional and standard soil testing procedures and engineering analyses.

In boring B-1 fine topsoil with organics and fine silty sand with fine to coarse gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-1, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel and occasional large stone was encountered (SW).

In boring B-2 fine topsoil with organics and fine silty sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-2, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel was encountered (SW).

In boring B-3 fine topsoil with fine silty sand and fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-3, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel and occasional small stone was encountered (SW).

In boring B-4 fine topsoil with organics and silty sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-4, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel and occasional large stone was encountered (SW).

In boring B-5 fine to medium sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-5, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel was encountered (SW).

In boring B-6 fine topsoil with organics and fine silty sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-6, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel was encountered (SW).

In boring B-7 fine to medium topsoil with organics and silty sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-7, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel was encountered (SW).

In boring B-8 fine to medium topsoil with organics and fine to medium silty sand with fine gravel was encountered from grade to 2-feet below grade (SM); throughout the remainder of boring B-8, from 2-feet to 40-feet below grade, fine to coarse sand and silty sand with fine to coarse gravel was encountered (SW).

Low blow counts ($N<15$) were displayed by boring B-1 from grade to 22-feet below grade and from 38-feet to 40-feet below grade, by boring B-2 from grade to 22-feet below grade, by boring B-3 from grade to 38-feet below grade, by boring B-4 from grade to 22-feet below grade, by boring B-5 from grade to 2-feet below grade, from 4-feet to 8-feet below grade, and from 10-feet to 12-feet below grade, by boring B-6 from grade to 27-feet below grade, by boring B-7 from grade to 37-feet below grade, and by boring B-8 from grade to 10-feet below grade and from 20-feet to 27-feet below grade.

High blow counts ($N\geq25$) were displayed only by borings B-5 from 30-feet to 32-feet below grade and from 38-feet to 40-feet below grade and boring B-8 from 38-feet to 40-feet below grade.

Based on the blow counts displayed by borings B-1 through B-8 during this exploration program, the site class has been determined to be site class “E” having a soft soil profile.

SUBSURFACE WATER CONDITIONS

Groundwater was not encountered in any of the borings during this exploration program.

DRAINAGE CONDITIONS

The soils encountered throughout the site generally have uniform characteristics and textural distributions. Generally, encountered material consisted of primarily SW classified soils in lower strata (A and B horizons). Additionally, these soils were classified as hydrologic soils group A and belong to the well-drained to excessively well-drained drainage classes.

Three (3) percolation tests were conducted in boring B-8 utilizing 2.75-inch interior diameter casing set at 22-feet below grade. Resultant of these percolation tests, the average percolation rate of the soils at 22-feet below grade in the location of boring B-8 has been determined to be 31.2-feet per hour (6.24-inches per minute). Complete percolation testing results have been included in Appendix C.

As per Suffolk County Department of Health Services Division of Environmental Quality Standards for Approval of Plans and Construction for Sewage Disposal Systems Single-Family Residences standards, soils classified as SW or SP are suitable for use as sanitary drainage substrate and do not require percolation testing. As such, JRH recommends that soils encountered in the vicinity of the proposed sanitary system, represented by boring B-8, are adequate sanitary system drainage substrate and do not require further percolation testing or soil amendments of any kind.

FLOOD ZONE

The site is located in flood zone "X". Zone "X" is an area outside of the statistical 500-year flood plain and zone as per the Flood Insurance Map (FIRM Map) included in with this report.

OBSERVATIONS AND ANALYSIS

Soil bearing capacity is estimated from the results of in-situ tests using empirical correlation factors. Soil bearing values (SBVs) were calculated for select sample depths to undisturbed, structurally rated soils. SBVs are shown in tons per square foot (TSF) and are inferred from blow count data, below. Blow count data for all depths sampled is tabulated and included in Appendix B.

Boring #	TSF @ 3.5-ft	TSF @ 5.5-ft	TSF @ 9.5-ft	TSF @ 11.5-ft	TSF @ 16.5-ft
B-1	0.31	0.41	1.04	1.14	1.14
B-2	0.21	0.93	0.73	1.04	0.83
B-3	0.83	1.24	0.83	0.73	0.73
B-4	1.24	1.35	1.04	1.14	1.24
B-5	0.62	1.24	1.56	1.45	1.56
B-6	0.73	0.83	1.04	1.24	1.04
B-7	1.24	0.62	0.93	0.93	0.62
B-8	0.93	0.93	1.14	1.87	1.56

SBV estimations are based on metrics for unsaturated sands. Settlement of encountered granular materials is expected to be small in magnitude and to occur rapidly as the load is applied. Settlement of organics, if encountered, will be significant.

SEISMIC COMPONENT

The 2020 International Building Code (IBC) requires every structure be designed to resist the effects of earthquake motion and be assigned a seismic Design Category. At minimum, this site is classified as Seismic Design Category 'D' according to the Earthquake Loads Section 1613.2.2 of the 2020 IBC. Seismic criteria below are provided by the California Office of Statewide Health Planning and Development (OSHPD).

Subject Site

Seismic Design Category	Class 'C'
Site Coefficient	$F_a = 2.5$
One Second Site Coefficient	$F_v = 3.5$
5% Peak Dampened Acceleration Stress Design	$S_{DS} = 0.271$
One Second Peak 5% Dampened Acceleration Stress Design	$S_{D1} = 0.133$
MCE_R Ground Motion (For 0.2 Second Period)	$S_S = 0.163$
MCE_R Ground Motion (For 1.0 Second Period)	$S_1 = 0.057$
Site-Modified Spectral Acceleration Value	$S_{MS} = 0.407$
Site-Modified Spectral Acceleration Value	$S_{M1} = 0.2$

Factors that increase the potential for earthquake induced soil liquefaction include soils that are saturated or nearly saturated, soils that have highly uniform particle sizes or rounded particles and soils that have a very loose soil matrix. The subsurface conditions at this location are not likely to foster liquefaction due to the density of the soil matrix and the large depth to groundwater. The analysis and recommendations are based on the data obtained from the geotechnical test borings completed for this report. The nature and extent of variations may not become evident until open excavation is initiated. Variations should be noted and their impact evaluated with respect to the necessity to modify the recommendations of this report.

LATERAL EARTH PRESSURE COEFFICIENTS

Lateral Earth Pressures, as described by theories presented by both Coulomb and Rankine, requires that foundation size be determined prior to determining the true failure planes and resultant forces. Since the soils noted in the borings are granular, we recommend that the Active

and Passive Lateral Earth Pressure coefficients be based on cohesionless soils. Accounting for variations within the soil column, the angle of internal friction is estimated to be 34°. This estimation can then be used in the computation of the loads on the foundation. An internal angle of friction for the soil yields an active earth pressure of Ka = 0.2827 and a passive earth pressure of Kp = 3.5371. Additionally, Table 1806.2 in the 2020 IBC permits an allowable lateral bearing of 150 psf/ft. below natural grade and a 0.25 coefficient of friction lateral sliding resistance for soil types SW, SP, SM, SC, GM, and GC. These parameters are applicable to the soils encountered on site.

RECOMMENDATIONS

The boring exploration was performed to determine the structural design requirements for construction at the above referenced site. It is understood that the structure on the site will be a commercial facility. For the proposed construction, JRH recommends that the structure can be supported by reinforced concrete footings bearing on soils having an allowable soil bearing capacity of 1.0 TSF (2,000 PSF).

If a basement is not being considered for this structure, JRH recommends that footings in the locations of boring B-4 and B-7 bear on inorganic, undisturbed soils at a depth of 3.5-feet below existing grade. Additionally, in the locations of borings B-1, B-2, B-3, B-5, B-6, and B-8, JRH recommends that footings bear on competent structural fill at a depth of 3.5-feet below existing grade.

Native soils in the locations of borings B-2, B-3, B-5, B-6, and B-8 should be excavated to a depth of 5.5-feet below existing grade; excavations in these locations should be backfilled with competent structural fill to a depth of 3.5-feet below grade so that all footings placed in these locations bear on soils having the required allowable bearing capacity of 1.0 TSF (2,000 PSF). Native soils in the location of boring B-1 should be excavated to a depth of 7.5-feet below existing grade; excavations in this location should be backfilled with competent structural fill to a depth of 3.5-feet below grade so that all footings placed in this locations bear on soils having the required allowable bearing capacity of 1.0 TSF (2,000 PSF).

JRH recommends that all footings extend to a minimum depth of 3.5-feet below grade for frost protection.

If a basement is being considered for this structure, JRH recommends that footings in the location of borings B-1, B-4, B-5, B-6, and B-8 bear on inorganic, undisturbed soils at a depth of 11.5-feet below existing grade. Additionally, in the locations of borings B-2, B-3, and B-7, JRH recommends that footings bear on competent structural fill at a depth of 11.5-feet below existing grade.

Native soils in the locations of borings B-2, B-3, and B-7 should be excavated to a depth of 16.5-feet below existing grade; excavations in these locations should be backfilled with competent structural fill to a depth of 11.5-feet below grade so that all footings placed in these locations bear on soils having the required allowable bearing capacity of 1.0 TSF (2,000 PSF).

All backfill to be utilized at this project location should comply with the gradation and compaction requirements provided in Tables 1 and 2, below.

Table 1 – Gradations of Granular Backfill

Sieve Size	Percent Passing by Weight	
	Structural Backfill	Common Backfill
3 inch	100%	100%
¼ inch	100%	30-80%
No. 40	5-50%	10-40%
No. 200	0-10%	0-15%

Backfill should not be placed frozen or onto frozen subgrade. In the event that the subgrade does freeze, the frozen soil must be removed and the surface must be scarified prior to placing any new backfill. Placement of backfill should follow requirements specified in Table 2.

Table 2 – Backfill Compaction Requirements

Type of Backfill	Maximum Thickness of Backfill placed in Loose Lifts	Minimum Required Modified Proctor Density (ASTM D1557)
Structural	9 inches	95%
Common	12 inches	90%

The adequacy of compaction should be tested in the field by a knowledgeable and experienced inspector at the rate of at least two compaction tests per shift, per lift, or at a rate of at least two compaction tests per 10 cubic yards of backfill, whichever is more frequent.

Backfill of excavations following foundation construction should be performed using clean, excavated soils or a compatible imported select common fill where additional material is required. Soil consolidation is expected to be less than one half (0.5”) inch, based upon standards for a properly designed foundation bearing upon compacted soil.

All excavations must follow OSHA guidelines for excavation protection. Any excavations that are adjacent to existing buildings must be reviewed with specific interest in the depths of the existing foundations to determine if underpinning is required.
These analyses and recommendations are based on data obtained from test borings completed for this report. The nature and extent of any variations may not be evident until open excavation is underway. Variations should be noted and their impacts evaluated to determine the necessity of modifying the recommendations contained in this report.

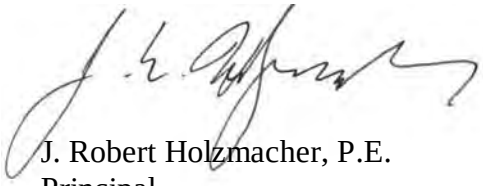
LIMITATIONS

The recommendations in this report are based on our experience and training in conjunction with the limited soils exposed at this site. We believe that this information gives an acceptable degree of reliability in anticipating the behavior of the proposed construction; however, our recommendations are professional opinions and cannot assure accuracy beyond the limits of the soil profiles from which data was obtained. This report is based on the evaluation at the described site and on the specific anticipated construction.

MISCELLANEOUS

The attached boring logs and calculations are components of this report. If you have any questions regarding this report, or if we can be of further service, please do not hesitate to contact our office. We trust this report provides you with the necessary information to continue with development of the project.

Very truly yours,
J.R. Holzmacher P.E., LLC



J. Robert Holzmacher, P.E.
Principal

JRH:ch
Encl.

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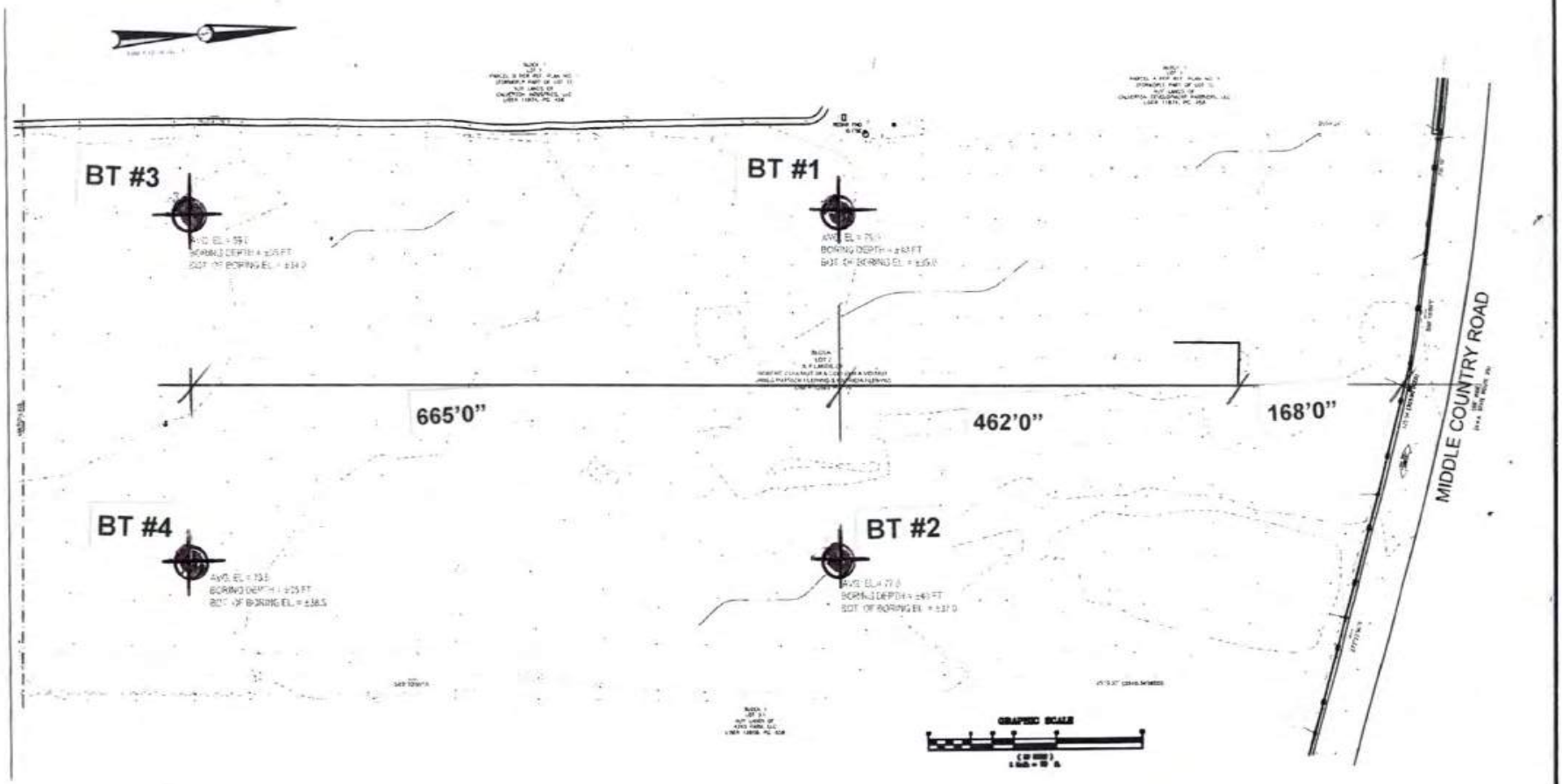
FIGURE



JOB DESCRIPTION / LOCATION 4285 MIDDLE COUNTRY ROAD CALVERTON, NEW YORK	**JOB NUMBER** 20-063
	SCALE NTS
	DRAWN BY CLB
	DATE 2/24/20
	DRAWING NUMBER 5 OF 5

SLACKE TEST BORING

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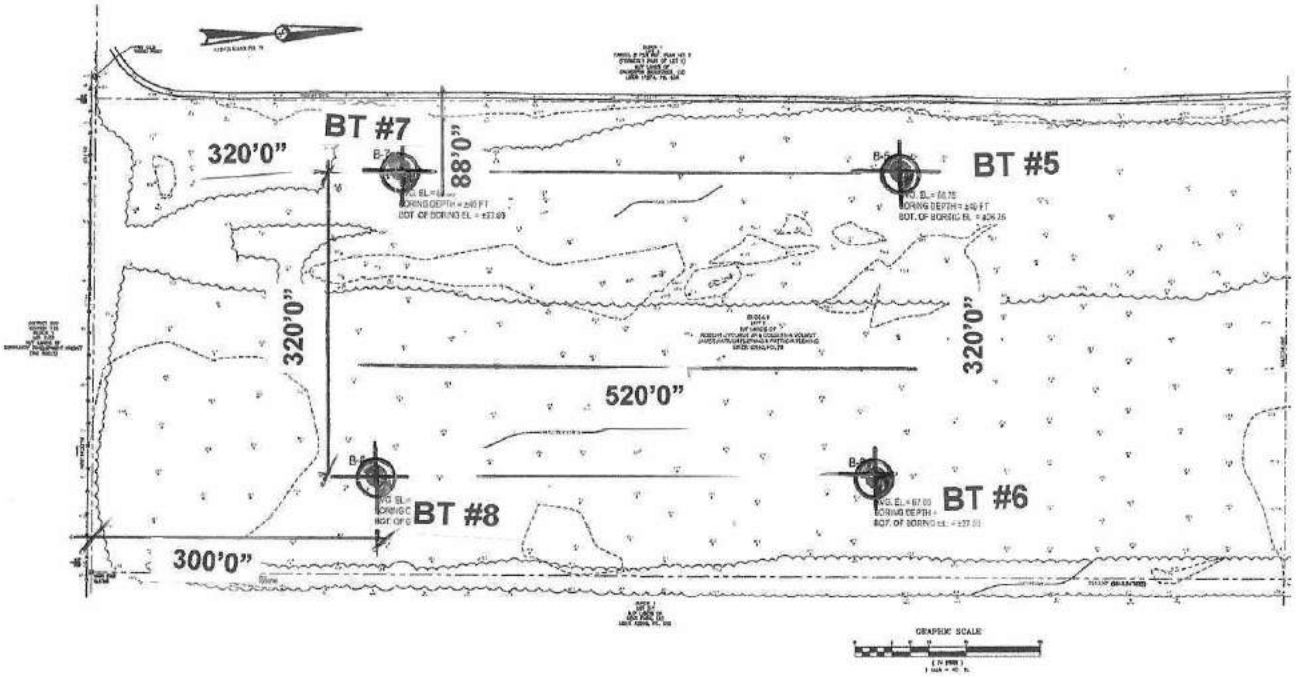


JOB DESCRIPTION / LOCATION	JOB NUMBER
4285 MIDDLE COUNTRY ROAD CALVERTON, NEW YORK	21-055
	SCALE: NTS
	DRAWN BY: BD
	DATE: 2/12/21
	DRAWING NUMBER: 1 OF 1

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

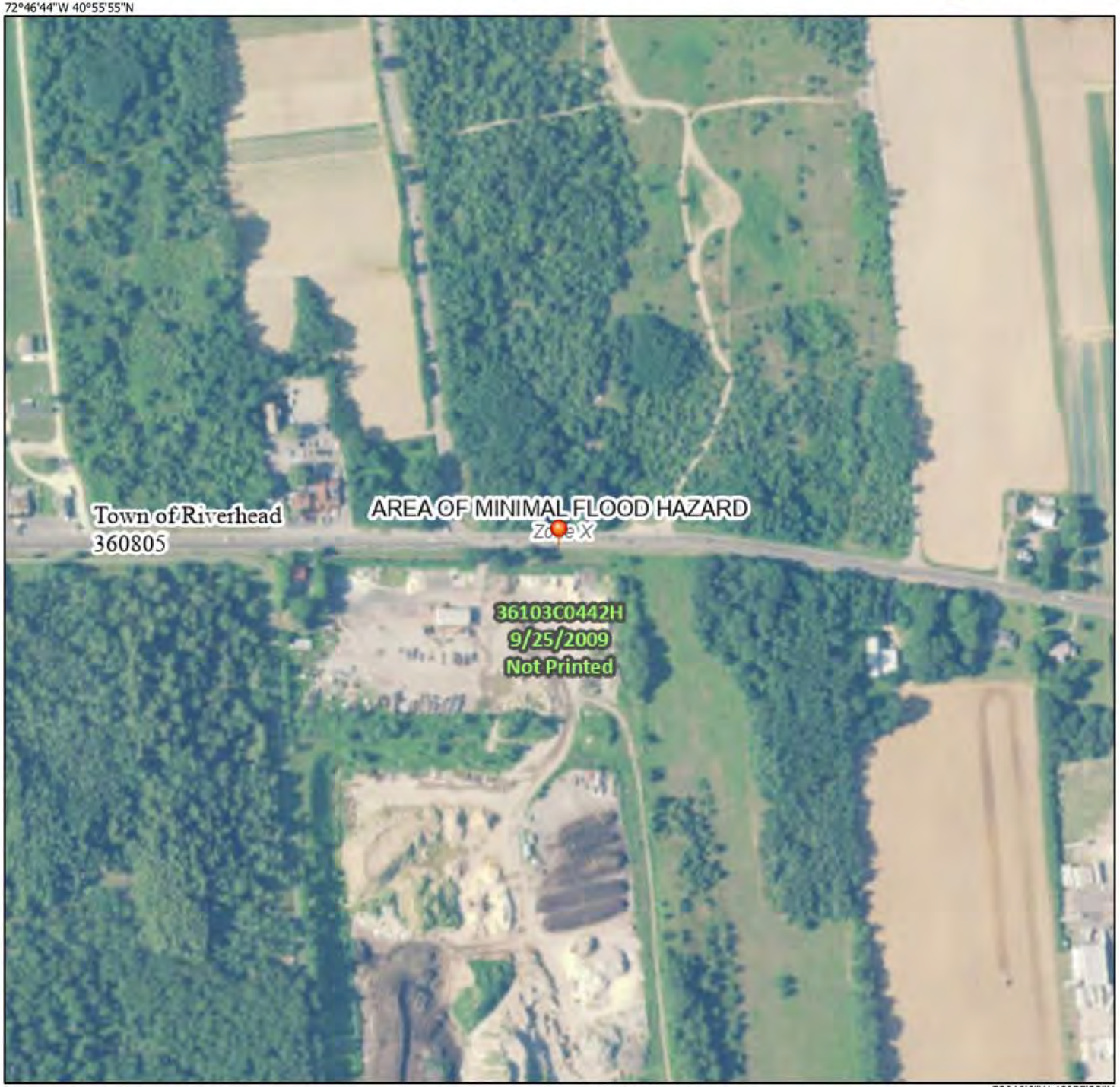
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

FIRM MAP

National Flood Hazard Layer FIRMette

FEMA

72°46'44"W 40°55'55"N



72°46'6"W 40°55'28"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/19/2021 at 11:05 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX A

SOIL BORING LOGS

BORING No. 1

DATE: 2/24/20 SURFACE ELEVATION:

REPORT ON BORINGS

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	1 2	1	FINE DARK BROWN AND BROWN TOPSOIL WITH ORGANICS AND DECAYING VEGETATION INTO FINE SILTY SAND, SOME CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SM)
	1 2		
	WOH 2	2	
	1 2		
5	2 1	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, SOME CLEAN SAND INTO CLEAN FINE TO MEDUM SAND, TRACE FINE TO SMALL GRAVEL (SM/SW)
	3 6		
	5 7	4	
	7 8		
	3 5	5	
10	5 5		FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	5 6	6	
	5 6		FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO SMALL GRAVEL OCCASIONAL LARGE STONE (SW)
15			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME COARSE SAND, TRACE FINE TO SMALL GRAVEL (SW)
	4 6		
	5 5	7	
			FINE TO COARSE PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, SOME SMALL STONE (SW)
20			
	3 5		FINE TO MEDUM PALE BROWN SAND, SOME FINE TO LARGE GRAVEL (SW)
	6 6	8	
			FINE TO COARSE PALE BROWN AND LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
25			
	6 9	9	
	9 10		
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
30			

GENERAL NOTES

1) WATER LEVELS AS INDICATED ARE THOSE MEASURED ON THE DATE SHOWN AND ARE NOT NECESSARILY REPRE REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

2) THE BORING RESULTS REPRESENT SUB-SURFACE CONDITIONS AT THE BORING LOCATION ONLY AND ARE NOT NECESSARILY REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

BORING CONTINUED TO 40'0" REFER TO PAGE 1A OF 5

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7832

JOB NUMBER	20-063
SCALE	NTS
DRAWN BY	CLB
DATE	2/24/20
DRAWING NUMBER	1 OF 5

BORING No. 1

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	6 8	10	FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
	9 10		
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL LARGE STONE (SW)
35			
	5 8	11	
	9 9		
			FINE TO MEDUIM PALE BROWN SAND, TRACE FINE GRAVEL (SW)
	5 7	12	
40	6 8		

END OF BORING: 40'0"

REPORT ON BORINGS

GENERAL NOTES

NO WATER ENCOUNTERED.

JOB DESCRIPTION / LOCATION

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

SLACKE TEST BORING
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	20-063
SCALE	NTS
DRAWN BY	CLB
DATE	2/24/20
DRAWING NUMBER	1A OF 5

BORING No. 2

REPORT ON BORINGS

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS		SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2	1	1	FINE DARK BROWN AND BROWN TOPSOIL WITH ORGANICS AND BROKEN ROOTS, SOME FINE SILTY SAND INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM)
	2	1		
	1	WOH	2	
	2	3		
5	4	5	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SAND, SOME CLEAN SAND TRACE FINE TO SMALL GRAVEL (SM/SW)
	4	4		
	5	5	4	FINE TO COARSE LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	5	5		
	2	3	5	FINE TO COARSE LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
10	4	5		
	4	5	6	FINE TO COARSE PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	5	6		
				FINE TO MEDIUM PALE BROWN SAND, TRACE FINE GRAVEL (SW)
15				
	3	4		
	4	6	7	
				FINE TO MEDIUM PALE BROWN AND LIGHT BROWN SAND, SOME FINE TO LARGE GRAVEL (SW)
20				
	4	5		
	6	8	8	
				FINE TO COARSE LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
25				
	7	10	9	
	10	11		
				FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
30				

GENERAL NOTES

BORING CONTINUED TO 40'0" REFER TO PAGE 2A OF 5

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	20-063
SCALE	NTS
DRAWN BY	CLB
DATE	2/24/20
DRAWING NUMBER	2 OF 5

BORING No. 2

REPORT ON BORINGS

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS		SAMPLE NO.	DESCRIPTION OF SAMPLE
	6	9	10	FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	9	9		
				FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
35				
	7	12	11	
	11	12		
				MEDIUM TO FINE PALE BROWN AND LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL INTO FINE SAND, TRACE FINE GRAVEL (SW/SP)
	10	11	12	
40	10	10		

GENERAL NOTES

NO WATER ENCOUNTERED.

END OF BORING: 40'0"

JOB DESCRIPTION / LOCATION

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

JOB NUMBER: 20-063

SCALE: NTS

DRAWN BY: CLB

DATE: 2/24/20

DRAWING NUMBER: 2A OF 5

SLACKE TEST BORING, INC.
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

BORING No. 3

REPORT ON BORINGS

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 1	1	FINE DARK BROWN AND BROWN TOPSOIL WITH DECAYING VEGETATION AND FINE SILTY SAND INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM)
	2 2		
	2 4	2	
	3 2		
5	5 6	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, SOME CLEAN SAND INTO FINE TO COARSE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	6 6		
	5 5	4	
	5 6		
	3 4	5	FINE TO COARSE LIGHT BROWN AND RUST BROWN SAND, SOME FINE TO LARGE GRAVEL, SOME CLAY (SW/CL)
10	4 5		
	3 4	6	FINE TO COARSE RUST BROWN AND GRAY CLEAN SAND AND CLAY INTO COARSE TO FINE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	4 4		
15			COARSE TO FINE RUST BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
	2 3		
	4 5	7	FINE TO MEDIUM RUST BROWN AND LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
20			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	4 5		
	6 5	8	FINE TO COARSE LIGHT BROWN SAND, SOME FINE TO SMAL GRAVEL, OCCASIONAL LARGE STONE (SW)
25			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
	3 5	9	
	5 7		
			FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0" REFER TO PAGE 3A OF 5

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	20-063
SCALE	NTS
DRAWN BY	CLB
DATE	2/24/20
DRAWING NUMBER	3 OF 5

BORING No. 3

REPORT ON BORINGS

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	3 5	10	FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	7 8		
			FINE LIGHT BROWN SAND, TRACE FINE GRAVEL (SP) WET/MOIST
35			
	4 6	11	
	5 6		
			MEDIUM LIGHT BROWN SAND, TRACE FINE GRAVEL (SP) WET
	5 8	12	
40	8 8		

GENERAL NOTES

WATER LEVEL: 36.2 FEET

END OF BORING: 40'0"

JOB DESCRIPTION / LOCATION

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

JOB NUMBER: 20-063

SCALE: NTS

DRAWN BY: CLB

DATE: 2/24/20

DRAWING NUMBER: 3A OF 5

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

BORING No. 4

REPORT ON BORINGS

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 1	1	FINE DARK BROWN AND BROWN SILTY SAND AND TOPSOIL WITH ORGANICS INTO
	1 2		
	1 WOH	2	FINE SILTY SAND AND CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SM)
	2 2		
5	2 5	3	FINE TO COARSE BROWN AND RUST BROWN SILTY SAND AND MEDIUM CLEAN SAND INTO FINE
	7 8		
	6 8	4	TO COARSE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	5 6		
	4 5	5	FINE TO COARSE LIGHT BROWN AND RUST BROWN SAND, SOME
10	5 6		FINE TO SMALL GRAVEL (SW)
	5 5	6	FINE TO COARSE PALE BROWN AND RUST BROWN SAND,
	6 6		TRACE FINE TO SMALL GRAVEL (SW)
			COARSE TO FINE PALE BROWN SAND, TRACE FINE TO MEDIUM
15			GRAVEL (SW)
	5 6		FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO SMALL
	6 8	7	GRAVEL (SW)
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE
20			GRAVEL (SW)
	5 7		FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, SOME
	7 9	8	FINE TO SMALL GRAVEL (SW)
			FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, SOME
25			FINE TO SMALL GRAVEL, OCCASIONAL LARGE STONE (SW)
	6 8	9	
	10 10		
			FINE TO MEDIUM LIGHT BROWN SAND, SOME FNIE TO SMALL
30			GRAVEL (SW)

GENERAL NOTES

BORING CONTINUED TO 40'0" REFER TO PAGE 4A OF 5

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	20-063
SCALE	NTS
DRAWN BY	CLB
DATE	2/24/20
DRAWING NUMBER	4 OF 5

BORING No. 4

DATE: 2/24/20 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	6 9	10	FINE TO MEDIUM LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
	9 11		
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
35			
	5 8	11	
	7 10		
			FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	7 9	12	
40	9 11		

END OF BORING: 40'0"

REPORT ON BORINGS

GENERAL NOTES

JOB DESCRIPTION / LOCATION

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

JOB NUMBER: 20-063

SCALE: NTS

DRAWN BY: CLB

DATE: 2/24/20

DRAWING NUMBER: 4A OF 5

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

REPORT ON BORINGS

BORING No. 5

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	3 5	1	FINE TO MEDIUM CLEAN SAND AND SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM/SW)
	6 7		
	8 8	2	
	7 5		FINE TO MEDIUM LIGHT BROWN CLEAN SAND, TRACE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SW)
5	2 2	3	
	4 5		
	4 5	4	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, TRACE FINE GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE GRAVEL (SM/SW)
	7 8		
	8 8	5	
10	7 8		FINE TO COARSE RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	7 6	6	
	6 7		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, TRACE LARGE GRAVEL (SW)
15			
	7 7		FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW)
	8 8	7	
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO LARGE GRAVEL, SOME CRUSHED GRAVEL (SW)
20			
	7 9		
	9 12	8	
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
25			
	8 10	9	
	11 14		
30		10	

GENERAL NOTES

1) NO TRUE GROUNDWATER LEVEL ENCOUNTERED. THIS CONDITION MAY NOT BE REFLECTIVE OF DAILY OR SEASONAL VARIATIONS IN THE GROUNDWATER LEVEL:

2) THE BORING RESULTS REPRESENT SUB-SURFACE CONDITIONS AT THE BORING LOCATION ONLY AND ARE NOT NECESSARILY REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

BORING CONTINUED TO 40'0"

REFER TO PAGE 5A OF 9

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	BD
DATE	2/12/21
DRAWING NUMBER	5 OF 8

BORING No. 5

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	10 12	10	FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
	16 17		
			FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
35			
	9 9		
	12 14	11	
	8 12		
40	13 16	12	

REPORT ON BORINGS

GENERAL NOTES

NOTE: SLIGHT MOISTURE AT 39'6" BELOW GRADE.

END OF BORING: 40'0"

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

SLACKE TEST BORING
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	BD
DATE	2/12/21
DRAWING NUMBER	5A OF 8

BORING No. 6

REPORT ON BORINGS

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	5 2	1	FINE DARK BROWN AND GRAY TOPSOIL WITH ORGANICS AND FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL, SOME CLEAN SAND (SM)
	2 3		
	3 3	2	
	4 5		
5	2 4	3	FINE TO MEDIUM GRAY AND LIGHT BROWN CLEAN SAND AND SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM/SW)
	4 6		
	4 5	4	
	7 9		FINE TO MEDIUM LIGHT BROWN AND GRAY CLEAN SAND, TRACE FINE TO SMALL GRAVEL INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SW/SM)
	4 5	5	
10	5 6		
	6 6	6	FNIE GRAY AND LIGHT BROWN SILTY SAND, TRACE FINE TO SMALL GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE GRAVEL (SM/SW)
	6 8		
15			
	6 5		FINE TO CORSE LIGHT BROWN AND RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	5 6	7	
			FINE TO CORSE LIGHT BROWN AND RUST BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
20			
	4 4		
	5 6	8	FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
25			COARSE TO FINE LIGHT BROWN AND RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	3 4	9	
	8 8		MEDIUM TO COARSE LIGHT BROWN AND PALE BROWN CLEAN SAND, TRACE FINE SAND, SOME FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0"

REFER TO PAGE 6A OF 8

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	SCALE	DRAWN BY	DATE	DRAWING NUMBER
21-055	NTS	BD	2/12/21	6 OF 8

BORING No. 6

DATE: 2/12/21 SURFACE ELEVATION:

REPORT ON BORINGS

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	4 7	10	FINE TO COARSE LIGHT BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	8 9		
			FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
35			
	4 8	11	
	12 14		
			COARSE TO FINE LIGHT BROWN AND PALE BROWN CLEAN SAND INTO FINE SAND, SOME FINE TO SMALL GRAVEL (SW)
	6 7		
40	9 9	12	

GENERAL NOTES

NO TRUE GROUNDWATER LEVEL ENCOUNTERED.

END OF BORING: 40'0"

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

SLACKE TEST BORING
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	BD
DATE	2/12/21
DRAWING NUMBER	6A OF 8

BORING No. 7

REPORT ON BORINGS

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 5	1	FINE TO MEDIUM BROWN CLEAN SAND AND SILTY SAND, SOME FINE TO SMALL GRAVEL, TRACE ORGANICS (SM/SW)
	7 7		
	7 6	2	
	6 6		FINE TO MEDIUM LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL, TRACE SILTY SAND (SW)
5	2 3	3	
	3 4		
	5 5	4	FINE TO MEDIUM LIGHT BROWN AND GRAY CLEAN SAND, SOME FINE TO SMALL GRAVEL INTO FINE SILTY SAND, SOME FINE TO SMALL GRAVEL (SW/SM)
	3 3		
	3 4	5	
10	5 7		
	2 4	6	FINE GRAY AND LIGHT BROWN SILTY SAND, TRACE FINE GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	5 5		
15			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, TRACE LARGE GRAVEL (SW)
	3 3		
	3 4	7	
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL , TRACE LARGE GRAVEL (SW)
20			
	3 2		FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GAVEL (SW)
	2 2	8	
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
25			
	5 5	9	
	7 7		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0"

REFER TO PAGE 7A OF 8

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	BD
DATE	2/12/21
DRAWING NUMBER	7 OF 8

REPORT ON BORINGS

BORING No. 7

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	4 4	10	FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	6 8		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW)
35			
	4 7	11	
	7 10		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW) (MOIST AT 39'6")
	8 9		
40	9 12	12	

GENERAL NOTES

NO TRUE GROUNDWATER LEVEL ENCOUNTERED.

END OF BORING: 40'0"

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

SLACKE TEST BORING
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TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	CLB
DATE	2/12/21
DRAWING NUMBER	7A OF 8

BORING No. 8

REPORT ON BORINGS

DATE: 2/12/21 SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 3	1	FINE TO MEDIUM BROWN AND GRAY TOPSOIL, SOME ORGANICS, SOME FINE TO MEDIUM SILTY SAND, TRACE
	5 4		
	4 5	2	FINE TO SMALL GRAVEL
	4 4		INTO FINE SILTY SAND AND CLAN SAND, SOME GRAVEL
5	4 4	3	(SM/SW) FINE TO MEDIUM GRAY AND BROWN CLEAN SAND AND
	5 6		SILTY SAND INTO MEDIUM
	4 4	4	TO FINE SAND, TRACE SILT,
	6 6		SOME FINE TO SMALL GRAVEL (SM/SW)
	4 4	5	FINE TO COARSE RUST BROWN AND LIGHT BROWN
10	7 10		SILTY SAND AND CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW/SM)
	8 8	6	FINE TO COARSE GRAY AND
	10 10		RUST BROWN SILTY SAND, TRACE FINE TO COARSE
			GRAVEL INTO FINE TO COARSE CLEAN SAND,
			SOME FINE TO SMALL GRAVEL (SM/SW)
15			FINE TO MEDIUM RUST
	3 7		BROWN AND PALE BROWN
	8 10	7	CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
			FINE TO MEDIUM PALE BROWN CLEAN SAND,
			TRACE FINE TO COARSE GRAVEL, OCCASIONAL
20			LARGE STONE (SW)
	5 6		FINE TO COARSE PALE
	8 9	8	BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME
			FINE TO SMALL GRAVEL, OCCASIONAL LARGE STONE
25			(SW)
	5 6	9	
	8 9		FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
			FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0"

REFER TO PAGE 8A OF 8

4285 MIDDLE COUNTRY ROAD

CALVERTON, NEW YORK

JOB NUMBER	21-066
SCALE	NTS
DRAWN BY	CLB
DATE	2/12/21
DRAWING NUMBER	8 OF 8

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754

TEL (631) 269-7930 FAX (631) 269-7932

BORING No. 8

DATE: 2/12/21 SURFACE ELEVATION:

REPORT ON BORINGS

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	7 9	10	FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
	10 11		
			FINE TO COARSE PALE BROWN AND LIGHT BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
35			
	5 10		
	11 13	11	
	12 12		FINE TO COARSE LIGHT BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
40	13 12	12	

GENERAL NOTES

END OF BORING: 40'0"

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

SLACKE TEST BORING
Subsurface Soils & Foundation Explorations
P.O. BOX 64, KINGS PARK, LONG ISLAND, NY 11754
TEL (631) 269-7930 FAX (631) 269-7932

JOB NUMBER	21-055
SCALE	NTS
DRAWN BY	BD
DATE	2/12/21
DRAWING NUMBER	8A OF 8

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NEW YORK 11754 • (631) 269-7930 • FAX (631) 269-7932

Loretta A. Luning, *President*
Angelo DeLiso, *Partner/Director of Field Operations*

PERCOLATION TEST

Location: 4285 Middle Country Road, Calverton, New York

Procedure: Utilized 2.75 I.D. Casing set at 22.0 Feet below grade.
Utilized two gallons of water to perform test in saturated soils.

Notes:

1) Completed Drilling Boring No. 8 and performed Percolation Tests.
2) True Groundwater Level was not encountered.
4) Soils Classified as Fine to Coarse Pale Brown Sand, some Fine to Small Gravel.

Time Measurement to Water Level from Existing Grade.

Minutes	Perc Test #1	Perc Test #2	Perc Test #3
0:00	18.50	18.10	17.50
1:00	19.75	19.30	18.00
2:00	20.29	20.25	18.60
3:00	20.71	20.50	18.86
4:00	21.00	21.04	19.00
5:00	21.47	21.55	19.25
6:00	21.70	21.68	19.60
7:00	Bottom	22.00	19.80
8:00		Bottom	21.35
9:00			22.00
10:00			Bottom
15:00			

Observations:

1) Soils below 8.0 Feet of existing grade consist of clean Sand and Gravel (SW).
2) Upper soils exhibit a mix of Clean Sand and Silty Sand with Gravel and are classified as SM/SW.

Founded 1963
Felix & Sally Ann Slacke

APPENDIX B

SOIL BEARING STRENGTH

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 24, 2020

B-1

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	1		
		2		
		1	3	0.31
		2		
2	4	W.O.H		
		2		
		1	3	0.31
		2		
4	6	2		
		1		
		3	4	0.41
		6		
6	8	5		
		7		
		7	14	1.45
		8		
8	10	3		
		5		
		5	10	1.04
		5		
10	12	5		
		6		
		5	11	1.14
		6		
15	17	4		
		6		
		5	11	1.14
		5		
20	22	3		
		5		
		6	11	1.14
		6		
25	27	6		
		9		
		9	18	1.87
		10		
30	32	6		
		8		
		9	17	1.76
		10		
35	37	5		
		8		
		9	17	1.76
		9		
38	40	5		
		7		
		6	13	1.35
		8		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 24, 2020

B-2

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	2		
		1		
		2	3	0.31
		1		
2	4	1		
		W.O.H		
		2	2	0.21
		3		
4	6	4		
		5		
		4	9	0.93
		4		
6	8	5		
		5		
		5	10	1.04
		5		
8	10	2		
		3		
		4	7	0.73
		5		
10	12	4		
		5		
		5	10	1.04
		6		
15	17	3		
		4		
		4	8	0.83
		6		
20	22	4		
		5		
		6	11	1.14
		8		
25	27	7		
		10		
		10	20	2.07
		11		
30	32	6		
		9		
		9	18	1.87
		9		
35	37	7		
		12		
		11	23	2.39
		12		
38	40	10		
		11		
		10	21	2.18
		10		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 24, 2020

B-3

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	2		
		1		
		2	3	0.31
		2		
2	4	2		
		5		
		3	8	0.83
		2		
4	6	5		
		6		
		6	12	1.24
		6		
6	8	5		
		5		
		5	10	1.04
		6		
8	10	3		
		4		
		4	8	0.83
		5		
10	12	3		
		4		
		3	7	0.73
		3		
15	17	2		
		3		
		4	7	0.73
		5		
20	22	4		
		5		
		6	11	1.14
		5		
25	27	3		
		5		
		5	10	1.04
		7		
30	32	3		
		5		
		7	12	1.24
		8		
35	37	5		
		6		
		5	11	1.14
		6		
38	40	5		
		8		
		8	16	1.66
		8		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 24, 2020

B-4

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	2		
		1		
		1	2	0.21
		2		
2	4	1		
		W.O.H		
		2	2	0.21
		2		
4	6	2		
		5		
		7	12	1.24
		8		
6	8	6		
		8		
		5	13	1.35
		6		
8	10	4		
		5		
		5	10	1.04
		6		
10	12	5		
		5		
		6	11	1.14
		6		
15	17	5		
		6		
		6	12	1.24
		8		
20	22	5		
		7		
		7	14	1.45
		9		
25	27	6		
		8		
		10	18	1.87
		10		
30	32	6		
		9		
		9	18	1.87
		11		
35	37	5		
		8		
		7	15	1.56
		10		
38	40	7		
		9		
		9	18	1.87
		11		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 12, 2021

B-5

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	3		
		5		
		6	11	1.14
		7		
2	4	8		
		8		
		7	15	1.56
		5		
4	6	2		
		2		
		4	6	0.62
		5		
6	8	4		
		5		
		7	12	1.24
		8		
8	10	8		
		8		
		7	15	1.56
		8		
10	12	7		
		8		
		6	14	1.45
		7		
15	17	7		
		7		
		8	15	1.56
		8		
20	22	7		
		9		
		9	18	1.87
		12		
25	27	8		
		10		
		11	21	2.18
		14		
30	32	10		
		12		
		16	28	2.90
		17		
35	37	9		
		9		
		12	21	2.18
		14		
38	40	8		
		12		
		13	25	2.59
		16		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 12, 2021

B-6

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	5		
		2		
		2	4	0.41
		3		
2	4	3		
		3		
		4	7	0.73
		5		
4	6	2		
		4		
		4	8	0.83
		6		
6	8	4		
		5		
		7	12	1.24
		9		
8	10	4		
		5		
		5	10	1.04
		6		
10	12	6		
		6		
		6	12	1.24
		8		
15	17	6		
		5		
		5	10	1.04
		6		
20	22	4		
		4		
		5	9	0.93
		6		
25	27	3		
		4		
		8	12	1.24
		8		
30	32	4		
		7		
		8	15	1.56
		9		
35	37	4		
		8		
		12	20	2.07
		14		
38	40	6		
		7		
		9	16	1.66
		9		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 12, 2021

B-7

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	2		
		5		
		7	12	1.24
		7		
2	4	7		
		6		
		6	12	1.24
		6		
4	6	2		
		3		
		3	6	0.62
		4		
6	8	5		
		5		
		3	8	0.83
		3		
8	10	3		
		4		
		5	9	0.93
		7		
10	12	2		
		4		
		5	9	0.93
		5		
15	17	3		
		3		
		3	6	0.62
		4		
20	22	3		
		2		
		2	4	0.41
		2		
25	27	5		
		5		
		7	12	1.24
		7		
30	32	4		
		4		
		6	10	1.04
		8		
35	37	4		
		7		
		7	14	1.45
		10		
38	40	8		
		9		
		9	18	1.87
		12		

GOUNDWATER NOT ENCOUNTERED

APPENDIX B

Slacke Test Borings

4285 Middle Country Road

Calverton, ny

Boring Performed on February 12, 2021

B-8

Sample Depth (ft bg)		Blows	N	Bearing
From	To	(per 6")		Strength (TSF)
0	2	2		
		3		
		5	8	0.83
		4		
2	4	4		
		5		
		4	9	0.93
		4		
4	6	4		
		4		
		5	9	0.93
		6		
6	8	4		
		4		
		6	10	1.04
		6		
8	10	4		
		4		
		7	11	1.14
		10		
10	12	8		
		8		
		10	18	1.87
		10		
15	17	3		
		7		
		8	15	1.56
		10		
20	22	5		
		6		
		8	14	1.45
		9		
25	27	5		
		6		
		8	14	1.45
		9		
30	32	7		
		9		
		10	19	1.97
		11		
35	37	5		
		10		
		11	21	2.18
		13		
38	40	12		
		12		
		13	25	2.59
		12		

GOUNDWATER NOT ENCOUNTERED

APPENDIX C

PERCOLATION TEST RESULTS

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

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Loretta A. Luning, *President*
Angelo DeLiso, *Partner/Director of Field Operations*

PERCOLATION TEST

Location: 4285 Middle Country Road, Calverton, New York

Procedure: Utilized 2.75 I.D. Casing set at 22.0 Feet below grade.
Utilized two gallons of water to perform test in saturated soils.

Notes:

1) Completed Drilling Boring No. 8 and performed Percolation Tests.
2) True Groundwater Level was not encountered.
4) Soils Classified as Fine to Coarse Pale Brown Sand, some Fine to Small Gravel.

Time Measurement to Water Level from Existing Grade.

Minutes	Perc Test #1	Perc Test #2	Perc Test #3
0:00	18.50	18.10	17.50
1:00	19.75	19.30	18.00
2:00	20.29	20.25	18.60
3:00	20.71	20.50	18.86
4:00	21.00	21.04	19.00
5:00	21.47	21.55	19.25
6:00	21.70	21.68	19.60
7:00	Bottom	22.00	19.80
8:00		Bottom	21.35
9:00			22.00
10:00			Bottom
15:00			

Observations:

1) Soils below 8.0 Feet of existing grade consist of clean Sand and Gravel (SW).
2) Upper soils exhibit a mix of Clean Sand and Silty Sand with Gravel and are classified as SM/SW.

Founded 1963
Felix & Sally Ann Slacke

APPENDIX D

SEISMIC SUMMARY REPORT

4285 Middle Country Rd, Calverton, NY 11933, USA

Latitude, Longitude: 40.9276633, -72.7680912

Date	3/19/2021, 12:55:04 PM
Design Code Reference Document	IBC-2015
Risk Category	II
Site Class	E - Soft Clay Soil

Type	Value	Description
S_S	0.163	MCE_R ground motion. (for 0.2 second period)
S_1	0.057	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.407	Site-modified spectral acceleration value
S_{M1}	0.2	Site-modified spectral acceleration value
S_{DS}	0.271	Numeric seismic design value at 0.2 second SA
S_{D1}	0.133	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	C	Seismic design category
F_a	2.5	Site amplification factor at 0.2 second
F_v	3.5	Site amplification factor at 1.0 second
PGA	0.083	MCE_G peak ground acceleration
F_{PGA}	2.5	Site amplification factor at PGA
PGA_M	0.206	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
SsRT	0.163	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.182	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.057	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.063	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.6	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.893	Mapped value of the risk coefficient at short periods
C_{R1}	0.898	Mapped value of the risk coefficient at a period of 1 s

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Table 2-2a Runoff curve numbers for urban areas [1/]

Cover description: Cover type and hydrologic condition	Average percent impervious area [2/]	Curve numbers for hydrologic soil group: A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5/]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2c Runoff curve numbers for other agricultural lands [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2/]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	Existing	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3/]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4/]	48	65	73
Woods—grass combination (orchard or tree farm). [5/]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6/]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4/]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

Existing

Existing

1 Average runoff condition, and $I_a = 0.2S$.

2 *Poor:* <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/1/2020 at 5:27:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

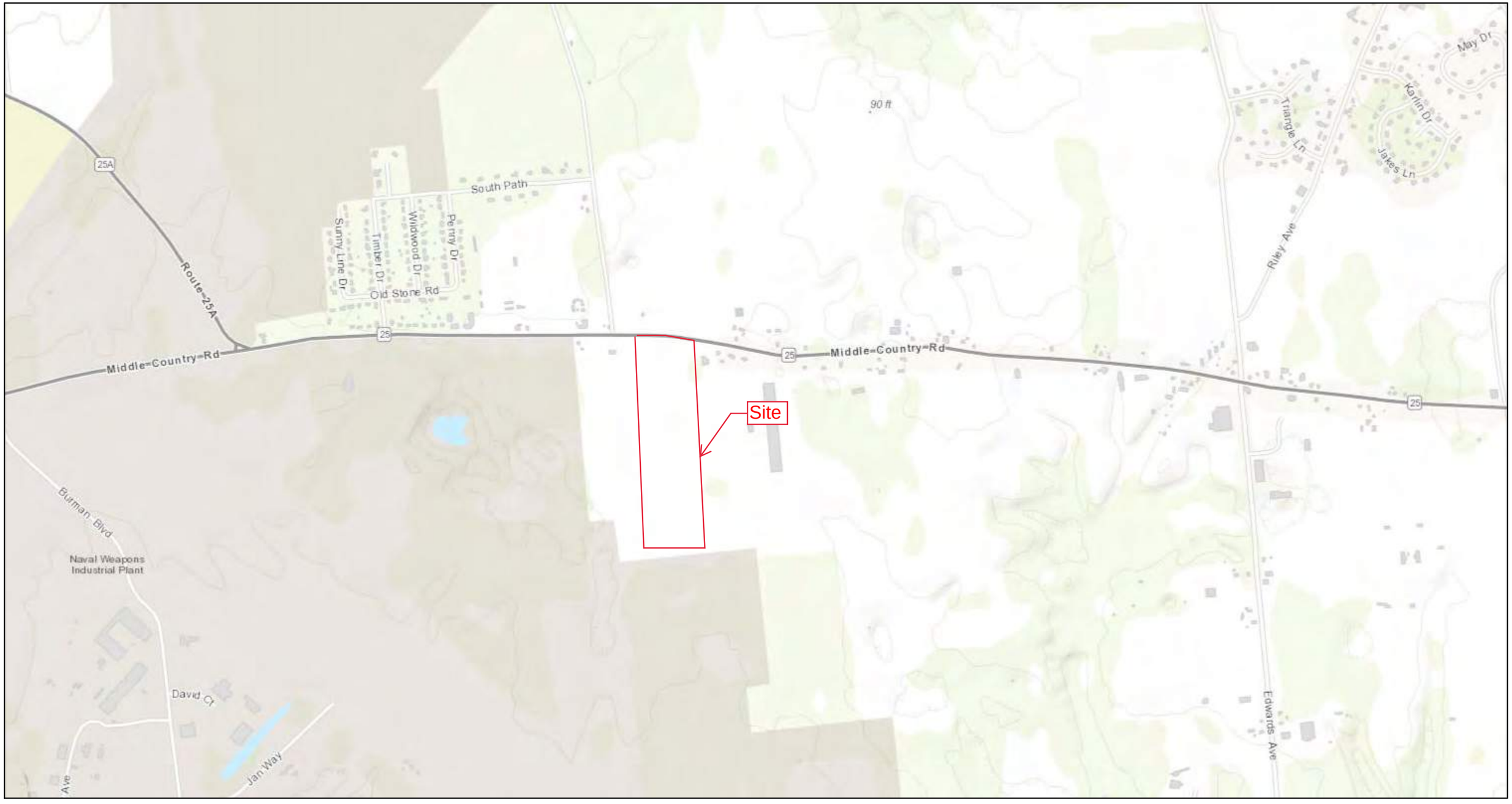
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX V
MAPS

- NYS DEC STORMWATER INTERACTIVE MAP
- USGS QUADRANGLE MAP
- ORTHOIMAGERY
- US FISH & WILDLIFE NATIONAL WETLANDS INVENTORY
- NYS DEC ENVIRONMENTAL RESOURCE MAPPER
- CULTURAL RESOURCE INFORMATION SYSTEMS MAP
- OVERALL & PARTIAL PECONIC ESTUARY MAPS
- EXPANDED PROPERTY INSPECTION & ANALYSIS LETTER PREPARED BY LAND USE ECOLOGICAL SERVICES, INC.

19026_4285 Middle Country Road

NYS DEC Interactive Stormwater Map



June 12, 2020

1:18,056

0 0.15 0.3 0.6 mi

0 0.28 0.55 1.1 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

WADING RIVER QUADRANGLE
NEW YORK - SUFFOLK COUNTY
7.5-MINUTE SERIES

Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 18T
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery……NAIP, August 2017 - December 2017
Roads……U.S. Census Bureau, 2016
Names……GNIS, 1980 - 2019
Hydrography……National Hydrography Dataset, 1859 - 2019
Contours……National Elevation Dataset, 2015
Boundaries……Multiple sources; see metadata file 2017 - 2018

Wetlands……FWS National Wetlands Inventory 2004

UTM GRID AND 2019 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
XL
Grid Zone Designation
18T

SCALE 1:24 000

KILOMETERS 0 0.5 1 2
METERS 0 500 1000 2000
MILES 0 0.5 1
FEET 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

NEW YORK
QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Middle Island
2 Riverhead
3 Bellport
4 Moriches
5 Eastport

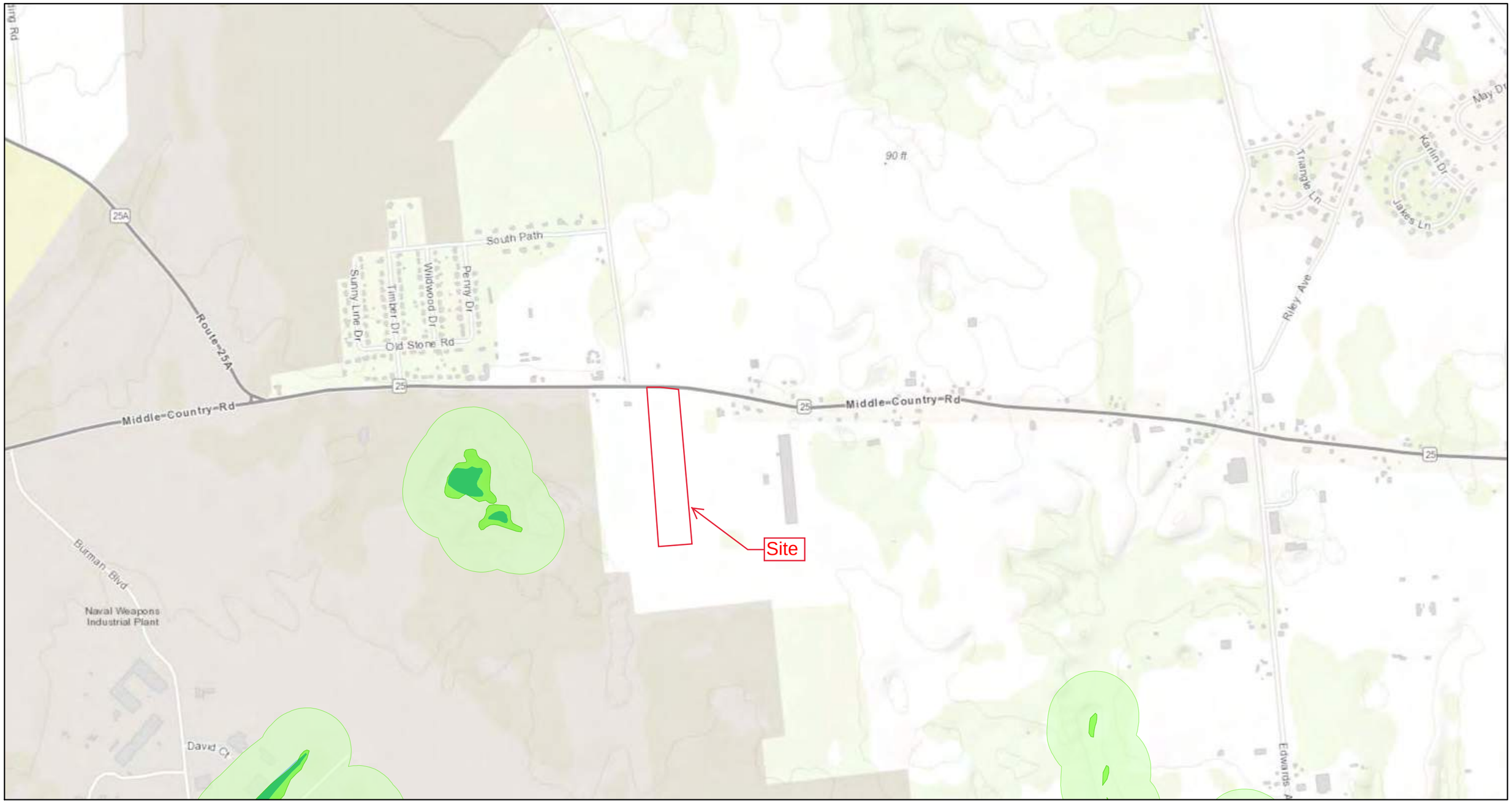
ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

WADING RIVER, NY
2019

ISBN 978-1-4113-4247-1
MGA REF NO. USGS X24K71014

NYS Orthoimagery
Site

19026_4285 Middle Country Road Calverton_Environmental Resource Mapper



June 12, 2020

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0 0.15 0.3 0.6 mi

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NYS Department of Environmental Conservation
Not a legal document

U.S. Fish and Wildlife Service
National Wetlands Inventory

Calverton Federal Wetlands

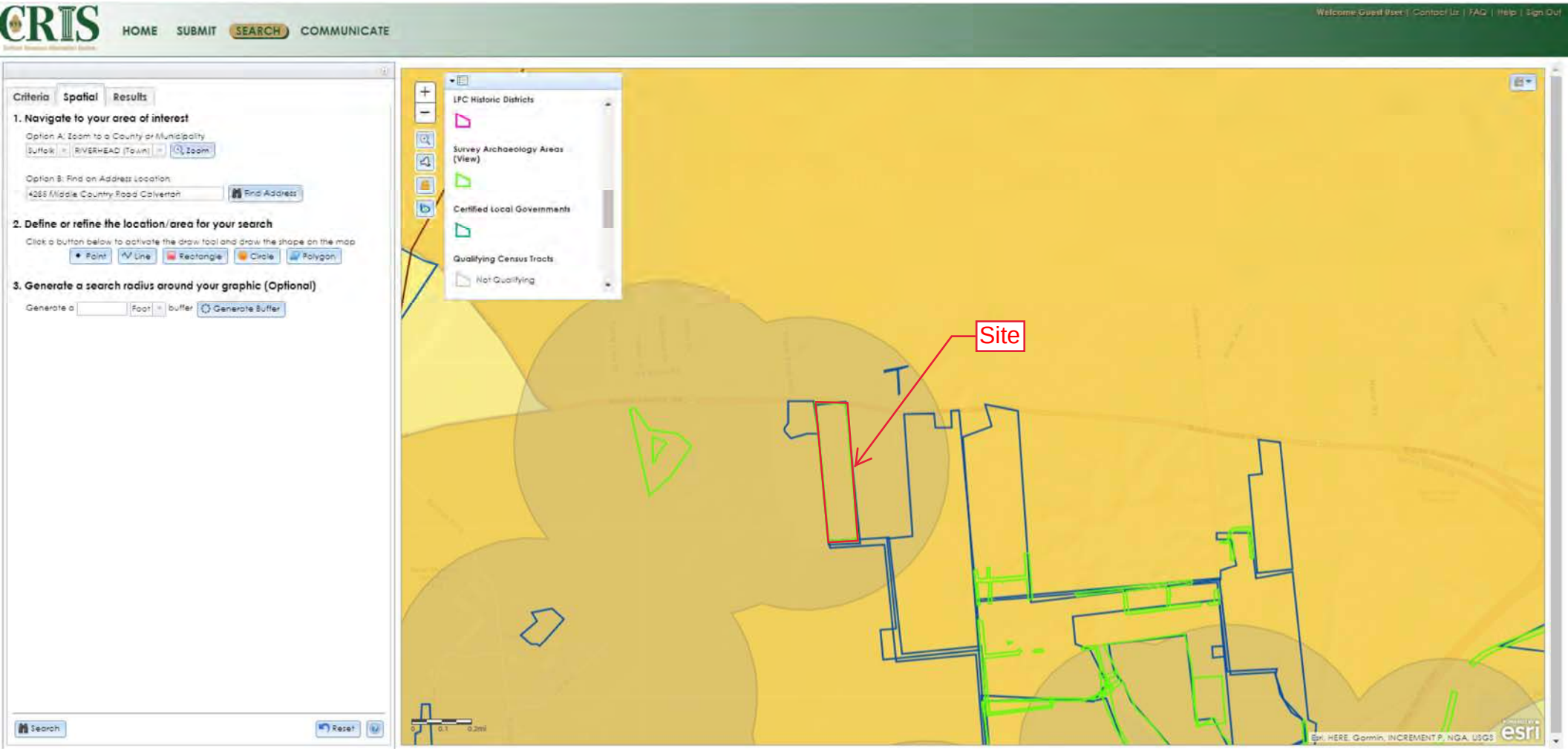
May 28, 2020

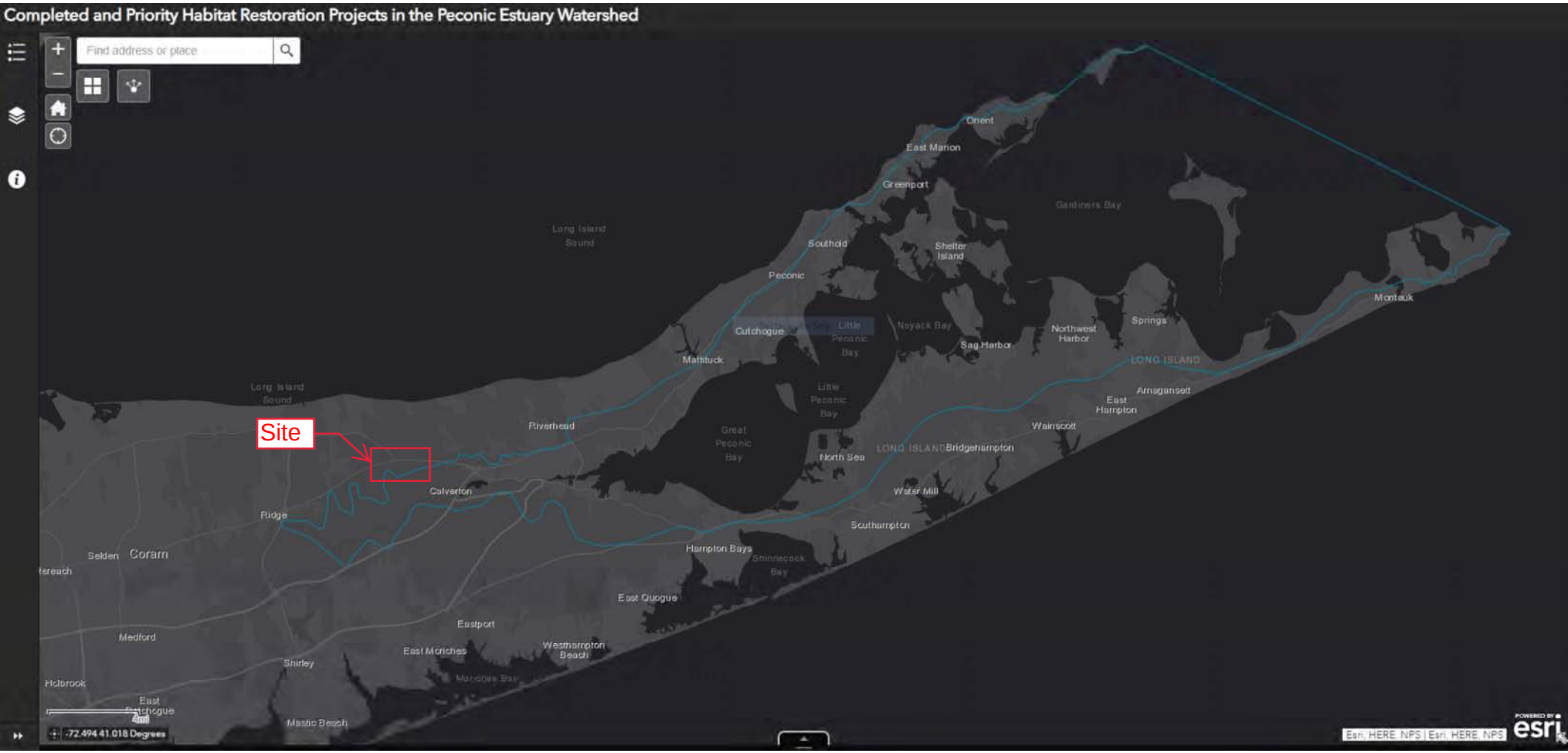
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

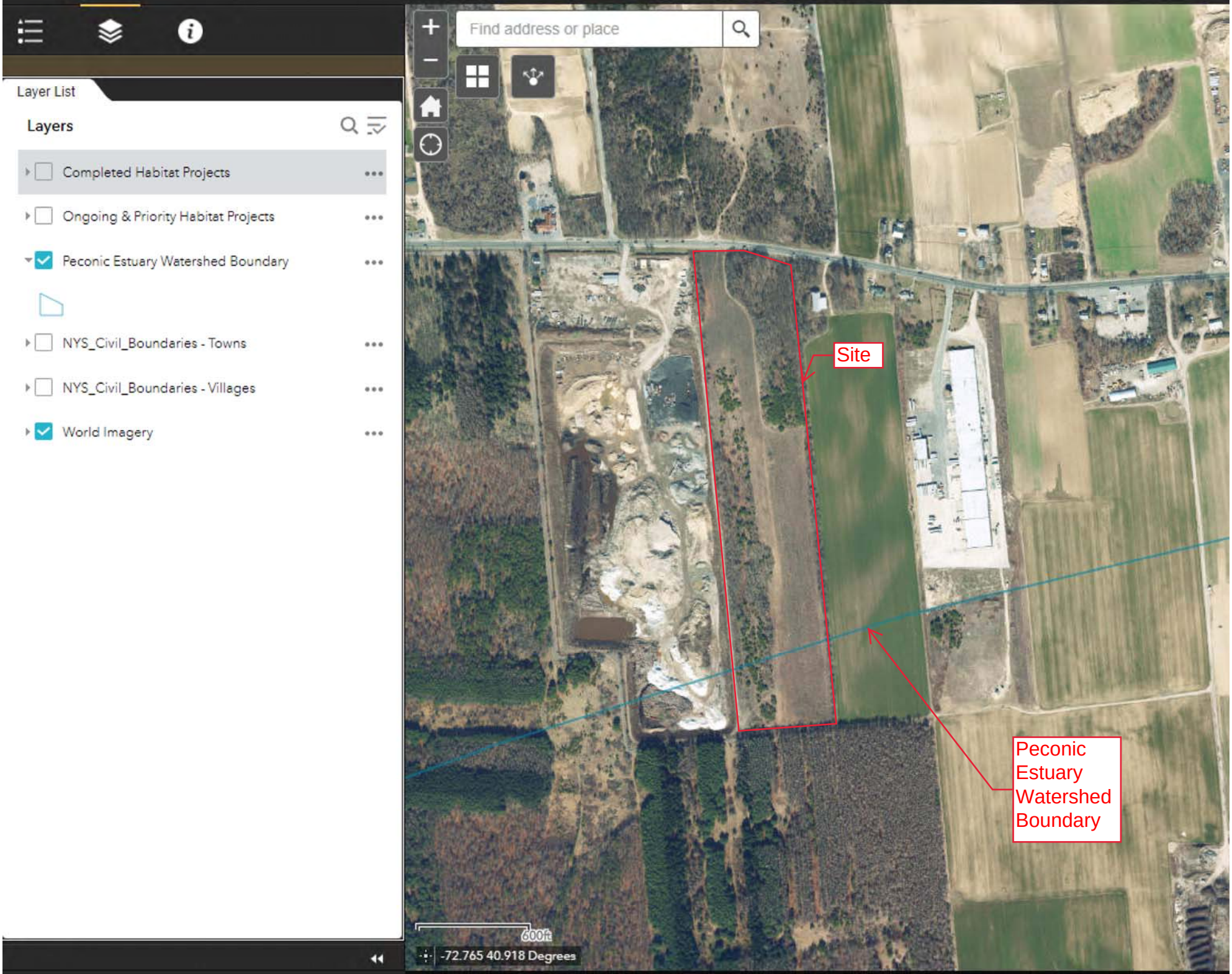
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper


CRIS
HOME
SUBMIT
SEARCH
COMMUNICATE
Criteria
Spatial
Results
1. Navigate to your area of interest
Option A: Zoom to a County or Municipality
Zoom
Option B: Find an Address Location
Find Address
2. Define or refine the location/area for your search
Click a button below to activate the draw tool and draw the shape on the map
Point
Line
Rectangle
Circle
Polygon
3. Generate a search radius around your graphic (Optional)
Generate a
buffer
Generate Buffer
Search
Reset
LPC Historic Districts
Survey Archaeology Areas (View)
Certified Local Governments
Qualifying Census Tracts
Not Qualifying
Site
esri


Completed and Priority Habitat Restoration Projects in the Peconic Estuary Watershed
Find address or place
Site
Orient
East Marion
Greenport
Gardiners Bay
Long Island Sound
Southold
Shelter Island
Peconic
Montauk
Cutchogue
Little Peconic Bay
Noyack Bay
Northwest Harbor
Springs
Sag Harbor
Mattituck
LONG ISLAND
Long Island Sound
Riverhead
Great Peconic Bay
Little Peconic Bay
Amagansett
East Hampton
Wainscott
North Sea
LONG ISLAND
Bridgehampton
Calverton
Water Mill
Ridge
Southampton
Selden
Coram
Hampton Bays
Shinnecock Bay
East Quogue
Eastport
Medford
East Moriches
Westhampton Beach
Shirley
Holbrook
Moriches Bay
East Patchogue
Mastic Beach
-72.494 41.018 Degrees
Esri, HERE, NPS | Esri, HERE, NPS
esri

Completed and Priority Habitat Restoration Projects in the Peconic Estuary Watershed



April 15, 2020

Key Civil Engineering, P.C.
664 Blue Point Road, Unit B
Holtsville, NY 11742

Attn: Ms. Jaclyn Peranteau, P.E.

Re: Expanded Property Inspection and Analysis
N.Y.S. Route 25 (Middle Country Road)
Calverton, NY
SCTM# 0600-116-1-2

Dear Ms. Peranteau,

As per your recent request, I personally completed an inspection of the property highlighted on the attached aerial photograph. The purpose of this inspection was to document the presence or absence of freshwater wetlands as defined in Chapter 295 of the Town of Riverhead code. Please note that no NYSDEC or National wetland inventoried freshwater wetland communities are shown as being located within or near the subject parcel.

My inspection of the site revealed a very shallow depression bordering NYS Route 25 between parcels located to the east and west of the subject. This area showed significant signs of historical disturbance/grading. Dominant species within the area are documented as follows:

- Black Locust (Robinia pseudoacacia)(FACU)
- Black Cherry (Prunus serotina)(FACU)

These two species comprise a pure stand of individual stems ranging from 4" to 8" dbh and are interspersed with scattered Red Cedar (Juniperus virginana)(FACU) and Norway Maple (Acer platanoides)(Upl). The understory and ground cover observed consisted of upland herbaceous vegetation typical of disturbed sites. The depression area located to the south of the

Locust/Black Cherry community transitions to a mature Oak/Pine forest type with the majority of the remaining subject parcel characterized as fallow agricultural land now colonized with various grass species and pioneer seedlings of Red Cedar and Pitch Pine. An active sod farm adjoins the property on the east and an active sand mine/concrete recycling operation is located on the western adjoining property. No freshwater wetland indicator species were observed within the parcel limits that extend from N.Y.S. Route 25 to the southern, fenced border with former Naval Weapons Industrial Reserve Plant.

Wildlife resources within the entire parcel are variable as are the existing habitat types. A review of natural resource documents would indicate that (2) species listed as New York State "Endangered" are found within the Calverton Naval Weapons Industrial Reserve Plant boundaries. Said species are identified as Tiger Salamander (Ambystoma tigrinum) and Short-eared Owl (Asio flammeus). A review of the NYSDEC Resource Mapper database would indicate that the closest habitat with potential for use by Tiger Salamanders is located within the former Naval Reserve boundaries, approximately 2,000' west of the subject parcel's western property line with the sites separated by the aforementioned active sand mine/concrete recycling operation. NYSDEC guidance for protection of suitable Tiger Salamander habitat recommends that project development proposals located within 1,000' of potential habitat areas, be subject to mitigation/conservation designs to protect adjoining upland buffer areas. This requirement is not applicable to the subject parcel.

The Short-eared Owl is known to occasionally utilize the extensive grassland habitat within the former Naval Reserve property during the winter season. The breeding populations in New York are generally located in the State's northern counties with individuals migrating south to winter forage areas. Grasslands and or open marshes are typical forage habitats as small mammals comprise the majority of the Owl's food source. It is possible that the occasional wintering Owl may forage beyond the extensive grasslands within the Naval Weapons Reserve property, however, the presence of the sod farm and he active sand mine operation would certainly limit the value of the subject site for such use.

Very truly yours,

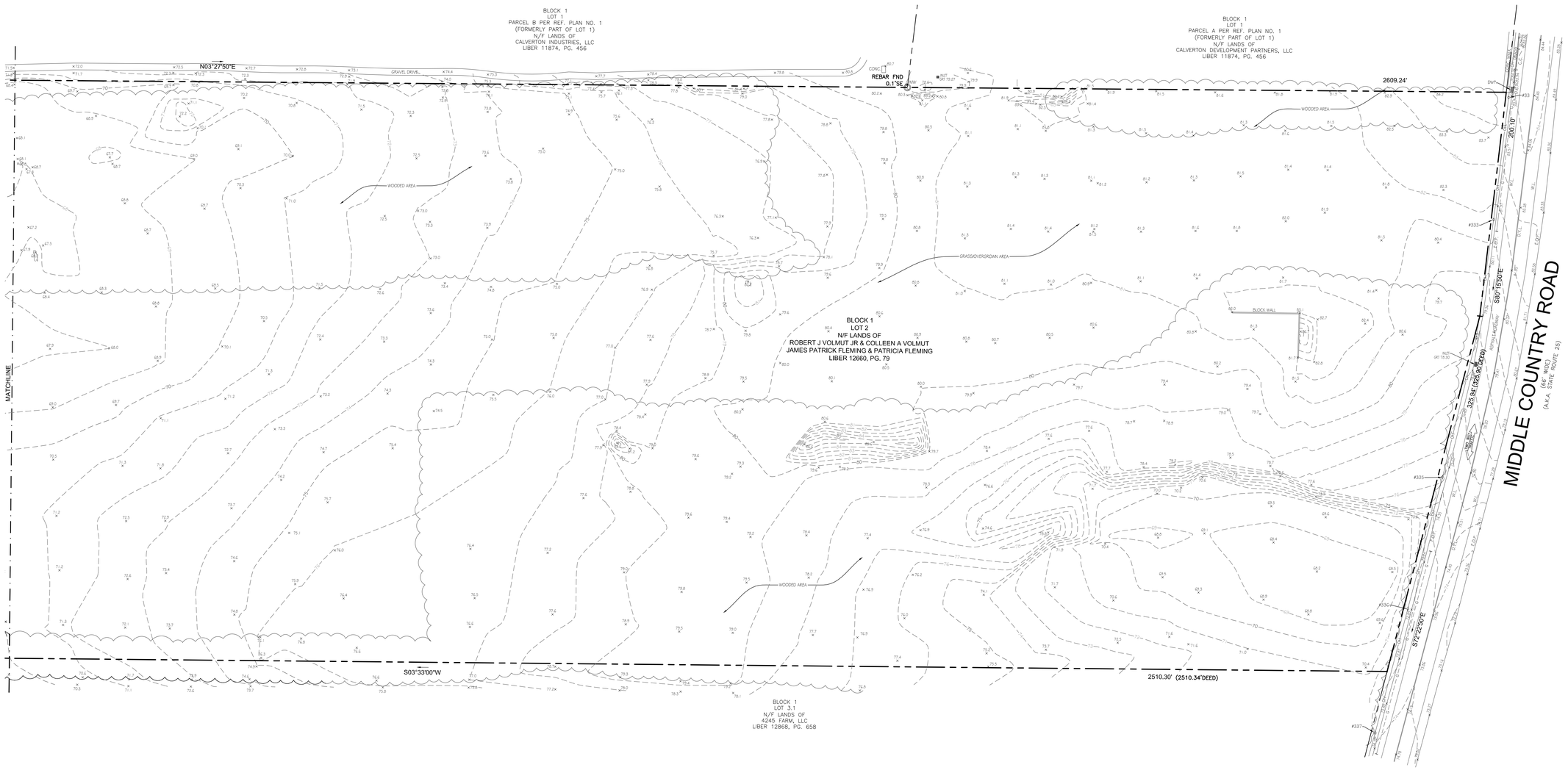
Charles W. Bowman

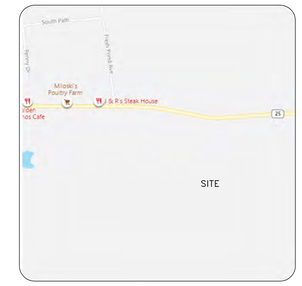
Charles W. Bowman
President

CWB/tl
Enc.
Email: jackie@keycivilengineering.com

APPENDIX VI:
PLAN DRAWINGS

- SURVEY OF PROPERTY (PREPARED BY GALLAS SURVEYING GROUP)
- COVER SHEET (C-1)
- NOTES SHEET (C-2)
- OVERALL SITE PLAN (C-3)
- PARTIAL SITE PLANS (C-4 TO C-7)
- OVERALL GRADING & DRAINAGE PLAN (C-8)
- PARTIAL GRADING & DRAINAGE PLANS (C-9 TO C-12)
- OVERALL SANITARY & UTILITY PLAN (C-13)
- PARTIAL SANITARY & UTILITY PLAN (C-14 TO C-17)
- SANITARY NOTES, DETAILS, & BORINGS (C-18)
- OVERALL LANDSCAPE PLAN (C-19)
- PARTIAL LANDSCAPE PLANS (C-20 TO C-23)
- OVERALL LIGHTING PLAN (C-24)
- PARTIAL LIGHTING PLANS (C-25 TO C-28)
- OVERALL CONSTRUCTION PHASING PLAN (C-29)
- OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN (C-30)
- SITE DETAILS I, II, III, & IV (C-31 TO C-34)
- FIRE MARSHAL PLAN (C-35)





VICINITY MAP

NOTES:

1. PROPERTY KNOWN AND DESIGNATED AS LOT 2, IN BLOCK 1, SECTION 116, DISTRICT 600 ON THE OFFICIAL TAX MAP FOR THE TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK.
2. AREA: 1,317,884 S.F. OR 30.2545 AC.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE, LOCATIONS AND SIZES ARE BASED ON PRIOR UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASSBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.
4. **THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE COMMITMENT REPORT AND IS SUBJECT TO THE COVENANTS, RESTRICTIONS AND EASEMENTS THAT MAY BE CONTAINED THEREIN.**
5. ELEVATIONS ARE BASED UPON NAVD 88.
6. BY GRAPHIC PLOTTING, PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREA OF MINIMAL FLOOD HAZARD) PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NO. 36103C0442H, EFFECTIVE DATE: SEPTEMBER 25, 2009, OBTAINED FROM FEMA NFHL WEB SERVICE ON OCTOBER 14, 2019.
7. THE LOCATION AND EXTENTS OF UNDERGROUND TANKS AND VAULTS, IF ANY EXIST, HAVE NOT BEEN DETERMINED BY THE SURVEYOR.

REFERENCES:

1. SUBDIVISION PLANS FOR NERP HOLDING & ACQUISITIONS COMPANY, LLC, PROPOSED DEVELOPMENT, 4331 MIDDLE COUNTRY ROAD, CALVERTON, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NY 11933, PREPARED BY BOHLER ENGINEERING, DATED FEBRUARY 22, 2017, LAST REVISED APRIL 3, 2019, SHEET NOS. 1 & 2 OF 2, FILED IN THE COUNTY CLERKS OFFICE ON APRIL 12, 2019 AS FILE NO. 12161, ABS NO. 17390.
2. MAP OF PROPERTY SITUATE AT CALVERTON, TOWN OF RIVERHEAD LI, OWNED BY EDWIN H. BROWN, SURVEYED JULY 1919, FILED IN THE COUNTY CLERKS OFFICE ON MARCH 31, 1920 AS FILE NO. 761, ABS NO. 24,
3. SURVEY OF JAMES M. SMITH'S FARM, TOWN OF RIVERHEAD, DATED NOVEMBER 1894, FILED IN THE COUNTY CLERKS OFFICE ON DECEMBER 15, 1894 AS FILE NO. 491.
4. PLANS SHOWING THE LOCATION OF UNDERGROUND ELECTRIC LINES PROVIDED BY P.S.E.&G. LONG ISLAND, MAP NOS. 08233 & 08242, DATED OCTOBER 14, 2019.

MAP LEGEND

PROPERTY LINE	
23	EXISTING CONTOUR
x 12.34	EXISTING SPOT ELEVATION
x TC12.34	EXIST. TOP OF CURB ELEVATION
x BC12.34	EXIST. GUTTER ELEVATION
G	APPROX. LOCATION U.G. GAS LINE PER UTILITY MARKOUT
	INLET
OH	OVERHEAD WIRES
	UTILITY POLE
	SIGN
D.C.	DEPRESSED CURB
C.C.	CONCRETE CURB
E.O.P.	EDGE OF PAVEMENT
C.L.F.	CHAIN LINK FENCE
DWF	DETECTABLE WARNING PAD
W.L.	WHITE LINE
D.Y.L.	DOUBLE YELLOW LINE
1.0'	DENOTES OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE

UTILITIES:
THE FOLLOWING COMPANIES WERE NOTIFIED BY NEW YORK STATE ONE-CALL SYSTEM (1-800-272-4480) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 192870091

UTILITY COMPANY	PHONE NUMBER
NATIONAL GRID	800-262-8600
LONG ISLAND POWER AUTHORITY	800-545-7068
TOWN OF RIVERHEAD	631-727-3200
VERIZON COMMUNICATIONS	855-661-6323

NOTE: ALL UTILITY COMPANIES DID NOT RESPOND TO MARKOUT REQUEST

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800-962-7962
www.digsafelynewyork
- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect the Marks
- Dig With Care

THE STATE OF NEW YORK REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

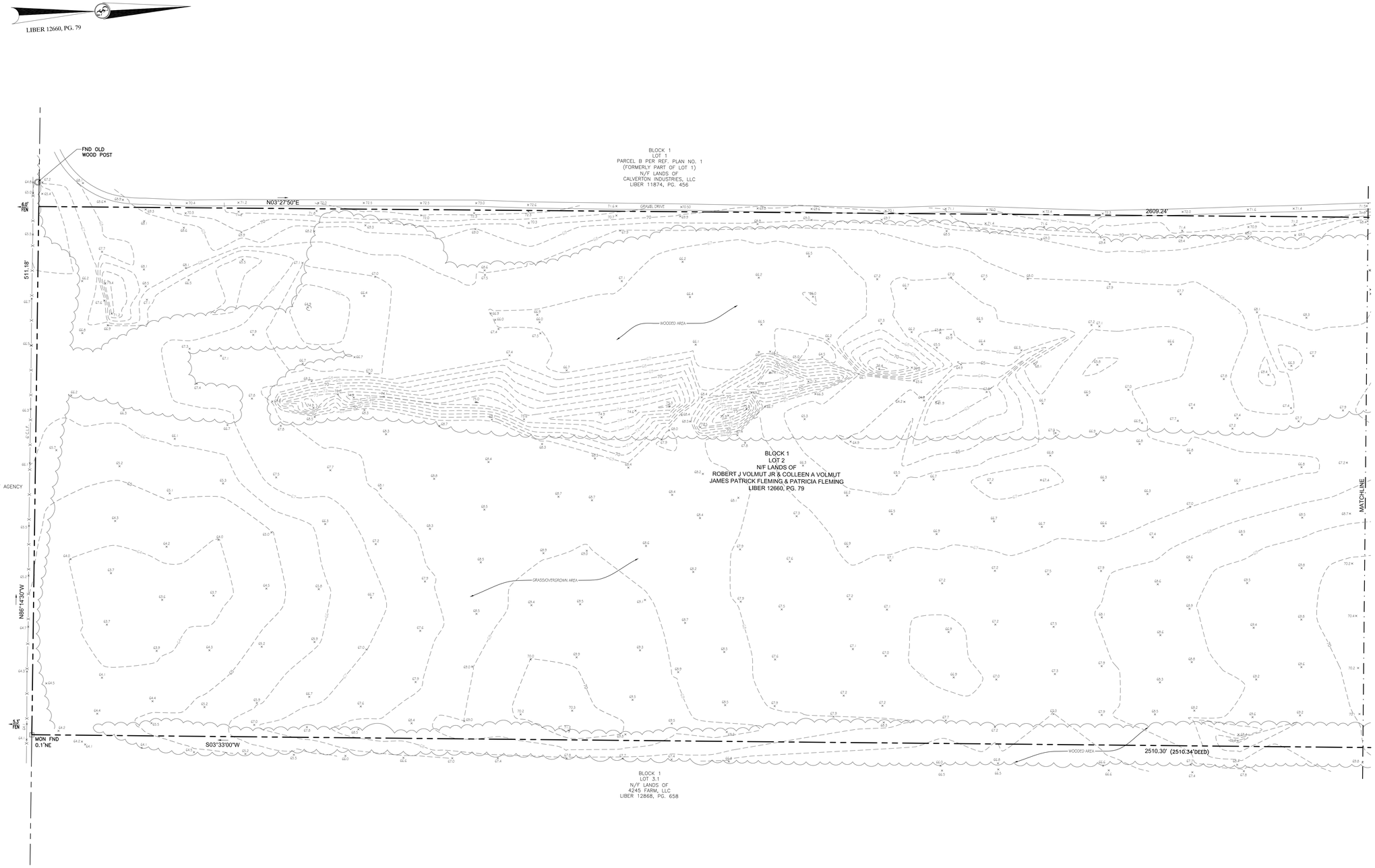
BOUNDARY & TOPOGRAPHIC SURVEY
LOT 2, BLOCK 1
SECTION 116, DISTRICT 600
MIDDLE COUNTRY ROAD (NYSR 25) BETWEEN
FRANCES BOULEVARD & FRESH POND AVENUE
HAMLET OF CALVERTON (TOWN OF RIVERHEAD)
SUFFOLK COUNTY
STATE OF NEW YORK

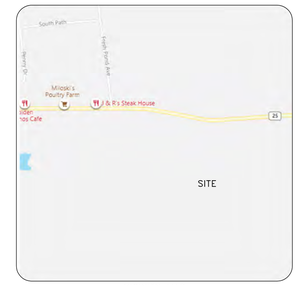
GALLAS SURVEYING GROUP
2865 US ROUTE 1
NORTH BRUNSWICK, NJ 08902
TELE: 732-422-6700
FAX: 732-940-8786
www.gallassurvey.com

DATE	SCALE	DRAWN:	CHECKED:
11-15-2019	1"=40'	K.G.G.	J.R.T./C.J.O.
FIELD DATE	FIELD BOOK	PAGE	FIELD CREW
10-24 - 11-08-19	128	58, 66, 74, 80	S.G./L.R./A.S.
FILE NO.: G19227		DRAWING NAME/SHEET NO. G19227.DWG	1 OF 2

NOT VALID UNLESS EMBOSSED WITH RAISED IMPRESSION OR BLUE INK SEAL

GREGORY S. GALLAS — DATE
NEW YORK PROFESSIONAL LAND SURVEYOR #50124





VICINITY MAP

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3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE, LOCATIONS AND SIZES ARE BASED ON PRIOR UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASSBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.
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MAP LEGEND

PROPERTY LINE	
123	EXISTING CONTOUR
X 12.34	EXISTING SPOT ELEVATION
X TC 12.34	EXIST. TOP OF CURB ELEVATION
X BC 12.34	EXIST. GUTTER ELEVATION
G	APPROX. LOCATION U.G. GAS LINE PER UTILITY MARKOUT
	INLET
OH	OVERHEAD WIRES
	UTILITY POLE
	SIGN
D.C.	DEPRESSED CURB
C.C.	CONCRETE CURB
E.O.P.	EDGE OF PAVEMENT
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DWP	DETECTABLE WARNING PAD
W.L.	WHITE LINE
D.Y.L.	DOUBLE YELLOW LINE
1.0'	DENOTES OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE

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NATIONAL GRID	800-262-8600
LONG ISLAND POWER AUTHORITY	800-545-7068
TOWN OF RIVERHEAD	631-727-3200
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GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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FAX: 732-940-8786
www.gallassurvey.com

DATE	SCALE	DRAWN:	CHECKED:
11-15-2019	1"=40'	K.G.G.	J.R.T./C.J.O.
FIELD DATE	FIELD BOOK	PAGE	FIELD CREW
10-24 - 11-08-19	128	58, 66, 74, 80	S.G./L.R./A.S.
FILE NO.: G19227	DRAWING NAME/SHEET NO.: G19227.DWG	2 OF 2	

NOT VALID UNLESS EMBOSSED WITH RAISED IMPRESSION OR BLUE INK SEAL

GREGORY S. GALLAS
NEW YORK PROFESSIONAL LAND SURVEYOR #50724
DATE

SITE DEVELOPMENT PLANS

FOR

HK VENTURES, LLC

INDUSTRIAL PARK

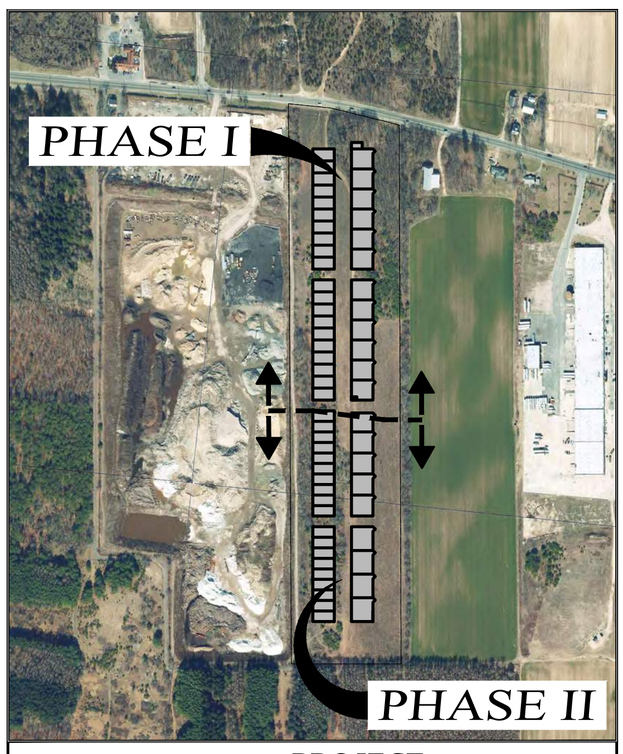
LOCATED AT

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933

SCTM# 0600-116.00-01.00-002.000

AERIAL MAP
SCALE: 1" = 800'

VICINITY MAP
SCALE: 1" = 800'



PROJECT PHASING MAP
SCALE: 1" = 500'

SITUATED IN

TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

PROJECT DATA	
SITE ADDRESS	4285 MIDDLE COUNTRY ROAD CALVERTON, NY 11933
OWNER / APPLICANT	HK VENTURES, LLC 147 STEAMBOAT ROAD GREAT NECK, NY 11024 c/o URI HASON
TAX MAP NUMBER	DISTRICT: 600, SECTION: 116, BLOCK: 1, LOT: 2
SITE AREA	1,317,884 SF (30.2545 Ac)
CURRENT ZONING	INDUSTRIAL C
EXISTING USE	VACANT
PROPOSED USE	PRIMARY USES: WAREHOUSE & MANUFACTURING (INDOOR)
PROPOSED BUILDING AREA (GFA)	PHASE I BUILDING 1 = 56,000 SF BUILDING 2 = 56,672 SF BUILDING 3 = 56,000 SF BUILDING 4 = 56,297 SF COMMISSARY = 1,500 SF TOTAL = 226,469 SF PHASE II (TO BE CONSTRUCTED ONCE PHASE I IS COMPLETED AND OPERATING) BUILDING 5 = 49,000 SF BUILDING 6 = 48,510 SF BUILDING 7 = 44,100 SF BUILDING 8 = 44,550 SF TOTAL = 186,160 SF PHASE I + PHASE II = 412,629 SF (31.31%)
PERVIOUS PAVERS / LANDSCAPE AREA	381,239 SF (28.93%)
IMPERVIOUS / PAVEMENT / CONCRETE AREA (EXCLUDES BUILDING AREAS)	524,016 SF (39.76%)

DRAWING LIST	
C-1	COVER SHEET
C-2	NOTES SHEET
C-3	OVERALL SITE PLAN
C-4	PARTIAL SITE PLAN (SECTION A - PHASE I)
C-5	PARTIAL SITE PLAN (SECTION B - PHASE I)
C-6	PARTIAL SITE PLAN (SECTION C - PHASE II)
C-7	PARTIAL SITE PLAN (SECTION D - PHASE II)
C-8	OVERALL GRADING & DRAINAGE PLAN
C-9	PARTIAL GRADING & DRAINAGE PLAN (SECTION A - PHASE I)
C-10	PARTIAL GRADING & DRAINAGE PLAN (SECTION B - PHASE I)
C-11	PARTIAL GRADING & DRAINAGE PLAN (SECTION C - PHASE II)
C-12	PARTIAL GRADING & DRAINAGE PLAN (SECTION D - PHASE II)
C-13	OVERALL SANITARY & UTILITY PLAN
C-14	PARTIAL SANITARY & UTILITY PLAN (SECTION A - PHASE I)
C-15	PARTIAL SANITARY & UTILITY PLAN (SECTION B - PHASE I)
C-16	PARTIAL SANITARY & UTILITY PLAN (SECTION C - PHASE II)
C-17	PARTIAL SANITARY & UTILITY PLAN (SECTION D - PHASE II)
C-18	SANITARY NOTES, DETAILS & BORINGS
C-19	OVERALL LANDSCAPE PLAN
C-20	PARTIAL LANDSCAPE PLAN (SECTION A - PHASE I)
C-21	PARTIAL LANDSCAPE PLAN (SECTION B - PHASE I)
C-22	PARTIAL LANDSCAPE PLAN (SECTION C - PHASE II)
C-23	PARTIAL LANDSCAPE PLAN (SECTION D - PHASE II)
C-24	OVERALL LIGHTING PLAN
C-25	PARTIAL LIGHTING PLAN (SECTION A - PHASE I)
C-26	PARTIAL LIGHTING PLAN (SECTION B - PHASE I)
C-27	PARTIAL LIGHTING PLAN (SECTION C - PHASE II)
C-28	PARTIAL LIGHTING PLAN (SECTION D - PHASE II)
C-29	OVERALL CONSTRUCTION PHASING PLAN
C-30	OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN
C-31	SITE DETAILS I
C-32	SITE DETAILS II
C-33	SITE DETAILS III
C-34	SITE DETAILS IV
C-35	FIRE MARSHAL PLAN

REFERENCES

THIS PLAN REFERENCES:

BOUNDARY & TOPOGRAPHICAL
SURVEY PREPARED BY:
GALLAS SURVEYING GROUP
2865 US ROUTE 1
NORTH BRUNSWICK, NY 08902
DATED: 11/08/2019

ARCHITECTURAL PLANS & RENDERINGS
PREPARED BY:
BLD ARCHITECTURE, DPC
31 WEST MAIN STREET, SUITE 205
PATCHOGUE, NY 11772
DATED: 01/24/2020

SEWAGE TREATMENT PLANT (STP) PLANS
PREPARED BY:
P.W. GROSSER CONSULTING ENGINEER
& HYDROGEOLOGIST, P.C.
630 JOHNSON AVENUE, SUITE 7
BOHEMIA, NY 11716
DATED: 05/12/2020

ROADWAY MODIFICATION PLANS
PREPARED BY:
STONEFIELD ENGINEERING & DESIGN
92 PARK AVENUE
RUTHERFORD, NJ 07070
DATED: 06/19/2020

GEOTECHNICAL EVALUATION REPORT
PREPARED BY:
J.R. HOLZMACHER P.E., LLC
3555 VETERANS MEMORIAL HIGHWAY, SUITE A
RONKONKOMA, NY 11779
DATED: 03/19/2021

SOIL BORING LOGS & PERCOLATION RATE INFORMATION
PREPARED BY:
SLACKE TEST BORING CO.
P.O. BOX 64
KINGS PARK, NY 11754
BORINGS 1 - 4
DATED: 11/08/2019
BORINGS 5 - 8
DATED: 02/12/2021
PERCOLATION TEST
DATED: 02/12/2021

VICINITY MAP BACKGROUND DATA PROVIDED BY
MAPS.GOOGLE.COM

CERTIFICATION BOX

THIS IS TO CERTIFY THIS SITE PLAN HAS BEEN APPROVED BY THE PLANNING BOARD OF THE TOWN OF RIVERHEAD BY PLANNING BOARD RESOLUTION NUMBER_____DATED_____.

SIGNATURE OF PLANNING BOARD CHAIRPERSON

DATE OF SIGNATURE_____.

NEW YORK CITY ONE CALL CENTER & L.I. 1-800-272-4480 STOP-CALL-THEN DIG Safely

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

ALTERATION OR ADDITION TO THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

SEAL & SIGNATURE:

NOT VALID UNTIL SEALED

JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	N.T.S.
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC
INDUSTRIAL PARK
4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:
COVER SHEET

DRAWING No.:
C-1

PAGE No.:
1 OF 35

Y:\Key Civil\Projects\2019\19026_Pinewood Grp_Calverton\Drawings\Key Civil\19026_2021.04.02_Details4.dwg

SITE REMOVAL NOTES

1. EXCAVATION SHALL BE PROPERLY BACKFILLED WITH CLEAN, SUITABLE MATERIAL. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT OR CONSULT WITH THE GEOTECHNICAL ENGINEER FOR INSPECTION AND CERTIFICATION.

2. THE CONTRACTOR SHALL INSTALL A TEMPORARY PROTECTIVE FENCE IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL CODES AND REGULATIONS AT LOCATIONS WHERE HAZARDOUS CONDITIONS EXIST AS A RESULT OF REMOVAL ACTIVITIES.

3. THE UTILITY INFORMATION SHOWN ON THE PLAN IS A COMPILATION OF FIELD LOCATIONS, ABOVEGROUND STRUCTURES THAT WERE VISIBLE AND ACCESSIBLE IN THE FIELD, AND RECORD DRAWINGS AVAILABLE AT THE TIME OF THE SURVEY. THE FEASIBILITY OF ALL UTILITIES (DRAINAGE, SEWER, WATER, GAS, ELECTRIC, PHONE, CABLE, ETC.) AND /OR UNDERGROUND STRUCTURES TO BE REMOVED OR RELOCATED HAS NOT BEEN CONFIRMED WITH THE GOVERNING AGENCIES AND MUST BE REVIEWED FURTHER PRIOR TO PREPARATION OF CONSTRUCTION DOCUMENTS.

4. PRIOR TO STARTING ANY DEMOLITION, THE CONTRACTOR IS RESPONSIBLE FOR/TO:
   a. ENSURE COPIES OF ALL PERMITS AND APPROVALS MUST BE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW.
   b. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.
   c. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.
   d. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES.
   e. A COMPLETE INSPECTION OF CONTAMINANTS BY A LICENSED ENVIRONMENTAL TESTING AGENCY, OF ALL BUILDINGS AND/OR STRUCTURES TO BE REMOVED. SAME SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS. ANY/ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF BY A FEDERALLY LICENSED CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER REFERENCED OR IMPLIED HEREIN IS THE SOLE RESPONSIBILITY OF THE ENVIRONMENTAL CONSULTANT.

5. IN THE ABSENCE OF SPECIFICATIONS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY THE STRUCTURAL OR GEO-TECHNICAL ENGINEER.

6. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES.

7. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINE WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.

8. USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.

9. THE CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS AT ANY TIME.

10. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

11. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES OR CALL DAMAGE PROTECTION SYSTEMS FOR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION.

12. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.

13. ALL DEMOLITION DEBRIS TO BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS..

GENERAL SITE NOTES

1. LOCATION OF EXISTING AND PROPOSED UTILITY SERVICES SHOWN ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR WITH THE UTILITY COMPANIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF DISCREPANCIES EXIST, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING.

2. UNSUITABLE MATERIAL, CONSTRUCTION DEBRIS, EXCESS SOILS, ETC. SHALL BE PROPERLY REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.

3. THE CONTRACTOR IS RESPONSIBLE TO TAKE EROSION CONTROL MEASURES NECESSARY IN ACCORDANCE WITH NYS STANDARDS AND SPECIFICATIONS FOR EROSION & SEDIMENT CONTROL TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT ROADWAYS AND PROPERTIES.

4. ALL ON-SITE CONCRETE SHALL BE IN CONFORMANCE WITH ACI PROVISIONS. ALL CURBING SHALL BE CONCRETE UNLESS OTHERWISE NOTED.

5. RELOCATION AND/OR REMOVAL OF EXISTING UTILITY POLES, TRAFFIC SIGNS, ETC., SHALL BE COORDINATED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR FIELD-VERIFYING THEIR PRESENCE.

6. ALL TRAFFIC CONTROL DEVICES, I.E. SIGNALS, SIGNS, AND PAVEMENT MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH THE GUIDELINES OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND AS DIRECTED BY THE TOWN OF RIVERHEAD. ALL PAVEMENT MARKINGS REQUIRED IN THE R.O.W. SHALL BE THERMOPLASTIC (NYSDOT SPECIFICATIONS). ONSITE MARKING SHALL BE PAINT (AASHTO M24B TYPE F).

7. SIGNAGE PERMITS WILL BE PROCURED BY OTHERS.

8. CONTRACTOR SHALL SAW CUT TO THE FULL DEPTH OF EXISTING PAVEMENT WITH A STRAIGHT VERTICAL EDGE FREE FROM IRREGULARITIES WHEREVER NEW PAVEMENT JOINS EXISTING PAVEMENT. CONTRACTOR SHALL DETERMINE EXACT LOCATION AND EXTENT OF THE REQUIRED SAWCUTTING IN ORDER TO PERFORM THE WORKSCOPE DEPICTED ON THE PLANS. TWO FT MINIMUM FROM CURBS, PADS, WALKS, AND WALLS TO PERMIT PROPER COMPACTION OF THE REPLACED SURFACES.

9. REMOVAL INCLUDES, BUT IS NOT LIMITED TO, CURBING, PAVEMENT, UNSUITABLE MATERIALS, AND UNDERGROUND PIPING. QUESTIONABLE ITEMS ENCOUNTERED (ABOVE AND/OR BELOW GRADE) SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER OF RECORD IMMEDIATELY IN WRITING BEFORE REMOVAL OR DISTURBANCE.

10. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO EXISTING FOUNDATIONS AND OTHER STRUCTURES TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF EXPOSED AND/OR BELOW GRADE FOUNDATIONS/ WALLS/ SIDEWALKS AND PAVEMENT TO REMAIN, AND SHALL PROVIDE A SAFE WORK AREA. ANY DAMAGE OR DISTURBANCE DUE TO SUBJECT WORKSCOPE SHALL BE REPAIRED TO LIKE-KIND CONDITIONS AT THE CONTRACTOR'S EXPENSE.

11. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AND VEHICULAR TRAFFIC DURING REMOVAL ACTIVITIES. ANY TRAFFIC CONTROL, ACCESS, AND SAFETY PROVISIONS WITHIN THE R.O.W. AND ACCESS ROUTES (E.G. ACCESSIBLE RAMPS, PEDESTRIAN CROSSWALKS, SIDEWALKS, PAVEMENT STRIPING, ETC.) SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL DETERMINE APPROPRIATENESS OF REMOVAL ACTIVITIES AND PROVIDE TEMPORARY MEASURES FOR THE PROTECTION AND SAFETY OF THE PUBLIC UNTIL PERMANENT COMPONENTS/REPLACEMENTS CAN BE INSTALLED.

12. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THE SAFETY OF ITS EMPLOYEES, THE GENERAL PUBLIC, STRUCTURES TO REMAIN, ADJACENT PROPERTIES, PUBLIC R.O.W.'S, ETC. DURING ALL CONSTRUCTION AND REMOVAL ACTIVITIES IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL CODES AND REGULATIONS. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITIES FOR THE CONTRACTOR'S SAFETY PROGRAMS & PROCEDURES IN CONNECTION WITH THE WORK.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, SIZE, TYPE, AND DEPTH OF UTILITIES, PIPING, DRYWELLS, ETC. PRIOR TO THE START OF ANY WORK. THE CONTRACTOR MUST CONTACT THE APPROPRIATE LOCAL "ONE CALL" SYSTEM TO ENSURE THAT ALL UTILITIES ARE PROPERLY AND COMPLETELY MARKED OUT IN THE FIELD PRIOR TO ANY WORK AT THE SITE. ANY DISCREPANCIES BETWEEN THE FIELD LOCATIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IN WRITING IMMEDIATELY. THE CONTRACTOR IS ADVISED THAT UTILITY INFORMATION SHOWN ON THE PLAN IS A COMPILATION OF FIELD LOCATIONS, ABOVEGROUND STRUCTURES THAT WERE VISIBLE AND ACCESSIBLE IN THE FIELD, AND RECORD DRAWINGS AVAILABLE AT THE TIME OF THE SURVEY AND MUST BE CONFIRMED ACCORDINGLY. THE CONTRACTOR SHALL COORDINATE UTILITY DISCONNECTION WITH THE APPLICABLE UTILITY COMPANIES PRIOR TO REMOVAL ACTIVITIES. THE CONTRACTOR IS ALSO ADVISED THAT ALL SUCH FACILITIES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

14. THE CONTRACTOR SHALL COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM THE REMOVAL OF STRUCTURES AND FOUNDATIONS WITH SOIL CONSISTING OF MATERIALS FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. STONES USED SHALL NOT BE LARGER THAN 6 INCHES IN DIMENSION. PRIOR TO PLACEMENT OF FILL MATERIALS, UNDERTAKE ALL NECESSARY ACTIONS IN ORDER TO ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH AND DEBRIS. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 6 INCHES IN LOOSE DEPTH AND COMPACT EACH LAYER AT PLACEMENT TO 95% OPTIMUM DENSITY. GRADE THE SURFACE TO MEET ADJACENT CONTOURS AND TO PROVIDE SURFACE DRAINAGE. REFER TO GEOTECHNICAL REPORT (IF PROVIDED) FOR FURTHER RECOMMENDATIONS. REFER TO GRADING PLAN FOR PROPOSED SURFACE ELEVATIONS.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE SPECIFICATIONS OF THE LOCAL AUTHORITIES REGARDING MATERIALS AND INSTALLATION OF PROPOSED WORK, FOR OBTAINING THE REQUIRED PERMITS, SIGN OFFS, AND CONSTRUCTION INSPECTIONS, ACCORDING TO GOVERNING BUILDING CODES AND DISPOSAL OF ALL MATERIAL IN ACCORDANCE WITH STATE AND LOCAL LAW.

16. SIDEWALKS, CURBS, OR OTHER EXISTING SITE APPURTENANCES DAMAGED BY CONSTRUCTION SHALL BE REPAIRED OR REPLACED IN KIND OR UNLESS NOTED OTHERWISE (UNO), WHETHER SPECIFIED ON THIS PLAN OR NOT, AT THE SOLE COST OF THE CONTRACTOR.

17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS.

18. SEQUENCE AND COORDINATION OF CONSTRUCTION IS SOLELY THE CONTRACTOR'S RESPONSIBILITY.

19. ANY UTILITIES INCLUDING POLES REQUIRED TO BE RELOCATED DUE TO THE INSTALLATION OF THE REQUIRED IMPROVEMENTS SHALL BE RELOCATED AT THE EXPENSE OF THE APPLICANT/OWNER/DEVELOPER/CONTRACTOR.

20. ALL TRAFFIC ROAD MARKINGS, ROAD SIGNS, AND LIGHT SIGNALS THAT MAY HAVE BEEN MOVED OR DAMAGED IN THE PROCESS OF CONSTRUCTION SHALL BE RESTORED AT THE APPLICANT'S EXPENSE TO AT LEAST THE SAME QUALITY AND CHARACTERISTICS THAT EXISTED BEFORE CONSTRUCTION BEGAN. THE APPLICANT SHALL BE FURTHER RESPONSIBLE TO INSURE THAT, IN THE ROADWAYS ADJACENT TO THE CONSTRUCTION SITE, THESE MARKINGS, SIGNS AND SIGNALS, ARE MAINTAINED DURING THE ENTIRE PERIOD OF CONSTRUCTION. IF REPLACEMENT OR UPGRADE IS REQUIRED, SAME MUST BE APPROVED BY THE TOWN OF RIVERHEAD.

21. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORKSCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODE.

22. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST O.S.H.A. STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF O.S.H.A., AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.

23. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 1.0% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.5% MINIMUM ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST MUST BE IDENTIFIED TO THE PROJECT ENGINEER IN WRITING IMMEDIATELY/ PROCEEDING WITH CONSTRUCTION WITHOUT NOTIFICATION IS DONE SO AT THE CONTRACTOR'S OWN RISK.

24. IN CASE OF DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS, IMMEDIATELY NOTIFY THE PROJECT ENGINEER IN WRITING OF ANY CONFLICTS.

25. CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO PROJECT ENGINEER AND OWNER PRIOR TO INITIATING WORK.

26. THE CONTRACTOR MUST NOTIFY THE TOWN OF RIVERHEAD ENGINEERING DIVISION AND SCDHS 48 HOURS IN ADVANCE OF THE COMMENCEMENT OF ANY ON-SITE DRAINAGE, SANITARY, CURB, OR PAVING WORK.

27. THE OWNER SHALL PROVIDE WAYFINDING SIGNAGE ON-SITE.

28. THE OWNER SHALL PROVIDE THE SEPARATE DUMPSTERS FOR THE APPROPRIATE REFUSE SUCH AS TRASH, RECYCLING, ETC.

GRADING & DRAINAGE NOTES

1. STORMWATER RUNOFF COEFFICIENTS PER TOWN OF RIVERHEAD:
   a. ROOF = 1.00
   b. PAVEMENT/IMPERVIOUS = 1.00
   c. LANDSCAPE/PERVIOUS = 0.20

3. PROVIDE STORMWATER RUNOFF STORAGE FOR 2" RAINFALL PER TOWN OF RIVERHEAD REQUIREMENTS

4. DRYWELL DESIGN CAPACITY:
   a. 10' DIAMETER = 68.42 CF/VF
   b. 12' DIAMETER = 100.88 CF/VF

5. ALL PROPOSED DRAINAGE INTERCONNECTING PIPING SHALL BE SMOOTH WALL HDPE WITH A MINIMUM DIAMETER OF 18 INCHES.

6. TOP OF EFFECTIVE DEPTH IN LEACHING STRUCTURES SHALL BE NO HIGHER THAN THE GRATE ELEVATION OF THE LOWEST INLET IN THE IMMEDIATE SYSTEM.

7. ALL LANDINGS AND WALKWAYS SHALL HAVE A MINIMUM OF 1.0% CROSS SLOPE AWAY FROM THE BUILDING OR SLOPE TOWARDS AN INLET / LOW SPOT.

8. CONTRACTOR SHALL CLEAN ALL EXISTING/PROPOSED DRAINAGE STRUCTURES AND INTERCONNECTING PIPES AT THE END OF CONSTRUCTION.

10. ALL ACCESSIBLE PARKING, CURB RAMPS, AND OTHER APPURTENANCES OF ACCESSIBLE ROUTES ARE TO MEET THE REQUIREMENTS OF THE 2020 NYS BUILDING CODE CHAPTER 11-ACCESSIBILTY AND ICC/ANSI A117.1 - 2017. ACCESSIBLE STALLS SHALL HAVE NO SLOPE GREATER THAN 2.0% IN ANY DIRECTION AND THE PROPOSED SIDEWALK SHALL NOT EXCEED A 5.0% RUNNING SLOPE AND 2.0% CROSS SLOPE.

11. LOCATION OF EXISTING UTILITY SERVICES ARE UNKNOWN AND SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR WITH THE UTILITY COMPANIES AND/OR PRIVATE MARK OUT COMPANIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

12. ALL ELEVATIONS DENOTED ON THIS PLAN REFER TO NAVD 1988 DATUM.

13. IF WET CONDITION IS ENCOUNTERED, CONTRACTOR SHALL USE 3/4" CLEAN WASHED STONE IN LIEU OF SAND BACKFILL.

14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEAN-OUT TOPS SHALL BE ADJUSTED, IF REQUIRED, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.

SOIL EROSION & SEDIMENT CONTROL NOTES

1. THE STORMWATER POLLUTION PREVENTION PRACTICES PROPOSED HEREON HAVE BEEN IDENTIFIED AS THE MINIMUM RECOMMENDED PRACTICES. ADDITIONAL STORMWATER MANAGEMENT FACILITIES OR PRACTICES SHALL BE INSTALLED TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS AND PREVENT THE INCIDENTAL DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE. CONTRACTOR TO NOTIFY IN WRITING AND CONSULT WITH THE ENGINEER OF RECORD IF ADDITIONAL MEASURES ARE REQUIRED OR IF THERE IS EVIDENCE INDICATING POTENTIAL OR REALIZED IMPACTS ON WATER QUALITY DUE TO ANY STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

2. NOTHING IN THIS STORMWATER POLLUTION PREVENTION PLAN'S DRAWING OR REPORTS RELIEVES THE CONTRACTOR OR OWNER/OPERATOR FROM OBTAINING ANY OTHER PERMITS REQUIRED BY LAW OR COMPLIANCE WITH TAKING ALL REASONABLE STEPS TO MINIMIZE OR PREVENT ANY DISCHARGE IN VIOLATION OF NYS DEC PERMIT NO. GP-0-20-001 OR WHICH HAS A REASONABLE LIKELIHOOD OF ADVERSELY AFFECTING HUMAN HEALTH OR THE ENVIRONMENT.

3. ALL STORMWATER MANAGEMENT PRACTICES SHALL BE INSPECTED BY THE ENGINEER OF RECORD AS THEY ARE CONSTRUCTED. NOTIFY ENGINEER OF THE START OF CONSTRUCTION AND DURATION A MINIMUM OF 2 WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. WITHOUT PROPER INSPECTION, CONTRACTOR MAY BE REQUIRED TO REMOVE AND REINSTALL STORMWATER MANAGEMENT PRACTICES AT CONTRACTORS EXPENSE.

4. CONTRACTOR SHALL BE FAMILIAR WITH THE NEW YORK STATE STANDARDS AND SPECIFICATION FOR EROSION AND SEDIMENT CONTROL ("BLUE BOOK") DATED NOVEMBER 2016 AND THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL, DATED JANUARY 2015..

5. EROSION CONTROL MEASURES TO PREVENT THE INCIDENTAL DISCHARGE OF SILT-LADEN RUNOFF FROM EXITING THE SITE SHALL, AT A MINIMUM, CONFORM TO THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL UNLESS ADDITIONAL MEASURES ARE NOTED OR REQUIRED BY THE ENGINEER OF RECORD.

6. IT SHALL NOT BE A DEFENSE FOR A CONTRACTOR OR AN OWNER/OPERATOR IN AN ENFORCEMENT ACTION THAT IT WOULD HAVE BEEN NECESSARY TO HALT OR REDUCE THE CONSTRUCTION ACTIVITY IN ORDER TO MAINTAIN COMPLIANCE WITH OR IMPLEMENT EROSION AND SEDIMENT CONTROL PRACTICES. SOIL EROSION CONTROL MEASURES SHALL BE ADJUSTED/ RELOCATED BY CONTRACTOR AS IDENTIFIED DURING SITE INSPECTIONS IN ORDER TO MAINTAIN EFFECTIVENESS OF CONTROL MEASURES.

7. THE COSTS OF INSTALLING AND MAINTAINING THE EROSION CONTROL MEASURES SHALL BE DEEMED INCLUDED IN THE PRICE BID FOR THE SITE WORK.

8. INSTALLATION OF EROSION CONTROL, CLEARING, AND SITE WORK SHALL BE DONE AS INDICATED IN THE CONSTRUCTION SEQUENCE.

9. INSTALLATION OF EROSION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

10. CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES BEING IMPLEMENTED AFTER EACH RAINFALL EVENT AND DAILY WITHIN THE ACTIVE WORK AREA TO ENSURE THAT THEY ARE BEING MAINTAINED IN EFFECTIVE OPERATING CONDITION AT ALL TIMES. INSPECTION OF ALL IMPLEMENTED PRACTICES SHALL OCCUR WEEKLY AT A MINIMUM. IF DEFICIENCIES ARE IDENTIFIED, THE CONTRACTOR SHALL BEGIN IMPLEMENTING CORRECTIVE ACTIONS WITHIN ONE BUSINESS DAY AND SHALL COMPLETE THE CORRECTIVE ACTIONS IN A REASONABLE TIME FRAME.

11. CONTRACTOR SHALL REMOVE ANY SILT FROM SOIL EROSION AND SEDIMENT CONTROL MEASURES WHEN IT REACHES (1/2) ONE-HALF CAPACITY UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. THE MATERIAL SHOULD BE INCORPORATED INTO THE SITE IN A STABILIZED MANNER.

12. TEMPORARY SEED AND MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINISHED GRADE AND VEGETATED WITHIN 15 DAYS. WHEN AREAS ARE DISTURBED AFTER THE GROWING SEASON, THEY SHALL BE STABILIZED WITH GEOTEXTILE FABRIC AND MAINTAINED ACCORDING TO BEST PRACTICES.

13. CONTINUE INSPECTION AND REPAIR OF STORMWATER POLLUTION PREVENTION MEASURES UNTIL THE COMPLETION OF CONSTRUCTION AND PERMANENT STABILIZATION IS ACHIEVED.

14. REMOVE EROSION CONTROL MEASURES, SILT, AND DEBRIS UPON ESTABLISHMENT OF PERMANENT STABILIZED COVER OF ALL UPSTREAM / TRIBUTARY AREAS.

15. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL CITY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

16. THESE PLANS ARE BASED ON INFORMATION AVAILABLE TO OUR OFFICE AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS AND NOTIFY OUR OFFICE IF ACTUAL SITE CONDITIONS DIFFER FROM THAT SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE IMPACTED BY ANY OTHER SITE FEATURES.

17. CONTRACTOR SHALL CLEAN ALL ON-SITE EXISTING & PROPOSED DRAINAGE STRUCTURES AND INTERCONNECTING PIPE AT END OF PROJECT AS WELL AS ANY OFF-SITE DRAINAGE STRUCTURES THAT MAY HAVE RECEIVED RUNOFF FROM THE SITE.

18. CONTRACTOR SHALL PROVIDE TEMPORARY INLET PROTECTION BEYOND THE LIMITS OF DISTURBED AREA AS NECESSARY TO PREVENT SILT AND DEBRIS FROM CONSTRUCTION ACTIVITIES GETTING INTO ANY DRAINAGE SYSTEM FOR WHICH THE PROJECT IMPACTS.

19. CONTRACTOR SHALL LOCATE CONCRETE WASHOUT AREA, STOCKPILE AREA, AND CONSTRUCTION WASTE MATERIAL STORAGE AREAS SO AS TO MINIMIZE EXPOSURE TO STORMWATER. CONSTRUCTION WASTE SHALL BE IMMEDIATELY PLACED IN ON-SITE STORAGE CONTAINERS UNTIL READY FOR OFF-SITE DISPOSAL. CONTRACTOR SHALL MAINTAIN SPILL PREVENTION & RESPONSE EQUIPMENT AND MAKE AVAILABLE ON-SITE FOR USE BY CONTRACTOR'S EMPLOYEES TRAINED IN THE APPLICATION OF SPILL PREVENTION & RESPONSE PROCEDURES.

20. CONTRACTOR SHALL IDENTIFY LOCATION OF WASTE CONTAINERS, FUEL STORAGE TANKS, CONCRETE WASHOUT AREAS AND ANY OTHER LOCATIONS WHERE HAZARDOUS MATERIALS ARE STORED ON THE PLAN.

21. DEWATERING (IF REQUIRED) SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL & STATE REGULATIONS, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY NECESSARY ASSOCIATED DISCHARGE PERMITS.

22. THE FOLLOWING EROSION CONTROL MEASURES ARE PROPOSED FOR THIS SITE:
   a. STABILIZED CONSTRUCTION ENTRANCE/ EXIT - A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/ EXIT SHALL BE INSTALLED AT THE DRIVEWAY ON FLANDERS ROAD; THIS AREA SHALL BE GRADED SO THAT RUNOFF WATER WILL BE RETAINED ON-SITE.
   b. INLET PROTECTION - IMMEDIATELY INSTALL FOR EACH INLET AS DRAINAGE STRUCTURES ARE INSTALLED.
   c. DUST CONTROL - STOCKPILES OF SOIL SHOULD BE LIMITED TO 15' MAXIMUM HEIGHT AND REMOVED OR UTILIZED FOR SITE CONSTRUCTION AS SOON AS PRACTICABLE. SHOULD EXCESSIVE DUST BE GENERATED, THE CONTRACTOR SHALL APPLY WATER TO BARE SOIL SURFACES TO MINIMIZE BLOWING DUST.

23. THE RIGHT-OF-WAY IS NOT TO BE USED FOR STORAGE OR STAGING OF EQUIPMENT OR MATERIALS DURING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE RIGHT-OF-WAY DURING CONSTRUCTION AND SHOULD INSTALL FENCING ALONG THE PROPERTY'S FRONTAGE TO LIMIT ACCESS FOR CONSTRUCTION VEHICLES TO DEFINED POINTS OF INGRESS/EGRESS.

24. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS PERMANENTLY OR TEMPORARILY (EXISTING DISTURBED AREA WILL NOT BE DISTURBED AGAIN WITHIN 14 CALENDAR DAYS OF THE PREVIOUS SOIL DISTURBANCE) CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN SEVEN (7) DAYS FROM THE DATE THE CURRENT SOIL DISTURBANCE ACTIVITY CEASED.

25. CONTRACTOR SHALL SCHEDULE ON-SITE PRE-CONSTRUCTION MEETING A MINIMUM 5 DAYS PRIOR TO ANY GROUND DISTURBANCE WITH THEIR TRAINED CONTRACTOR, OWNER, AND ENGINEER OF RECORD.

LANDSCAPE

1. THE CONTRACTOR SHALL INSPECT SITE PRIOR TO START OF PLANTING OPERATIONS AND NOTIFY THE ENGINEER OF RECORD OF ANY CONDITIONS THAT ARE NOT SUITABLE FOR PERFORMING PLANTING OPERATIONS, AND OF ANY CONDITIONS THAT WOULD PREVENT HEALTHY GROWTH OF PLANT MATERIAL.

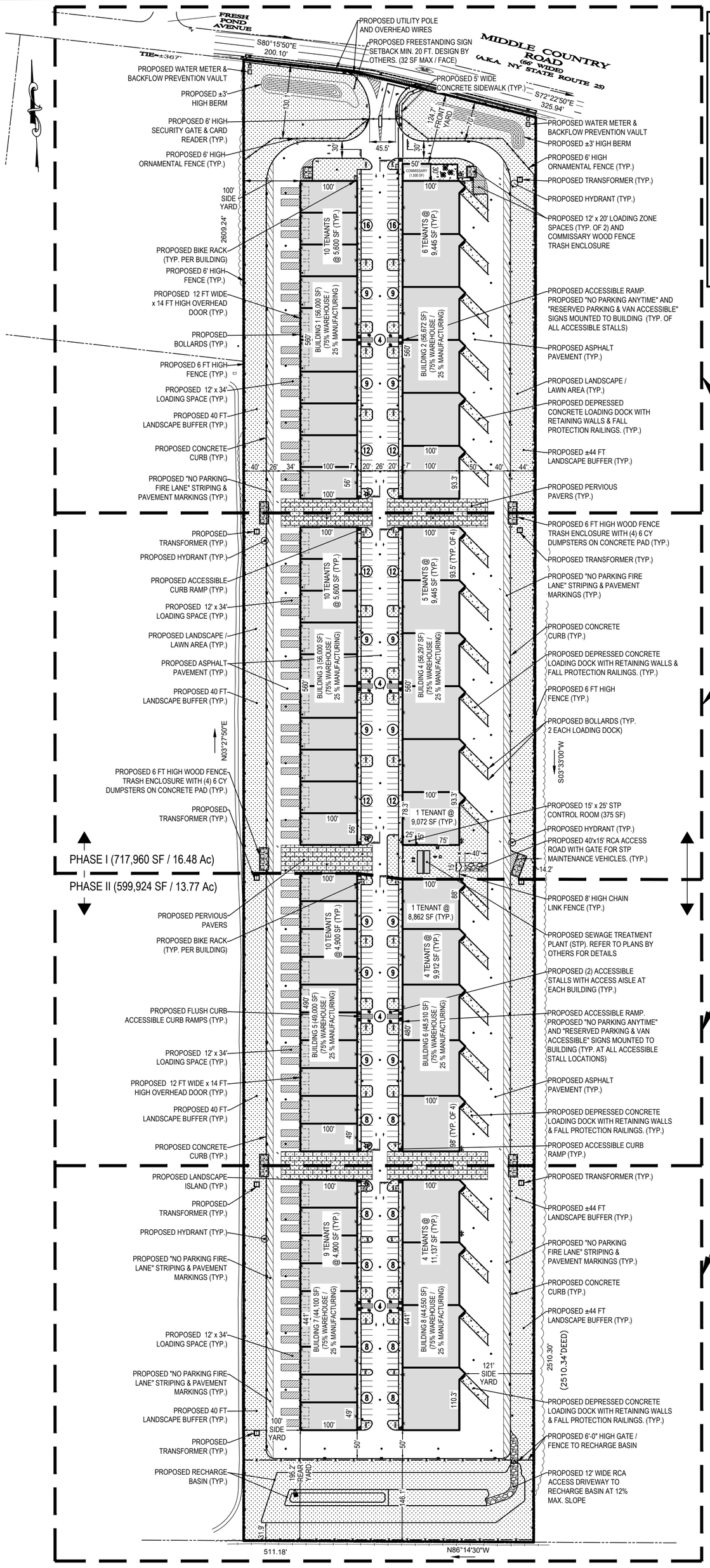
2. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS IN WRITING TO THE ENGINEER OF RECORD.

3. NO HEAVY EQUIPMENT, MACHINERY, OR STOCKPILING OF MATERIAL IS PERMITTED WITHIN THE DRIPLINE OF ANY EXISTING TREES THROUGHOUT THE COURSE OF THE CONTRACT.

4. GROUNDCOVER AND HERBACEOUS BEDS SHALL HAVE COMPOST ADDED TO THE TOPSOIL MIX AT THE RATIO OF 2 PARTS COMPOST TO 7 PARTS TOPSOIL.

5. BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING APPROVED BY THE ENGINEER OF RECORD. FENCING SHALL BE LOCATED AT THE DRIP-LINE OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

6. LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS. BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO TH



REFER TO PARTIAL SITE PLAN SECTION A - PHASE I (SHEET C-4)

REFER TO PARTIAL SITE PLAN SECTION B - PHASE I (SHEET C-5)

REFER TO PARTIAL SITE PLAN SECTION C - PHASE II (SHEET C-6)

REFER TO PARTIAL SITE PLAN SECTION D - PHASE II (SHEET C-7)

SANITARY DENSITY CALCULATIONS

SITE IS LOCATED IN GROUNDWATER MANAGEMENT ZONE III = 300 GPD/ACRE

PERMITTED DENSITY = 30.2545 ACRES x 300 GPD/ACRE = 9,076 GPD

PHASE I
PROPOSED COMMISSARY FLOW (COMMISSARY NOT OPEN TO PUBLIC) - 0.04 GPD / SF x 1,500 SF = 60 GPD
PROPOSED BUILDING 1 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,000 SF = 2,240 GPD
PROPOSED BUILDING 2 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,672 SF = 2,267 GPD
PROPOSED BUILDING 3 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,000 SF = 2,240 GPD
PROPOSED BUILDING 4 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,297 SF = 2,252 GPD
PHASE I TOTAL = 9,059 GPD

PHASE II
PROPOSED BUILDING 5 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 49,000 SF = 1,960 GPD
PROPOSED BUILDING 6 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 48,510 SF = 1,941 GPD
PROPOSED BUILDING 7 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 44,100 SF = 1,764 GPD
PROPOSED BUILDING 8 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 44,550 SF = 1,782 GPD
PHASE II TOTAL = 7,447 GPD

PHASE I + PHASE II TOTAL = 16,506 GPD

7,430 GPD OVER PERMITTED DENSITY. SEWAGE TREATMENT PLANT (STP) PROPOSED. REFER TO PLANS BY OTHERS FOR STP DETAILS.

BULK ZONING TABLE

ZONING DISTRICT: INDUSTRIAL C

ITEM	SECTION	PERMITTED/REQUIRED	PROPOSED
PERMITTED USES	§ 301-122.A (2), (4), & (12)	(2) WAREHOUSE & (12) MANUFACTURING (INDOOR)	(2) WAREHOUSE & (12) MANUFACTURING (INDOOR)
ACCESSORY USES	§ 301-122.C.1	COMMISSARY FOR OTHER BUILDING	COMMISSARY FOR BUILDINGS PROVIDED (1,500 SF)
ACCESSORY USES	§ 301-122.C.2.B	PARCEL SHALL HAVE FRONTAGE ON AN ARTERIAL ROAD	FRONTAGE ALONG MIDDLE COUNTRY ROAD (NYS ROUTE 25)
PROHIBITED USES	§ 301-122.D.3	OUTDOOR STORAGE	NO OUTDOOR STORAGE OF VEHICLES. ALL VEHICLES SHALL BE STORED INSIDE.
LOT, YARD, & BULK REQUIREMENTS	§ 301-123.B	20% OF LOT SHALL BE CONTIGUOUS OPEN SPACE AREAS WHICH SHIELD VIEWS OF THE DEVELOPMENT FROM ARTERIAL ROADS 0.20 x 1,317,884 SF = 263,577 SF	305,561 SF (23.19%) OF LANDSCAPE AREA WITH FRONT YARD LANDSCAPE BUFFER OPEN LANDSCAPE PROVIDED. DENSE LANDSCAPE BUFFER IN FRONT YARD TO SHIELD DEVELOPMENT PROVIDED
SUPPLEMENTARY GUIDELINES	§ 301-124.A.1	DEVELOPMENT OF MULTIPLE BUILDINGS IN THE INDUSTRIAL C DISTRICT SHALL BE PLANNED IN A CAMPUS LAYOUT	COMPLIES
SUPPLEMENTARY GUIDELINES	§ 301-124.A.2	CONTINUOUS SIDEWALKS, AND BIKE RACKS CLOSE TO BUSINESS ENTRANCES SHALL BE PROVIDED FOR PROPERTIES FRONTING ROUTE 25	CONTINUOUS SIDEWALKS AND BIKE RACKS PROVIDED
SUPPLEMENTARY GUIDELINES	§ 301-124.A.4.A	DUMPSTER AREAS SHALL BE SCREENED BY WOOD FENCES OR LANDSCAPING	DUMPSTERS SHALL BE IN 6 FT HIGH WOOD FENCE ENCLOSURES
DUMPSTERS	§ 245-8	DUMPSTER SCREENING OF 5 FT MIN / 6 FT MAX HEIGHT	DUMPSTERS SHALL BE IN 6 FT HIGH WOOD FENCE ENCLOSURES
SCREENING AND BUFFER REGULATIONS SETBACK	§ 301-124.A.4.B	20 FT OF PLANTING BUFFER ALONG FRONTAGE & 10 FT PLANTING BUFFER ALONG ALL OTHER PROPERTY LINES	70 FT MINIMUM PLANTED BUFFER ALONG FRONT YARD, 14.2 FT MINIMUM BUFFER ON SIDE YARDS, & 31.9 FT MINIMUM BUFFER IN REAR YARD
PARKING STANDARDS	§ 301-124.B.2	PLANTED BERMS SHALL BE USED TO SCREEN AUTOMOBILES FROM PUBLIC R.O.W.	LANDSCAPE & PLANTED BERMS PROVIDED
PARKING STANDARDS	§ 301-124.B.3	OFF-STREET PARKING PROHIBITED IN FRONT YARD, WITHIN 20 FT OF SIDE YARD, AND 10 FT OF REAR YARD	NO PARKING IN FRONT YARD PROPOSED 20 FT OR GREATER FROM PROPOSED PARKING TO SIDE YARD PROPERTY LINE NO PARKING IN REAR PROPOSED
MINIMUM LOT AREA	§ 301-ATTACHMENT 3	80,000 SF	± 1,317,884 SF
MINIMUM LOT WIDTH	§ 301-ATTACHMENT 3	300 FT	511.18 FT
BUILDING COVERAGE (FOOTPRINT) (WITHOUT SEWER)	§ 301-ATTACHMENT 3	40% ±1,317,884 SF x 0.40 = 527,154 SF	31.31% 412,629 SF / ±1,317,884 SF = 0.3131
MAXIMUM IMPERVIOUS SURFACE	§ 301-ATTACHMENT 3	60% Ñ1,317,884 SF x 0.60 = 790,730 SF	936,645 SF / 1,317,884 SF = 0.7107 71.07% [V]
MAXIMUM HEIGHT OF BUILDINGS	§ 301-ATTACHMENT 3	30 FT	29 FT
MINIMUM FRONT YARD DEPTH	§ 301-ATTACHMENT 3	30 FT	124.7 FT
MINIMUM SIDE YARD DEPTH	§ 301-ATTACHMENT 3	30 FT / 60 COMBINED FOR BOTH SIDES	100 FT / 221 FT
MINIMUM REAR YARD DEPTH	§ 301-ATTACHMENT 3	50 FT	195.2 FT

[R] - PLANNING BOARD RELAXATION REQUIRED. CAMPUS LAYOUT NOT ACHIEVABLE DUE TO SITE GEOMETRY
[V] - VARIANCE REQUIRED

PARKING CALCULATIONS

ITEM	SECTION	PERMITTED/REQUIRED	PROPOSED
MINIMUM STALL SIZE	§ 301-231.E.2	10 FT x 20 FT	10' x 20' (8' x 20' ACCESSIBLE STALLS)
MINIMUM AISLE WIDTH	§ 301-231.E.1	24' (TWO WAY) WITH 90° PARKING 18' (ONE WAY) WITH 60° PARKING 12' (ONE WAY) WITH 45° PARKING	26' (TWO-WAY MIN.)
NUMBER OF LOADING SPACES REQUIRED	§ 301-232.A	FLOOR AREAS PER BUILDING 15,000 TO 25,000 = 1 SPACES 25,001 TO 40,000 = 2 SPACES 40,001 TO 100,000 = 3 SPACES +60,000 SF = 1 ADDITIONAL SPACE 3 SPACES REQUIRED PER BUILDING x 8 BUILDINGS = 24 SPACES REQUIRED	101 SPACES PROVIDED
MINIMUM LOADING SPACE SIZE	§ 301-232.B	12 FT WIDE x 14 FT LONG	(78) 12 FT WIDE x 34 FT LONG (2) 12 FT WIDE x 20 FT LONG (21) 13 FT WIDE x 55 FT LONG TOTAL PROVIDED = 101 SPACES
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDINGS 1 & 3 (56,000 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (14,000 SF) 75% WAREHOUSE SPACE (42,000 SF) * MANUFACTURING ESTABLISHMENT (14,000 SF / BUILDING) 1 STALL PER 400 SF OF GFA 14,000 SF / 400 SF = 35 STALLS * WAREHOUSE (42,000 SF / BUILDING) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 37,000 SF x 1 STALL / 10,000 SF = 3.7 STALLS TOTAL PARKING FOR BUILDINGS 1 & 3 2 BUILDINGS x (35 + 5 + 3.7) STALLS = 87.4 STALLS	
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 2 (56,672 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (14,168 SF) 75% WAREHOUSE SPACE (42,504 SF) *MANUFACTURING ESTABLISHMENT (14,168 SF) 1 STALL PER 400 SF OF GFA 14,168 SF / 400 SF = 35.4 STALLS * WAREHOUSE (42,504 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 37,504 SF x 1 STALL / 10,000 SF = 3.8 STALLS TOTAL PARKING FOR BUILDING 2 = 44.2 STALLS	
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 4 (56,297 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (14,074 SF) 75% WAREHOUSE SPACE (42,223 SF) *MANUFACTURING ESTABLISHMENT (14,074 SF) 1 STALL PER 400 SF OF GFA 14,074 SF / 400 SF = 35.2 STALLS * WAREHOUSE (42,223 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 37,223 SF x 1 STALL / 10,000 SF = 3.7 STALLS TOTAL PARKING FOR BUILDING 4 = 43.9 STALLS	
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 5 (49,000 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (12,250 SF) 75% WAREHOUSE SPACE (36,750 SF) *MANUFACTURING ESTABLISHMENT (12,250 SF) 1 STALL PER 400 SF OF GFA 12,250 SF / 400 SF = 30.6 STALLS * WAREHOUSE (36,750 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 31,750 SF x 1 STALL / 10,000 SF = 3.2 STALLS TOTAL PARKING FOR BUILDING 5 = 38.8 STALLS	326 STALLS (INCLUDES 16 ACCESSIBLE STALLS)
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 6 (48,510 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (12,128 SF) 75% WAREHOUSE SPACE (36,382 SF) *MANUFACTURING ESTABLISHMENT (12,128 SF) 1 STALL PER 400 SF OF GFA 12,128 SF / 400 SF = 30.3 STALLS *WAREHOUSE (36,382 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 31,382 SF x 1 STALL / 10,000 SF = 3.1 STALLS TOTAL PARKING FOR BUILDING 6 = 38.4 STALLS	
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 7 (44,100 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (11,025 SF) 75% WAREHOUSE SPACE (33,075 SF) *MANUFACTURING ESTABLISHMENT (11,025 SF) 1 STALL PER 400 SF OF GFA 11,025 SF / 400 SF = 27.6 STALLS *WAREHOUSE (33,075 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 28,075 SF x 1 STALL / 10,000 SF = 2.8 STALLS TOTAL PARKING FOR BUILDING 7 = 35.4 STALLS	
MINIMUM NUMBER OF PARKING STALLS REQUIRED	§ 301 ATTACHMENT 1	BUILDING 8 (44,550 SF) *PARKING PER BUILDING 25% MANUFACTURING SPACE (11,137 SF) 75% WAREHOUSE SPACE (33,413 SF) *MANUFACTURING ESTABLISHMENT (11,137 SF) 1 STALL PER 400 SF OF GFA 11,137 SF / 400 SF = 27.8 STALLS *WAREHOUSE (33,413 SF) 1 STALL PER 1,000 SF UP TO 5,000 SF + 1 STALL PER 10,000 SF 5,000 SF x 1 STALL PER 1,000 SF = 5 STALLS 28,413 SF x 1 STALL / 10,000 SF = 2.8 STALLS TOTAL PARKING FOR BUILDING 8 = 35.6 STALLS	
TOTAL NUMBER OF PARKING STALLS REQUIRED FOR LOT	§ 301 ATTACHMENT 1	87.4 + 44.2 + 43.9 +38.8 + 38.4 + 35.4 + 35.6 = 323.7 STALLS TOTAL STALLS REQUIRED = 324 STALLS	
ACCESSIBLE PARKING STALLS	§ 301-232.M.1	301 TO 400 TOTAL PARKING STALLS REQUIRED = 8 8 ACCESSIBLE PARKING STALLS	16 ACCESSIBLE STALLS

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

LEGEND

SCALE OF SYMBOLS = 1" = 120'

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	DUMPSTER ENCLOSURE	
	12' x 34' LOADING SPACE	
	LOADING DOCK RETAINING WALLS	
	PARKING COUNT	9
	OVERHEAD DOOR	
	DOOR	
x x	FENCE	x x x x
	BIKE RACK	
	HYDRANT	

PROJECT DATA

SITE ADDRESS	4285 MIDDLE COUNTRY ROAD CALVERTON, NY 11933
OWNER / APPLICANT	HK VENTURES, LLC 147 STEAMBOAT ROAD GREAT NECK, NY 11024 c/o URI HASON
TAX MAP NUMBER	DISTRICT: 600, SECTION: 116, BLOCK: 1, LOT: 2
SITE AREA	1,317,884 SF (30.2545 Ac)
CURRENT ZONING	INDUSTRIAL C
EXISTING USE	VACANT
PROPOSED USE	PRIMARY USES: WAREHOUSE & MANUFACTURING (INDOOR)
PROPOSED BUILDING AREA (GFA)	PHASE I BUILDING 1 = 56,000 SF BUILDING 2 = 56,672 SF BUILDING 3 = 56,000 SF BUILDING 4 = 56,297 SF COMMISSARY = 1,500 SF TOTAL = 226,469 SF PHASE II (TO BE CONSTRUCTED ONCE PHASE I IS COMPLETED AND OPERATING) BUILDING 5 = 49,000 SF BUILDING 6 = 48,510 SF BUILDING 7 = 44,100 SF BUILDING 8 = 44,550 SF TOTAL = 186,160 SF PHASE I + PHASE II = 412,629 SF (31.31%)
PERVIOUS PAVERS / LANDSCAPE AREA	381,239 SF (28.93%)
IMPERVIOUS / PAVEMENT / CONCRETE AREA (EXCLUDES BUILDING AREAS)	524,016 SF (39.76%)

LEGEND

SCALE OF SYMBOLS = 1" = 30' (REFER TO PARTIAL SITE PLANS)

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	EDGE OF PAVEMENT	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	TRASH ENCLOSURE	
	PARKING COUNT	9
	ACCESSIBLE STRIPING SYMBOL	
	BIKE RACK MOUNTED ON CONCRETE PAD	
	OVERHEAD DOOR	12'
	LOADING STALL STRIPING	
	LOADING DOCK WALL WITH FALL PROTECTION RAILING	x x
	CROSSWALK	
	FIRE LANE STRIPING	
	DOOR	EXIT
	SIGN	
	FIRE HYDRANT	
	UTILITY POLE	
	GROUND SIGN	
	FENCE	X
	POLE MOUNTED LIGHTING	

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No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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SEAL & SIGNATURE:

NOT VALID UNTIL SEALED

JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

OVERALL SITE PLAN

DRAWING No.: C-3

PAGE No.: 3 OF 35

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MIDDLE COUNTRY ROAD
(66' WIDE)
(A.K.A. NY STATE ROUTE 25)

REFER TO PLANS BY OTHERS FOR ROADWAY IMPROVEMENTS

EXISTING CURB RAMP TRANSITION TO BE MODIFIED AS NECESSARY

EXISTING CONCRETE TO REMAIN (TYP.)

PROPOSED CONCRETE CURB TO MEET EXISTING FLUSH (TYP.) NYSDOT ITEM# 609.0405

PROPOSED METER VAULT (TYP.)

PROPOSED HOT BOX FOR BACKFLOW PREVENTION DEVICE (TYP.)

PROPOSED 4' WIDE CONCRETE SIDEWALK (TYP.) NYSDOT ITEM# 608.01010002

PROPOSED SNOW STORAGE STRIP (TYP.) NYSDOT ITEM# 610.1403 & 610.1602

PROPOSED CONCRETE CURB (TYP.) NYSDOT ITEM# 609.04

PROPOSED ACCESSIBLE CURB RAMP TYPE 1 WITH DETECTABLE WARNING SURFACE (TYP. OF 2) NYSDOT ITEM# 608.01050009

PROPOSED 6' WIDE TYPE "L" CROSSWALK (TYP.) NYSDOT ITEM# 685.14

APPROXIMATE LIMIT OF PROPOSED SAWCUT (TYP.) NYSDOT ITEM# 520.51000006

TWO WAY TRAFFIC

200.10'

S80°15'50"E

325.94'

S72°22'50"E

2609.24'

2510.30'

EXISTING UTILITY POLE & OVERHEAD WIRES TO BE RELOCATED

PROPOSED 1-1/2" DROP CURB ACROSS PROPOSED DRIVEWAY

PROPOSED LANDSCAPE BERM (TYP.)

PROPOSED 32 SF PER FACE MAX. GROUND SIGN. REFER TO ARCHITECTURAL PLANS FOR DETAILS (TYP.)

PROPOSED PAVEMENT STRIPING (TYP.)

PROPOSED CONCRETE CURB TAPER (TYP.) NYSDOT ITEM# 609.04

PROPOSED ACCESSIBLE CURB RAMP TYPE 1 WITH DETECTABLE WARNING SURFACE (TYP. OF 2) NYSDOT ITEM# 608.01050009

PROPOSED 4' WIDE CONCRETE SIDEWALK (TYP.) NYSDOT ITEM# 608.01010002

REFER TO PLANS BY OTHERS FOR ROADWAY IMPROVEMENTS

PROPOSED "STOP" SIGN (TYP.)

PROPOSED CONCRETE SIDEWALK (TYP.)

PROPOSED 4' WIDE GATE

PROPOSED CONCRETE CURB (TYP.)

PROPOSED LANDSCAPE BERM (TYP.)

PROPOSED SECURITY SWING GATES AND CARD READER (TYP. OF 2)

PROPOSED 6'-0" HIGH ORNAMENTAL FENCE (TYP.)

PROPOSED "STOP" SIGN AND STOP BAR (TYP.)

PROPOSED 6'-0" HIGH ORNAMENTAL FENCE (TYP.)

PROPOSED ACCESSIBLE CURB RAMP (TYP.)

PROPOSED BIKE RACK ON CONCRETE PAD (TYP.)

PROPOSED METER VAULT (TYP.)

PROPOSED HOT BOX FOR BACKFLOW PREVENTION DEVICE (TYP.)

PROPOSED ASPHALT PAVEMENT (TYP.)

PROPOSED "STOP" SIGN (TYP.)

PROPOSED CROSSWALK STRIPING (TYP.)

PROPOSED 3 FT HIGH RAILING (TYP.)

PROPOSED WOOD FENCE TRASH ENCLOSURE WITH GATES FOR COMMISSARY

PROPOSED NO PARKING STRIPING (TYP.)

PROPOSED CURB RAMP (TYP.)

PROPOSED 6'-0" HIGH CHAIN LINK FENCE WIRE (TYP.)

PROPOSED TRANSFORMER (TYP.)

PROPOSED HYDRANT (TYP.)

PROPOSED WOOD FENCE TRASH ENCLOSURE WITH GATES

PROPOSED AREA LIGHT (TYP.)

PROPOSED LANDSCAPE AREA (TYP.)

PROPOSED BIKE RACK ON CONCRETE PAD (TYP.)

COMMISSARY (1,500 SF)

PROPOSED 12' x 20' LOADING DOCK

PROPOSED BOLLARD (TYP.)

PROPOSED CONCRETE SIDEWALK (TYP.)

PROPOSED ASPHALT PAVEMENT (TYP.)

PROPOSED LOADING DOCK RETAINING WALL WITH FALL PROTECTION RAILING (TYP. 2 PER LOADING DOCK)

PROPOSED ASPHALT PAVEMENT TO MEET CONCRETE LOADING DOCK FLUSH (TYP.)

PROPOSED BOLLARD (TYP. 2 PER LOADING DOCK)

PROPOSED DOOR (TYP.)

PROPOSED 14 FT HIGH OVERHEAD DOOR (TYPY.)

10 TENANTS @ 5,600 SF (TYP.)

6 TENANTS @ 9,445 SF (TYP.)

PROPOSED 6'-0" HIGH CHAIN LINK FENCE ON PROPERTY LINE. (OFFSET FOR CLARITY)(TYP.)

PROPOSED LANDSCAPE AREA (TYP.)

PROPOSED "NO PARKING FIRE LANE" STRIPING & PAVEMENT MARKINGS (TYP.)

PROPOSED LOADING ZONE STALL STRIPING (TYP.)

APPROXIMATE LIMIT OF PROPOSED TENANT PARTITION WALL. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DETAILS (TYP.)

BUILDING 1 (56,000 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

BUILDING 2 (56,672 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

PROPOSED "NO PARKING ANYTIME" SIGN MOUNTED TO BUILDING (TYP.)

PROPOSED "RESERVED PARKING AND VAN ACCESSIBLE" SIGN MOUNTED TO BUILDING (TYP. OF 2)

PROPOSED ACCESSIBLE CURB RAMP (TYP. OF 2)

PROPOSED GAS METER (TYP.)

APPROXIMATE LIMITS OF PERVIOUS PAVERS (TYP.)

MATCHLINE (REFER TO SECTION A)

MATCHLINE (REFER TO SECTION B)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

REFER TO OVERALL SITE PLAN (SHEET C-3) FOR BULK ZONING TABLE & PARKING REQUIREMENTS

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
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REVISIONS

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SITE PLAN (SECTION A - PHASE I)

DRAWING No.: C-4

PAGE No.: 4 OF 35

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MATCHLINE
(REFER TO SECTION A)

MATCHLINE
(REFER TO SECTION B)

PROPOSED 12' WIDE x 40' LONG x 6 FT HIGH WOOD FENCE TRASH ENCLOSURE WITH (4) 6 CY DUMPSTERS ON CONCRETE PAD (TYP.)

PROPOSED TRANSFORMER (TYP.)

PROPOSED HYDRANT (TYP.)

PROPOSED 6'-0" HIGH CHAIN LINK FENCE ON PROPERTY LINE. (OFFSET FOR CLARITY)(TYP.)

PROPOSED LANDSCAPE AREA (TYP.)

PROPOSED "NO PARKING FIRE LANE" STRIPING & PAVEMENT MARKINGS (TYP.)

N03°27'50"E

APPROXIMATE LIMITS OF PERVIOUS PAVERS (TYP.)

PROPOSED BOLLARD (TYP.)

PROPOSED 14 FT HIGH OVERHEAD DOOR (TYPY.)

PROPOSED DOOR (TYP.)

PROPOSED LOADING ZONE STALL STRIPING (TYP.)

APPROXIMATE LIMIT OF PROPOSED TENANT PARTITION WALL. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DETAILS (TYP.)

PROPOSED ASPHALT PAVEMENT (TYP.)

PROPOSED CONCRETE SIDEWALK (TYP.)

PROPOSED BIKE RACK ON CONCRETE PAD (TYP.)

PROPOSED LANDSCAPE ISLAND (TYP.)

PROPOSED "STOP" SIGN (TYP.)

PROPOSED "NO PARKING ANYTIME" SIGN MOUNTED TO BUILDING (TYP.)

PROPOSED "RESERVED PARKING AND VAN ACCESSIBLE" SIGN MOUNTED TO BUILDING (TYP. OF 2)

PROPOSED ACCESSIBLE CURB RAMP (TYP. OF 2)

PROPOSED CONCRETE CURB (TYP.)

PROPOSED LOADING DOCK RETAINING WALL WITH FALL PROTECTION RAILING (TYP. 2 PER LOADING DOCK)

PROPOSED DEPRESSED CONCRETE LOADING DOCK (TYP.)

PROPOSED ASPHALT PAVEMENT TO MEET CONCRETE LOADING DOCK FLUSH (TYP.)

PROPOSED BOLLARD (TYP. 2 PER LOADING DOCK)

PROPOSED "NO PARKING FIRE LANE" STRIPING & PAVEMENT MARKINGS (TYP.)

BUILDING 3 (56,000 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

BUILDING 4 (56,297 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

10 TENANTS @ 5,600 SF (TYP.)

5 TENANTS @ 9,445 SF (TYP.)

1 TENANT @ 9,072 SF (TYP.)

PROPOSED STP CONTROL ROOM

PROPOSED SEWAGE TREATMENT PLANT (STP). REFER TO PLANS BY OTHERS FOR DETAILS.

PROPOSED 8' HIGH CHAIN LINK FENCE (TYP.)

PROPOSED GAS METER (TYP.)

PROPOSED 40' x 15' RCA ACCESS ROAD WITH GATE FOR STP MAINTENANCE VEHICLES.

PROPOSED LANDSCAPE ISLAND (TYP.)

PROPOSED 8' HIGH CHAIN LINK FENCE (TYP.)

PROPOSED 12' WIDE x 40' LONG x 6 FT HIGH WOOD FENCE TRASH ENCLOSURE WITH (4) 6 CY DUMPSTERS ON CONCRETE PAD (TYP.)

S03°33'00"W

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REFER TO OVERALL SITE PLAN (SHEET C-3) FOR BULK ZONING TABLE & PARKING REQUIREMENTS

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INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SITE PLAN (SECTION B - PHASE I)

DRAWING No.:

C-5

PAGE No.:

5 OF 35

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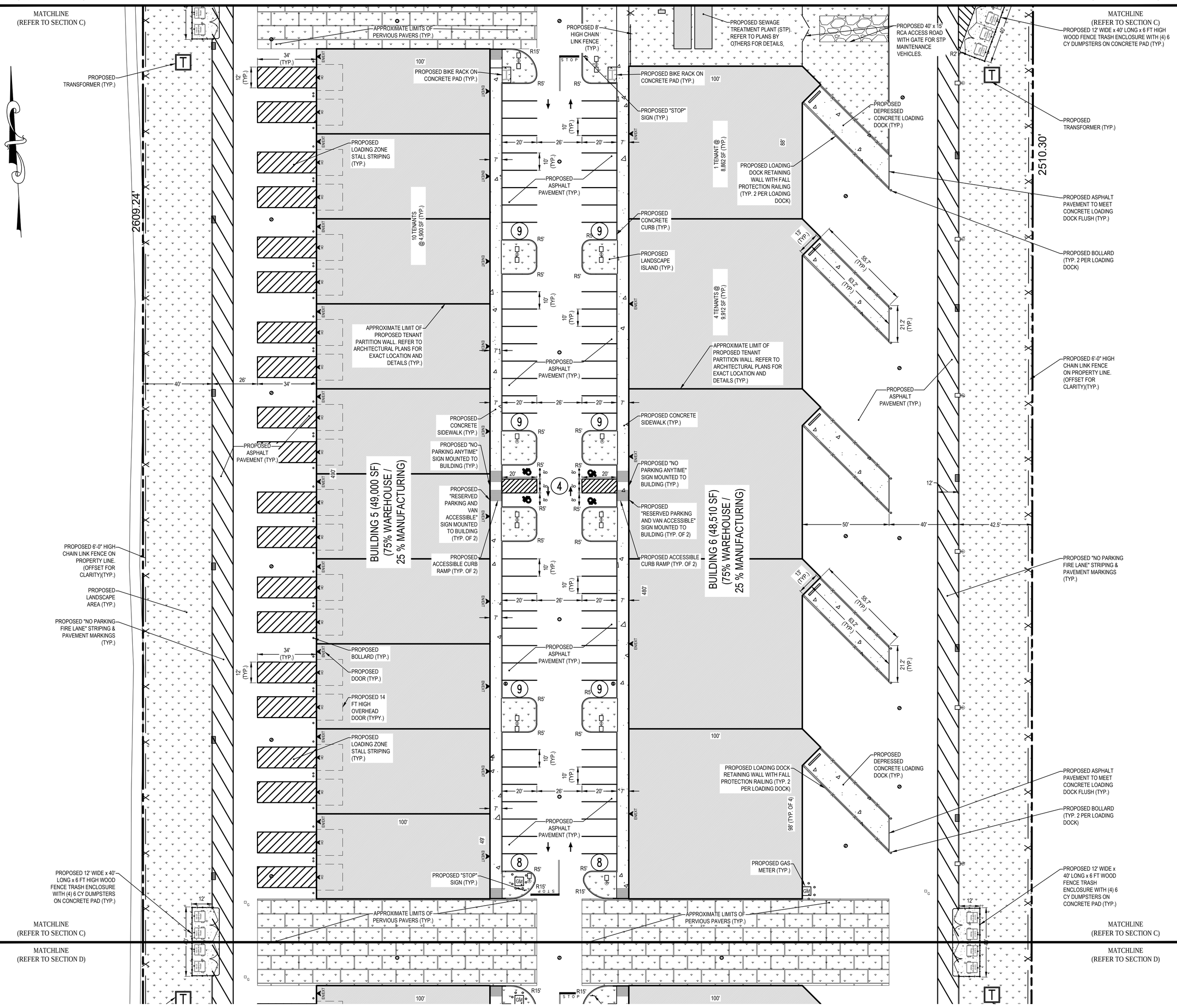
MATCHLINE
(REFER TO SECTION B)

MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION B)

MATCHLINE
(REFER TO SECTION C)



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REFER TO OVERALL SITE PLAN (SHEET C-3) FOR BULK ZONING TABLE & PARKING REQUIREMENTS

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DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SITE PLAN (SECTION C - PHASE II)

DRAWING No.: C-6

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MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION D)

MATCHLINE
(REFER TO SECTION D)

PROPOSED TRANSFORMER (TYP.)

PROPOSED HYDRANT (TYP.)

PROPOSED 6'-0" HIGH CHAIN LINK FENCE ON PROPERTY LINE. (OFFSET FOR CLARITY)(TYP.)

PROPOSED LANDSCAPE AREA (TYP.)

PROPOSED "NO PARKING FIRE LANE" STRIPING & PAVEMENT MARKINGS (TYP.)

PROPOSED TRANSFORMER (TYP.)

PROPOSED 6 FT HIGH CHAIN LINK FENCE (TYP.)

PROPOSED BIKE RACK ON CONCRETE PAD (TYP.)

PROPOSED BIKE RACK ON CONCRETE PAD (TYP.)

PROPOSED "STOP" SIGN (TYP.)

PROPOSED LOADING ZONE STALL STRIPING (TYP.)

9 TENANTS @ 4,900 SF (TYP.)

PROPOSED BOLLARD (TYP.)

PROPOSED DOOR (TYP.)

PROPOSED 14 FT HIGH OVERHEAD DOOR (TYPY.)

PROPOSED CONCRETE SIDEWALK (TYP.)

PROPOSED "NO PARKING ANYTIME" SIGN MOUNTED TO BUILDING (TYP.)

PROPOSED "RESERVED PARKING AND VAN ACCESSIBLE" SIGN MOUNTED TO BUILDING (TYP. OF 2)

BUILDING 7 (44,100 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

PROPOSED ASPHALT PAVEMENT (TYP.)

APPROXIMATE LIMIT OF PROPOSED TENANT PARTITION WALL. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DETAILS (TYP.)

PROPOSED ACCESSIBLE CURB RAMP (TYP.)

PROPOSED CONCRETE CURB (TYP.)

PROPOSED CONCRETE SIDEWALK (TYP.)

4 TENANTS @ 11,137 SF (TYP.)

PROPOSED GAS METER (TYP.)

PROPOSED DEPRESSED CONCRETE LOADING DOCK (TYP.)

PROPOSED LOADING DOCK RETAINING WALL WITH FALL PROTECTION RAILING (TYP. 2 PER LOADING DOCK)

PROPOSED LANDSCAPE ISLAND (TYP.)

PROPOSED "NO PARKING ANYTIME" SIGN MOUNTED TO BUILDING (TYP.)

PROPOSED "RESERVED PARKING AND VAN ACCESSIBLE" SIGN MOUNTED TO BUILDING (TYP. OF 2)

BUILDING 8 (44,550 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

PROPOSED ASPHALT PAVEMENT TO MEET CONCRETE LOADING DOCK FLUSH (TYP.)

PROPOSED BOLLARD (TYP. 2 PER LOADING DOCK)

PROPOSED 6'-0" HIGH CHAIN LINK FENCE ON PROPERTY LINE. (OFFSET FOR CLARITY)(TYP.)

PROPOSED "NO PARKING FIRE LANE" STRIPING & PAVEMENT MARKINGS (TYP.)

PROPOSED CONCRETE CURB TAPER (TYP.)

PROPOSED 26' WIDE DROP CURB FOR RECHARGE BASIN ACCESS DRIVEWAY

PROPOSED 6'-0" HIGH CHAIN LINK GATE & FENCE TO RECHARGE BASIN

PROPOSED 12' WIDE RCA ACCESS DRIVEWAY TO RECHARGE BASIN AT 12% MAX. SLOPE

PROPOSED RECHARGE BASIN LIMITS (TYP.)

PROPOSED LANDSCAPE AREA (TYP.)

PROPOSED 6 FT HIGH CHAIN LINK FENCE (TYP.)

N03°27'50"E

S03°33'00"W

N86°14'30"W

511.18'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REFER TO OVERALL SITE PLAN (SHEET C-3) FOR BULK ZONING TABLE & PARKING REQUIREMENTS

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ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SITE PLAN (SECTION D - PHASE II)

DRAWING No.: C-7

PAGE No.: 7 OF 35

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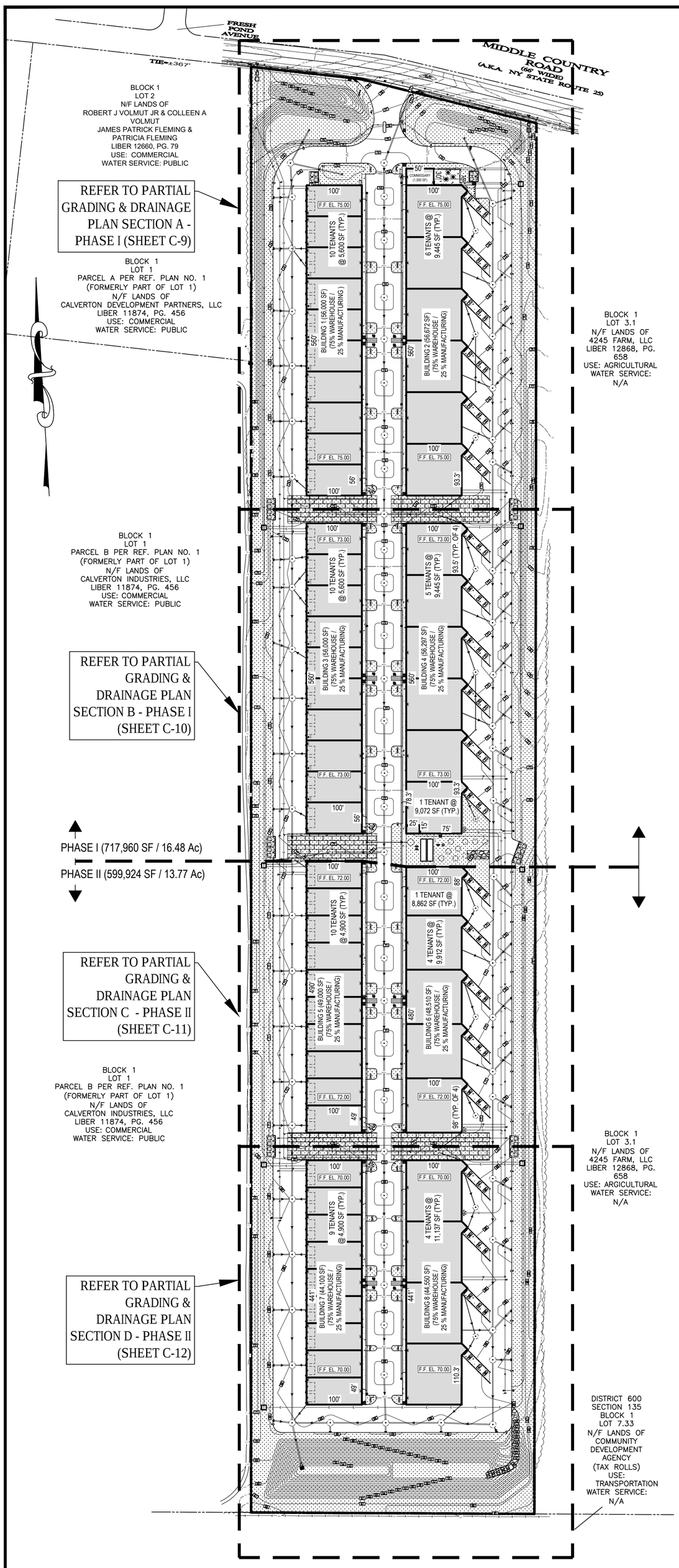


STORMWATER DESIGN CALCULATIONS

SITE AREA = 1,317,884 SF (30.2545 ACRES)

TRIBUTARY DRAINAGE AREA A

BUILDING AREA	= 412,629 SF
IMPERVIOUS / PAVEMENT AREA	= 524,016 SF
PERVIOUS LANDSCAPE AREA	= 339,389 SF
PERVIOUS PAVERS AREA	= 41,850 SF
TOTAL	= 1,317,884 SF

STORAGE REQUIRED (PER TOWN OF RIVERHEAD):

BUILDING	= 412,629 SF x (2"/12) x 1.00	= 68,772 CF
IMPERVIOUS / PAVEMENT	= 524,016 SF x (2"/12) x 1.00	= 87,336 CF
PERVIOUS LANDSCAPE	= 339,389 SF x (2"/12) x 0.20	= 11,313 CF
PERVIOUS PAVERS	= 41,850 SF x (2"/12) x 0.70	= 4,883 CF
TOTAL STORAGE REQUIRED		= 172,304 CF

STORAGE PROVIDED:

RECHARGE BASIN

UPPER VOLUME

AVERAGE TOP ELEVATION	= 65.00'
AVERAGE BOTTOM ELEVATION	= 55.00'
RECHARGE BASIN HEIGHT	= 10.00'
BOTTOM AREA	= 10,052 SF
TOP AREA	= 39,220 SF

VOLUME OF RECHARGE BASIN = $(\frac{39,220\ SF + 10,052\ SF}{2})$ X (65.00'-55.00') = 246,360 CF

LOWER VOLUME

AVERAGE TOP ELEVATION	= 55.00'
AVERAGE BOTTOM ELEVATION	= 53.00'
RECHARGE BASIN HEIGHT	= 2.00'
BOTTOM AREA	= 2,726 SF
TOP AREA	= 5,097 SF

VOLUME OF RECHARGE BASIN = $(\frac{5,097\ SF + 2,726\ SF}{2})$ X (55.00'-53.00') = 7,823 CF

RECHARGE BASIN TOTAL STORAGE PROVIDED = 246,360 CF + 7,823 CF = 254,183 CF

DRYWELLS

USE SIXTY-THREE (63) 12'Ø DRYWELLS WITH 8.0' EFFECTIVE STORAGE DEPTH
63 DRYWELLS x 100.88 CF/VF x 8.0 VF = 50,843 CF

USE NINETEEN (19) 12'Ø DRYWELLS WITH 6.0' EFFECTIVE STORAGE DEPTH
19 DRYWELLS x 100.88 CF/VF x 6.0 VF = 11,500 CF

TOTAL DRYWELL STORAGE PROVIDED = 50,843 CF + 11,500 CF = 62,343 CF

TOTAL SITE STORAGE PROVIDED = 254,183 CF + 62,343 CF = 316,526 CF

316,526 CF PROVIDED IS GREATER THAN 172,303 CF REQUIRED, THEREFORE SUFFICIENT STORAGE PROVIDED *

TYPICAL LOADING DOCK TRIBUTARY DRAINAGE AREAS

(FOR BUILDINGS 2, 4, 6, & 8)

CONCRETE LOADING DOCK AREA = 948 SF

ONE (1) LOADING DOCK:

ONE (1) LOADING DOCK = 1 x 948 SF x (2"/12) x 1.0	= 158 CF
STORAGE REQUIRED	= 158 CF

USE ONE (1) 10'Ø DRYWELL WITH 3.0' EFFECTIVE STORAGE DEPTH
STORAGE PROVIDED = 1 DRYWELL x 68.42 CF/VF x 3.0 VF = 205 CF

205 CF PROVIDED IS GREATER THAN 158 CF REQUIRED, THEREFORE, SUFFICIENT STORAGE PROVIDED

TWO (2) LOADING DOCKS:

TWO (2) LOADING DOCKS = 2 x 948 SF x (2"/12) x 1.0	= 316 CF
STORAGE REQUIRED	= 316 CF

USE ONE (1) 10'Ø DRYWELL WITH 5.0' EFFECTIVE STORAGE DEPTH
STORAGE PROVIDED = 1 DRYWELL x 68.42 CF/VF x 5.0 VF = 342 CF

342 CF PROVIDED IS GREATER THAN 316 CF REQUIRED, THEREFORE, SUFFICIENT STORAGE PROVIDED

THREE (3) LOADING DOCKS:

THREE (3) LOADING DOCKS = 3 x 948 SF x (2"/12) x 1.0	= 474 CF
STORAGE REQUIRED	= 474 CF

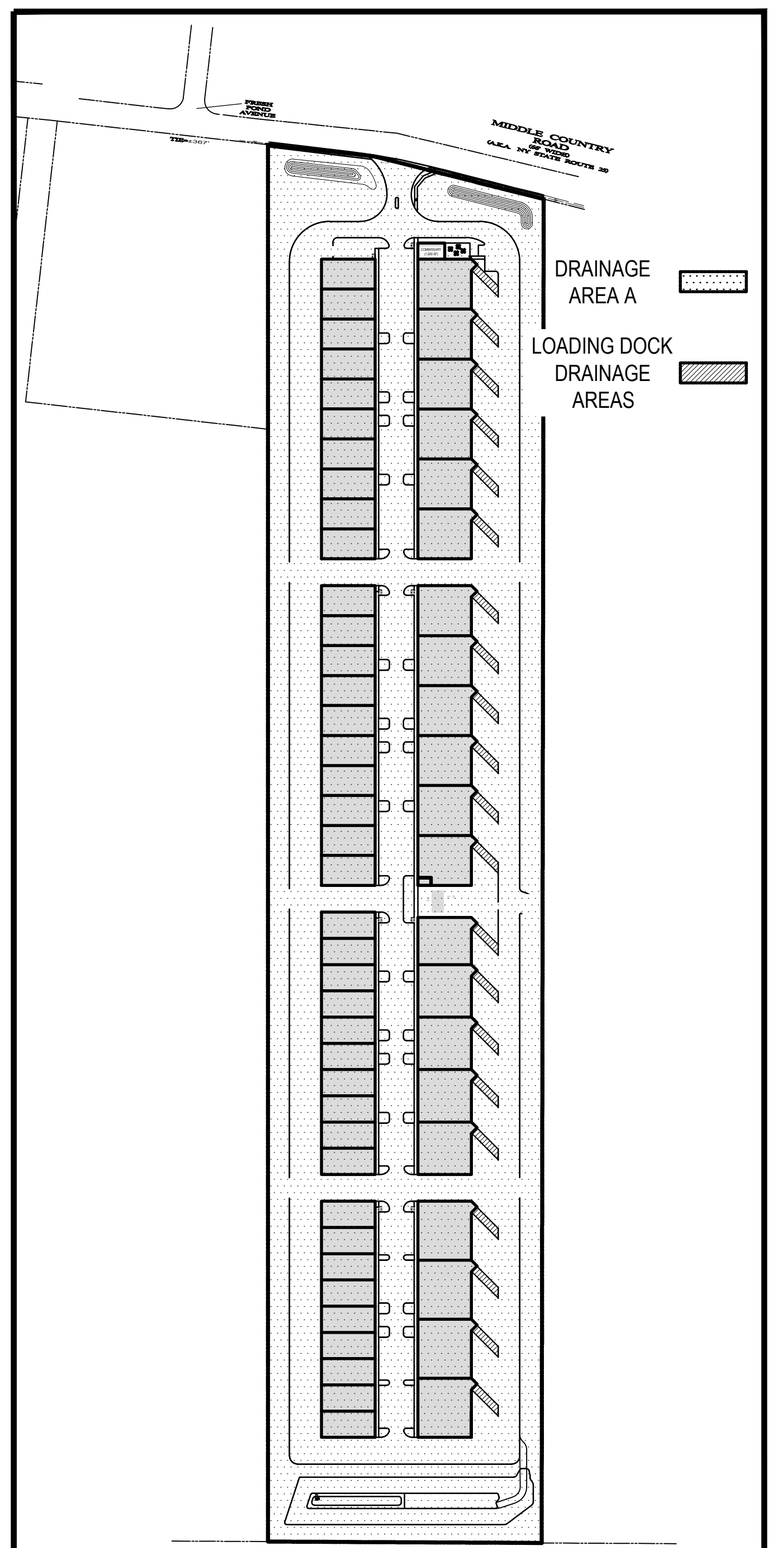
USE ONE (1) 10'Ø DRYWELL WITH 7.0' EFFECTIVE STORAGE DEPTH
STORAGE PROVIDED = 1 DRYWELL x 68.42 CF/VF x 7.0 VF = 478 CF

478 CF PROVIDED IS GREATER THAN 474 CF REQUIRED, THEREFORE, SUFFICIENT STORAGE PROVIDED

DESIGN FOR 100-YEAR STORM EVENT

- RECHARGE BASIN AND DRYWELLS DESIGNED TO HANDLE STORMWATER RUNOFF FOR A 100-YEAR STORM EVENT (8.77" RAINFALL OVER A 24 HOUR PERIOD) PER TOWN OF RIVERHEAD ENGINEERING DEPARTMENT & THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL REQUIREMENTS. DESIGN UTILIZES A 9" RAINFALL OVER A 24 HOUR PERIOD.
- BASED ON THE HYDROCAD ANALYSIS UTILIZING AN INFILTRATION RATE OF 18.6" / HR (PROVIDED BY TOWN OF RIVERHEAD ENGINEERING DEPARTMENT) AND 100-YEAR STORM EVENT (9" RAINFALL OVER A 24 HOUR PERIOD), THE REQUIRED VOLUME FOR THE ENTIRE SITE IS 299,631 CF (6.88 AC-FT) (REFER TO STORMWATER ENGINEERING REPORT ENCLOSED WITHIN THE STORMWATER POLLUTION PREVENTION REPORT FOR DETAILED CALCULATIONS.)
- THE PROPOSED RECHARGE BASIN AND EIGHTY-TWO (82) DRYWELLS PROVIDE A VOLUME OF 316,526 CF (7.27 AC-FT) USING AN INFILTRATION RATE OF 18.6" / HR.

316,526 CF (7.27 AC-FT) PROVIDED IS GREATER THAN 299,631 CF (6.88 AC-FT) REQUIRED, THEREFORE SUFFICIENT STORAGE PROVIDED.



TRIBUTARY DRAINAGE AREA MAP
SCALE: 1" = 200'

LEGEND

SCALE OF SYMBOLS = 1" = 120'

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	DUMPSTER ENCLOSURE	
	12' x 34' LOADING SPACE	
	LOADING DOCK RETAINING WALLS	
	PARKING COUNT	9
	OVERHEAD DOOR	
	DOOR	
x x	FENCE	x x x x x
	BIKE RACK	
	HYDRANT	

LEGEND

SCALE OF SYMBOLS = 1" = 30' (REFER TO PARTIAL GRADING & DRAINAGE PLANS)

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	EDGE OF PAVEMENT	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	TRASH ENCLOSURE	TRASH DUMPSTER 6.6 CY
	BIKE RACK MOUNTED ON CONCRETE PAD	
	OVERHEAD DOOR	12'
	LOADING DOCK WALL WITH FALL PROTECTION RAILING	
	DOOR	8'HEXT
	SIGN	
	FIRE HYDRANT	
	UTILITY POLE	
	GROUND SIGN	
	FENCE	
	POLE MOUNTED LIGHTING	
	DRYWELL	
	2'-6" x 4'-0" CONCRETE CURB INLET	
	4'Ø DRAINAGE MANHOLE	
	24" NYLOPLAST DRAIN BASIN	
	CONCRETE HEADWALL	
	36" HDPE DRAINAGE PIPE	
	24" HDPE DRAINAGE PIPE	
	18" HDPE DRAINAGE PIPE	
	10" PVC ROOF DRAIN PIPE	
	ELEVATION CONTOUR	75
	TW TOP OF WALL / BW BOTTOM OF WALL / P PAVEMENT ELEVATION	TW 76.65 P 76.90 BW 76.15
	TC TOP OF CURB / BC BOTTOM OF CURB ELEVATION	TC 76.65 BC 76.15
W	WATER / FIRE SERVICE	W F
	ELECTRIC SERVICE	E
G	GAS SERVICE	G
OH	OVERHEAD WIRES	OH
	SOIL BORING	B-1

NEW YORK CITY ONE CALL CENTER 1-800-272-4480 STOP-CALL-THEN DIG Safely!

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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SEAL & SIGNATURE:

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

OVERALL GRADING & DRAINAGE PLAN

DRAWING No.: C-8

PAGE No.: 8 OF 35

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MIDDLE COUNTRY ROAD
(66' WIDE)
(A.K.A. NY STATE ROUTE 25)

APPROXIMATE LIMIT OF PROPOSED SAWCUT (TYP.) NYSDOT ITEM# 520.51000006

TWO WAY TRAFFIC

PROPOSED 18"Ø HDPE PIPE AT 1.0% MIN. SLOPE (TYP.)

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

23.6' (20' MIN. TYP.)

24.7' (10' MIN.TYP.)

F.F. EL. 75.00

BUILDING 1 (56,000 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

BUILDING 2 (56,672 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

10 TENANTS @ 5,600 SF (TYP.)

6 TENANTS @ 9,445 SF (TYP.)

COMMISSARY (1,500 SF)

PROPOSED 8"Ø SANITARY SEWER PIPING (TYP.)

PROPOSED 10"Ø PVC ROOF DRAIN @ 1.5% MIN. SLOPE INV. = 72.00

PROPOSED 8"Ø PVC @ 1.0% MIN. SLOPE (TYP.)

PROPOSED UTILITY CROSSING (TYP.)

PROPOSED CLEAN OUT TO GRADE (TYP.)

PROPOSED ELECTRICAL TRANSFORMER. CONTRACTOR TO SET ON CONCRETE VAULT 6" MIN. ABOVE FINISHED GRADE. (±EL. 74.50)

MATCHLINE (REFER TO SECTION A)

MATCHLINE (REFER TO SECTION B)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

No.	DATE	BY	DESCRIPTION
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NEW YORK STATE PROFESSIONAL ENGINEER #083937

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TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:
PARTIAL GRADING & DRAINAGE PLAN (SECTION A - PHASE I)

DRAWING No.:
C-9

PAGE No.:
9 OF 35

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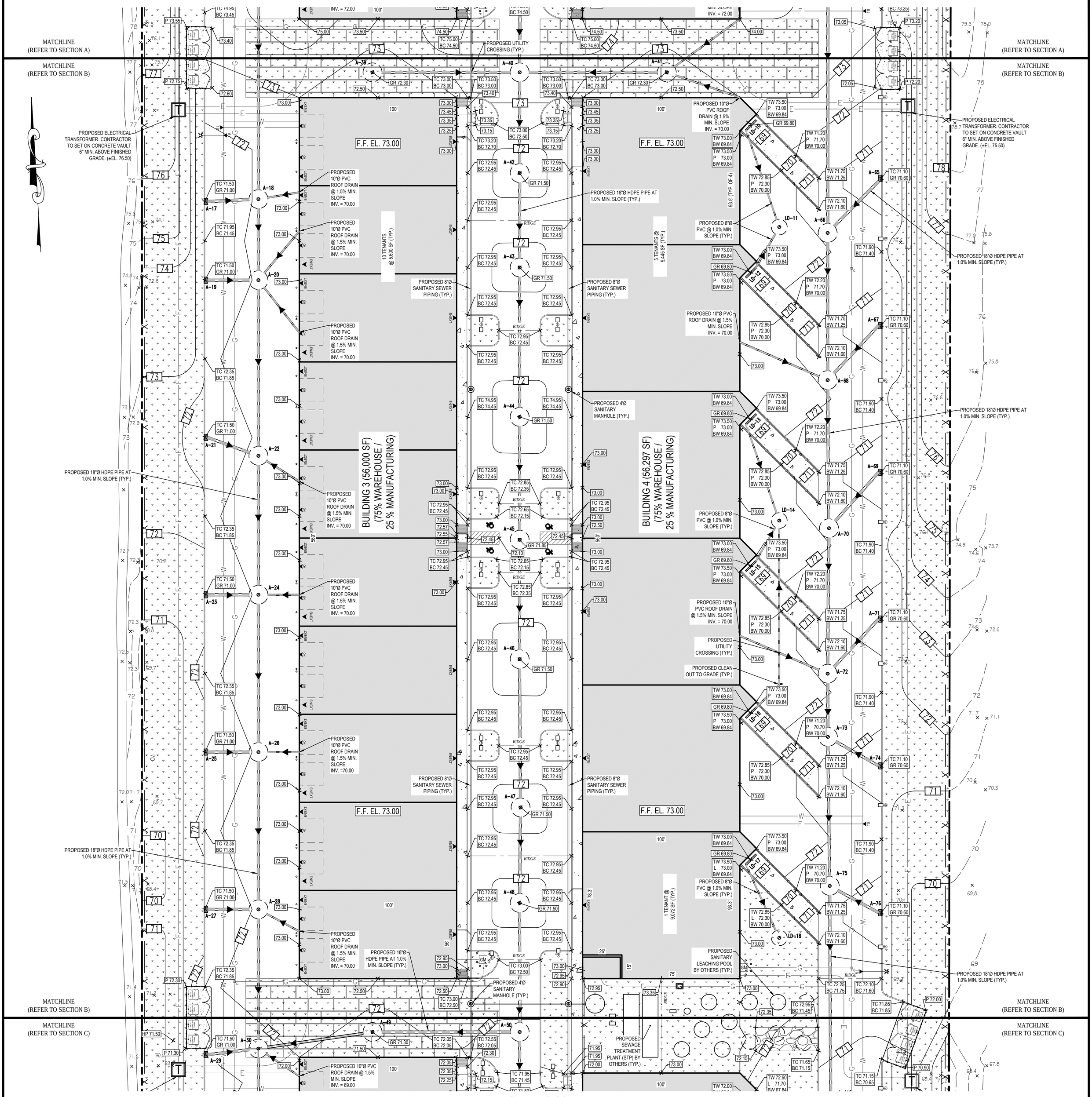

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	EFFECTIVE DEPTH	RIM/GRATE	TOP OF RINGS / STRUCTURE	BOTTOM OF RINGS / STRUCTURE	INVERT IN	INVERT OUT	SUMP
A-1	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	76.50	---	---	---	73.25	72.25
A-2	PROPOSED 4'Ø PRECAST CATCH BASIN WITH FRAME AND GRATE	---	75.00	---	---	---	71.00	70.00
A-3	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.00	68.00	59.00	63.50	65.00	---
A-4	PROPOSED 4'Ø PRECAST CATCH BASIN WITH FRAME AND GRATE	---	73.50	---	---	---	69.80	68.80
A-5	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-6	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	74.20	69.00	59.00	63.50	65.00	---
A-7	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-8	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.95	69.00	59.00	63.50	65.00	---
A-9	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-10	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	74.20	69.00	59.00	63.50	65.00	---
A-11	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-12	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	74.20	69.00	59.00	63.50	65.00	---
A-13	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-14	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	74.20	69.00	59.00	63.50	65.00	---
A-15	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-16	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	74.20	69.00	59.00	63.50	65.00	---
A-17	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-18	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-19	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-20	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-21	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-22	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-23	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-24	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-25	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-26	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-27	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-28	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.20	67.00	57.00	63.50	65.00	---
A-29	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	71.00	---	---	---	67.50	66.50
A-30	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.75	67.00	57.00	63.50	65.00	---
A-31	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.20	68.00	59.00	63.50	65.00	---
A-32	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---
A-33	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---
A-34	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---
A-35	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND ADA GRATE	6'-0"	73.85	68.00	59.00	63.50	65.00	---
A-36	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---
A-37	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---
A-38	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	6'-0"	73.50	68.00	59.00	63.50	65.00	---

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	EFFECTIVE DEPTH	RIM/GRATE	TOP OF RINGS / STRUCTURE	BOTTOM OF RINGS / STRUCTURE	INVERT IN	INVERT OUT	SUMP
A-39	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.30	68.00	57.00	63.50	65.00	---
A-40	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	73.75	68.00	57.00	63.50	65.00	---
A-41	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	72.30	67.00	57.00	63.50	65.00	---
A-42	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-43	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-44	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-45	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND ADA GRATE	8'-0"	71.85	66.00	57.00	63.50	63.50	---
A-46	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-47	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-48	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-49	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	71.30	66.00	57.00	63.50	63.50	---
A-50	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.90	66.00	57.00	63.50	63.50	---
A-51	PROPOSED 4'Ø PRECAST CATCH BASIN WITH FRAME AND GRATE	---	73.05	---	---	---	68.85	67.85
A-52	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	73.00	---	---	---	69.50	68.50
A-53	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.50	---	---	---	69.00	68.00
A-54	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	6'-0"	73.40	69.00	59.00	63.50	65.00	---
A-55	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.60	---	---	---	69.10	68.10
A-56	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	6'-0"	73.75	69.00	59.00	63.50	65.00	---
A-57	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.60	---	---	---	69.10	68.10
A-58	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	6'-0"	73.75	69.00	59.00	63.50	65.00	---
A-59	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.60	---	---	---	69.10	68.10
A-60	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	6'-0"	73.75	69.00	59.00	63.50	65.00	---
A-61	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.60	---	---	---	69.10	68.10
A-62	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	73.75	69.00	57.00	63.50	65.00	---
A-63	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	73.50	69.00	57.00	63.50	65.00	---
A-64	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	72.60	---	---	---	69.10	68.10
A-65	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10
A-66	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.75	66.00	57.00	63.50	63.50	---
A-67	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10
A-68	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.75	66.00	57.00	63.50	63.50	---
A-69	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10
A-70	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.75	66.00	57.00	63.50	63.50	---
A-71	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10
A-72	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.75	66.00	57.00	63.50	63.50	---
A-73	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-74	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10
A-75	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.50	66.00	57.00	63.50	63.50	---
A-76	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.60	---	---	---	67.10	66.10

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HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL GRADING & DRAINAGE PLAN (SECTION B - PHASE I)

DRAWING No.: C-10

PAGE No.: 10 OF 35

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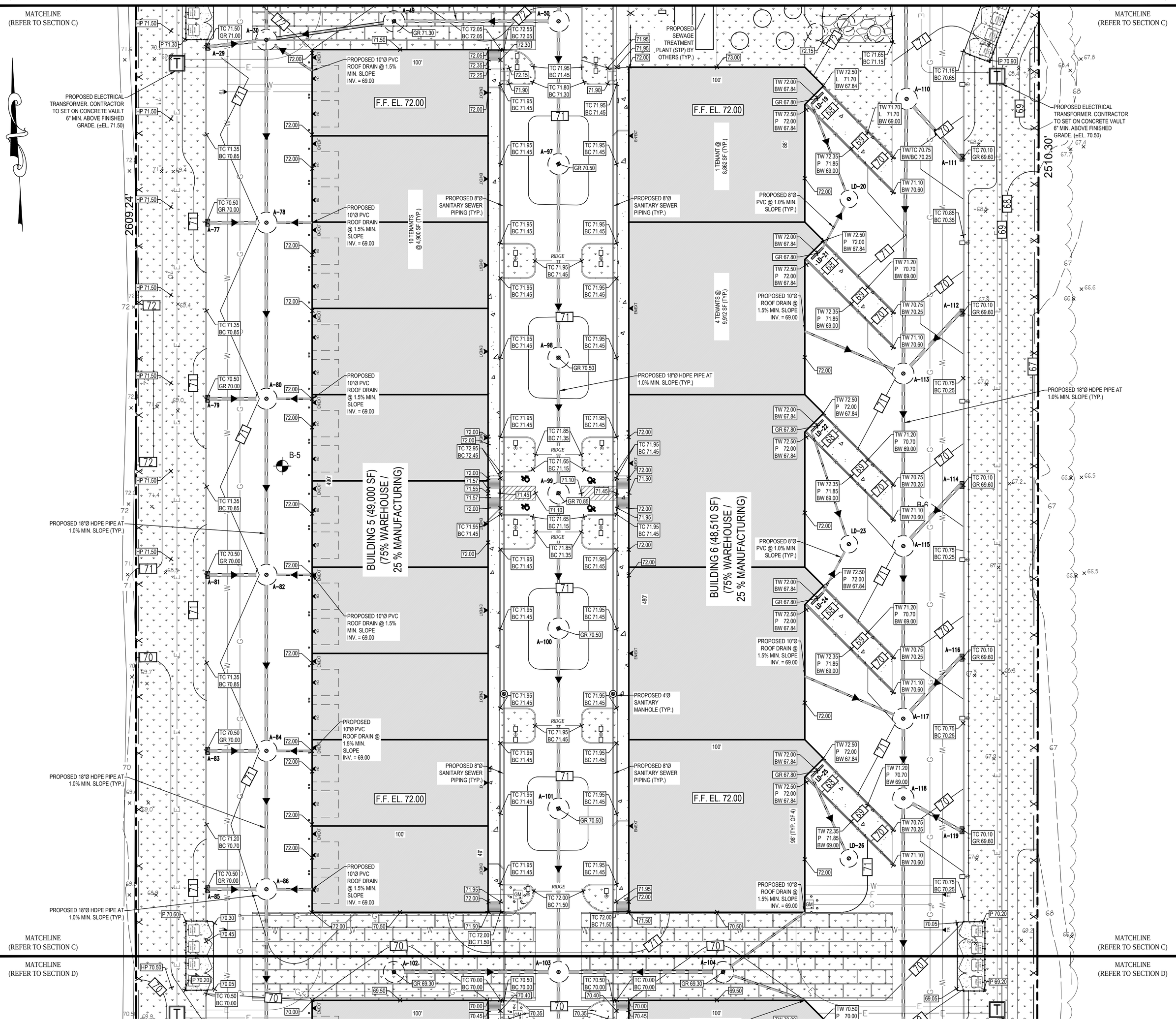

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	EFFECTIVE DEPTH	RIM/GRATE	TOP OF RINGS / STRUCTURE	BOTTOM OF RINGS / STRUCTURE	INVERT IN	INVERT OUT	SUMP
A-77	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.00	---	---	---	66.50	65.50
A-78	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.20	66.00	57.00	63.00	63.00	---
A-79	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.00	---	---	---	66.50	65.50
A-80	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.20	66.00	57.00	63.00	63.00	---
A-81	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.00	---	---	---	66.50	65.50
A-82	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.20	66.00	57.00	63.00	63.00	---
A-83	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.00	---	---	---	66.50	65.50
A-84	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.20	66.00	57.00	63.00	63.00	---
A-85	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	70.00	---	---	---	66.50	65.50
A-86	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	71.20	66.00	57.00	63.00	63.00	---
A-87	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-88	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	69.20	65.00	57.00	63.00	63.00	---
A-89	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-90	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	69.20	65.00	57.00	63.00	63.00	---
A-91	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-92	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	69.20	65.00	57.00	63.00	63.00	---
A-93	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-94	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	69.20	65.00	57.00	63.50	65.00	---
A-95	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-96	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.85	65.00	57.00	63.00	63.00	---
A-97	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-98	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-99	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE ADA	8'-0"	70.85	65.00	57.00	63.00	63.00	---
A-100	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-101	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND GRATE	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-102	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	69.30	66.00	57.00	63.00	63.00	---
A-103	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-104	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	69.30	66.00	57.00	63.00	63.00	---
A-105	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-106	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-107	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND ADA GRATE	8'-0"	68.85	65.00	57.00	63.00	63.00	---
A-108	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-109	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND GRATE	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-110	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.50	65.00	57.00	63.00	63.00	---
A-111	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	69.60	---	---	---	66.10	65.10
A-112	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	69.60	---	---	---	66.10	65.10
A-113	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.75	66.00	57.00	63.00	63.00	---
A-114	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	69.60	---	---	---	66.10	65.10
A-115	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.75	66.00	57.00	63.00	63.00	---
A-116	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	69.60	---	---	---	66.10	65.10
A-117	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.75	66.00	57.00	63.00	63.00	---
A-118	PROPOSED 12'Ø PRECAST DRYWELL WITH HIGH DOME, FRAME, AND SOLID COVER	8'-0"	70.75	66.00	57.00	63.00	63.00	---
A-119	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	69.60	---	---	---	66.10	65.10
A-120	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-121	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	67.60	---	---	---	64.10	63.10
A-122	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-123	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	67.60	---	---	---	64.10	63.10
A-124	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	67.60	---	---	---	64.10	63.10
A-125	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.75	65.00	57.00	63.00	63.00	---
A-126	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.50	65.00	57.00	63.00	63.00	---
A-127	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	67.60	---	---	---	64.10	63.10
A-128	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.55	65.00	57.00	63.00	63.00	---
A-129	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-130	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.55	65.00	57.00	63.00	63.00	---
A-131	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-132	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.55	65.00	57.00	63.00	63.00	---
A-133	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50
A-134	PROPOSED 12'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	8'-0"	68.45	65.00	57.00	63.00	63.00	---
A-135	PROPOSED 2'-6" x 4' PRECAST CATCH BASIN WITH FRAME AND CURB INLET	---	68.00	---	---	---	64.50	63.50

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	EFFECTIVE DEPTH	RIM/GRATE	TOP OF RINGS / STRUCTURE	BOTTOM OF RINGS / STRUCTURE	INVERT IN	INVERT OUT	SUMP
LD-1	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-2	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	74.45	70.75	65.75	68.85	---	---
LD-3	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-4	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-5	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	7'-0"	74.45	70.75	63.75	68.25	---	---
LD-6	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-7	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-8	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	3'-0"	74.45	70.75	67.75	68.95	---	---
LD-9	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	70.80	---	---	---	69.45	68.45
LD-10	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-11	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	72.45	69.75	64.75	67.85	---	---
LD-12	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-13	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-14	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	7'-0"	72.45	69.75	62.75	67.25	---	---
LD-15	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-16	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-17	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	69.80	---	---	---	68.45	67.45
LD-18	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	3'-0"	72.45	69.75	66.75	67.95	---	---
LD-19	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	67.80	---	---	---	66.45	65.45
LD-20	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	71.45	67.75	62.75	65.85	---	---
LD-21	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	67.80	---	---	---	66.45	65.45
LD-22	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	67.80	---	---	---	66.45	65.45
LD-23	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	71.45	67.75	62.75	65.85	---	---
LD-24	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	67.80	---	---	---	66.45	65.45
LD-25	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	67.80	---	---	---	66.45	65.45
LD-26	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	3'-0"	71.45	67.75	64.75	65.95	---	---
LD-27	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	65.80	---	---	---	64.45	63.45
LD-28	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	69.45	65.75	60.75	63.85	---	---
LD-29	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	65.80	---	---	---	64.45	63.45
LD-30	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	65.80	---	---	---	64.45	63.45
LD-31	PROPOSED 10'Ø PRECAST DRYWELL WITH SHALLOW DOME, FRAME, AND SOLID COVER	5'-0"	69.45	65.75	60.75	63.85	---	---
LD-32	PROPOSED 8" WIDE TRENCH DRAIN WITH FRAME AND GRATE	---	65.80	---	---	---	64.45	63.45

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

ALTERATION OR ADDITION TO THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

SEAL & SIGNATURE:

NOT VALID UNTIL SEALED

JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL GRADING & DRAINAGE PLAN (SECTION C - PHASE II)

DRAWING No.: C-11

PAGE No.: 11 OF 35

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MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION D)

MATCHLINE
(REFER TO SECTION D)

PROPOSED ELECTRICAL TRANSFORMER. CONTRACTOR TO SET ON CONCRETE VAULT 6" MIN. ABOVE FINISHED GRADE. (±EL. 71.00)

PROPOSED ELECTRICAL TRANSFORMER. CONTRACTOR TO SET ON CONCRETE VAULT 6" MIN. ABOVE FINISHED GRADE. (±EL. 70.50)

F.F. EL. 70.00

PROPOSED 10"Ø PVC ROOF DRAIN @ 1.5% MIN. SLOPE INV. = 67.00

PROPOSED 8"Ø SANITARY SEWER PIPING (TYP.)

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

PROPOSED 18"Ø HDPE PIPE AT 1.0% MIN. SLOPE (TYP.)

9 TENANTS @ 4,900 SF (TYP.)

4 TENANTS @ 11,137 SF (TYP.)

BUILDING 7 (44,100 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

BUILDING 8 (44,550 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

PROPOSED 8"Ø PVC @ 1.0% MIN. SLOPE (TYP.)

PROPOSED 10"Ø ROOF DRAIN @ 1.5% MIN. SLOPE INV. = 67.00

PROPOSED 10"Ø PVC ROOF DRAIN @ 1.5% MIN. SLOPE INV. = 67.00

PROPOSED 24"Ø HDPE PIPE @ 1.0% MIN. SLOPE

PROPOSED CONCRETE HEADWALL INV. = 53.00

PROPOSED LOWER LEVEL OF RECHARGE BASIN

PROPOSED UPPER LEVEL OF RECHARGE BASIN

B-7

B-8

N03°27'50"E

S03°33'00"W

N86°14'30"W

511.18'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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SEAL & SIGNATURE:

NOT VALID UNTIL SEALED

JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:
PARTIAL GRADING & DRAINAGE PLAN (SECTION D - PHASE II)

DRAWING No.:
C-12

PAGE No.:
12 OF 35

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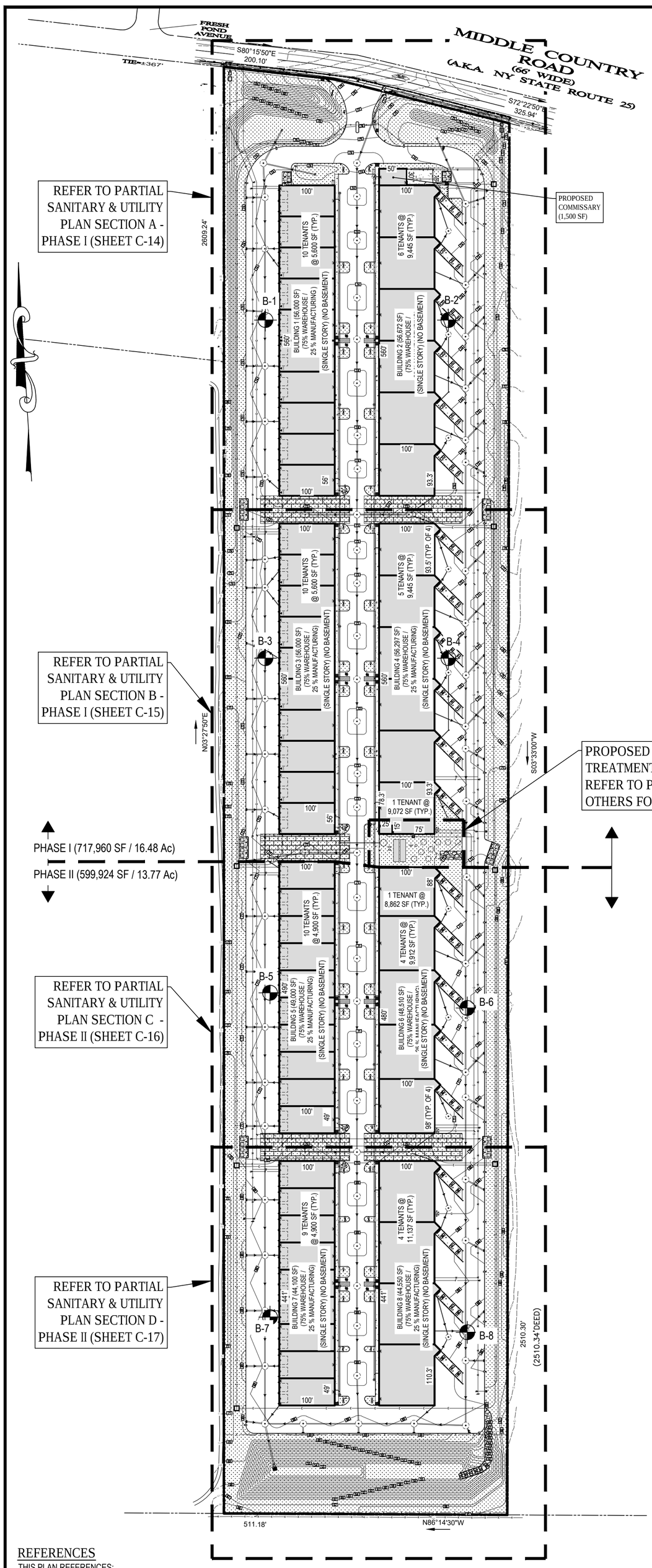


GENERAL NOTES

1. OWNER / APPLICANT
   HK VENTURES, LLC c/o URI HASON
   399 W. JOHN STREET
   HICKSVILLE, NY 11801

   PROPERTY KNOWN AS
   4285 MIDDLE COUNTRY ROAD
   CALVERTON, NY 11933
   TOWN OF RIVERHEAD, SUFFOLK COUNTY
   SCTM No.: 0600-116.00-01.00-002.000
   LOT AREA : 1,317,884 SF (30.2545 ACRES)
2. THERE ARE NO KNOWN EXISTING WELLS PRESENT WITHIN 150' OF THE SUBJECT PROPERTY.
3. THERE ARE NO MAPPED DEC WETLANDS / SURFACE WATERS WITHIN 300' OF PROPERTY BOUNDARY
4. THE CONTRACTOR MUST NOTIFY THE TOWN OF RIVERHEAD ENGINEERING DIVISION AND SCDHS 48 HOURS IN ADVANCE OF THE COMMENCEMENT OF ANY ON-SITE DRAINAGE, SANITARY, CURB, OR PAVING WORK.
5. IF WET CONDITION IS ENCOUNTERED, CONTRACTOR SHALL USE 3/4" CLEAN WASHED STONE IN LIEU OF SAND BACKFILL.
6. SEE SHEET C-2, NOTE SHEET FOR ADDITIONAL NOTES.
7. THE CONTRACTOR MUST NOTIFY THE TOWN ENGINEERING DIVISION AND SCDHS 24 HOURS IN ADVANCE OF THE COMMENCEMENT OF ANY ON-SITE DRAINAGE, SANITARY, CURB, OR PAVING WORK.

COMMISSARY KITCHEN WASTE CALCULATIONS

KITCHEN FLOW
COMMISSARY: 40 SEATS = 40 SEATS x 2.5 GPD / SEAT = 100 GPD
TOTAL FLOW REQUIRED = 100 GPD

GREASE TRAP (GT-1)

MINIMUM REQUIRED CAPACITY = 1 DAY KITCHEN FLOW
= 100 GPD x 1 DAY = 100 GALLONS

USE ONE (1) 8'Ø GREASE TRAP WITH 5.0' LIQUID DEPTH
CAPACITY = 1 x 5.0' x 300 GAL/VF = 1,500 GALLONS (MINIMUM SYSTEM REQUIRED)
(EXCEEDS REQUIRED CAPACITY OF 100 GALLONS)

SANITARY DENSITY CALCULATIONS

SITE IS LOCATED IN GROUNDWATER MANAGEMENT ZONE III = 300 GPD/ACRE

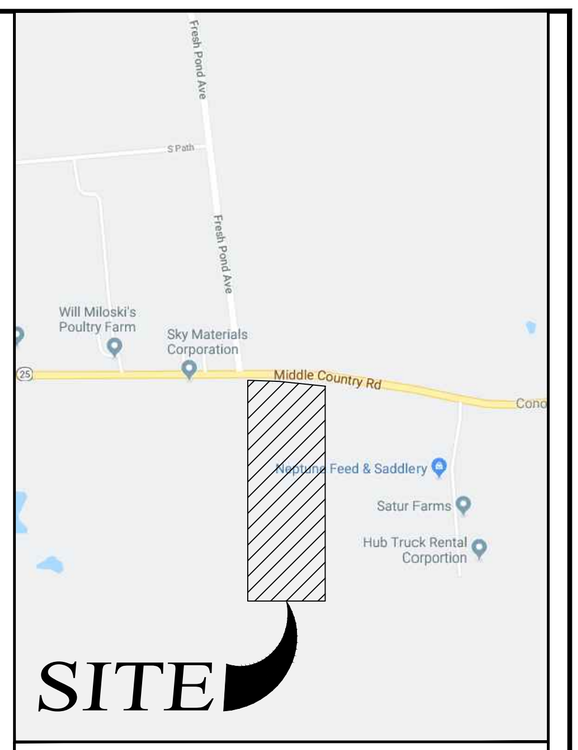
PERMITTED DENSITY = 30.2545 ACRES x 300 GPD/ACRE = 9,076 GPD

PHASE I
PROPOSED COMMISSARY FLOW (COMMISSARY NOT OPEN TO PUBLIC) - 0.04 GPD / SF x 1,500 SF = 60 GPD
PROPOSED BUILDING 1 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,000 SF = 2,240 GPD
PROPOSED BUILDING 2 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,672 SF = 2,267 GPD
PROPOSED BUILDING 3 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,000 SF = 2,240 GPD
PROPOSED BUILDING 4 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 56,297 SF = 2,252 GPD
PHASE I TOTAL = 9,059 GPD

PHASE II
PROPOSED BUILDING 5 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 49,000 SF = 1,960 GPD
PROPOSED BUILDING 6 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 48,510 SF = 1,941 GPD
PROPOSED BUILDING 7 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 44,100 SF = 1,764 GPD
PROPOSED BUILDING 8 FLOW (GENERAL INDUSTRIAL) - 0.04 GPD / SF x 44,550 SF = 1,782 GPD
PHASE II TOTAL = 7,447 GPD

PHASE I + PHASE II TOTAL = 16,506 GPD

7,430 GPD OVER PERMITTED DENSITY. SEWAGE TREATMENT PLANT (STP) PROPOSED. REFER TO PLANS BY OTHERS FOR STP DETAILS.



VICINITY MAP
N.T.S.

LEGEND

SCALE OF SYMBOLS = 1" = 30' (REFER TO PARTIAL SANITARY & UTILITY PLANS)

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	EDGE OF PAVEMENT	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	TRASH ENCLOSURE	
	BIKE RACK MOUNTED ON CONCRETE PAD	
	OVERHEAD DOOR	
	LOADING DOCK WALL WITH FALL PROTECTION RAILING	
	DOOR	
	SIGN	
	FIRE HYDRANT	
	UTILITY POLE	
	GROUND SIGN	
	FENCE	
	POLE MOUNTED LIGHTING	
	DRYWELL	
	2'-6" x 4'-0" CONCRETE CURB INLET	
	4'Ø DRAINAGE MANHOLE	
	24" NYLOPLAST DRAIN BASIN	
	CONCRETE HEADWALL	
	36" HDPE DRAINAGE PIPE	
	24" HDPE DRAINAGE PIPE	
	18" HDPE DRAINAGE PIPE	
	10" PVC ROOF DRAIN PIPE	
	ELEVATION CONTOUR	75
	WATER / FIRE SERVICE	W F
	ELECTRIC SERVICE	E
G	GAS SERVICE	G
OH	OVERHEAD WIRES	OH
	WATER VALVE	
	THRUST BLOCK	TB
	GAS VALVE	G
	SOIL BORING	B-2
	SANITARY STRUCTURE	
	6"Ø PVC (SDR-35) SANITARY PIPE	
	CONCRETE THRUST BLOCK	TB

REFERENCES

THIS PLAN REFERENCES:

BOUNDARY & TOPOGRAPHICAL
SURVEY PREPARED BY:
GALLAS SURVEYING GROUP
2865 US ROUTE 1
NORTH BRUNSWICK, NY 08902
DATED: 11/08/2019

ARCHITECTURAL PLANS & RENDERINGS
PREPARED BY:
BLD ARCHITECTURE, DPC
31 WEST MAIN STREET, SUITE 205
PATCHOGUE, NY 11772
DATED: 01/24/2020

SEWAGE TREATMENT PLANT (STP) PLANS
PREPARED BY:
P.W. GROSSER CONSULTING ENGINEER
& HYDROGEOLOGIST, P.C.
630 JOHNSON AVENUE, SUITE 7
BOHEMIA, NY 11716
DATED: 05/12/2020

ROADWAY MODIFICATION PLANS
PREPARED BY:
STONEFIELD ENGINEERING & DESIGN
92 PARK AVENUE
RUTHERFORD, NJ 07070
DATED: 06/19/2020

GEOTECHNICAL EVALUATION REPORT
PREPARED BY:
J.R. HOLZMACHER P.E., LLC
3555 VETERANS MEMORIAL HIGHWAY, SUITE A
RONKONKOMA, NY 11779
DATED: 03/19/2021

SOIL BORING LOGS & PERCOLATION RATE INFORMATION
PREPARED BY:
SLACKE TEST BORING CO.
P.O. BOX 64
KINGS PARK, NY 11754
BORINGS 1 - 4
DATED: 11/08/2019
BORINGS 5 - 8
DATED: 02/12/2021
PERCOLATION TEST
DATED: 02/12/2021

VICINITY MAP BACKGROUND DATA PROVIDED BY
MAPS.GOOGLE.COM

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

LEGEND

SCALE OF SYMBOLS = 1" = 120'

EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	DUMPSTER ENCLOSURE	
	12' x 34' LOADING SPACE	
	LOADING DOCK RETAINING WALLS	
	PARKING COUNT	9
	OVERHEAD DOOR	
	DOOR	
x x	FENCE	x x x x
	BIKE RACK	
	HYDRANT	

PROJECT DATA

SITE ADDRESS	4285 MIDDLE COUNTRY ROAD CALVERTON, NY 11933
OWNER / APPLICANT	HK VENTURES, LLC 147 STEAMBOAT ROAD GREAT NECK, NY 11024 c/o URI HASON
TAX MAP NUMBER	DISTRICT: 600, SECTION: 116, BLOCK: 1, LOT: 2
SITE AREA	1,317,884 SF (30.2545 Ac)
CURRENT ZONING	INDUSTRIAL C
EXISTING USE	VACANT
PROPOSED USE	PRIMARY USES: WAREHOUSE & MANUFACTURING (INDOOR)
PROPOSED BUILDING AREA (GFA)	PHASE I BUILDING 1 = 56,000 SF BUILDING 2 = 56,672 SF BUILDING 3 = 56,000 SF BUILDING 4 = 56,297 SF COMMISSARY = 1,500 SF TOTAL = 226,469 SF PHASE II (TO BE CONSTRUCTED ONCE PHASE I IS COMPLETED AND OPERATING) BUILDING 5 = 49,000 SF BUILDING 6 = 48,510 SF BUILDING 7 = 44,100 SF BUILDING 8 = 44,550 SF TOTAL = 186,160 SF PHASE I + PHASE II = 412,629 SF (31.31%)
PERVIOUS PAVERS / LANDSCAPE AREA	381,239 SF (28.93%)
IMPERVIOUS / PAVEMENT / CONCRETE AREA (EXCLUDES BUILDING AREAS)	524,016 SF (39.76%)

REFER TO SHEET C-18, SANITARY DETAILS & BORINGS FOR ADDITIONAL INFORMATION

SCTM #: 600-116-1-2
SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES APPROVAL

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

OVERALL SANITARY & UTILITY PLAN

DRAWING No.: C-13

PAGE No.: 13 OF 35

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MIDDLE COUNTRY ROAD
(66' WIDE)
(A.K.A. NY STATE ROUTE 25)

S80°15'50"E
325.94'
S72°22'50"E
2609.24'
2510.30'
200.10'

CONTRACTOR TO COORDINATE WITH OWNING UTILITY COMPANY FOR WATER MAIN CONNECTION (TYP.)
PROPOSED WATER VALVE (TYP. OF 3)
EXISTING 6"Ø GAS MAIN TO REMAIN (TYP.)
EXISTING UTILITY POLE TO BE RELOCATED. CONTRACTOR TO COORDINATE WITH OWNING UTILITY COMPANY FOR DISCONNECT AND EXACT LOCATION OF PROPOSED.
EXISTING CATCH BASIN GRATE TO BE RESET TO PROPOSED ELEVATION.
PROPOSED ELECTRIC SERVICE. CONTRACTOR TO COORDINATE WITH OWNING UTILITY COMPANY FOR CONNECTION
PROPOSED GAS SERVICE. CONTRACTOR TO COORDINATE WITH OWNING UTILITY COMPANY FOR CONNECTION
PROPOSED WATER METER AND RPZ VAULT (TYP.)
PROPOSED GAS MAIN (TYP.)
PROPOSED 8"Ø CLASS 52 D.I.P. WATER MAIN (TYP.)
PROPOSED 2.5"Ø TYPE K COPPER DOMESTIC WATER SERVICE (TYP.)
PROPOSED THRUST BLOCK (TYP.)
PROPOSED 4"Ø D.I.P CLASS 52 FIRE SERVICE (TYP.)
PROPOSED DRYWELL (TYP.)
PROPOSED CATCH BASIN (TYP.)
PROPOSED ELECTRIC CONDUITS ENCASED IN CONCRETE. CONTRACTOR TO REFER TO DESIGN BY OTHERS FOR CONDUIT SIZE (TYP.)
PROPOSED 4'Ø SANITARY MANHOLE (TYP.)
PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE
PROPOSED 8'Ø x 5' EFFECTIVE DEPTH GREASE TRAP
PROPOSED 6"Ø PVC (DR-18) @ 1/4"/FT MIN. SLOPE
PROPOSED 8"Ø PVC (DR-18) SEWER MAIN @ 0.62% SLOPE (378 L.F. FROM SMH-8 TO SMH-7)
PROPOSED 8"Ø PVC (DR-18) SEWER MAIN @ 0.59% SLOPE (396 L.F. FROM SMH-4 TO SMH-3)
PROPOSED 8"Ø PVC (SDR-35) SEWER MAIN @ 0.59% SLOPE (396 L.F. FROM SMH-3 TO SMH-2)
PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE
PROPOSED GAS METER (TYP.)
PROPOSED GAS SERVICE (TYP.)
PROPOSED ELECTRIC SERVICE (TYP.)
PROPOSED HYDRANT WITH 6"Ø HYDRANT BRANCH (TYP.)
PROPOSED DRAINAGE PIPING (TYP.)
SMH-8
SMH-4
SMH-7
SMH-3
GT-1
INLET 78.30
INLET GR 79.27
F.F. EL. 75.00
BUILDING 1 (56,000 SF) (75% WAREHOUSE / 25 % MANUFACTURING)
BUILDING 2 (56,672 SF) (75% WAREHOUSE / 25 % MANUFACTURING)
10 TENANTS @ 5,600 SF (TYP.)
6 TENANTS @ 9,445 SF (TYP.)
COMMISSARY (1,500 SF)
B-1
B-2
RIDGE
MATCHLINE (REFER TO SECTION A)
MATCHLINE (REFER TO SECTION B)

REFER TO SHEETS C-15 & C-16 FOR DRAINAGE STRUCTURE SCHEDULES, AND SHEET C-18 FOR SANITARY DETAILS & BORING INFORMATION

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

SCTM #: 600-116-1-2
SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

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TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
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ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SANITARY & UTILITY PLAN (SECTION A - PHASE I)

DRAWING No.: C-14

PAGE No.: 14 OF 35

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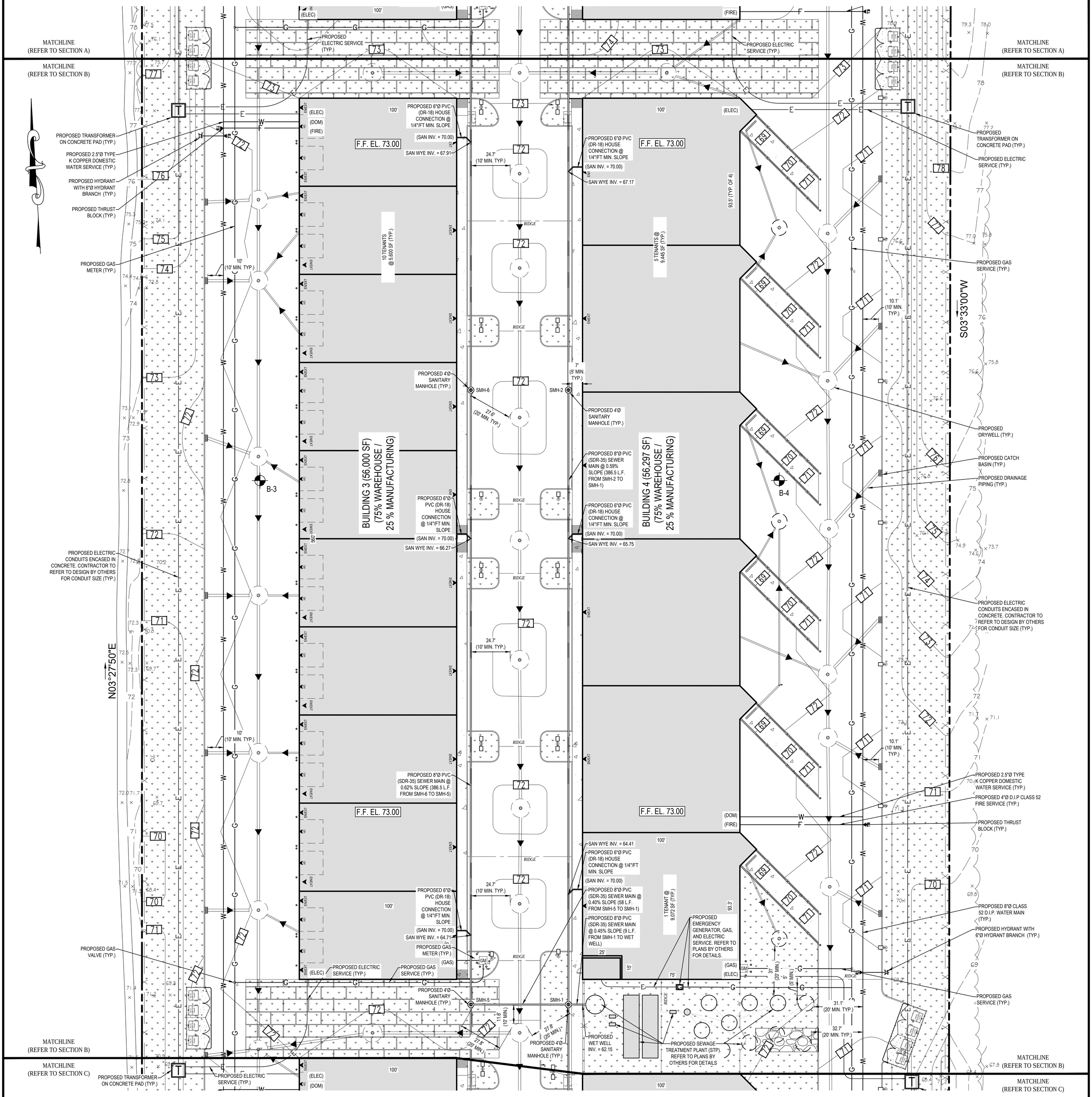

SANITARY STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	EFFECTIVE DEPTH	RIM/GRATE	TOP OF RINGS	BOTTOM OF RINGS	INVERT IN	INVERT OUT
GT-1	PROPOSED 10'Ø PRECAST SEPTIC TANK WITH TWO FRAMES AND SOLID COVERS	5'-0"	A. 74.40 B. 74.35	72.40	66.40	71.70	71.20
SMH-1	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	72.70	70.70	60.70	N. = 64.00 S. = 62.30 W. = 62.30	E. = 62.20
SMH-2	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	72.40	70.40	65.40	66.36	66.26
SMH-3	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	74.40	72.40	67.40	68.68	68.58
SMH-4	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	74.40	72.20	70.20	71.10	71.00
SMH-5	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	72.25	70.25	61.25	N. = 64.45 S. = 62.65	E. = 62.55
SMH-6	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	72.40	69.85	65.85	66.95	66.85
SMH-7	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	74.40	72.40	68.40	69.50	69.40
SMH-8	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	74.40	72.30	70.30	---	71.80
SMH-9	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	71.40	69.20	63.20	64.37	64.27
SMH-10	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	69.40	66.95	64.95	66.05	65.95
SMH-11	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	69.40	66.85	64.85	---	66.85
SMH-12	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	71.40	69.10	63.10	64.20	64.10
SMH-13	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	69.40	67.00	64.00	66.10	66.00
SMH-14	PROPOSED 4'Ø PRECAST CONCRETE MANHOLE WITH FRAME AND SOLID COVER	---	69.40	67.10	63.10	---	66.84

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

SCTM #: 600-116-1-2
SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

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CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SANITARY & UTILITY PLAN (SECTION B - PHASE I)

DRAWING No.: C-15

PAGE No.: 15 OF 35

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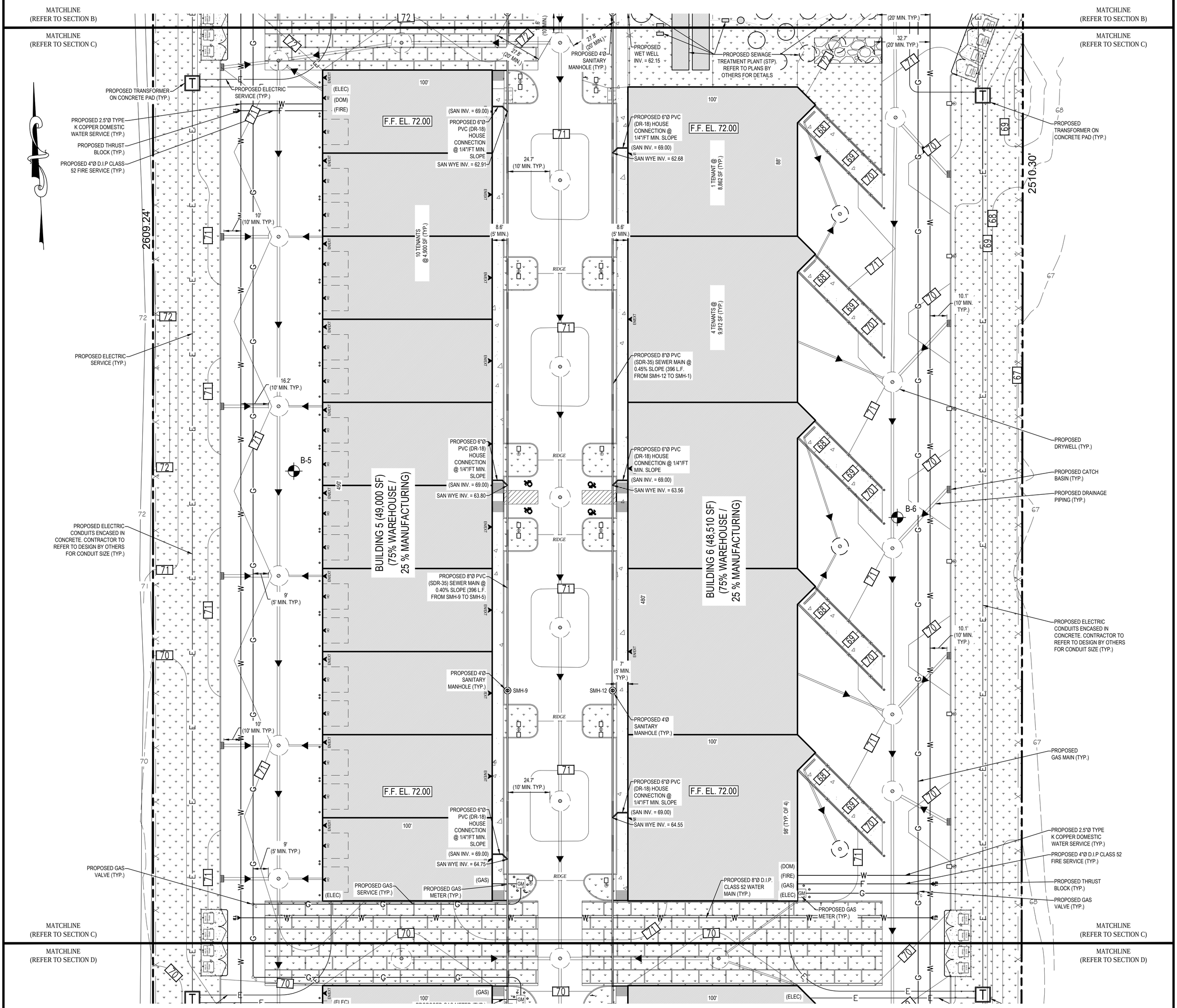

REFER TO SHEETS C-15 & C-16 FOR DRAINAGE STRUCTURE SCHEDULES, AND SHEET C-18 FOR SANITARY DETAILS & BORING INFORMATION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

SCTM #: 600-116-1-2

SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

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DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL SANITARY & UTILITY PLAN (SECTION C - PHASE II)

DRAWING No.: C-16

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MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION D)

MATCHLINE
(REFER TO SECTION D)

PROPOSED ELECTRIC CONDUITS ENCASED IN CONCRETE. CONTRACTOR TO REFER TO DESIGN BY OTHERS FOR CONDUIT SIZE (TYP.)

PROPOSED ELECTRIC SERVICE (TYP.)

PROPOSED THRUST BLOCK (TYP.)

PROPOSED 8"Ø CLASS 52 D.I.P. WATER MAIN (TYP.)

PROPOSED HYDRANT WITH 6"Ø HYDRANT BRANCH (TYP.)

PROPOSED TRANSFORMER ON CONCRETE PAD (TYP.)

PROPOSED ELECTRIC CONDUITS ENCASED IN CONCRETE. CONTRACTOR TO REFER TO DESIGN BY OTHERS FOR CONDUIT SIZE (TYP.)

(ELEC)
(DOM)
(FIRE)

PROPOSED 2.5"Ø TYPE K COPPER DOMESTIC WATER SERVICE (TYP.)

PROPOSED 4"Ø D.I.P CLASS 52 FIRE SERVICE (TYP.)

F.F. EL. 70.00

16.2'
(10' MIN.)

(GAS)

100'
PROPOSED GAS METER (TYP.)

(SAN INV. = 67.00)

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

SAN WYE INV. = 65.15

24.7'
(10' MIN. TYP.)

9 TENANTS @ 4,900 SF (TYP.)

RIDGE

PROPOSED 8"Ø PVC (SDR-35) SEWER MAIN @ 0.40% SLOPE (396 L.F. FROM SMH-10 TO SMH-9)

BUILDING 7 (44,100 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

441'

SAN WYE INV. = 65.93

(SAN INV. = 67.00)

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

SMH-10

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

B-7

PROPOSED 8"Ø PVC (DR-18) SEWER MAIN @ 0.40% SLOPE (191.5 L.F. FROM SMH-11 TO SMH-10)

F.F. EL. 70.00

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

(SAN INV. = 67.00)

SAN WYE INV. = 66.80

24.7'
(10' MIN. TYP.)

23.6'
(20' MIN. TYP.)

SMH-14

7'
(5' MIN. TYP.)

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

SAN WYE INV. = 66.80

(SAN INV. = 67.00)

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

SMH-11

49'

100'

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

(SAN INV. = 67.00)

SAN WYE INV. = 65.24

PROPOSED 8"Ø PVC (SDR-35) SEWER MAIN @ 0.45% SLOPE (396 L.F. FROM SMH-13 TO SMH-12)

4 TENANTS @ 11,137 SF (TYP.)

PROPOSED 6"Ø PVC (DR-18) HOUSE CONNECTION @ 1/4"/FT MIN. SLOPE

SAN WYE INV. = 65.97

(SAN INV. = 67.00)

SMH-13

PROPOSED 4'Ø SANITARY MANHOLE (TYP.)

BUILDING 8 (44,550 SF)
(75% WAREHOUSE / 25 % MANUFACTURING)

PROPOSED 8"Ø PVC (SDR-35) SEWER MAIN @ 0.45% SLOPE (164.5 L.F. FROM SMH-14 TO SMH-13)

F.F. EL. 70.00

110.3'

PROPOSED GAS METER (TYP.)

(GAS)

PROPOSED TRANSFORMER ON CONCRETE PAD (TYP.)

PROPOSED ELECTRIC SERVICE (TYP.)

PROPOSED 8"Ø CLASS 52 D.I.P. WATER MAIN (TYP.)

PROPOSED GAS SERVICE (TYP.)

16.3'
(10' MIN. TYP.)

10'
(10' MIN. TYP.)

(DOM)
(FIRE)

PROPOSED 2.5"Ø TYPE K COPPER DOMESTIC WATER SERVICE (TYP.)

PROPOSED THRUST BLOCK (TYP.)

PROPOSED 4"Ø D.I.P CLASS 52 FIRE SERVICE (TYP.)

B-8

PROPOSED DRYWELL (TYP.)

PROPOSED CATCH BASIN (TYP.)

PROPOSED DRAINAGE PIPING (TYP.)

10.1'
(10' MIN. TYP.)

PROPOSED 8"Ø CLASS 52 D.I.P. WATER MAIN (TYP.)

PROPOSED HYDRANT WITH 6"Ø HYDRANT BRANCH (TYP.)

PROPOSED RECHARGE BASIN LIMITS

N03°27'50"E

S03°33'00"W

N86°14'30"W

511.18'

SCTM #: 600-116-1-2
SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

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DRAWING TITLE:

PARTIAL SANITARY & UTILITY PLAN (SECTION D - PHASE II)

DRAWING No.:

C-17

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BORING No. 1 — REPORT ON BORINGS

DATE: 2/24/20 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	1 2	1	FINE DARK BROWN AND BROWN TOPSOIL WITH ORGANICS AND DECAYING VEGETATION INTO FINE SILTY SAND, SOME CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SM)
	1 2		
	WOH	2	
	1 2		
5	2 1	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, SOME CLEAN SAND INTO CLEAN FINE TO MEDIUM SAND, TRACE FINE TO MEDIUM GRAVEL (SM/SW)
	3 6		
	4 5	4	
	5 7		
	7 8		
	3 5	5	FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
10	5 5		
	5 6	6	FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO SMALL GRAVEL OCCASIONAL LARGE STONE (SW)
	5 6		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME COARSE SAND, TRACE FINE TO SMALL GRAVEL (SW)
15			
	4 6		
	5 5	7	
			FINE TO COARSE PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, SOME SMALL STONE (SW)
20			
	3 5		
	6 6	8	FINE TO MEDUM PALE BROWN SAND, SOME FINE TO LARGE GRAVEL (SW)
			FINE TO COARSE PALE BROWN AND LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
25			
	6 9		
	9 10	9	
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
30			

GENERAL NOTES

1) WATER LEVELS AS INDICATED ARE THOSE MEASURED ON THE DATE SHOWN AND ARE NOT NECESSARILY REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

2) THE BORING RESULTS REPRESENT SUB-SURFACE CONDITIONS AT THE BORING LOCATION ONLY AND ARE NOT NECESSARILY REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	6 8	10	FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
	9 10		
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL LARGE STONE (SW)
35			
	5 8	11	
	9 9		
			FINE TO MEDUM PALE BROWN SAND, TRACE FINE GRAVEL (SW)
	5 7	12	
40	6 8		

NO WATER ENCOUNTERED.

END OF BORING: 40'0"

SOIL BORING (B-1)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/24/2020

BORING No. 2 — REPORT ON BORINGS

DATE: 2/24/20 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 1	1	FINE DARK BROWN AND BROWN TOPSOIL WITH ORGANICS AND BROKEN ROOTS, SOME FINE SILTY SAND INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM)
	2 1		
	1 WOH	2	
	2 3		
5	4 5	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SAND, SOME CLEAN SAND TRACE FINE TO SMALL GRAVEL (SM/SW)
	4 4		
	5 5	4	
	5 5		FINE TO COARSE LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	2 3	5	
10	4 5		FINE TO COARSE LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	4 5	6	
	5 6		FINE TO COARSE PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
			FINE TO MEDIUM PALE BROWN SAND, TRACE FINE GRAVEL (SW)
15			
	3 4		
	4 6	7	
			FINE TO MEDIUM PALE BROWN AND LIGHT BROWN SAND, SOME FINE TO LARGE GRAVEL (SW)
20			
	4 5		
	6 8	8	
			FINE TO COARSE LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
25			
	7 10	9	
	10 11		
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	6 9	10	FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	9 9		
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
35			
	7 12	11	
	11 12		
			MEDIUM TO FINE PALE BROWN AND LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL INTO FINE SAND, TRACE FINE GRAVEL (SW/SP)
	10 11	12	
40	10 10		

NO WATER ENCOUNTERED.

END OF BORING: 40'0"

SOIL BORING (B-2)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/24/2020

BORING No. 3 — REPORT ON BORINGS

DATE: 2/24/20 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 1	1	FINE DARK BROWN AND BROWN TOPSOIL WITH DECAYING VEGETATION AND FINE SILTY SAND INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM)
	2 2		
	2 4	2	
	3 2		
5	5 6	3	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, SOME CLEAN SAND INTO FINE TO COARSE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	6 6		
	5 5	4	
	5 6		
	3 4	5	FINE TO COARSE LIGHT BROWN AND RUST BROWN SAND, SOME FINE TO LARGE GRAVEL, SOME CLAY (SW/CL)
10	4 5		
	3 4	6	FINE TO COARSE RUST BROWN AND GRAY CLEAN SAND AND CLAY INTO COARSE TO FINE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	4 4		
			COARSE TO FINE RUST BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
15			
	2 3		
	4 5	7	FINE TO MEDIUM RUST BROWN AND LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
20			
	4 5		
	6 5	8	FINE TO COARSE LIGHT BROWN SAND, SOME FINE TO SMAL GRAVEL, OCCASIONAL LARGE STONE (SW)
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
25			
	3 5		
	5 7	9	
			FINE TO MEDUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
30			

GENERAL NOTES

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	3 5	10	FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	7 8		
			FINE LIGHT BROWN SAND, TRACE FINE GRAVEL (SP) WET/MOIST
35			
	4 6	11	
	5 6		
			MEDIUM LIGHT BROWN SAND, TRACE FINE GRAVEL (SP) WET
	5 8	12	
40	8 8		

WATER LEVEL: 36.2 FEET

END OF BORING: 40'0"

SOIL BORING (B-3)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/24/2020

BORING No. 4 — REPORT ON BORINGS

DATE: 2/24/20 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 1	1	FINE DARK BROWN AND BROWN SILTY SAND AND TOPSOIL WITH ORGANICS INTO FINE SILTY SAND AND CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SM)
	1 2		
	1 WOH	2	
	2 2		
5	2 5	3	FINE TO COARSE BROWN AND RUST BROWN SILTY SAND AND MEDIUM CLEAN SAND INTO FINE TO COARSE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SM/SW)
	7 8		
	6 8	4	
	5 6		
	4 5	5	FINE TO COARSE LIGHT BROWN AND RUST BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
10	5 6		
	5 5	6	FINE TO COARSE PALE BROWN AND RUST BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	6 6		
			COARSE TO FINE PALE BROWN SAND, TRACE FINE TO MEDIUM GRAVEL (SW)
15			
	5 6		FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	6 8	7	
			FINE TO MEDIUM LIGHT BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
20			
	5 7		FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
	7 9	8	
			FINE TO COARSE LIGHT BROWN AND PALE BROWN SAND, SOME FINE TO SMALL GRAVEL, OCCASIONAL LARGE STONE (SW)
25			
	6 8		
	10 10	9	
			FINE TO MEDIUM LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
	6 9	10	FINE TO MEDIUM LIGHT BROWN SAND, SOME FINE TO SMALL GRAVEL (SW)
	9 11		
			FINE TO MEDIUM LIGHT BROWN AND PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
35			
	5 8	11	
	7 10		
			FINE TO MEDIUM PALE BROWN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	7 9	12	
40	9 11		

END OF BORING: 40'0"

SOIL BORING (B-4)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/24/2020

BORING No. 5 — REPORT ON BORINGS

DATE: 2/12/21 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	3 5	1	FINE TO MEDIUM CLEAN SAND AND SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM/SW)
	6 7		
	8 8	2	
	7 5		FINE TO MEDIUM LIGHT BROWN CLEAN SAND, TRACE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SW)
5	2 2	3	
	4 5		
	4 5	4	FINE TO MEDIUM BROWN AND LIGHT BROWN SILTY SAND, TRACE FINE GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE GRAVEL (SM/SW)
	7 8		
	8 8	5	
10	7 8		FINE TO COARSE RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	7 6	6	
	6 7		FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, TRACE LARGE GRAVEL (SW)
15			
	7 7		FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW)
	8 8	7	
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO LARGE GRAVEL, SOME CRUSHED GRAVEL (SW)
20			
	7 9		
	9 12	8	
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
25			
	8 10	9	
	11 14		
30		10	

GENERAL NOTES

1) NO TRUE GROUNDWATER LEVEL ENCOUNTERED. THIS CONDITION MAY NOT BE REFLECTIVE OF DAILY OR SEASONAL VARIATIONS IN THE GROUNDWATER LEVEL.

2) THE BORING RESULTS REPRESENT SUB-SURFACE CONDITIONS AT THE BORING LOCATION ONLY AND ARE NOT NECESSARILY REPRESENTATIVE OF CONDITIONS AT OTHER LOCATIONS.

BORING CONTINUED TO 40'0"

REFER TO PAGE 5A OF 9

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	10 12	10	FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
	16 17		
			FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
35			
	9 9	11	
	12 14		
	8 12		
40	13 16	12	

NOTE: SLIGHT MOISTURE AT 39'6" BELOW GRADE.

END OF BORING: 40'0"

SOIL BORING (B-5)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/12/2021

BORING No. 6 — REPORT ON BORINGS

DATE: 2/12/21 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	5 2	1	FINE DARK BROWN AND GRAY TOPSOIL WITH ORGANICS AND FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL, SOME CLEAN SAND (SM)
	2 3		
	3 3	2	
	4 5		
5	2 4	3	FINE TO MEDIUM GRAY AND LIGHT BROWN CLEAN SAND AND SILTY SAND, TRACE FINE TO SMALL GRAVEL (SM/SW)
	4 6		
	4 5	4	
	7 9		FINE TO MEDIUM LIGHT BROWN AND GRAY CLEAN SAND, TRACE FINE TO SMALL GRAVEL INTO FINE SILTY SAND, TRACE FINE TO SMALL GRAVEL (SW/SM)
	4 5	5	
10	5 6		FINE GRAY AND LIGHT BROWN SILTY SAND, TRACE FINE TO SMALL GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE GRAVEL (SM/SW)
	6 6	6	
	6 8		
15			
	6 5		FINE TO CORSE LIGHT BROWN AND RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	5 6	7	
			FINE TO CORSE LIGHT BROWN AND RUST BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
20			
	4 4		
	5 6	8	FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
			COARSE TO FINE LIGHT BROWN AND RUST BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
25			
	3 4	9	
	8 8		
			MEDIUM TO COARSE LIGHT BROWN AND PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0"

REFER TO PAGE 6A OF 8

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	4 7	10	FINE TO COARSE LIGHT BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	8 9		
			FINE TO COARSE LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
35			
	4 8	11	
	12 14		
			COARSE TO FINE LIGHT BROWN AND PALE BROWN CLEAN SAND INTO FINE SAND, SOME FINE TO SMALL GRAVEL (SW)
	6 7	12	
40	9 9		

NO TRUE GROUNDWATER LEVEL ENCOUNTERED.

END OF BORING: 40'0"

SOIL BORING (B-6)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/12/2021

BORING No. 7 — REPORT ON BORINGS

DATE: 2/12/21 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 5	1	FINE TO MEDIUM BROWN CLEAN SAND AND SILTY SAND, SOME FINE TO SMALL GRAVEL, TRACE ORGANICS (SM/SW)
	7 7		
	7 6	2	
	6 6		
5	2 3	3	FINE TO MEDIUM LIGHT BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL, TRACE SILTY SAND (SW)
	3 4		
	5 5	4	
	3 3		FINE TO MEDIUM LIGHT BROWN AND GRAY CLEAN SAND, SOME FINE TO SMALL GRAVEL INTO FINE SILTY SAND, SOME FINE TO SMALL GRAVEL (SW/SM)
	3 4	5	
10	5 7		
	2 4	6	FINE GRAY AND LIGHT BROWN SILTY SAND, TRACE FINE GRAVEL INTO FINE TO MEDIUM CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	5 5		
15			
	3 3		FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, TRACE LARGE GRAVEL (SW)
	3 4	7	
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, TRACE LARGE GRAVEL (SW)
20			
	3 2		
	2 2	8	FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
			FINE TO MEDIUM PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
25			
	5 5	9	
	7 7		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
30			

GENERAL NOTES

BORING CONTINUED TO 40'0"

REFER TO PAGE 7A OF 8

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	4 4	10	FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	6 8		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW)
35			
	4 7	11	
	7 10		
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE GRAVEL (SW) (MOIST AT 39'6")
	8 9	12	
40	9 12		

NO TRUE GROUNDWATER LEVEL ENCOUNTERED.

END OF BORING: 40'0"

SOIL BORING (B-7)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/12/2021

BORING No. 8 — REPORT ON BORINGS

DATE: 2/12/21 — SURFACE ELEVATION:

DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
1	2 3	1	FINE TO MEDIUM BROWN AND GRAY TOPSOIL, SOME ORGANICS, SOME FINE TO MEDIUM SILTY SAND, TRACE FINE TO SMALL GRAVEL INTO FINE SILTY SAND AND CLAN SAND, SOME GRAVEL (SM/SW)
	5 4		
	4 5	2	
	4 4		
5	4 4	3	FINE TO MEDIUM GRAY AND BROWN CLEAN SAND AND SILTY SAND INTO MEDIUM TO FINE SAND, TRACE SILT, SOME FINE TO SMALL GRAVEL (SM/SW)
	5 6		
	4 4	4	
	6 6		FINE TO COARSE RUST BROWN AND LIGHT BROWN SILTY SAND AND CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW/SM)
	4 4	5	
10	7 10		
	8 8	6	FINE TO COARSE GRAY AND RUST BROWN SILTY SAND, TRACE FINE TO COARSE GRAVEL INTO FINE TO COARSE CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW/SM)
	10 10		
15			
	3 7		FINE TO MEDIUM RUST BROWN AND PALE BROWN CLEAN SAND, TRACE FINE TO SMALL GRAVEL (SW)
	8 10	7	
			FINE TO MEDIUM PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL LARGE STONE (SW)
20			
	5 6		FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL (SW)
	8 9	8	
			FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL, OCCASIONAL LARGE STONE (SW)
25			
	5 6	9	
	8 9		FINE TO COARSE PALE BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
			FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL
30			

GENERAL NOTES

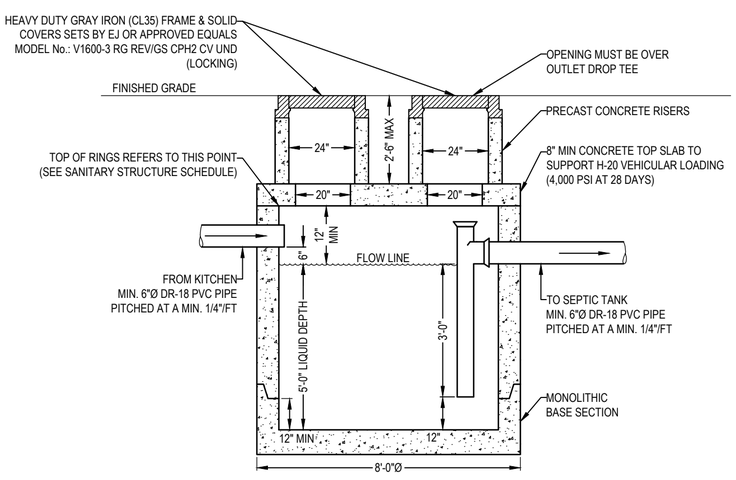
BORING CONTINUED TO 40'0"

REFER TO PAGE 8A OF 8

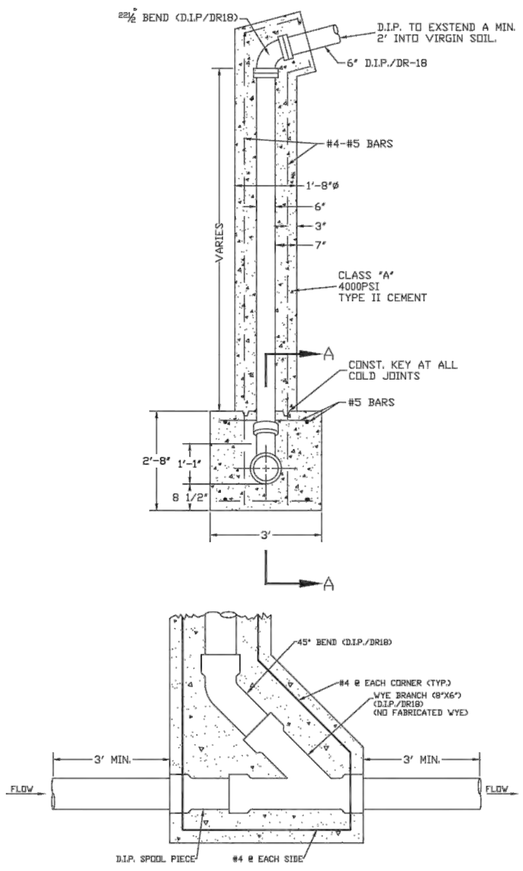
DEPTH IN FEET	SPOON BLOWS	SAMPLE NO.	DESCRIPTION OF SAMPLE
30	7 9	10	FINE TO COARSE PALE BROWN CLEAN SAND, TRACE FINE TO COARSE GRAVEL, OCCASIONAL SMALL STONE (SW)
	10 11		
			FINE TO COARSE PALE BROWN AND LIGHT BROWN CLEAN SAND, SOME FINE TO COARSE GRAVEL (SW)
35			
	5 10	11	
	11 13		
			FINE TO COARSE LIGHT BROWN CLEAN SAND, SOME FINE TO SMALL GRAVEL (SW)
	12 12	12	
40	13 12		

END OF BORING: 40'0"

SOIL BORING (B-8)
PREPARED BY: SLACKE TEST BORING CO.
DATED: 02/12/2021

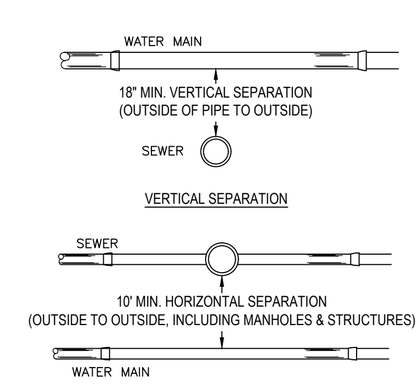


EXTERIOR GREASE TRAP DETAIL
(SCDHS STANDARD DETAIL)
N.T.S.



SECTION A-A

VERTICAL HOUSE CONNECTION ASSEMBLY
8"Ï PVC CAST IN PLACE DETAIL
N.T.S.



SECTION A-A

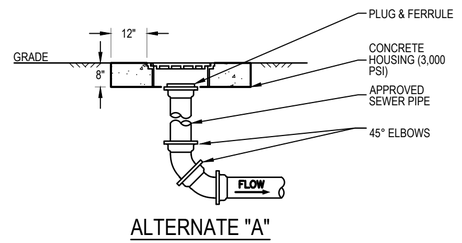
NOTES:
1. ALL MANHOLES SECTIONS SHALL CONFORM TO A.S.T.M. C-478 LATEST REVISION STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE M.H. SECTIONS.
2. MANHOLE RISER SECTION TO BE FURNISHED IN 1,2,3 OR 4' HEIGHTS, AS REQUIRED.
3. LOADING TO CONFORM TO AASHTO H-20 LOADING
4. ALL CONCRETE IS TO MEET 4000 PSI AT 28 DAY SET.
5. THE MAXIMUM CHANGE IN ELEVATION BETWEEN INLET AND OUTLET INVERT(S) SHALL BE NO GREATER THAN 2 FEET. MIN IS 0.10 FEET.

4'Ï SANITARY MANHOLE DETAIL
N.T.S.

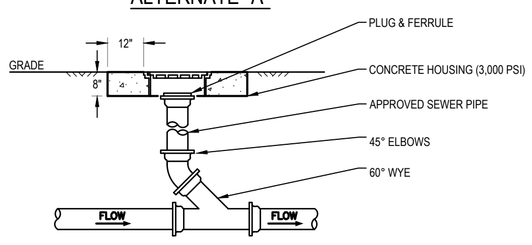
REFER TO SHEET C-010 FOR CROSSING/SEPARATION NOTES.

WATER PIPE / SEWER PIPE CROSSING DETAIL
N.T.S.

CONTRACTOR SHALL COORDINATE WITH ON-SITE GEOTECHNICAL ENGINEER REGARDING BEDDING FOR PROPOSED SANITARY STRUCTURES



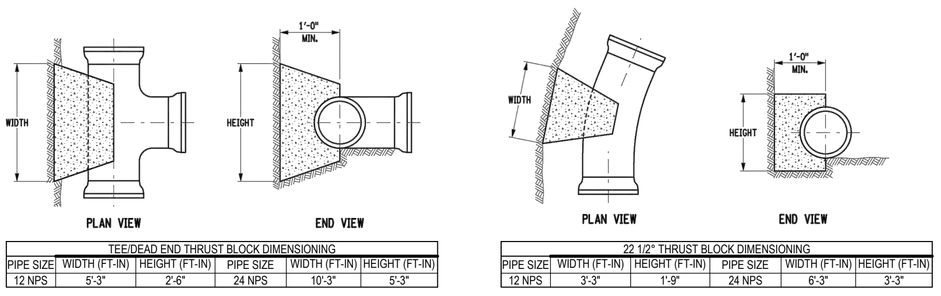
ALTERNATE "A"



ALTERNATE "B"

NOTE:
1. CLEANOUT(S) LOCATED IN TRAFFIC AREAS SHALL BE PROVIDED WITH TRAFFIC BEARING FRAME AND COVER.
2. ALTERNATE "A" IS FOR BENDS, ALTERNATE "B" IS FOR USE WITH BUILDING EXTENSION/CONNECTION.

TYPICAL CLEAN-OUT DETAIL
NOT TO SCALE
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES, STANDARDS FOR APPROVAL OF PLANS AND CONSTRUCTION FOR SEWAGE DISPOSAL SYSTEMS FOR OTHER THAN SINGLE-FAMILY RESIDENCES, FIGURE 15, 12/29/17



TEE/DEAD END THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
12 NPS	5'-3"	2'-6"	24 NPS	10'-3"	5'-3"

22 1/2° THRUST BLOCK DIMENSIONING					
PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)	PIPE SIZE	WIDTH (FT-IN)	HEIGHT (FT-IN)
12 NPS	3'-3"	1'-9"	24 NPS	6'-3"	3'-3"

NOTES
1. CONCRETE FOR TRUST BLOCKS SHALL NOT BE ALLOWED TO COVER OR INTERFERE WITH JOINT OR RESTRAINT HARDWARE. PLASTIC SHEETING OR BUILDING FELT MAY BE PLACED OVER PIPE OVER PIPE OR FITTINGS TO PREVENT CONCRETE FROM ADHERING TO SURFACES. CONCRETE FOR THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. FOR BENDS, BEARING AREA SHALL BE PARALLEL TO THE EDGE OF THE FITTING AT THE FITTING MIDPOINT.
3. FOR TEES, BEARING AREA SHALL BE PERPENDICULAR TO THE BRANCH (SINGLE LEG) AXIS.
4. THRUST BLOCK SIZES AND MINIMUM RESTRAINED LENGTHS SHOWN ON THIS DETAIL ARE BASED UPON THE FOLLOWING STANDARD CONDITIONS:
   - 1.5 SAFETY FACTOR
   - 5'-0" - DEPTH OF COVER
   - 200 PSI - WATER SYSTEM TEST PRESSURE
   - 14 PSI - SOIL BEARING CAPACITY
   - 90 LB/CF - SOIL UNIT WEIGHT

   FOR INSTALLATIONS NOT MEETING THE CONDITIONS ABOVE, THE CONTRACTOR SHALL SUBMIT CALCULATIONS TO THE ENGINEER FOR APPROVAL OF RESTRAINT LENGTH CHOSEN.
5. THRUST BLOCKS TO BE INSTALLED AT ALL VERTICAL AND HORIZONTAL BENDS

THRUST BLOCK DETAIL
N.T.S.

SCTM #: 600-116-1-2
SCHDS REF. #: _ _ _ - _ _ - _ _ _ _

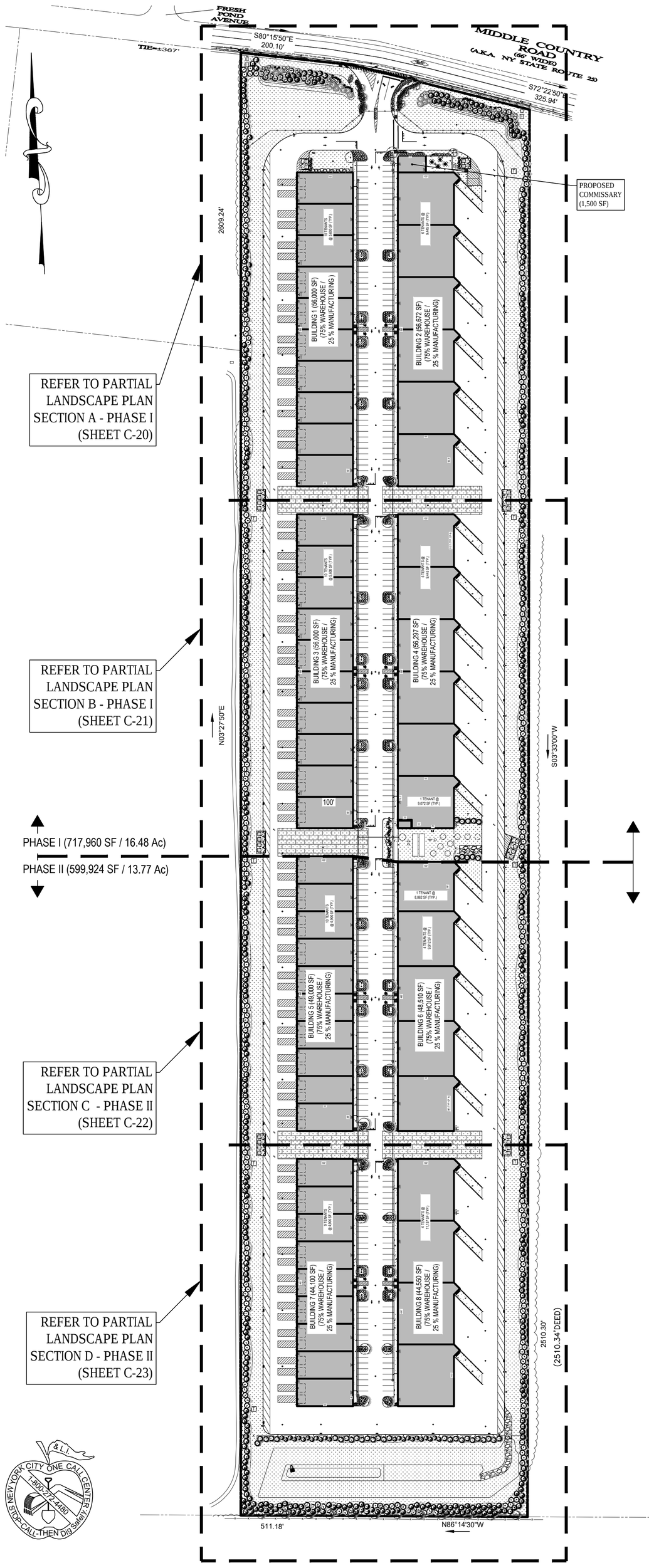
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION FOR ANY DETAIL NOT PROVIDED IN THIS PLAN SET.

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES APPROVAL

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

ALTERATION OR ADDITION TO THIS DOCUMENT EXCEPT BY A LICENSED



GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)

1 inch = 120 ft.

PLANT SCHEDULE PHASE 1 (REFER TO SHEETS C-20 & C-21)

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	MATURE HEIGHT	NATIVE
JV	138	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	5-6`	B+B	40-60`	YES
PG	131	PICEA GLAUCA / WHITE SPRUCE	5-6`	B+B	40-60`	YES
PPG	15	PICEA PUNGENS 'GLAUCA' / COLORADO BLUE SPRUCE	5-6`	B+B	40-60`	YES
PS	105	PINUS STROBUS / EASTERN WHITE PINE	5-6`	B+B	40-60`	YES
TG	10	THUJA PLICATA 'GREEN GIANT' / WESTERN RED CEDAR	5-6`	B+B	40-60`	YES
TOE	28	THUJA OCCIDENTALIS 'EMERALD' / EMERALD ARBORVITAE	5-6`	B+B	10-15`	YES
ORNAMENTAL TREES	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
CFW	7	CORNUS FLORIDA 'WHITE' / WHITE FLOWERING DOGWOOD	2-2 1/2" CAL.	B+B	20-25`	YES
SHADE TREES	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
AR	12	ACER RUBRUM / RED MAPLE	2 1/2-3" CAL.	B+B	40-60`	YES
GTIS	12	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE' TM / SKYLINE THORNLESS HONEY LOCUST	2 1/2-3" CAL.	B+B	40-60`	YES
DECIDUOUS SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
AM	67	ARONIA MELANOCARPA / LOW SCAPE MOUND ARONIA	15-18"	3 GAL.	1-2`	YES
HXH	7	HYPERICUM X 'HIDCOTE' / HIDCOTE ST. JOHN'S WORT	24-30"	3 GAL.	1-3`	YES
POSW	13	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' / SUMMER WINE NINEBARK	24-30"	3 GAL.	4-6`	YES
VDA	25	VIBURNUM DENTATUM 'ARROWWOOD' / ARROWWOOD VIBURNUM	30-36"	5 GAL.	5-11`	YES
EVERGREEN SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
AEAA	3	AZALEA ENCORE 'AUTUMN AMETHYST' / AUTUMN AMETHYST AZALEA	30-36"	B+B	2-3`	YES
IGC	40	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	24-30"	B+B	4-6`	YES
IGSB	6	ILEX GLABRA `STRONG BOX` / STRONGBOX INKBERRY HOLLY	18-24"	3 GAL.	1-3`	YES
JHBC	375	JUNIPERUS HORIZONTALIS 'BLUE CHIP' / BLUE CHIP JUNIPER	15-18" SPRD.	3 GAL.	.5-1.5`	YES
VR	19	VIBURNUM RHYTIDOPHYLLUM / LEATHERLEAF VIBURNUM	3-4`	B+B	5-10`	YES
ORNAMENTAL GRASSES	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
CAKF	2	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	18-24"	2 GAL.	4-6`	YES
PAH	19	PENNISETUM ALOPECUROIDES 'HAMELN' / HAMELN DWARF FOUNTAIN GRASS	18-24"	2 GAL.	2-3`	YES
PAL	15	PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS	30-36"	3 GAL.	4-5`	YES
PV	24	PANICUM VIRGATUM / SWITCH GRASS	24-30"	2 GAL.	2-4`	YES
SH	10	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	18-24"	2 GAL.	2-4`	YES
PERENNIALS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
IVR	39	IRIS VERSICOLOR / BLUE FLAG	6-12"	1 GAL.	1-3`	YES
RFG	119	RUDBECKIA FULGIDA 'GOLDSTRUM' / BLACK EYED SUSAN	12-15"	1 GAL.	1-3`	YES
RS	21	PEROVSKIA ABROTANOIDES / RUSSIAN SAGE	12-15"	1 GAL.	3-4`	YES

PLANT SCHEDULE PHASE 2 (REFER TO SHEETS C-22 & C-23)

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	MATURE HEIGHT	NATIVE
JV	120	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	5-6`	B+B	40-60`	YES
PG	129	PICEA GLAUCA / WHITE SPRUCE	5-6`	B+B	40-60`	YES
PS	99	PINUS STROBUS / EASTERN WHITE PINE	5-6`	B+B	40-60`	YES
TG	27	THUJA PLICATA 'GREEN GIANT' / WESTERN RED CEDAR	5-6`	B+B	40-60`	YES
TON	23	THUJA OCCIDENTALIS 'NIGRA' / DARK AMERICAN ARBORVITAE	5-6`	B+B	20-25`	YES
SHADE TREES	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
AR	10	ACER RUBRUM / RED MAPLE	2 1/2-3" CAL.	B+B	40-60`	YES
ARA	12	ACER RUBRUM 'ARMSTRONG' / ARMSTRONG RED MAPLE	2 1/2-3" CAL.	B+B		
GTIS	12	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE' TM / SKYLINE THORNLESS HONEY LOCUST	2 1/2-3" CAL.	B+B	40-60`	YES
DECIDUOUS SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
AM	21	ARONIA MELANOCARPA / LOW SCAPE MOUND ARONIA	15-18"	3 GAL.	1-2`	YES
EVERGREEN SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**CONTAINER**	**MATURE HEIGHT**	**NATIVE**
IGC	11	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	24-30"	B+B	4-6`	YES
JHBC	307	JUNIPERUS HORIZONTALIS 'BLUE CHIP' / BLUE CHIP JUNIPER	15-18" SPRD.	3 GAL.	.5-1.5`	YES

LANDSCAPE COMPLIANCE CHART

TOWN OF RIVERHEAD

ZONE: INDUSTRIAL C

ITEM	SECTION	PERMITTED/REQUIRED	PROPOSED	COMPLIANCE
PURPOSE & INTENT	§ 301-121	THE USE OF GENEROUS LANDSCAPING AND OPEN SPACE BUFFERS IS INTENDED TO HELP PROTECT THE RURAL APPEARANCE AND MINIMIZE VIEWS OF DEVELOPMENT FROM THE EXPRESSWAY AND ARTERIAL ROADS.	GENEROUS LANDSCAPING AROUND THE ENTIRE PROPERTY LINE	COMPLIES
LOT, YARD, BULK AND HEIGHT REQUIREMENTS	§ 301-123	(B) IN ORDER TO FOSTER ENVIRONMENTAL CONSERVATION AS WELL AS PRESERVATION OF THE TOWN'S SCENIC AND RURAL QUALITY, PROPERTIES SHALL PROVIDE ATTRACTIVELY LANDSCAPED CONTIGUOUS OPEN SPACE AREAS, EQUAL TO AT LEAST 20% OF THE LOT AREA, THAT SHIELD VIEWS OF THE DEVELOPMENT FROM ARTERIAL ROADS AND THE LONG ISLAND EXPRESSWAY. PREFERENCE IS GIVEN TO PRESERVATION OF EXISTING HABITAT (SUCH AS MEADOWS OR FORESTS) RATHER THAN CLEARANCE AND CREATION OF NEW HABITAT. THE OPEN SPACE SHOULD SERVE TO PROVIDE ON-SITE STORMWATER MANAGEMENT.	SITE AREA: 1,317,884 S.F. PROPOSED LANDSCAPING: 381,239 SF (28.9%)	COMPLIES
SUPPLEMENTARY GUIDELINES	§ 301-124 (A)(4)	(A) TRASH/DUMPSTER AREAS SHALL BE SCREENED BY WOOD FENCES OR LANDSCAPING, OR A COMBINATION THEREOF, PURSUANT TO § 245-8.	TRASH AREAS SCREENED BY EVERGREEN TREES (TOE)	COMPLIES
		(B) ALONG BORDERS WITH PUBLIC STREETS, BUFFER PLANTINGS OF A MINIMUM TWENTY-FOOT DEPTH SHALL BE PROVIDED. ALONG PROPERTY LINES SHARED WITH ENTERPRISE PARK AND OTHER PROPERTIES, BUFFER PLANTINGS OF A MINIMUM TEN-FOOT DEPTH SHALL BE PROVIDED. BUFFER PLANTINGS SHALL MINIMIZE VIEWS OF PAVING AND BUILDINGS FROM PUBLIC STREETS AND FROM ENTERPRISE PARK.	20' DEEP BUFFER ALONG PUBLIC STREET (JV, PG, PS, PPG, VDA, POSW) AND 10' DEPTH BUFFER ALONG PROPERTY LINES (JV, PG, PS)	COMPLIES
	§ 301-124 (B)	(2) PLANTED BERMS SHALL BE USED TO SCREEN THE VIEW OF AUTOMOBILES FROM PUBLIC ROADWAYS.	BERMS AND 20' DEEP DENSE EVERGREEN & DECIDUOUS SCREEN ALONG PROPERTY LINE	COMPLIES
		(4) IN ORDER TO SOFTEN THE APPEARANCE OF PARKING LOTS, LARGE AREAS OF SURFACE PARKING SHOULD BE BROKEN UP BY ROWS OF LANDSCAPING NO LESS THAN 10 FEET IN WIDTH, IN ORDER TO CREATE PARKING FIELDS OF NO MORE THAN 50 SPACES EACH. LANDSCAPING SHALL INCLUDE GROUND COVER, ORNAMENTAL GRASSES, OR LOW SHRUBS. THIS LANDSCAPING REQUIREMENT IS IN ADDITION TO THE TWENTY-PERCENT PARCEL-WIDE LANDSCAPING MENTIONED ABOVE.	PARKING LOT ISLANDS OF >/= 10' IN WIDTH AND IS LANDSCAPED WITH GROUNDCOVER (JHBC) AND DECIDUOUS TREES (GTIS), (AR)	COMPLIES

LANDSCAPE NOTES

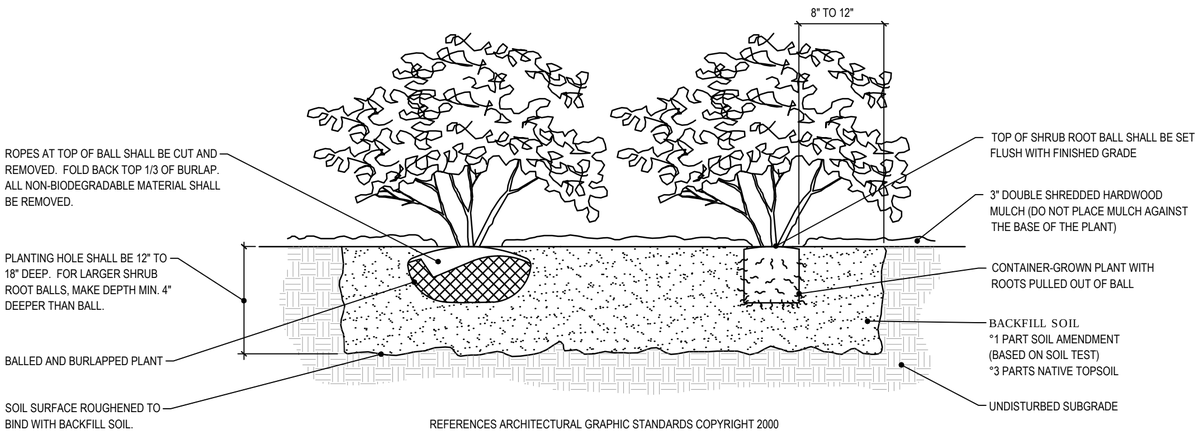
1. THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.
2. EXISTING VEGETATION SHALL BE RETAINED UNLESS SPECIFIED ELSEWHERE ON THIS PLAN.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS MAY REQUIRE THAT A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
4. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.
5. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK".
6. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE.
7. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
8. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
   - 8.a. PLANTS: MARCH 15 TO DECEMBER 15
   - 8.b. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1
   - 8.c. TREES OCTOBER 1 TO DECEMBER 1 AND MARCH 1 TO MAY 31

PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

9. THERE SHALL BE NO PLANT SUBSTITUTIONS UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT AND/OR STAFF OF THE LOCAL MUNICIPALITY.
10. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE ROUTINELY AT LEAST UNTIL PLANTS ARE ESTABLISHED.
11. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGaENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%%%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
12. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.
13. CONTRACTOR SHALL ENSURE THAT THE PROPOSED TREES ARE NOT PLANTED ON TOP OF UNDERGROUND PIPES AND ACHIEVE MAXIMUM SEPARATION POSSIBLE.
14. CONTRACTOR SHALL PROVIDE AN AUTOMATIC IRRIGATION SYSTEM FOR ALL LANDSCAPE AND LAWN AREAS. THE SYSTEM SHALL MEET ALL CODE REQUIREMENTS.

NOTES:

1. FOR CONTAINER-GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOL TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - °MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - °MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



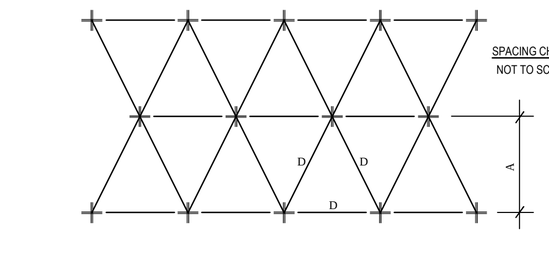
REFERENCES ARCHITECTURAL GRAPHIC STANDARDS COPYRIGHT 2000

DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

N.T.S.

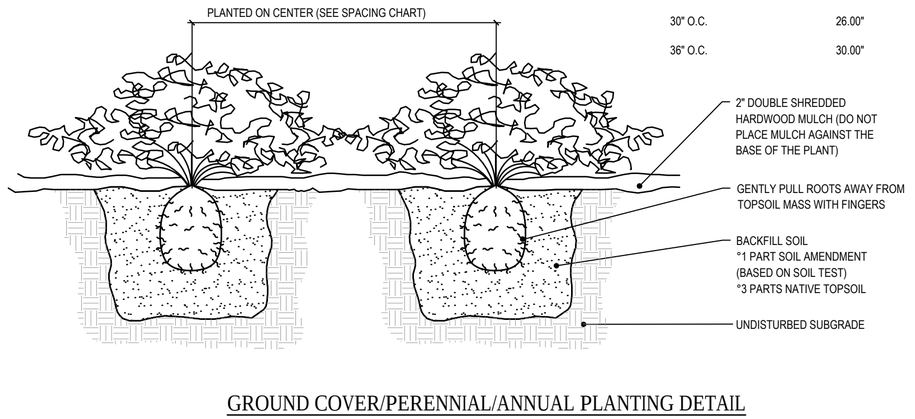
NOTES:

1. THOROUGHLY SOAK THE GROUND COVER ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
2. SOIL AMENDMENTS:
   - °MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - °MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX
3. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT PER MANUFACTURER'S SPECIFICATIONS



SPACING CHART
NOT TO SCALE

SPACING "D"	ROW "A"
6" O.C.	5.20"
8" O.C.	6.93"
10" O.C.	8.66"
12" O.C.	10.40"
15" O.C	13.00"
18" O.C.	15.60"
24" O.C.	20.80"
30" O.C.	26.00"
36" O.C.	30.00"

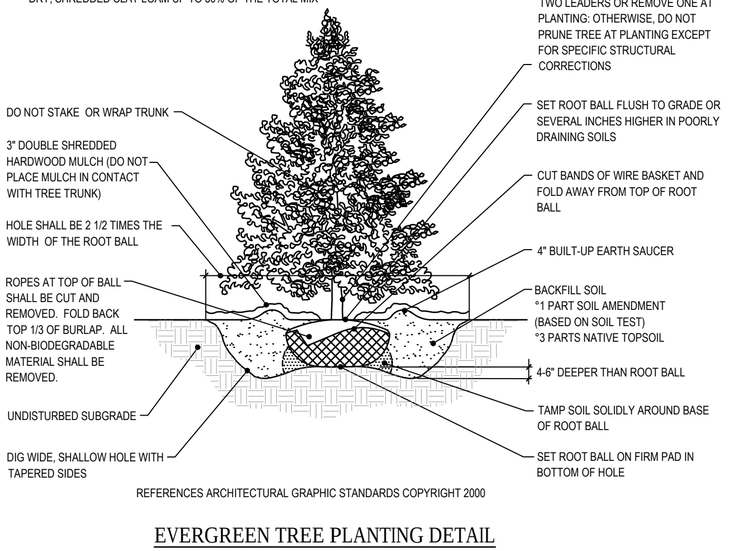


GROUND COVER/PERENNIAL/ANNUAL PLANTING DETAIL

N.T.S.

NOTES:

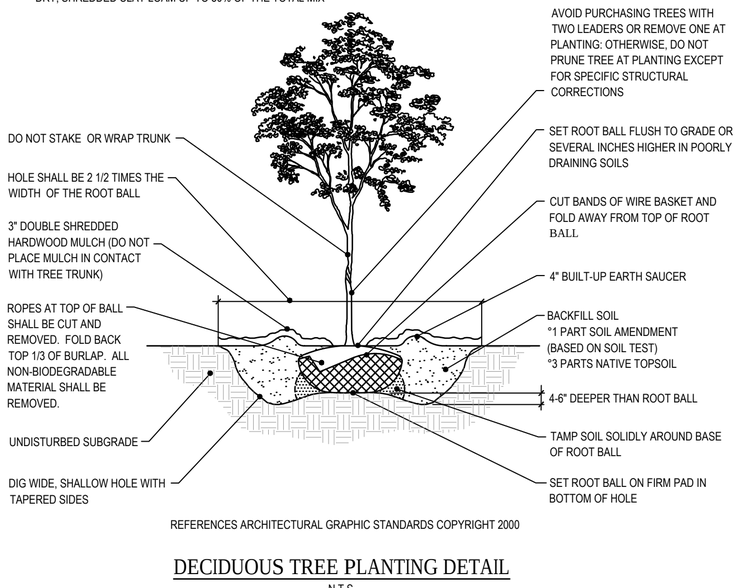
1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - °MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - °MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



REFERENCES ARCHITECTURAL GRAPHIC STANDARDS COPYRIGHT 2000

EVERGREEN TREE PLANTING DETAIL

N.T.S.



REFERENCES ARCHITECTURAL GRAPHIC STANDARDS COPYRIGHT 2000

DECIDUOUS TREE PLANTING DETAIL

N.T.S.

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC
INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

OVERALL LANDSCAPE PLAN

DRAWING No.: C-19

PAGE No.: 19 OF 35

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MIDDLE COUNTRY ROAD
(66' WIDE)
(A.K.A. NY STATE ROUTE 25)

200.10'
S80°15'50"E
325.94'
S72°22'50"E
2609.24'
2510.30'
TWO WAY TRAFFIC
PROP. SEEDED LAWN AREA (TYP.)
COMMISSARY (1,500 SF)
10 TENANTS @ 5,600 SF (TYP.)
6 TENANTS @ 9,445 SF (TYP.)
BUILDING 1 (56,000 SF) (75% WAREHOUSE / 25 % MANUFACTURING)
BUILDING 2 (56,672 SF) (75% WAREHOUSE / 25 % MANUFACTURING)
MATCHLINE (REFER TO SECTION A)
MATCHLINE (REFER TO SECTION B)

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

UNDERGROUND UTILITIES NOT SHOWN FOR CLARITY

REFER TO OVERALL LANDSCAPE PLAN (SHEET C-19) FOR PLANTING SCHEDULE AND DETAILS

No.	DATE	BY	DESCRIPTION
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SCALE:	1" = 30'
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HOLTSVILLE, NEW YORK 11742
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HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL LANDSCAPE PLAN (SECTION A - PHASE I)

DRAWING No.: C-20

PAGE No.: 20 OF 35

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MATCHLINE (REFER TO SECTION A)

MATCHLINE (REFER TO SECTION B)

MATCHLINE (REFER TO SECTION C)

F.F. EL. 73.00

BUILDING 3 (56,000 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

BUILDING 4 (56,297 SF) (75% WAREHOUSE / 25 % MANUFACTURING)

10 TENANTS @ 5,600 SF (TYP.)

5 TENANTS @ 9,445 SF (TYP.)

1 TENANT @ 9,072 SF (TYP.)

93.5' (TYP. OF 4)

N03°27'50"E

S03°33'00"W

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

UNDERGROUND UTILITIES NOT SHOWN FOR CLARITY

REFER TO OVERALL LANDSCAPE PLAN (SHEET C-19) FOR PLANTING SCHEDULE AND DETAILS

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DATE:	01/24/2020
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PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL LANDSCAPE PLAN (SECTION B - PHASE I)

DRAWING No.:

C-21

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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PHASE II

UNDERGROUND UTILITIES NOT SHOWN FOR CLARITY

REFER TO OVERALL LANDSCAPE PLAN (SHEET C-19) FOR PLANTING SCHEDULE AND DETAILS

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KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

PARTIAL LANDSCAPE PLAN (SECTION C - PHASE II)

DRAWING No.:

C-22

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MATCHLINE
(REFER TO SECTION C)

MATCHLINE
(REFER TO SECTION D)

MATCHLINE
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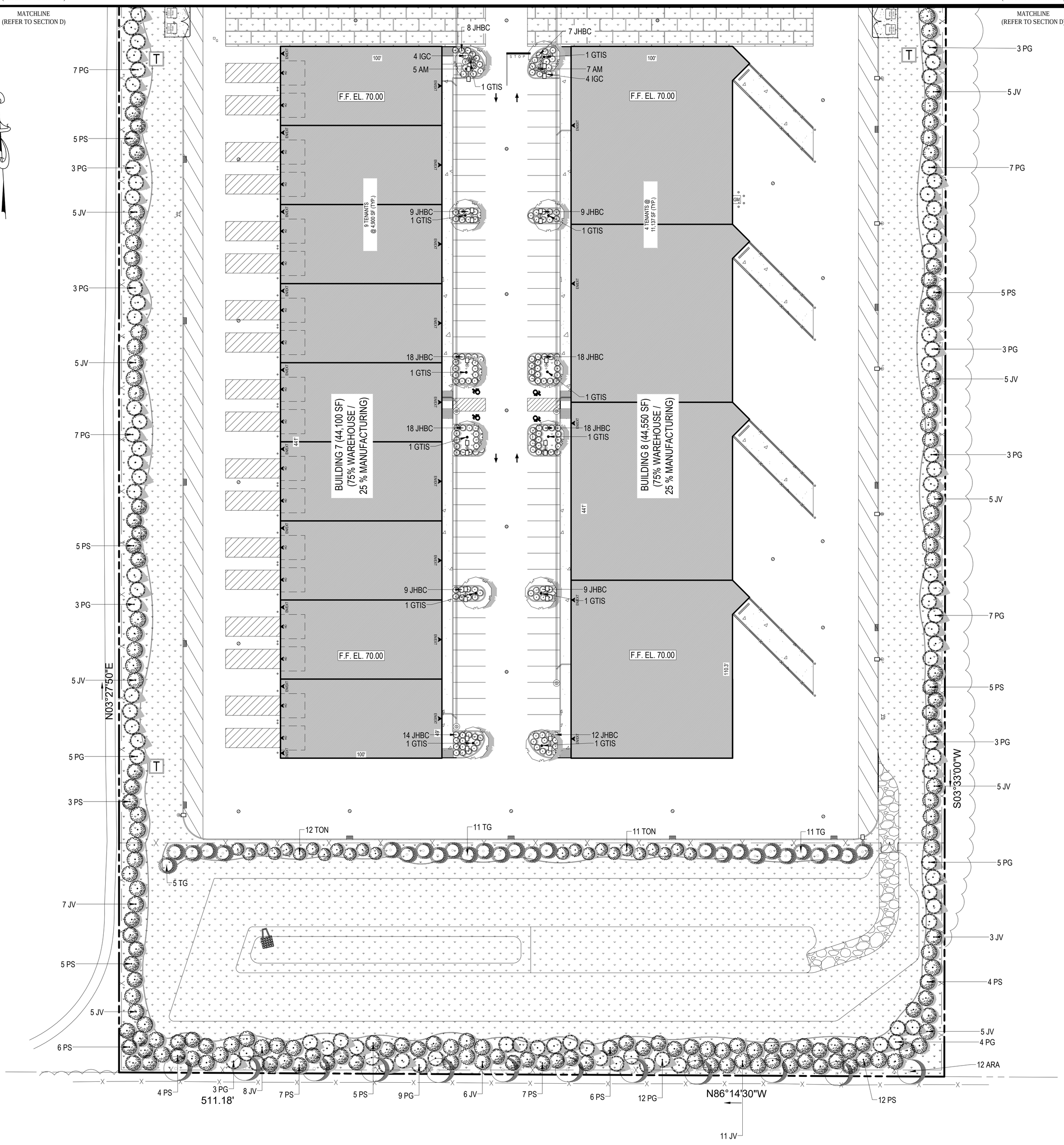

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PHASE I

UNDERGROUND UTILITIES NOT SHOWN FOR CLARITY

REFER TO OVERALL LANDSCAPE PLAN (SHEET C-19) FOR PLANTING SCHEDULE AND DETAILS

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
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DRAWING No.:

C-23

PAGE No.:

23 OF 35

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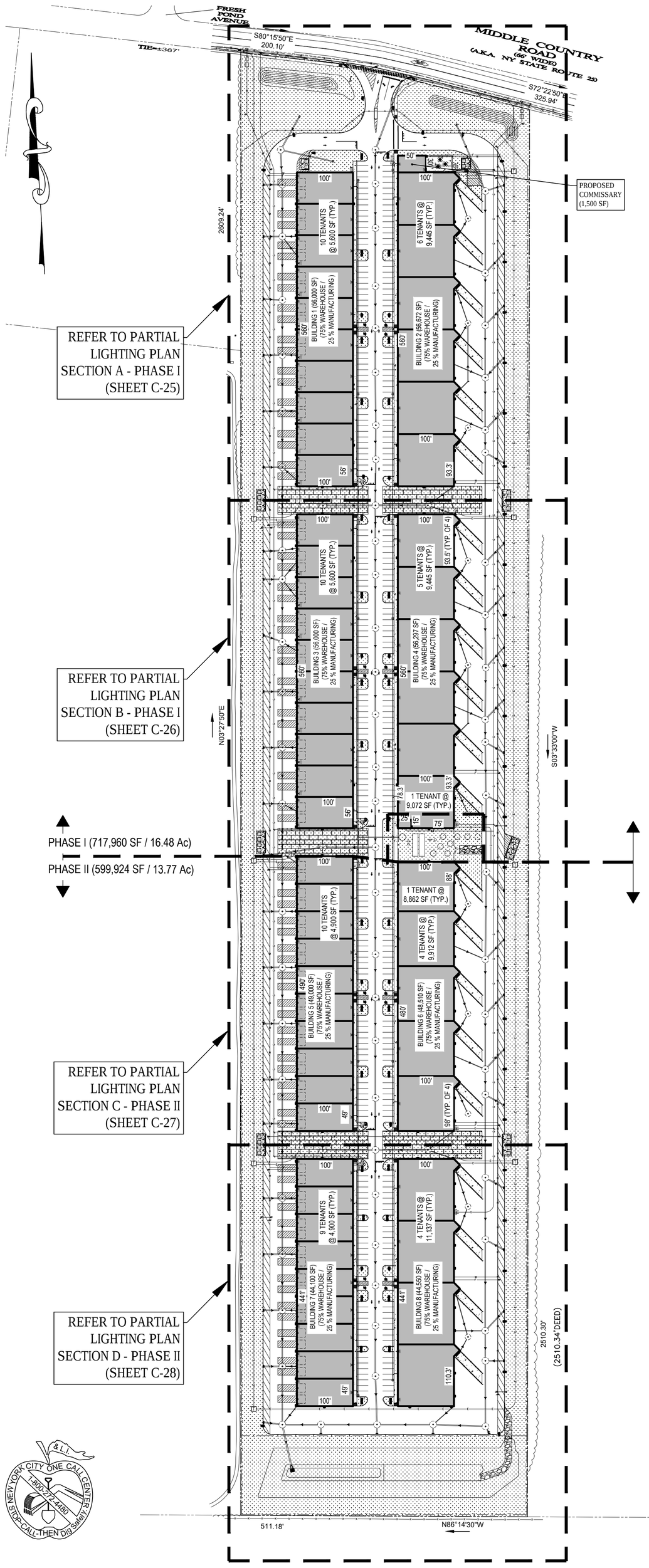


GENERAL FOUNDATION NOTES

1. STRUCTURAL CONCRETE AND CONCRETING PRACTICES SHALL CONFORM WITH ACI-318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE." DETAILS SHALL BE IN ACCORDANCE WITH ACI-315, "MANUAL OF STANDARD PRACTICE: DETAILS AND DETAILING OF CONCRETE REINFORCEMENT." FORMWORK SHALL CONFORM WITH ACI-347, "GUIDE TO FORMWORK FOR CONCRETE," UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS.
2. CONCRETE SHALL BE NORMAL WEIGHT STONE AGGREGATE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. ALL DESIGN MIXES SHALL BE PROPORTIONED IN ACCORDANCE TO SECTION 5.3, "PROPORTIONING ON THE BASIS OF FIELD EXPERIENCE AND/OR TRIAL MIXTURES" OF ACI-318. THE WATER-CEMENT RATIO FOR THE PROPOSED MIX DESIGN SHALL ACHIEVE AN AVERAGE 28-DAY STRENGTH OF 1,200 PSI GREATER THAN THE REQUIRED STRENGTH ON LABORATORY TEST RESULTS. ALL DESIGN MIXES INCLUDING HISTORICAL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
3. CONCRETE SHALL HAVE A SLUMP NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
4. EXPOSED CONCRETE SHALL BE AIR ENTRAINED, 6% (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C 260.
5. CONCRETE SHALL BE CONSOLIDATED IN PLACE USING AN INTERNAL VIBRATOR.
6. REINFORCING STEEL BARS SHALL BE BILLET STEEL CONFORMING TO ASTM A 615, GRADE 60. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED. ALL ACCESSORIES SHALL BE GALVANIZED.
7. ALL SPLICES OF REINFORCING BARS NOT INDICATED ARE TO BELTS AS PER THE REINFORCING SPLICE SCHEDULE OR 40 BAR DIAMETERS. DISCONTINUOUS ENDS OF CONTINUOUS BARS SHALL BE STANDARD HOOKS.
8. SHOP DRAWINGS OF REINFORCING TO BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION AND ORDERING OF MATERIAL. SHOP DRAWINGS SHALL SHOW ALL REINFORCEMENTS, SPLICE LENGTHS, BAR LENGTHS, BEND SCHEDULES, AND CONCRETE DIMENSIONS. REINFORCING LAYERS SHALL BE SHOWN SEPARATELY ON SHOP DRAWINGS.
9. CONCRETE FIELD TESTS SHALL BE PERFORMED AS REQUIRED BY GOVERNING CODES BY A QUALIFIED INDEPENDENT INSPECTION FIRM. TESTS SHALL NOT BE TAKEN LESS THAN ONCE A DAY OR LESS THAN ONCE PER 150 CUBIC YARDS OF CONCRETE. NO LESS THAN 6 TEST CYLINDERS ARE TO BE TAKEN TO OBTAIN 7-DAY AND 28-DAY AVERAGE COMPRESSIVE STRENGTHS.
10. IF CAVING OF DRILLED HOLES ARE ENCOUNTERED, CONTRACTOR SHALL PROVIDE BENTONITE SLURRY IN PERMANENT CASINGS FOR DRILLED CONCRETE PIER FOUNDATIONS.
11. CONCRETE SHALL ATTAIN 80% OF THE DESIGN STRENGTH OR CURE FOR A MINIMUM OF 7-DAYS PRIOR TO THE INSTALLATION OF THE LIGHT POLES OR ALL LIGHT POLES ARE TO BE SUITABLY BRACED AGAINST WIND LOADS, EARTH PRESSURE, AND CONSTRUCTION LOADS DURING THE ABOVE MENTIONED TIMEFRAME.
12. MINIMUM FOUNDATION EMBEDMENT DEPTH SHALL BE MEASURED FROM THE LOWEST SITE GRADE ELEVATION. FURTHER, USE OF NON-STRUCTURAL SOIL (I.E. TOP SOIL) SHALL NOT BE CONSIDERED AS PART OF THE MINIMUM EMBEDMENT DEPTH REQUIRED.

DESIGN CRITERIA

REFER TO GEOTECHNICAL EVALUATION REPORT
PREPARED BY:
J.R. HOLZMACHER P.E., LLC
3555 VETERANS MEMORIAL HIGHWAY, SUITE A
RONKONKOMA, NY 11779
DATED: 03/19/2021

SUBGRADE MINIMUM ALLOWABLE BEARING PRESSURE = 2,000 PSF (MINIMUM REQUIRED)

SOIL FRICTION ANGLE = 34 DEG (ESTIMATED)

SOIL DRY UNIT WEIGHT = 110 PCF (ASSUMED)

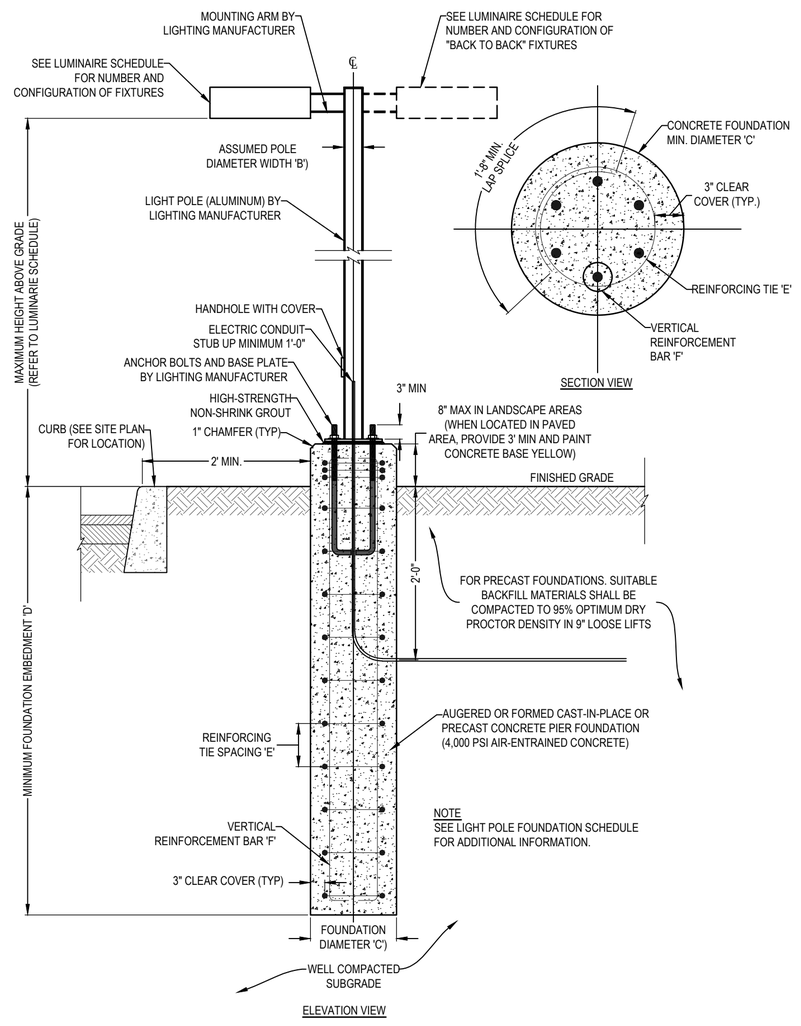
BASIC WIND SPEED = 120 MPH

LIGHT POLE FOUNDATION SCHEDULE	
MAXIMUM HEIGHT ABOVE GRADE 'A'	16'-0" MAX
ASSUMED AVERAGE POLE DIAMETER WIDTH 'B'	5" (SQUARE ALUMINUM)
MAXIMUM NUMBER OF FIXTURES	TWO
MINIMUM FOUNDATION DIAMETER 'C'	2'-0"
MINIMUM FOUNDATION DEPTH 'D'	5'-0"
REINFORCING TIES 'E' *	#3 TIE AT 12" O.C.
VERTICAL HOOKED REINFORCEMENT 'F'	(6) #6 BARS EQUALLY SPACED

* = ADD 3 TIES, 1-1/2" C-C, AT TOP OF THE FOUNDATION

GENERAL LIGHTING NOTES

1. THE CONTRACTOR, MATERIALS, AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE CONSTRUCTION CODE OF THE TOWN'S LATEST EDITION AND ALL APPLICABLE FEDERAL AND STATE CODES, STANDARDS, REGULATIONS, AND LAWS.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS, AND COORDINATE WITH ALL CONTRACT DRAWINGS, PROJECT SHOP DRAWINGS AND FIELD CONDITIONS PRIOR TO CONSTRUCTION. IF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND DESIGN PLANS ARISE, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
3. THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES, AND UTILITY LINES FROM ALL DAMAGE.
4. JOB SAFETY AND CONSTRUCTION PROCEDURES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION OF ALL EXCAVATION SLOPES, WHERE NECESSARY, SHEETING AND SHORING OF EXCAVATION SHALL BE PROVIDED WITH ALL REQUIRED TIE BACKS AND BRACING. METHODS EMPLOYED IN ALL SHEETING AND SHORING SHALL BE DESIGNED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER LICENSED IN THE PROJECT'S STATE.
6. THE CONTRACTOR SHALL HAVE A GEOTECHNICAL ENGINEER, LICENSED IN THE PROJECT'S STATE, ON SITE TO INSPECT FILL, MONITOR FILL COMPACTION, VERIFY SUBGRADE ALLOWABLE BEARING CAPACITY, AND SOIL DESIGN CRITERIA PRIOR TO CONSTRUCTION IN ACCORDANCE TO THE DESIGN ASSUMPTIONS STATED IN THE CONTRACT DOCUMENTS. UNSUITABLE MATERIALS FOUND SHALL BE REMEDIED AS PER THE DIRECTION OF THE ON SITE GEOTECHNICAL ENGINEER.
7. NO REVISIONS, ALTERNATES, OR SUBSTITUTIONS TO THE CONTRACT DOCUMENTS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
8. ILLUMINATION LEVELS SHOWN IN FOOT-CANDLES.
9. ILLUMINATION LEVELS ON THIS PLAN HAVE BEEN CALCULATED FOR PROPOSED SITE AREA LIGHTS ONLY. ACTUAL ILLUMINATION LEVELS IN THE FIELD MAY DIFFER FROM THOSE DEPICTED ON THE PLAN DUE TO INTERFERENCE FROM EXISTING/AMBIENT LIGHTING WHOSE ILLUMINATION LEVELS ARE NOT REFLECTED ON THIS PLAN.
10. LIGHT CIRCUITRY PLAN PREPARED BY OTHERS.
11. ILLUMINATION LEVELS SHOWN ON THIS PLAN WERE CALCULATED USING PHOTOMETRIC SOFTWARE.



TYPICAL LIGHT POLE FOUNDATION DETAIL
N.T.S.

GRAPHIC SCALE
120 0 60 120 240 480
(IN FEET)
1 inch = 120 ft.

LEGEND		
SCALE OF SYMBOLS = 1" = 120'		
EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	DUMPSTER ENCLOSURE	
	12' x 34' LOADING SPACE	
	LOADING DOCK RETAINING WALLS	
	PARKING COUNT	9
	OVERHEAD DOOR	
	DOOR	
x x x	FENCE	x x x x x
	BIKE RACK	
	HYDRANT	

CALCULATION SUMMARY								
LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN	MAX/AVG
WHOLE SITE CALC_PTS	ILLUMINANCE	Fc	1.63	9.8	0.0	N/A	N/A	N/A
BETWEEN BUILDINGS CALC_PTS	ILLUMINANCE	Fc	3.01	9.8	0.9	3.34	10.89	N/A

LUMINAIRE SCHEDULE											
SYMBOL	QUANTITY (PHASE I)	QUANTITY (PHASE II)	LABEL	FIXTURE ARRANGEMENT	FIXTURE COUNT	MANUFACTURER / FIXTURE DESCRIPTION / MOUNTING TYPE	MOUNTING HEIGHT	LLF	COLOR TEMPERATURE	ARRANGEMENT WATTS	TOTAL WATTS
	16	18	A	BACK - BACK	2	GLEON - SA2A-730-U-T4FT / POLE MOUNTED	16'-0"	0.920	3000 K	132	4488
	28	19	B	SINGLE	1	GLEON - SA2A-730-U-T4FT / POLE MOUNTED	16'-0"	0.920	3000 K	66	3102
	62	50	C	SINGLE	1	GLEON - SA2A-730-U-T4FT / WALL MOUNTED	16'-0"	0.920	3000 K	66	7392
										TOTAL	14982

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NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

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4285 MIDDLE COUNTRY ROAD
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TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

OVERALL LIGHTING PLAN

DRAWING No.: C-24

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MIDDLE COUNTRY ROAD
(66' WIDE)
(A.K.A. NY STATE ROUTE 25)

200.10'
S80°15'50"E
325.94'
S72°22'50"E
2609.24'
2510.30'
217.1'
94'
F.F. EL. 75.00
10 TENANTS
@ 5,600 SF (TYP.)
6 TENANTS @
9,445 SF (TYP.)
COMMISSARY
(1,500 SF)
BUILDING 1 (56,000 SF)
(75% WAREHOUSE /
25 % MANUFACTURING)
BUILDING 2 (56,672 SF)
(75% WAREHOUSE /
25 % MANUFACTURING)
TWO WAY TRAFFIC

MATCHLINE
(REFER TO SECTION A)

MATCHLINE
(REFER TO SECTION B)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REFER TO OVERALL LIGHTING PLAN
(SHEET C-24) FOR LUMINARIE
SCHEDULE AND DETAILS

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PARTIAL LIGHTING PLAN (SECTION A - PHASE I)

DRAWING No.: C-25

PAGE No.: 25 OF 35

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MATCHLINE
(REFER TO SECTION A)

MATCHLINE
(REFER TO SECTION B)

MATCHLINE
(REFER TO SECTION C)

N03°27'50"E

S03°33'00"W

10 TENANTS
@ 5,600 SF (TYP.)

BUILDING 3 (56,000 SF)
(75% WAREHOUSE /
25 % MANUFACTURING)

5 TENANTS @
9,445 SF (TYP.)

BUILDING 4 (56,297 SF)
(75% WAREHOUSE /
25 % MANUFACTURING)

1 TENANT @
9,072 SF (TYP.)

GRAPHIC SCALE

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(IN FEET)
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PARTIAL LIGHTING PLAN
(SECTION B - PHASE I)

DRAWING No.:

C-26

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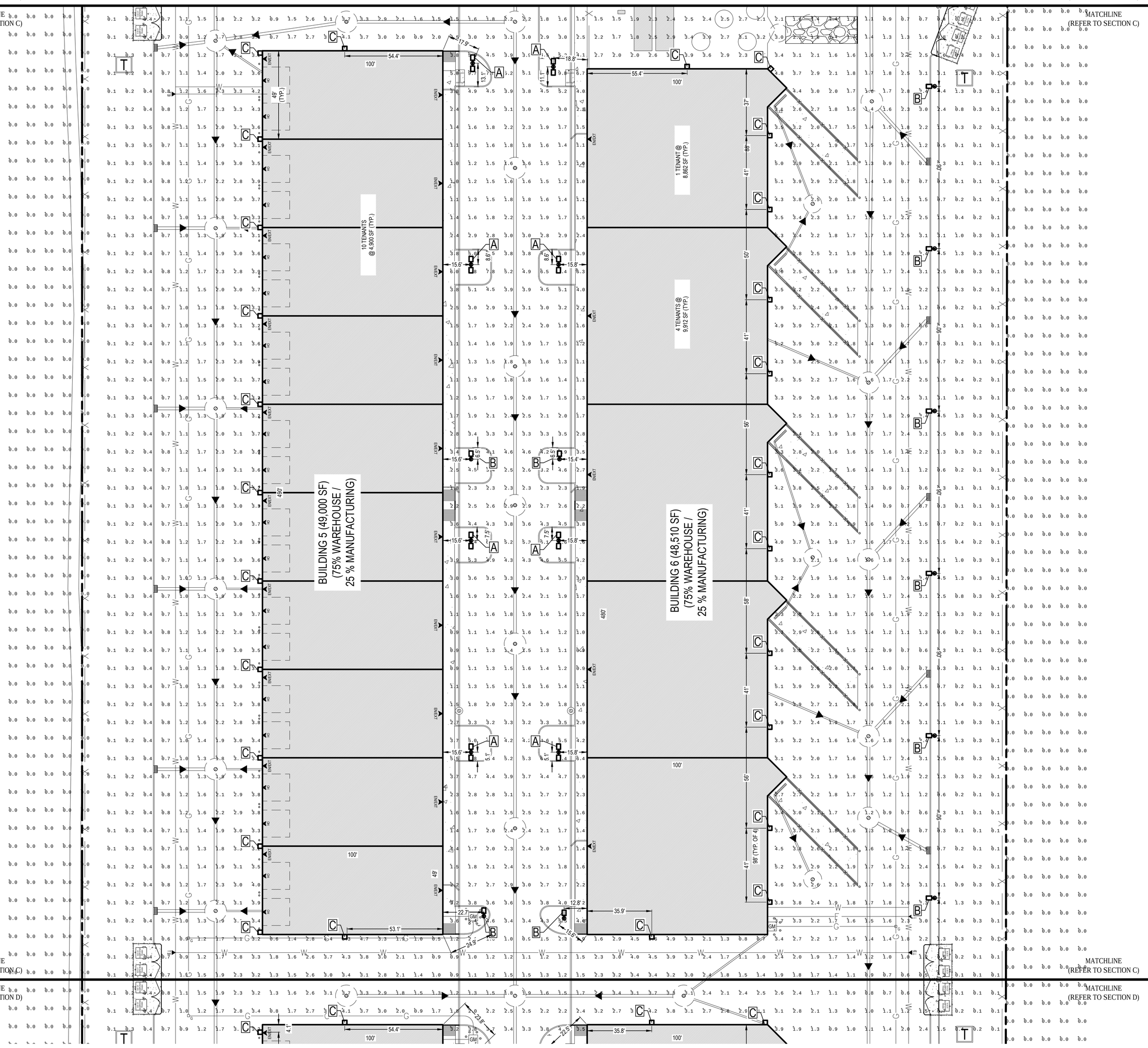

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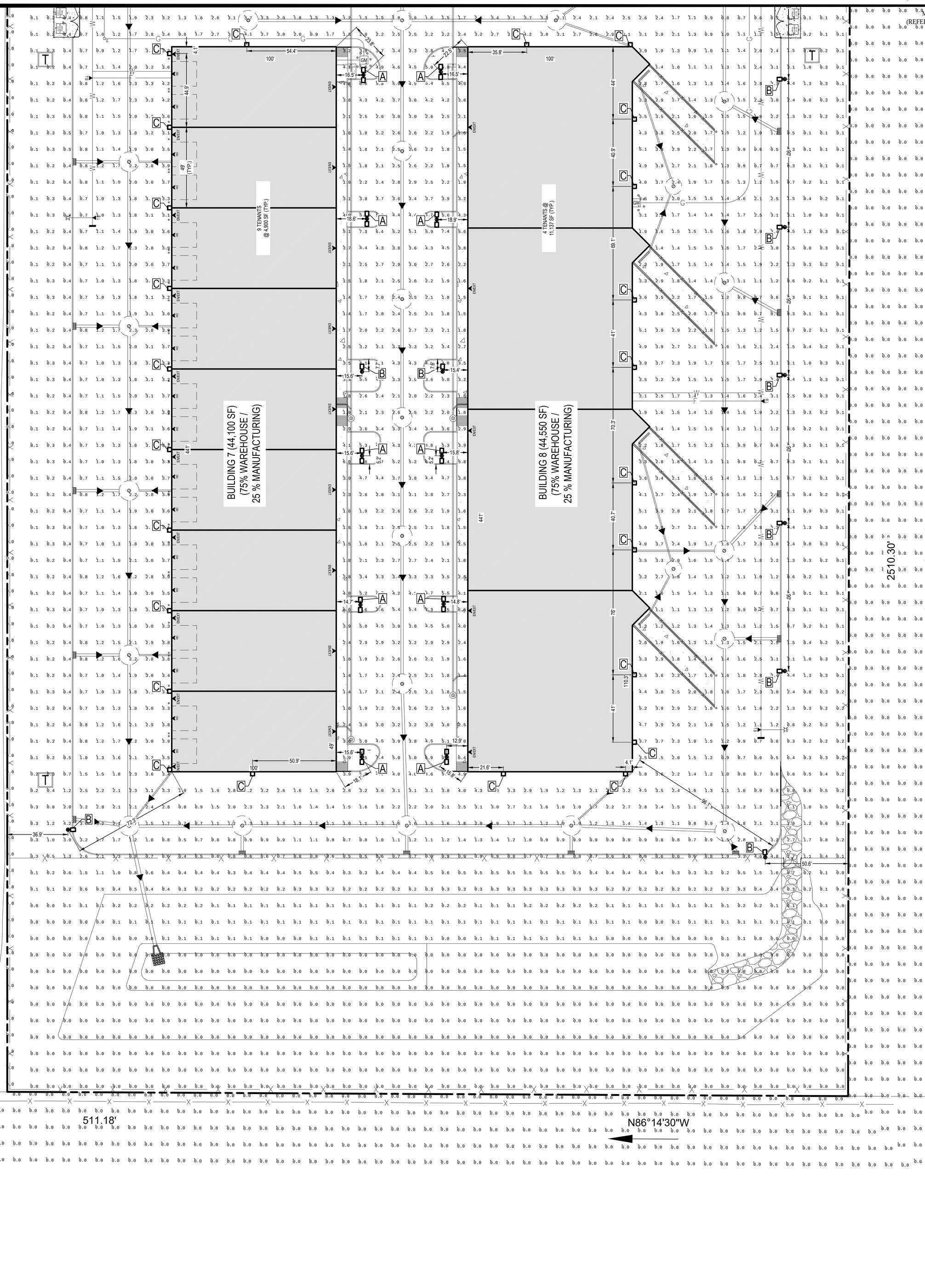

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(SECTION D - PHASE II)

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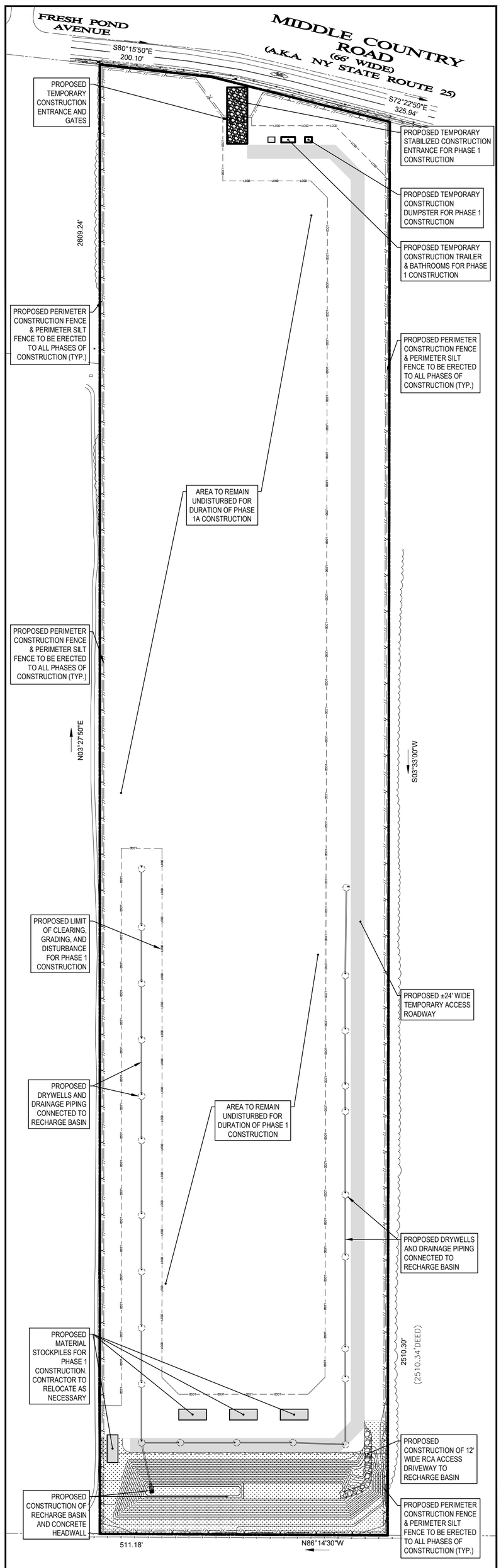
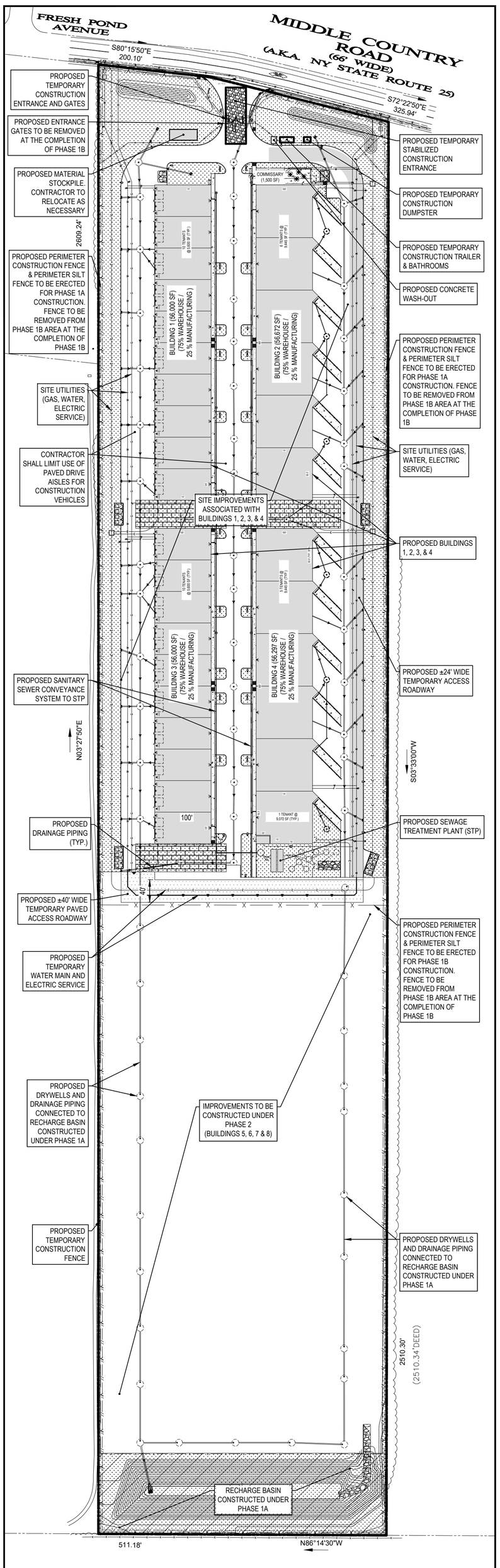
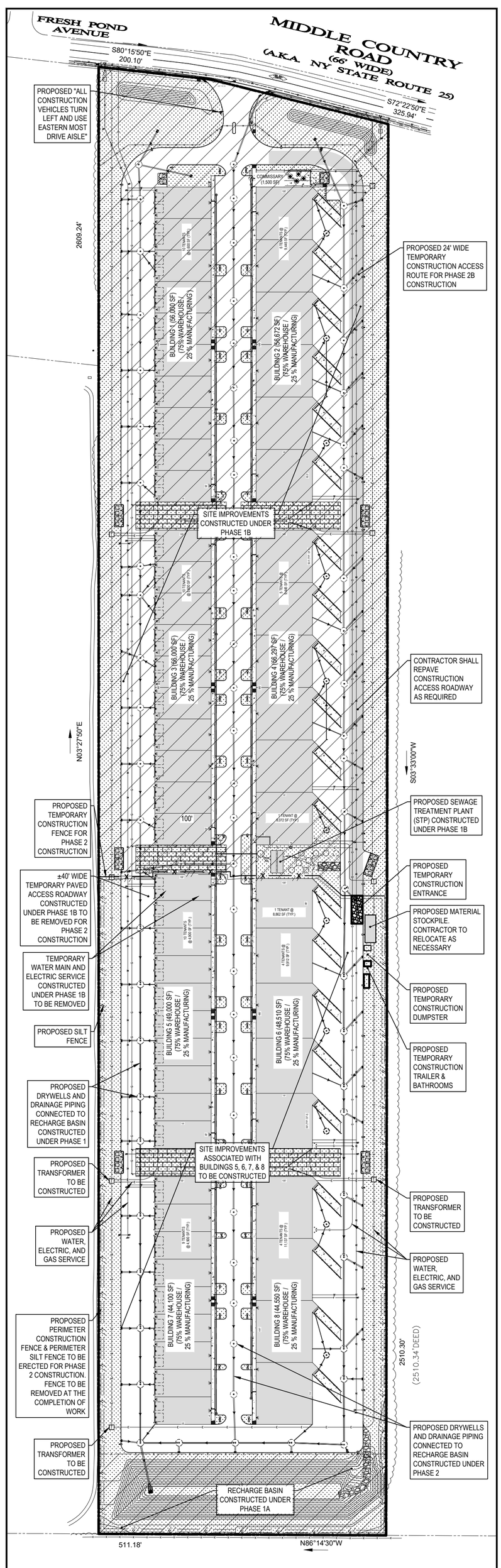


CONSTRUCTION PHASE 1A PLAN
SCALE: 1" = 120'



CONSTRUCTION PHASE 1B PLAN
SCALE: 1" = 120'



CONSTRUCTION PHASE 2 PLAN
SCALE: 1" = 120'

WORK SCOPE UNDER PHASE 1A CONSTRUCTION
(ESTIMATED TIMEFRAME = ±6 MONTHS)

ESTIMATED CLEARING AREA = ±468,097 SF (10.75 ACRES)

- INSTALLATION OF EROSION CONTROL MEASURES INCLUDING BUT NOT LIMITED TO THE CONSTRUCTION ENTRANCE, PERIMETER CONSTRUCTION FENCE & SILT FENCE, AND INLET PROTECTION
- PARTIAL SITE CLEARING PRIOR TO THE START OF CONSTRUCTING PHASE 1 IMPROVEMENTS
- PERFORM EARTHWORK FOR PHASE 1 IMPROVEMENTS TO WITHIN 1 FOOT OF FINAL GRADE
- CONSTRUCTION OF TEMPORARY ACCESS ROADWAY ALONG EASTERN SIDE OF PROPERTY
- CONSTRUCTION OF RECHARGE BASIN AND DRAINAGE CONVEYANCE SYSTEMS FROM PHASE 1A SITE IMPROVEMENTS TO RECHARGE BASIN
- INSTALLATION OF 12' WIDE RCA ACCESS DRIVEWAY TO RECHARGE BASIN
- INSTALLATION OF FENCING AROUND RECHARGE BASIN

WORK SCOPE UNDER PHASE 1B CONSTRUCTION
(ESTIMATED TIMEFRAME = ±18 MONTHS)

ESTIMATED CLEARING AREA = ±550,763 SF (12.64 ACRES)

- INSTALLATION / RELOCATION OF EROSION CONTROL MEASURES FOR THE PHASE 1B WORK
- INSTALLATION OF UNDERGROUND UTILITIES AND TEMPORARY WATER MAIN AND ELECTRICAL LOOPS FOR BUILDINGS 1, 2, 3, & 4
- INSTALLATION OF PHASE 1B DRYWELLS, DRAINAGE INLETS & DRAINAGE PIPING
- CONSTRUCTION OF SEWAGE TREATMENT PLANT, SANITARY SEWER CONVEYANCE SYSTEMS, AND SEPTIC TANK AND GREASE TRAP FOR COMMISSARY
- CONSTRUCTION OF BUILDINGS 1, 2, 3, & 4
- CONNECTION OF ROOF DRAINS TO DRAINAGE CONVEYANCE SYSTEM
- CONSTRUCTION OF LOADING DOCK RETAINING WALLS FOR BUILDING 1, 2, 3, & 4
- CONSTRUCTION OF LOADING DOCK DRAINAGE SYSTEMS
- CONSTRUCTION OF CURBING, FENCING, CONCRETE SIDEWALKS, ASPHALT PAVING, & PAVEMENT STRIPING AND ENTRANCE GATES
- INSTALLATION OF SITE AREA LIGHTS
- INSTALLATION OF LANDSCAPE PLANTINGS & HYDROSEEDING OF LAWN AREAS FOR PHASE 1B BUILDING AREAS AND AROUND RECHARGE BASIN.

WORK SCOPE UNDER PHASE 2 CONSTRUCTION
(ESTIMATED TIMEFRAME = ±18 MONTHS)

IT IS ANTICIPATED THAT PHASE 1 BUILDINGS 1, 2, 3, & 4 WILL BE OPERATIONAL DURING THE CONSTRUCTION OF THE PHASE 2 SITE IMPROVEMENTS AND BUILDINGS.

ESTIMATED CLEARING AREA = ±299,024 SF (6.86 ACRES)

- INSTALLATION / RELOCATION OF EROSION CONTROL MEASURES FOR THE PHASE 2 WORK
- INSTALLATION OF UNDERGROUND UTILITIES
- REMOVAL OF TEMPORARY WATER MAIN AND ELECTRIC SERVICE LOOPS FOR BUILDINGS 1, 2, 3, & 4 UPON COMPLETION OF FINAL WATER MAIN AND ELECTRIC SERVICES.
- INSTALLATION OF PHASE 2 DRYWELLS & DRAINAGE PIPING FOR CENTER DRIVE AISLE
- CONSTRUCTION OF BUILDINGS 5, 6, 7, & 8
- CONSTRUCTION OF SANITARY SEWER CONVEYANCE SYSTEMS
- CONNECTION OF ROOF DRAINS TO DRAINAGE CONVEYANCE SYSTEM
- CONSTRUCTION OF LOADING DOCK RETAINING WALLS FOR BUILDING 5, 6, 7, & 8
- CONSTRUCTION OF LOADING DOCK DRAINAGE SYSTEMS
- CONSTRUCTION OF CURBING, FENCING, CONCRETE SIDEWALKS, ASPHALT PAVING, & PAVEMENT STRIPING
- INSTALLATION OF SITE AREA LIGHTS
- INSTALLATION OF LANDSCAPE PLANTINGS & HYDROSEEDING OF LAWN AREAS

CONSTRUCTION PHASING PLAN FOR SCHEMATIC PURPOSES ONLY

EACH PHASE OF CONSTRUCTION SHALL BE STABILIZED TO THE SATISFACTION OF THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION OF THE NEXT PHASE

ALL CLEARING ACTIVITIES SHALL OCCUR FROM DECEMBER 1ST THROUGH FEBRUARY 28TH IN ORDER TO PROTECT THE NORTHERN LONG EARED BAT (NLEB) FROM UNINTENTIONAL HARM. CLEARING ACTIVITIES OUTSIDE OF THE ABOVE MENTIONED WINDOW SHALL ONLY OCCUR WITH THE EXPRESSED WRITTEN CONSENT OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC).

GRAPHIC SCALE
120 0 60 120 240 480
(IN FEET)
1 inch = 120 ft.

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
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REVISIONS

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 120'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

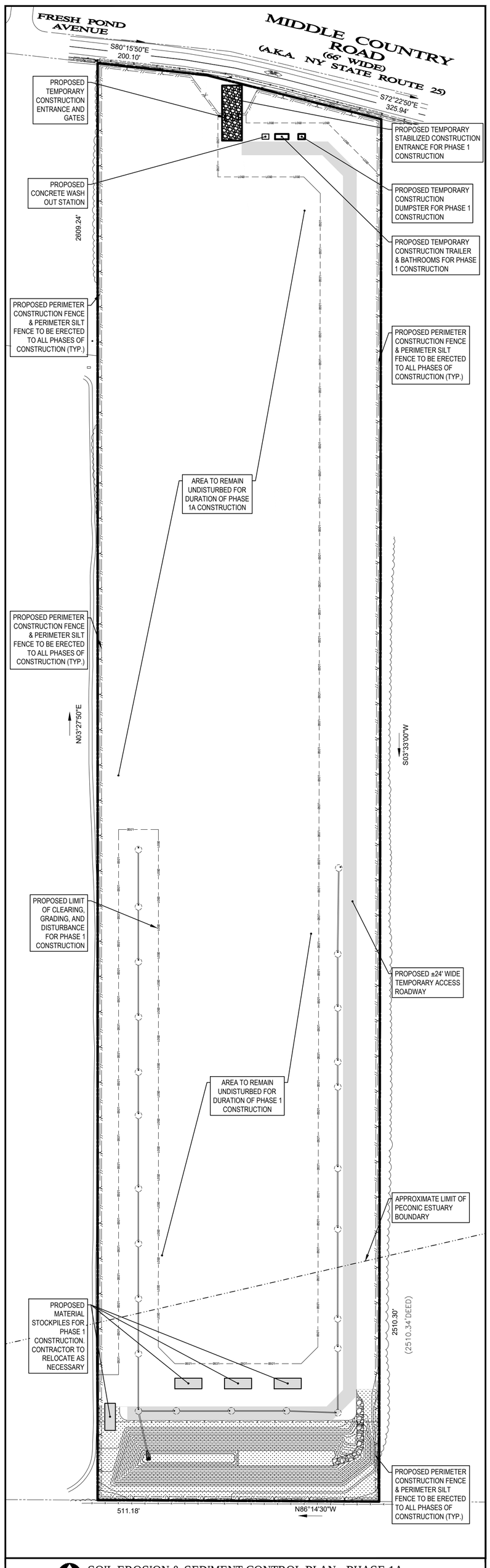
DRAWING TITLE:

OVERALL CONSTRUCTION PHASING PLAN

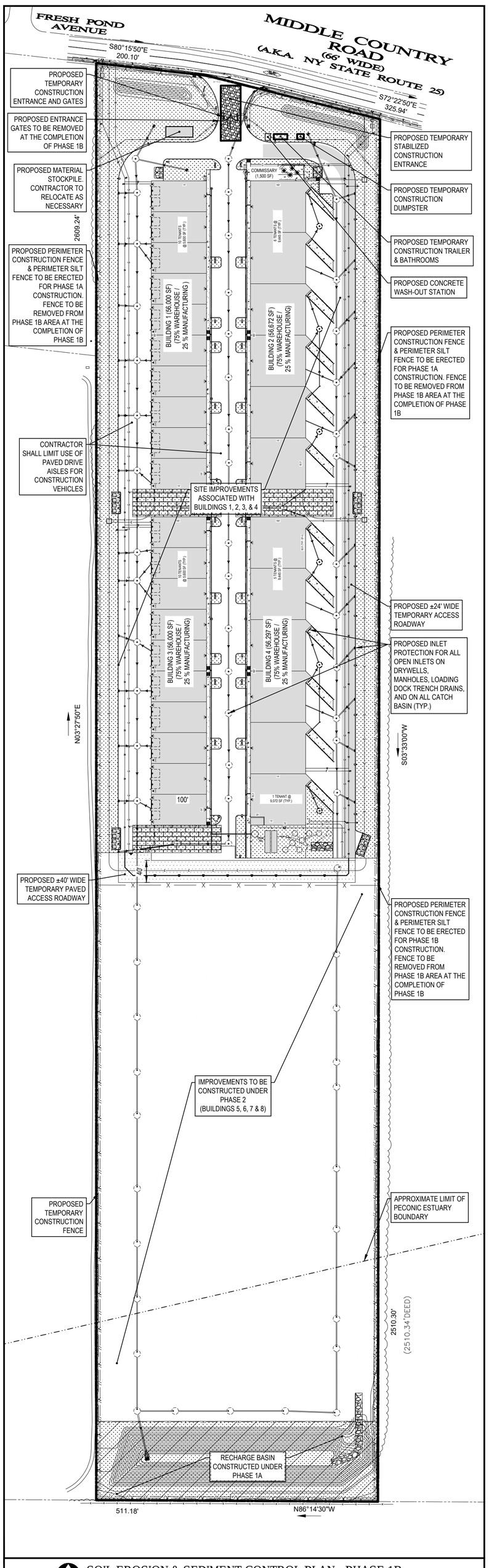
DRAWING No.: C-29

PAGE No.: 29 OF 35

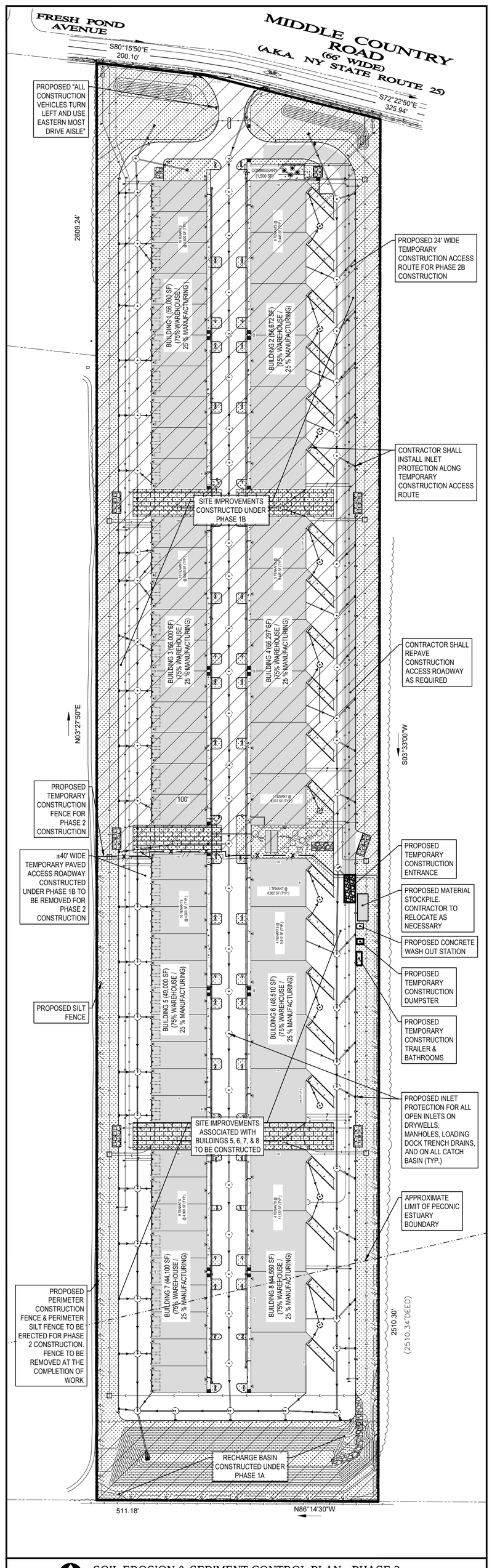
Y:\Key Civil\Projects\2019\19026_Pinewood Grp_Calverton\Drawings\Key Civil\19026_2021.04.02_SPP4_Phasing & SE&SC Plans.dwg



SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 1A
SCALE: 1" = 120'



SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 1B
SCALE: 1" = 120'



SOIL EROSION & SEDIMENT CONTROL PLAN - PHASE 2
SCALE: 1" = 120'

BMP IMPLEMENTATION AND MAINTENANCE SEQUENCE FOR EACH SECTION TO BE DISTURBED

SEQUENCE DESCRIPTION	BMP ACTIVITIES	MAINTENANCE FREQUENCY
PRE-CONSTRUCTION	INSTALL INLET PROTECTION ON EXISTING INLETS	WEEKLY OR AS REQUIRED
	INSTALL PERIMETER SEDIMENT CONTROL / SILT FENCE	
	INSTALL STABILIZED CONSTRUCTION ACCESS	
	INSTALL WORK TRAILER OR MAILBOX FOR CONSTRUCTION PERMIT PAPERWORK STORAGE	
	IDENTIFY THE SOIL STOCKPILE STORAGE AND CONSTRUCTION STAGING AREAS	
EARTHWORK	APPLY DUST CONTROL	DAILY
	INSTALL TEMPORARY RUN-OFF AND DRAINAGE CONTROL	
	SWEEP THE SOIL ON ROADWAYS	
BUILDING CONSTRUCTION	MATERIAL STOCKPILE PERIMETER CONTROL & STABILIZATION	AS REQUIRED
RUN-OFF AND DRAINAGE CONTROL	INSTALL NEW DRAINAGE SYSTEM	WEEKLY OR AS REQUIRED
	INSTALL INLET PROTECTION FOR NEW SYSTEM	
GRADING, DRAINAGE, & UTILITY INSTALLATION AND STABILIZATION	GRADE SITE AREAS	AS REQUIRED
	STABILIZE EXPOSED AREAS	
	INSTALL EROSION CONTROL MEASURES	
FINALIZE GRADING	REMOVE TEMPORARY ESC MEASURES	MONTHLY OR AS REQUIRED
POST CONSTRUCTION STORMWATER MANAGEMENT AND INTERCONNECTING PIPE	CLEAN ALL DRAINAGE STRUCTURES AND PIPE THAT MAY HAVE RECEIVED RUNOFF	ANNUALLY OR AS REQUIRED
INSPECTIONS REQUIRED		
PRE-CONSTRUCTION	INSPECT SEDIMENT BASINS, PERIMETER SEDIMENT CONTROLS, STABILIZED CONSTRUCTION ACCESS, INLET PROTECTION, AND OTHER BMPS	UPDATE SWPPP AS REQUIRED
TRAINED CONTRACTOR: DAILY		
QUALIFIED INSPECTOR: 2 / SEVEN CALENDAR DAYS WITH TWO DAYS MINIMUM BETWEEN INSPECTIONS		
POST FINAL STABILIZATION		

NOTES:
1. BMP ACTIVITIES IDENTIFIED FOR EACH SECTION DESCRIPTION SHALL BE IMPLEMENTED AT THE START OF EACH SEQUENCE AND BE MAINTAINED UNTIL PERMANENT STABILIZATION IS ACHIEVED.
2. IMPLEMENTATION OF BMP ACTIVITIES SHALL IN NO WAY RELIEVE THE CONTRACTOR OF OBLIGATIONS REGARDING OTHER CONSTRUCTION ACTIVITIES AND TIME FRAMES.
3. IN AREAS WHERE SOIL DISTURBANCE ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN SEVEN DAYS FROM THE DATE THE SOIL DISTURBANCE ACTIVITY CEASED.

PHASE 1A

- AREA OF DISTURBANCE = Ñ468,097 SF (10.75 ACRES)
- NYSDEC HAS PRELIMINARILY APPROVED THE DISTURBANCE OF MORE THAN 5 ACRES AT ONE TIME.
- CONSTRUCTION SHALL BE STABILIZED TO THE SATISFACTION OF THE ENGINEER OF RECORD PRIOR TO THE DISTURBANCE OF ANOTHER PHASE.

PHASE 1B

- AREA OF DISTURBANCE = Ñ550,763 SF (12.64 ACRES)
- NYSDEC HAS PRELIMINARILY APPROVED THE DISTURBANCE OF MORE THAN 5 ACRES AT ONE TIME.
- CONSTRUCTION SHALL BE STABILIZED TO THE SATISFACTION OF THE ENGINEER OF RECORD PRIOR TO THE DISTURBANCE OF ANOTHER PHASE.
- CONTRACTOR SHALL FILE FOR A TEMPORARY CEASE WORK AT THE END OF THIS PHASE OF CONSTRUCTION. REFER TO SHEET C-2, SOIL EROSION & SEDIMENT CONTROL NOTES.

PHASE 2

- AREA OF DISTURBANCE = Ñ299,024 SF (6.86 ACRES)
- NYSDEC HAS PRELIMINARILY APPROVED THE DISTURBANCE OF MORE THAN 5 ACRES AT ONE TIME.
- CONTRACTOR SHALL FILE FOR NOTICE OF TERMINATION (NOT) AT THE END OF THIS PHASE OF CONSTRUCTION. REFER TO SHEET C-2, SOIL EROSION & SEDIMENT CONTROL NOTES.

ALL CLEARING ACTIVITIES SHALL OCCUR FROM DECEMBER 1ST THROUGH FEBRUARY 28TH IN ORDER TO PROTECT THE NORTHERN LONG EARED BAT (NLEB) FROM UNINTENTIONAL HARM. CLEARING ACTIVITIES OUTSIDE OF THE ABOVE MENTIONED WINDOW SHALL ONLY OCCUR WITH THE EXPRESSED WRITTEN CONSENT OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC).

OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL RELOCATE ALL SE&SC MEASURES AS NECESSARY THROUGHOUT CONSTRUCTION.

CONTRACTOR SHALL REFER TO SHEET C-29, OVERALL CONSTRUCTION PHASING PLAN FOR SEQUENCING OF CONSTRUCTION

NEW YORK CITY ONE CALL CENTER 1-800-272-4480 STOP-CALL-THEN DIG Since 1969 & L.I.

GRAPHIC SCALE
120 0 60 120 240 480
(IN FEET)
1 inch = 120 ft.

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TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

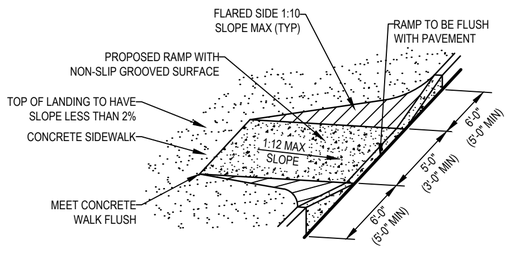
DRAWING TITLE:

OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN

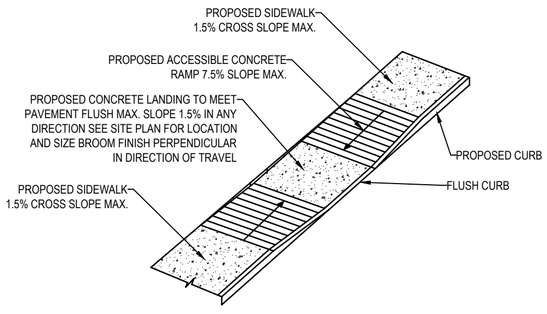
DRAWING No.: C-30

PAGE No.: 30 OF 35

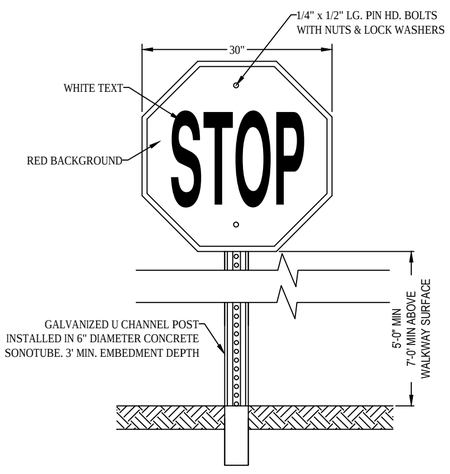
Y:\Key Civil\Projects\2019\19026_Pinewood Grp_Calverton\Drawings\Key Civil\19026_2021.04.02_SPP4_Phasing & SE&SC Plans.dwg



NOTE
ON-SITE RAMPS MUST CONFORM TO SECTION 406 OF ICC/ANSI A117.1-2009



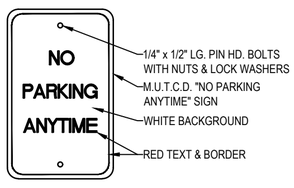
ACCESSIBLE RAMP DETAILS
N.T.S.



STOP SIGN DETAIL
(MUTCD #R1-1)
N.T.S.

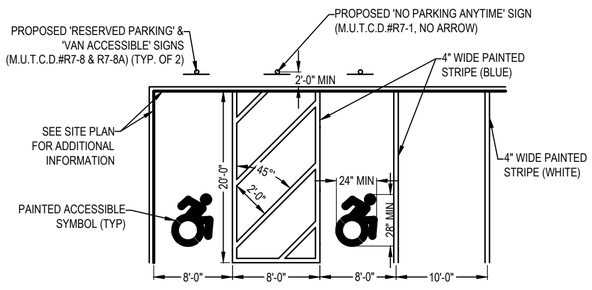
NOTES
1. ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
2. SIGN MOUNTING HEIGHT SHALL BE 60 TO 84 INCHES MEASURED FROM GROUND SURFACE OF PARKING STALLS.

BUILDING WALL MOUNTED "RESERVED PARKING" & "VAN ACCESSIBLE" SIGN
N.T.S.

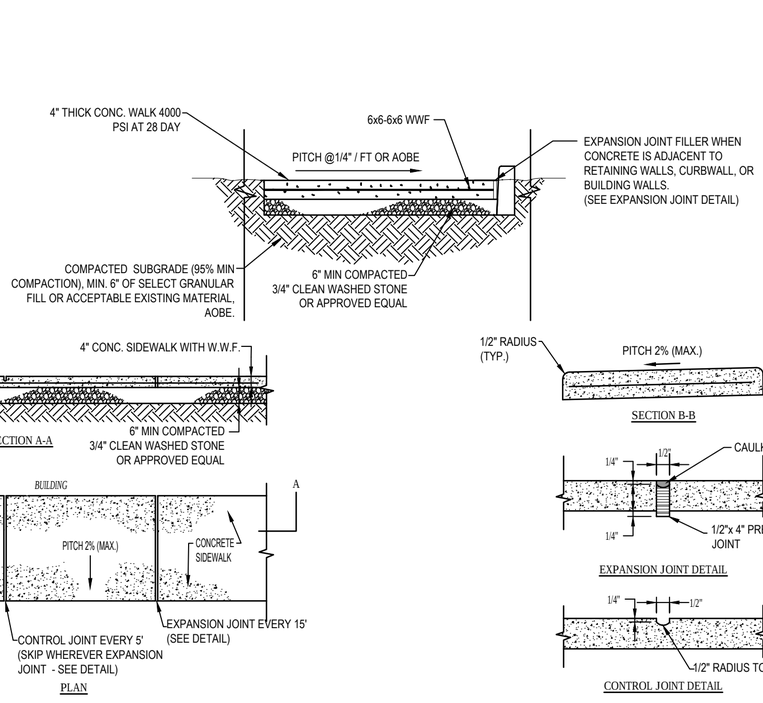


NOTES
1. 'NO PARKING ANYTIME' SIGN SHALL CONFORM WITH CURRENT FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
2. SIGN MOUNTING HEIGHT SHALL BE 60 TO 84 INCHES MEASURED FROM GROUND SURFACE OF PARKING STALLS.

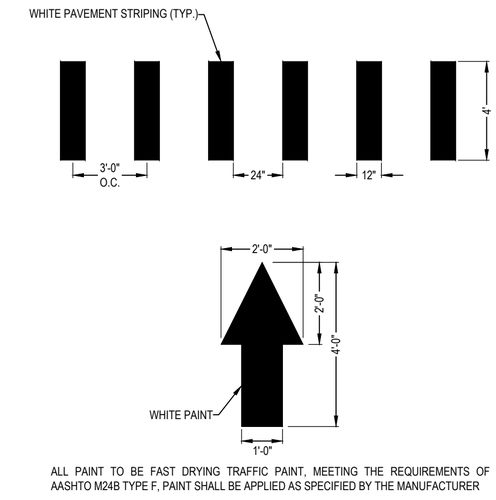
BUILDING WALL MOUNTED - "NO PARKING ANYTIME" SIGN
(M.U.T.C.D. #R7-1, NO ARROW) (NYR #7-4)
N.T.S.



PAINTED ACCESSIBLE & STANDARD STRIPING AREA DETAIL
N.T.S.



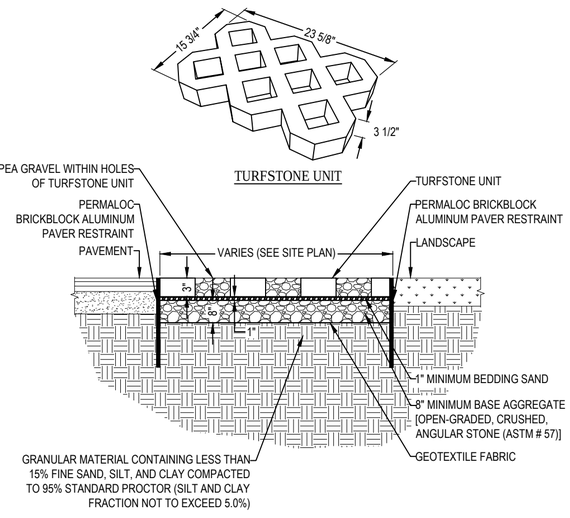
CONCRETE SIDEWALK DETAIL
N.T.S.



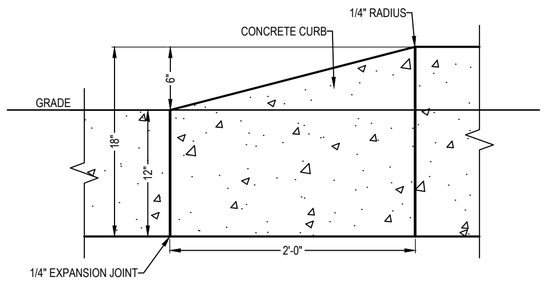
TYPICAL BOLLARD DETAIL
N.T.S.

ALL PAINT TO BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M24B TYPE F, PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER

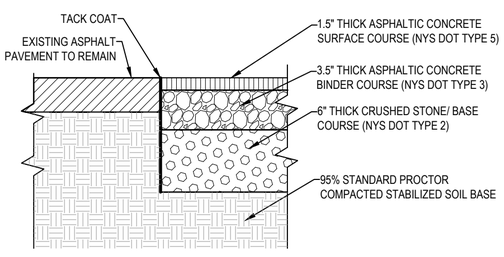
ON-SITE PAINTED TRAFFIC ARROW & CROSSWALK DETAIL
N.T.S.



TURFSTONE INSTALLATION DETAIL (PERVIOUS PAVERS)
TURFSTONE BY MUTUAL MATERIALS
N.T.S.



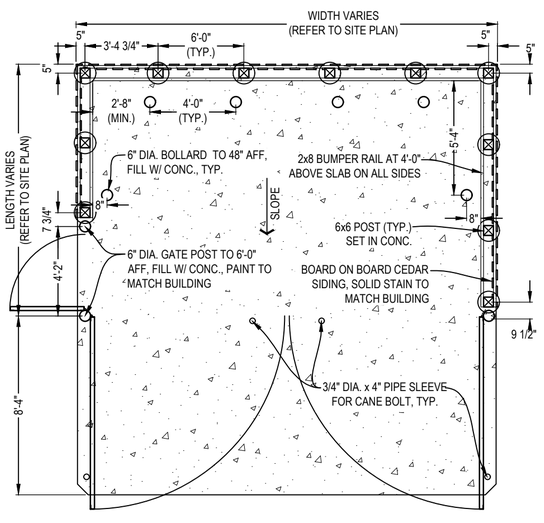
ON-SITE CONCRETE CURB TAPER DETAIL
N.T.S.



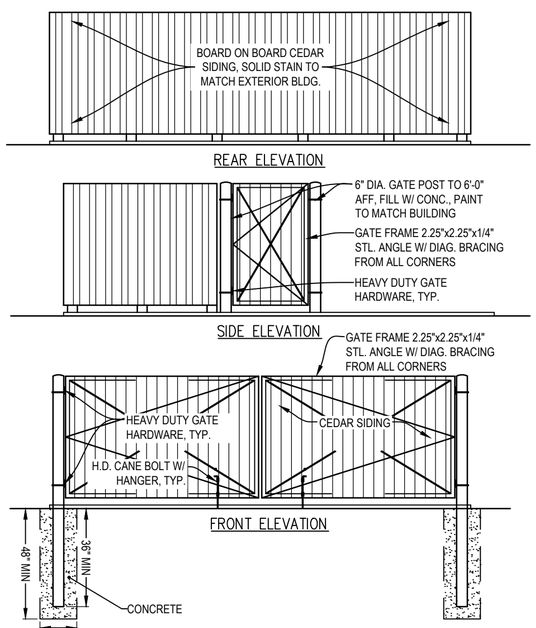
ASPHALT PAVEMENT SECTION
(FOR USE ON-SITE)
N.T.S.

NOTES
1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE.
2. EXPANSION JOINTS SHALL BE PROVIDED AT EQUAL DISTANCES OF NOT MORE THAN 15' AND AT ALL STORM SEWER INLETS. JOINTS SHALL BE FILLED WITH PREFORMED EXPANSION JOINT FILLER, 1/2" THICK. THE JOINT SHALL BE RECESSED 1/4" FROM THE TOP AND FRONT OF THE CONCRETE CURB. CAULKING SHALL BE PROVIDED ABOVE EXPANSION JOINT, FLUSH WITH TOP OF CURB.
3. PAVEMENT REPAIR TO BE PROVIDED AS NEEDED FOR CURB REPLACEMENT.
4. THE TOP OF CURB (AT THE OUTSIDE OR NON-EXPOSED FACE) AND THE FLOW LINE OF CONCRETE GUTTER SHALL NOT VARY MORE THAN 0.01 FT. FROM A 10 FT. STRAIGHT EDGE PLACED LONGITUDINALLY ALONG THE CURB OR AT THE FLOW LINE OF THE GUTTER.
5. THE FACE OF CURB SHALL NOT VARY MORE THAN 0.03 FT. FROM A 10 FT. STRAIGHT EDGE PLACED LONGITUDINALLY ALONG THE FLOW LINE.
6. THE ELEVATION OF THE TOP OF CURB OR FLOW LINE OF GUTTER SHALL NOT VARY MORE THAN 0.02 FT. FROM THE TRUE ELEVATION LAID OUT IN THE FIELD BY THE ENGINEER.

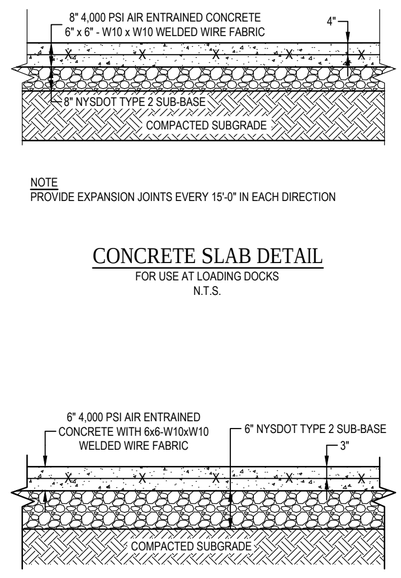
CONCRETE CURB DETAIL
N.T.S.



TRASH ENCLOSURE PLAN
SCALE: N.T.S.



TRASH ENCLOSURE ELEVATIONS
SCALE: N.T.S.



NOTE
PROVIDE EXPANSION JOINTS EVERY 15'-0" IN EACH DIRECTION

CONCRETE SLAB DETAIL
FOR USE AT LOADING DOCKS
N.T.S.

CONCRETE SLAB DETAIL
N.T.S.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION FOR ANY DETAIL NOT PROVIDED IN THIS PLAN SET.

No.	DATE	BY	DESCRIPTION
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CIVIL ENGINEERING
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www.KeyCivilEngineering.com

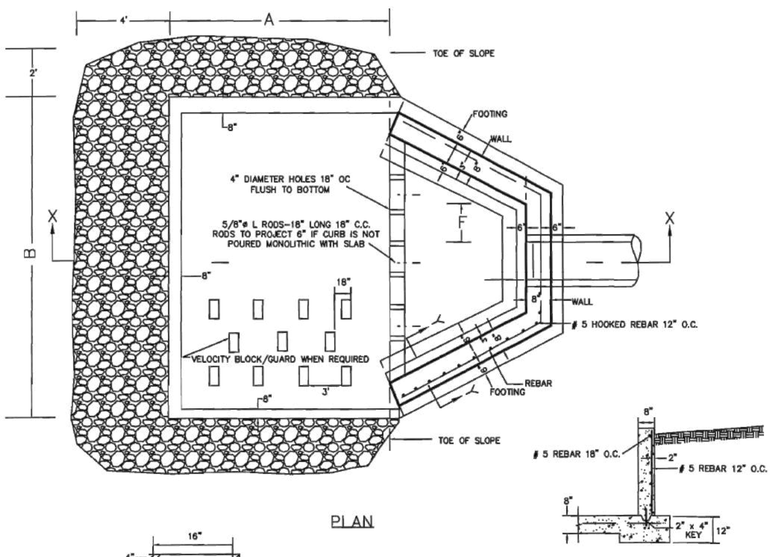
PROJECT NAME:
HK VENTURES, LLC
INDUSTRIAL PARK
4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:
SITE DETAILS I

DRAWING No.:
C-31

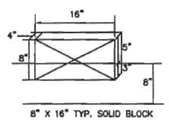
PAGE No.:
31 OF 35

Y:\Key Civil\Projects\2019\19026_Pinewood Grp_Calverton\Drawings\Key Civil\19026_2021.04.02_Details4.dwg

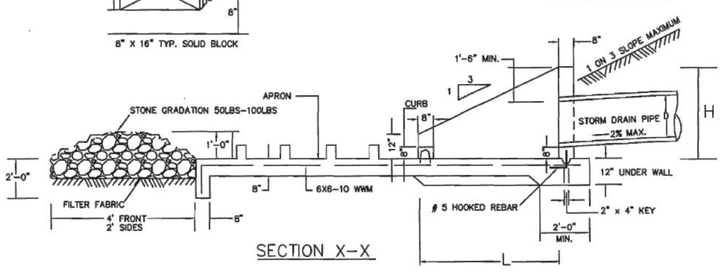


PLAN

SECTION Y-Y



8" X 16" TYP. SOLID BLOCK

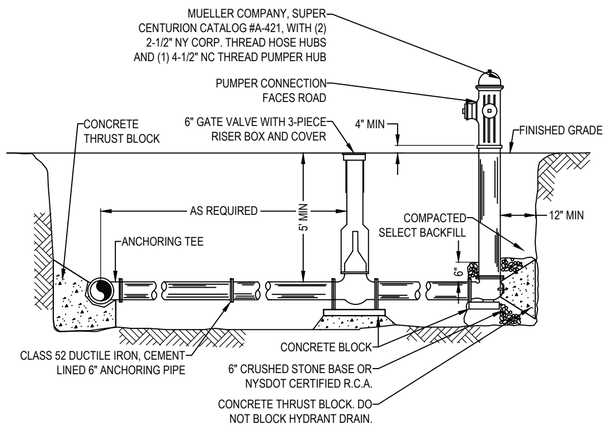


SECTION X-X

DIMENSIONS						
D	L	F	B	A	H	RIP-RAP
24"	9'-0"	12"	10'-0"	10'-0"	4'-0"	4'-0"
30"	10'-6"	18"	12'-0"	12'-0"	4'-6"	6'-0"
36"	12'-0"	24"	14'-0"	14'-0"	5'-0"	8'-0"
42"	13'-6"	30"	16'-0"	16'-0"	5'-6"	10'-0"

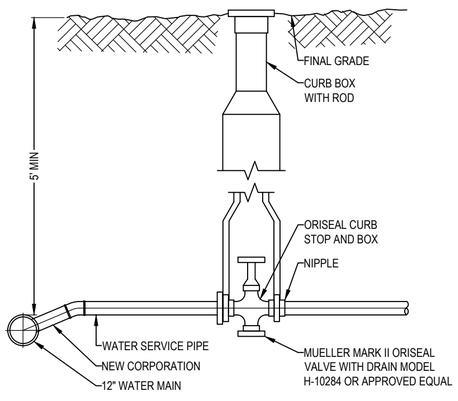
NOTES:
1. ALL CONCRETE TO BE 4000 PSI @ 28 DAYS.
2. ALL PRECAST CONCRETE STRUCTURES MUST MEET ACI CODE AND SPECIFICATIONS.
3. ALL STRUCTURES MUST BE MANUFACTURED AT AN ACI CERTIFIED PLANT, A COPY OF A CERTIFICATION MUST BE ON FILE WITH THE TOWN.

CONCRETE HEADWALL DETAIL
N.T.S.



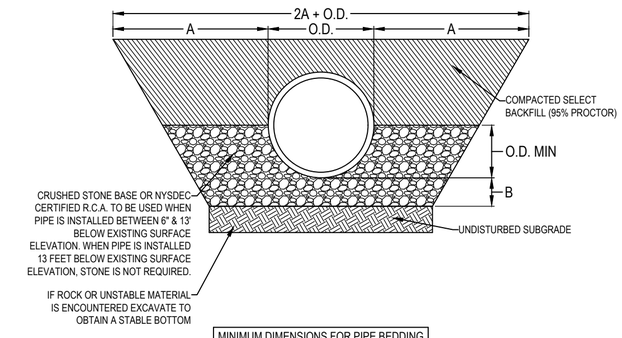
NOTES
1. IF GROUNDWATER IS ENCOUNTERED WITHIN 7 FEET OF FINISH GRADE, HYDRANT DRAIN HOLES SHALL BE PLUGGED.
2. CONTRACTOR TO COORDINATE WITH TOWN OF RIVERHEAD FIRE DEPARTMENT FOR INSTALLATION REQUIREMENTS.

HYDRANT ASSEMBLY DETAIL
N.T.S.



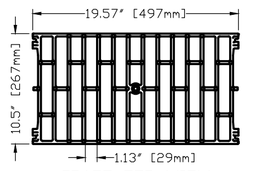
NOTE
DUCTILE IRON PIPE SHALL BE USED FOR WATER SERVICE LATERALS.

WATER SERVICE INSTALLATION DETAIL
N.T.S.



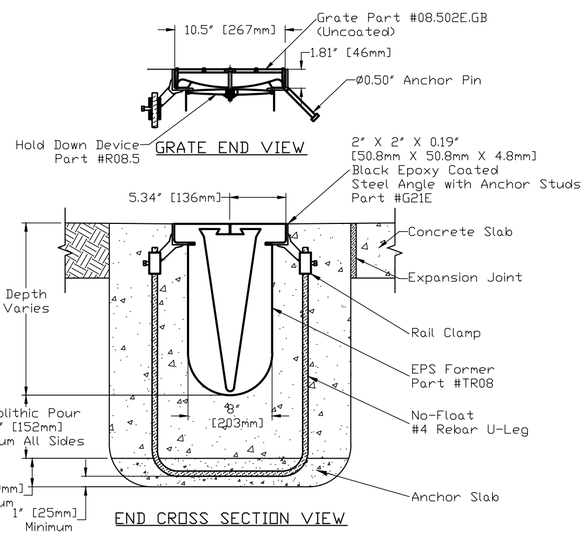
MINIMUM DIMENSIONS FOR PIPE BEDDING		
PIPE DIAMETER (INCHES)	A (INCHES)	B (INCHES)
UP TO 18	12	6
21 TO 36	12	9
OVER 36	18	12

STORMWATER / SANITARY PIPE INSTALLATION DETAIL
N.T.S.



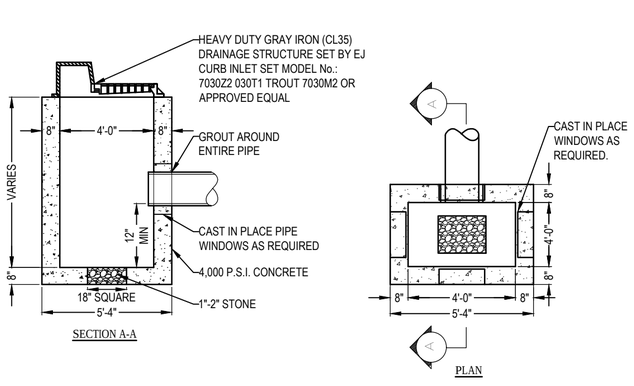
GRATE TOP VIEW
(ROTATED 90°)

Plan Notes
1. Series Number: TR08-08.502E.GB-G21E
2. Grates:
   - Ductile Iron per ASTM A536-84 Grade 80-55-06 (Uncoated)
   - Open Area: 0.65 FT² per Lineal Foot [0.19 M² per Lineal Meter]
   - Load Rating: 620 PSI (AASHTO M-306 Test Method)
   - Made in the USA
2. Form Release: Non-Petroleum Based
3. Concrete: Concrete Thickness and Reinforcement per Structural Engineer's Specification for the Application.



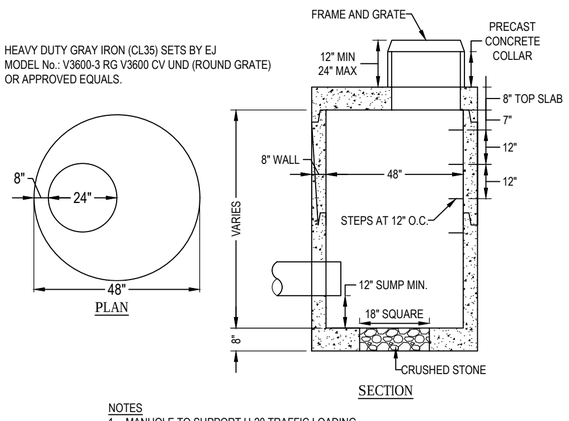
END CROSS SECTION VIEW

8" TRENCH DRAIN DETAIL
TRENCH FORMER MODEL No.: TR08-08.502E.GB-G21E
N.T.S.



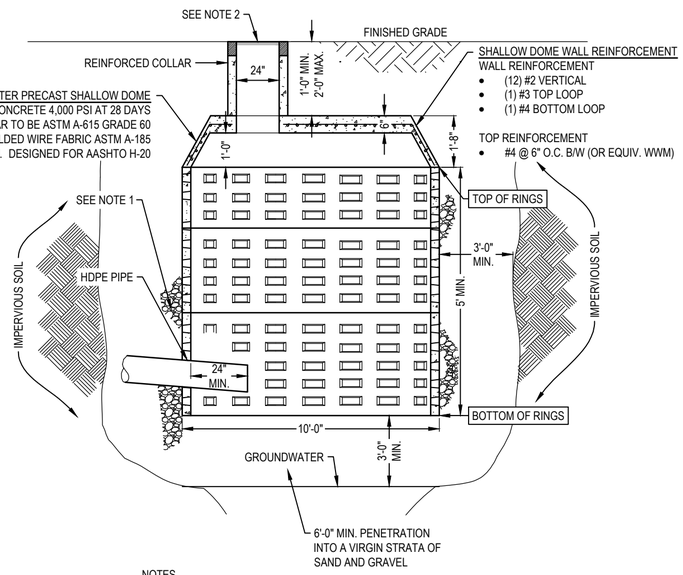
NOTES
1. STRUCTURE TO BE IN ACCORDANCE WITH ASTM C-478
2. CONCRETE 4000 PSI @ 28 DAYS.
3. REINFORCEMENT AS REQUIRED FOR H-20 LOADING

4'-0" x 2'-6" PRECAST CONCRETE CATCH BASIN
N.T.S.



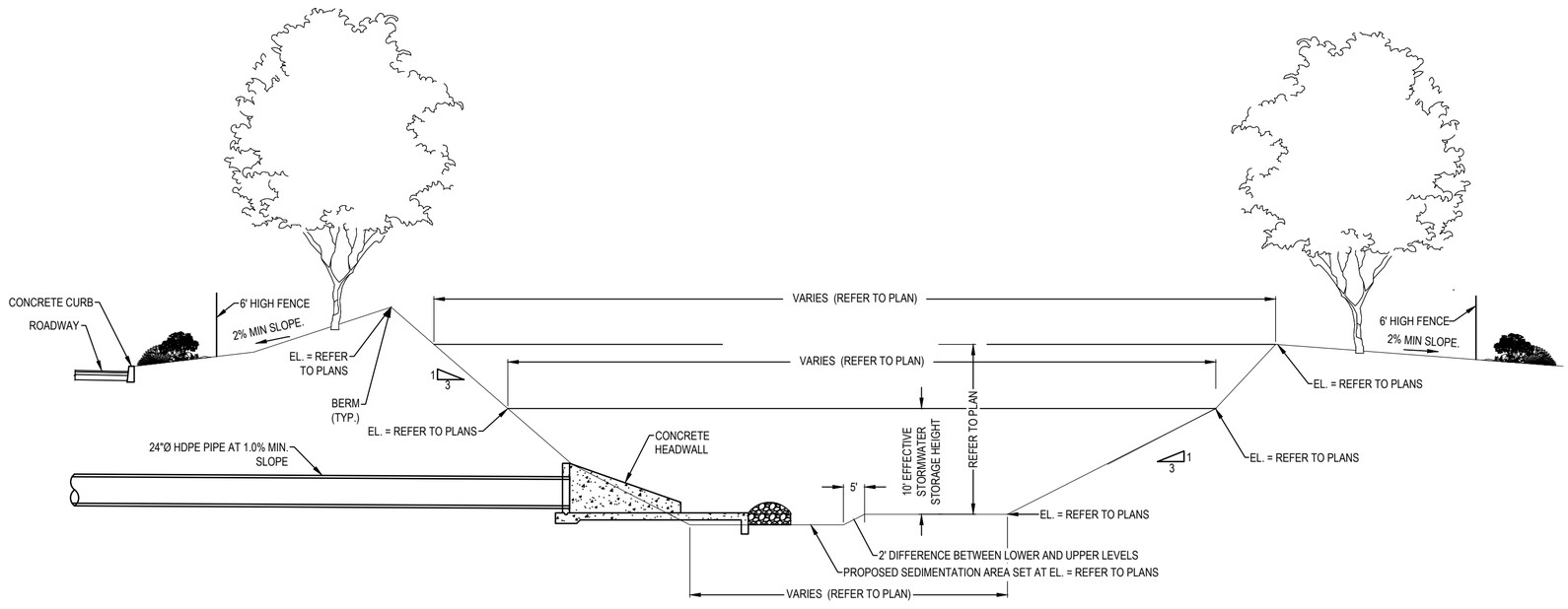
NOTES
1. MANHOLE TO SUPPORT H-20 TRAFFIC LOADING
2. CONCRETE STRENGTH 4000 PSI @ 28 DAYS
3. REBAR TO BE ASTM A-615 GRADE 60
4. WELDED WIRE FABRIC ASTM A-185

4'-0"Ø PRECAST CATCH BASIN DETAIL
N.T.S.

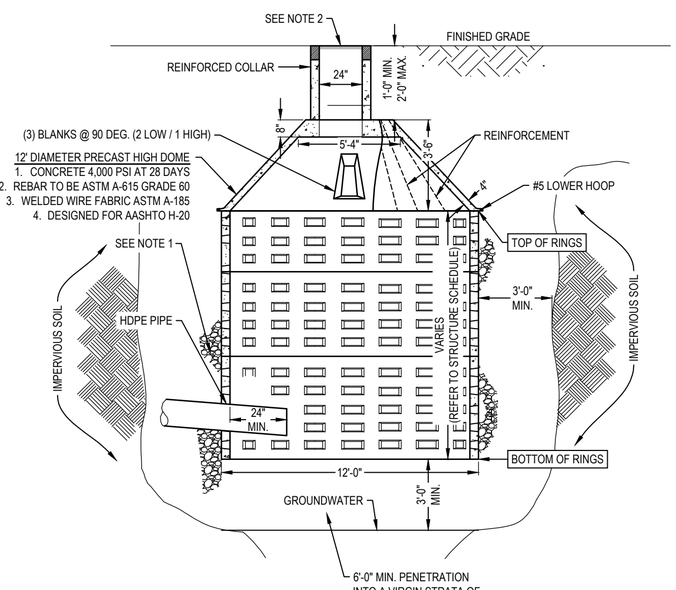


NOTES
1. BACKFILL 3'-0" WIDE COLLAR ALL ROUND WITH CLEAN BROKEN STONE OR BACKFILL WITH ONSITE SOIL IN COMPACTED 6 IN LIFTS.
2. HEAVY DUTY GRAY IRON (CL35) SETS BY EJ:
   MODEL No: V3600-3 RG V3600 CV UND (ROUND GRATE)
   MODEL No: V1600-3 RG REV/CPH2 CV UND (ROUND COVER)
   OR APPROVED EQUALS.

10'Ø LOADING DOCK DRYWELL WITH SHALLOW DOME DETAIL
N.T.S.

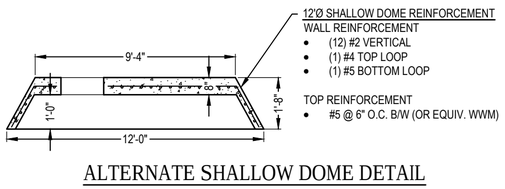


TYPICAL RECHARGE BASIN DETAIL
N.T.S.



NOTES
1. BACKFILL 3'-0" WIDE COLLAR ALL ROUND WITH CLEAN BROKEN STONE OR BACKFILL WITH ONSITE SOIL IN COMPACTED 6 IN LIFTS.
2. HEAVY DUTY GRAY IRON (CL35) SETS BY EJ:
   MODEL No: V3600-3 RG V3600 CV UND (ROUND GRATE)
   MODEL No: V1600-3 RG REV/CPH2 CV UND (ROUND COVER)
   OR APPROVED EQUALS.

12'Ø DRYWELL WITH HIGH DOME DETAIL
N.T.S.



ALTERNATE SHALLOW DOME DETAIL FOR 12'Ø DRYWELL
N.T.S.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION FOR ANY DETAIL NOT PROVIDED IN THIS PLAN SET.

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

ALTERATION OR ADDITION TO THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

SEAL & SIGNATURE:

NOT VALID UNTIL SEALED

JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

SITE DETAILS II

DRAWING No.:

C-32

PAGE No.:

32 OF 35

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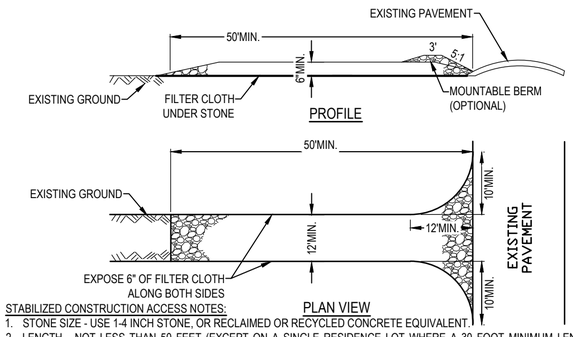
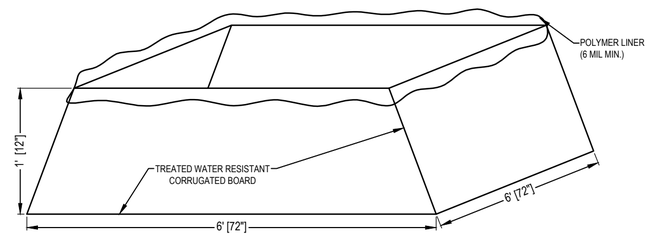


STABILIZED CONSTRUCTION ACCESS NOTES:

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED. THIS AREA SHALL BE GRADED SO THAT RUNOFF WATER WILL BE RETAINED ON-SITE.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
10. CONTRACTOR TO ENSURE THAT THE TRACKING PREVENTION REMAINS EFFECTIVE DURING ALL CONSTRUCTION PHASES.
11. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERCOURSES.
12. CONTRACTOR TO RELOCATE TRACKING PADS AS NECESSARY.
13. EXPOSE 6" END OF FILTER CLOTH ON BOTH OF THE LONGER SIDES FOR THE ENTIRE LENGTH.

STABILIZED CONSTRUCTION ACCESS

N.T.S.

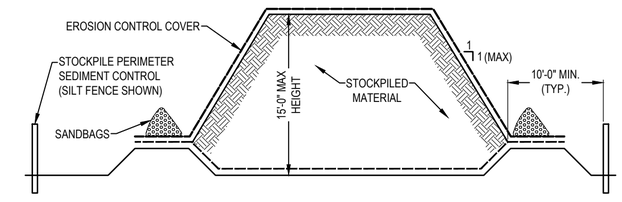


CONCRETE WASHOUT NOTES:

1. THE CONCRETE WASHOUT(S) SHALL BE INSTALLED PRIOR TO THE DELIVERY OR PLACEMENT OF CONCRETE.
2. WHEN DEEMED NECESSARY BY THE ENGINEER THE CONTRACTOR SHALL PLACE SIGNS THROUGHOUT THE SITE TO INDICATE THE LOCATION OF THE CONCRETE WASHOUT(S).
3. THE CONCRETE WASHOUT AREA SHALL BE REPLACED AS NECESSARY AND/OR AOBE TO MAINTAIN CAPACITY FOR LIQUID WASTE.
4. CONCRETE WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED FACILITY.
5. UNDER NO CIRCUMSTANCES ARE DRAINAGE STRUCTURES, OPEN DITCHES, STREETS, OR STREAMS TO BE USED FOR CONCRETE WASHOUT LOCATIONS.
6. LOCATE CONCRETE WASHOUT AT LEAST 50' FROM ALL DRAINAGE FACILITIES, OPEN DITCHES, AND OTHER WATER BODIES.
7. THE CONCRETE WASHOUT SHALL BE USED FOR THE WASHING OF PORTLAND CEMENT CONCRETE RELATED ITEMS (TRANSIT-MIX TRUCKS, TOOLS, MIXERS, ETC.) ONLY.

CONCRETE TRUCK/MIXER WASHOUT AND GROUT WASTE

ITEM 209-06
N.T.S.



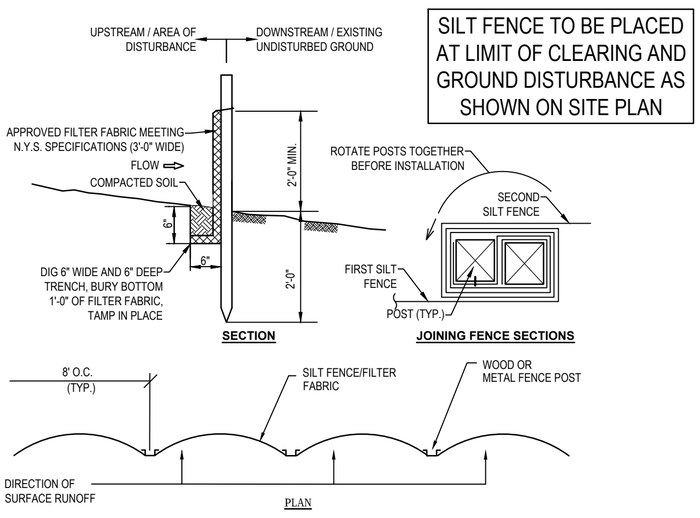
STOCKPILE NOTES:

1. STOCKPILE MANAGEMENT INCLUDES MEASURES TO MINIMIZE EROSION AND SEDIMENT TRANSPORT FROM SOILS OR OTHER ERODIBLE MATERIALS STORED AT THE CONSTRUCTION SITE. SPECIAL ATTENTION SHOULD BE GIVEN TO STOCKPILES IN CLOSE PROXIMITY TO NATURAL OR MANMADE STORM SYSTEMS. PROTECTION OF STOCKPILES IS A YEAR-ROUND REQUIREMENT.
2. THIS DETAIL DOES NOT APPLY TO CONTAMINATED MATERIALS WHICH REQUIRE ADDITIONAL MEASURES.
5. LOCATE STOCKPILES AS FAR AWAY FROM BODIES OF WATER, INFILTRATION AREAS, INLETS, AND OTHER DRAINAGE SYSTEM COMPONENTS AS POSSIBLE SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
6. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
7. WHEN THE STOCKPILE IS NO LONGER NEEDED, PROPERLY DISPOSE OF EXCESS MATERIALS AND RE-VEGETATE OR OTHERWISE STABILIZE THE GROUND SURFACE WHERE THE STOCKPILE WAS LOCATED.
8. FOR STOCKPILES MAINTAINED FOR MORE THAN ONE DAY, A SEDIMENT CONTROL SYSTEM, CONSISTING OF SILT FENCING OR COIR LOG, SHALL BE INSTALLED AND MAINTAINED ON DOWNHILL SIDES TO CONTAIN MATERIAL.
   - 8.1. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWN-GRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.
   - 8.2. PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON.
   - 8.3. FOR STOCKPILES IN ACTIVE USE, PROVIDE A STABILIZED DESIGNATED ACCESS POINT ON THE UPGRADIENT SIDE OF THE STOCKPILE.
   - 8.4. SEDIMENTS SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-THIRD (1/3) OF THE BARRIER HEIGHT.
   - 8.5. INSPECT STOCKPILE SEDIMENT CONTROL SYSTEM IMMEDIATELY AFTER MODIFYING STOCKPILE.
   - 8.6. REPAIR AND/OR REPLACE PERIMETER CONTROLS AND COVERS AS NEEDED, OR AS DIRECTED BY THE ENGINEER, TO KEEP THEM FUNCTIONING PROPERLY.
9. THE TOE OF STOCKPILES SHALL NOT BE SITE PERIMETER SEDIMENT CONTROL.
10. FOR STOCKPILES INACTIVE FOR MORE THAN 14 DAYS, STABILIZE THE STOCKPILE TO PREVENT SEDIMENT TRANSPORT USING AN EROSION CONTROL SYSTEM, CONSISTING OF TEMPORARY SEEDING AND MULCHING, PLASTIC / GEOTEXTILE COVERING, SOIL BINDERS, OR EROSION CONTROL BLANKETS. USE OF MULCH OR SOIL BINDERS ONLY IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR NO MORE THAN 60 DAYS.
11. IMPLEMENT DUST CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.

MATERIAL STOCKPILE

N.T.S.

SILT FENCE TO BE PLACED AT LIMIT OF CLEARING AND GROUND DISTURBANCE AS SHOWN ON SITE PLAN

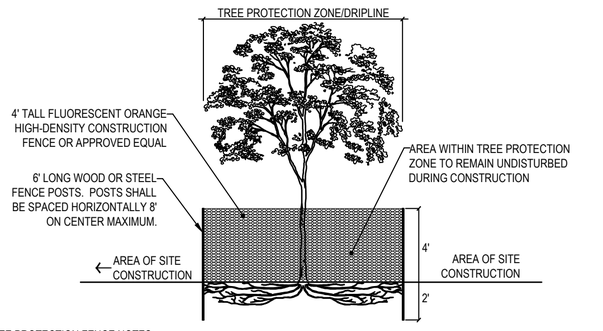


STANDARD SILT FENCE NOTES:

1. THE SLOPE OF THE LAND FOR AT LEAST 30 FEET ADJACENT AND UPSTREAM TO STANDARD SILT FENCE SHALL NOT EXCEED 5 %.
2. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THE END POSTS SHALL BE ROLLED TOGETHER A MINIMUM OF 3 TIMES.
3. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS THE FENCE AROUND THE ENDS.
4. SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE DIRECTED BY THE GOVERNING AGENCY.
5. DO NOT PLACE MATERIAL AGAINST SILT FENCE.
6. INSPECT SILT FENCE IMMEDIATELY AFTER PLACING ANY MATERIAL NEARBY.
7. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY.

STANDARD SILT FENCE

N.T.S.



TREE PROTECTION FENCE NOTES:

1. TREE PROTECTION FENCE SHALL BE INSTALLED TO FOLLOW TREE CANOPY DRIP LINE OR PROPOSED LIMITS OF DISTURBANCE.
2. CONSTRUCTION VEHICLES TO STAY AS FAR AS POSSIBLE FROM TREE PROTECTION FENCE TO PREVENT COMPACTION OF TREE ROOTS.

TREE PROTECTION FENCE

N.T.S.

DEFINITION
THE CONTROL OF DUST RESULTING FROM LAND-DISTURBING ACTIVITIES.

PURPOSE
TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES THAT MAY CAUSE OFF-SITE DAMAGE, HEALTH HAZARDS, AND TRAFFIC SAFETY PROBLEMS.

CONDITIONS WHERE PRACTICE APPLIES
ON CONSTRUCTION ROADS, ACCESS POINTS, AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING WHERE OFF-SITE DAMAGE MAY OCCUR IF DUST IS NOT CONTROLLED.

DESIGN CRITERIA
CONSTRUCTION OPERATIONS SHOULD BE SCHEDULED TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME. BUFFER AREAS OF VEGETATION SHOULD BE LEFT WHERE PRACTICAL. TEMPORARY OR PERMANENT STABILIZATION MEASURES SHALL BE INSTALLED. NO SPECIFIC DESIGN CRITERIA IS GIVEN; SEE CONSTRUCTION SPECIFICATIONS BELOW FOR COMMON METHODS OF DUST CONTROL.

WATER QUALITY SHOULD BE CONSIDERED WHEN MATERIALS ARE SELECTED FOR DUST CONTROL. WHERE THER IS A POTENTIAL FOR THE MATERIAL TO WASH OFF TO A STREAM, INGREDIENT INFORMATION MUST BE PROVIDED TO THE NYSDEC. NO POLYMER APPLICATION SHALL TAKE PLACE WITHOUT WRITTEN APPROVAL FROM THE NYSDEC.

CONSTRUCTION SPECIFICATIONS

A NON-DRIVING AREAS:

VEGETATIVE COVER - TEMPORARY SEEDING SHALL BE AS FOLLOWS:
- A) RYE GRASS (ANNUAL OR PERENNIAL) AT 30 LBS. PER ACRE (0.7LBS/100OSF)
- B) CERTIFIED "AROOSTOOK" WINTER RYE (CEREAL RYE) AT 100 LBS. PER ACRE (2.5 LBS/SF)

USE WINTER RYE IF SEEDING IN OCTOBER/NOVEMBER.

MULCH (INCLUDING GRAVEL MULCH) - MULCH OFFERS A FAST EFFECTIVE MEANS OF CONTROLLING DUST.

SPRAY ADHESIVES - EXAMPLES OF SPRAY ADHESIVES FOR USE ON MINERAL SOILS ARE SHOWN IN THE FOLLOWING TABLE:

MATERIAL	WATER DILUTION	NOZZLE TYPE	APPLY GALLONS/ACRE
ACRYLIC POLYMER	8:1	COURSE SPRAY	500
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300

B DRIVING AREAS:

SPRINKLING - THE SITE MAY BE SPRAYED UNTIL THE SURFACE IS WET. THIS IS ESPECIALLY EFFECTIVE ON HAUL ROADS AND ACCESS ROUTES TO PROVIDE SHORT TERM LIMITED DUST CONTROL.

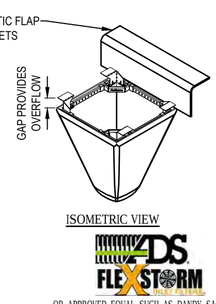
POLYMER ADDITIVES - POLYMERS ARE MIXED WITH WATER AND APPLIED TO THE DRIVING SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

BARRIERS - WOVEN GEO-TEXTILES CAN BE PLACED ON THE DRIVING SURFACE. STONE CAN ALSO BE USED FOR CONSTRUCTION ROADS.

WINDBREAK - A SILT FENCE OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AT INTERVALS EQUAL TO TEN TIMES THE BARRIER HEIGHT. PRESERVE EXISTING WIND BARRIER VEGETATION AS MUCH AS PRACTICAL.

MAINTENANCE
MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.

DUST CONTROL



SACK INLET PROTECTION NOTES:

1. CONTRACTOR TO PROVIDE IN-FIELD MEASUREMENTS TO MANUFACTURER AS REQUIRED TO MANUFACTURER.
2. THE FOLLOWING REQUIRES ADDITIONAL REVIEW BY MANUFACTURER
   - GRATES WITH EXTENDED BOTTOMS
   - ANY OBSTRUCTED INLET OPENINGS
3. OR EQUAL AS APPROVED BY ENGINEER OF RECORD.
4. AVAILABLE FOR CIRCULAR, RECTANGULAR, AND WITH OR WITHOUT MAGNETIC FLAP FOR CURB OPENING.

OR APPROVED EQUAL SUCH AS DANDY SACK® WITH OPTIONAL OVERFLOW, ACF SILTSACK WITH OPTIONAL OVERFLOW.

TYPE V EXAMPLE - SACK INLET PROTECTION

N.T.S.

GEOTEXTILE, FILTER FABRIC, OR SILT FENCE FABRIC PLACED UNDER INLET GRATE IS NOT AN ACCEPTABLE STORMWATER MANAGEMENT PRACTICE

NYS STANDARD INLET PROTECTION TYPES AND USES

TYPE	EXAMPLE	USAGE	NOTES
0	FABRIC PLACED UNDER INLET GRATE	NOT PERMITTED	THIS METHOD OF INLET PROTECTION IS NOT ACCEPTABLE.
I	EXCAVATED DROP INLET PROTECTION	DURING INITIAL OVERLOT GRADING AFTER THE STORM DRAIN TRUNK IS INSTALLED	MAXIMUM SIDE SLOPES OF 2:1. MINIMUM DEPTH 1 FOOT. MAXIMUM DEPTH 2 FEET. CONTAIN 900 CF PER TRIBUTARY ACRE.
II	FABRIC DROP INLET PROTECTION	DURING FINAL ELEVATION GRADING PHASES AFTER THE STORM DRAIN SYSTEM IS COMPLETED	MAX SLOPE OF 1% OF SURROUNDING AREA. 1.5' MAX UN-REINFORCED HEIGHT OF FABRIC. MAINTAIN OVERFLOW TO DROP INTO THE DROP INLET.
III	STONE & BLOCK DROP INLET PROTECTION	DURING THE INITIAL AND INTERMEDIATE OVERLOT GRADING OF A CONSTRUCTION SITE	MINIMUM STONE BARRIER HEIGHT OF 1'. MAXIMUM STONE BARRIER HEIGHT OF 2'. DO NOT USE MORTAR. LIMIT HEIGHT TO PREVENT PONDING OR BYPASS FLOW.
IV	PAVED SURFACE INLET PROTECTION	USED AFTER PAVEMENT CONSTRUCTION HAS BEEN DONE WHILE FINAL GRADING AND SOIL STABILIZATION IS OCCURRING	USE WITH UPSTREAM BUFFER STRIPS AND WITH TEMPORARY SURFACE STABILIZATION. PLACE AT INLET PERIMETER OR BEYOND. INTEGRATE TRAFFIC SAFETY. DO NOT CAUSE FLOODING OR BYPASS FLOW.
V	MANUFACTURED INSERT INLET PROTECTION	INSTALLED AND ANCHORED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND DESIGN DETAILS	FABRIC WILL EQUAL OR EXCEED THE PERFORMANCE STANDARD FOR THE SILT FENCE FABRIC. THE INSERTS WILL BE INSTALLED TO PRESERVE A MINIMUM OF 50% OF THE OPEN UNOBSTRUCTED DESIGN FLOW AREA OF THE STORM DRAIN INLET OPENING.

SOIL RESTORATION REQUIREMENTS DURING CONSTRUCTION ACTIVITY

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENT		COMMENTS/EXAMPLES
NO SOIL DISTURBANCE	RESTORATION NOT PERMITTED		PRESERVATION OF NATURAL FEATURES
MINIMAL SOIL DISTURBANCE	RESTORATION NOT REQUIRED		CLEARING AND GRUBBING
AREAS WHERE TOPSOIL IS STRIPPED ONLY - NO CHANGE IN GRADE	HYDROLOGIC SOIL GROUP A & B	HYDROLOGIC SOIL GROUP C & D	PROTECT AREA FROM ANY ONGOING CONSTRUCTION ACTIVITIES.
	APPLY 6 INCHES OF TOPSOIL	AERATE* AND APPLY 6 INCHES OF TOPSOIL	
AREAS OF CUT OR FILL	HYDROLOGIC SOIL GROUP A & B	HYDROLOGIC SOIL GROUP C & D	-
	AERATE* AND APPLY 6 INCHES OF TOPSOIL	APPLY FULL SOIL RESTORATION**	
HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY IN A ZONE 5-25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS)	APPLY FULL SOIL RESTORATION (DECOMPACTION AND COMPOST ENHANCEMENT)		-
AREAS WHERE RUNOFF REDUCTION AND/OR INFILTRATION PRACTICES ARE APPLIED	RESTORATION NOT REQUIRED, BUT MAY BE APPLIED TO ENHANCE THE REDUCTION SPECIFIED FOR APPROPRIATE PRACTICES.		KEEP CONSTRUCTION EQUIPMENT FROM CROSSING THESE AREAS. TO PROTECT NEWLY INSTALLED BMP FROM ANY ONGOING CONSTRUCTION ACTIVITIES. CONSTRUCT A FENCE AROUND BMP.
REDEVELOPMENT PROJECTS	SOIL RESTORATION IS REQUIRED ON REDEVELOPMENT PROJECTS IN AREAS WHERE EXISTING IMPERVIOUS AREA WILL BE CONVERTED TO PERVIOUS AREA.		-

* AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTERS MAKING A NARROW SLIT IN THE SOIL, A ROLLER WITH MANY SPIKES MAKING INDENTATIONS IN THE SOIL, OR PRONGS WHICH FUNCTION LIKE A MINI-SUBSOILER.
** PER "DEEP RIPPING AND DE-COMPACTION, DEC 2008".

SOIL RESTORATION NOTES:

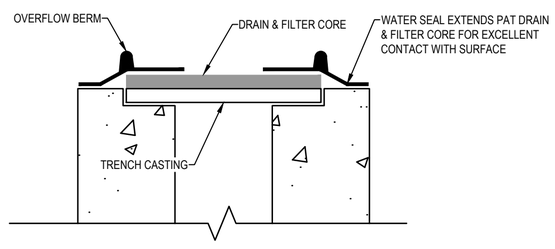
1. SOIL RESTORATION IS TO BE APPLIED TO PROPOSED VEGETATED AREAS WHERE ANY HEAVY CONSTRUCTION VEHICLE HAS BEEN OR OVER COMPACTION HAS OCCURRED AND FINAL STABILIZATION IS TO BEGIN. THIS IS GENERALLY APPLIED IN THE CLEANUP, SITE RESTORATION, AND LANDSCAPING PHASE OF CONSTRUCTION FOLLOWED BY THE PERMANENT ESTABLISHMENT OF AN APPROPRIATE GROUND COVER TO MAINTAIN THE SOIL STRUCTURE. SOIL RESTORATION MEASURES SHOULD BE APPLIED OVER AND ADJACENT TO ANY RUNOFF REDUCTION PRACTICES TO ACHIEVE DESIGN PERFORMANCE.
2. AT THE END OF THE PROJECT AN INSPECTOR SHOULD BE ABLE TO PUSH A 3/8" METAL BAR 12 INCHES INTO THE SOIL JUST WITH BODY WEIGHT. THIS SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES OR OVER UTILITY INSTALLATIONS THAT ARE WITHIN 24 INCHES OF THE SURFACE.
3. TO MAINTAIN SOIL RESTORATION, KEEP THE SITE FREE OF VEHICULAR AND FOOT TRAFFIC OR OTHER WEIGHT LOADS.

SOIL RESTORATION PROCEDURE:
DURING PERIODS OF RELATIVELY LOW TO MODERATE SUBSOIL MOISTURE, THE DISTURBED SUBSOILS ARE RETURNED TO ROUGH GRADE AND THE FOLLOWING SOIL RESTORATION STEPS APPLIED:

1. APPLY 3 INCHES OF COMPOST OVER SUBSOIL. THE COMPOST SHALL BE WELL DECOMPOSED (MATURED AT LEAST 3 MONTHS), WEED-FREE, ORGANIC MATTER. IT SHALL BE AEROBICALLY COMPOSTED, POSSESS NO OBJECTIONABLE ODORS, AND CONTAIN LESS THAN 1%, BY DRY WEIGHT, OF MAN-MADE FOREIGN MATTER. THE PHYSICAL PARAMETERS OF THE COMPOST SHALL MEET THE STANDARDS LISTED IN TABLE 5.2 - COMPOST STANDARDS TABLE OF THE NYS STANDARDS AND SPECIFICATIONSFOR EROSION AND SEDIMENT CONTROL, EXCEPT FOR "PARTICLE SIZE" 100% WILL PASS THE 1/2" SIEVE.
   - 1.1. NOTE: ALL BIOSOLIDS COMPOST PRODUCED IN NEW YORK STATE (OR APPROVED FOR IMPORTATION) MUST MEET NYS DEC'S 6 NYCRR PART 360 (SOLID WASTE MANAGEMENT FACILITIES) REQUIREMENTS. THE PART 360 REQUIREMENTS ARE EQUAL TO OR MORE STRINGENT THAN 40 CFR PART 503 WHICH ENSURE SAFE STANDARDS FOR PATHOGEN REDUCTION AND HEAVY METALS CONTENT.
2. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR MOUNTED DISC, OR TILLER, TO MIX AND CIRCULATE AIR AND COMPOST INTO THE SUBSOIL.
3. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE.
4. APPLY TOPSOIL TO A DEPTH OF 6 INCHES.
5. VEGETATE AS REQUIRED BY THE SEEDING PLAN. USE APPROPRIATE GROUND COVER WITH DEEP ROOTS TO MAINTAIN THE SOIL STRUCTURE.
6. TOPSOIL MAY BE MANUFACTURED AS A MIXTURE OR A MINERAL COMPONENT AND ORGANIC MATERIAL SUCH AS COMPOST.

SOIL RESTORATION

N.T.S.



OR APPROVED EQUAL

SLOT GUARD INLET PROTECTION NOTES:

1. CLEAN PERIODICALLY TO PROVIDE ADEQUATE SEDIMENT HOLDING CAPACITY.
2. DEBRIS SHALL BE REMOVED DAILY.
3. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT ACCUMULATION REACHES 1 INCH.
4. TIE SLOT GUARD TO THE SLOT DRAIN WITH WIRE A MINIMUM OF EVERY 10', AT ALL ENDS, AND AS NEEDED. RECOMMENDED ATTACHMENT ON 2.5' CENTERS.

TYPE V EXAMPLE - SLOT GUARD INLET PROTECTION FOR TRENCH DRAINS

N.T.S.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION FOR ANY DETAIL NOT PROVIDED IN THIS PLAN SET.

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
1	05/15/2020	LC	ISSUED FOR REVIEW

REVISIONS

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SEAL & SIGNATURE:

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JACLYN PERANTEAU, P.E.
NEW YORK STATE PROFESSIONAL ENGINEER #083937

DATE:	01/24/2020
SCALE:	1" = 30'
PROJECT No.:	19026
DRAWING BY:	LC
CHECKED BY:	YT
APPROVED BY:	JP

KEY CIVIL ENGINEERING
664 BLUE POINT ROAD, UNIT B
HOLTSVILLE, NEW YORK 11742
(631) 961-0506
www.KeyCivilEngineering.com

PROJECT NAME:

HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

SITE DETAILS III

DRAWING No.:

C-33

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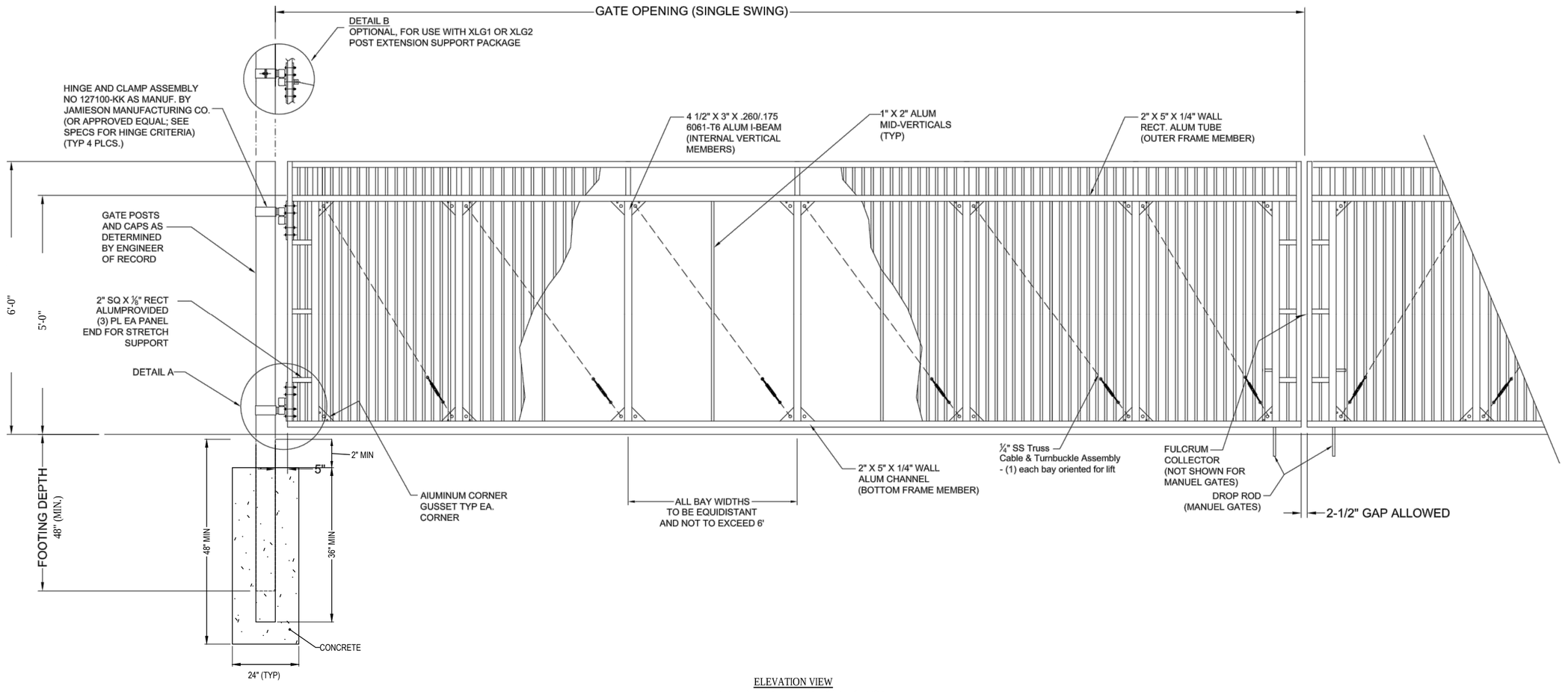
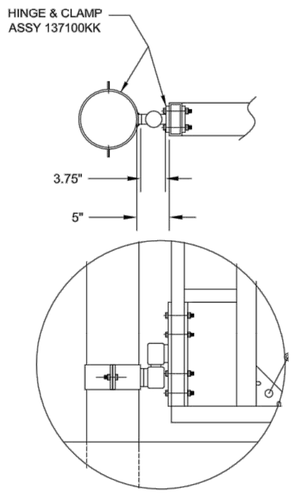


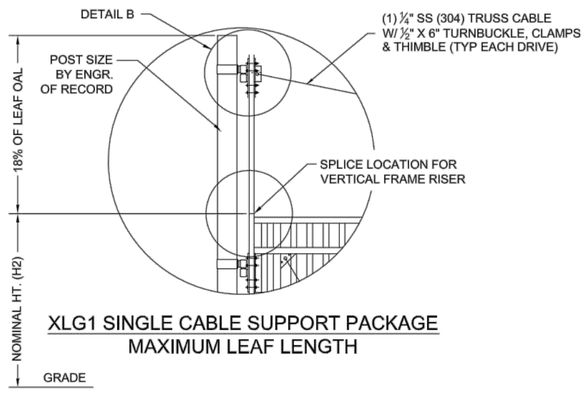
ELEVATION VIEW

MAXIMUM LEAF LENGTH WITHOUT CABLE SUPPORT



DETAIL A

HINGE & CLAMP ASSEMBLY PART
NUMBER 137100-KK AS MANUF BY
JAMIESON MANUFACTURING CO.
MOUNT WITH 1/2"-13 X 6" SS
HEX BOLTS & NYLOK NUTS



XLG1 SINGLE CABLE SUPPORT PACKAGE

MAXIMUM LEAF LENGTH

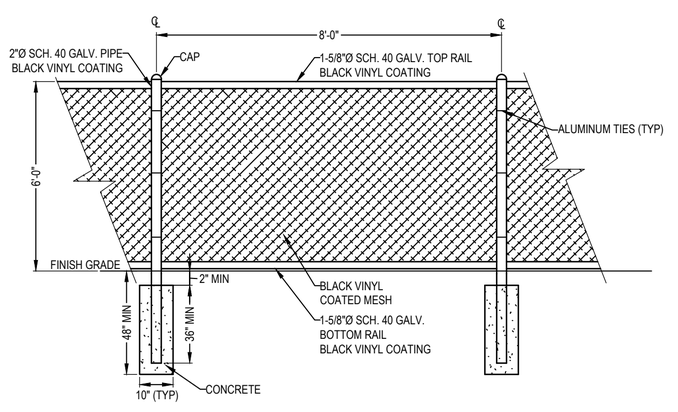
NOTE: EXTENDED LENGTH AND/OR HEAVY GATE LEAFS MAY REQUIRE JOB-SPECIFIC ENGINEERING CALCULATIONS FOR POST SIZE & SUPPORT (SUCH AS A DEADMAN, ETC).

NOTES:

1. FRAME MATERIAL GRADE AS PER WRITTEN SPECIFICATIONS
2. POSTS AVAILABLE AS OPTION.
3. SPECIFY POST SIZE & TYPE AT TIME OF ORDER FOR APPROPRIATE HARDWARE.
4. SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTUER ONLY.
5. ALL MATERIAL SHOWN SHALL BE NEW ALUMINUM UNLESS OTHERWISE NOTED.
6. PICKET MATERIAL TO COVER THE ENTIRE LENGTH OF GATE.
OPTIONAL POWDER COATING AVALIABLE UPON REQUEST.

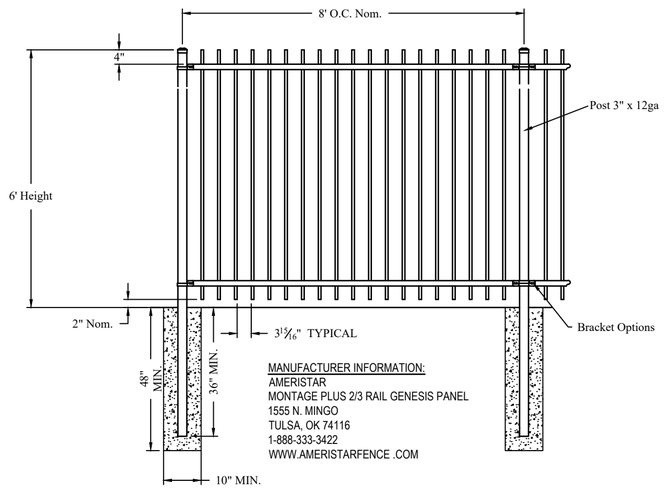
6'-0" HIGH LARGE OPENING SWING GATE

ORNAMENTAL FILLER TO 25' GATE LEAF
(SERIES 8650)
SUPPLIER: MASTER HALCO
SUPPLIER ADDRESS: 19 ZORN BLVD. UNIT 2, YAPHANK, NY 11980
SUPPLIER PHONE: (631) 585-8150
MANUFACTURER: JAMIESON MANUFACTURING CO.
N.T.S.



6'-0" HIGH CHAIN LINK FENCE

N.T.S.



DECORATIVE METAL FENCE DETAIL

N.T.S.

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CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

SITE DETAILS IV

DRAWING No.:

C-34

PAGE No.:

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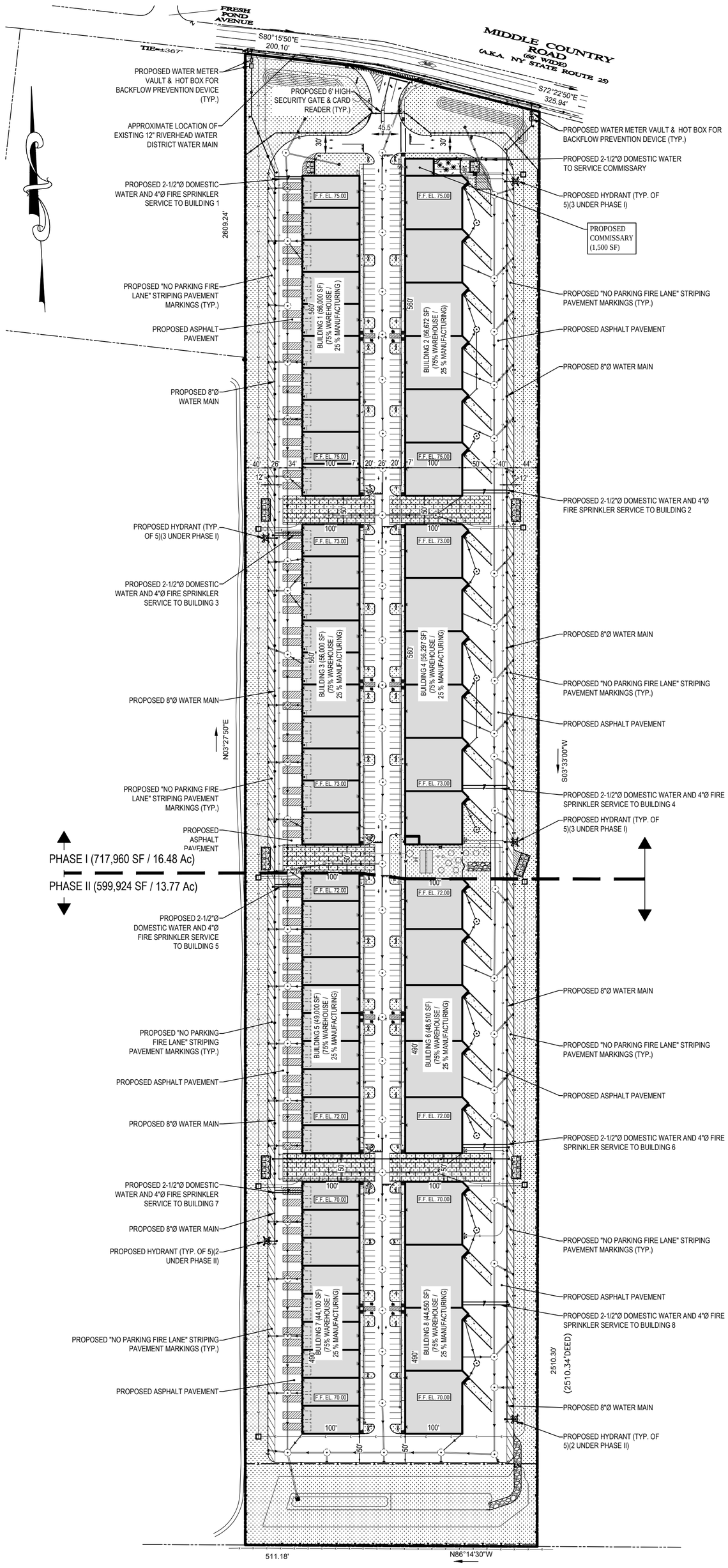

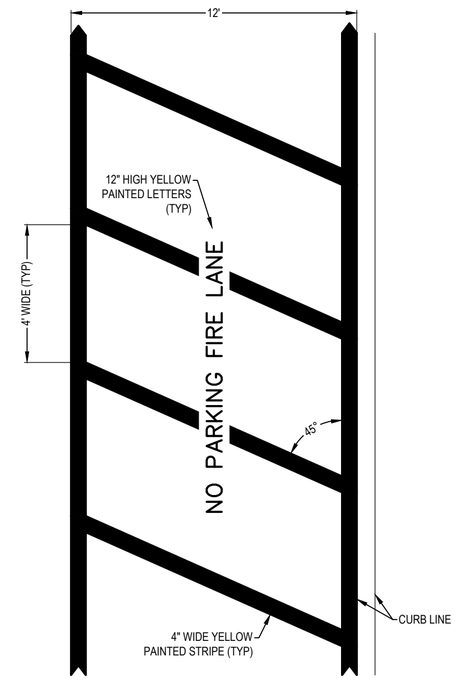

"NO PARKING FIRE LANE" STRIPING DETAIL
N.T.S.

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 ft.

LEGEND		
SCALE OF SYMBOLS = 1" = 120'		
EXISTING	ITEM	PROPOSED
	PROPERTY LINE	
	BUILDING	
	CONCRETE CURB	
	CONCRETE SIDEWALK	
	LANDSCAPE AREA	
	PERVIOUS PAVERS	
	DUMPSTER ENCLOSURE	
	12' x 34' LOADING SPACE	
	LOADING DOCK RETAINING WALLS	
	PARKING COUNT	
	OVERHEAD DOOR	
	DOOR	
x x	FENCE	x x x x
	BIKE RACK	
	HYDRANT	
	WATER MAIN	

NEW YORK CITY ONE CALL CENTER 1-800-272-4480 STOP-CALL-THEN DIG Safely

PLAN FOR FIRE MARSHAL REVIEW ONLY. NOT FOR CONSTRUCTION

No.	DATE	BY	DESCRIPTION
4	04/02/2021	LC	RESUBMISSION TO TOWN
3	06/22/2020	LC	MISCELLANEOUS COORDINATION
2	06/03/2020	LC	ISSUED FOR TOWN SUBMISSION
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HOLTSVILLE, NEW YORK 11742
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HK VENTURES, LLC INDUSTRIAL PARK

4285 MIDDLE COUNTRY ROAD
CALVERTON, NY 11933
TOWN OF RIVERHEAD, COUNTY OF SUFFOLK
DIST.: 600, SECT.: 116, BLOCK: 1, LOT: 2
ZONE: INDUSTRIAL C

DRAWING TITLE:

FIRE MARSHAL PLAN

DRAWING No.: C-35

PAGE No.: 35 OF 35

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APPENDIX VII:
CONSTRUCTION TERMINATION

- NOTICE OF TERMINATION (NOT)
- PERMANENT STORMWATER STRUCTURE INSPECTION FORM
- PERMANENT STORMWATER STRUCTURE MAINTENANCE LOG

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name: HK Ventures, LLC

2. Street Address: 147 Steamboart Road

3. City/State/Zip: Great Neck, NY 11024

4. Contact Person: Scott Johns | 4a.Telephone: (516) 855 - 7268

4b. Contact Person E-Mail: Sjohns@linxind.com

II. Project Site Information

5. Project/Site Name: HK Ventures, LLC Industrial Park

6. Street Address: 4285 Middle Country Road

7. City/Zip: Calverton, NY 11933

8. County: Suffolk

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

PERMANENT STORMWATER STRUCTURE INSPECTION FORM

POST-CONSTRUCTION STORMWATER MANAGEMENT
STORMWATER POLLUTION PREVENTION PROGRAM
OPERATION AND MAINTENANCE PROGRAM

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

Inspections shall occur no less than once per year and be conducted 24 to 48 hours after a rainfall event of 2" or more. The Owner / Operator shall follow the guidelines set forth in this report for the lifetime of this establishment. This report shall be kept on file by the Owner / Operator for a minimum of five (5) years from the date of completion. Based on the results of the inspection, necessary repairs / modifications shall be implemented within seven (7) calendar days if necessary.

Date of Inspection: _____

Certification Statement:
"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 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."

Name of Inspector: _____ Title of Inspector: _____

Qualifications of Inspector: _____

_____

Inspector's Signature: _____

Inspection Report Received
Name of The Owner / Operator's Duly Authorized Representative (Printed): _____

Signature of The Owner / Operator's Duly Authorized Representative: _____

Date: _____

*Note: This Compliance Certification is only to be signed by [corporate] Duly Authorized Representative (Owner/Operator) when there are no "unsatisfactory" conditions and the construction phasing/sequencing is consistent with the SWPPP, rendering the site in full compliance with the SWPPP and the Construction General Permit.

Inspection Report – Stormwater System

Inspection Areas	Satisfactory	Unsatisfactory (provide location)	N/A	Corrective Action Required	Implementation Date of Corrective Action
Contributing areas stabilized					
Inlet area clear of debris					
No evidence of erosion					
Dewaters between storms					
No evidence of standing water					
Minimal trash buildup					
Sediment buildup 2’ or less					
Other:_____					
Other:_____					

I certify that, based on no incidents of non-compliance identified / remaining, the site is in compliance with the operation and maintenance program.

Name of The Owner / Operator’s Duly Authorized Representative (Printed): _____

Signature of The Owner / Operator’s Duly Authorized Representative: _____

This form must be signed by a responsible corporate officer or other party meeting the “Signatory Requirements” in Part VII Section H of the NYSDEC SPDES GP-0-15-002 or other applicable state permit.

PERMANENT STORMWATER STRUCTURE MAINTENANCE LOG

POST-CONSTRUCTION STORMWATER MANAGEMENT
STORMWATER POLLUTION PREVENTION PROGRAM
OPERATION AND MAINTENANCE PROGRAM

HK Ventures, LLC Industrial Park
4285 Middle Country Road
Calverton, NY 11933

Date	% Sediment Accumulation[1]	Maintenance Performed	Maintenance Personnel	Comments

[1] The temporary sediment basin and/or swales shall be cleaned of sediment upon the point at which sediment reaches 50% of the basin's storage, measured from the invert (bottom of basin).

From:	Jaclyn Peranteau
To:	Kim Gennaro
Cc:	Keith Patrick Brown -
Subject:	FW: 19026 - HK Ventures - 4285 Middle Country Road in Calverton, NY: SWPPP Report - permission to disturb more than 5 Acres at one time
Date:	Wednesday, July 15, 2020 4:56:13 PM

From: Carroll, Alyssa D (DEC) <Alyssa.Carroll@dec.ny.gov>
Sent: Wednesday, July 15, 2020 1:00 PM
To: Yuriy Tupychak <yt@keycivilengineering.com>
Cc: Jaclyn Peranteau <jackie@keycivilengineering.com>; Lawrence Crehan Jr. <lc@keycivilengineering.com>; Leung, Anthony (DEC) <anthony.leung@dec.ny.gov>
Subject: Re: 19026 - HK Ventures - 4285 Middle Country Road in Calverton, NY: SWPPP Report - permission to disturb more than 5 Acres at one time

Yuriy,

The Department has reviewed your request for approval to disturb greater than 5 acres of soil at any one time for the subject construction activity. Your request to disturb greater than 5 acres is hereby approved.

This approval is contingent upon the following conditions:

1. The frequency of site inspections conducted by a *qualified inspector* shall be increased to **twice** per week (every seven calendar days). The two inspections shall be separated by a minimum of two full calendar days.

2. In areas where soil disturbance activities have temporarily or permanently ceased, the

application of soil stabilization measures must be initiated by the end of the next business day and completed within seven days from the date the soil disturbance activity ceased.

3. Any additional site-specific practices or measures shall be installed or implemented as needed to protect water quality.

This approval does not relieve you from any other conditions or requirements in GP-0-20-001, or protect you from enforcement action initiated by this Department if permit and/or water quality violations are observed. If you have any questions, please contact me at Alyssa.Carroll@dec.ny.gov.

Sincerely,

Alyssa Carroll

Assistant Engineer

SLACKE TEST BORING

Subsurface Soils & Foundation Explorations

P.O. BOX 64, KINGS PARK, LONG ISLAND, NEW YORK 11754 • (631) 269-7930 • FAX (631) 269-7932

Loretta A. Luning, *President*
Angelo DeLiso, *Partner/Director of Field Operations*

PERCOLATION TEST

Location: 4285 Middle Country Road, Calverton, New York

Procedure: Utilized 2.75 I.D. Casing set at 22.0 Feet below grade.
Utilized two gallons of water to perform test in saturated soils.

Notes:

1) Completed Drilling Boring No. 8 and performed Percolation Tests.
2) True Groundwater Level was not encountered.
4) Soils Classified as Fine to Coarse Pale Brown Sand, some Fine to Small Gravel.

Time Measurement to Water Level from Existing Grade.

Minutes	Perc Test #1	Perc Test #2	Perc Test #3
0:00	18.50	18.10	17.50
1:00	19.75	19.30	18.00
2:00	20.29	20.25	18.60
3:00	20.71	20.50	18.86
4:00	21.00	21.04	19.00
5:00	21.47	21.55	19.25
6:00	21.70	21.68	19.60
7:00	Bottom	22.00	19.80
8:00		Bottom	21.35
9:00			22.00
10:00			Bottom
15:00			

Observations:

1) Soils below 8.0 Feet of existing grade consist of clean Sand and Gravel (SW).
2) Upper soils exhibit a mix of Clean Sand and Silty Sand with Gravel and are classified as SM/SW.

Founded 1963
Felix & Sally Ann Slacke