
APPENDIX 7

Chapter 7 Appendices:

- **Evergreen Stormwater Pollution Prevention Plan (SWPPP)**
- **Gyrodyne Stormwater Pollution Prevention Plan (SWPPP)**

EVERGREEN MANOR
CORTLANDT, NEW YORK

**PRELIMINARY STORMWATER
POLLUTION PREVENTION PLAN**

Prepared for the Fulfillment of:

**New York State Department of Environmental Conservation
SPDES General Permit for Stormwater Discharges from Construction Activities
Permit No. GP-0-15-002**

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January 2019

STORMWATER POLLUTION PREVENTION PLAN

For
Gyrodyne, LLC – Mod Mixed-Use Campus – Phase 1

National Pollutant Discharge Elimination System
New York State Department of Environmental Conservation
General Permit for Stormwater Discharges From Construction Activity (GP-0-15-002)

Project Site: 1985 Crompond Road
Town of Cortlandt
Westchester County, NY 10567

Prepared for: Gyro, LLC EIN
One Flowerfield, Suite 24
St. James, NY 11780

General Contractor: To Be Determined

For Submission To: Town of Cortlandt
1 Heady St.
Cortlandt Manor, NY 10567

SWPPP Prepared by: Cameron Engineering & Associates, LLP
177 Crossway Park Drive
Woodbury, NY 11797

May 2019

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Accepted by Gyro, LLC EIN

Signature & Title

Acceptance Date

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1. Project Scope

A. General Description

The proposed Gyrodyne, LLC – M.O.D. Mixed-Use Campus project, located at 1985 Crompond Rd, Cortlandt, NY is a medical office complex. The work will consist of construction of a Medical Office Building, Multi-Family Residential Building, wellness plazas, and underground utilities. The total site area is 13.79-acres and the total project area is 411,119 S.F. (9.44 Ac.).

The proposed stormwater management system has been designed to meet standards for stormwater containment as established in the NYS Stormwater Management Design Manual and the Town of Cortlandt Department of Engineering. Proposed stormwater management practices consists of HDPE piping, drain inlets, trench drains, porous pavement, the Terre Arch stormwater storage system, and the Contect Jellyfish JF-6 stormwater treatment system. The proposed grading of land is designed to direct stormwater into permeable pavement, site drain inlets, treatment structures, and storage structures. The treated stormwater will be discharged into two distinct outfalls, the neighboring lake (Orchard Lake) and the municipal storm sewer system (located on Crompond Road). Stormwater drainage management system has been proposed and calculated for the 8.84-acre project site area.

For further information on the overall plan of construction and improvements at the Project Site, please refer to drawings prepared by Cameron Engineering & Associates, LLP included in Appendix B.

2. Background Information

A. Site Location & Land Uses

The M.O.D. Mixed-Use Campus is an approximately 13.79-acre site located in the Town of Cortlandt, at 1985 Crompond Rd (NCTM Section 33.12, Block 1, Lots 1, 2, and 3 along with NCTM Section 33.11, Block 3, Lots 6, 7, 8, and 36). The project site is located on the south side of Crompond Road and west of Lafayette Avenue (refer to Site Location Map in Appendix A). The site is zoned as an M.O.D. (Medical Oriented District) with single family homes abutting the site to the south, east, and west side. The north side of the property is neighbored by the Hudson Valley Hospital Center.

B. General Existing Site Conditions

The site is located in a residential area, spanning 13.79 acres in total. Currently, the site is developed, and contains two 2-story frame buildings, one with detached garage, and a 18,914 SF medical office complex with on-site parking. To the southwest of these structures is a waterbody known as Orchard Lake.

C. Existing Storm Drainage & Sanitation

The current site has several drainage areas. Storm water on the northside of the site would discharge into the municipal stormwater sewer system on Crompond Road, while stormwater on the southside would discharge into Orchard Lake, located to the southwest of the property. There are minimal stormwater management practices on-site. The two residential structures at the north end directly discharge to Crompond Road. The medical office use at the south end

directly discharges into Orchard Lake. No pre-treatment or water quality treatment occurs on any site discharge with the exception of a small portion of the medical office parking lot added to the site after the implementation of the NYS Clean Waters Act. Water quality treatment for that portion consists of directing stormwater runoff to an open air dry settling pond, with spillover discharging to Crompond Road.

D. Existing Soil Conditions

3 Soil borings were conducted at the Project Site by Soil Mechanics Drilling Corp on April 3 & 4, 2017. The results indicated the general presence of Sandy Loam up to 10 feet and Medium Fine Sand mixed with rock fragments and varying silt percentages from 10 to 20 Feet.

The United States Department of Agriculture's Soil Resource Report identifies the Project Site as consisting of Charlton fine sandy loam (49.0%) 15-25 percent slopes; Fredon Silt Loam, (2.0%) 0, and Riverhead Loam (49.0%) 3-8 percent slopes. The Hydrologic Soil Group is primarily A and B for the site. The soil properties are discussed in more detail in the Soil Report generated by United States Department of Agriculture, Natural Resources Conservation Service (refer to Appendix C).

E. Description of Natural Drainage Areas of Existing Site

The general topography of the site is sloped towards the southwest side of the property with a slope ranging from 2% to 22%. One natural drainage area exists on the site because of the topography.

F. Water Bodies and Wetlands Impacted by the Site

There is an existing lake (Orchard Lake) on the Project site (See Appendix A or Site Plan – Location Map). The current topography of the site drains to the existing lake on the site. The construction work on this property should have little impact on the waterbody. Under the post-construction stormwater management regime, runoff from the developed portions of the site will be captured in the proposed drainage system, treated with one of the various implemented systems, then discharged into Orchard Lake or the municipal storm sewer system.

G. Environmentally Sensitive Areas

The south side of the project site currently falls under a state regulated wetland checkzone, however does not encroach on any state regulated freshwater wetlands.

H. Historic or Archeological Resources

It is noted that improvements associated with the SWPPP will not have an effect on properties historically listed or eligible for listing by the New York State Office of Parks, Recreation and Historic Preservation (SHPO) (refer to results in Appendix F for resources used in determination); however the project does lie within a broader area identified as an Archeologically Sensitive Area. The project is already occupied by multiple commercial buildings and ancillary paving etc., and therefore already has seen much disturbance to the upper strata of soil. If archeologically significant items are discovered during construction, appropriate measures will be taken. Additionally, the Town of Cortlandt has taken lead

agency status for the SEQRA review which in itself will include an assessment of potential impacts to historic features. If impacts are identified, they will be addressed during the SEQRA review.

3. Proposed Development Description

A. Acreage of Disturbed Area / Proposed Pervious and Impervious Areas

The proposed work will result in 9.44 acres of total disturbance in one phase with an overall increase in impervious cover. The proposed construction includes general construction activities such as clearing, excavation and grading. Proposed development includes buildings, underground structures, pavement, landscaping, tree re-planting, porous pavement, on-site utilities, and other related site amenities.

All 9.44 acres will be cleared/disturbed at one time. Scope of Work is as follows:

Scope of Work:

1. Implement Erosion and Sedimentation Control measures.
2. Grade areas as specified within Scope.
3. Implement landscape plantings, grass, and irrigation.

As such the following additional requirements must be met in accordance with the NYS DEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002.

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

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

- 2) In areas where soil disturbance activity has been 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; as stated in Part II.C.3.b of the SPDES General Permit GP-0-15-002. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

The final state of the project site will be comprised of 1.95 acres of roof area (20.65% of the project area), 1.93 acres of asphalt pavement (20.44% of the project area), 1.69 acres of porous pavement (17.9% of the project area), 0.37 acres of concrete walkway (3.92% of the

project area), 3.07 acres of managed landscape (32.52% of the project area), and 0.43 acres to remain natural coverage (4.57% of the project area).

The proposed improvement plans located in Appendix B include locations and boundaries of the pervious and impervious areas.

B. Duration of Construction Activity

It is anticipated that the new construction activity will take approximately 24 months, beginning in September 2017 with a completion date of approximately September 2019. Construction phasing and related SWPPP activity is presented in Section 4.

C. Utility Services

Proposed utilities include water supply, gas, electric, sanitary, and telecommunications.

Fire protection and domestic water supplies for the new buildings will be connected to the existing mains located beneath the adjacent roadways. Potable water service will be provided by the Town of Cortlandt Water Division.

Con Edison will provide natural gas.

Sanitary will connect to the existing sanitary manhole and sewer system.

The proposed improvement plans located in Appendix B indicate the locations of these utilities.

D. Storm Drainage

Proposed stormwater drainage is calculated for the 8.84 acres of the total property area on which site improvements will be constructed. On-site runoff for the above mentioned 8.84 acres will be managed within the Project Site through the use of stormwater capture and treatment. The site has been graded to channel runoff to the proposed stormwater management systems on site, with additional inlets proposed to collect runoff from areas where capture cannot be accomplished through grading alone.

The proposed storm drainage system design provides sufficient storage to capture and treat the required Water Quality Volume, and to limit site stormwater discharge in the 10-year and 100-year storm events to pre-development discharge rates. A total detention volume of 67,781 cubic feet is provided over the 8.84-acre site.

For the purposes of stormwater management design, the site is divided into four sheds, each with its own discharge outfall. Outfalls 1, 3, and 4 are discharging into Orchard Lake located on the property. Only Outfall 2 discharges off the property. Post-treatment storm overflow from Outfall 2 is piped to the municipal storm drainage system located on Crompond Road, operated by the Town of Cortlandt.

The proposed improvement plans located in Appendix B indicate the proposed on-site drainage areas.

The General Contractor shall notify the Town of Cortlandt in writing of any planned amendments or modifications to the stormwater drainage system. Unless otherwise notified, any SWPPP amendment or modification shall be forwarded to the Town for review and comment. No action shall be taken on any amendment or modification until same is reviewed and accepted by the Town.

E. Pollution Prevention Measures

Pollution prevention measures will be taken to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters that use clean water only. Soaps, detergents and solvents cannot be used. Prevention of discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures shall be employed to prevent a violation of the water quality standards.

The following discharges are prohibited:

- Wastewater from washout of concrete
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
- Soaps or solvents used in vehicle and equipment washing
- Toxic or hazardous substances from a spill or other release.

During construction, trash receptacles and dumpsters shall be located throughout the construction site to control paper and construction debris and litter from traveling off-site. In addition, construction fences will be installed around the perimeter of the construction site, which will further control the release of debris and litter off-site into the surrounding area. Furthermore, there shall be scheduled patrols of the property throughout the day to collect any loose debris that may escape proper disposal. All drain inlets shall be screened upon installation and shall remain screened until final construction is completed. Any construction-phase chemicals will be securely stored in approved containers preventing accidental releases. All construction and demolition debris will be placed in appropriate containers and removed from the site daily.

F. Description of Materials Stored On-site

Equipment and materials necessary for construction and which require on-site storage shall be stored in areas designated for such purposes. Such equipment and materials include, but is not limited to, construction machinery, soil stockpiles, granular fill material, building materials, etc. All fuels, lubricants, coolants, etc., necessary for the operation and maintenance of construction machineries and equipment to be stored on site shall be covered and stored in appropriate containers. The contractor shall ensure proper storage conditions as to prevent leaks and spills. In addition, the contractor shall keep on-site measures for spill containment and remediation. Stockpiled soils shall be seeded and enclosed by silt fencing upon close of daily operations. The contractor shall take all measures to prevent sediment conveyance outside of the designated stockpile area. Sanitary waste from portable sanitation units will be collected as needed. The contractor shall assume all responsibility for maintaining the integrity of all materials stored on site in conformance with the SWPPP and General Permit.

G. Minimizing Soil Compaction

Any area to be vegetated after development should be designated as a minimal disturbance area. Heavy machinery usage, equipment and material storage- including heavy machinery storage and large, palletized building material storage, will be limited to areas that will be built or paved during construction to minimize compaction. The Contractor shall take all measures to limit soil compaction in areas to be vegetated after development. When prevention is unavoidable, measures should be taken, including use of minimum 8-inch mulch for areas with light pedestrian and vehicular traffic, 8-inch of mulch over geotextile where light to medium traffic is anticipated; and ¾" plywood over 8-inch mulch where heavy traffic is anticipated. Due to the nature of construction scheduling and storage, additional fencing shall not be employed, however, the Contractor shall follow the requirements stated within this section. Minimizing soil compaction is not required where the intended function of specific area of the site that dictates that it be compacted. For areas that are to remain fully pervious following development, a program of soil remediation can be employed - using techniques such as aeration and compost amendment. These techniques should be employed during the final phases of a construction project.

4. Construction Sequencing

Overall, the project will be scheduled in one phase. Phase 1, discussed in Section 3.A., comprise the scope of the SWPPP.

To ensure the SWPPP is carried out properly, the following sequence shall be used as a guide:

1. Limits of construction shall be identified & staked.
2. Temporary site protection structures, inlet protection of existing stormwater structures to remain & silt fences installed around the perimeter of the Project Site. Site access/entrance area shall be stabilized and tree protection if indicated on plan. Silt fence to remain until final stabilization is achieved. Contractor is responsible to repair or replace silt fence and inlet protection as necessary throughout the construction.
3. Demolition and Clearing (All erosion control & temporary stormwater measures to be maintained).
4. Excavation and grading.
5. Construction of proposed structure and retaining walls.
6. Utilities, drainage and infrastructure installation. (Trenches to be backfilled in a timely manner and temporary stabilization to be employed if bare soil is to be exposed) (Permanent stormwater structures to be protected from siltation)
7. Installation of paved surfaces.
8. Install permanent landscaping and remove all temporary erosion control measures following site stabilization.

Erosion and sediment controls measures shall be installed, maintained, and removed in accordance with the above sequencing. Any variations in construction sequence shall be so amended in the SWPPP.

5. Stormwater Pollution Prevention Plan

The scope of the SWPPP includes an integrated approach to stormwater management and erosion & sediment control as indicated in the enclosed plans. The proposed temporary and permanent

structures/practices seek to maintain pre-development flow rates and water quality during the construction phase of the project. The purpose of the SWPPP is to ensure that the stormwater management goals of the project design are met during construction activities and prior to final installation of the proposed site stormwater system.

The Erosion Control Plan (prepared by Cameron Engineering & Associates, LLP are included on the Drawings included in Appendix B) and SWPPP have been prepared in conformance with the technical standards referenced in Parts III.B.1,2 and/or 3. Methods called for during construction include installation of silt fencing, designated stockpile areas, designated construction entrance/exit for construction vehicle tire maintenance and washing (if necessary), and temporary stormwater inlet protection measures. Stormwater shall be directed to the proposed drainage structures (refer to proposed improvement plans located in Appendix B).

A. Stormwater Management Objectives

In order to preserve the quality and reduce the quantity of stormwater leaving the Project Site during construction; post construction improvements are in Appendix B):

- Proper grading of the property will prevent runoff from being directed off-site.
- Provide a permanent on-site stormwater drainage system that will collect and control on-site stormwater in a system of inlets, pipes, and stormwater detention/infiltration system.
- Utilize best management practices to control the erosion of on-site soil and sediment through control measures, which shall be installed and maintained as per New York State Standards and Specifications for Erosion and Sediment Control on an as needed basis.
- Provide stabilization of the soils through a combination of temporary and permanent best management practices (i.e., temporary and permanent plantings, paving, and silt fencing.)
- The stormwater treatment systems will incorporate the use of catch basins, drain inlets, storm water detention chambers, and storm water filtration systems to direct storm water runoff from the impervious portions of the site into the ground for filtration and recharge.

B. Erosion and Sediment Control

The prevention of sediment and stormwater from leaving the Project Site is the primary focus of the SWPPP. Multiple proven techniques have been included to prevent the projects construction from having an adverse impact on adjacent existing sites and/or existing storm sewer systems. Such techniques, which are incorporated into this Project, are:

Pre-Development

- Mark out clearing limits.
- Silt fencing around the perimeter of the disturbed area prior to the commencement of construction activity to be maintained daily.
- Gravel construction entrance. Water will be made available for a wash out area for all vehicles leaving the site if necessary.
- Staging area.
- Install protection around all trees within limit of disturbance that are to remain.

During Construction

- Daily maintenance of erosion and sediment controls.
- A dedicated area for stockpiling of soil. If excavated material is to be temporarily stockpiled on-site, stockpiles shall be in designated areas and stabilized as noted on the Erosion Control Plan.
- Inlet protection of new on-site stormwater chambers, and inlets.
- Temporary stabilization seeding to any area which is to remain inactive.

Post Construction

- Installation infiltration chambers.
- Stabilize Project Site with either paved/impervious surfaces or landscaped areas.
- Steep slopes have been avoided through the use of proper grading techniques.
- Clean all drainage structures if silted up.

6. Implementation

A. SWPPP Implementation Responsibilities for Installation, and Maintenance.

The General Contractor will be responsible for all construction activities, site grading and installation of the erosion and sediment controls as defined within the SWPPP and Erosion Control Plan. The signed certification statement from the site contractor (and sub-contractors if applicable) involved with the construction activity as required by part III.A.6 of the SPDES General Permit GP-0-15-002 can be found in appendix G.

The General Contractor 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 NYS DEC in accordance with Part V of the SPEDES General Permit. This includes any changes made to the SWPPP pursuant to Part III.A.4 of the SPEDES General Permit.

The General Contractor shall maintain a copy of the most recent version of the NYS DEC SPDES General Permit -GP-0-15-002 (See Appendix I) , NOI, NOI Acknowledgment Letter, SWPPP, and inspection reports at the construction site until all disturbed areas have achieved final stabilization and the NOT has been submitted to the NYS DEC. These 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.

B. Inspections

The trained contractor shall inspect, in accordance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times.

The owner or operator of each construction activity 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. All inspection reports and details shall be kept on-site and recorded.

The owner or operator shall have a qualified inspector conduct site inspections in accordance with the Qualified Inspector Inspection Requirements (Part IV.C.2.b) of the SPDES General Permit GP-0-15-002. 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 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.

At a minimum, the qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to insure 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 bodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site. The qualified inspector shall prepare an inspection report subsequent to each and every inspection.

C. Maintenance

Temporary Maintenance Measures: (Responsibility of the General Contractor)

Maintenance of all temporary erosion and sediment control measures will be performed on an as-needed basis to ensure effectiveness. Recommendations for erosion control measures include the following:

- Remove sediment from silt fencing when sediment becomes 0.5 ft. deep at the fence.
- Clean (or replace) inlet protection when storage capacity is 50% filled.
- Stabilize (seed or mulch) areas to remain inactive for over 7 days.
- Supplement stone at the construction entrance as necessary to ensure area is stabilized and to minimize dust and ponding.
- Separate area for cement truck washout; purpose to receive chute debris and control dust and sediment on mixers.
- Seeding, Sodding and Top-soiling shall be implemented by the contractor as he sees appropriate depending on weather conditions and conditions of soils during construction.

Permanent Maintenance Measures: (Responsibility of the Owner)

Routine maintenance of all permanent stormwater management controls and drainage structures located on-site will be the responsibility of the building owner upon completion of construction activities. Routine maintenance for permanent stormwater structures and practices include:

- Monitoring of the drainage inlets should be completed routinely, particularly after large storm events and should be kept free from obstruction of leaves, trash, and other debris.
- Drainage grates should be kept free from obstruction of leaves, trash, and other debris.
- Drainage structures should be initially inspected annually to determine if sediment removal is necessary to ensure drainage structures are properly functioning and permit adequate conveyance throughout the system and establish the frequency of

future maintenance. If applicable, the manufacturer's specifications for maintenance procedures and frequency should be strictly followed.

- The drainage structures should be routinely monitored, including the removal of surface sediment and trash.

D. Termination of Coverage

Once 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 storm water management practices have been constructed in conformance with the SWPPP and are operational, the General Contractor shall terminate permit coverage by submitting a completed Notice of Termination (NOT) form to New York State Department of Environmental Conservation (NYS DEC).

The Owner/Operator shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, any inspection reports that were prepared in conjunction with this permit, and Notice of Termination (NOT) for a period of at least five (5) years from the date that the site achieves final stabilization.

7. Hydrologic & Hydraulic Analysis of the Storm Water Control System

Water Quality Volume is met for all site outfalls, and the entire developed site is accounted for in the calculations below. As is the analysis for Channel Protection Storage Volume.

As described above in Section 3.D, only Outfall 2 discharges stormwater off-site. As such, the hydrological analysis performed on pre- and post- development for Overbank Flood Control and Extreme Flood Control focuses on Outfall 2. Outfalls 1, 3, & 4 discharge into Orchard Lake. Downstream effects of the proposed development within the areas of Outfalls 3 and 4 are attenuated by the use of porous pavement in the entirety of the shed areas to match pre-development discharge rates. In the shed areas of Outfall 1, the redevelopment of the existing use within that area will reduce the total impervious coverage under the post-development regime. So in these outfall areas, the Overbank Flood and Extreme Flood criteria are met. The stormwater shed area for Outfall 2 required on-site stormwater detention, in order to meet Overbank Flood and Extreme Flood criteria, and therefore hydrological analysis is provided to show adequate performance of the proposed stormwater management practices in attenuating the downstream effects under the post-development site regime.

See Appendix H for calculations and values used in the formulas described below.

The New York Stormwater management Design Manual provides guidance for a unified approach to sizing permanent storm water management practices (SMP's) to ensure adequate containment and conveyance of storm water resulting from the proposed development.

A. Water Quality Volume (WQv)

The criteria outlined in the above referenced design manual specifies that SMP's should be designed to capture and treat 90% of the average annual storm water runoff volume, known as the Water Quality Volume (WQv)

1. WQv Required

$$WQv \text{ Required} = P \cdot Rv \cdot A / 12$$

Based on the above formula, the required WQv for the Project Site is 0.735 Acre-Feet.

2. WQv Provided

$$WQv \text{ Provided} = \text{Cubic Feet Storage Provided} / 43,560$$

Based on the above formula, the proposed WQv for the Project Site is 1.533 Acre-Feet.

It should be noted that the calculations do not account for infiltration that will occur as stormwater enters the system and recharges to subsurface soils.

In summary, the proposed drainage system as designed, adequately complies with the NYS DEC 90% capture and treatment requirements as outlined in the stormwater design manual, since the system provides treatment and storage which exceeds the required calculated water quality volume.

B. Channel Protection Storage Volume (CPv)

The Design Manual requires that stream and channels be protected from erosion. This is accomplished by providing 24 hour extended detention for a one year, twenty-four hour storm event known as the Channel Protection Storage Volume (CPv).

1. CPv Required

The required CPv was calculated utilizing the TR-55 methodology for calculating runoff, which predicted a 2.9 inch depth of runoff for a 1 year storm event. Applied over the area of the Project Site, the required CPv for the site is 0.764 Acre-Feet.

2. CPv Provided

$$CPv \text{ Provided} = \text{Cubic Feet Storage Provided} / A \cdot 43,560$$

Based on the above formula, the proposed CPv for the Project Site is 1.108 Acre-Feet.

In summary, the proposed drainage system as designed, adequately complies with the NYS DEC Channel Protection Storage Volume requirements as outlined in the stormwater design manual, since the system provides treatment and storage which exceeds the required calculated water quality volume required of a 1 year, 24 hour Rainfall Event.

C. Total Overbank Flood Control Criteria (Qp)

The Design Manual requires that Overbank Flood Control Criteria (Qp) be met. This consists of controlling the peak discharge from the 10-year storm event to 10-year pre-development rates. Factors in determining the Qp include total area, Impervious area, hydrological group of soil, flow length, and slope. The Qp is measured in Cubic Feet per Second (CFS)

1. Qp (Pre-Development)

The Pre-Development Qp for Outfall 2 is 3.22 cfs.

2. Qp (Post-Development)

The Post-Development Q_p for Outfall 2 is 0.0 cfs.

The proposed combination of porous pavement gravel and underground infiltration chambers within the shed area of Outfall 2 will provide up to 1.11 ac-ft of storage. The calculated runoff volume from a 10-year storm event is 0.93 ac-ft. As such, the volume of storage provided exceeds the predicted 10-year storm runoff volume.

In summary, the proposed Project Site as designed, adequately complies with the NYS DEC Overbank Flood Control Criteria (Q_p) primary purpose since the design prevents an increase in the frequency and magnitude of out-of-bank flooding generated by urban development as outlined in the stormwater design manual.

D. Total Extreme Flood Control Criteria (Q_f)

The Design Manual requires that Extreme Flood Control Criteria (Q_f) be met. This consists of controlling the peak discharge from the 100 year storm event to 100 year pre-development rates. Factors in determining the Q_f include total area, Impervious area, hydrological group of soil, flow length, and slope. The Q_f is measured in Cubic Feet per Second (CFS).

1. Q_f (Pre-Development)

The Pre-Development Q_f for Outfall 2 is 12.13 cfs.

2. Q_f (Post-Development)

The Post-Development Q_f for Outfall 2 is 4.10 cfs.

The post development Q_f for Outfall 2 is less than the pre-development rate. In summary, the proposed Project Site as designed, adequately complies with the NYS DEC Extreme Flood Control Criteria (Q_f) intent of (a) prevent an increased risk of flood damage from large storm events, (b) maintains the boundaries of the predevelopment 100 year floodplain, and (c) protect physical integrity of stormwater management practices, as outlined in the stormwater design manual.

8. Six Step Runoff Reduction Process

1. Site Planning

Use practices identified in table 3.1 of the New York State Stormwater Design Manual to protect natural resources and utilize the hydrology of the site before laying out the development.

Practices utilized include:

- Preservation of natural and undisturbed areas
- Preservation of buffers

2. Determine Water Quality Treatment Volume (WQv)

Calculate the water quality volume once the preliminary site layout is prepared, impervious areas are defined, and sub-catchments are delineated.

- Refer to section 7.A.1 for WQv required.

3. Apply Runoff Reduction Techniques and Standard SMPs with RRv Capacity (e.g. infiltration practices, bio-retention and open channel practices) to reduce Total WQv.

Experiment with combinations of runoff Reduction techniques and standard SMP's with RRv capacity on the site.

Practices resulting in reduction of contributing area include:

- Preservation/restoration of conservation areas, vegetated channel, etc.

Practices resulting in reduction of contributing volume include:

- Porous pavement
- Rain gardens
- Infiltration practices

100% of the proposed stormwater management system utilizes the techniques listed above; therefore the requirement to meet the WQv utilizing Runoff Reduction Techniques is fulfilled.

4. Determine the Minimum RRv required

Determine the minimum RRV required for the construction activity as calculated using criteria in section 4.3 of the Design Manual.

Minimum RRv = 0.735 acre-feet

5. Apply Standard Stormwater Management Practices to Address Remaining Water Quality Volume

Use standard SMP's to meet additional water quality requirements that cannot be addressed by applying green infrastructure techniques.

- 100% of the proposed stormwater system utilizes techniques listed in section 8.3; therefore the step 5 requirement is fulfilled.

6. Apply Volume and Peak Rate Control Practices if Still Needed to Meet Requirements.

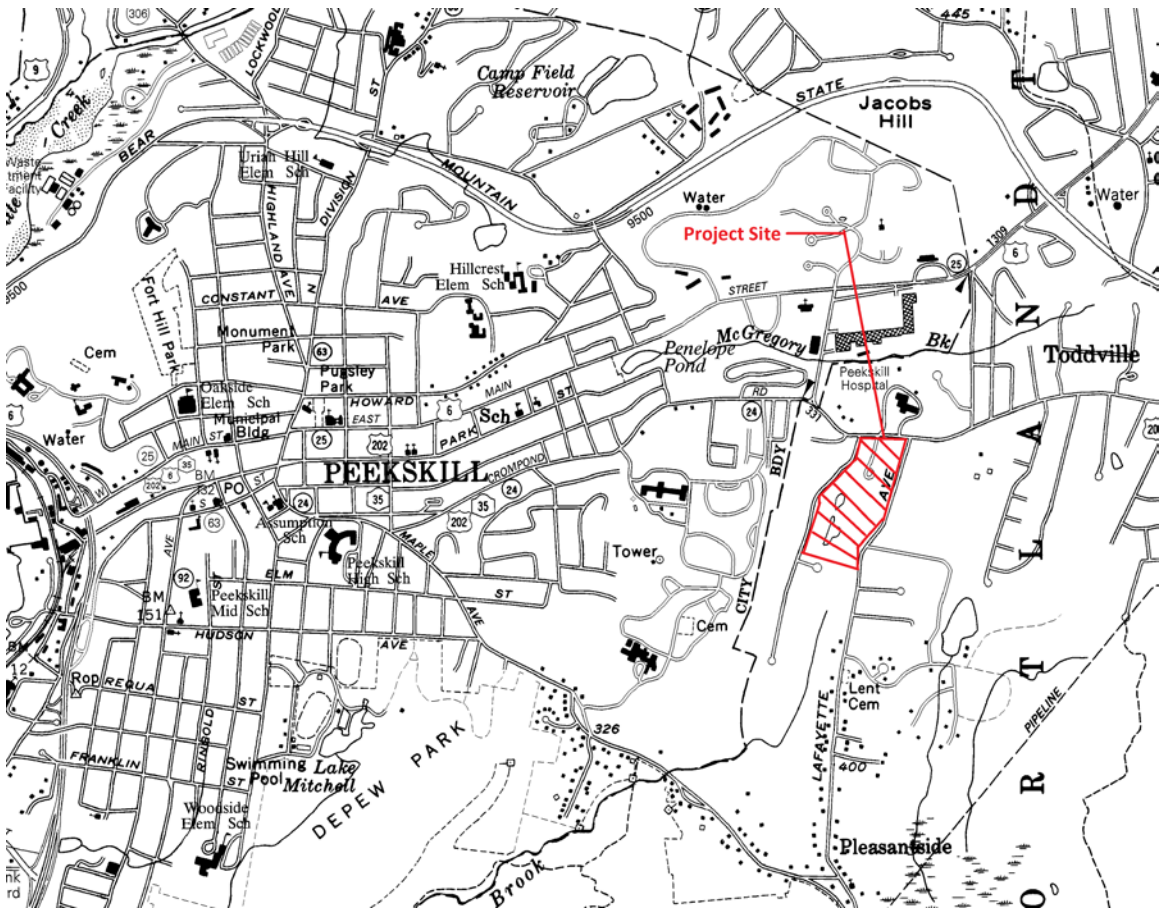
The channel protection volume, overbank flood control, and extreme flood control must be met for the plan to be completed. Use practices such as infiltration basins, dry detention basins, and blue roofs to meet water quality requirements.

- 100% of the proposed stormwater system utilizes techniques listed in section 8.3; therefore no action in step 6 is required.

APPENDIX A

SITE LOCATION

LOCATION MAP



Gyrodyne, LLC – Mod Mixed-Use Campus – Phase 1
1985 Crompond Road
Town of Cortlandt
Westchester County, NY 10567



Environmental Resource Mapper

Base Map: Topographical



Search

Tools

Layers and Legend

- Unique Geological Features
- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands
- State Regulated Wetland Checkzone
- Significant Natural Communities
- Natural Communities Near This Location
- Rare Plants and Rare Animals

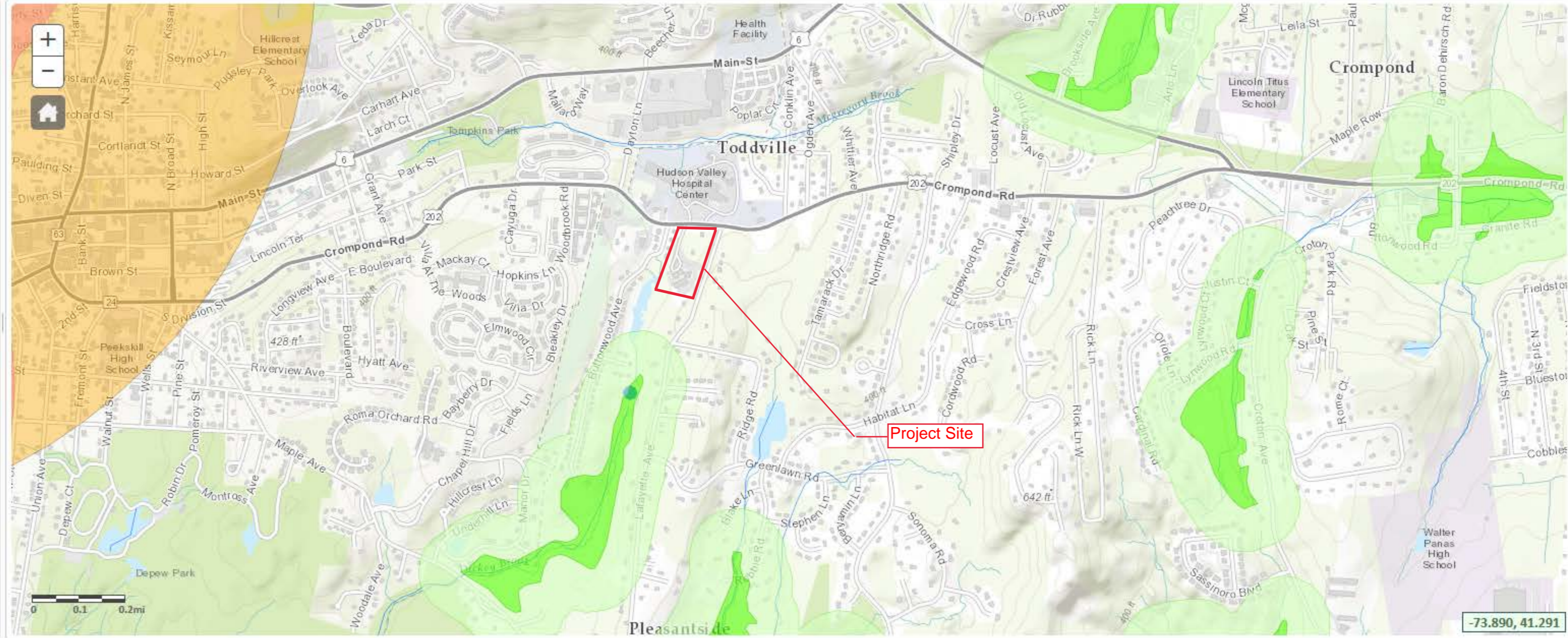
Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

Contacts



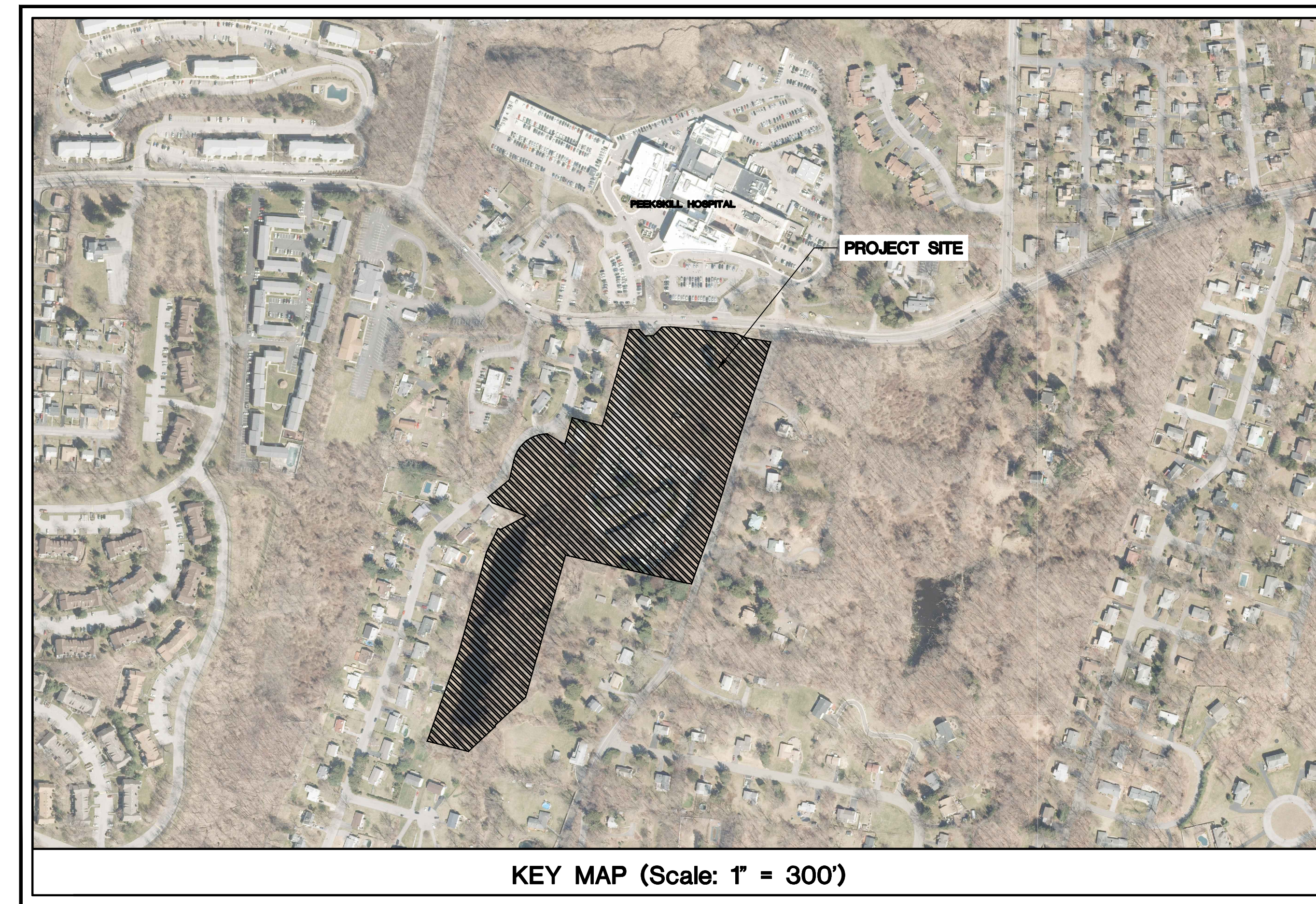
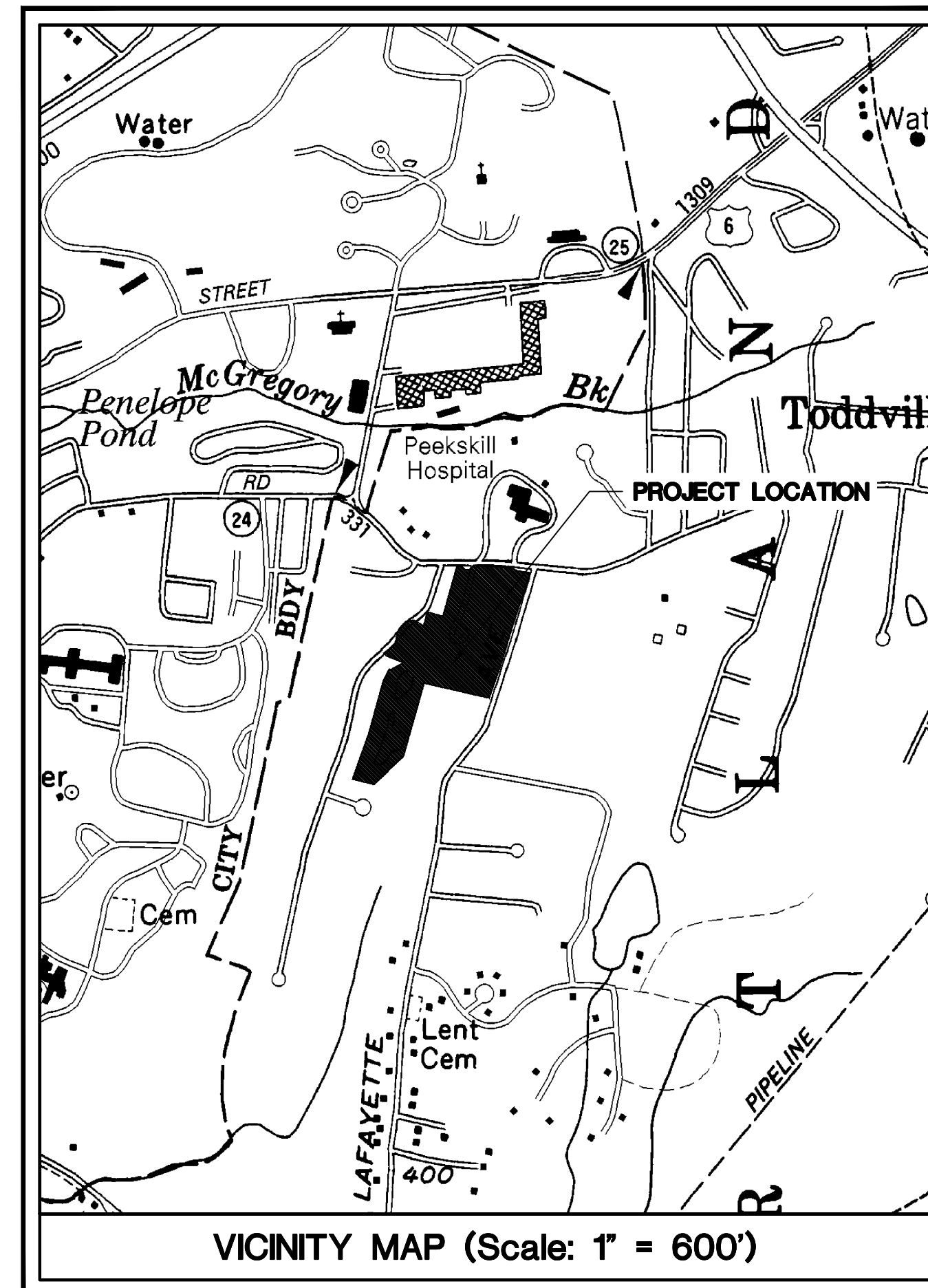
APPENDIX B

PROJECT IMPROVEMENT PLANS

GYRODYNE, LLC - MOD MIXED-USE CAMPUS

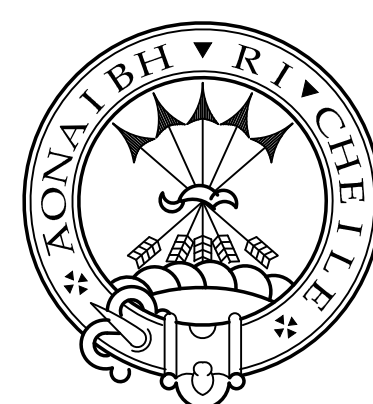
TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY

Site Plan Approval Drawings



LIST OF DRAWINGS	
DRAWING No.	TITLE
--	COVER
C1.0	OVERALL SITE PLAN
C1.1	EXISTING CONDITIONS & REMOVALS PLAN
C1.2	EXISTING CONDITIONS & REMOVALS PLAN
C2.1	SITE PLAN
C2.2	SITE PLAN
C3.1	GRADING & DRAINAGE PLAN
C3.2	GRADING & DRAINAGE PLAN
C4.1	UTILITY PLAN
C4.2	UTILITY PLAN
C5.1	LANDSCAPE PLAN
C5.2	LANDSCAPE PLAN
C6.1	EROSION & SEDIMENT CONTROL PLAN
C6.2	EROSION & SEDIMENT CONTROL PLAN
C7.1	LIGHTING PLAN
C7.2	LIGHTING PLAN
C8.1	DETAILS (1)
C8.2	DETAILS (2)
C8.3	DETAILS (3)
C8.4	DETAILS (4)
C8.5	DETAILS (5)
C8.6	DETAILS (6)

PREPARED BY:

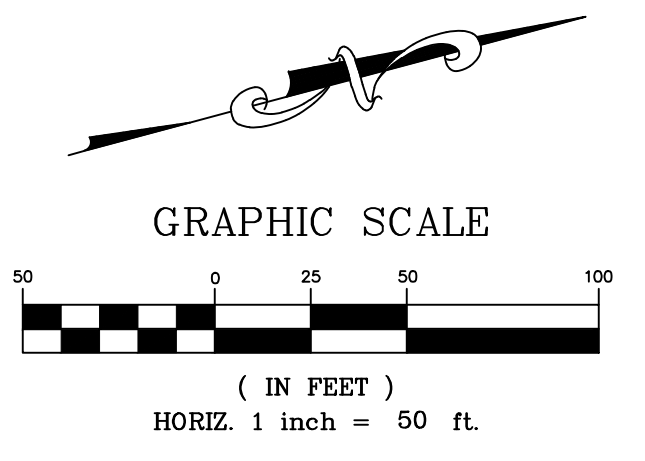


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1411 Broadway, Suite 610, New York, NY 10018 T: (212) 324-4000
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PROJECT NAME:
GYRODYNE, LLC – MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
SITE PLAN RENDERING

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

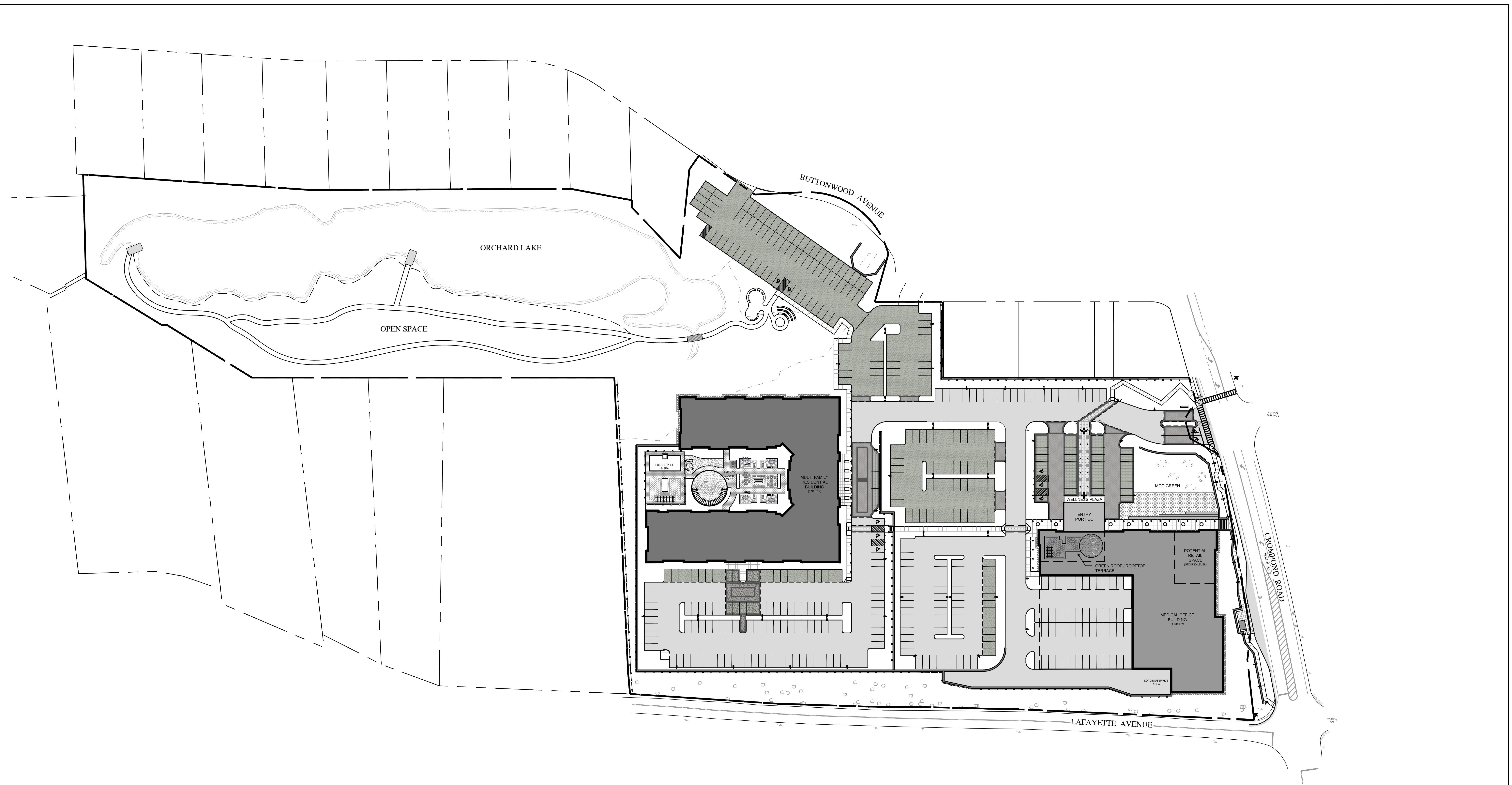
DATE:
03-30-2017

SCALE:
AS SHOWN

DRAWING NO.:
CO.0

SHEET
0 of 22

PLOT SCALE: 1/8"=1'-0" (1/4"=1'-0") DATE: 3/29/19 11:58 AM PROJECT: GYRODYNE, LLC - MOD MIXED-USE CAMPUS SHEET: CO.0



LEGEND (PROPOSED)

- ▬▬▬ PROPERTY LINE
- (L) LANDSCAPING
- (RG) RAIN GARDEN
- (RW) RETAINING WALL
- (A) ASPHALT
- (PA) ASPHALT
- (CM) CONCRETE WALK
- (CC) CONCRETE CURB
- (DP) DECORATIVE POROUS PAVER
- FOOT PATH

- SITE DATA**
- WESTCHESTER COUNTY TAX MAP: SECTION 33.12 / BLOCK 1 / LOT (S) 1, 2, & 3
SECTION 33.11 / BLOCK 3 / LOT (S) 5, 6, 7, 8, & 36
 - TOTAL SITE AREA: 600,793.38 SF (13.79 ACRES)
 - ZONING DISTRICT: MOD (PENDING TOWN ADOPTION)
 - OWNER / APPLICANT: GYRODYNE, LLC
1 FLOWERFIELD, SUITE 24, ST JAMES, NY 11780
 - THIS PLAN REFERENCES THE FOLLOWING:
A "SURVEY" PREPARED BY THOMAS C. MERRITTS LAND SURVEYORS, P.C., 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570,
LAST DATED 12/14/2016.
 - PARKING: REFER TO ADDITIONAL INFORMATION ON THIS SHEET
 - PROPOSED BUILDINGS:
NORTH BUILDING (4 STORIES): 100,000 SF (MEDICAL OFFICE)
4,000 SF (RETAIL)
SOUTH BUILDING (5 STORIES): 200,000 SF (RESIDENTIAL) / 200 APARTMENT UNITS

PARKING SUMMARY

Parking Required:

*Based on a shared parking analysis based upon Clifton Park zoning (as suggested by the Town) which utilizes percent occupancy by use by hour, there would be a peak occupancy of 635 spaces weekday and 384 spaces weekend. Current Plan shows 635 parking spaces.

Site Breakdown	Parking Ratio	# Spaces
20 - Dwelling	1.2 per unit	24
100 - 1 BR	1.3 per unit	130
30 - 2 BR	1.6 per unit	48
100,000 SF Medical Office	1 per 250 SF	400
2,000 SF Retail	1 per 250 SF	8
1,000 SF Dining Space	1 per 50 SF	20
8 - Rest. employees		8
		755

Shared Parking Chart (Clifton Park Section 208-20, Table A.1)

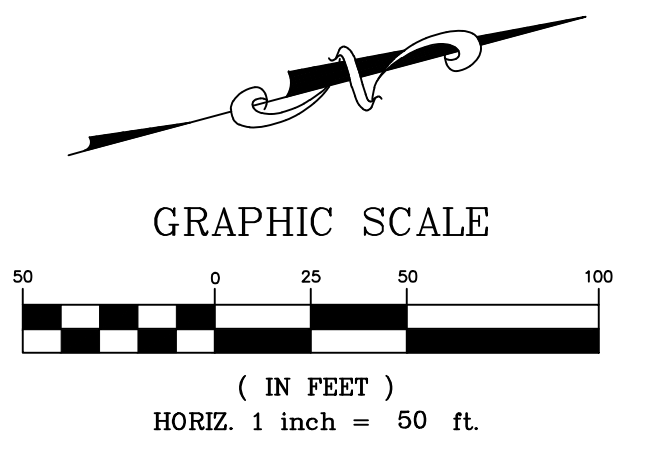
Use Type	Weekdays				Weekends			
	8am-6pm	6pm-12am	12am-8am	8am-6pm	6pm-12am	12am-8am	8am-6pm	6pm-12am
Residential	50%	100%	100%	80%	100%	100%	5%	5%
Office	100%	20%	5%	50%	5%	5%		
Retail	90%	80%	5%	100%	20%	5%		

Site Parking Usages by Time of Day

Use Type	Weekdays				Weekends			
	8am-6pm	6pm-12am	12am-8am	8am-6pm	6pm-12am	12am-8am	8am-6pm	6pm-12am
Residential	132	264	264	213	264	264		
Office	455	91	23	136	23	23		
Retail	50	29	2	36	25	2		
Project Total	637	384	289	384	312	289		

PARKING PROVIDED:
191 STRUCTURED PARKING SPACES (BELOW NORTH BUILDING)
444 AT-GRADE PARKING SPACES
635 TOTAL

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301 Tarrytown Road, 1st Floor, White Plains, NY 10603
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CCEP00000417

PROJECT NAME:
GYRODYNE, LLC – MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
OVERALL SITE PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

DATE:
03-30-2019

SCALE:
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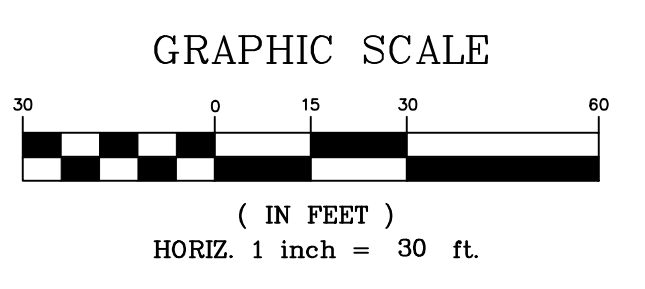
LEGEND (EXISTING)

- MANHOLES
- DRAIN/RETICULATION BASINS
- GAS VALVE
- WATER VALVE
- HYDRANT
- WATER SHUT OFF VALVE
- UTILITY POLE
- LIGHT POST
- TOP OF CURB
- BOTTOM OF CURB
- WATER MAIN
- DRAINAGE PIPE
- GAS MAIN
- SANITARY SEWER MAIN
- ELECTRICAL LINE
- CONDUIT LINE

LEGEND (PROPOSED)

- PROPERTY LINE
- LIMIT OF WORK
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- SOIL BORING LOCATION
- EXISTING ITEMS TO BE REMOVED AND/OR CLEARED/GRADED

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REFER TO NOTES ON SHEET C12

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
**EXISTING CONDITIONS &
REMOVALS PLAN**

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
CEJ338A

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.
CEJ338A

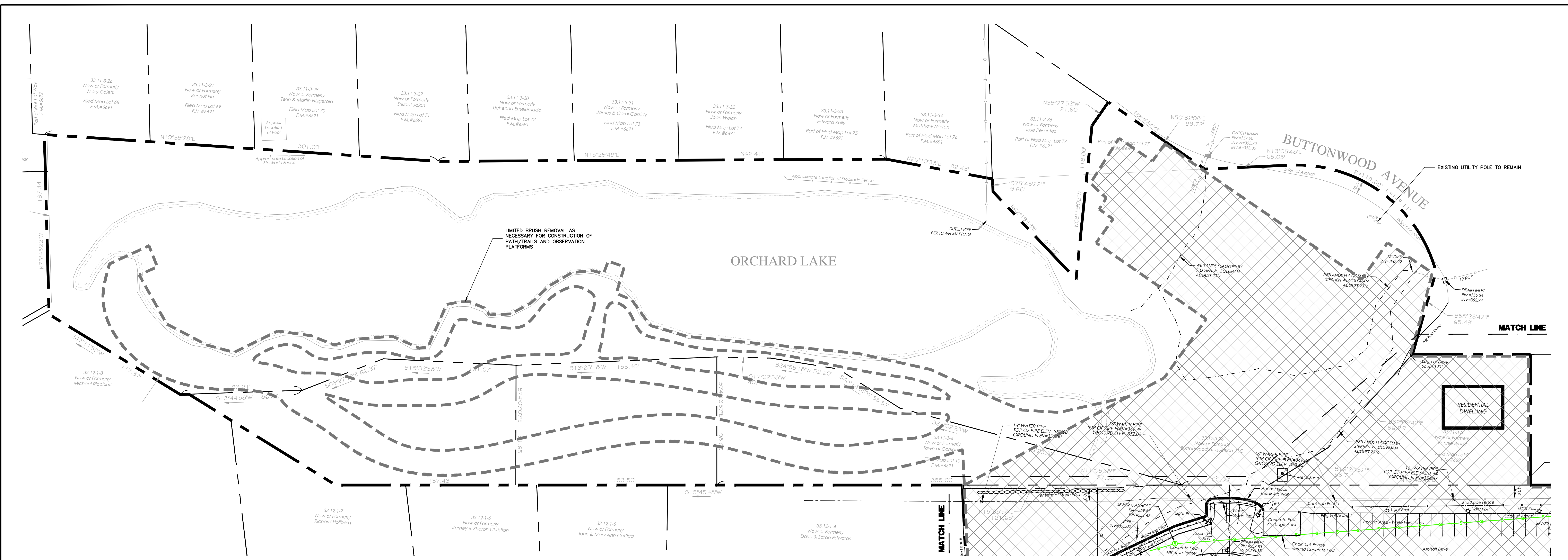
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19/03/2019 10:51:35 AM: C:\Users\mcameron\OneDrive\Documents\Projects\19-03-2019\19-03-2019 - Gyrodyne - Existing Conditions & Removals Plan.dwg - Printed by Ernest Berry



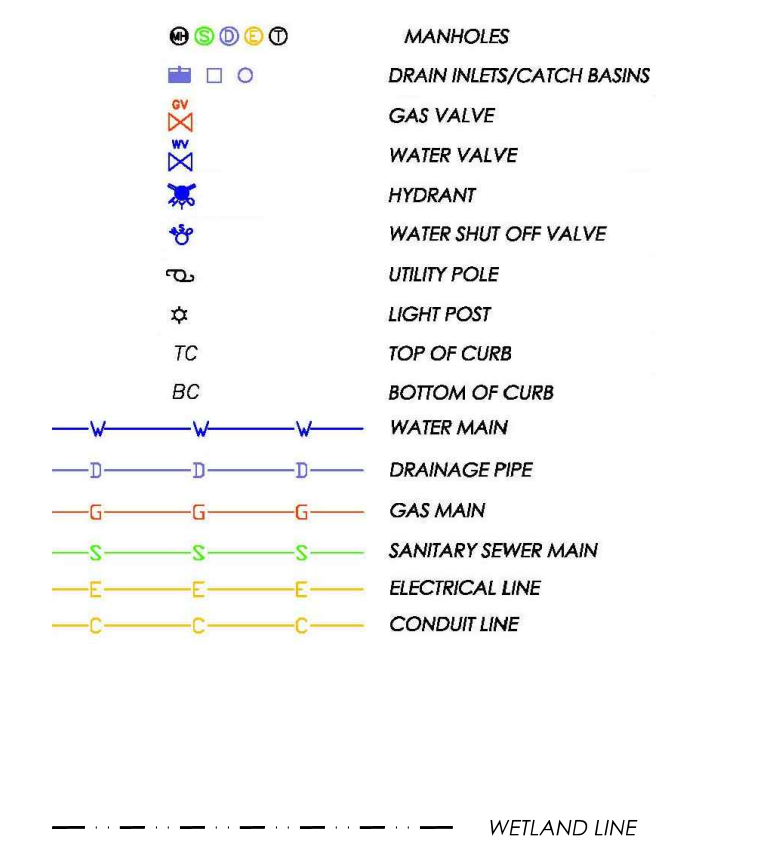
DEMOLITION NOTES

- ANY EXCAVATION RESULTING FROM DEMOLITION SHALL BE PROPERLY BACKFILLED WHERE APPLICABLE WITH CLEAN, GRANULAR MATERIAL, COMPACTED TO 95% PROCTOR DENSITY AND BACKFILLED TO MEET EXISTING ADJACENT GRADES. BACKFILL MATERIAL SHALL BE PLACED WITH MAXIMUM 9" LOOSE LIFTS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTION TESTING AND SHALL SUBMIT SUCH REPORTS AND VERIFICATION TO THE ENGINEER. WHERE BACKFILL IS UNDER OR NEAR BUILDING STRUCTURE, TESTING AND VERIFICATION SHALL BE COORDINATED AND SUBMITTED TO STRUCTURAL ENGINEER.
- DAILY, DURING DEMOLITION AND DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS AND/OR THE OPERATIONS OF HIS SUBCONTRACTORS EXCEPT RECYCLED CRUSHED CONCRETE. THE CONTRACTOR IS RESPONSIBLE FOR FINAL AND THOROUGH CLEANING OF ALL SURFACES, FINISHES AND EQUIPMENT BEFORE FINAL ACCEPTANCE BY THE OWNER.
- ALL EXISTING PAVEMENT SHOWN TO BE REMOVED SHALL BE SAWCUT.
- ALL CONSTRUCTION DEBRIS, ETC. SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL SHALL BE PROPERLY REMOVED & DISPOSED OF LEGALLY OFF-SITE IN ACCORDANCE WITH ALL LOCAL, TOWN, COUNTY, STATE AND FEDERAL CODES, ORDINANCES & LAWS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OR DISRUPTING FACILITY SYSTEMS, UTILITIES AND/OR OPERATIONS. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST WITHIN THE CONTRACT PERIOD FOR SUBSTANTIAL COMPLETION.
- A SIX-FOOT HIGH CHAIN LINK FENCE SHALL BE INSTALLED AND SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT BY THE CONTRACTOR AROUND THE LIMIT OF WORK.
- NO MATERIAL IS PERMITTED TO BE STORED OUTSIDE OF THE SUBJECT SITE PERIMETER.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARDS AND APPEALS' INDUSTRIAL CODE RULE 53 - "CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES", EFFECTIVE APRIL 1, 1975. THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF INDUSTRIAL CODE RULE 53.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES, PIPING, DRYWELLS, ETC. PRIOR TO THE START OF WORK ON & OFF SITE. ON SITE, THE DEMOLITION CONTRACTOR SHALL RETAIN A PRIVATE MARK-OUT SERVICES COMPANY, OFF-SITE, THE DEMOLITION CONTRACTOR MUST CONTACT THE "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 IMMEDIATELY. THE DEMOLITION CONTRACTOR IS ADVISED THAT UTILITY INFORMATION SHOWN ON THIS PLAN IS A COMPILATION OF FIELD LOCATIONS AND RECORD DRAWINGS AND MUST BE CONFIRMED ACCORDINGLY. THE DEMOLITION CONTRACTOR IS ALSO ADVISED THAT ALL SUCH UTILITIES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED AT THE DEMOLITION CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ABANDONED UTILITY SERVICE CONNECTIONS AND THE INSTALLATION OF NEW SERVICE CONNECTIONS, AND SHALL COORDINATE ALL WORK WITH THE APPROPRIATE UTILITY COMPANY. REMOVAL OF EXISTING STRUCTURES SHALL BE IN CONFORMANCE WITH THE REGULATIONS OF ALL APPROPRIATE AGENCIES AND UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS FOR DEMOLITION AND DISPOSAL OF EXISTING STRUCTURES AND MATERIALS.
- THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY ITEMS DAMAGED BY HIS WORK SHOWN OR NOT SHOWN ON PLANS, WHICH WERE SCHEDULED TO REMAIN OR NOT PART OF THIS CONTRACT.
- THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO BUILDINGS/STRUCTURES TO REMAIN. DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF FOUNDATIONS/WALLS/CURBS/SIDEWALKS AND PAVEMENT TO REMAIN AND PROVIDE A SAFE WORK AREA.
- REMOVAL SHALL INCLUDE ALL FOOTINGS, SLABS, FOUNDATIONS, UNDERGROUND PIPING AND STRUCTURES, UNLESS OTHERWISE NOTED.
- REFER TO SITE PLAN FOR ADDITIONAL INFORMATION CONCERNING CURRENT IMPROVEMENTS, GRADES, ETC.
- THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AND VEHICULAR TRAFFIC DURING DEMOLITION.
- THE CONTRACTOR SHALL REFER TO SOIL BORING TO OBTAIN GROUNDWATER AND GEOTECHNICAL INFORMATION PRIOR TO COMMENCEMENT OF DEMOLITION.
- THE CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITIES 48 HOURS BEFORE EXCAVATING, CUTTING, REMOVING OR TAPPING INTO ANY EXISTING UTILITY SERVICE. THE BUILDING DEPARTMENT SHALL BE NOTIFIED 48 HOURS BEFORE ANY SITE WORK BEGINS.
- THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A UTILITY TONE OUT COMPANY TO LOCATE ALL EXISTING UNDER GROUND UTILITIES BEFORE EXCAVATING, CUTTING, REMOVING OR TAPPING INTO ANY EXISTING UTILITY SERVICE.
- CONSTRUCTION SITE RUNOFF IS TO BE CONTAINED ON SITE THROUGH PROPOSED DRAINAGE SYSTEM, WHICH SHALL BE PROTECTED BY EROSION CONTROL MEASURES REFER TO EROSION CONTROL PLAN.
- GENERAL CONTRACTOR TO VERIFY EXISTING CONDITIONS, IF EXISTING CONDITIONS DIFFER FROM THIS PLAN, GENERAL CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS & APPROVALS HAVE BEEN OBTAINED PRIOR TO STARTING DEMOLITION.

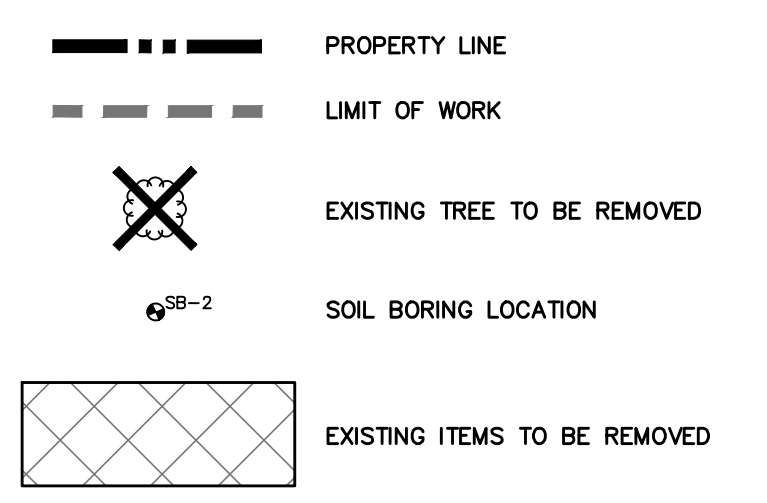
UTILITY NOTES

- THE CONTRACTOR IS HEREBY NOTIFIED THAT UNDERGROUND UTILITIES EXIST AT THE SITE. VERIFICATION AND FIELD MARKING OF LOCATION OF EXISTING UTILITIES IS REQUIRED PRIOR TO COMMENCEMENT OF WORK AND IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ANY DAMAGE OR DISTURBANCE TO EXISTING UTILITIES DURING THE DURATION OF THE CONTRACT IS TO BE REPAIRED/REPLACED "IN KIND" BY THE CONTRACTOR AT HIS OWN EXPENSE.
- GENERAL CONTRACTOR SHALL COMPLY WITH THE N.Y.S. INDUSTRIAL CODE RULE 53.

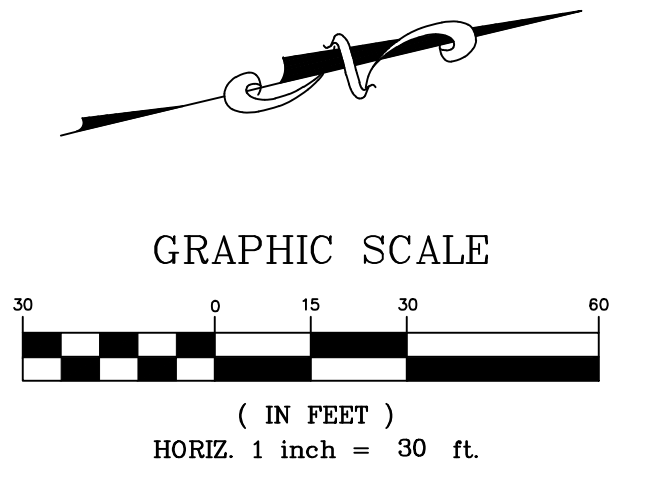
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LEGEND (PROPOSED)



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301 Eastview Road, 1st Floor, White Plains, NY 10603
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www.CameronEngineering.com

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
EXISTING CONDITIONS & REMOVALS PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
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JOB NO.:
CE338A

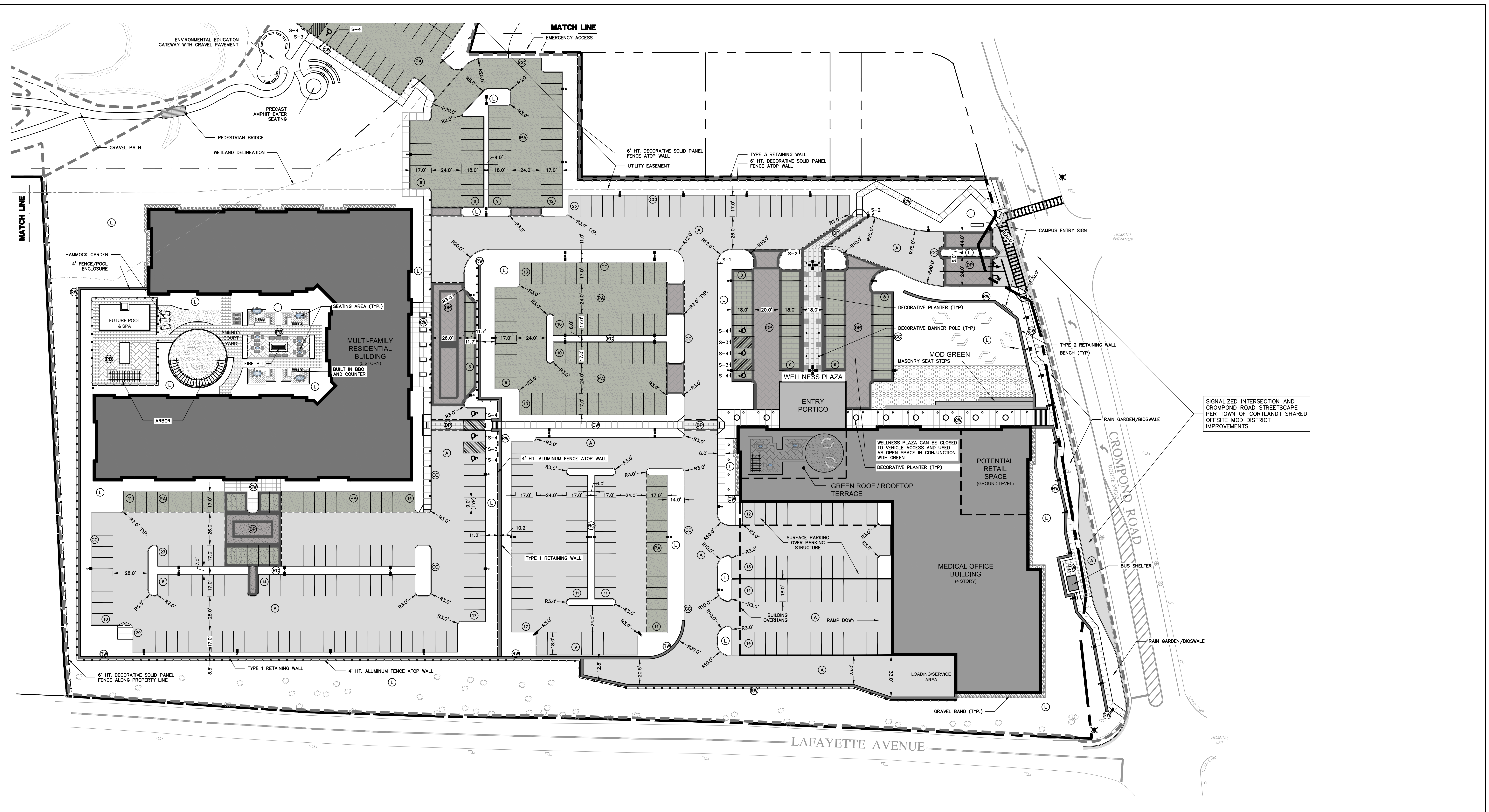
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3 of 22

FILED: 1/23/19 10:10 AM, Cortlandt, Municipal Office, 100 N. Broadway, Suite 400, New York, NY 10038. Printed by: Edward Barry



SIGNALIZED INTERSECTION AND CROMPOND ROAD STREETSCAPE PER TOWN OF CORTLANDT SHARED OFFSITE MOD DISTRICT IMPROVEMENTS

LEGEND (EXISTING)

●	MANHOLES
○	DRAIN INLET/CATCH BASINS
□	GW VALVE
○	WATER VALVE
○	HYDRANT
○	WATER SHUT OFF VALVE
○	UTILITY POLE
○	LIGHT POST
○	TOP OF CURB
○	BOTTOM OF CURB
—	WATER MAIN
—	DRAINAGE PIPE
—	GW MAIN
—	SANITARY SEWER MAIN
—	ELECTRICAL LINE
—	CONDUIT LINE

LEGEND (PROPOSED)

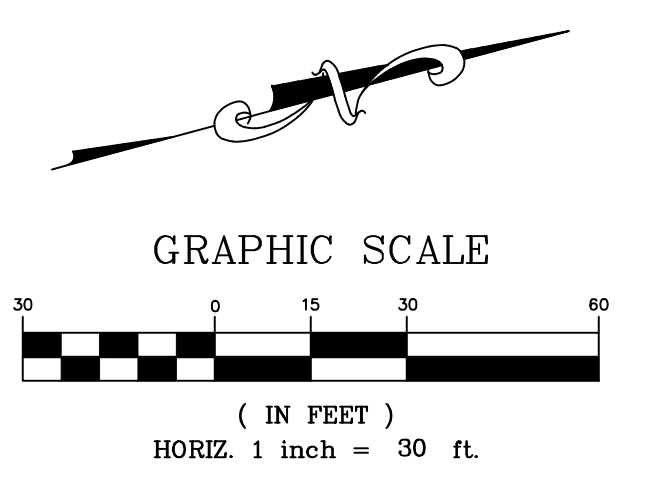
---	PROPERTY LINE
---	LIMIT OF WORK
○	LANDSCAPING
○	RAIN GARDEN
—	RETAINING WALL
○	ASPHALT
○	POROUS ASPHALT
○	CONCRETE WALK
○	CONCRETE CURB
○	DECORATIVE POROUS PAVER
○	POROUS BRICK

TRAFFIC & PARKING SIGNAGE SCHEDULE

SIGN SYMBOL	SIGN	MUTCD	LEGEND	SIZE	MOUNTING HEIGHT	MANUFACTURER
S-1	STOP	R1-1	STOP	30"x30"	7'-0"	
S-2	PEDESTRIAN CROSSING/ARROW PLAQUE	W11-2 W16-7	PEDESTRIAN CROSSING/ARROW PLAQUE	24"x24" 24"x12"	7'-0"	
S-3	NO PARKING ANYTIME	N/A	NO PARKING ANYTIME	12"x18"	7'-0"	
S-4	RESERVED PARKING (HANDICAP SYMBOL /VAN ACCESSIBLE)	R7-B R7-BP	RESERVED PARKING (HANDICAP SYMBOL /VAN ACCESSIBLE)	12"x18" 9"x18"	7'-0"	

NOTES:
 1) MOUNTING HEIGHT MEASURED FROM FINISHED GRADE OF WALKING SURFACE OR TOP OF CURB TO BOTTOM OF LARGEST SIGN.
 2) CONTRACTOR TO PROVIDE PRODUCT SUBMITTAL OF ALL SIGNS TO OWNERS REPRESENTATIVE.

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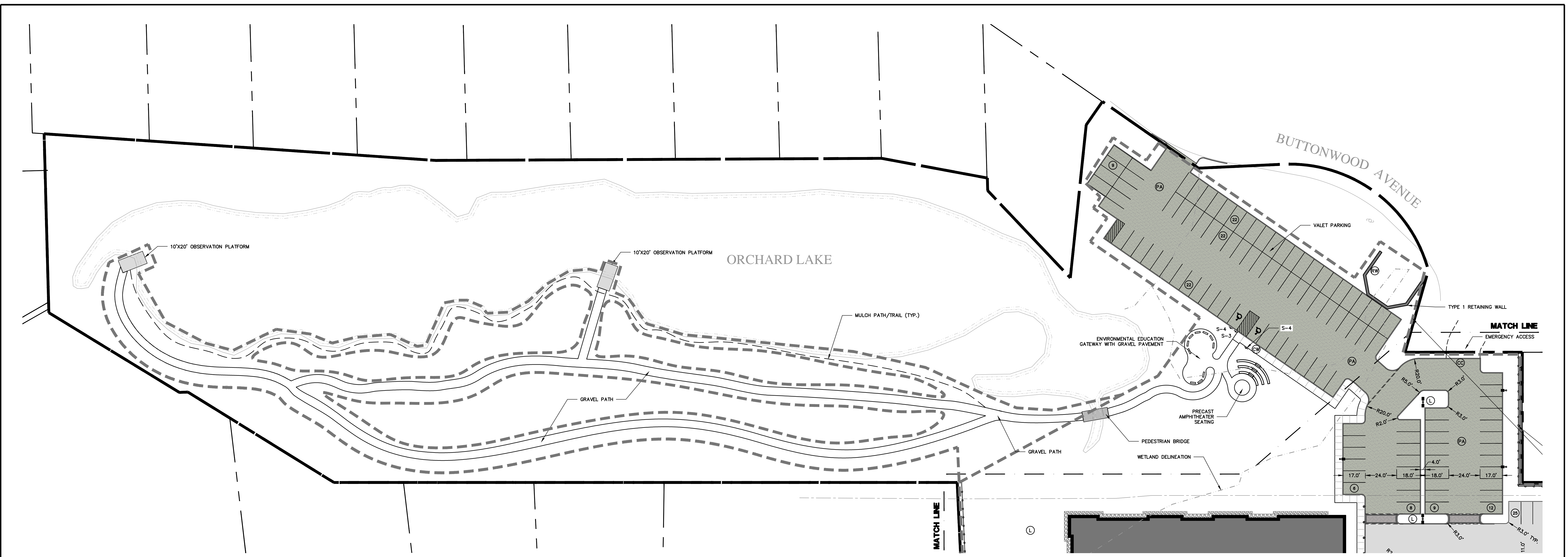
PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
SITE PLAN

DISCIPLINE:
CIVIL

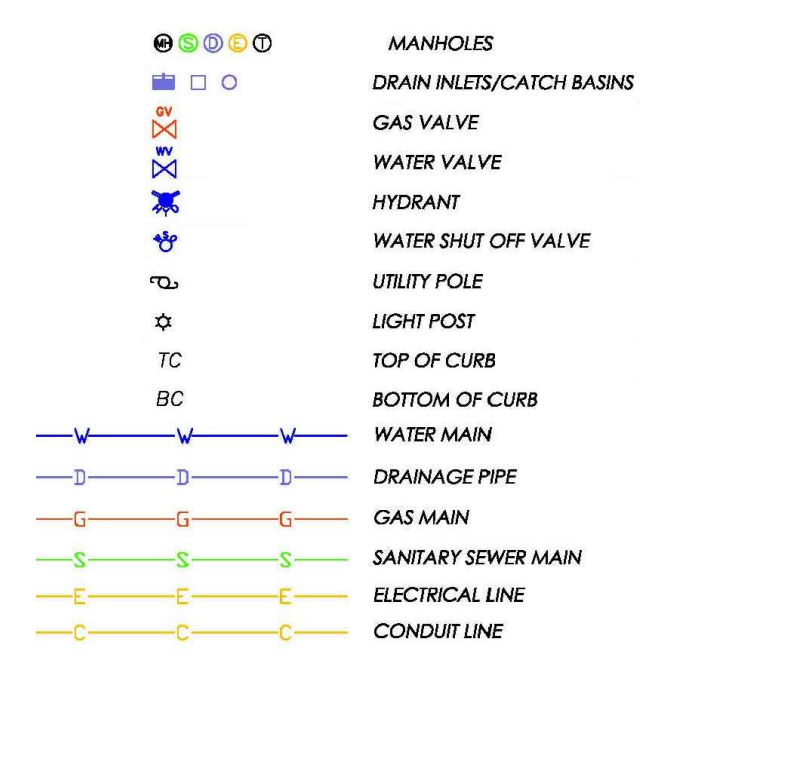
PROJECT ENGINEER: MAD	PROJECT NO. CE338A	DRAWING NO.
DESIGNED BY: MAD	JOB NO. CE338A	C2.1
DRAWN BY: MAD	DATE: 03-30-2017	
CHECKED BY: KMM	SCALE: AS SHOWN	SHEET 4 of 22



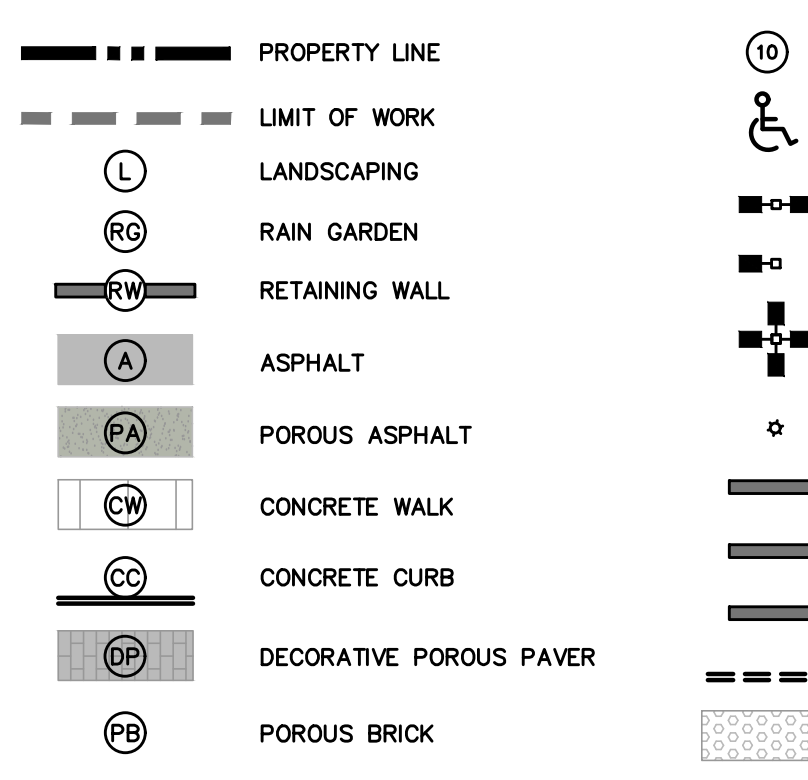
GENERAL SITE PLAN NOTES

- THIS PLAN REFERENCE: A "SURVEY" PREPARED BY THOMAS C. MERRITTS LAND SURVEYORS, P.C., 304 BEDFORD ROAD, PLEASANTVILLE, NY 10570, LAST DATED 09/15/2016.
- BEFORE SUBMITTING A BID, THE GENERAL CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE ENGINEERING DRAWINGS, EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW EQUIPMENT AND STRUCTURES WILL BE ROUTED, COORDINATING WITH NEW AND EXISTING WORK AND PROVIDING CLEARANCES WITH STRUCTURAL MEMBERS. THE GENERAL CONTRACTOR SHALL INCLUDE ALL COSTS OF ANY KIND WHATSOEVER WHICH ARE INCURRED THROUGH LIMITATIONS OF THE EXISTING AND NEW CONDITIONS. LATER CLAIMS FOR EXTRA LABOR, EQUIPMENT AND MATERIALS REQUIRED DUE TO DIFFICULTIES WHICH COULD HAVE BEEN FORESEEN WILL NOT BE CONSIDERED AS EXTRA WORK.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION AND DEPTH OF UTILITIES, PIPING, DRYWELLS, ETC. PRIOR TO THE START OF WORK. THE GENERAL CONTRACTOR MUST CONTACT THE "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 IMMEDIATELY. THE GENERAL CONTRACTOR IS ADVISED THAT UTILITY INFORMATION SHOWN ON THIS PLAN IS A COMPILATION OF FIELD LOCATIONS AND RECORD DRAWINGS AND MUST BE CONFIRMED ACCORDINGLY. THE GENERAL CONTRACTOR IS ALSO ADVISED THAT ALL SUCH UTILITIES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED AT THE GENERAL CONTRACTOR'S EXPENSE.
- ALL WORK SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES, AND ALL REGULATORY AGENCIES.
- ALL WORK, WHETHER SHOWN OR INFERRED, UNLESS SPECIFICALLY QUESTIONED, SHALL BE CONSIDERED FULLY UNDERSTOOD IN ALL RESPECTS BY THE GENERAL CONTRACTOR, AND THE GENERAL CONTRACTOR SHALL THEREBY BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONSEQUENCES THEREOF FOR ALL WORK ON ALL DRAWINGS.
- THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS WHICH COULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK, PRIOR TO THE START OF ANY AND ALL WORK.
- THE GENERAL CONTRACTOR SHALL IN ALL RESPECTS COMPLY WITH ALL REQUIREMENTS OF THE OWNER. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH REQUIREMENTS FROM THE OWNER. IN THE EVENT OF CONFLICT BETWEEN REGULATIONS AND OTHER CONTRACT DOCUMENTS, THE OWNER'S REPRESENTATIVE AND OWNER SHALL BE CONSULTED PRIOR TO THE START OF ANY AND ALL WORK.
- THE OWNER RESERVES THE RIGHT TO LET OTHER CONTRACTS IN CONNECTION WITH THE WORK OF THIS PROJECT. THE GENERAL CONTRACTOR SHALL COOPERATE WITH OTHER GENERAL CONTRACTORS AS REQUIRED TO CONFORM TO THE GENERAL CONSTRUCTION SCHEDULE AND SHALL AFFORD OTHER GENERAL CONTRACTORS REASONABLE OPPORTUNITY FOR THE INTRODUCTION AND STORAGE OF THEIR MATERIALS AND EQUIPMENT AND THE EXECUTION OF THEIR WORK.
- THE GENERAL CONTRACTOR AND EACH SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS, AND NOTING ALL APPLICABLE WORK AS SHOWN OR INFERRED. ALL WORK AS SHOWN OR INFERRED SHALL BE INCLUDED IN THE COSTS.
- THE GENERAL CONTRACTOR SHALL FIRST COORDINATE AND THEN SUBMIT ALL SUB-CONTRACTORS' SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO WORK BEING PERFORMED.
- ALL WORK SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS AND SHALL BE OF NEW AND BEST QUALITY. NO MATERIAL SUBSTITUTIONS SHALL BE MADE, EXCEPT BY WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE IN RESPONSE TO THE GENERAL CONTRACTOR'S WRITTEN REQUEST.
- ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE SUPPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY THE MANUFACTURERS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- THE GENERAL CONTRACTOR SHALL REPAIR AND RESTORE TO ORIGINAL CONDITION ANY EXISTING EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, AND DEMOLITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND AT NO ADDITIONAL COST TO THE OWNER.
- THE GENERAL CONTRACTOR SHALL MAKE REPAIRS USING THE SAME MATERIALS, AT THE GENERAL CONTRACTOR'S COST.
- THE GENERAL CONTRACTOR SHALL INCUR ALL COSTS AND BURDENS ASSOCIATED WITH LOST, STOLEN OR DAMAGED EQUIPMENT AND MATERIALS.
- THE UTILITIES AND SERVICES IN THE CONSTRUCTION AREA, AS SHOWN ON THE CONTRACT DRAWINGS ARE AT THE APPROXIMATE LOCATIONS FURNISHED BY THE VARIOUS UTILITIES CONCERNED AND/OR AS SHOWN ON RECORD DESIGN DOCUMENTS. WHENEVER EXISTING IMPROVEMENT INFORMATION IS EITHER INDICATED ON THE DRAWINGS OR SUPPLIED TO THE GENERAL CONTRACTOR AT A LATER DATE, IT IS UNDERSTOOD THAT SUCH INFORMATION IS FURNISHED IN GOOD FAITH FOR THE GENERAL CONTRACTOR'S CONVENIENCE. THE GENERAL CONTRACTOR MUST INTERPRET THIS INFORMATION ACCORDING TO HIS OWN JUDGMENT, AND MUST MAKE HIS OWN DETERMINATIONS REGARDING THE LOCATION OF ALL IMPROVEMENTS. NO CLAIM WILL BE ALLOWED BECAUSE OF INCORRECT, INCOMPLETE OR OMITTED EXISTING IMPROVEMENTS INFORMATION.
- ALL WORK, MATERIALS, SPECIFICATIONS, REGULATIONS, RULES, PERMITS, ETC., OF ALL STATE, COUNTY AND LOCAL GOVERNMENTS AND ALL UTILITY AGENCIES SHALL BE FOLLOWED BY THE GENERAL CONTRACTOR.
- UTILITY FORCES, GENERAL CONTRACTORS, OR OTHER PARTIES MAY BE EXPECTED TO BE WORKING WITHIN THE CONTRACT AREA DURING THE CONTRACT. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE HIS WORK UNDER THIS CONTRACT WITH THE WORK BEING DONE BY OTHERS IN ORDER THAT THE CONSTRUCTION MAY PROCEED IN AN EFFICIENT AND LOGICAL MANNER.
- THE GENERAL CONTRACTOR SHALL RESTORE ALL DISTURBED EXISTING FEATURES TO REMAIN TO A CONDITION EQUAL TO OR BETTER THAN CURRENTLY EXISTED.
- THE GENERAL CONTRACTOR'S ATTENTION IS DIRECTED TO THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARDS AND APPEALS INDUSTRIAL CODE RULE 53 - "CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES" EFFECTIVE APRIL 1, 1976. THE GENERAL SUB-CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF INDUSTRIAL CODE RULE 53.
- GENERAL CONTRACTOR IS CAUTIONED TO AVOID DISTURBING ANY FENCES, SHRUBS, TREES, ETC., THAT ARE ADJACENT TO HIS CONSTRUCTION WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. AS ORDERED BY THE ENGINEER, THE COST OF REPAIRING OR ADJUSTING ANY SUCH DISTURBED AREAS WILL BE AT THE GENERAL CONTRACTOR'S OWN EXPENSE. IN THE EVENT THAT TREES ARE ENDANGERED, THE GENERAL CONTRACTOR WILL TAKE ALL PRECAUTIONS TO PROTECT THEM, AS DIRECTED BY THE ENGINEER. PAYMENT FOR ANY NECESSARY WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.
- IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE THE ACTIVITIES OF ANY SUB-CONTRACTORS, OWNER CONTRACTED TRADESMAN, MUNICIPAL EMPLOYEES, UTILITIES, ETC., INVOLVED IN THE OVERALL SCOPE OF THE PROJECT, INCLUDING UNAWARDED ALTERNATE WORK, AS PREVIOUSLY DESCRIBED, AT NO COST TO THE OWNER. THE GENERAL CONTRACTOR WILL PREPARE A PROJECT SCHEDULE INCLUDING THE WORK OF ALL SUB-CONTRACTORS.
- BECAUSE THE PROPOSED IMPROVEMENTS ARE TO ENHANCE THE ASPECTS OF THE SITES, THE GENERAL CONTRACTOR IS NOTIFIED THAT THE GENERAL PUBLIC, SOME OF WHOM MAY BE POTENTIAL VANDALS, WILL BE IN THE AREA AT ANY HOUR. GENERAL CONTRACTOR SHALL PROTECT, AT ALL TIMES, THE PUBLIC AND HIS WORK FROM HARM. GENERAL CONTRACTOR SHALL BEAR ALL RESPONSIBILITY FOR HARM TO THE PUBLIC AND DAMAGE TO HIS EQUIPMENT, TOOLS AND MATERIALS.
- DEBRIS SHALL NOT BE BURIED ON SITE. GENERAL CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE MATERIALS AND DEBRIS IN FULL ACCORDANCE WITH APPLICABLE LOCAL, TOWN, COUNTY, STATE AND FEDERAL REQUIREMENTS.
- ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- ON & OFF-SITE TRAFFIC IMPROVEMENT SHALL COMPLY WITH THE LATEST "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) STANDARDS.
- ALL ASPHALT PAVEMENT PARKING AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SECTION & DETAILS.
- ALL PAVEMENT TO BE REMOVED SHALL BE SAWCUT.
- ANY BROKEN OR HAZARDOUS EXISTING SIDEWALK, DRIVEWAY APRONS AND CURBING ADJACENT TO AND ON THE SUBJECT SITE SHALL BE REPLACED IN ACCORDANCE WITH CURRENT STANDARDS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY REQUIRED ROAD OPENING PERMIT FROM THE LOCAL MUNICIPALITY, TOWN, COUNTY OR STATE.
- ALL EXCAVATION SHALL BE PROPERLY BACKFILLED WITH CLEAN EARTH AND COMPACTED TO 95% PROCTOR. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING COMPACTION TESTING.
- GENERAL CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO BUILDING WALLS/STRUCTURES TO REMAIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF FOUNDATIONS/WALLS/ FOOTINGS, SIDEWALKS, ETC. TO REMAIN. THE GENERAL CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DISTURBED EXISTING FEATURES TO A CONDITION EQUAL TO OR BETTER THAN CURRENTLY EXISTED.
- THIS FACILITY SHALL BE CONSTRUCTED IN ACCORDANCE WITH PLANS APPROVED BY THE LOCAL MUNICIPALITY, TOWN, COUNTY AND/OR STATE. A COPY OF THE APPROVED PLANS MUST BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.
- GENERAL CONTRACTOR TO ENSURE ADA COMPLIANT GRADES AT ADA ACCESSIBLE ROUTES. SEE GRADING PLAN FOR DETAILS.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL BARRICADES, SIGNS, LIGHTS, ETC., FOR MAINTENANCE AND PROTECTION OF TRAFFIC FOR THE DURATION OF THIS CONTRACT, ALL IN ACCORDANCE WITH THE LATEST NYS DOT MANUAL OF TRAFFIC CONTROL DEVICES.
- THE GENERAL CONTRACTOR SHALL COMPLY WITH ALL RULES, REGULATIONS AND DIRECTIVES OF THE LOCAL POLICE DEPARTMENT.
- THE GENERAL CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA CONFINED SPACE ENTRY REQUIREMENTS (29 CFR PART 1910) & SHEETING REQUIREMENTS (29 CFR PART 1926.650, 651, 652).
- NO SPEED BUMPS, BUMPER STOPS OR WHEEL STOPS SHALL BE INSTALLED AT THE SITE.

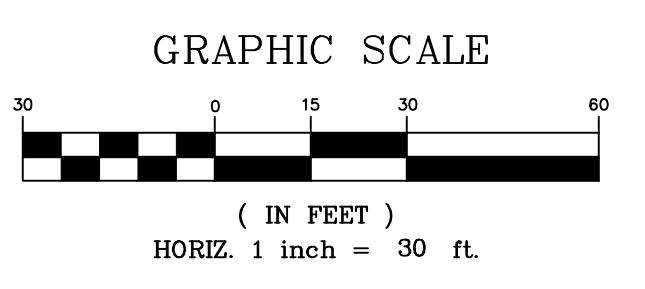
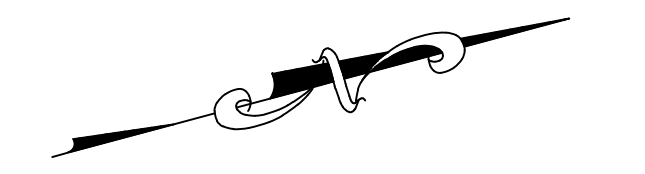
LEGEND (EXISTING)



LEGEND (PROPOSED)



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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
SITE PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
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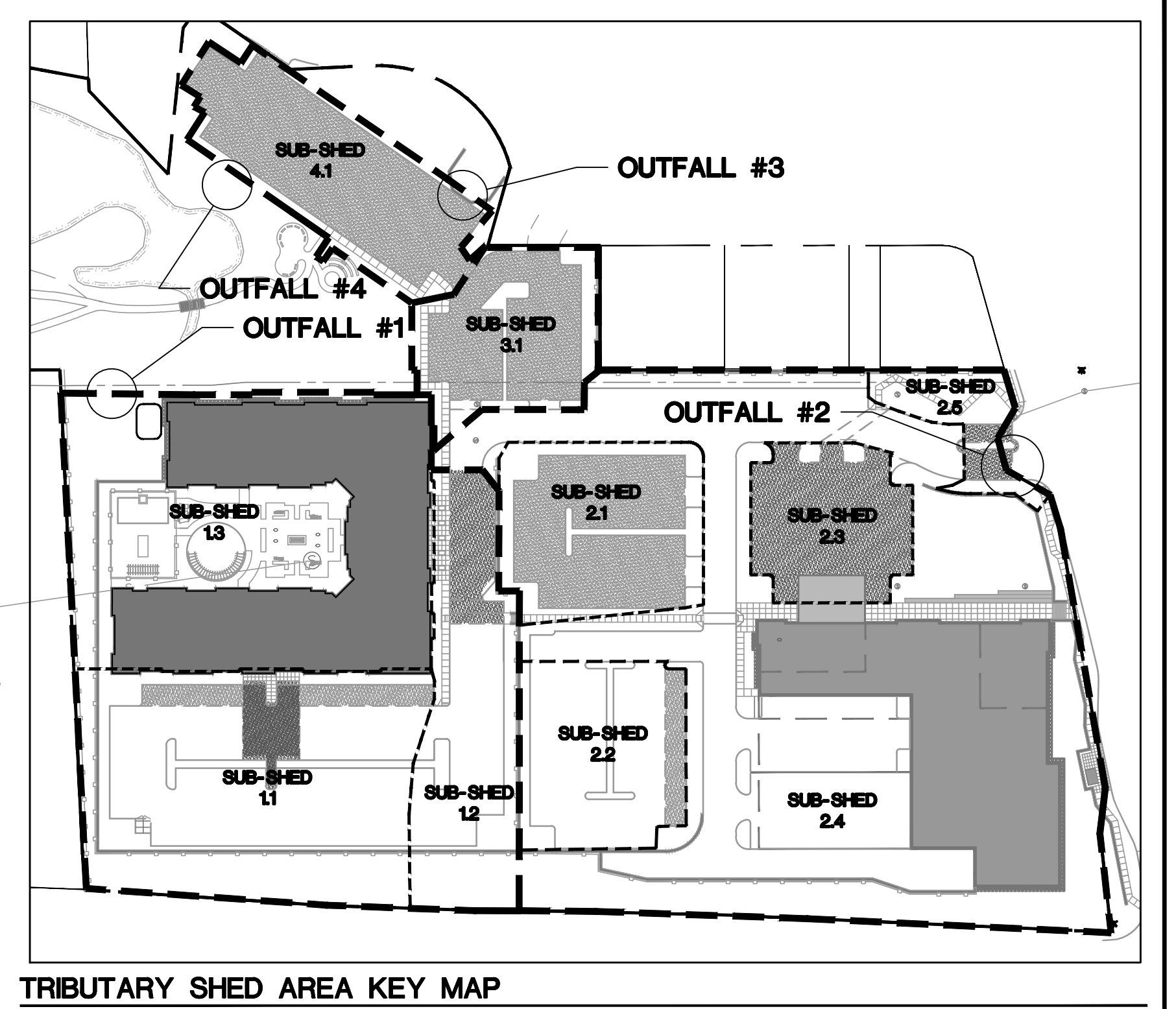
DATE:
03-30-2019

SCALE:
AS SHOWN

DRAWING NO.:
C2.2

SHEET
5 of 22

PLOT SCALE: 1/8"=1'-0" (VERTICAL), 1/4"=1'-0" (HORIZONTAL), 1/8"=1'-0" (SCALE) DATE: 03/29/19 10:58 AM FILE: C:\Users\merritts\OneDrive\Documents\C2.2 - SITE PLAN.dwg PLOT DATE: 03/29/19 10:58 AM PLOT BY: EMMETT MERRITTS



- LEGEND (EXISTING)**
- MANHOLE
 - DRAIN INLET/CATCH BASIN
 - GAS VALVE
 - WATER VALVE
 - HYDRANT
 - WATER SHUT OFF VALVE
 - UTILITY POLE
 - LIGHT POST
 - TC
 - TOP OF CURB
 - BC
 - BOTTOM OF CURB
 - WATER MAIN
 - DRAINAGE PIPE
 - GAS MAIN
 - SANITARY SEWER MAIN
 - ELECTRICAL LINE
 - CONDUIT LINE

- LEGEND (PROPOSED)**
- PROPERTY LINE
 - LIMIT OF WORK
 - POROUS PAVEMENT - VARIOUS TYPES
 - CONTECH TERRE ARCH 48 UNIT
 - 4" CONCRETE DRAINAGE MANHOLE
 - TRENCH DRAIN
 - CATCH BASIN
 - DRAINAGE PIPE - DIAMETER AS NOTED ON PLAN
 - PROPOSED CONTOUR
 - TOP OF CURB ELEVATION
 - BOTTOM OF CURB ELEVATION
 - TOP OF WALL ELEVATION
 - BOTTOM OF WALL ELEVATION
 - CONCRETE PIPE OUTLET

SITE WATER QUALITY VOLUME REQUIREMENTS CALCULATIONS

TRIBUTARY SHED	AREA (ACRE)	WATER QUALITY VOLUME REQUIREMENT				WATER QUALITY VOLUME MANAGEMENT SOLUTION					
		IMP. AREA (SF)	% IMP.	R _v	P (INCH)	WQ _v (CF)	DESCRIPTION	GRAVEL DEPTH (FT)	VOLUME STORED (CF)	R _{rr} (%)	% REDUCTION OF WQ _v
SHED 1											
SUB-SHED 1.1	1.14	0.68	59.6%	0.587	1.5	3,643	POROUS PAVEMENT	2.00	4,582	3,643	100%
SUB-SHED 1.2	0.63	0.34	54.0%	0.536	1.5	1,838	POROUS PAVEMENT	1.50	2,580	1,838	100%
SUB-SHED 1.3	1.62	0.86	53.1%	0.528	1.5	4,655	CONTECH JELLYFISH FILTER* (SEE FILTER SYSTEM SIZING CALCULATIONS)				
SHED 2											
SUB-SHED 2.1	0.52	0.36	69.2%	0.673	1.5	1,906	POROUS PAVEMENT	1.00	6,349	1,906	100%
SUB-SHED 2.2	0.34	0.34	100.0%	0.950	1.5	1,759	POROUS PAVEMENT	1.00	5,965	1,759	100%
SUB-SHED 2.3	0.40	0.34	85.0%	0.815	1.5	1,775	POROUS PAVEMENT	3.00	2,485	1,775	100%
SUB-SHED 2.4	3.11	2.06	66.2%	0.646	1.5	10,942	INFILTRATION UNITS	SEE DETAIL	31,616	10,942	100%
SUB-SHED 2.5	0.16	0.16	100.0%	0.950	1.5	828	POROUS PAVEMENT	3.00	1,868	828	100%
SHED 3											
SUB-SHED 3.1	0.41	0.41	100.0%	0.950	1.5	2,121	POROUS PAVEMENT	1.00	5,048	2,121	100%
SHED 4											
SUB-SHED 4.1	0.51	0.51	100.0%	0.950	1.5	2,638	POROUS PAVEMENT	1.00	7,288	2,638	100%

EXTREME FLOOD PROTECTION (100-YR STORM EVENT)

TRIBUTARY SHED	PRE-DEVELOPMENT				POST-DEVELOPMENT				REQUIRED DETENTION				
	AREA (ACRE)	CN	T _c (HR)	PEAK DISCHARGE (CFS)	AREA (ACRE)	CN	T _c (HR)	PEAK DISCHARGE (CFS)	Q _o /Q _i	V ₁ /V ₂	Q (IN)	V ₁ (AC-FT)	V ₂ (AC-FT)
SHED 1	3.80	82	0.15	26.19	3.39	84	0.16	22.89			N/A		
SHED 2	4.20	56	0.23	12.18	4.53	77	0.09	29.17	0.42	0.31	6.22	2.32	0.72
SHED 3	0.41	75	0.10	2.47	0.41	82	0.10	2.75	0.90	0.18	6.83	0.23	0.04
SHED 4	0.49	58	0.10	1.97	0.49	80	0.10	3.22	0.61	0.24	6.59	0.27	0.07

POST-DEVELOPMENT PEAK DISCHARGE RATE FOR THE 100-YEAR STORM IS LOWER THAN THE PRE-DEVELOPMENT CONDITION. THEREFORE, THE PROPOSED DEVELOPMENT WILL IMPROVE ON THE EXISTING STORM RUNOFF FROM THE SITE.

SHED 1:
 REQUIRED DETENTION VOLUME: 31,363 CF (0.72 AC-FT)
 USE (52) CONTECH TERRE ARCH 48 CHAMBERS WITH 12" STONE BASE AND 6" STONE COVER (ASSUME 40% VOID SPACE).
 608 CF/UNIT x 52 UNITS = 31,616 CF
 PROVIDED DETENTION VOLUME: 31,616 CF (0.73 AC-FT)

SHED 2:
 REQUIRED DETENTION VOLUME: 1,742 CF (0.04 AC-FT)
 PROVIDED DETENTION VOLUME: 5,048 CF (0.17 AC-FT)*

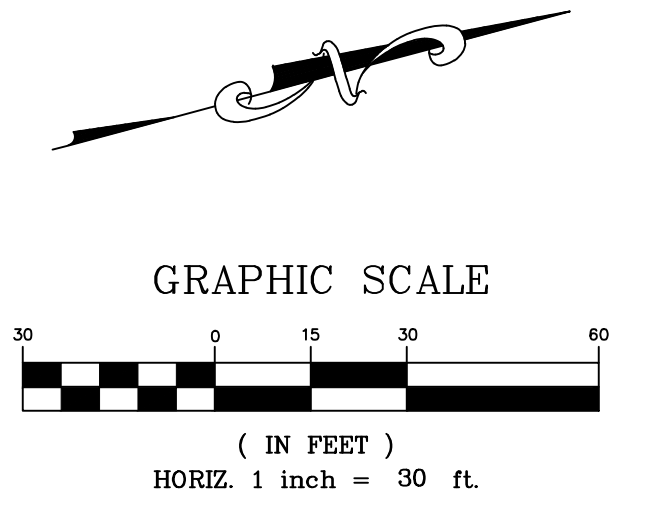
SHED 3:
 REQUIRED DETENTION VOLUME: 3,049 CF (0.07 AC-FT)
 PROVIDED DETENTION VOLUME: 7,288 CF (0.17 AC-FT)*

* SEE STORAGE VOLUME PROVIDED BY POROUS PAVEMENT UNDER WATER QUALITY VOLUME CALCULATIONS.

CONTECH JF-6 JELLYFISH FILTER CALCULATIONS

SUB-SHED 1.3
 AREA = 1.62 AC
 P = 1.45 IN.
 % IMPERVIOUS = 53.1%
 I_c = 11 MIN.
 R_v = 0.528
 WQ_v = 4,655 CF
 HYDROLOGY:
 REQUIRED WQ_v = 4,655 CF
 Q_o = AREA / WQ_v = 0.768 IN.
 CN = 0.5
 I_o = 0.171
 I_o/P = 0.118
 Q_o = 0.78 USM/IN
 Q_o = 1.12 CFS
 PEAK DISCHARGE RATE OF THE WATER QUALITY STORM EVENT: 1.12 CFS
 PEAK TREATMENT CAPACITY OF THE JF-6 JELLYFISH FILTER WITH 54" FILTRATION CARTRIDGES: 1.16 CFS
 SUB-SHED 1.3 WATER QUALITY VOLUME WILL BE TREATED THROUGH THE USE OF A CONTECH JF-6 JELLYFISH FILTER SYSTEM, WITH A 10-YEAR STORM EVENT OVERFLOW BYPASS.

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REFER TO NOTES ON SHEET C3.2

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
 WESTCHESTER COUNTY, NY**

TITLE:
GRADING & DRAINAGE PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
 MAD

DESIGNED BY:
 MAD

DRAWN BY:
 MAD

CHECKED BY:
 KMM

PROJECT NO.:
 CE338A

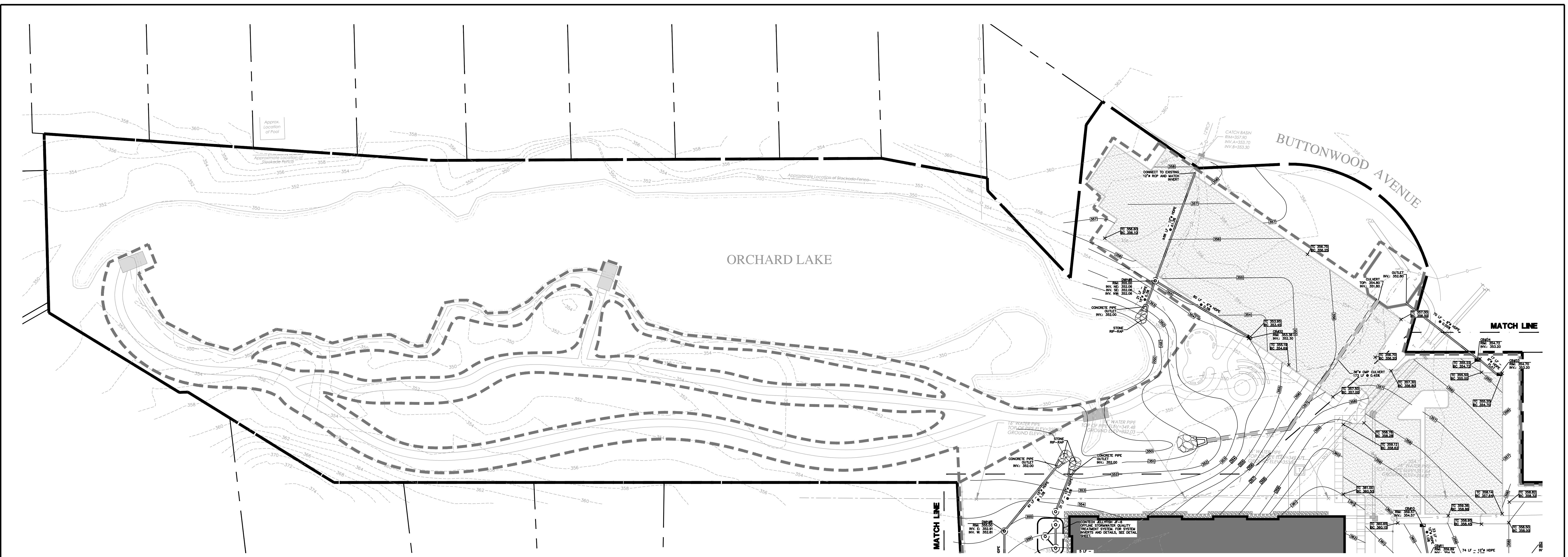
JOB NO.:
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DATE:
 03-30-2019

SCALE:
 AS SHOWN

DRAWING NO.:
C3.1

SHEET
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LEGEND (EXISTING)

○	MANHOLES
□	DRAIN INLETS/CATCH BASINS
○	GAS VALVE
○	WATER VALVE
○	HYDRANT
○	WATER SHUT OFF VALVE
○	UTILITY POLE
○	LIGHT POST
TC	TOP OF CURB
BC	BOTTOM OF CURB
—	WATER MAIN
—	SEWER MAIN
—	STORM MAIN
—	CONDUIT LINE

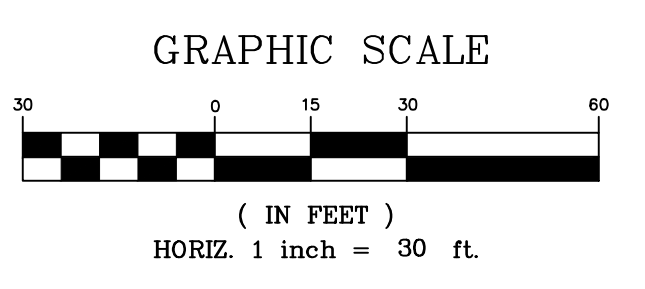
LEGEND (PROPOSED)

—	PROPERTY LINE
---	LIMIT OF WORK
▨	POROUS PAVEMENT - VARIOUS TYPES
□	CONTECH TERRE ARCH 48 UNIT
○	4" CONCRETE DRAINAGE MANHOLE
—	TRENCH DRAIN
□	CATCH BASIN
—	DRAINAGE PIPE - DIAMETER AS NOTED ON PLAN
—	PROPOSED CONTOUR
TC 84.0	TOP OF CURB ELEVATION
BC 83.5	BOTTOM OF CURB ELEVATION
TW 83.0	TOP OF WALL ELEVATION
FW 83.5	BOTTOM OF WALL ELEVATION
□	CONCRETE PIPE OUTLET

GRADING AND DRAINAGE NOTES

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE STATE OF NEW YORK DEPARTMENT OF LABOR BOARD OF STANDARDS AND APPEALS INDUSTRIAL CODE RULE 53 - "CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES", EFFECTIVE APRIL 1, 1975. THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF INDUSTRIAL CODE RULE 53.
2. ALL WORK WITHIN THE NEW YORK STATE RIGHT-OF-WAY SHALL CONFORM TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION DETAILS & SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ABANDONED UTILITY SERVICE CONNECTIONS AND THE INSTALLATION OF NEW SERVICE CONNECTIONS, AND SHALL COORDINATE ALL WORK WITH THE APPROPRIATE UTILITY COMPANY. REMOVAL OF EXISTING STRUCTURES SHALL BE IN CONFORMANCE WITH THE REGULATIONS OF ALL APPROPRIATE AGENCIES AND UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL AFFIDAVITS FOR DISPOSAL OF EXISTING STRUCTURES AND MATERIALS.
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH QUALITY CONTROL, INSPECTIONS, TESTING AND REPORTS FOR GENERAL SITE WORK. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL COMPACTION TESTING AND SHALL SUBMIT SUCH REPORTS AND VERIFICATIONS.
5. ALL RIM ELEVATIONS FOR MANHOLES, CATCH BASINS, ETC. MUST BE VERIFIED AND ADJUSTED TO MEET FIELD CONDITIONS.
6. COMPACTION OF BACKFILL AROUND CATCH BASINS, MANHOLES AND SIMILAR STRUCTURES AND IN ALL PIPE TRENCH AREAS WILL BE REQUIRED TO 95% PROCTOR.
7. ALL DRAINAGE STRUCTURES AND CATCH BASINS SHALL BE PRECAST, WITH PRECAST OPENINGS FOR DRAINAGE PIPES(S) AND SHALL CONFORM TO NEW YORK STATE DEPARTMENT OF PUBLIC WORKS DETAILS & STANDARDS.
8. AREAS BELOW PROPOSED UTILITY PIPES, DUCTS, RAMPS, STAIRS, RETAINING WALLS, STRUCTURES, ETC. SHALL BE COMPACTED TO 92% (95% IN VEHICULAR AREAS) OF MAXIMUM DRY DENSITY. IN AREAS WHERE THIS DENSITY IS NOT ACHIEVABLE, A GEOTEXTILE SUCH AS MIRAFLEX HP370 OR EQUAL SHOULD BE PLACED IN THE BOTTOM OF THE TRENCH AND UP THE SIDE WALLS TO A HEIGHT EQUAL TO THREE FEET ABOVE THE BOTTOM OF THE EXCAVATION. A CRUSHED STONE OR GRAVEL SUBBASE MATERIAL SHOULD BE PLACED IN THE TRENCH TO A HEIGHT OF THREE FEET AND COMPACTED. THE GEOTEXTILE SHOULD THEN BE BROUGHT OVER THE TOP OF THE AGGREGATE SUBBASE TO MEET THE OUTSIDE OF THE PIPE OR STRUCTURE, OR OVER THE PIPE WHERE THE PIPE DIAMETER IS TWELVE INCHES OR LESS.
9. GENERAL CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ADJACENT TO EXISTING STRUCTURES/WALLS/SIDEWALKS AND PAVEMENT TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF FOUNDATIONS / WALLS / SIDEWALKS AND PAVEMENT TO REMAIN AND PROVIDE A SAFE WORK AREA.
10. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY ITEMS DAMAGED BY HIS WORK, WHICH WERE SCHEDULED TO REMAIN.
11. THE CONTRACTOR SHALL RESTORE ALL DISTURBED EXISTING FEATURES TO A CONDITION EQUAL TO OR BETTER THAN CURRENTLY EXISTED.
12. THE CONTRACTOR SHALL FOLLOW THE RULES, REGULATIONS AND PERMIT REQUIREMENTS OF ALL REGULATORY AGENCIES (TOWN, COUNTY, STATE, FEDERAL) AND ALL UTILITY COMPANIES FOR ALL WORK.
13. THE CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA CONFINED SPACE ENTRY REQUIREMENTS (29 CFR PART 1910).
14. THE CONTRACTOR SHALL COMPLY WITH THE LATEST REVISED OSHA SHEETING REQUIREMENTS (29 CFR PART 1926.650, 651, 652).
15. MASS GRADING FILL AREAS SHALL BE FIRST STRIPPED OF TOPSOIL AND MASS GRADING FILL SHALL BE GENERATED IN 6 INCH LIFTS, COMPACTED TO 95% STANDARD PROCTOR DENSITY.
16. EXISTING CONNECTIONS TO PUBLIC WATER/SEWER MAINS SHALL REMAIN UNDISTURBED.
17. CONTRACTOR RESPONSIBLE TO CONFORM WITH NYS DEC SPDES GP-0-15-001 GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITY.
18. ALL 1:2 & 1:3 SLOPE AREAS WILL BE PROTECTED AGAINST EROSION DURING CONSTRUCTION AND PERMANENT GROUND COVER SHALL BE SUCH THAT EROSION WILL BE PREVENTED. NECESSARY MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, SILT FENCE, SILT TRAPS/BASINS, JUTE MESH, HYDROSEEDING, ETC. AND SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION AS WELL AS FOLLOWING THE COMPLETION OF CONSTRUCTION UNTIL SUCH TIME THAT THE PROPOSED PLANTINGS HAVE BECOME ACCLIMATED/ESTABLISHED.

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 CDP19083417

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
GRADING & DRAINAGE PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

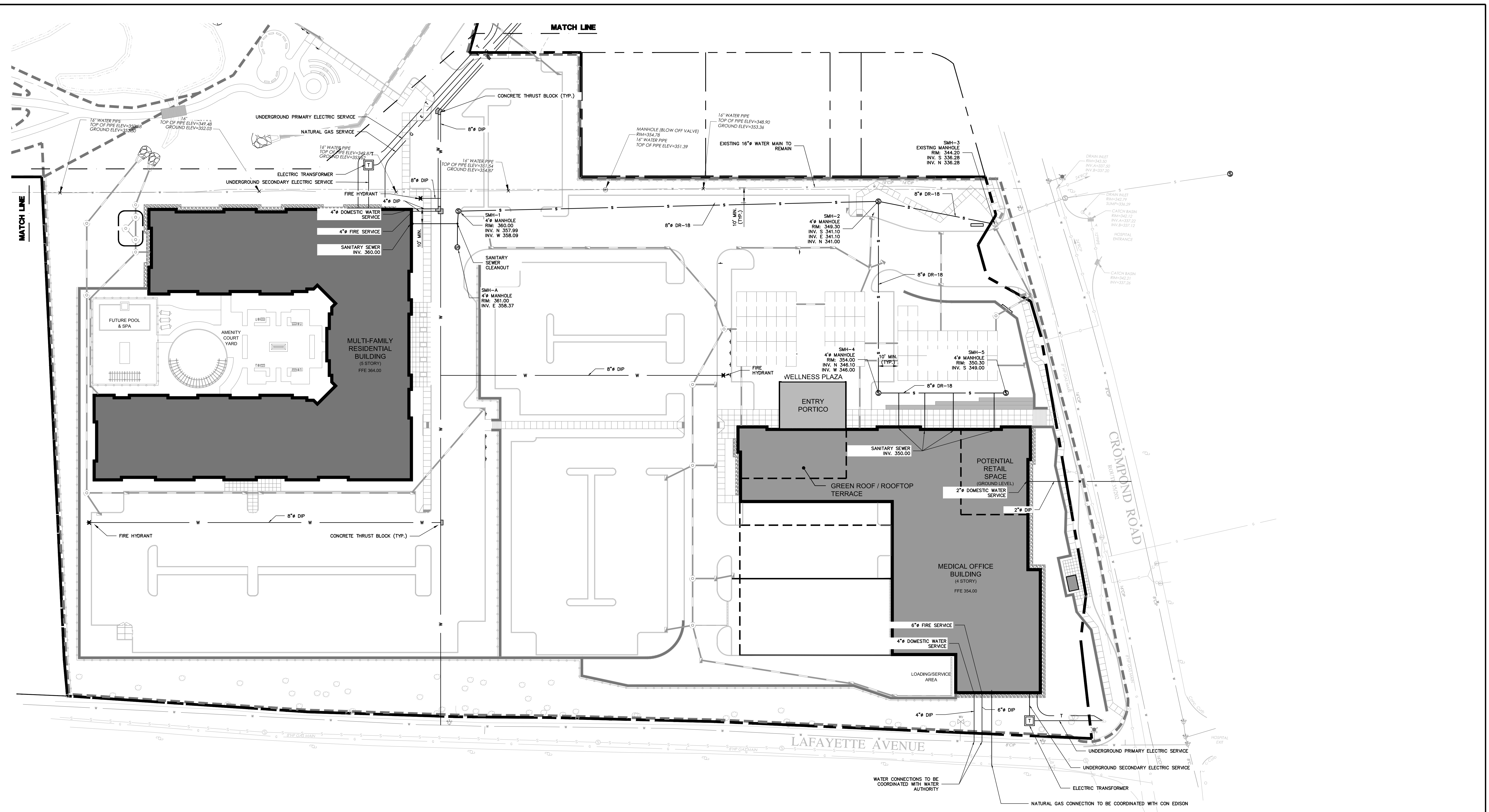
DATE:
03-30-2017

SCALE:
AS SHOWN

DRAWING NO.:
C3.2

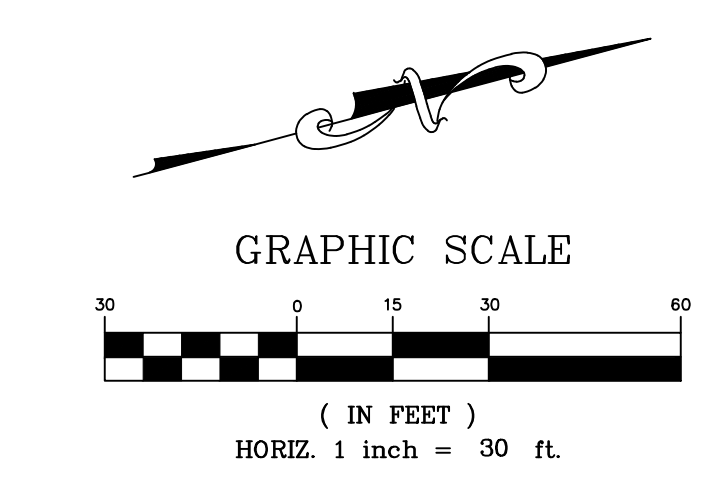
SHEET
7 of 22

PLOT SCALE: 1/8"=1'-0" (1/4"=1'-0" FOR GRADING & DRAINAGE) - 3/29/19 10:00 AM - CAMERON ENGINEERING & ASSOCIATES, LLP - 177 OVERWAY PARK DRIVE, WESTCHESTER, NY 10597 - PROJECT: GYRODYNE, LLC - MOD MIXED-USE CAMPUS - SHEET: C3.2



LEGEND (EXISTING)		LEGEND (PROPOSED)	
	MANHOLES		PROPERTY LINE
	DRAIN INLET/CATCH BASINS		LIMIT OF WORK
	GAS VALVE		TRANSFORMER AND PAD
	WATER VALVE		SANITARY MANHOLE
	HYDRANT		ELECTRIC SERVICE
	WATER SHUT OFF VALVE		WATER SERVICE
	UTILITY POLE		NATURAL GAS SERVICE
	LIGHT POST		SANITARY SEWER
	TOP OF CURB		TELECOMMUNICATION
	BOTTOM OF CURB		
	WATER MAIN		
	DRAINAGE PIPE		
	GAS MAIN		
	SANITARY SEWER MAIN		
	ELECTRICAL LINE		
	CONDUIT LINE		

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REFER TO NOTES ON SHEET C4.2

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

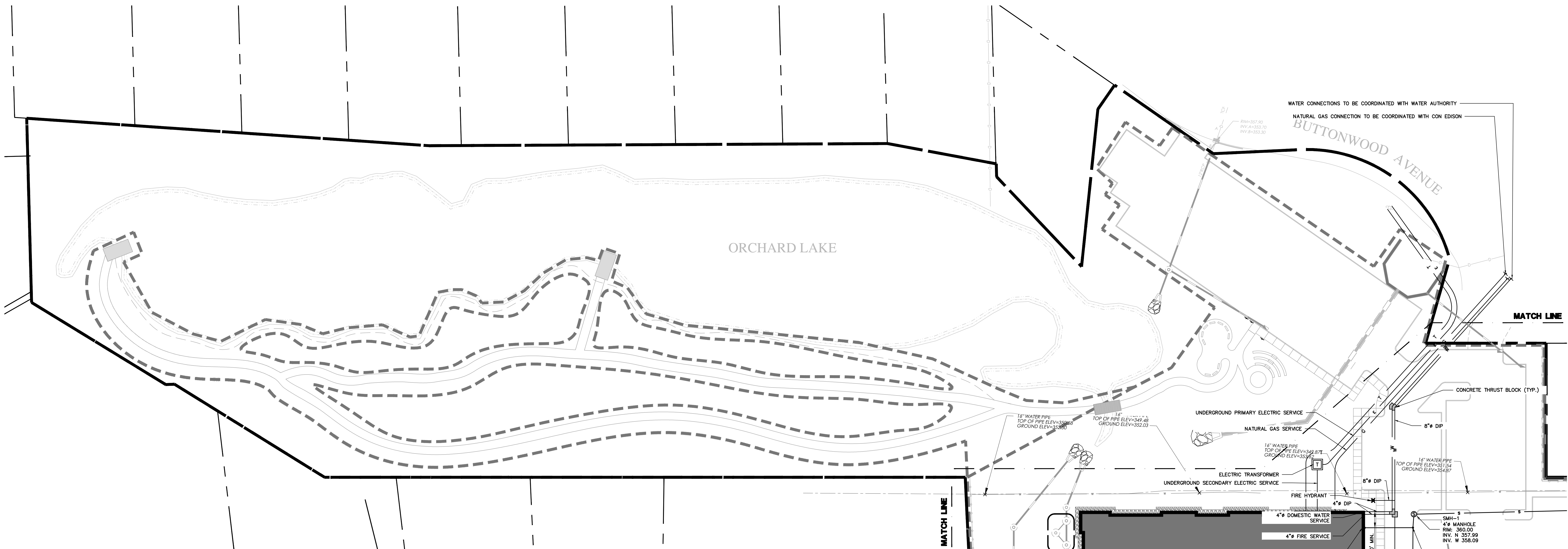
PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
UTILITY PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER: MAD	PROJECT NO. CE338A	DRAWING NO. C4.1
DESIGNED BY: MAD	JOB NO. CE338A	SHEET 8 of 22
DRAWN BY: MAD	DATE: 03-30-2019	
CHECKED BY: KMM	SCALE: AS SHOWN	

PLOT SCALE: 1/8"=1'-0" (VERTICAL), 1/8"=1'-0" (HORIZONTAL), 1/8"=1'-0" (UTILITY PLAN), 1/8"=1'-0" (GENERAL), 1/8"=1'-0" (GENERAL)



UTILITY NOTES

- THE GENERAL CONTRACTOR IS HEREBY NOTIFIED THAT UTILITIES EXIST AT THE SITE. VERIFICATION OF LOCATION OF EXISTING UTILITIES IS REQUIRED PRIOR TO COMMENCEMENT OF WORK AND IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACCURACY OF ALL EXISTING UTILITY INFORMATION.
- WATER SUPPLY IMPROVEMENTS (METER PIT, PIPING, ETC.) SHALL MEET THE WESTCHESTER COUNTY HEALTH DEPARTMENT STANDARDS.
- WATER SERVICES MUST BE INSTALLED MINIMUM 4.5 FEET BELOW GRADE.
- SANITARY SEWER IMPROVEMENTS (MANHOLES, GREASE TRAP, PIPING, ETC.) SHALL MEET THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH, AND WESTCHESTER COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS.
- BUILDING CONTRACTOR SHALL PROVIDE UTILITIES STUBBED TO A POINT 5' OUTSIDE FOUNDATION WALL, WHERE THE SITE CONTRACTOR WILL THEN MAKE SITE UTILITY CONNECTIONS.
- GENERAL CONTRACTOR WILL COORDINATE ALL WORK BETWEEN BUILDING AND SITE CONTRACTORS.
- PROPOSED TRANSFORMER AND APPURTENANCES SHALL CONFORM TO CON EDISON STANDARDS AND SPECIFICATIONS.
- ANY DAMAGE OR DISTURBANCE TO EXISTING UTILITIES DURING THE DURATION OF THE CONTRACT IS TO BE REPAIRED/REPLACED "IN KIND" BY THE GENERAL CONTRACTOR AT HIS OWN EXPENSE.
- GENERAL CONTRACTOR SHALL COMPLY WITH THE NYS INDUSTRIAL CODE RULE 53.
- THE CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND THE BUILDING DEPARTMENT 48 HOURS BEFORE EXCAVATING, CUTTING, REMOVING OR TAPPING INTO ANY EXISTING UTILITY SERVICE.
- THE CROSSING OF WATER AND SEWER LINES SHALL BE AS FOLLOWS:
 - SEWER LINES SHALL BE LAID BELOW THE WATER LINE AND PROVIDE A SEPARATION OF AT LEAST EIGHTEEN INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE SEWER LINE; AND
 - SEWER LINE JOINTS SHALL BE AT LEAST TEN FEET FROM THE POINT OF CROSSING.
 WHEN THE LOCAL CONDITIONS PREVENT PLACEMENT OF THE WATER LINE ABOVE THE SEWER LINE, THE FOLLOWING ADDITIONAL CONDITIONS APPLY:
 - VERTICAL SEPARATION OF AT LEAST EIGHTEEN INCHES SHALL BE PROVIDED BETWEEN THE BOTTOM OF THE SEWER LINE AND THE TOP OF THE WATER LINE;
 - WATER LINE JOINTS SHALL BE AT LEAST TEN FEET FROM THE POINT OF CROSSING;
 - SEWER LINES SHALL BE CONSTRUCTED OF MATERIALS AND JOINTS THAT ARE IN ACCORDANCE WITH WATER MAIN STANDARDS OF CONSTRUCTION AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, POINT OF ENTRY, SIZES AND DEPTHS OF UTILITIES, PIPING, DRYWELLS, ETC. PRIOR TO THE START OF WORK. THE GENERAL CONTRACTOR SHALL RETAIN A PRIVATE MARK-OUT SERVICES COMPANY 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 IMMEDIATELY. THE CONTRACTOR IS ALSO ADVISED THAT ALL SUCH UTILITIES DISTURBED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

Sanitary Calculations

SCTM: Section 33.12 / Block 1 / Lot (s) 1, 2, & 3
 Section 33.11 / Block 3 / Lot (s) 5, 6, 7, 8, & 36

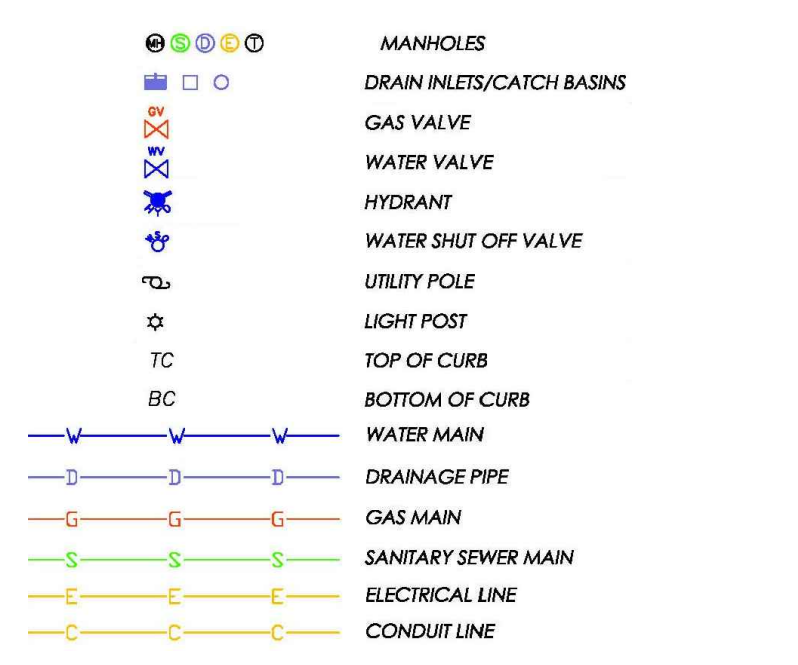
Sewer District: Westchester County Department of Environmental Facilities

Proposed Sanitary Calculations

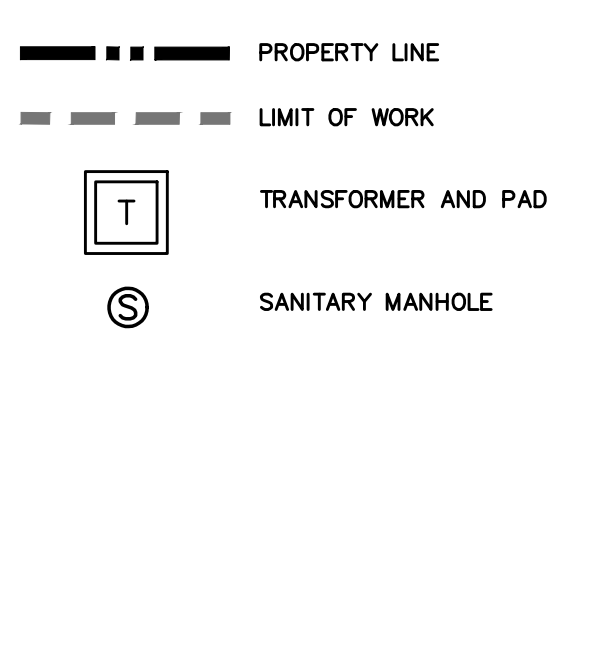
Use	Area (SF)	Units	Seats	Sanitary	
				Rate	GPD
South Building					
One Bedroom (Studio & One Bedroom Units)	n/a	180		110	19,800
Two Bedroom	n/a	20		220	4,400
Laundry (Per Machine)	n/a	10		580.0	5,800
Total					30,000
North Building					
Medical Office (Number of Doctors)		90		250.0	22,500
Retail (SF)	4,000			0.1	400
Retail (Employees)		9		15.0	135
Total					23,035
				Total GPD	
				South Building	30,000
				North Building	23,035
				Total GPD	53,035

Notes:
 - Design rates based on NYSDEC Design Standards for Intermediate Sized Wastewater Treatment

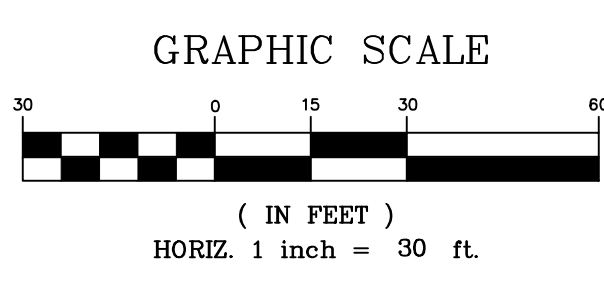
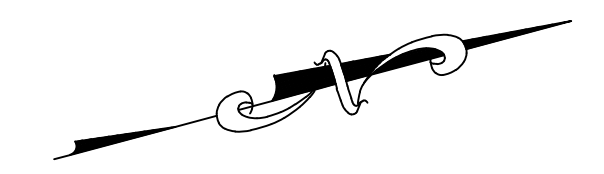
LEGEND (EXISTING)



LEGEND (PROPOSED)



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1	3/29/19	UPDATED PER TOWN COMMENTS AND COORDINATION	ER/AL

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PROJECT NAME:
GYRODYNE, LLC – MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
 WESTCHESTER COUNTY, NY**

DISCIPLINE:
CIVIL

TITLE:
UTILITY PLAN

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

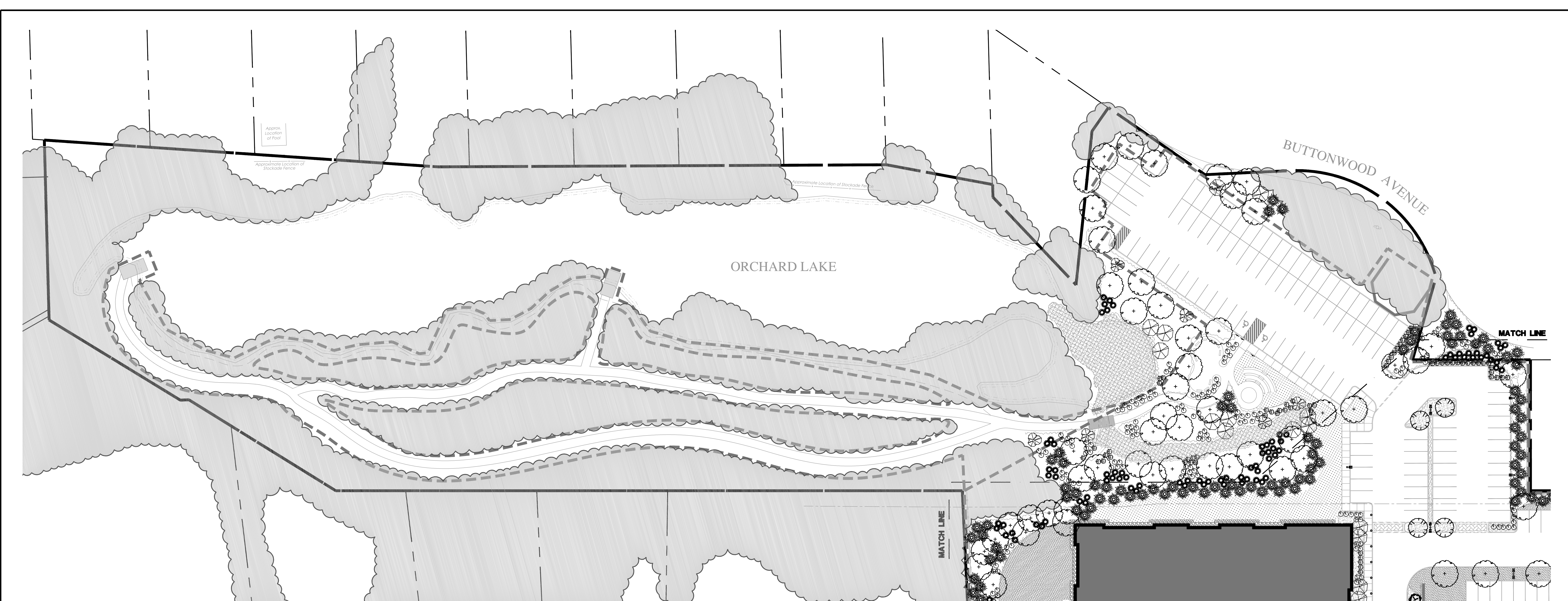
DATE:
03-30-2019

SCALE:
AS SHOWN

DRAWING NO.:
C4.2

SHEET
 9 of 22

PLOT SCALE: 1/8"=1'-0" 2019 03/29/19 10:00 AM C:\Users\mcameron\AppData\Local\Temp\1\190329191000\190329191000\190329191000.dwg CAMERON ENGINEERING & ASSOCIATES, LLP



PLANTING NOTES

1. ALL PLANT MATERIAL SUPPLIED AND INSTALLED SHALL BE IN ACCORDANCE WITH CURRENT A.A.N. (AMERICAN ASSOCIATION OF NURSERMEN), AND ACCEPTED INDUSTRY STANDARDS.
2. NO SUBSTITUTION OF MATERIAL SHALL BE MADE WITHOUT THE APPROVAL OF THE OWNER, AND THE ENGINEER.
3. BACKFILL ALL PLANT PITS WITH A BACKFILL MIXTURE OF TOPSOIL AND PROPER AMOUNTS OF FERTILIZER.
4. ALL MAJOR, MINOR, AND EVERGREEN TREES SHALL BE PROPERLY STAKED OR ANCHORED ONLY IF ABSOLUTELY NECESSARY. IF STAKING IS NECESSARY GUY WIRES TO BE LEFT LOOSE AND STAKES AND WIRES TO BE REMOVED AT END OF GUARANTEED PERIOD.
5. CULTIVATE AND RAKE OVER FINISHED PLANTING AREA AND LEAVE IN AN ORDERLY CONDITION.
6. FORM A SHALLOW BASIN AROUND EACH PLANT SO AS TO HOLD WATER AND MULCH.
7. ALL TREE AND SHRUB AREAS TO BE MULCHED AS SHOWN ON THE PLANS WITH A MINIMUM OF 3" SHREDDED BARK MULCH.
8. REMOVE FROM ALL PLANT MATERIAL, BROKEN OR BRUISED BRANCHES WITH A CLEAN CUT.
9. AT THE TIME OF PLANTING, THE SOIL AROUND EACH PLANT SHALL BE THOROUGHLY SATURATED WITH WATER AND AS MANY TIMES LATER AS SEASON CONDITIONS REQUIRE FOR THE ENTIRE MAINTENANCE PERIOD.
10. ALL LAWN AREAS TO BE TOPSOILED WITH A MINIMUM OF 4" TOPSOIL AND SODDED AS DIRECTED BY THE OWNER OR AS SHOWN ON THE PLANS.
11. GROUND LIMESTONE SHALL BE EVENLY APPLIED AT THE RATE REQUIRED TO BRING THE SEED/SOD BED TO A PH READING OF BETWEEN 6.0 AND 7.0. THE LIMESTONE SHALL BE LIGHTLY WORKED INTO THE TOP THREE INCHES OF SOIL.
12. COMMERCIAL FERTILIZER SHALL BE EVENLY APPLIED TO THE SEED/SOD BED AT THE RATE OF 1,000 LBS. PER ACRE AND INCORPORATED INTO THE TOP THREE INCHES OF SOIL. THE ELEMENTS OF THE FERTILIZER MAY BE ORGANIC, INORGANIC OR A COMBINATION.
13. PRE-EMERGENT WEED CONTROL SHALL BE APPLIED TO ALL AREAS FOR PLANTING INCLUDING TREES, SHRUBS, GROUND COVER AND SEEDED AREAS. IF SEEDING OF LAWN AREAS IS REQUIRED, WEED CONTROL APPLIED MUST PERMIT IMMEDIATE SEEDING OF PERMANENT GRASSES.
14. ALL LANDSCAPING AS SHOWN ON THE APPROVED SITE PLAN SHALL BE MAINTAINED IN A VIGOROUS GROWING CONDITION THROUGHOUT THE LIFE OF THE PROJECT. ANY PLANTS NOT SO MAINTAINED SHALL BE REPLACED WITH HEALTHY NEW PLANTS OF COMPARABLE SIZE, TYPE AND QUALITY AT THE BEGINNING OF THE NEXT IMMEDIATELY FOLLOWING GROWING SEASON.
15. TOPSOIL FOR PLANTING AND SEED AREAS TO BE IMPORTED AS REQUIRED, AT NO ADDITIONAL COST TO THE OWNER.
16. PLANT SAVERS, MANUFACTURED BY PLANT HEALTH CARE, INC. TO BE ADDED AT TIME OF PLANTING AND ACCORDING TO MANUFACTURERS SPECIFICATIONS IN ALL PLANTED AREAS EXCEPT TREE PLANTINGS. TREE PLANTINGS TO INCLUDE TREE SAVER, MANUFACTURED BY PLANT HEALTH CARE, INC. TO BE ADDED AT TIME OF PLANTING AND ACCORDING TO MANUFACTURERS SPECIFICATIONS.
17. SOD SUPPLIED TO THE SITE SHALL BE OF THE SAME SPECIES AND SOURCED FROM A SINGLE SUPPLIER.

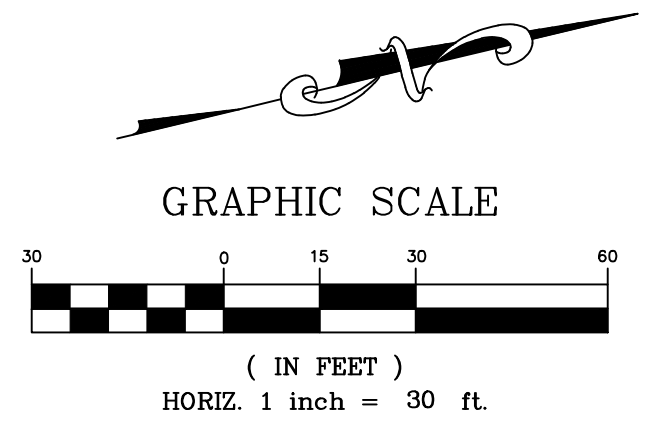
IRRIGATION NOTES

1. ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND HIGH EFFICIENCY IRRIGATION SYSTEM. INSTALLATION OF IRRIGATION SYSTEM TO BE COORDINATED WITH INSTALLATION OF LANDSCAPE MATERIAL. CONTRACTOR TO SUBMIT DIAGRAMMATIC LAYOUT (SHOP DRAWING) PRIOR TO INSTALLATION.
2. ALL LANDSCAPED AREAS SHALL BE PART OF AUTOMATIC IRRIGATION SYSTEM.
3. IRRIGATION SYSTEM TO INCLUDE MULTI-ZONE SMART CONTROLLER CAPABLE OF MONITORING CLIMATIC CONDITIONS; AND RAIN SENSOR EQUIPPED TO DETECT RAINFALL AND SOIL MOISTURE CONDITIONS.
4. ALL IRRIGATION HEADS TO BE HIGH EFFICIENCY.
5. LANDSCAPE/IRRIGATION CONTRACTOR TO PROVIDE AND COORDINATE INSTALLATION LOCATIONS OF ALL SLEEVING REQUIRED.
6. CONTRACTOR TO PROVIDE (2) 4" SDR-35 PVC SLEEVES BELOW PAVEMENT TO ALL LANDSCAPED ISLANDS, TREE PITS, LANDSCAPED PARKING MEDIANS, ECT. SLEEVES TO PROJECT 12" MINIMUM INTO LANDSCAPED AREAS.

MULCH NOTES

1. ALL MULCH SHALL BE PRIMARILY COMPOSED OF SHREDDED HARDWOOD BARK. A WRITTEN CERTIFICATION AND SAMPLE OF MATERIAL COMPOSITION SHALL BE SUBMITTED TO OWNERS REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION.
2. THE WRITTEN CERTIFICATION SHALL BE FURNISHED TO THE OWNER THAT SPECIFICALLY STATES THAT MULCH SUPPLIED DOES NOT CONTAIN THE FOLLOWING:
 - A) GROUND RECYCLED PALLETS
 - B) CHEMICAL TREATMENTS OR RESIDUES

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REFER TO PLANT LEGEND
ON SHEET C5.1

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PROJECT NAME:
GYRODYNE, LLC – MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
LANDSCAPE PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

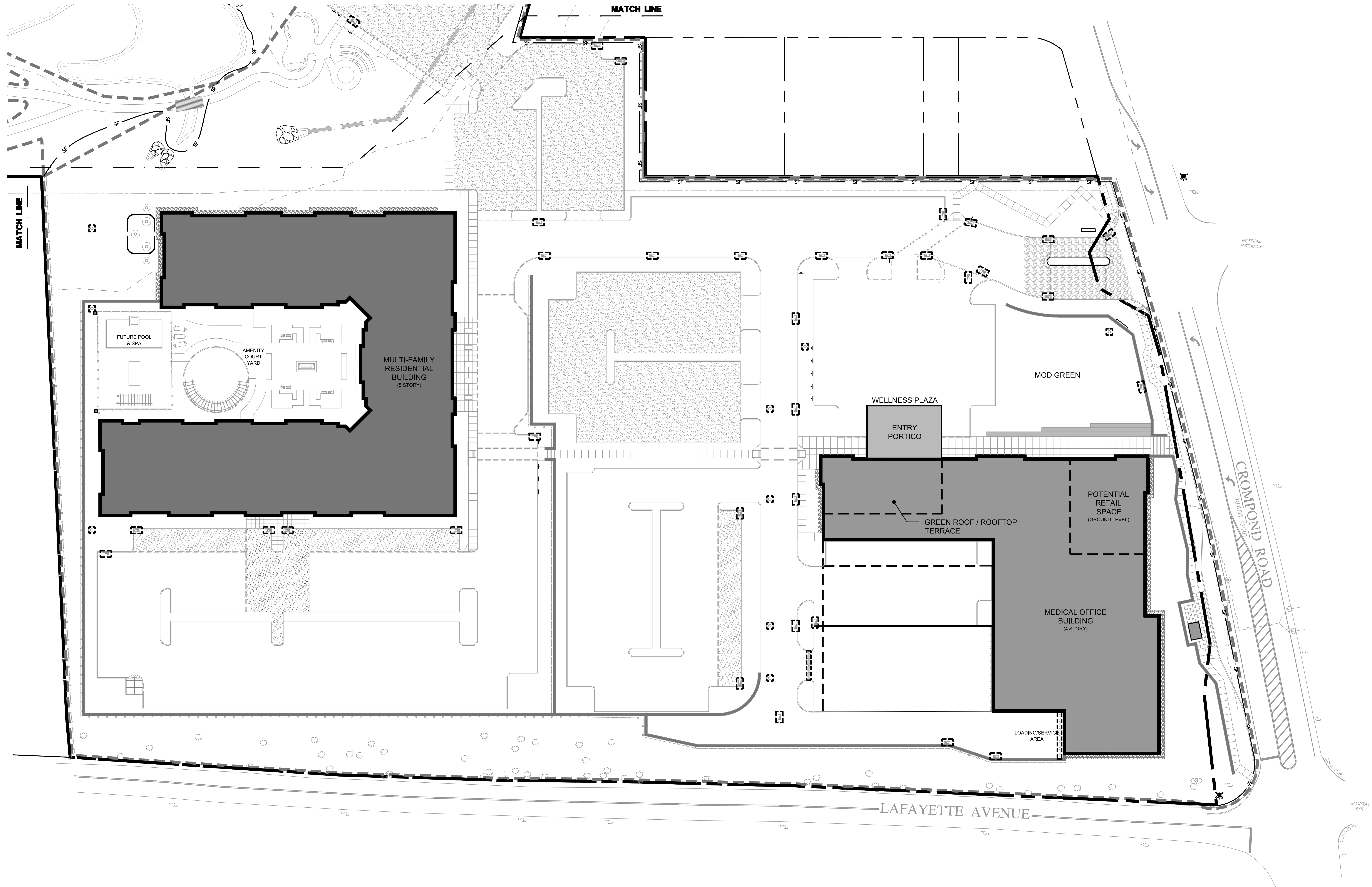
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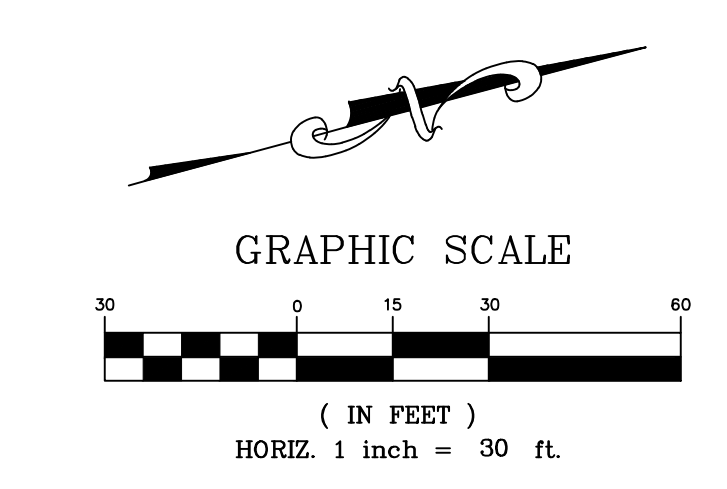
SHEET
11 of 22

PLOT SCALE: 1/8"=1'-0" (1/8"=1'-0" LANDSCAPE PLAN) 2019. Printed by: [Name]



LEGEND (EXISTING)		LEGEND (PROPOSED)	
	MANHOLES		PROPERTY LINE
	DRAIN INLETS/CATCH BASINS		LIMIT OF WORK
	GAS VALVE		SILT FENCE
	WATER VALVE		MATERIAL STOCKPILE AREA
	HYDRANT		INLET PROTECTION
	WATER SHUT OFF VALVE		TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
	UTILITY POLE		
	LIGHT POST		
	TOP OF CURB		
	BOTTOM OF CURB		
	WATER MAIN		
	DRAINAGE PIPE		
	GAS MAIN		
	SANITARY SEWER MAIN		
	ELECTRICAL LINE		
	CONDUIT LINE		

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

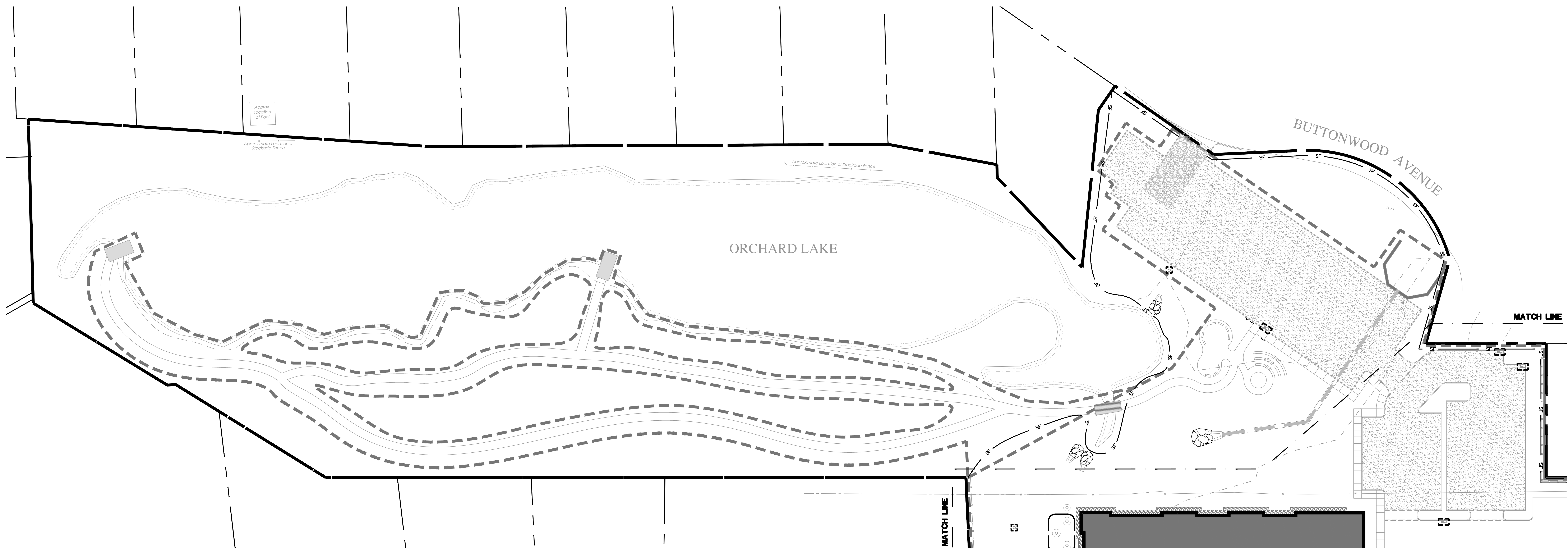
PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
EROSION & SEDIMENT CONTROL PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER: MAD	PROJECT NO.: CE338A	DRAWING NO.:
DESIGNED BY: MAD	JOB NO.: CE338A	C6.1
DRAWN BY: MAD	DATE: 03-30-2017	
CHECKED BY: KMM	SCALE: AS SHOWN	
		SHEET 12 of 22

PLOT SCALE: 1/8"=1'-0" (VERTICAL), 1/4"=1'-0" (HORIZONTAL), 1/4"=1'-0" (PLAN), Date: March 29, 2019, Title: Erosion & Sediment Control Plan, Project: Gyrodyne, LLC - Mod Mixed-Use Campus, Prepared by: Edward Barry

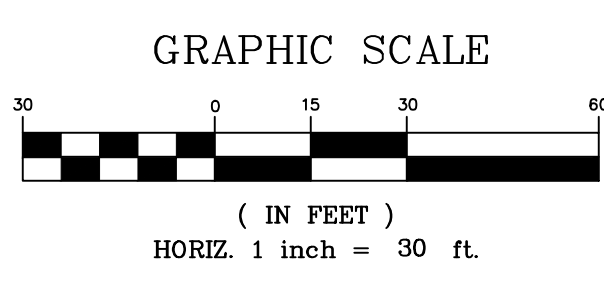
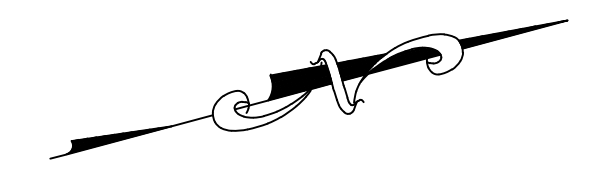


GENERAL SOIL EROSION & SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED. CONTRACTOR SHALL COMPLY WITH ALL PHASE II STORM WATER REQUIREMENTS.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN THE STATE OF NEW YORK.
3. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (i.e., STEEP SLOPES AND GRAVEL EMBANKMENTS) SHALL RECEIVE A TEMPORARY COVER OF STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
4. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE COVER.
5. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO MAINTAIN DUST CONTROL. VEHICLES SHALL BE CLEANED, AS NECESSARY, PRIOR TO USING PUBLIC STREETS. PAVED ROADS SHALL BE SPRINKLED WITH WATER.
6. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE LOCATED IN THE FIELD AS REQUIRED OR AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACT DRAWINGS ARE NOT INTENDED TO SHOW THE LOCATION AND DETAILS FOR ALL SUCH DEVICES BUT ARE TO BE USED AS A REASONABLE GUIDE.
7. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE STATE DEC FOR THE RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL PRACTICES.
8. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
9. UPON COMPLETION OF CONSTRUCTION WORK AND AFTER FINAL GRADING AND WHEN PERMANENT STABILIZATION HAS BEEN ESTABLISHED, PERIMETER EROSION CONTROL SHALL BE REMOVED BY THE CONTRACTOR.
10. ALL EXCESS EXCAVATED MATERIAL, EXCEPT FOR TOPSOIL, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
11. ALL UTILITIES AND CATCH BASIN INLETS MUST BE PROTECTED PRIOR TO START OF CONSTRUCTION.
12. THE CONTRACTOR SHALL PROVIDE A DETAILED SEQUENCE OF CONSTRUCTION OPERATIONS FOR REVIEW AND SUBMITTAL TO THE OWNER'S REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
13. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE WHERE POSSIBLE PRIOR TO, OR IMMEDIATELY FOLLOWING SITE AND ACCESS CLEARING.
14. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE AND MAINTAINED, INCLUDING SILT AND SEDIMENT REMOVAL, UNTIL CONSTRUCTION IS COMPLETED, AREA IS STABILIZED AND THE OWNER'S REPRESENTATIVE SO DIRECTS.
15. THE CONTRACTOR SHALL CONFINE SOIL DISTURBANCE ACTIVITY TO THE AREAS CONTAINED WITHIN THE LIMITS OF THE PROJECT SITE, EXCEPT AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
16. THE PROJECT MUST BE COMPLETED WITHIN THE TIME ALLOTTED AS SPECIFICALLY DESCRIBED IN THE CONTRACT DOCUMENTS.
17. SOIL STABILIZATION METHODS SHALL BE UNDERTAKEN COINCIDENTALLY WITH ALL MAJOR SITE IMPROVEMENTS AND CONTINUE DURING THE ENTIRE CONSTRUCTION ACTIVITY PERIOD.
18. CONTRACTOR SHALL REFER TO EROSION CONTROL PLAN FOR EROSION CONTROL PRACTICES TO BE INSTALLED BEFORE AND DURING DEMOLITION PHASE.
19. CONTRACTOR RESPONSIBLE TO CONFORM WITH NYS DEC SPDES GP-0-15-001 GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY.

LEGEND (EXISTING)		LEGEND (PROPOSED)	
	MANHOLES		PROPERTY LINE
	DRAIN INLETS/CATCH BASINS		LIMIT OF WORK
	GAS VALVE		SILT FENCE
	WATER VALVE		MATERIAL STOCKPILE AREA
	HYDRANT		INLET PROTECTION
	WATER SHUT OFF VALVE		TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
	UTILITY POLE		
	LIGHT POST		
	TOP OF CURB		
	BOTTOM OF CURB		
	WATER MAIN		
	DRAINAGE PIPE		
	GAS MAIN		
	SANITARY SEWER MAIN		
	ELECTRICAL LINE		
	CONDUIT LINE		

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 301 Fairytown Road, 1st Floor, White Plains, NY 10603
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 www.CameronEngineering.com

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

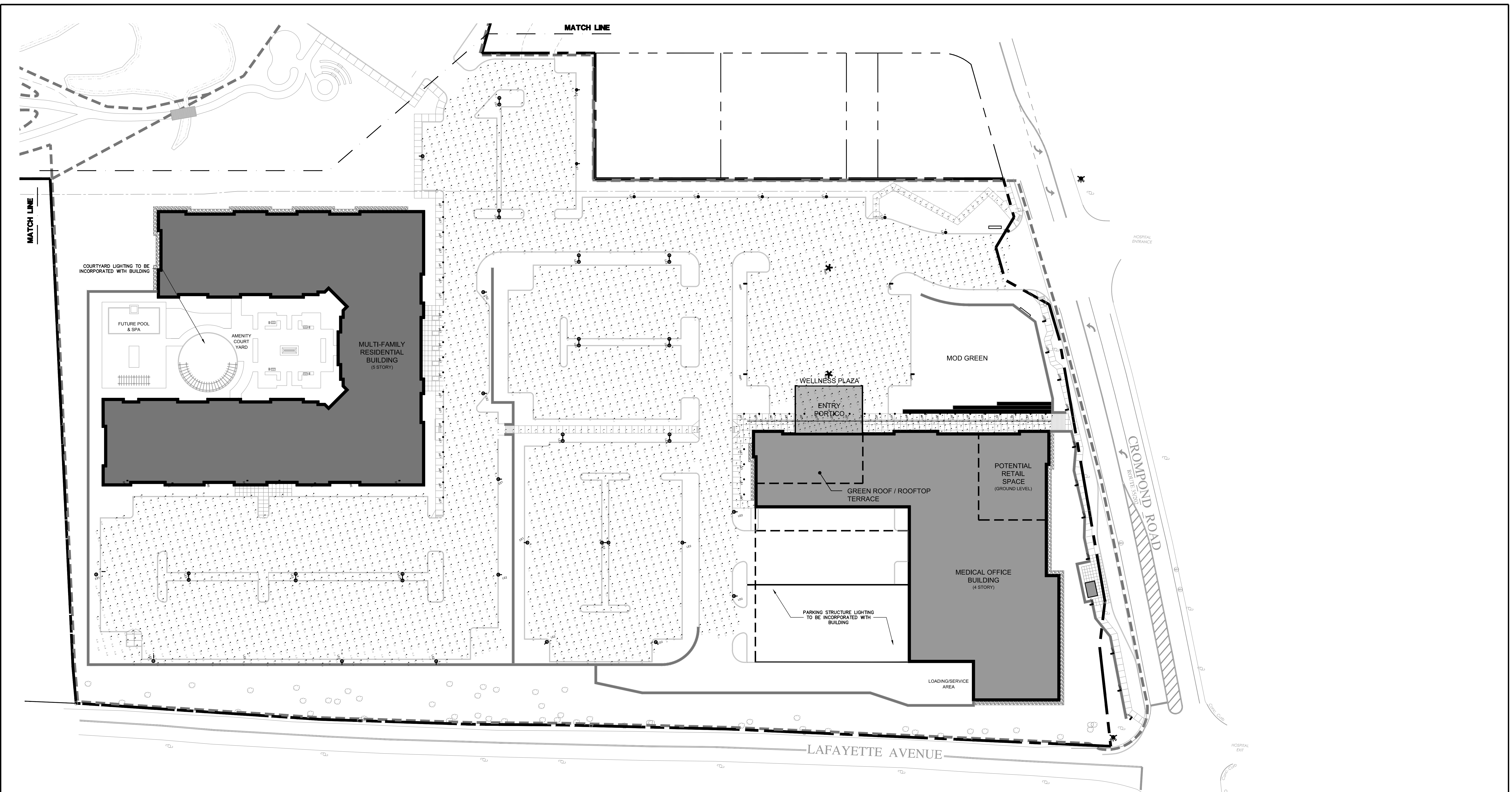
PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
EROSION & SEDIMENT CONTROL PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER: MAD	PROJECT NO. CE338A	DRAWING NO. C6.2
DESIGNED BY: MAD	JOB NO. CE338A	
DRAWN BY: MAD	DATE: 03-30-2017	SHEET 13 of 22
CHECKED BY: KMM	SCALE: AS SHOWN	

PLOT SCALE: 1/8" = 1'-0" (VERTICAL), 1/4" = 1'-0" (HORIZONTAL), 1/4" = 1'-0" (HORIZONTAL) DATE: 03/29/2019 10:58:10 AM USER: ER/LAL



LEGEND (EXISTING)

●	MANHOLES
□	DRAIN INTERCATCH BASINS
○	WATER VALVE
⊕	HYDRANT
⊖	WATER SHUT OFF VALVE
⊙	UTILITY POLE
⊛	LIGHT POST
⊔	TOP OF CURB
⊓	BOTTOM OF CURB
—	WATER MAIN
—	DRAINAGE PIPE
—	GAS MAIN
—	SANITARY SEWER MAIN
—	ELECTRICAL LINE
—	CONDUIT LINE

LEGEND (PROPOSED)

—	PROPERTY LINE
---	LIMIT OF WORK

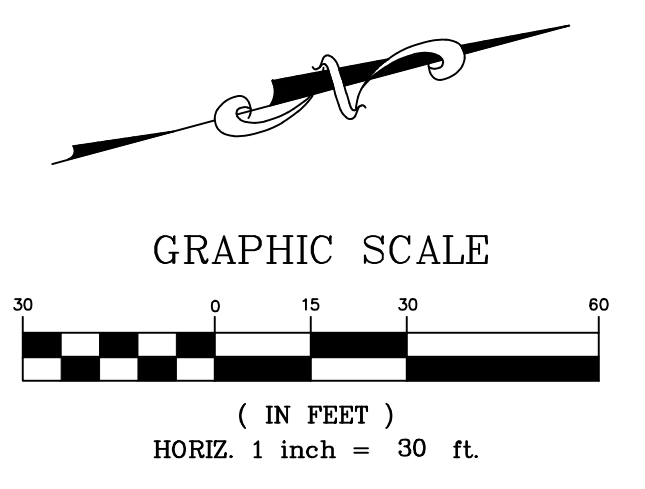
Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Guide Bollard Path - Horizontal	Illuminance	Fc	0.89	2.8	0.1	8.90	28.00
Guide Bollard Path - Vertical	Illuminance	Fc	0.88	1.4	0.4	2.20	3.50
Middle Drive	Illuminance	Fc	1.71	4.6	0.8	2.14	5.75
Parking Lot 1	Illuminance	Fc	2.13	7.5	0.7	3.04	10.71
Parking Lot 2 & Drop Off	Illuminance	Fc	2.19	5.6	0.9	2.43	6.22
Parking Lot 3	Illuminance	Fc	2.49	5.7	1.0	2.49	5.70
Parking Lot 4	Illuminance	Fc	2.27	5.6	0.9	2.52	6.22
Parking Lot 5	Illuminance	Fc	2.38	5.5	1.0	2.38	5.50
Pathway - Middle	Illuminance	Fc	3.08	5.5	1.0	3.08	5.50
Pathway - NW	Illuminance	Fc	0.65	4.3	0.1	6.50	43.00

Luminaire Schedule

Symbol	Label	Arrangement	Description	Arr. Watts
⊕	AE1	SINGLE	AE200-02-30K (Guide Bollard, w/ LED Lighting, 3000K)	8.8
⊖	LE1	SINGLE	LE-054L4-035F-30K-UV1-5A (LEO22, 3000K, Single Arm); LE999 - Special Pole (14ft)	65
⊖	LE2	SINGLE	LE-096L4-035F-30K-UV1-5B (LEO28, 3000K, Single Arm); LE59875-01 (20ft Pole)	116.38
⊖ ⊖	LE3	BACK-BACK	LE-096L4-035F-30K-UV1-5B (LEO28, 3000K, Double Arm); LE59875-01 (20ft Pole)	232.76
⊖	RM1	SINGLE	RM-048L2-CLR-05C-30K-UV1-5A (Rama R8, 48 LED, Clear Lens, 3000K, w/ Clamp); RM60220-01 (6m Pole)	61.67
⊖	RM5	GROUP	RM-024L2-CLR-05C-30K-UV1-5A (Rama R4, 24 LED, Clear Lens, 3000K, w/ Clamp); RM999 (30ft Pole, Spiral Configuration)	157.2
⊖	BE	SINGLE	BEGA - LED Wall Pack - 22 260 (3000K)	50

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 F: (914) 721-8500
 CDP/1903/CA/17

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
LIGHTING PLAN

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

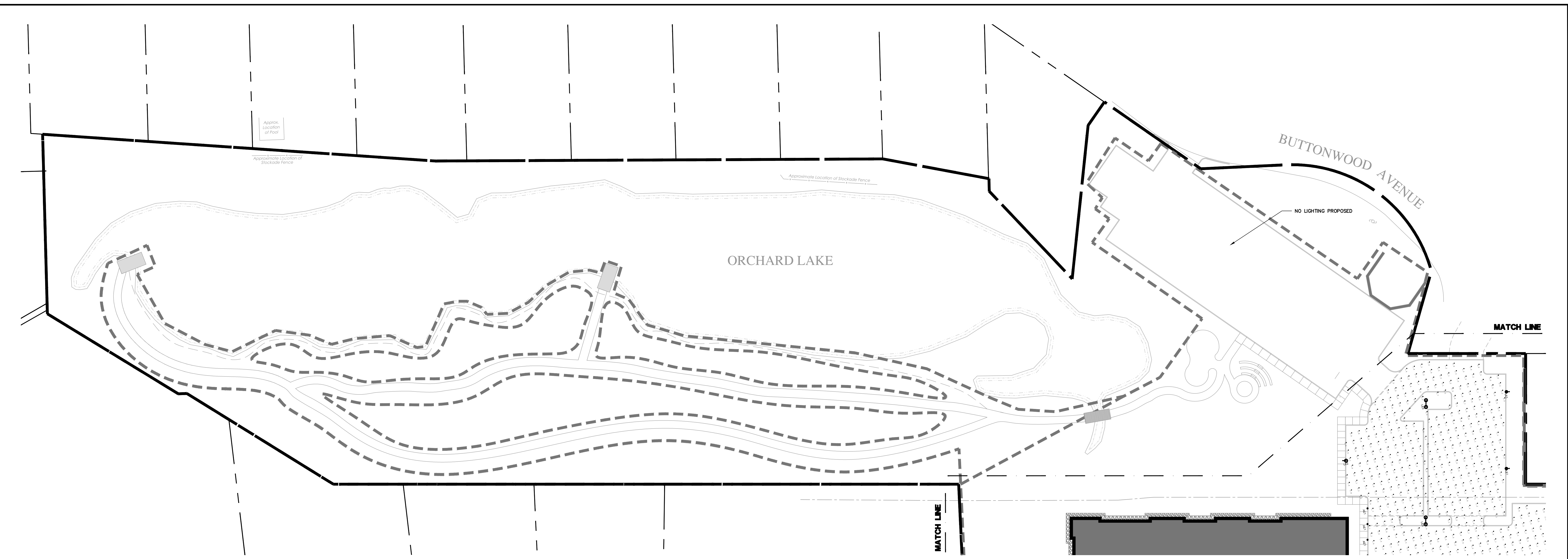
JOB NO.:
CE338A

DATE:
03-30-2017

SCALE:
AS SHOWN

DRAWING NO.:
C7.1

SHEET
14 of 22



RAMA
Product Data Sheet

RAMA LED R4
RAMA LED R8

LED Technology

RAMA R4 Performance Data

RAMA R8 Performance Data

Lighting facts

Electrical

LEO 22

LEO 28

Lighting facts

Electrical

LEO 22

LEO 28

Lighting facts

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LEO 22

LEO 28

Lighting facts

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LEO 28

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LEO 22

LEO 28

Lighting facts

Electrical

GUIDE
Product Data Sheet

GUIDE Illuminated Bollard

General Description

Electrical

Finish

To Order

Warranty

Other

Lighting facts

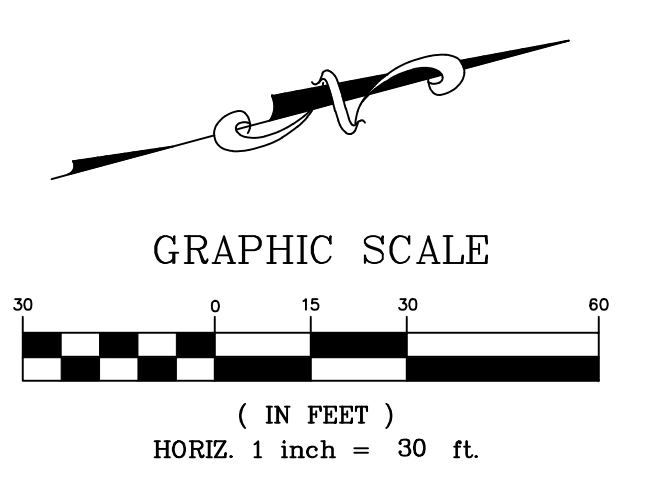
Electrical

RAMA LUMINAIRE

LEO LUMINAIRE

GUIDE BOLLARD / LUMINAIRE

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Corporate Seal: Noted 1/19/16 State of New York

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T: (516) 754-4800
T: (914) 724-8500

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

DISCIPLINE:
CIVIL

TITLE:
LIGHTING PLAN

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

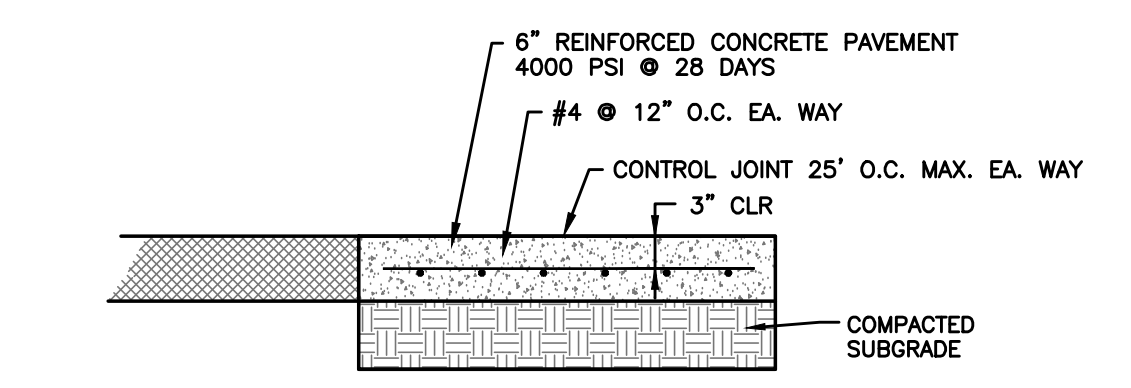
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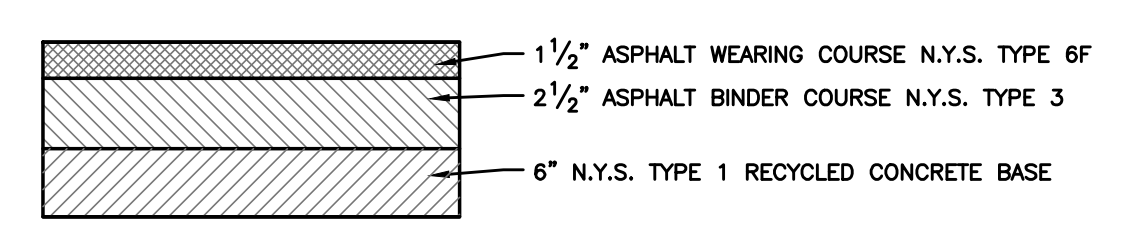
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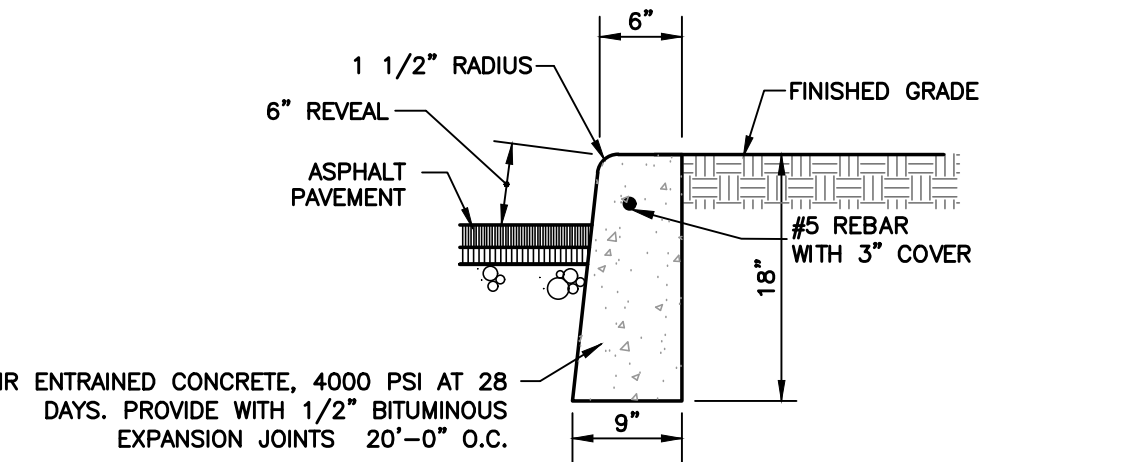
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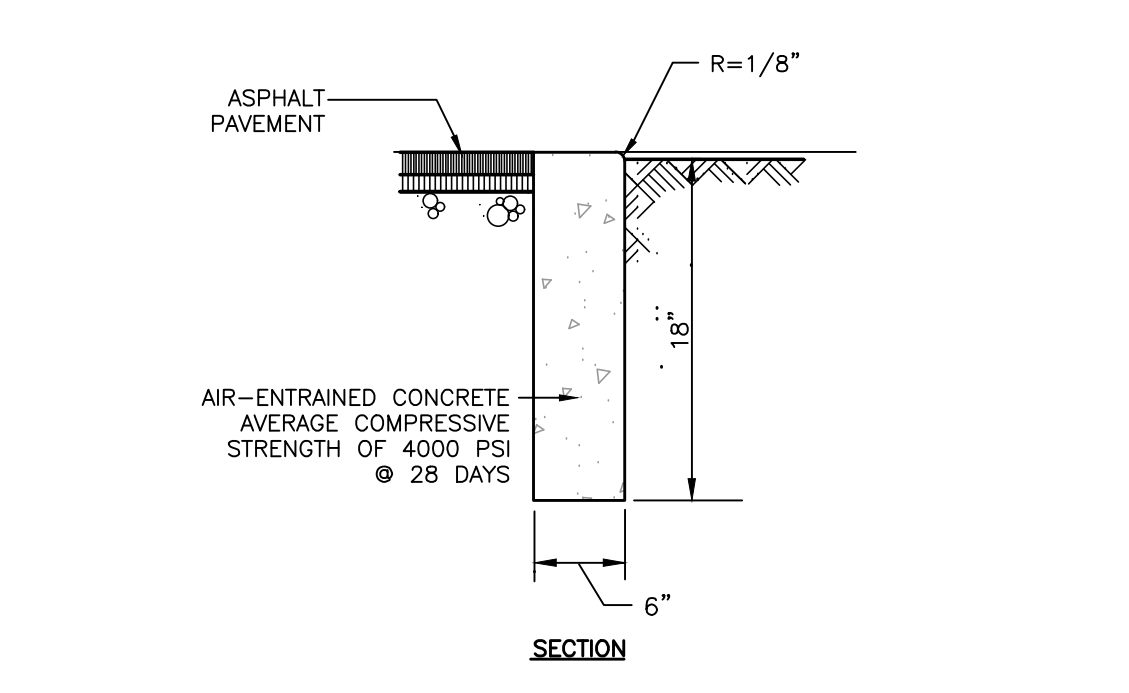
HEAVY DUTY CONCRETE
SCALE: NTS



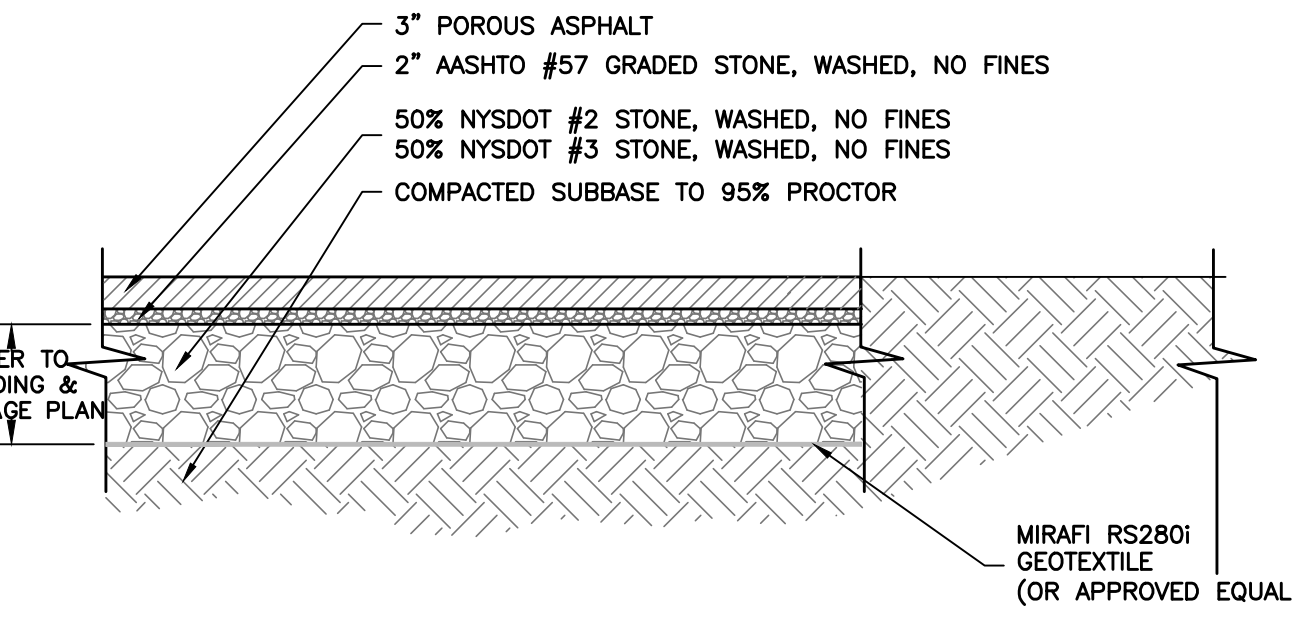
ASPHALT PAVEMENT - ON & OFF SITE
SCALE: NTS



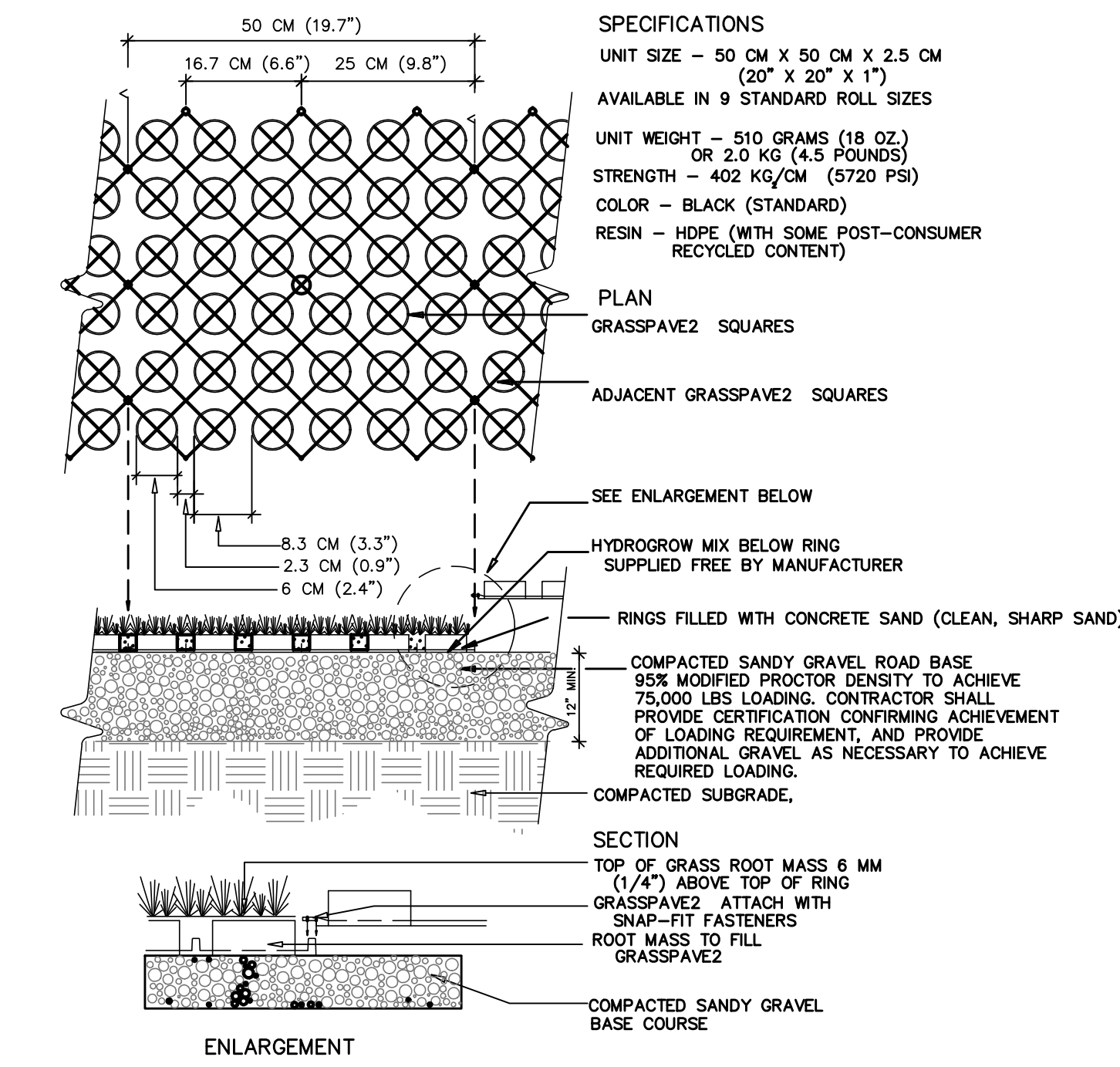
CONCRETE CURB (ON AND OFF SITE)
SCALE: NTS



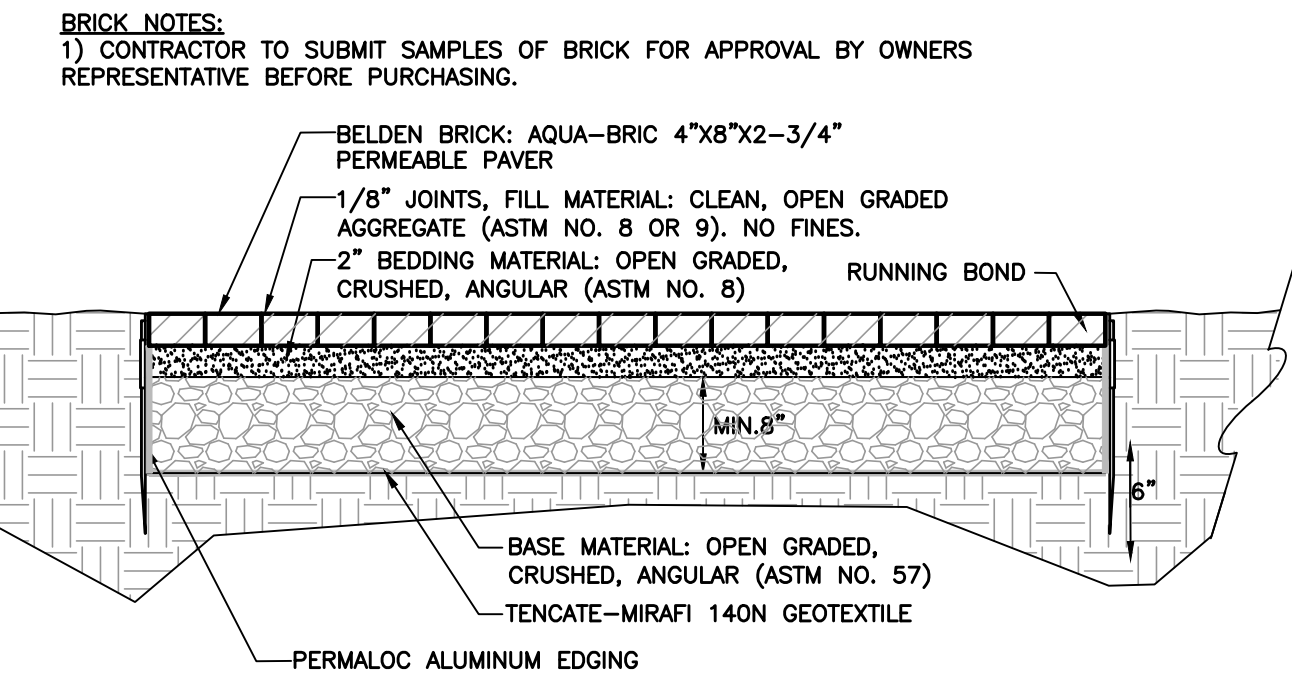
FLUSH CONCRETE CURB
SCALE: N.T.S.



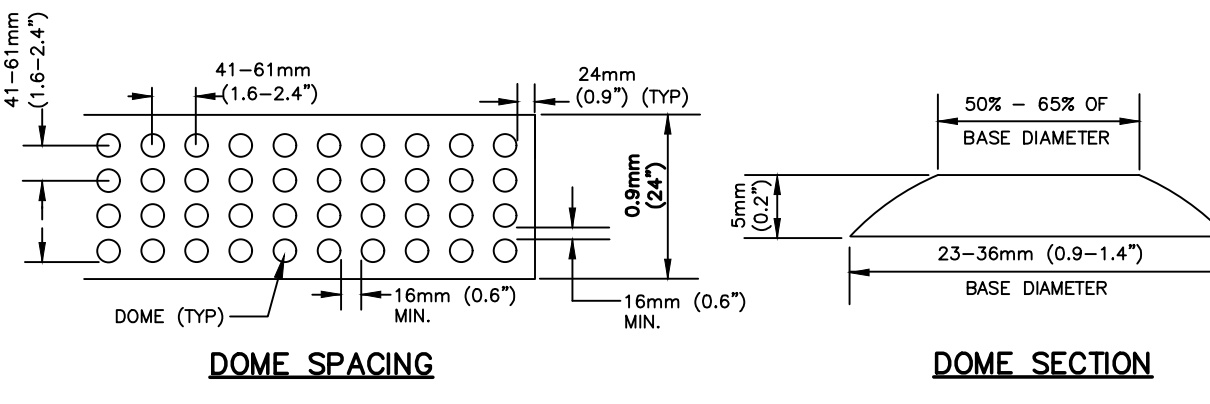
POROUS ASPHALT PAVEMENT DETAIL
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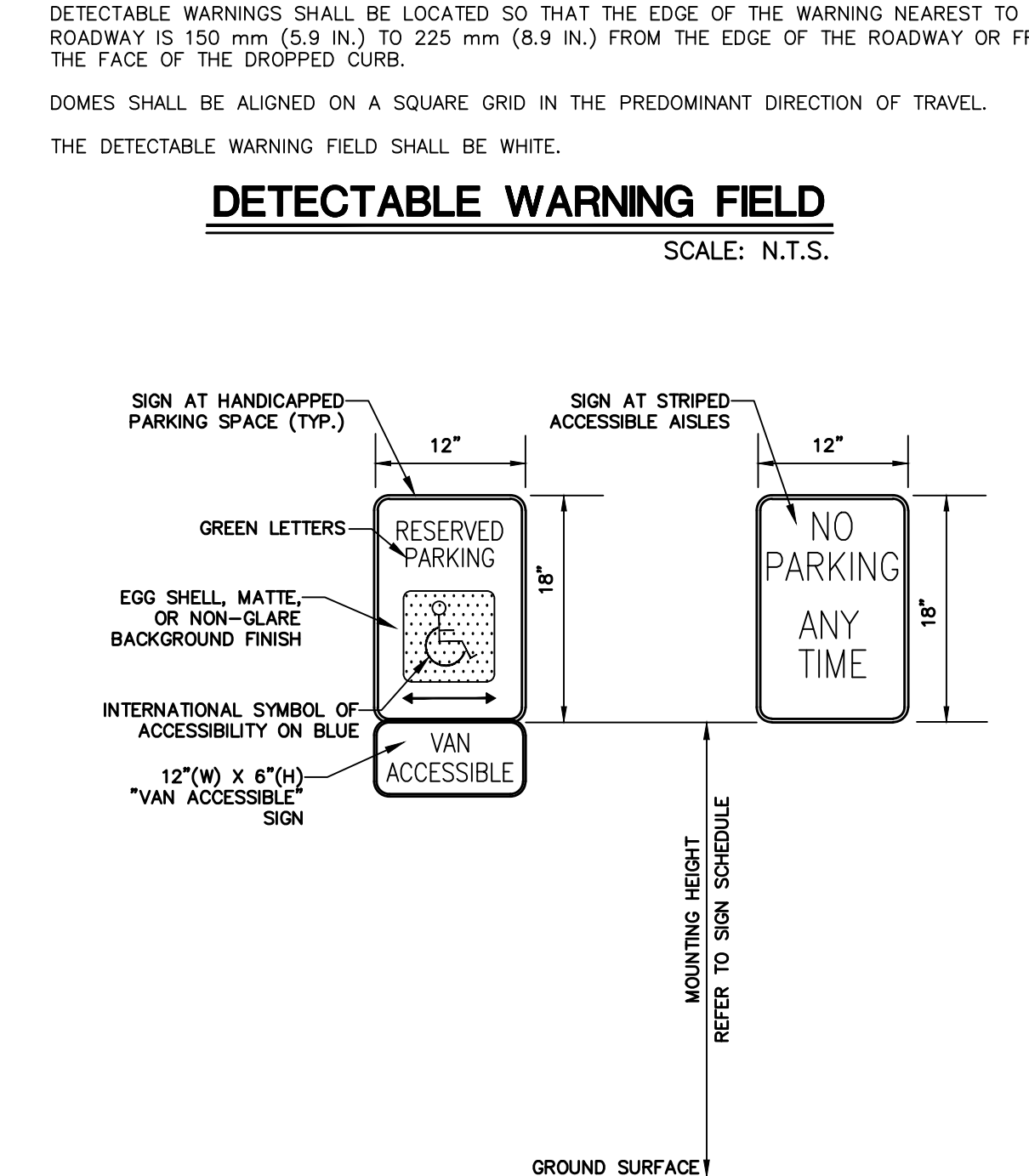
GRASSPAVE2 DETAIL
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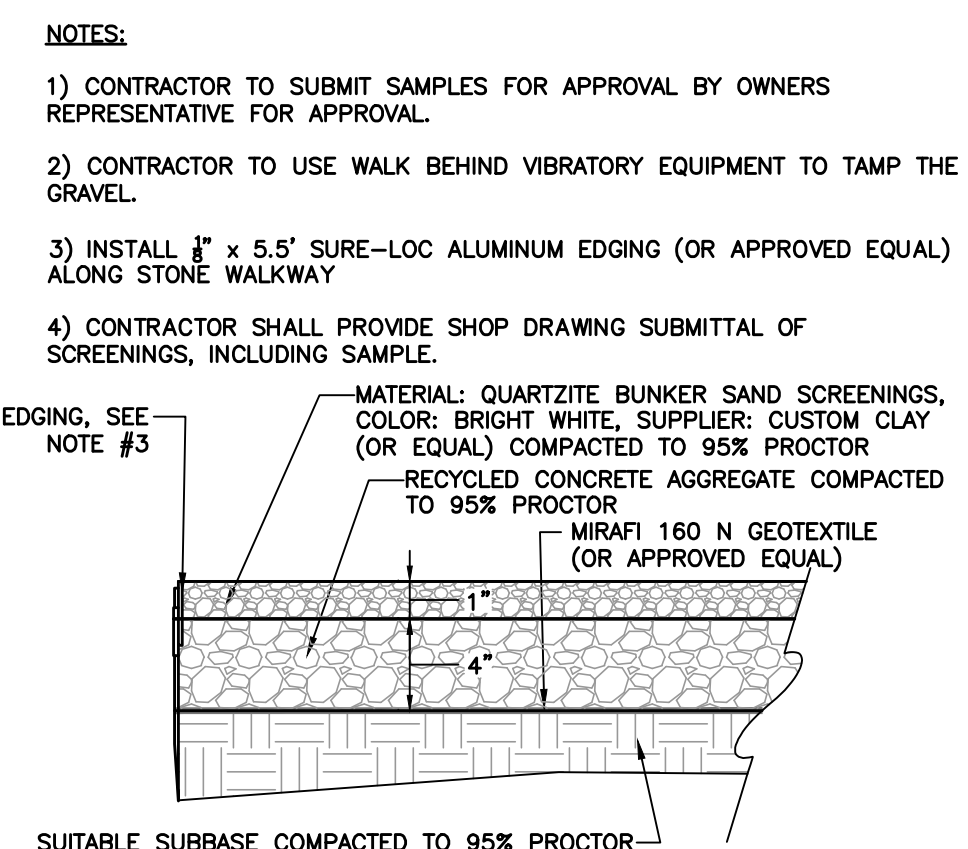
POROUS BRICK WALK DETAIL
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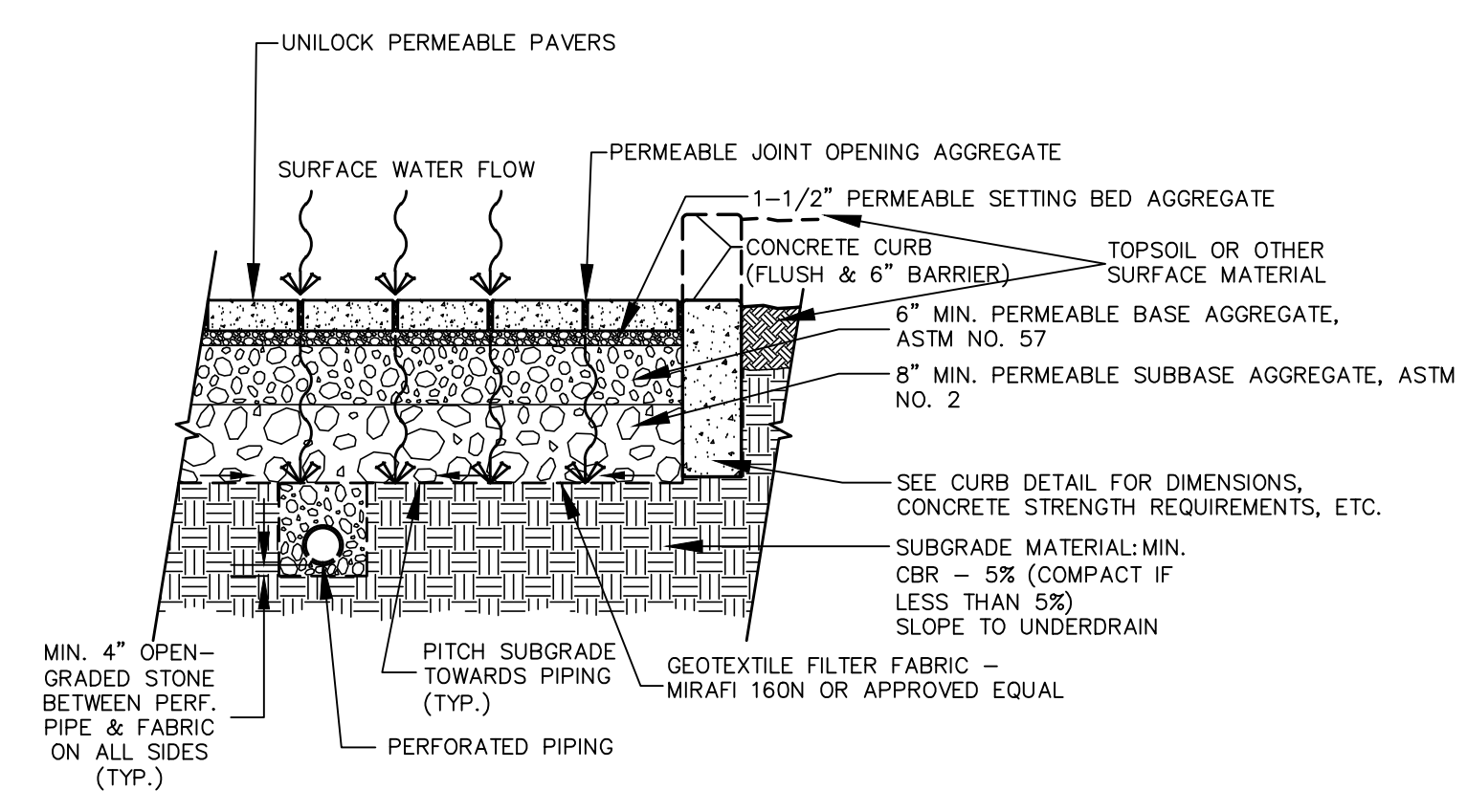
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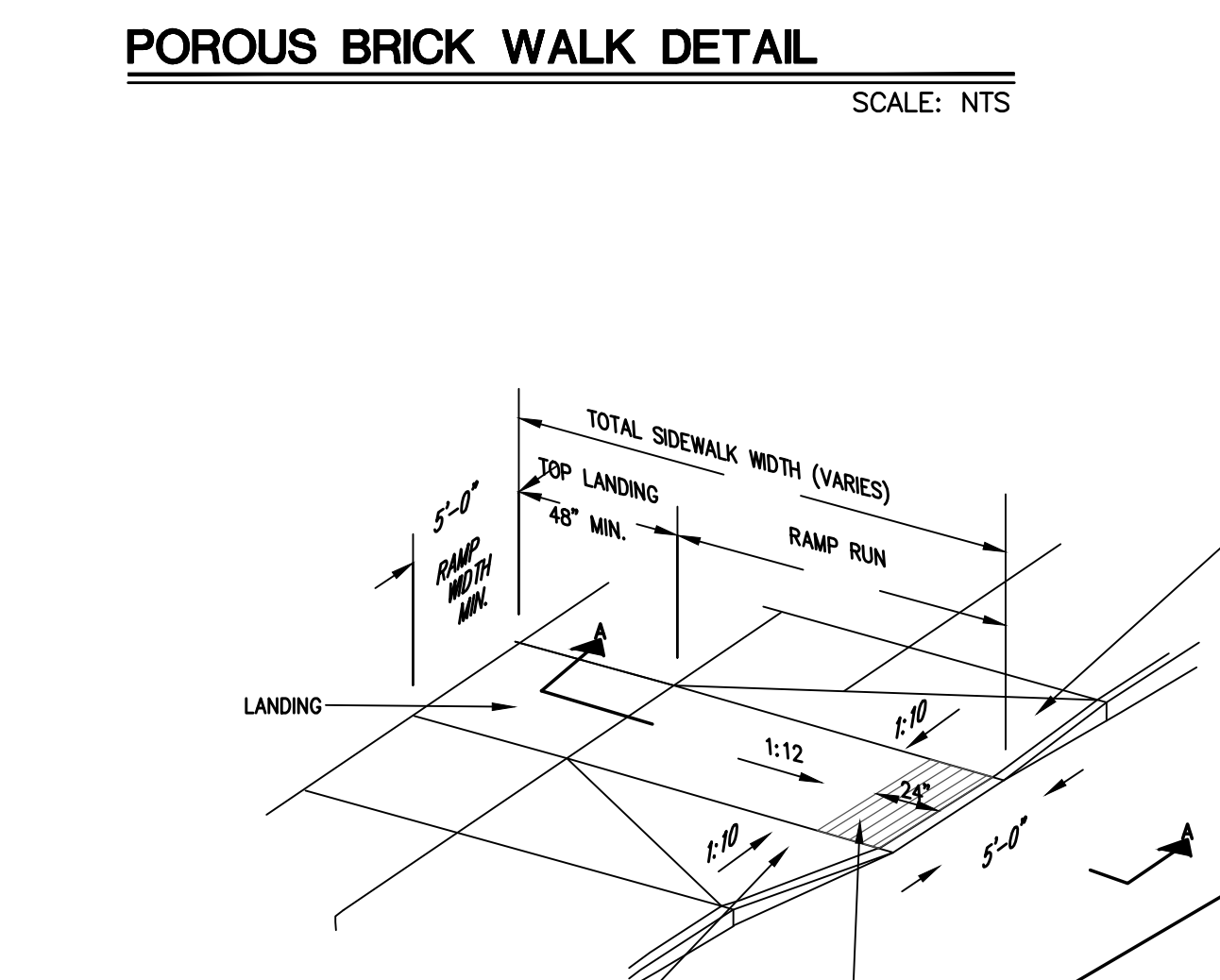
REGULATORY SIGN POST
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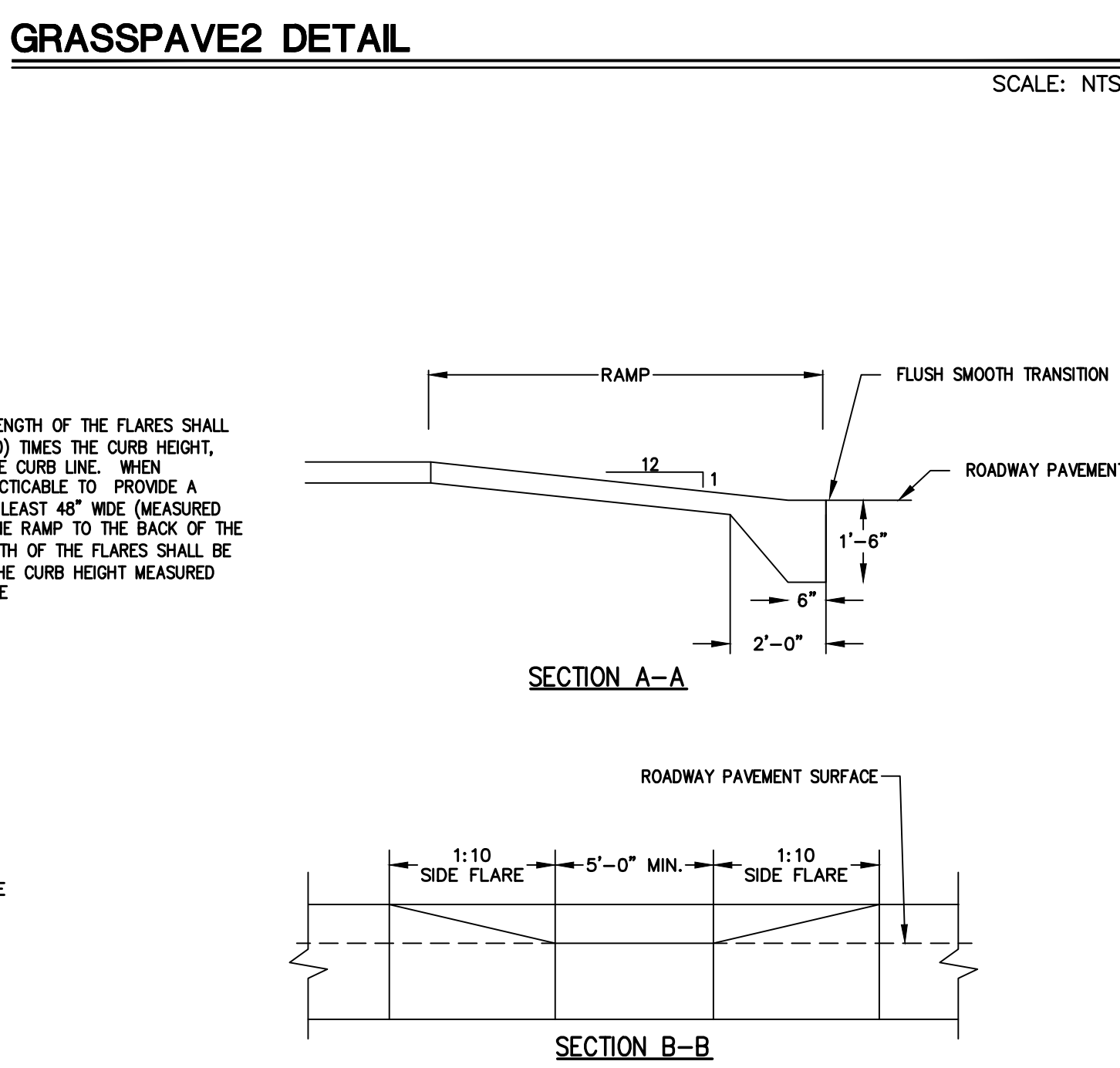
GRAVEL WALK DETAIL
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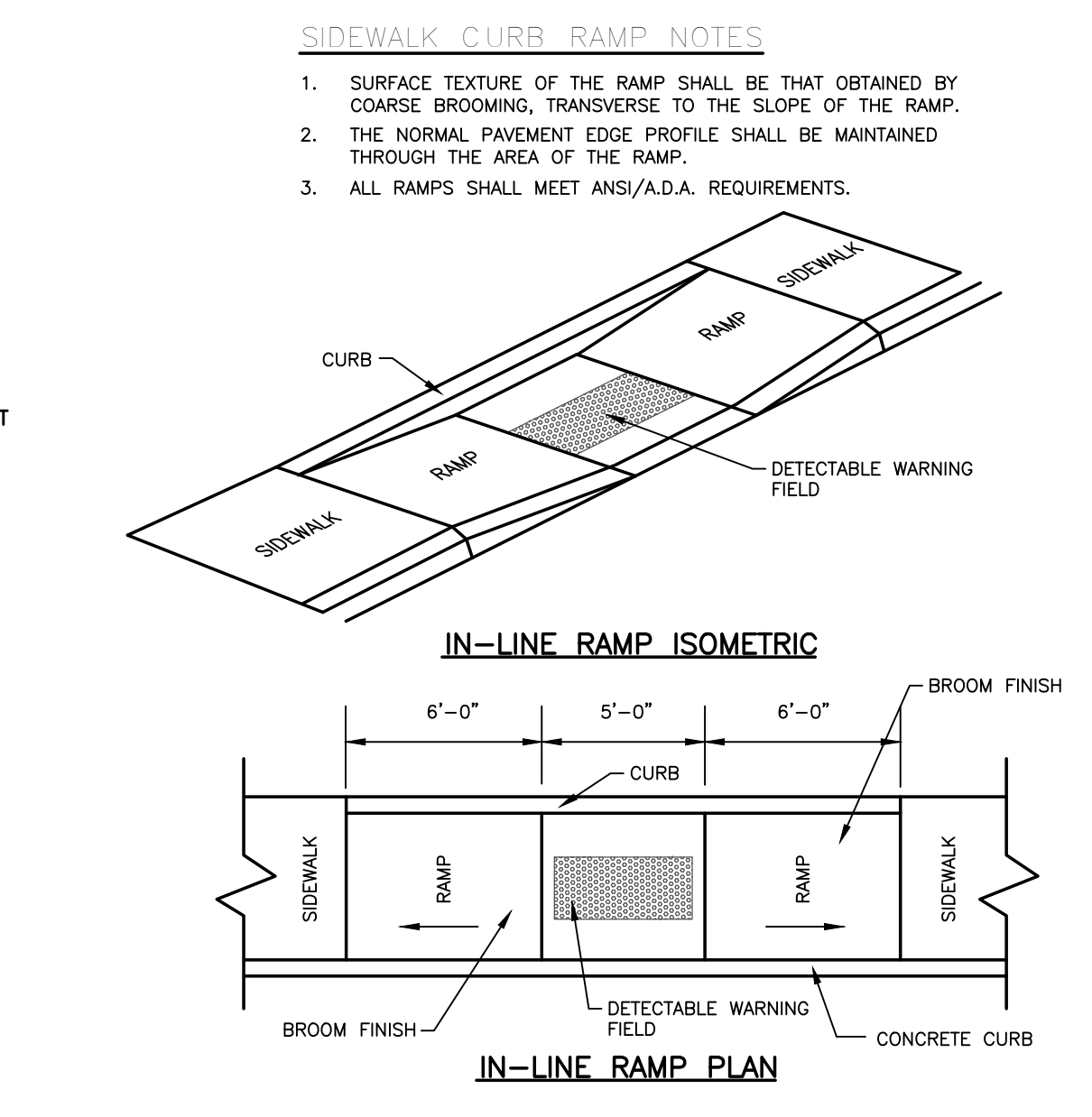
DECORATIVE POROUS PAVER DETAIL
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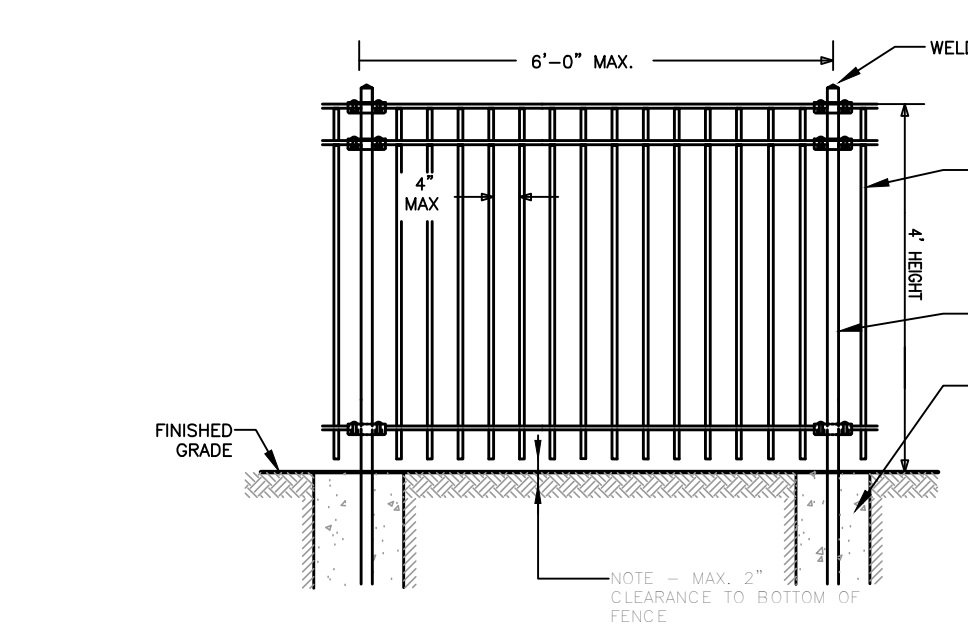
ACCESSIBLE RAMPS
SCALE: NTS



ACCESSIBLE RAMPS
SCALE: NTS



ACCESSIBLE RAMPS
SCALE: NTS



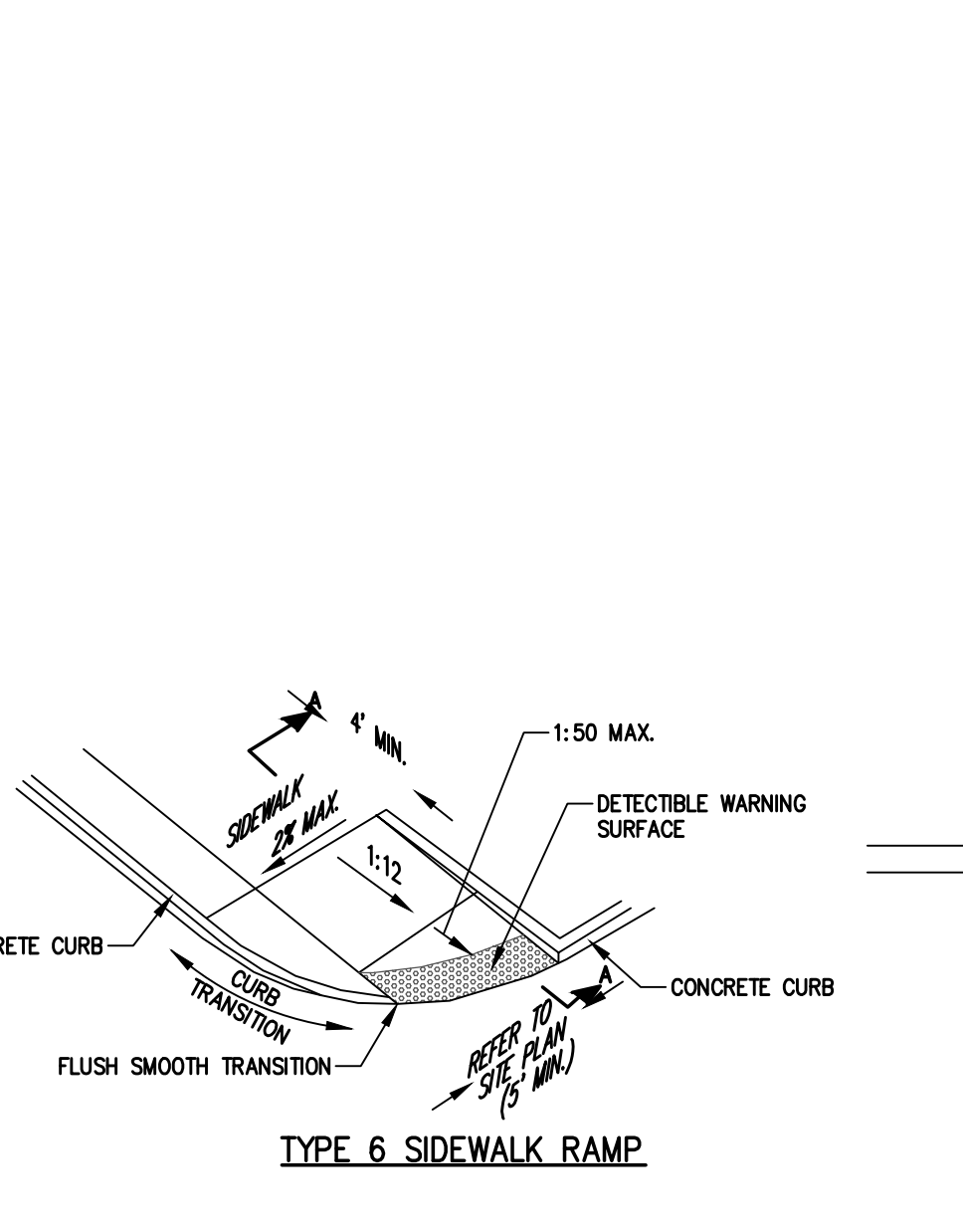
CONCRETE WALK DETAIL
SCALE: N.T.S.



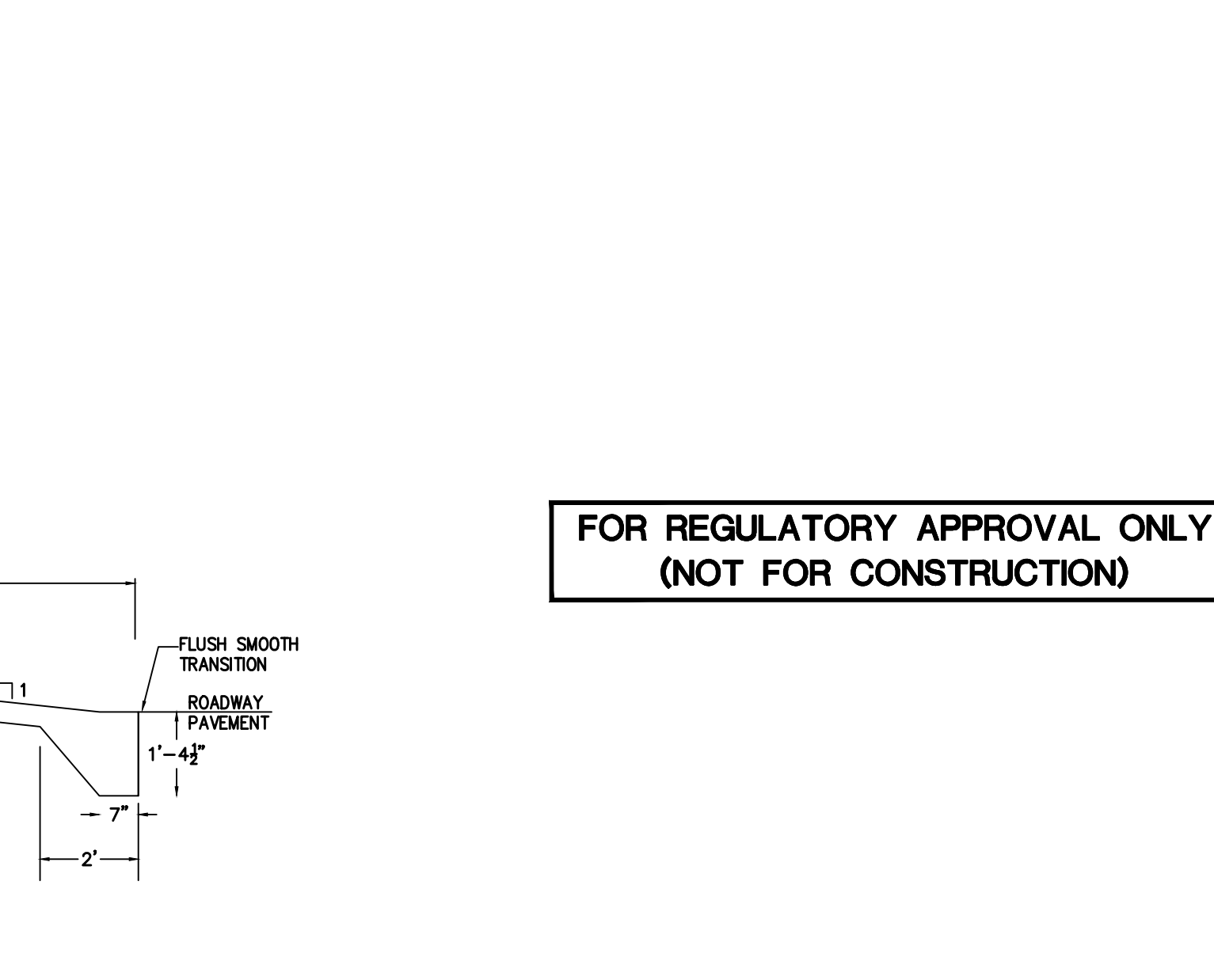
FENCE DETAIL
SCALE: N.T.S.

SIDEWALK CURB RAMP NOTES

1. SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY COURSE BROOMING, TRANSVERSE TO THE SLOPE OF THE RAMP.
2. THE NORMAL PAVEMENT EDGE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
3. ALL RAMPS SHALL MEET ANSI/A.D.A. REQUIREMENTS.



TYPE 6 SIDEWALK RAMP
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
TOWN OF CORTLANDT WESTCHESTER COUNTY, NY

TITLE:
DETAILS (1)

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

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DATE:
03-30-2019

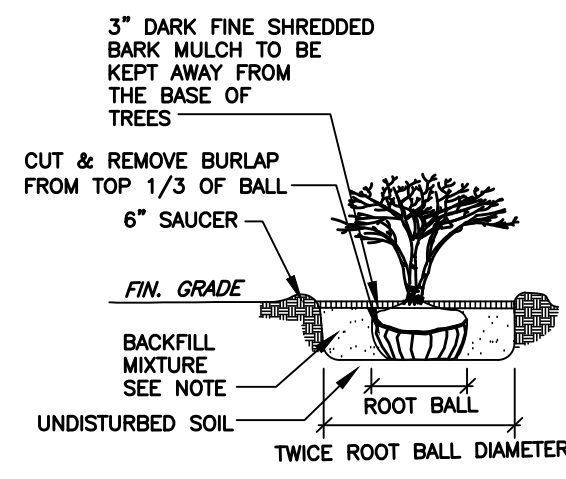
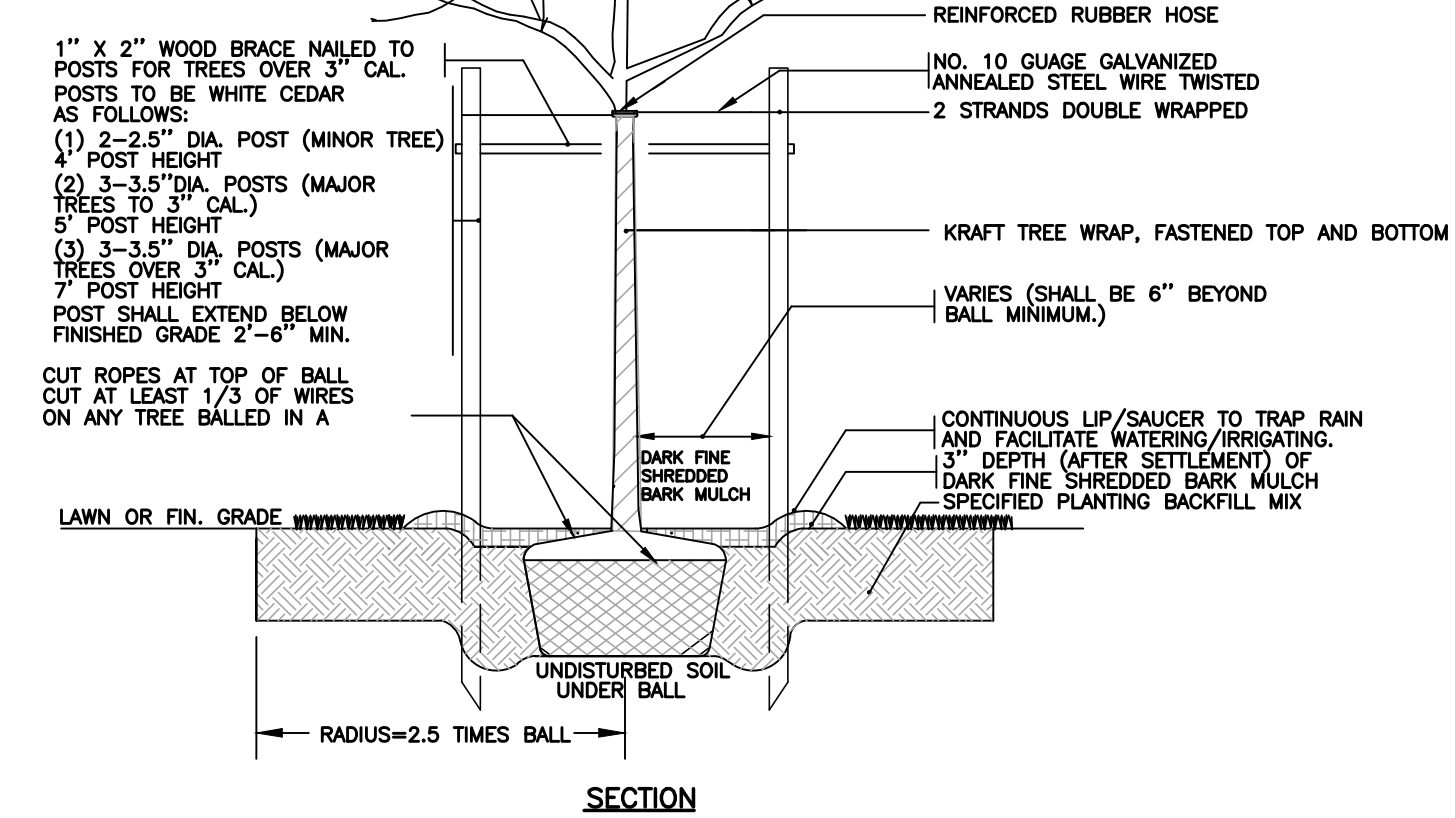
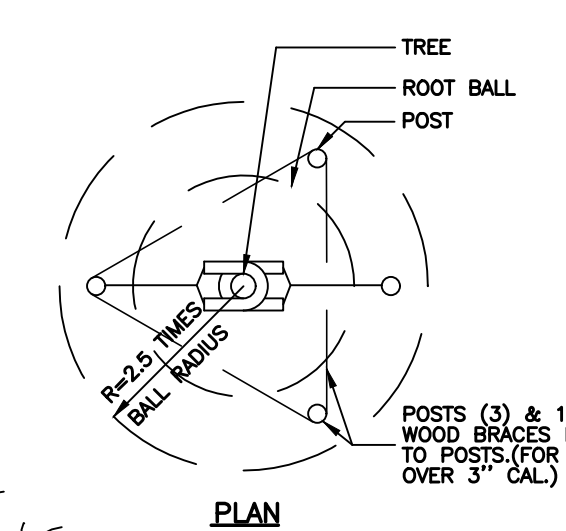
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SHEET
16 of 22

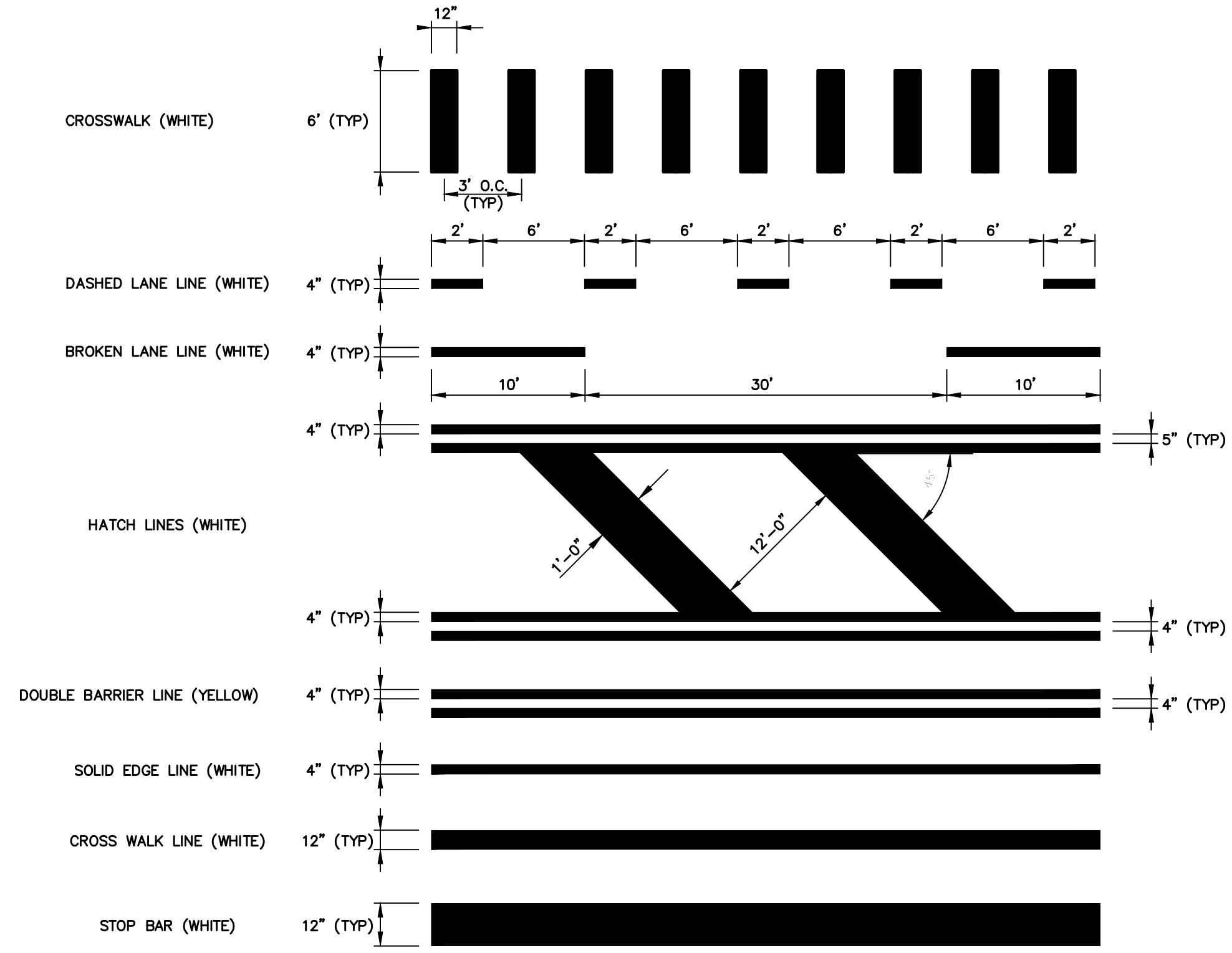
PLANTING NOTES:

1. CROWN OF ROOT BALL SHALL BEAR SAME RELATION (OR SLIGHTLY ABOVE) TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE.
2. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WIRES INSTALLING TREE SUPPORT POSTS.
3. REMOVE HOSE, POST, SAUCER AND WRAP AT END OF GUARANTEE PERIOD.
4. TREES TO BE STAKED, ONLY IF ABSOLUTELY NECESSARY.



PLANTING DETAIL

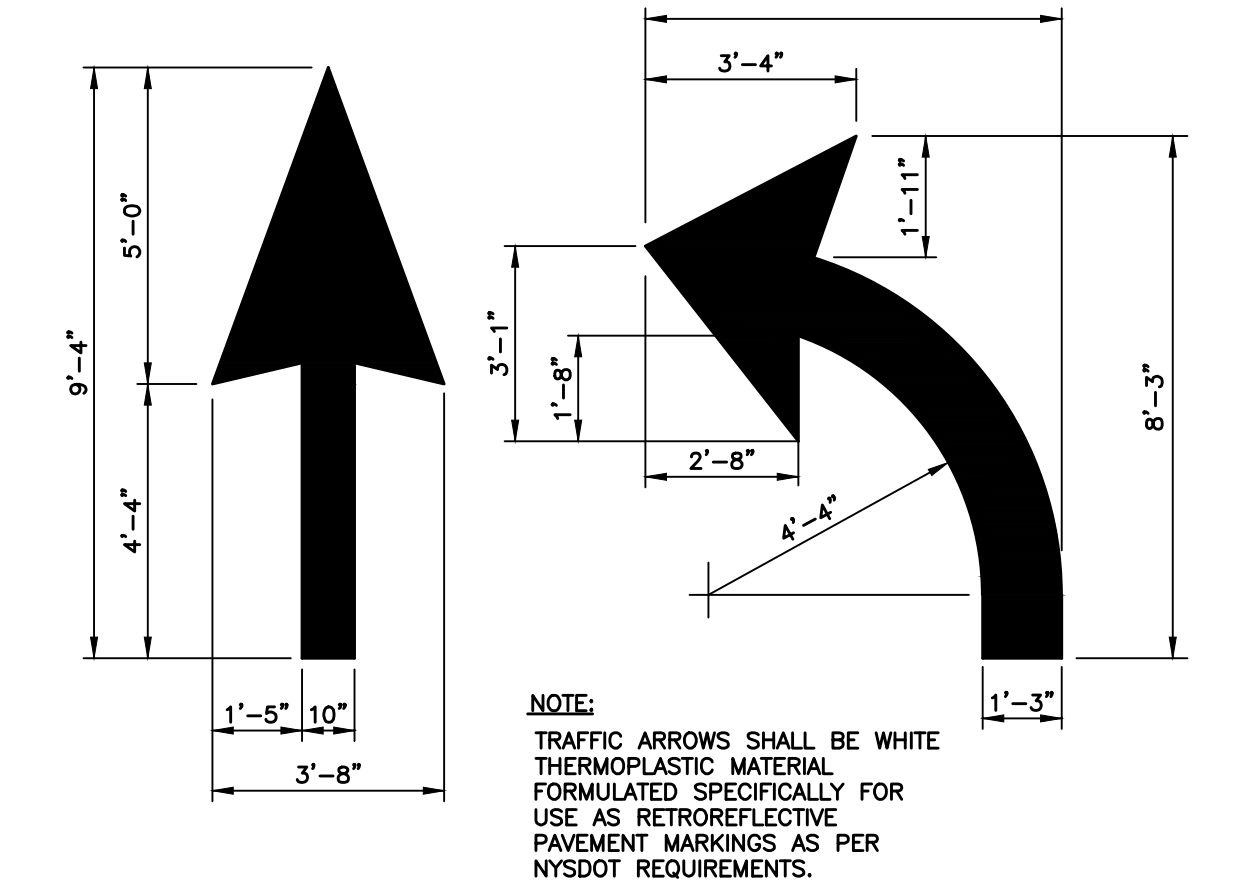
SCALE: N.T.S.



NOTE:
ALL PAVEMENT MARKINGS (EXCEPT PARKING STALL STRIPING) SHALL BE THERMOPLASTIC MATERIAL FORMULATED SPECIFICALLY FOR USE AS RETROREFLECTIVE PAVEMENT MARKINGS ON BITUMINOUS CONCRETE PAVEMENT AS PER NYS DOT REQUIREMENTS.

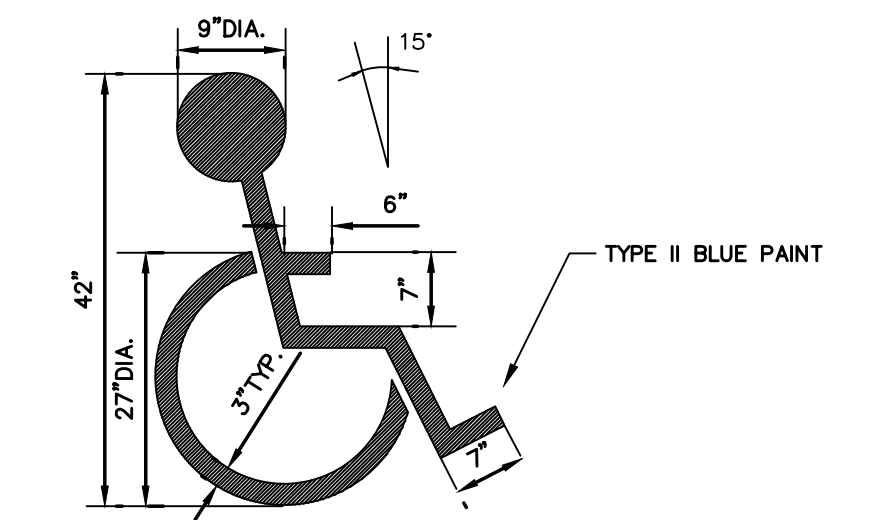
TYPICAL PAVEMENT MARKINGS

SCALE: N.T.S.



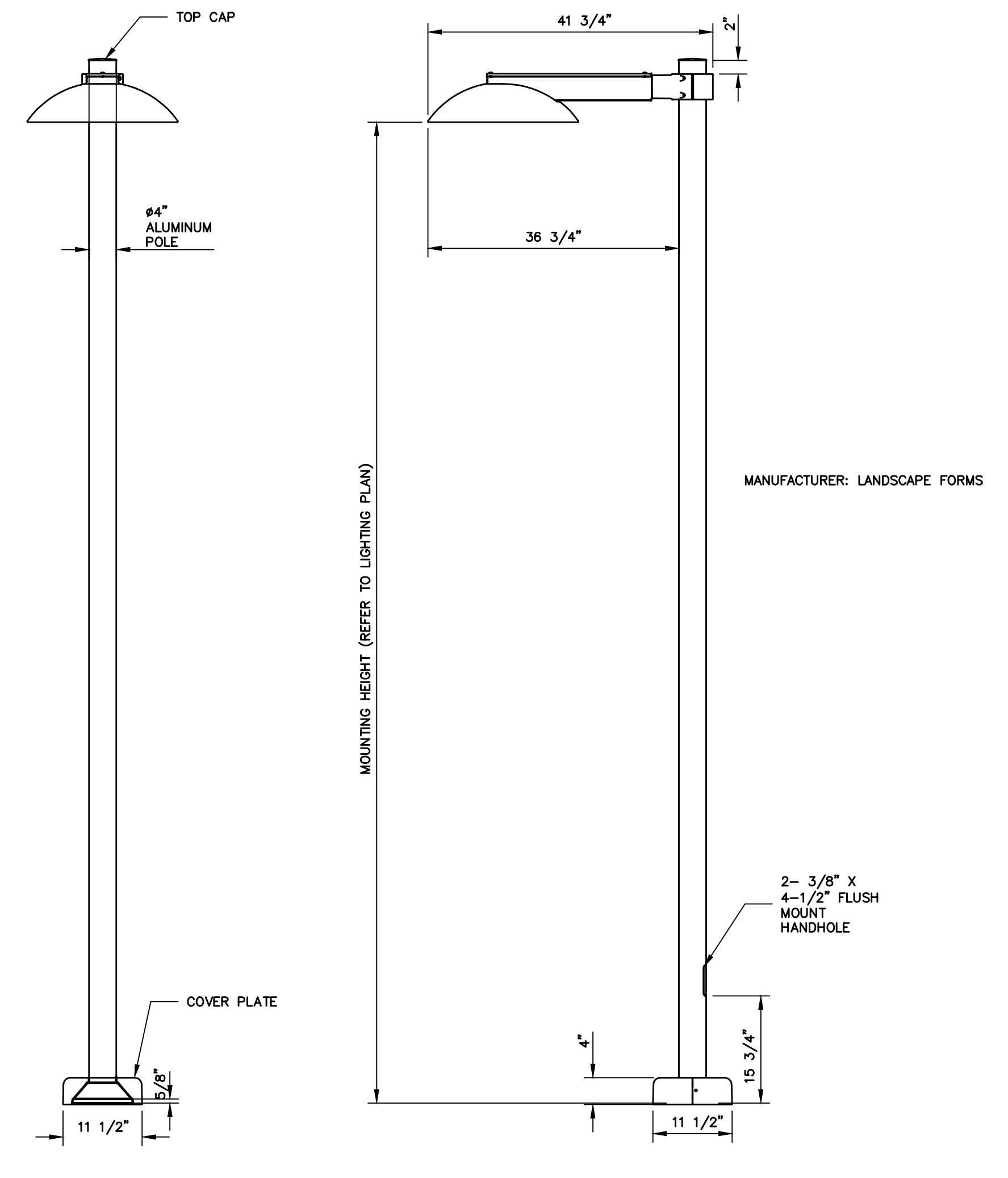
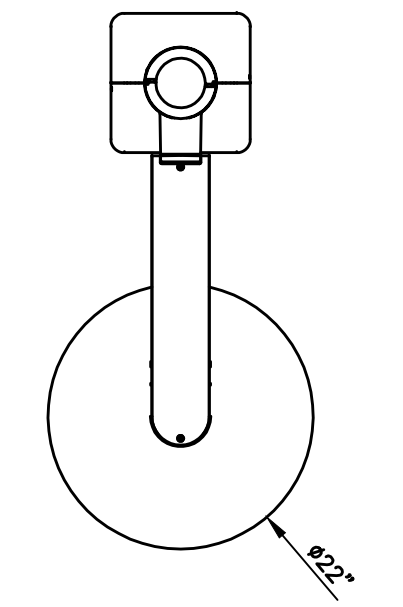
TRAFFIC ARROWS

SCALE: N.T.S.



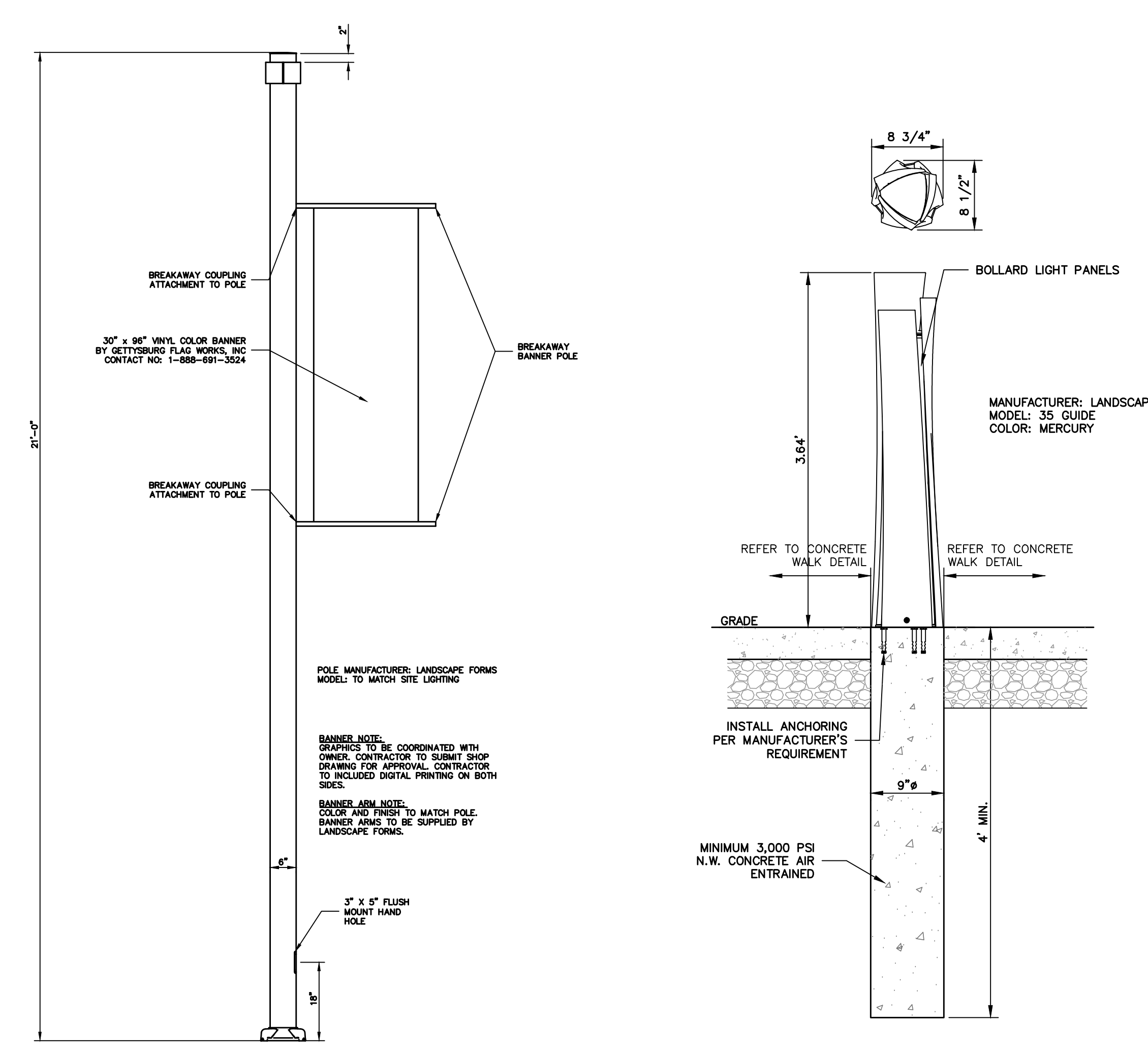
HANDICAPPED SYMBOL

SCALE: N.T.S.



LIGHT POLE DETAIL

SCALE: NTS

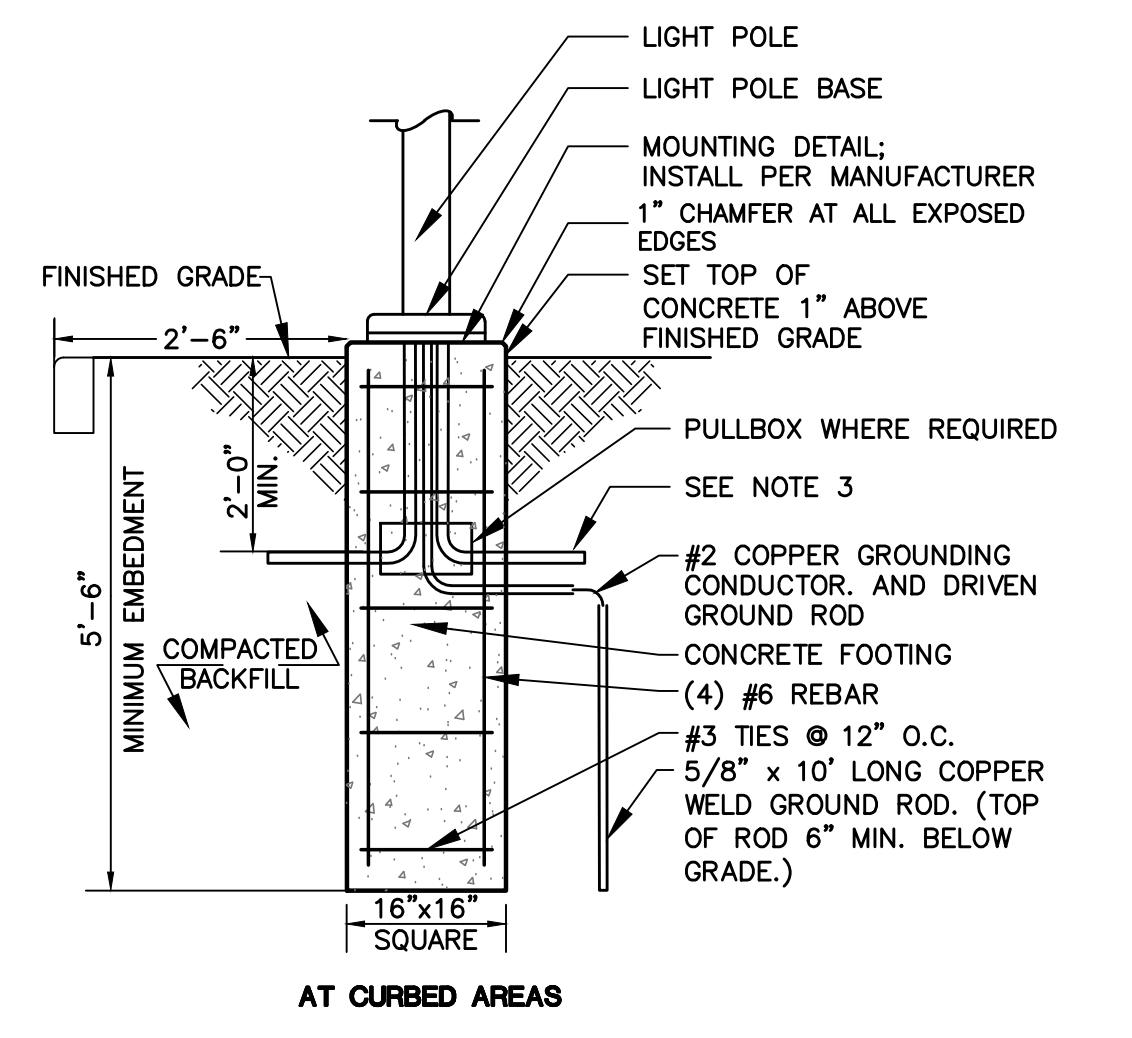


DECORATIVE BANNER POLE

SCALE: N.T.S.

BOLLARD LIGHT BASE DETAIL

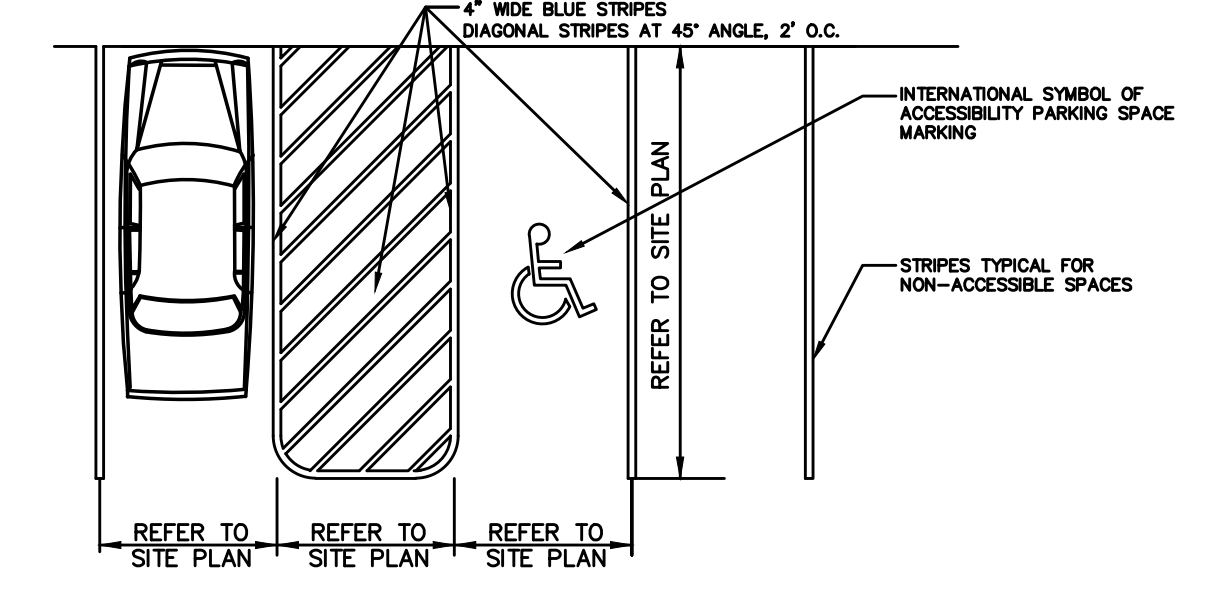
SCALE: N.T.S.



- NOTES**
1. CONCRETE TO BE NORMAL WEIGHT, AIR ENTRAINED 4,000 PSI @ 28 DAYS.
 2. CONTRACTOR TO VERIFY ANCHOR BOLT PATTERN, PROJECTION AND SIZE WITH MANUFACTURER PRIOR TO FABRICATION AND INSTALLATION.
 3. PROVIDE BUSHED RIGID CONDUITS SIZED AS REQUIRED FOR BRANCH CIRCUIT & GROUNDING CONDUCTOR. PROVIDE CONDUIT CAP ON CONDUIT RESERVED FOR FUTURE USE.
 4. ANCHOR BOLT ASSEMBLY TO BE PROVIDED BY POLE MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER TEMPLATE AND RECOMMENDATIONS.
 5. REBAR TO BE ASTM A-615 GRADE 60.

LIGHT POLE FOOTING DETAIL

SCALE: NTS



NOTE: PARKING SPACES AND LOCATIONS DESIGNATED FOR PHYSICALLY HANDICAPPED PEOPLE AND ACCESSIBLE PASSENGER LOADING ZONES THAT SERVE A PARTICULAR BUILDING SHALL COMPLY WITH A.N.S.I. STANDARDS, AND N.Y.S. A.D.A. CODE.

HANDICAPPED STRIPING

SCALE: N.T.S.

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 Corporate Office: 914.231.8500
 www.CameronEngineering.com

PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
DETAILS (2)

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

JOB NO.:
CE338A

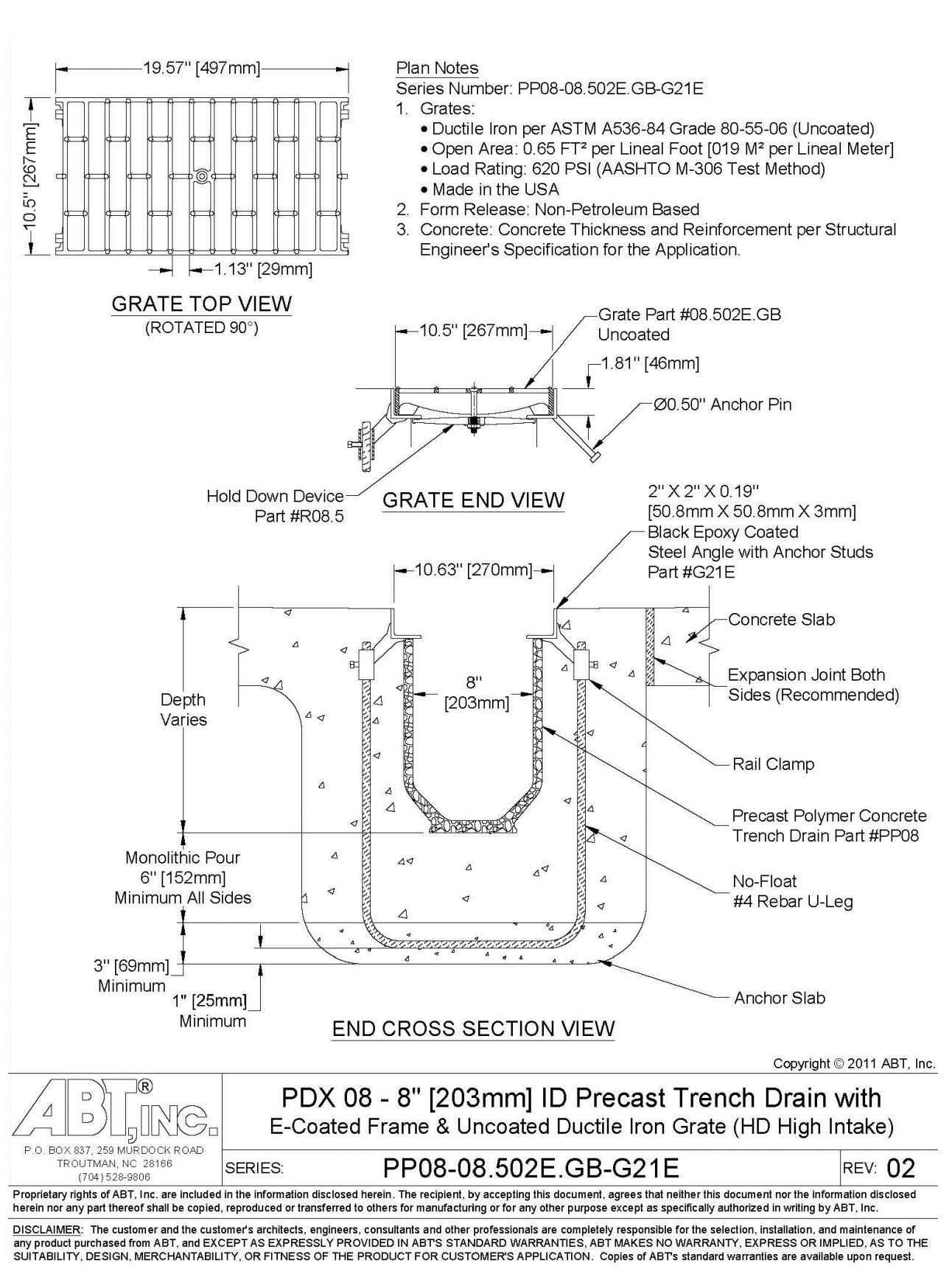
DATE:
03-30-2017

SCALE:
AS SHOWN

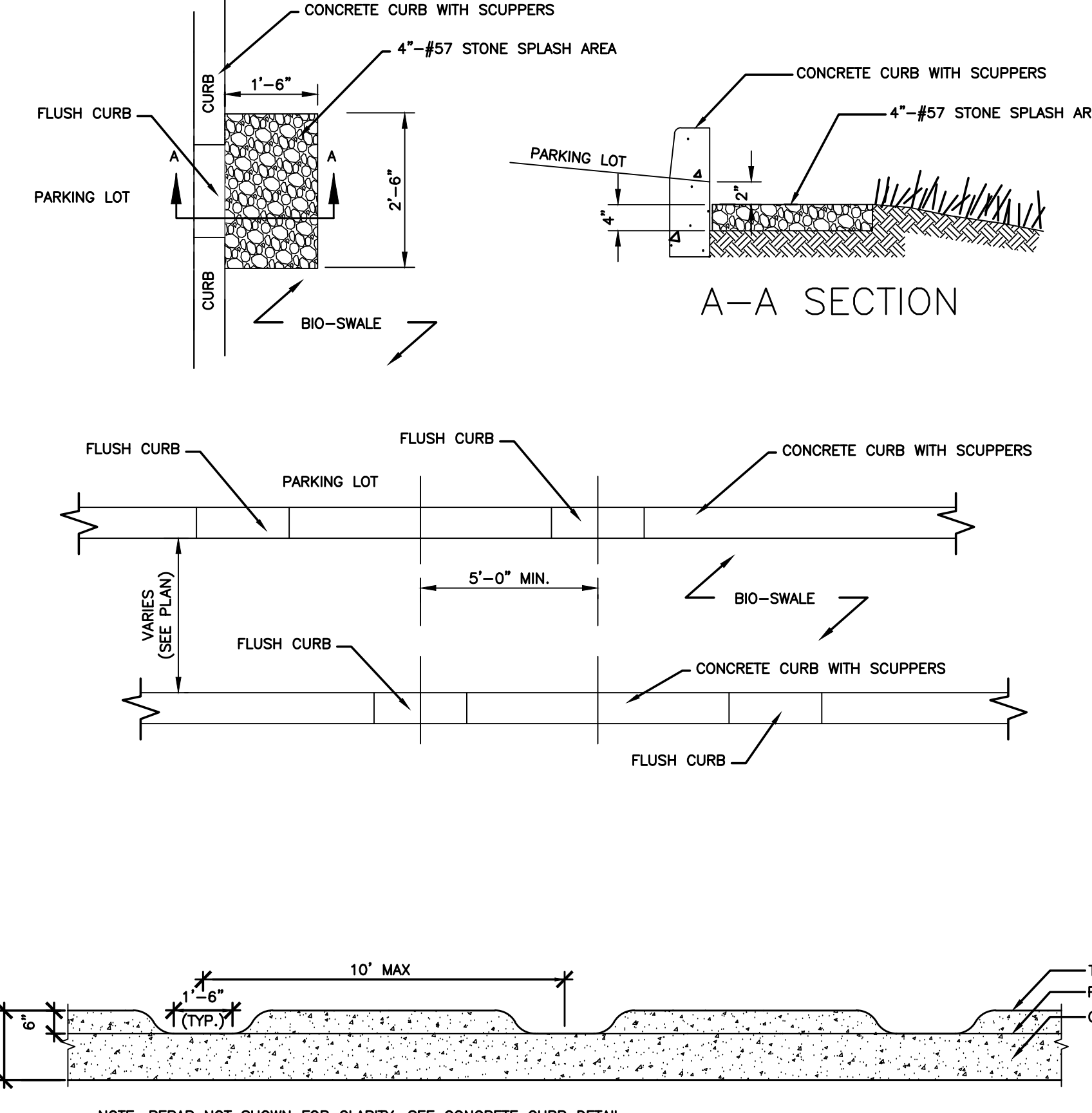
C8.2

SHEET
17 of 22

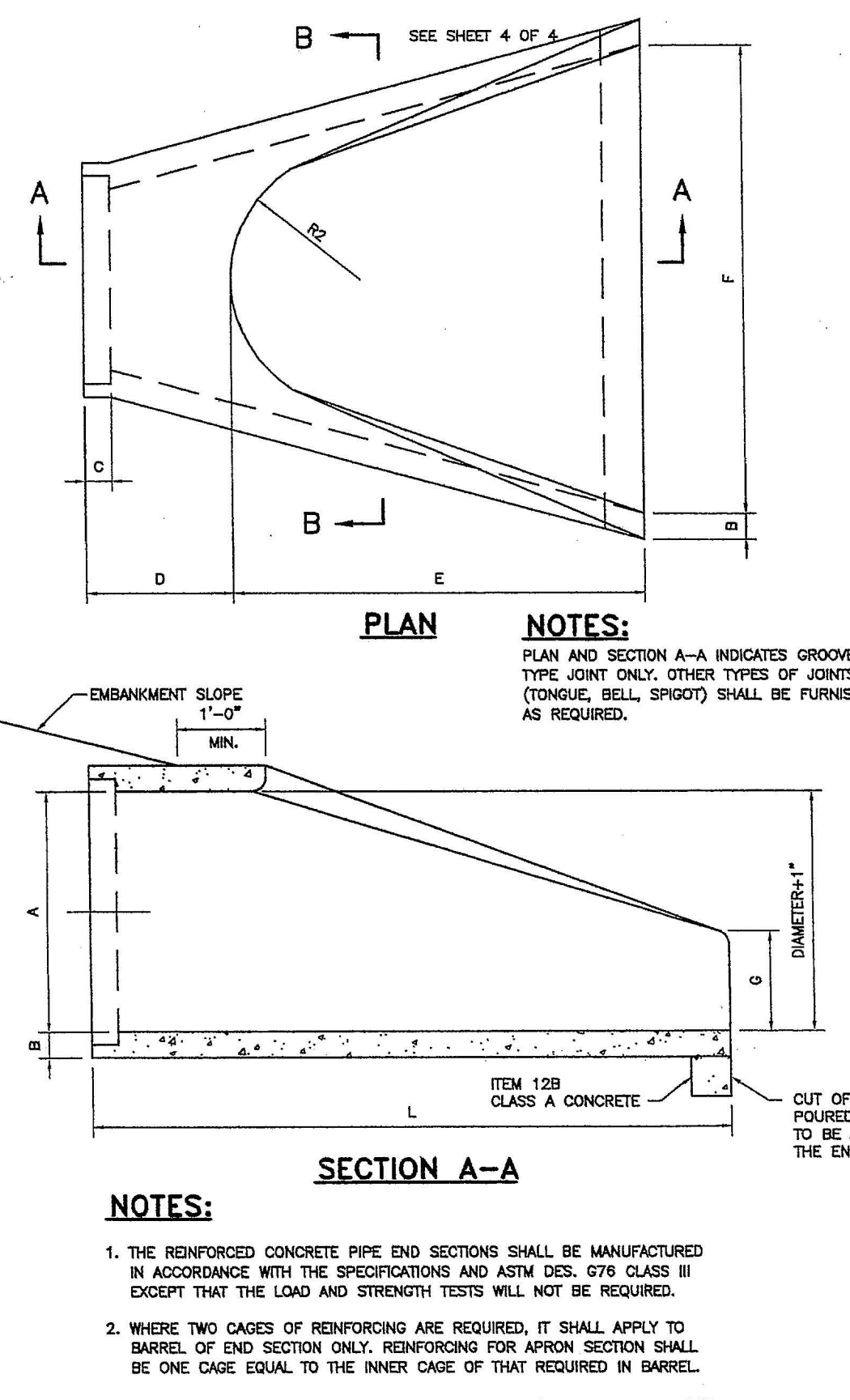
PROJECT NO.: CE338A
 SHEET NO.: C8.2
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 CHECKED BY: KMM
 PROJECT ENGINEER: MAD
 DESIGNED BY: MAD
 TOWN OF CORTLANDT
 WESTCHESTER COUNTY, NY
 CAMERON ENGINEERING & ASSOCIATES, LLP
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TRENCH DRAIN DETAIL
SCALE: NTS



SCUPPERS CURB DETAIL AT BIO SWALES
SCALE: NTS

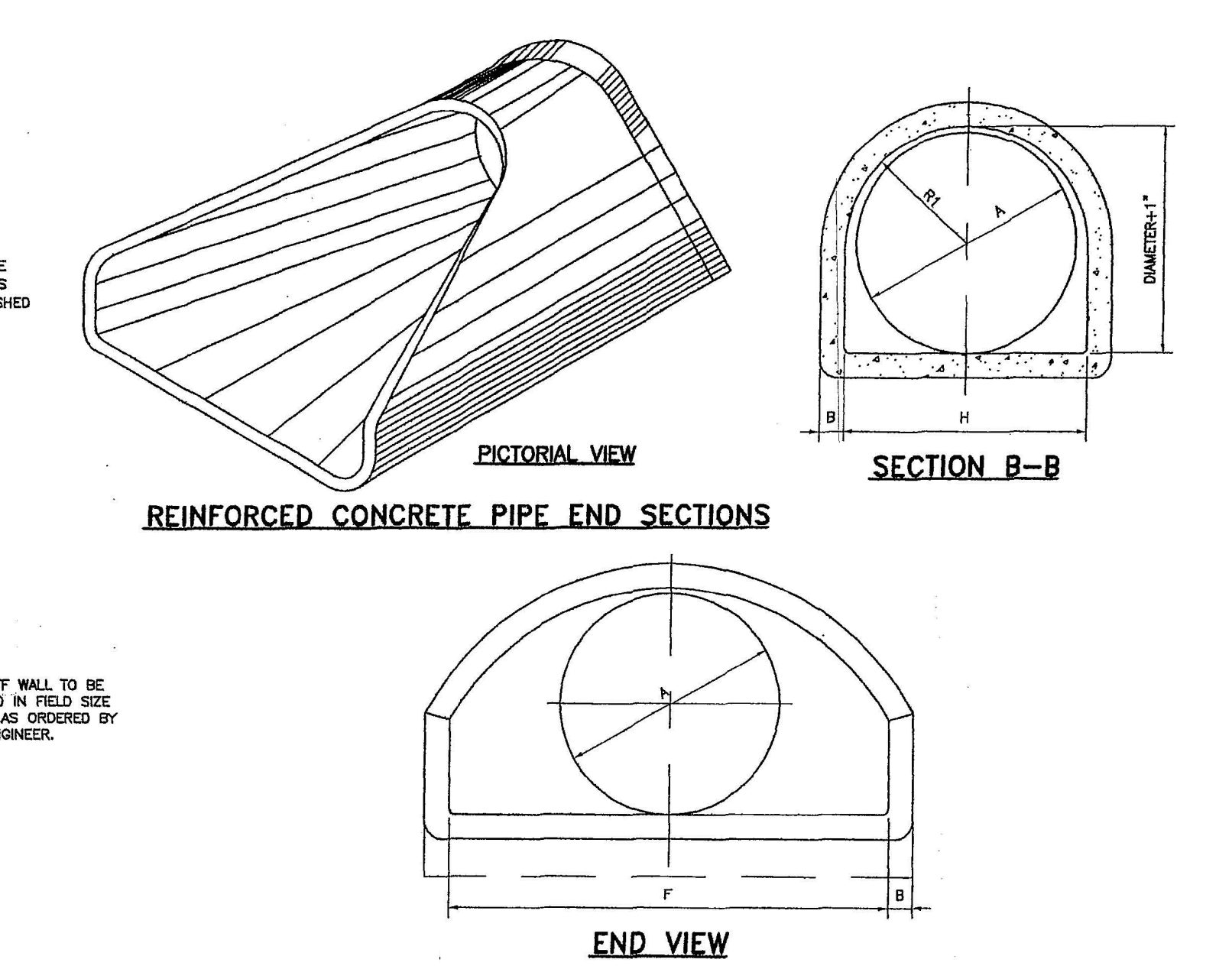


CONCRETE PIPE END SECTION
SCALE: NTS

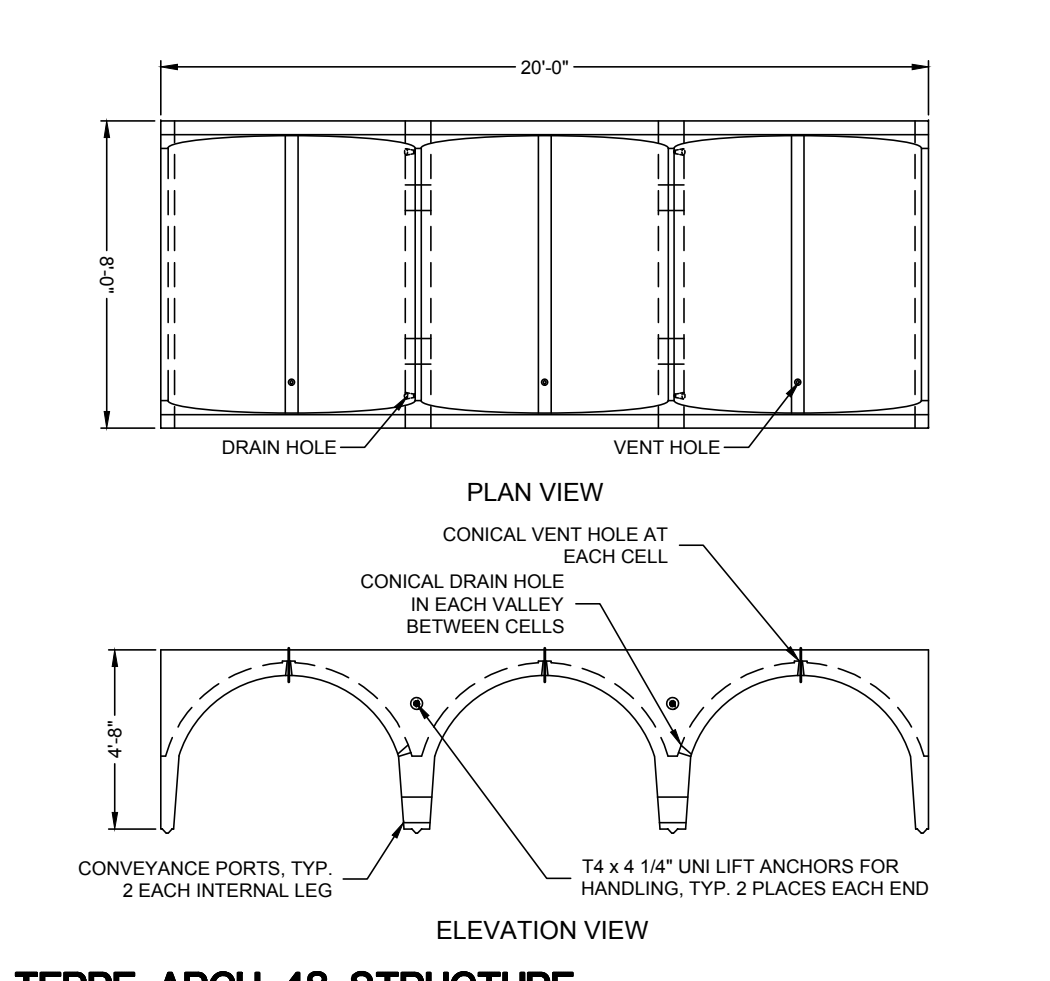
BASIC DIMENSIONS

A	B	C	D	E	F	G	H	DIA. ± 1"	SLOPE	R1	R2	RATIO	L
12"	2"		48 3/4"	24"	24"	4"	19 15/16"	13"	2.71	10 1/8"	9"	1.92	8'-0 3/8"
18"	2 1/2"		48"	27"	26"	4"	19"	18"	2.71	10 1/2"	12"	1.88	8'-1"
24"	3"	SEE	38"	43 1/2"	48"	4"	19 1/2"	22"	2.81	10 3/4"	14"	1.88	8'-1 1/2"
30"	3 1/2"	NOTE	19 3/4"	54"	60"	12"	27"	31"	2.81	18 1/2"	15"	1.41	8'-1 3/4"
36"	4"	NO.3	34 3/4"	63"	72"	15"	47 13/16"	37"	2.81	24 5/16"	20"	1.50	8'-1 3/4"
42"	4 1/2"		35"	78"	21"	15"	53 7/8"	43"	2.81	27 1/2"	22"	1.46	8'-2"
48"	5"		28"	72"	87"	24"	59 1/2"	49"	2.81	30"	22"	1.40	8'-2"

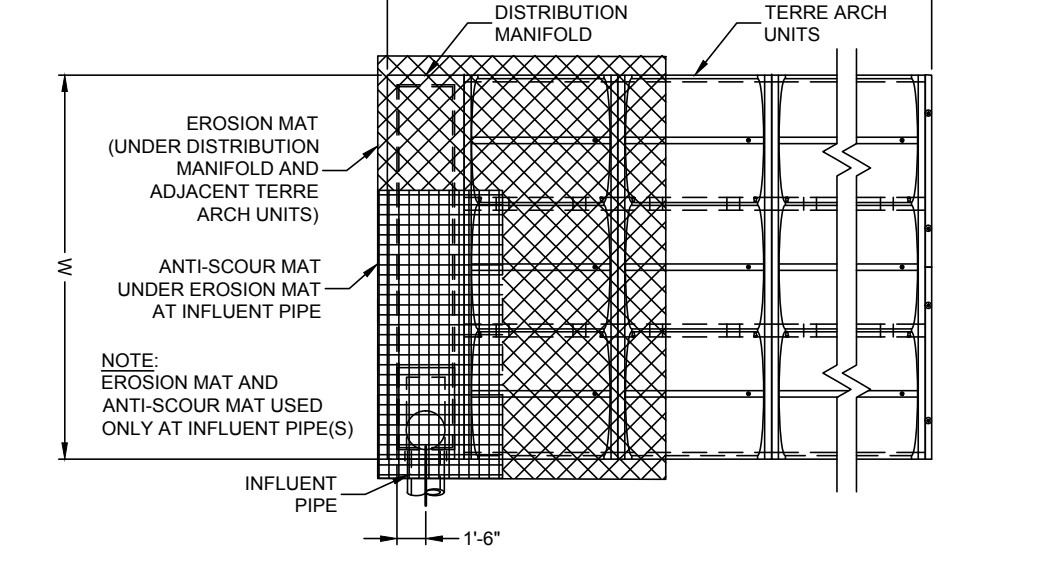
A-1= AREA OF NOMINAL DIMETER
A-2= AREA TRENCH SECTION



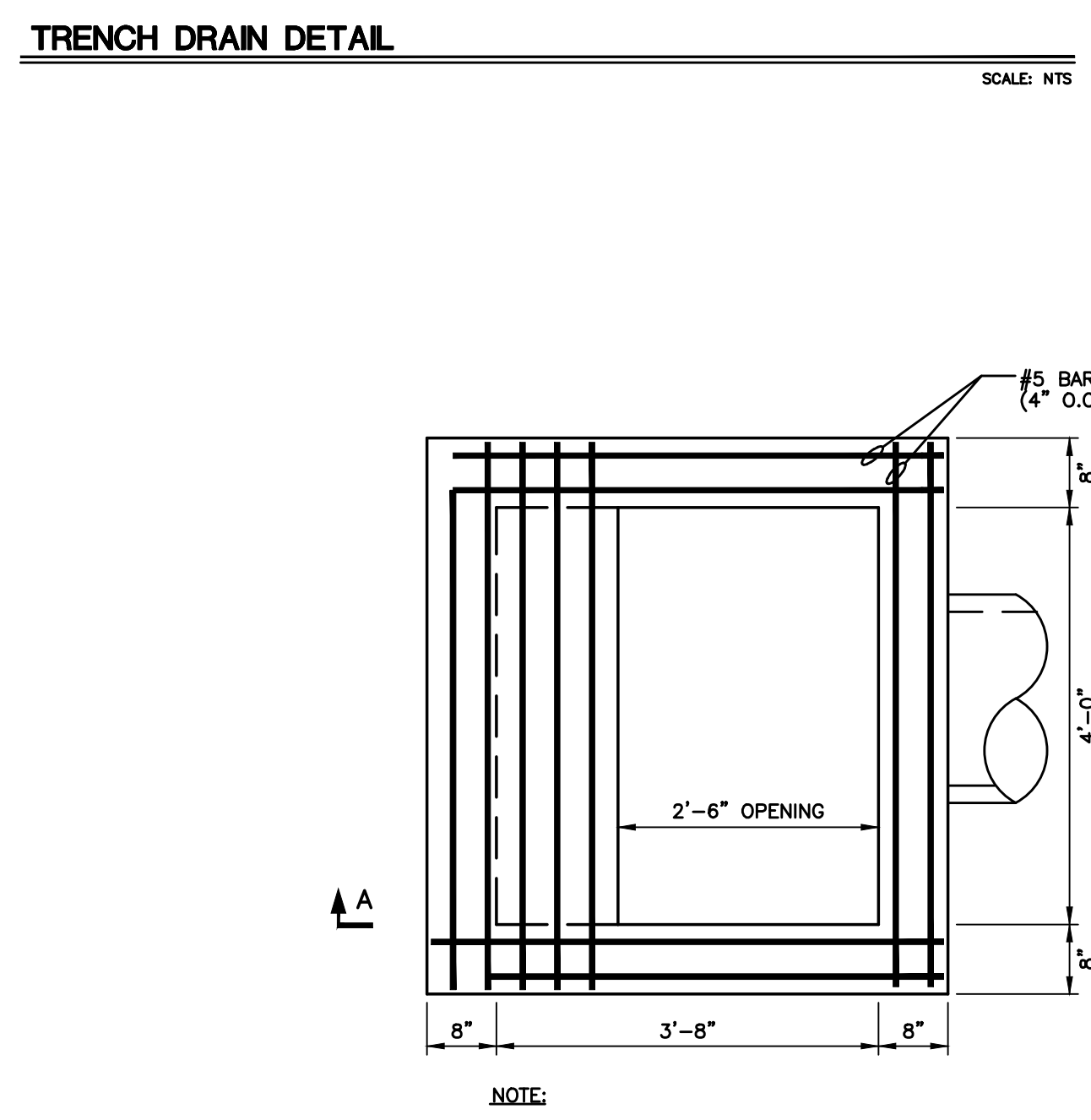
REINFORCED CONCRETE PIPE END SECTIONS
SCALE: NTS



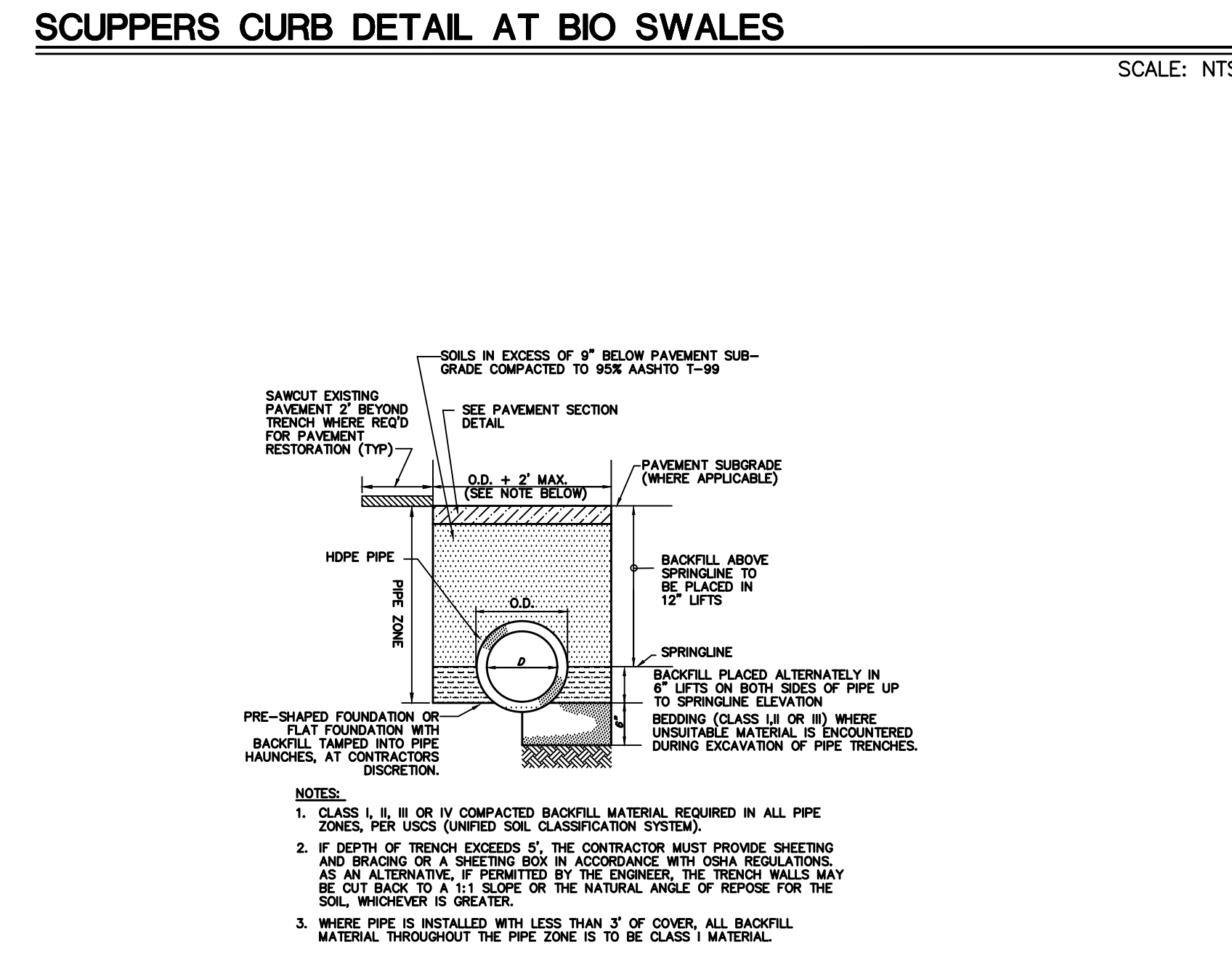
TERRE ARCH 48 STRUCTURE
SCALE: NTS



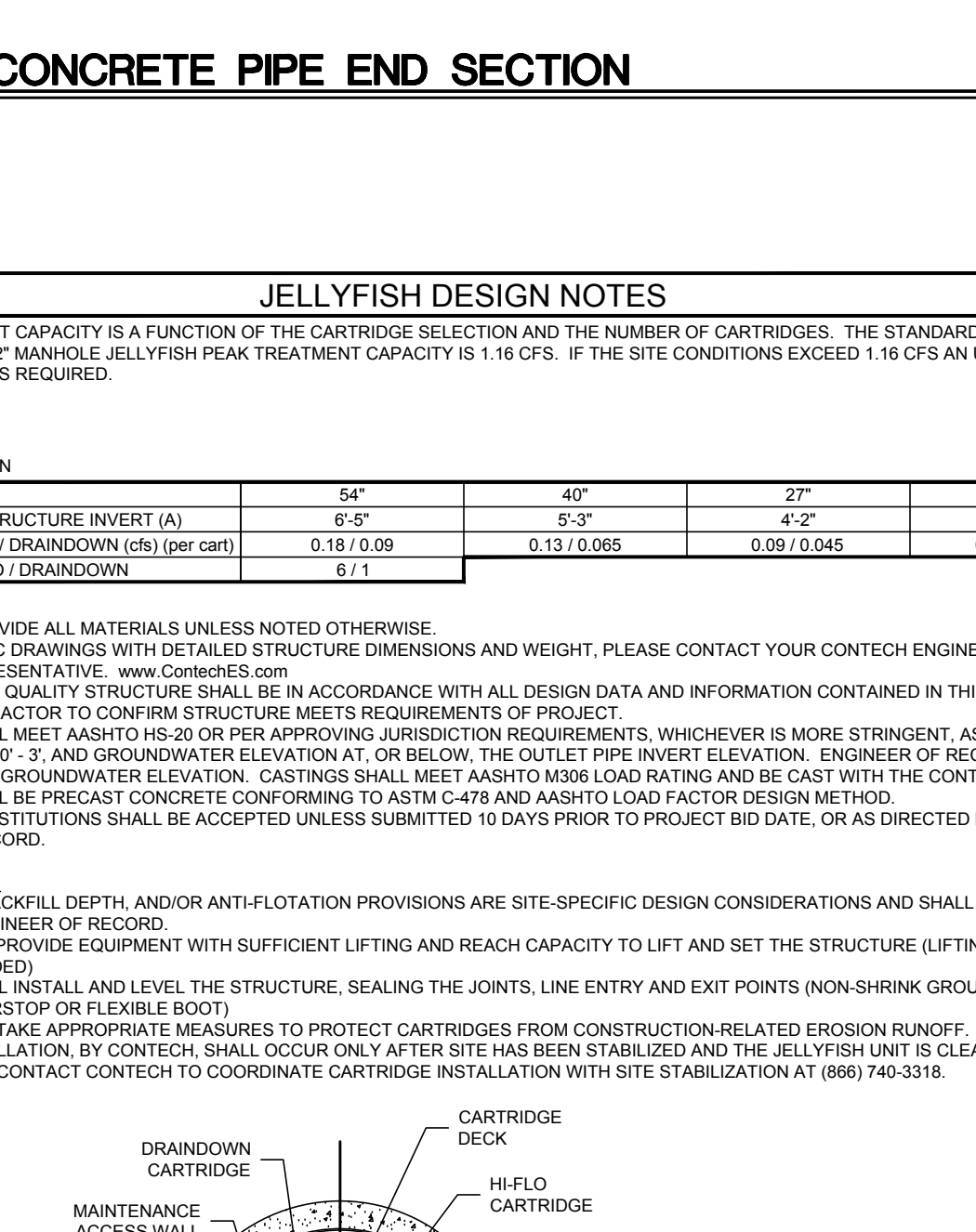
TYPICAL LAYOUT
SCALE: NTS



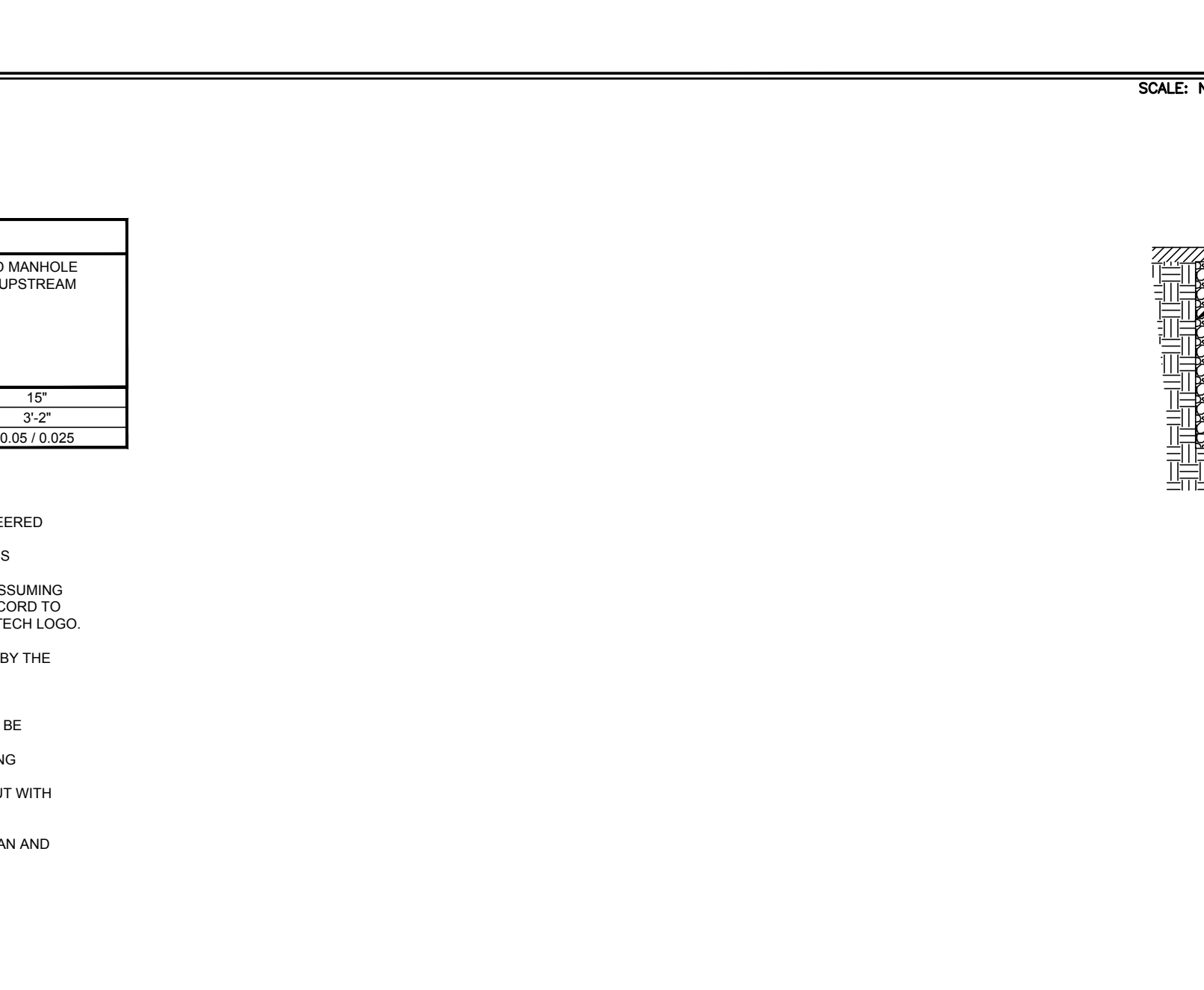
CATCH BASIN
SCALE: NTS



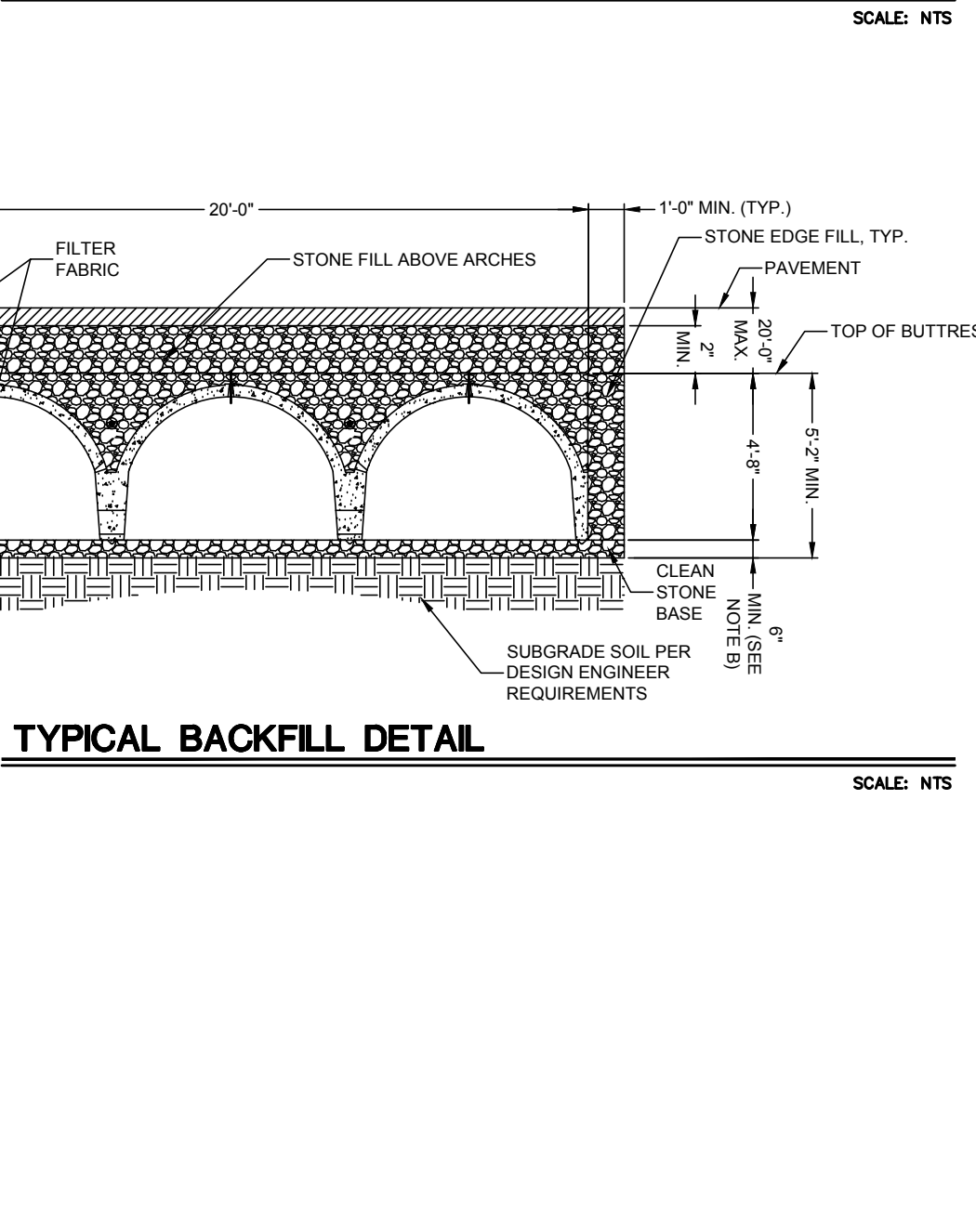
DRAINAGE PIPE TRENCH DETAIL
SCALE: NTS



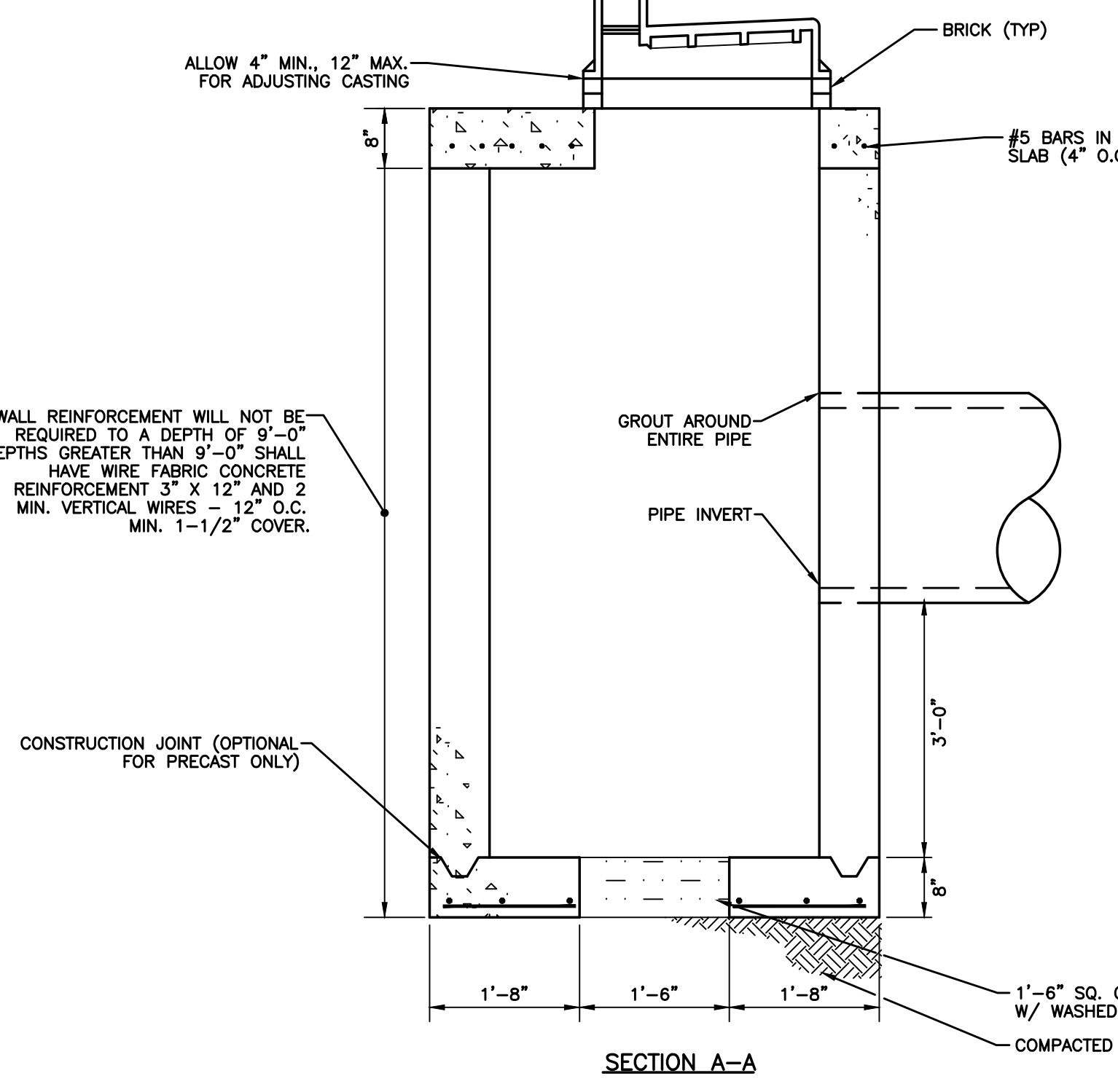
CONTECH JF-6 JELLYFISH FILTER
SCALE: NTS



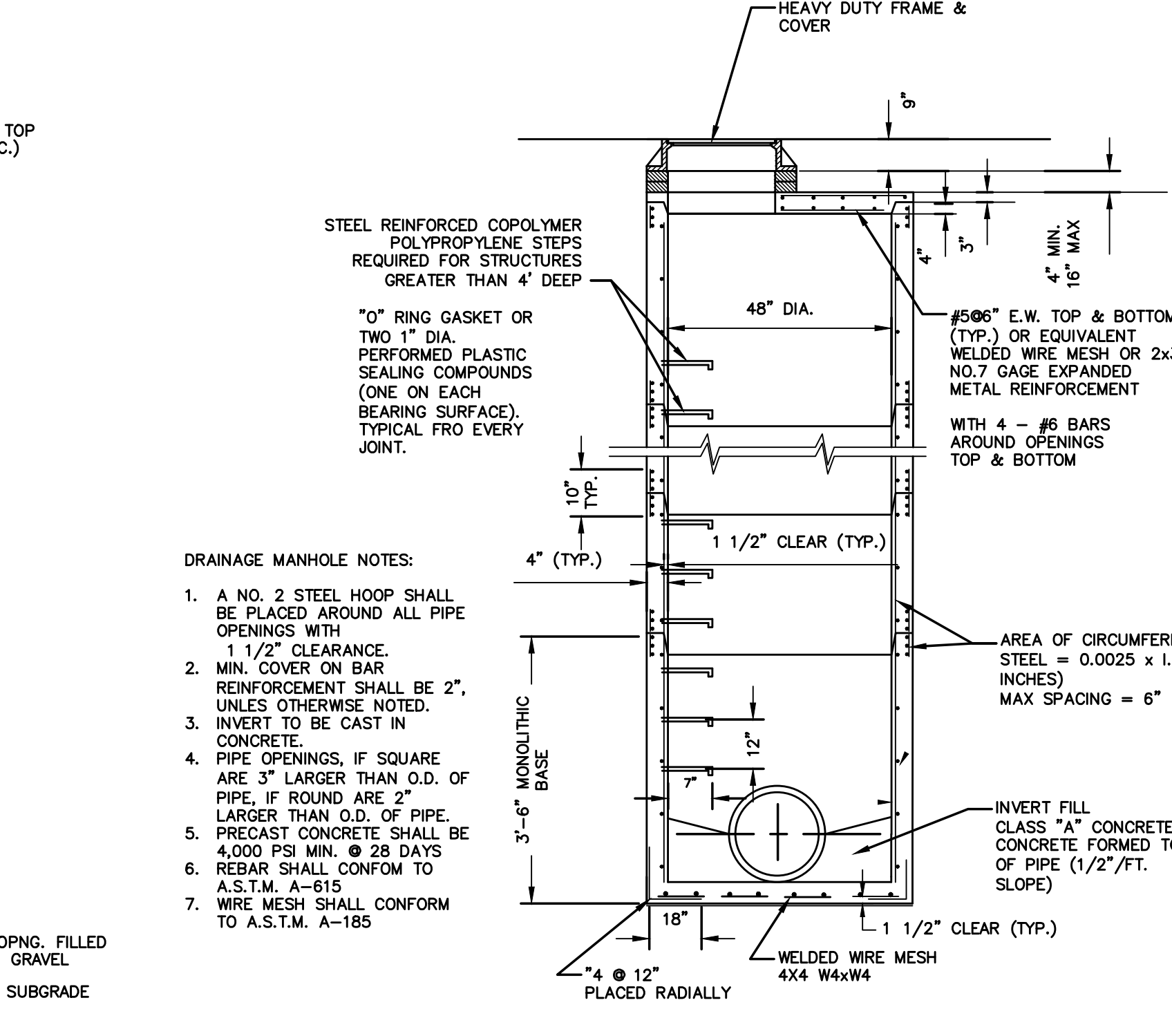
CONTECH OFF-LINE BYPASS DETAIL
SCALE: NTS



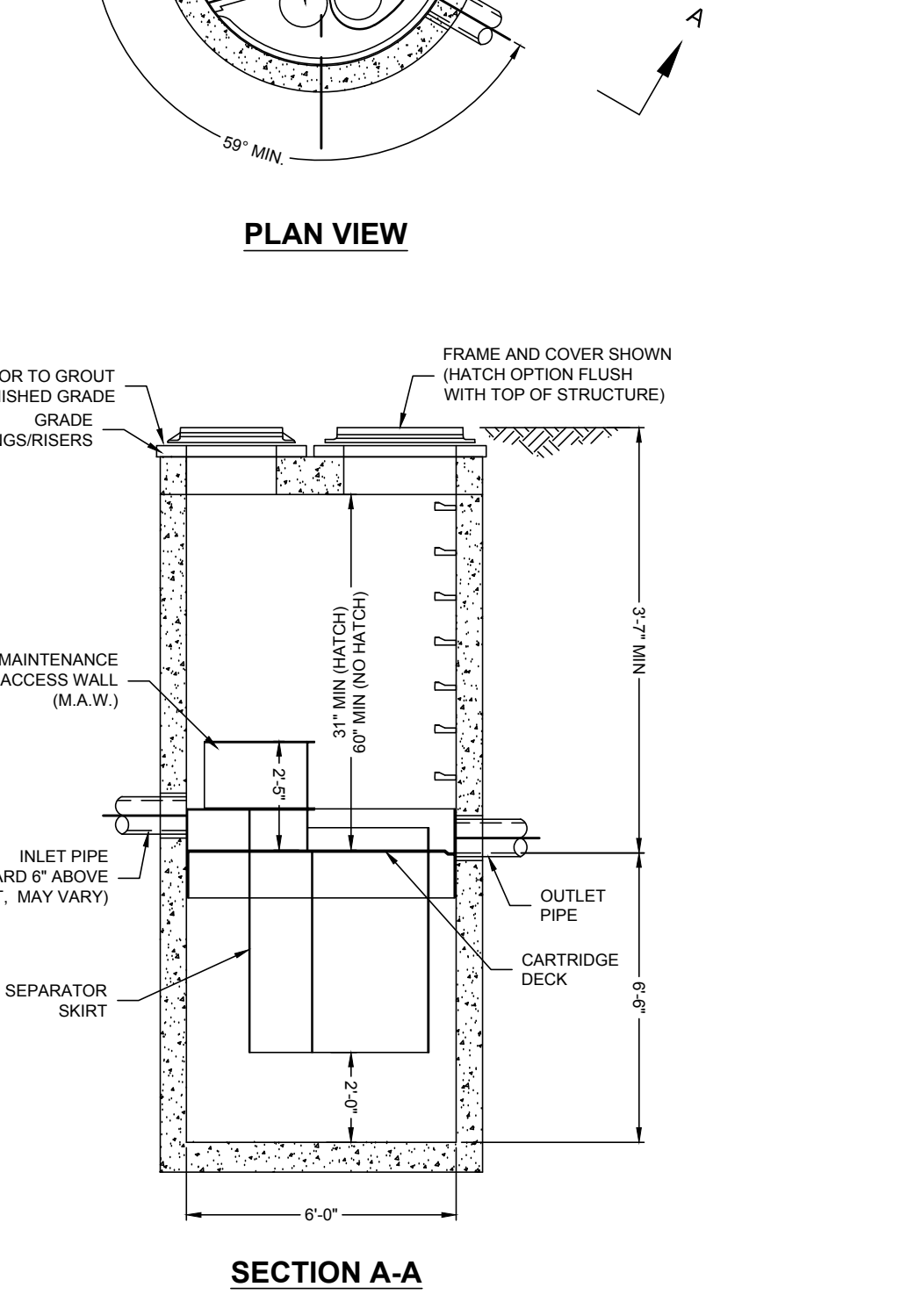
TYPICAL BACKFILL DETAIL
SCALE: NTS



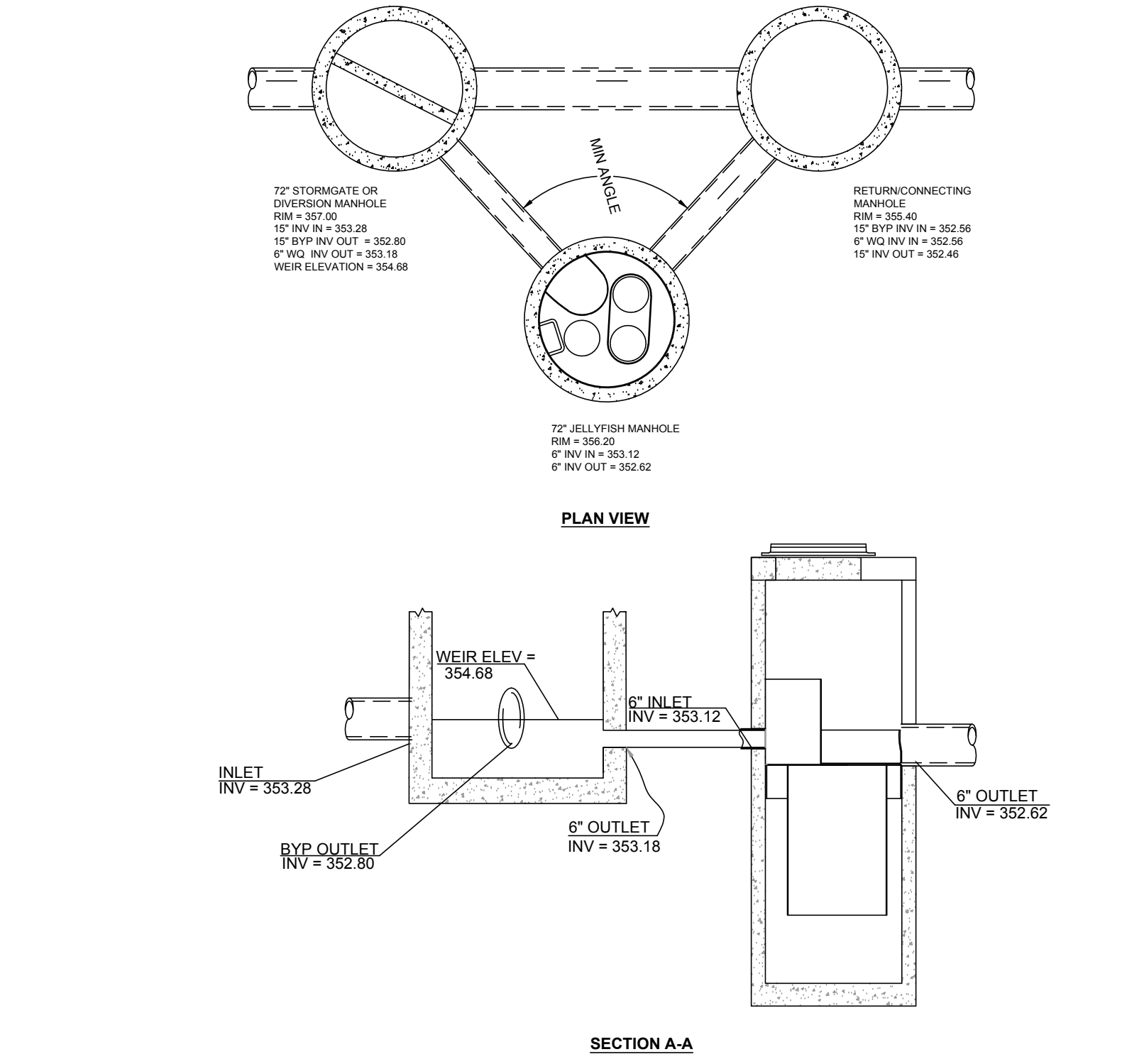
CATCH BASIN
SCALE: NTS



DRAINAGE MANHOLE DETAIL
SCALE: NTS



CONTECH JF-6 JELLYFISH FILTER
SCALE: NTS



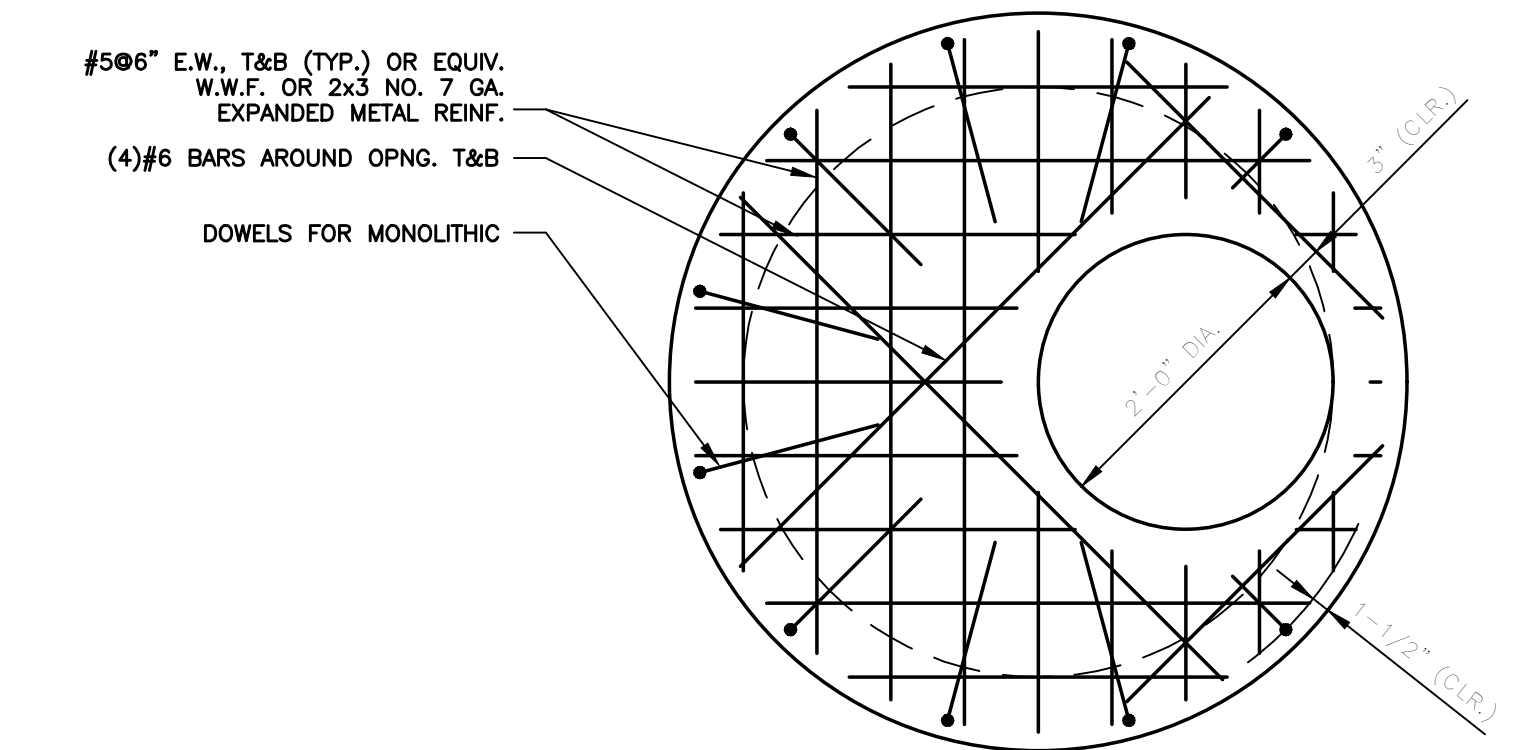
CONTECH OFF-LINE BYPASS DETAIL
SCALE: NTS



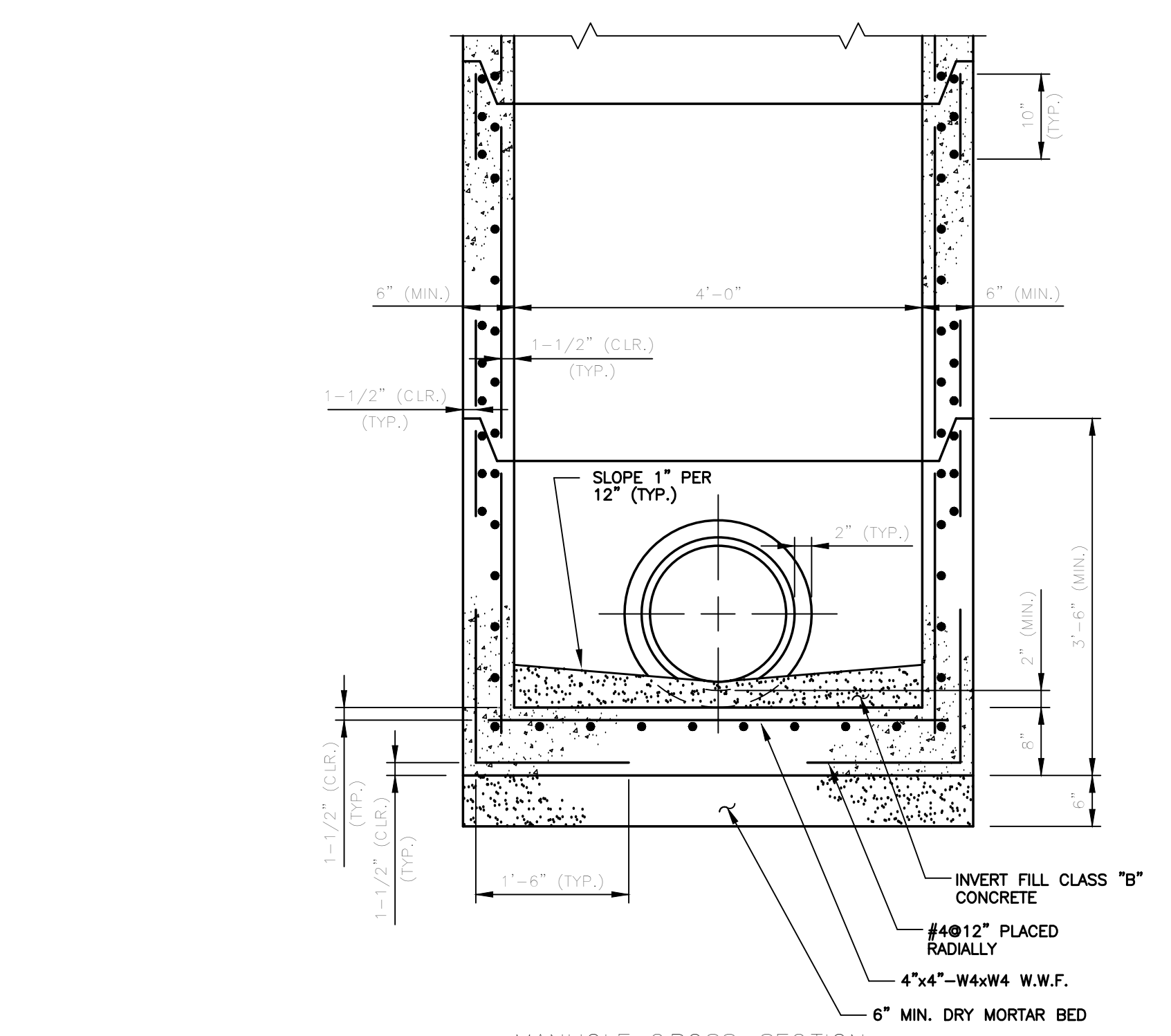
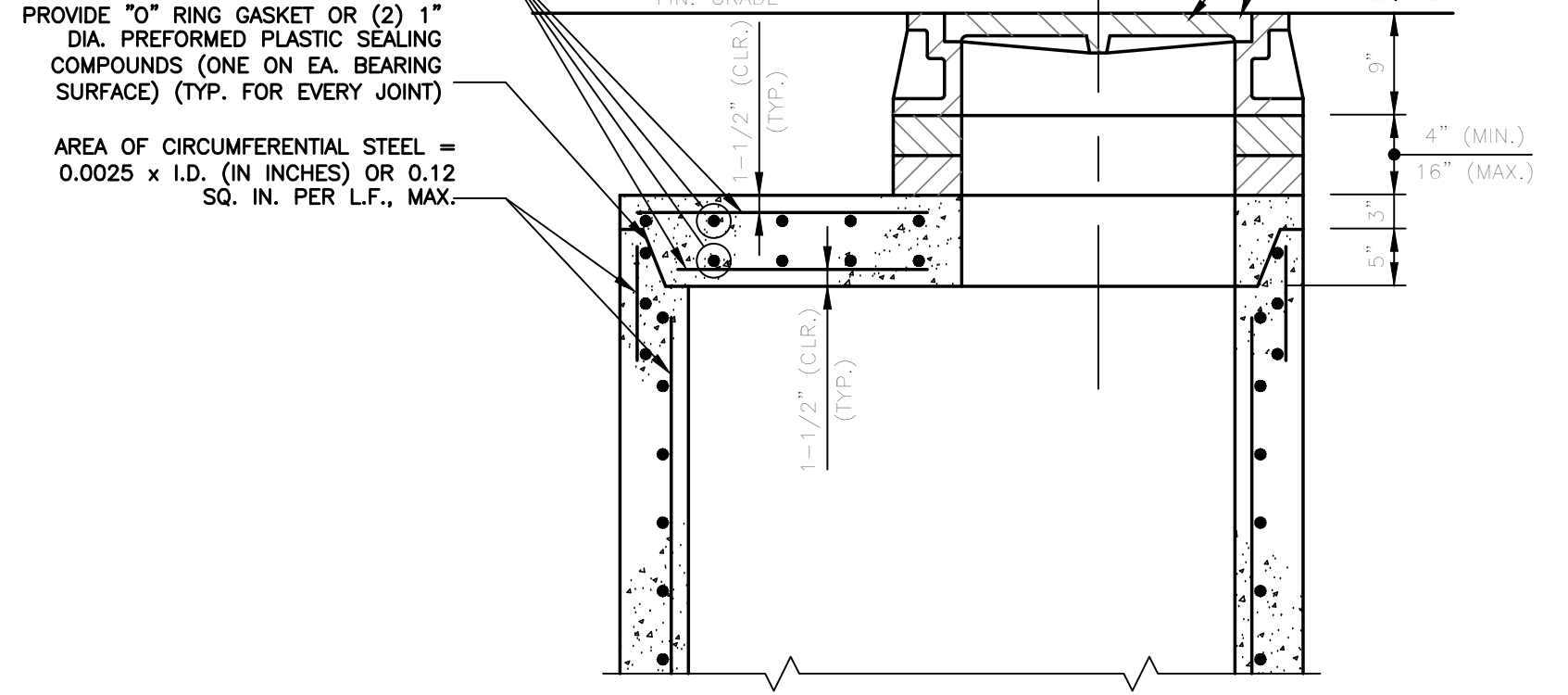
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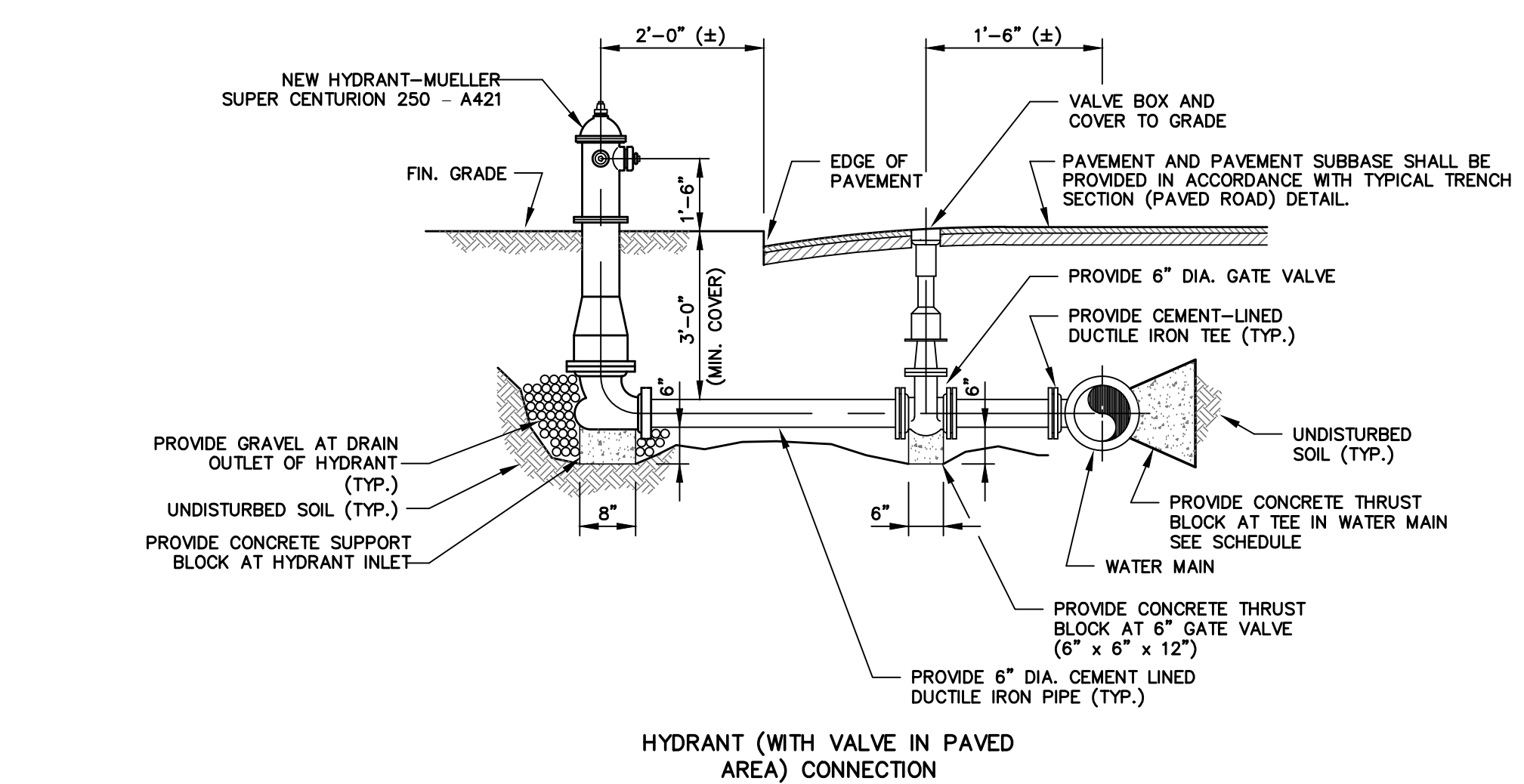


TOP SLAB REINFORCEMENT PLAN
 24" DIA. MANHOLE COVER AND FRAME (REFER TO "UTILITY PLANS" FOR RIM EL.) CAMPBELL FOUNDARY MODEL NUMBER 1733 OR APPROVED EQUAL



- MANHOLE NOTES:**
1. PROVIDE #2 STEEL HOOP AROUND ALL PIPE OPENINGS WITH 1-1/2" CLEARANCE.
 2. PROVIDE 2" MIN. COVER ON ALL REINFORCEMENT UNLESS OTHERWISE NOTED. OTHERWISE NOTED.
 3. SEWER PIPE INVERT SHALL BE CAST IN PLACE.
 4. PIPE OPENINGS, IF SQUARE, ARE 3" LARGER THAN O.D. OF PIPE; IF ROUND PIPE, ARE 2" LARGER THAN O.D. OF PIPE.
 5. MANHOLE HOLE STEPS SHALL BE GALVANIZED STEEL (ASTM A575, GRADE M1020). STEPS SHALL BE ATTACHED TO THE MANHOLE WALL BY BOLTING THRU WALL.

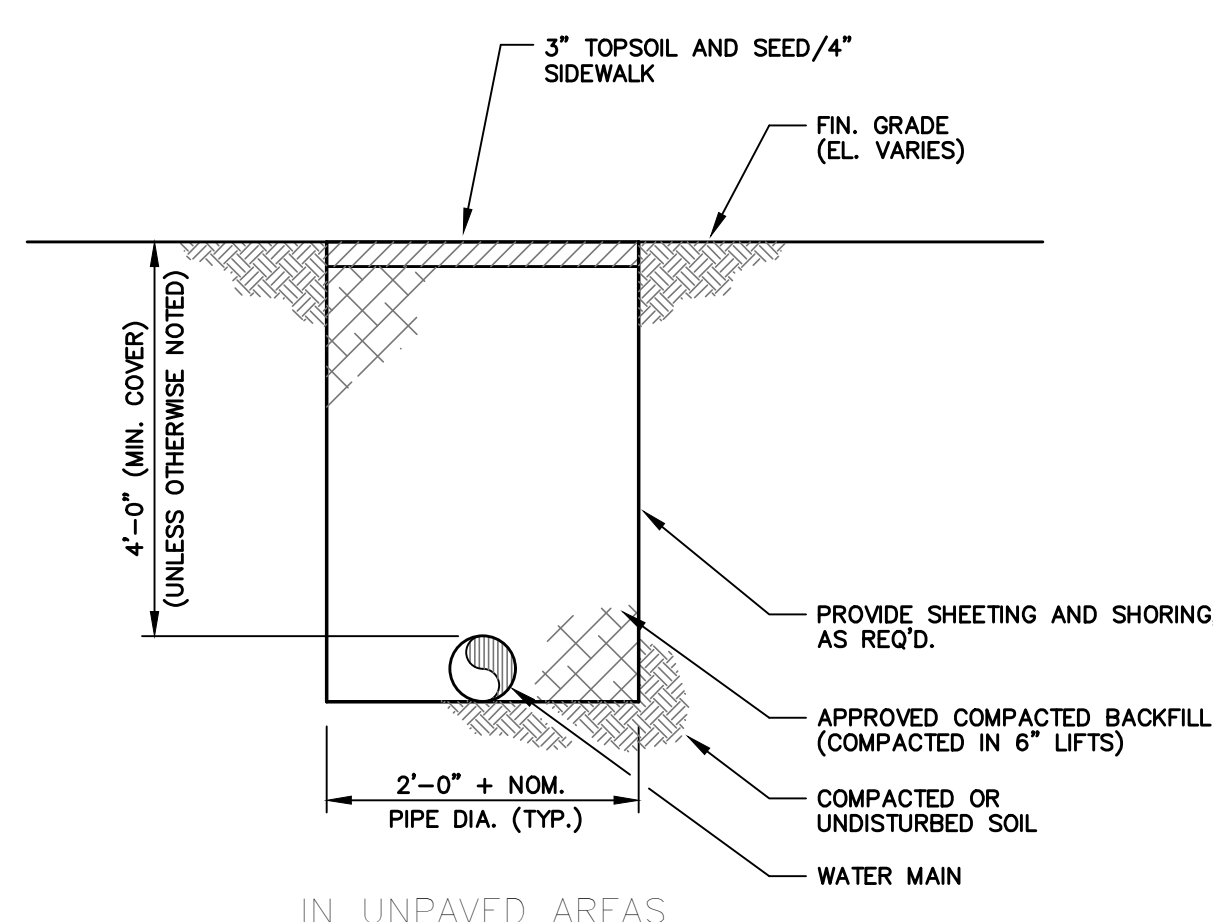
SANITARY MANHOLE
 SCALE: N.T.S.



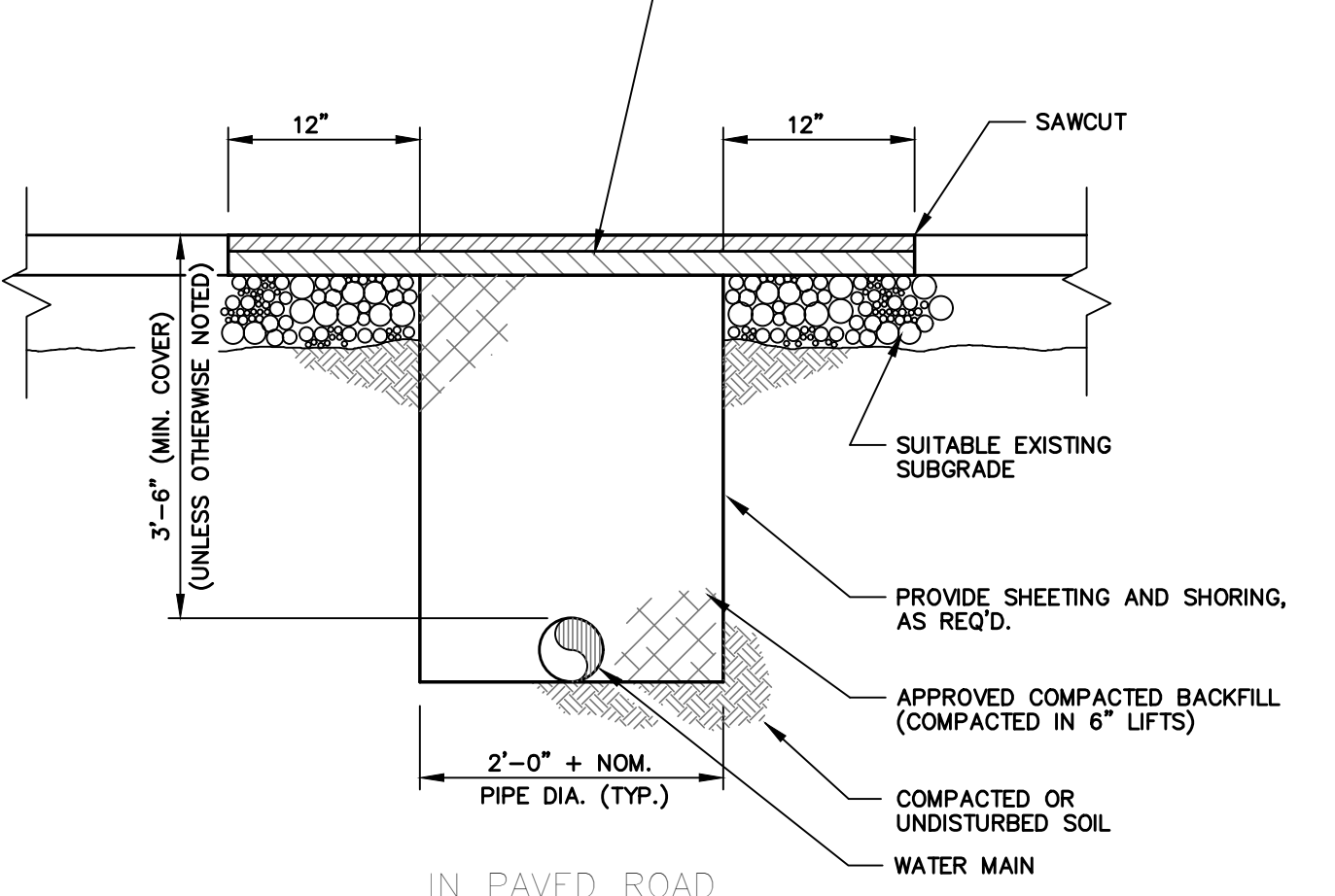
HYDRANT CONNECTION
 HYDRANT (WITH VALVE IN PAVED AREA) CONNECTION

- HYDRANT CONNECTION NOTES:**
1. ALL HYDRANT VALVES SHALL BE ANCHORED TO TEES BY MEANS OF SPECIAL MECHANICAL JOINT ANCHORING FITTINGS (M/J FIELD LOK SERIES DI, AS MANUF. BY TYLER PIPE, OR APPROVED EQUAL). THE ADDITIONAL COST(S) OF THESE FITTINGS SHALL BE INCLUDED IN THE OVERALL COST ASSOCIATED WITH THE HYDRANT CONNECTION.
 2. ALL HYDRANTS SHALL BE ANCHORED TO THE HYDRANT VALVE OR HYDRANT TEE BY MEANS OF SPECIAL MECHANICAL JOINT ANCHORING FITTINGS (M/J FIELD LOK SERIES DI, AS MANUF. BY TYLER PIPE, OR APPROVED EQUAL). THE ADDITIONAL COST(S) OF THESE FITTINGS SHALL BE INCLUDED IN THE OVERALL COST ASSOCIATED WITH THE HYDRANT CONNECTION.
 3. THE CONTRACTOR SHALL PROVIDE A 6" DIA. CEMENT-LINED DUCTILE IRON PIPE BETWEEN THE WATER MAIN AND GATE VALVE, AND GATE VALVE TO HYDRANT SHOE. THE PIPE SHALL BE INCLUDED IN THE OVERALL COST ASSOCIATED WITH THE HYDRANT CONNECTION.
 4. THE CONTRACTOR SHALL PROVIDE THREE (3) CUBIC FEET (MIN.) OF WELL GRADED, WASHED GRAVEL FROM THE BOTTOM OF THE HYDRANT TO ONE (1) FOOT ABOVE THE BOTTOM FLANGE.
 5. THE UNIT COST OF THE FIRE HYDRANT SHALL INCLUDE HYDRANT, VALVE, TEE, FITTINGS, CONNECTION PIPE, AND ALL APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION OF THE FIRE HYDRANT.

FIRE HYDRANT
 SCALE: N.T.S.



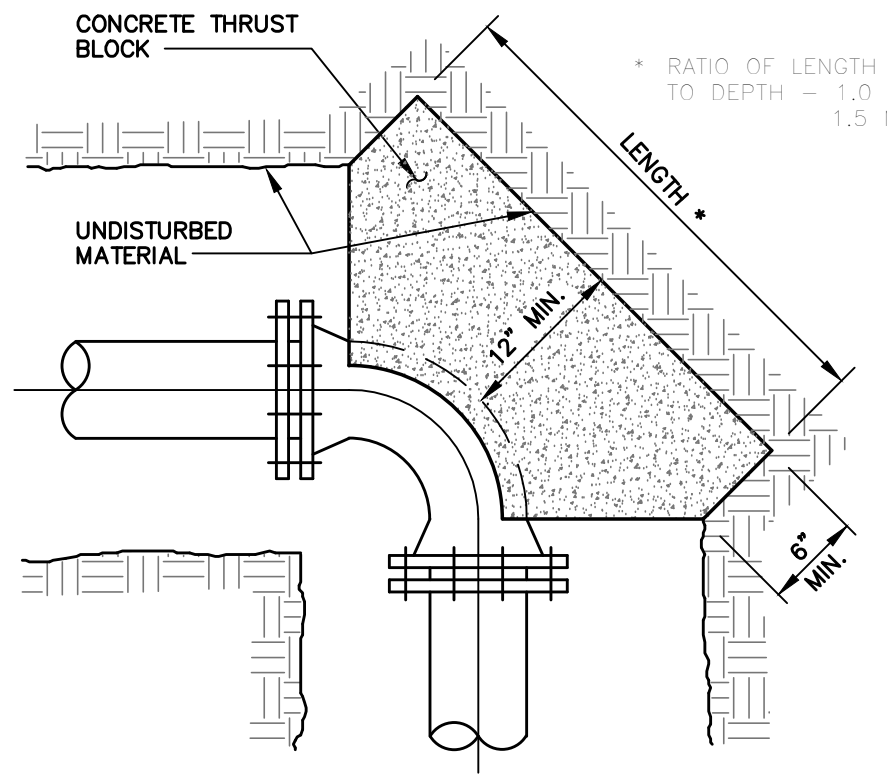
TYPICAL TRENCH SECTION DETAIL
 IN UNPAVED AREAS



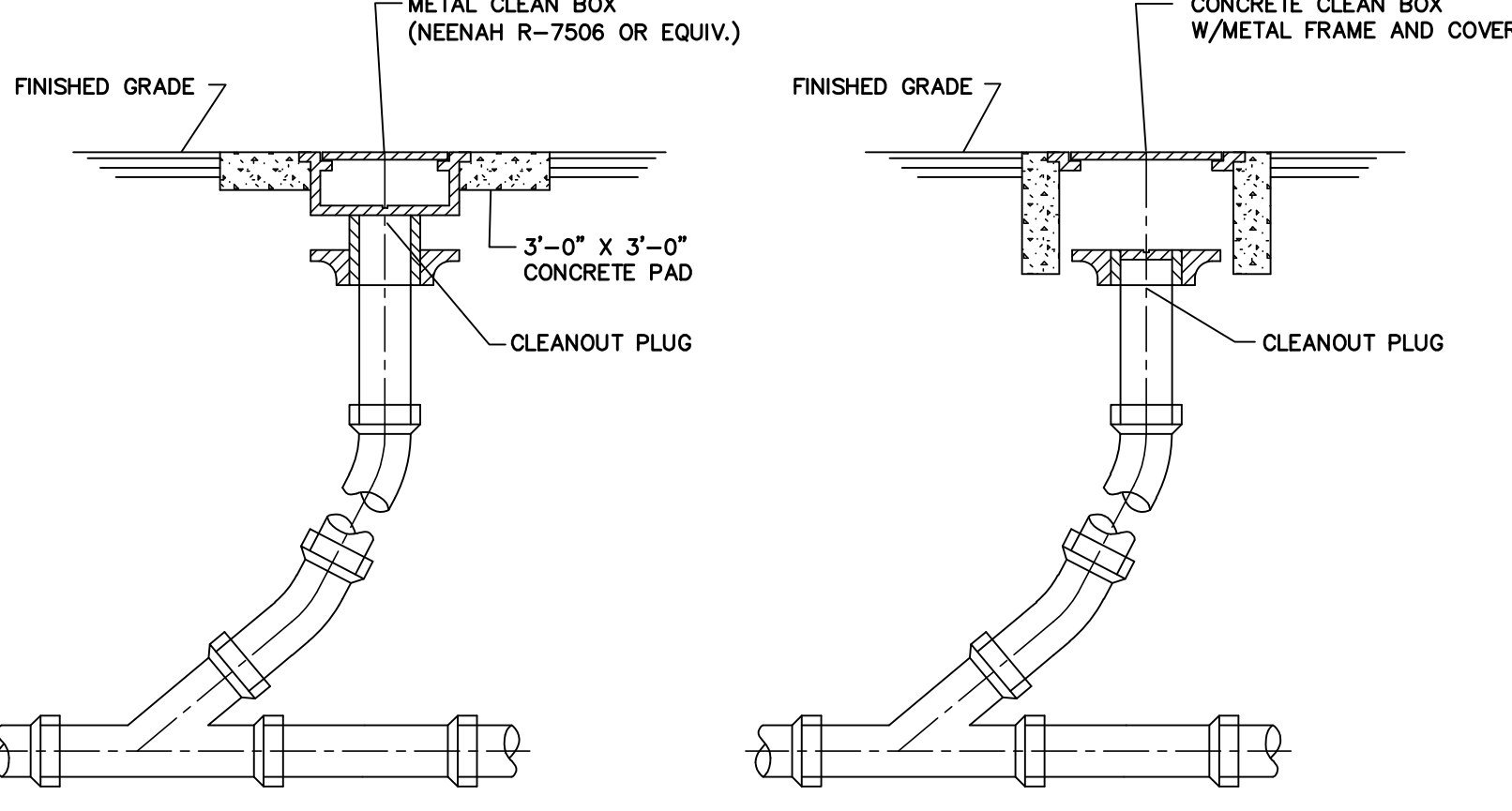
TYPICAL TRENCH SECTION DETAIL
 IN PAVED ROAD

TYPICAL TRENCH SECTION DETAIL
 SCALE: N.T.S.

PIPE SIZE	FITTING TYPE				
	11-1/4'	22-1/2'	45'	90'	TEE
4"-6"	1.0	1.0	2.0	3.0	2.0
8"	2.0	2.0	3.0	5.0	4.0
10"	2.5	2.5	4.5	8.5	6.0
12"	2.5	3.5	6.5	12.0	8.5



CONCRETE THRUST BLOCK DETAIL
 SCALE: N.T.S.



SEWER CLEAN OUT
 NOTE: G.C. TO INSTALL CLEANOUT AT ALL PIPING BENDS GREATER THAN 23" AND AT EVERY 75' IN PIPING RUNS GREATER THAN 75' IN LENGTH.
 SCALE: N.T.S.

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PROJECT NO.: 157135
 DATE: 3/29/19
 PROJECT NAME: GYRODYNE, LLC - MOD MIXED-USE CAMPUS
 DRAWING NO.: CE338A
 SHEET NO.: C8.4
 SCALE: AS SHOWN
 PROJECT ENGINEER: MAD
 DESIGNED BY: MAD
 DRAWN BY: MAD
 CHECKED BY: KMM
 PROJECT NO.: CE338A
 JOB NO.: CE338A
 DATE: 03-30-2017
 SCALE: AS SHOWN
 SHEET NO.: 19 of 22

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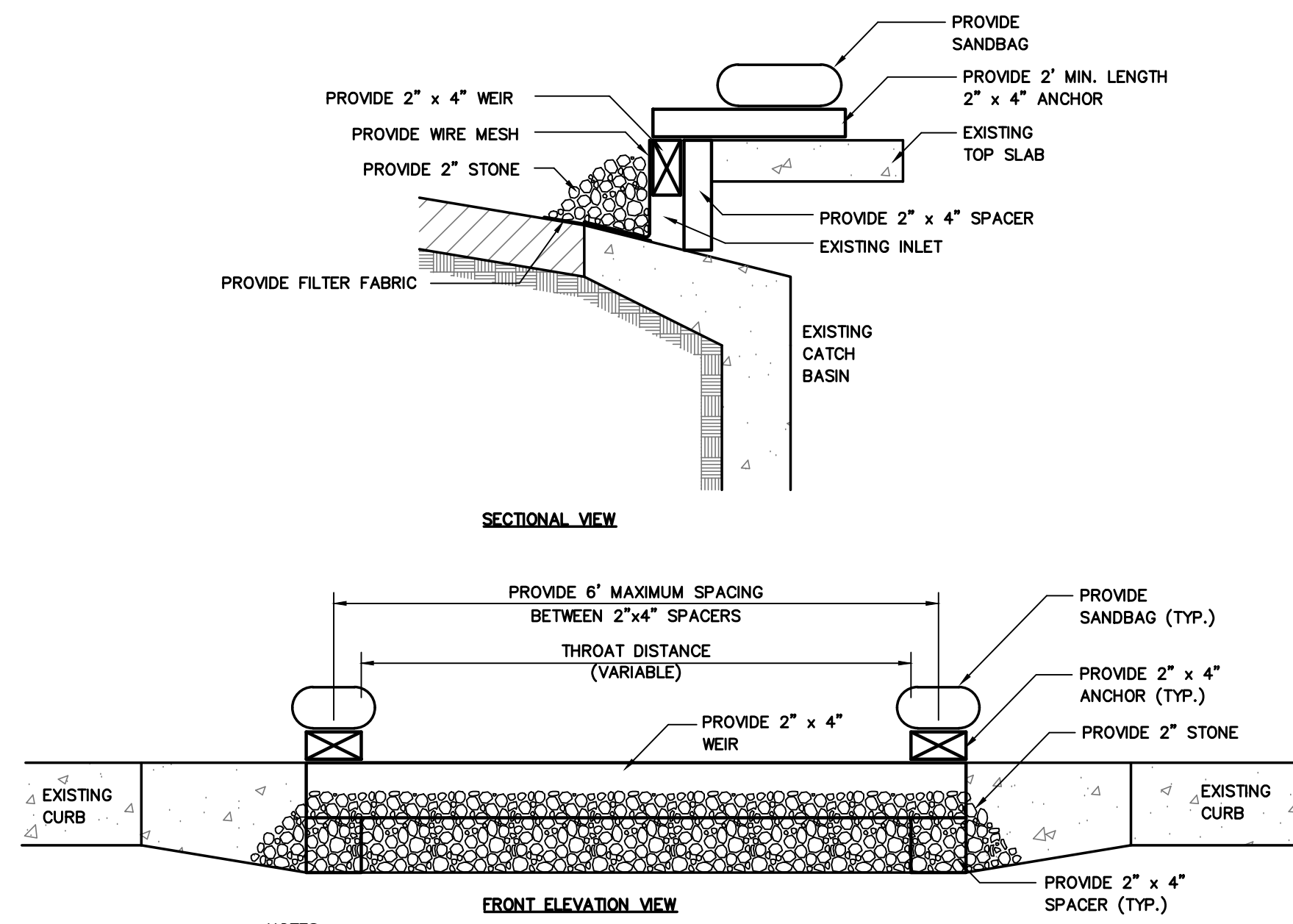
PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
 WESTCHESTER COUNTY, NY**

TITLE:
DETAILS (4)

DISCIPLINE:
CIVIL

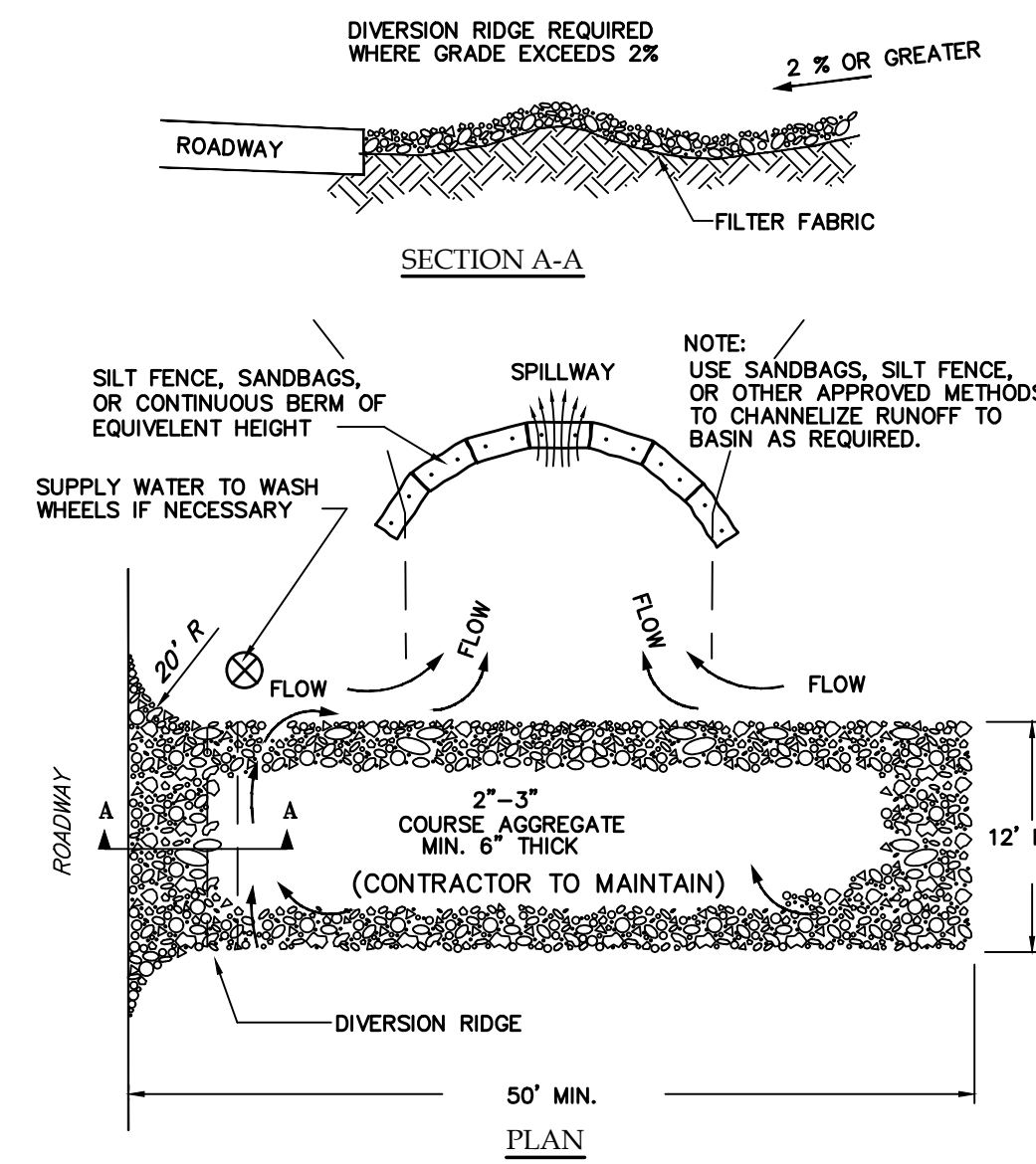
NO.	DATE	REVISION DESCRIPTION	INT.
1	3/29/19	UPDATED PER TOWN COMMENTS AND COORDINATION	ER/AL



- NOTES:
1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85.
 2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
 3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE HAVING A MINIMUM WIDTH OF 30 INCHES AND HAVING A LENGTH 4 FEET LONGER THAN THE CATCH BASIN THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO THE 2" x 4" WEIR. NO MORE THAN 6 FEET APART.
 4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
 5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR OTHER WEIGHTS DESIGNATED BY THE OWNER'S REPRESENTATIVE.

CURB INLET SEDIMENT PROTECTION

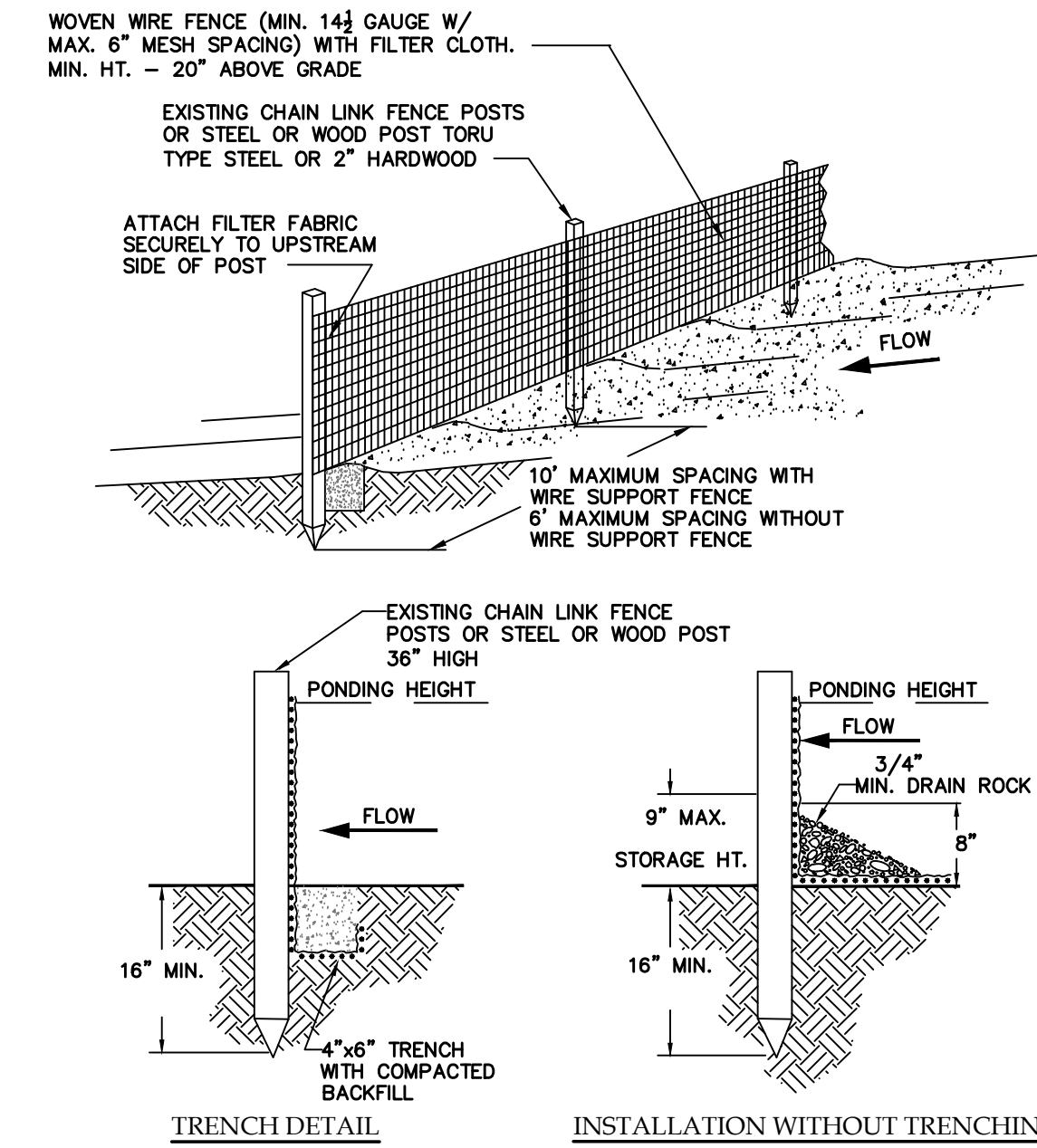
SCALE: NTS



- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

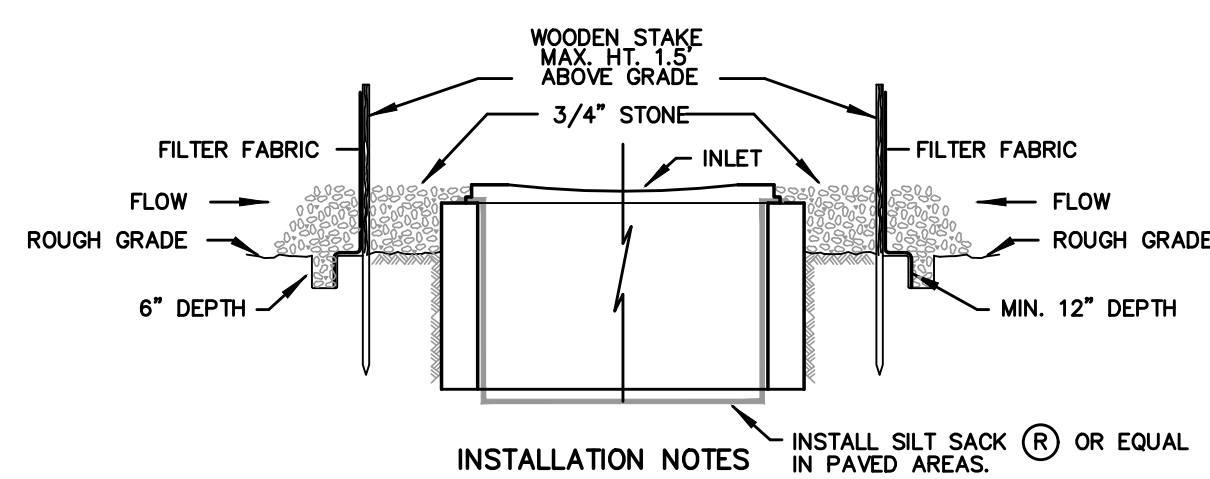
SCALE: NTS



- NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
 3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 4. WHERE POSSIBLE ATTACH SILT FENCE TO EXISTING CHAIN LINK FENCE.
 5. SILT FENCE HEIGHT SHALL BE MINIMUM 20" ABOVE GRADE.

SILT FENCE DETAIL

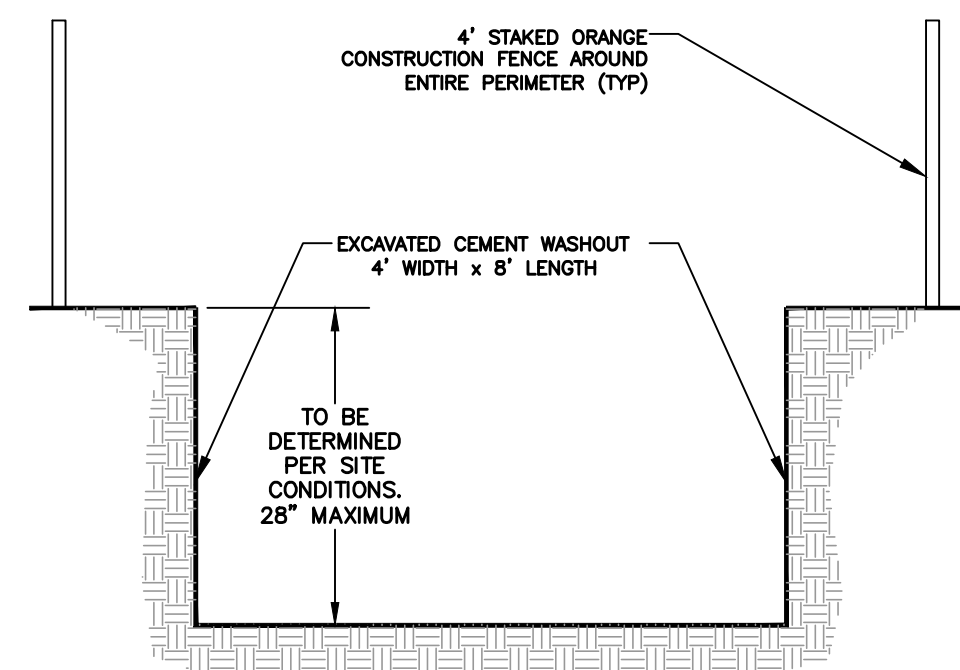
SCALE: NTS



- INSTALLATION NOTES
1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
 2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
 3. STAKE MATERIALS WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
 4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPACES GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
 5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
 6. A 2"x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
- MAXIMUM DRAINAGE AREA = 1 ACRE

INLET PROTECTION

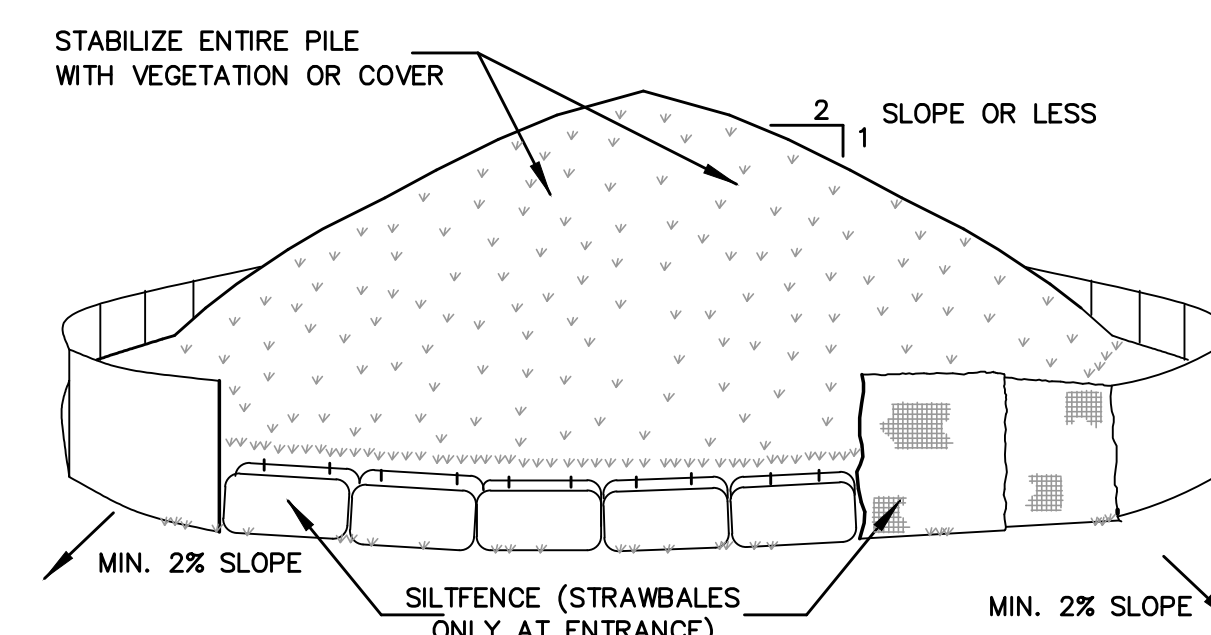
SCALE: NTS



- NOTES:
- 1) CONTRACTOR TO REMOVED HARDENED CONCRETE AS REQUIRED TO MAINTAIN EFFECTIVENESS.
 - 2) CONTRACTOR TO FILL IN AREA WHEN CONCRETE WASHOUT IS NO LONGER REQUIRED WITH CLEAN MATERIAL IN CONFORMANCE WITH PLANS. CONCRETE MUST BE REMOVED PRIOR TO FILLING IN.
 - 3) IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO COMMUNICATE LOCATION AND PURPOSE OF WASHOUT AREA TO CEMENT TRUCK DRIVERS.
 - 4) LOCATION OF CONCRETE WASHOUT TO BE DETERMINED ON-SITE AS FIELD CONDITIONS WARRANT.

CEMENT WASHOUT AREA

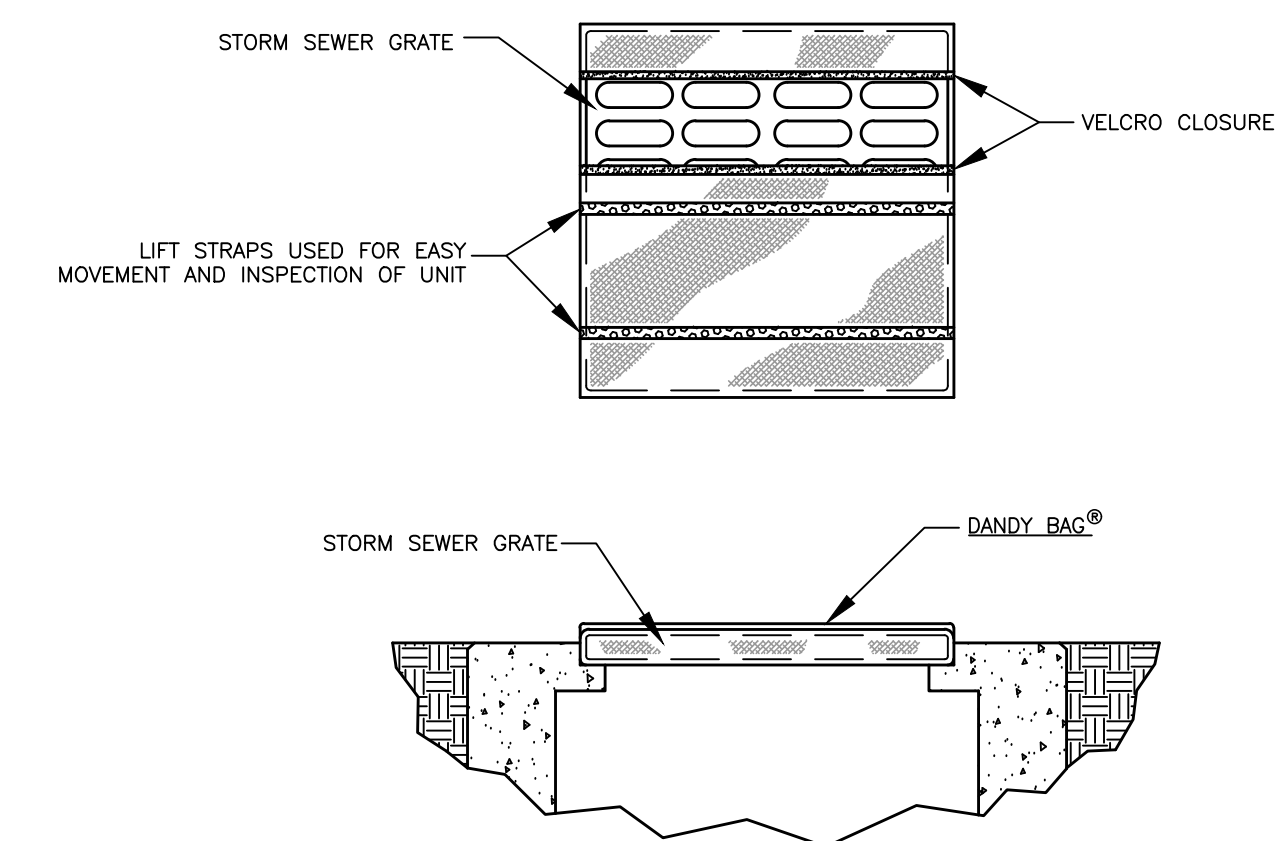
SCALE: NTS



- NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE DETAIL FOR INSTALLATION OF SILT FENCE.

SOIL STOCKPILING

SCALE: NTS



ALTERNATE CURB INLET SEDIMENT PROTECTION IN PAVED AREAS

SCALE: NTS

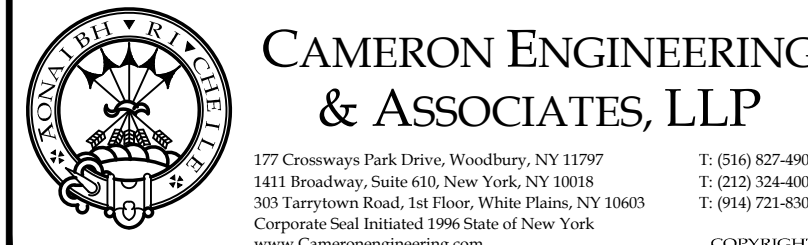
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PROJECT NO.: 13-1318
 DATE: 3/29/19
 REVISION DESCRIPTION: UPDATED PER TOWN COMMENTS AND COORDINATION
 INT.: EB/AL

NO.	DATE	REVISION DESCRIPTION	INT.
1	3/29/19	UPDATED PER TOWN COMMENTS AND COORDINATION	EB/AL

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PROJECT NAME:
GYRODYNE, LLC - MOD MIXED-USE CAMPUS

PROJECT LOCATION:
**TOWN OF CORTLANDT
WESTCHESTER COUNTY, NY**

TITLE:
DETAILS (5)

DISCIPLINE:
CIVIL

PROJECT ENGINEER:
MAD

DESIGNED BY:
MAD

DRAWN BY:
MAD

CHECKED BY:
KMM

PROJECT NO.:
CE338A

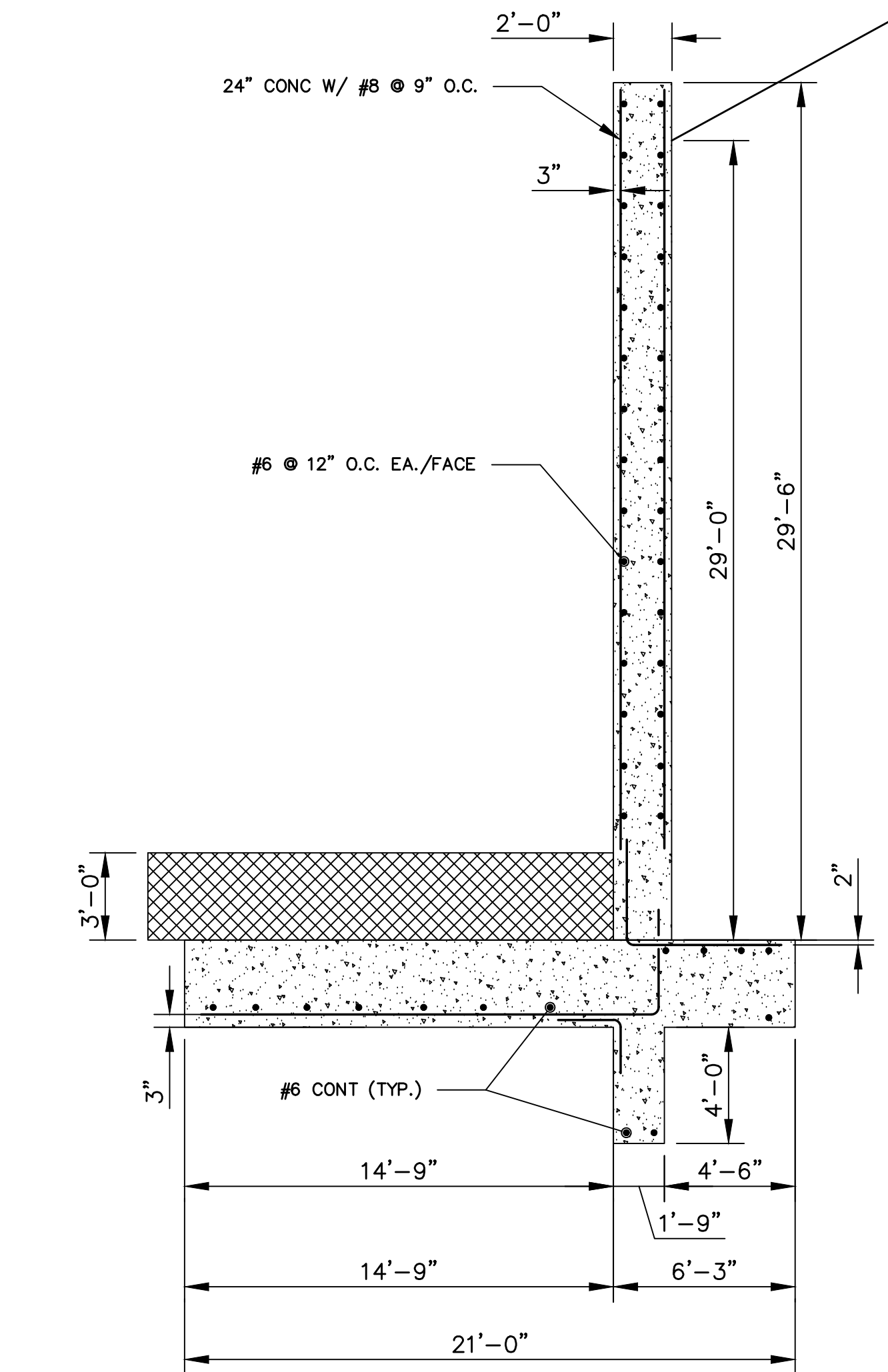
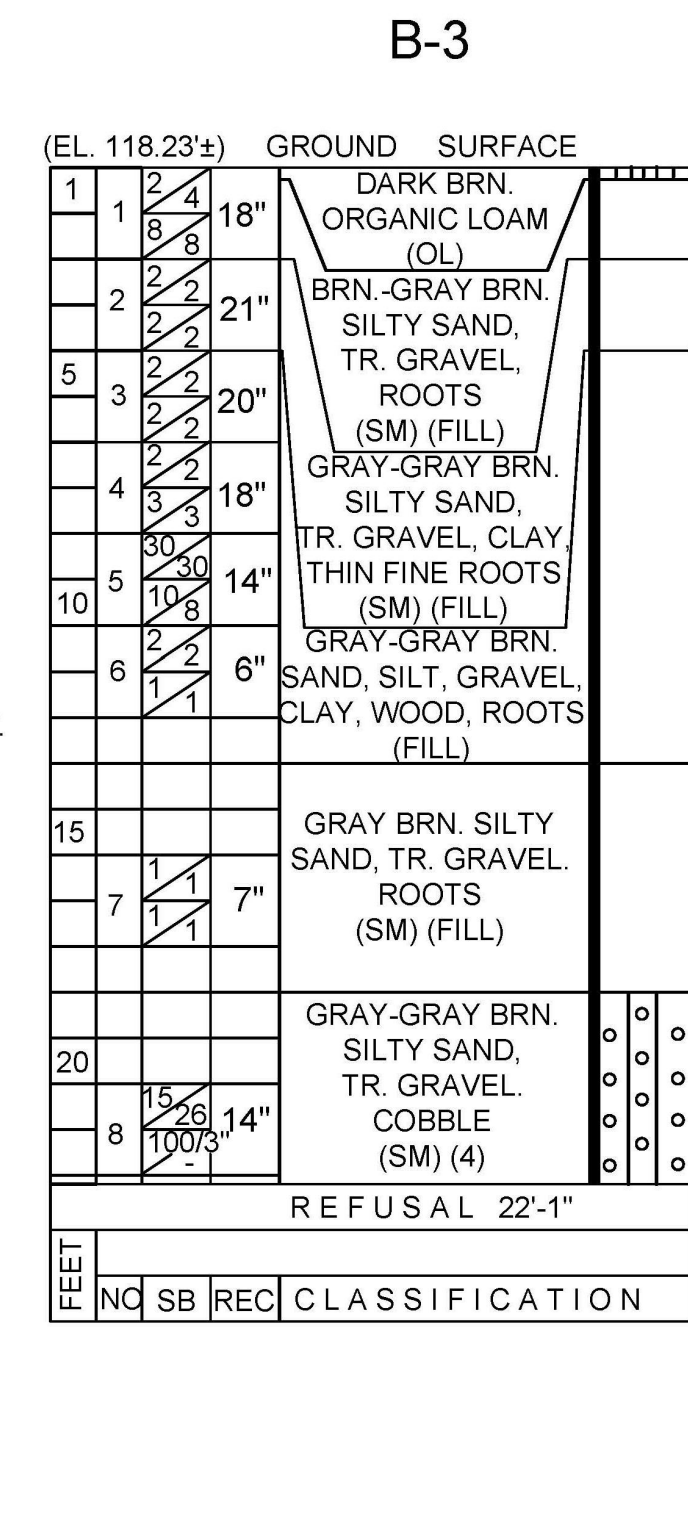
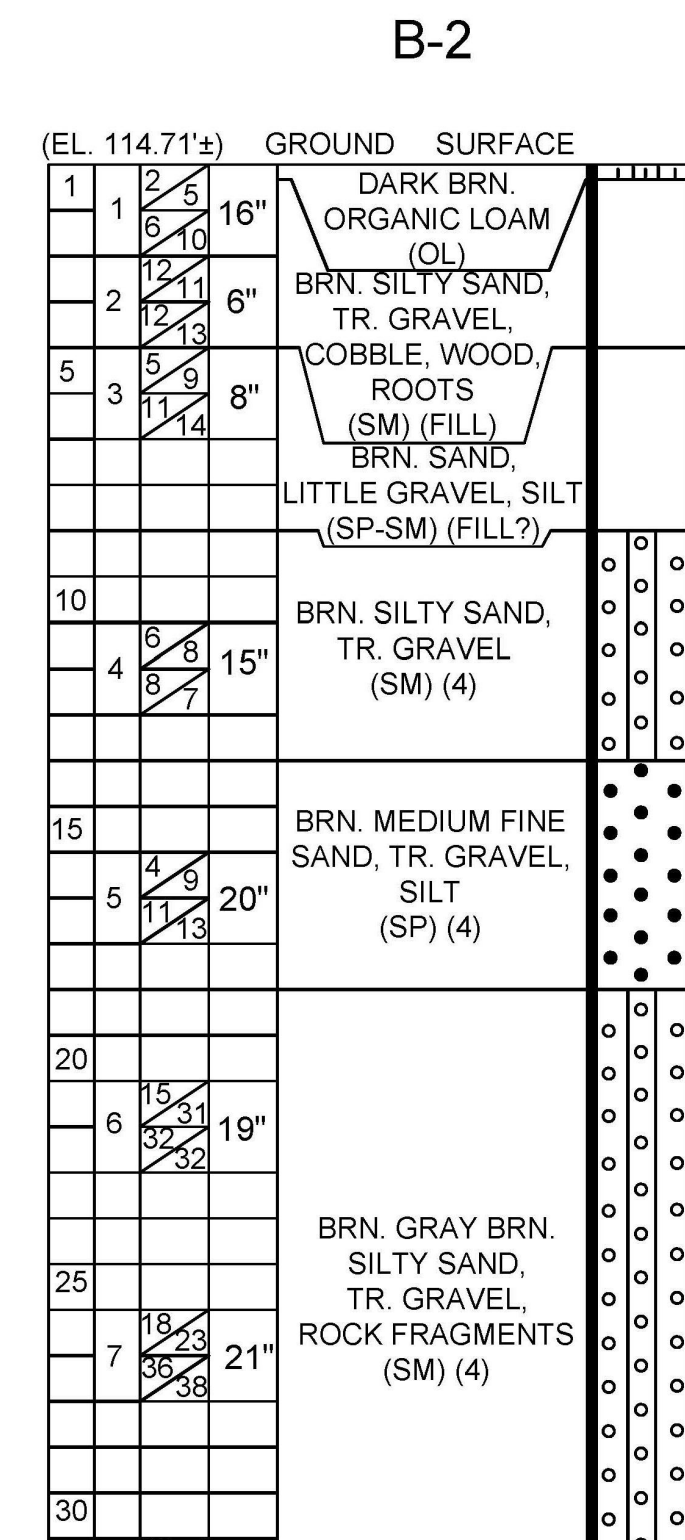
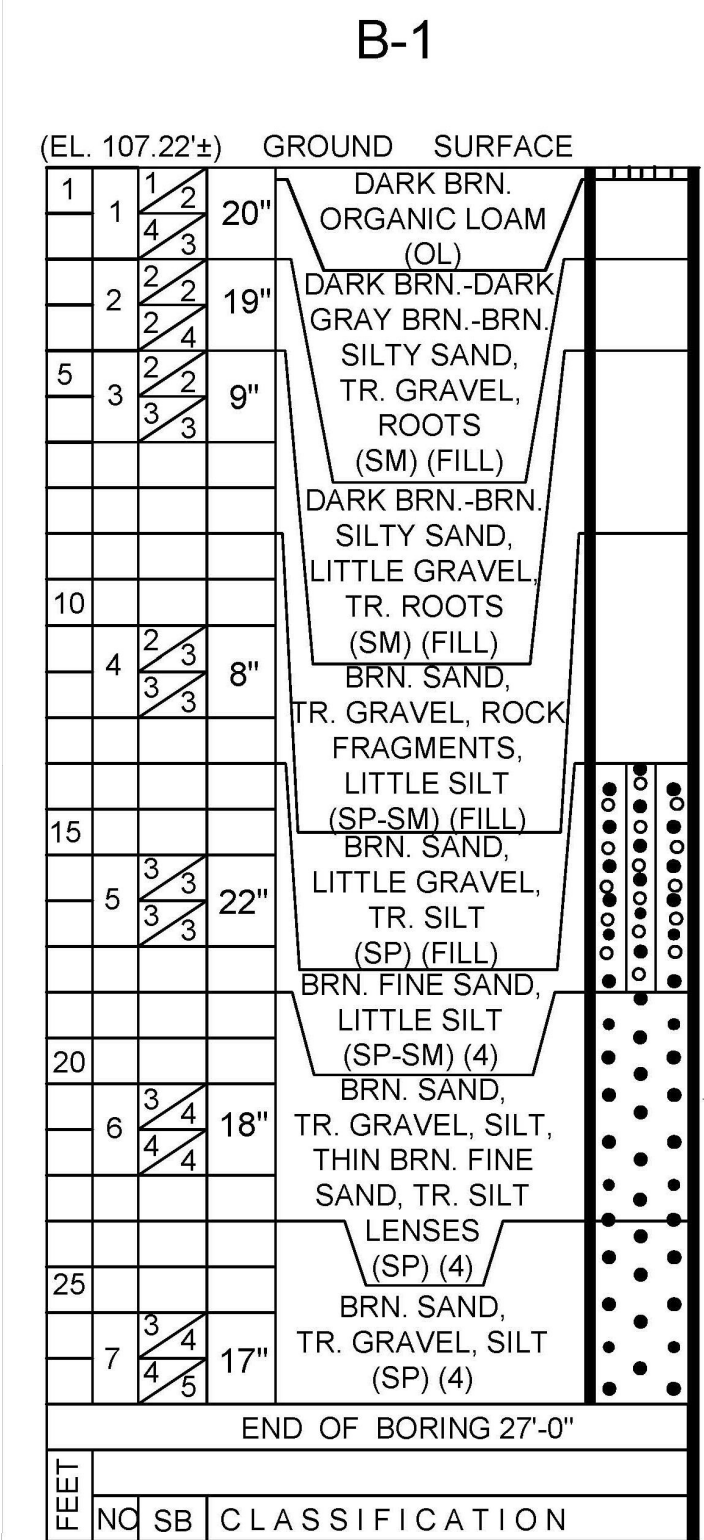
JOB NO.:
CE338A

DATE:
03-30-2017

SCALE:
AS SHOWN

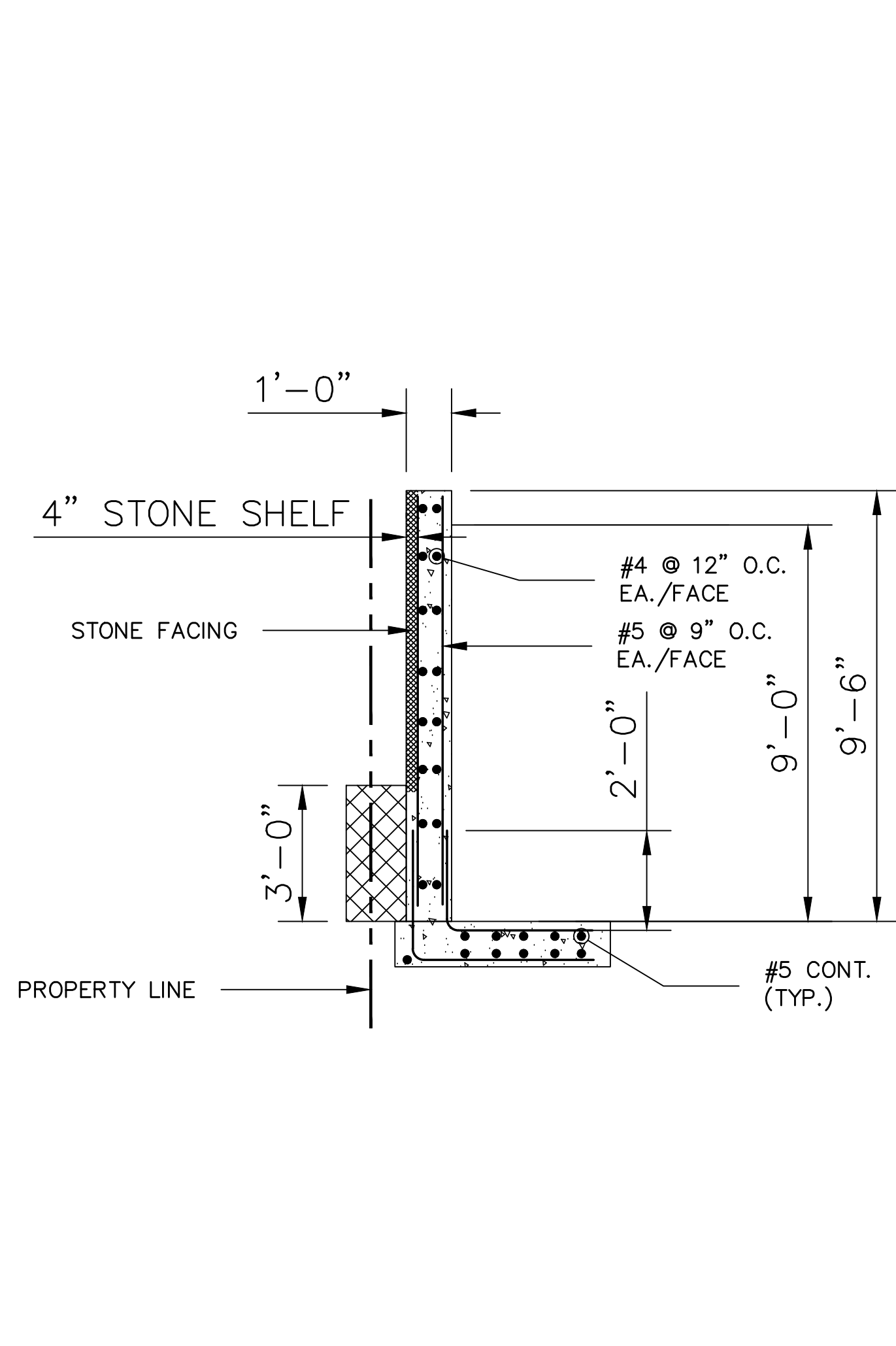
DRAWING NO.:
C8.5

SHEET
20 of 22



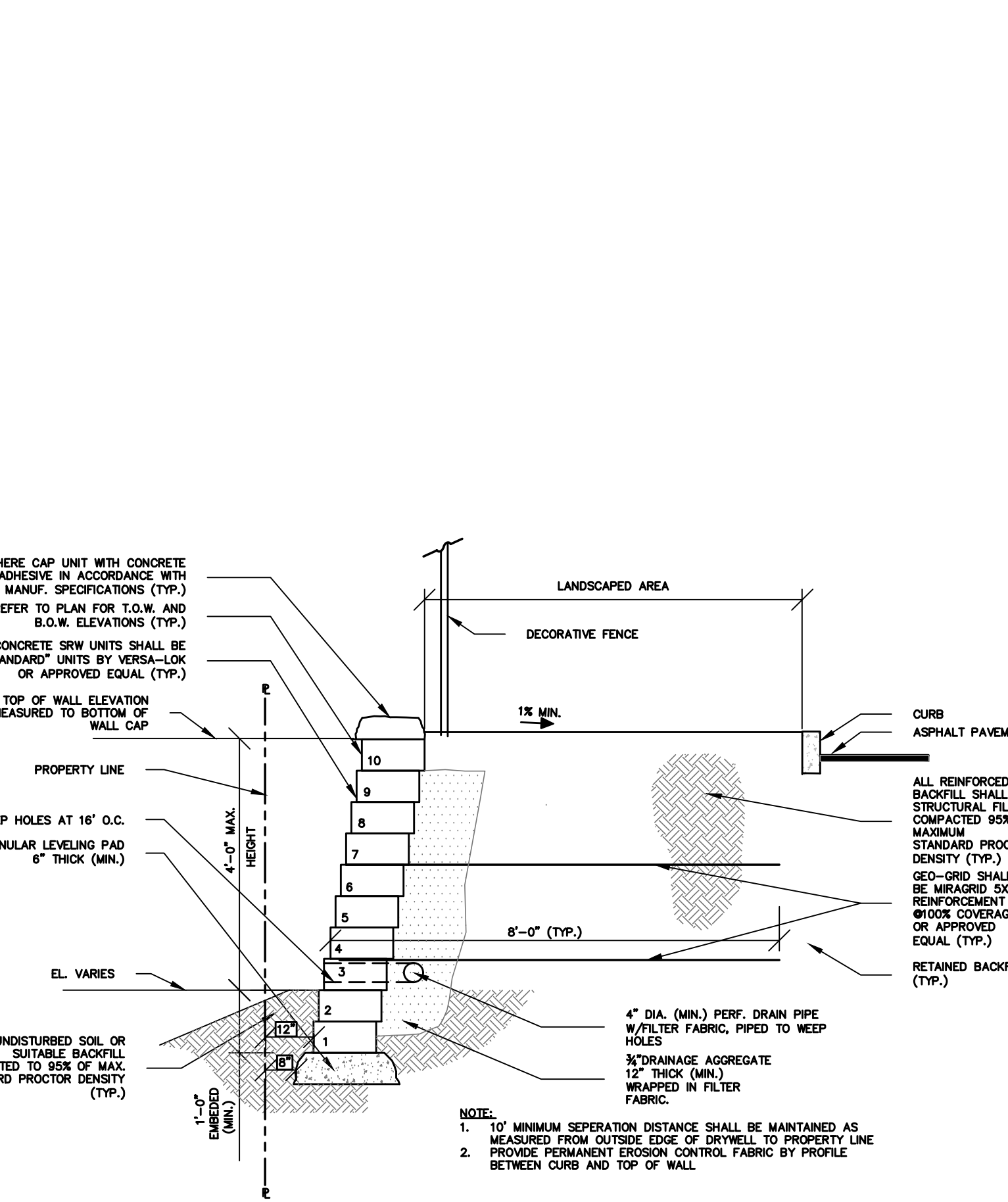
RETAINING WALL - TYPE 1

SCALE: NTS



RETAINING WALL - TYPE 2

SCALE: NTS



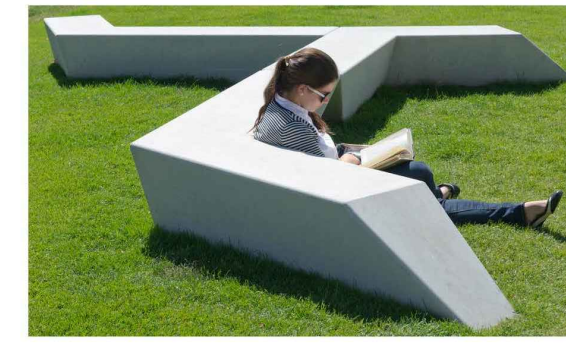
RETAINING WALL - TYPE 3

SCALE: NTS

SOIL BORINGS LOGS

SOIL BORING LOGS PROVIDED BY SOIL MECHANICS DRILLING CORPORATION. ACTUAL DATE OF BORINGS: JULY 21, 2016

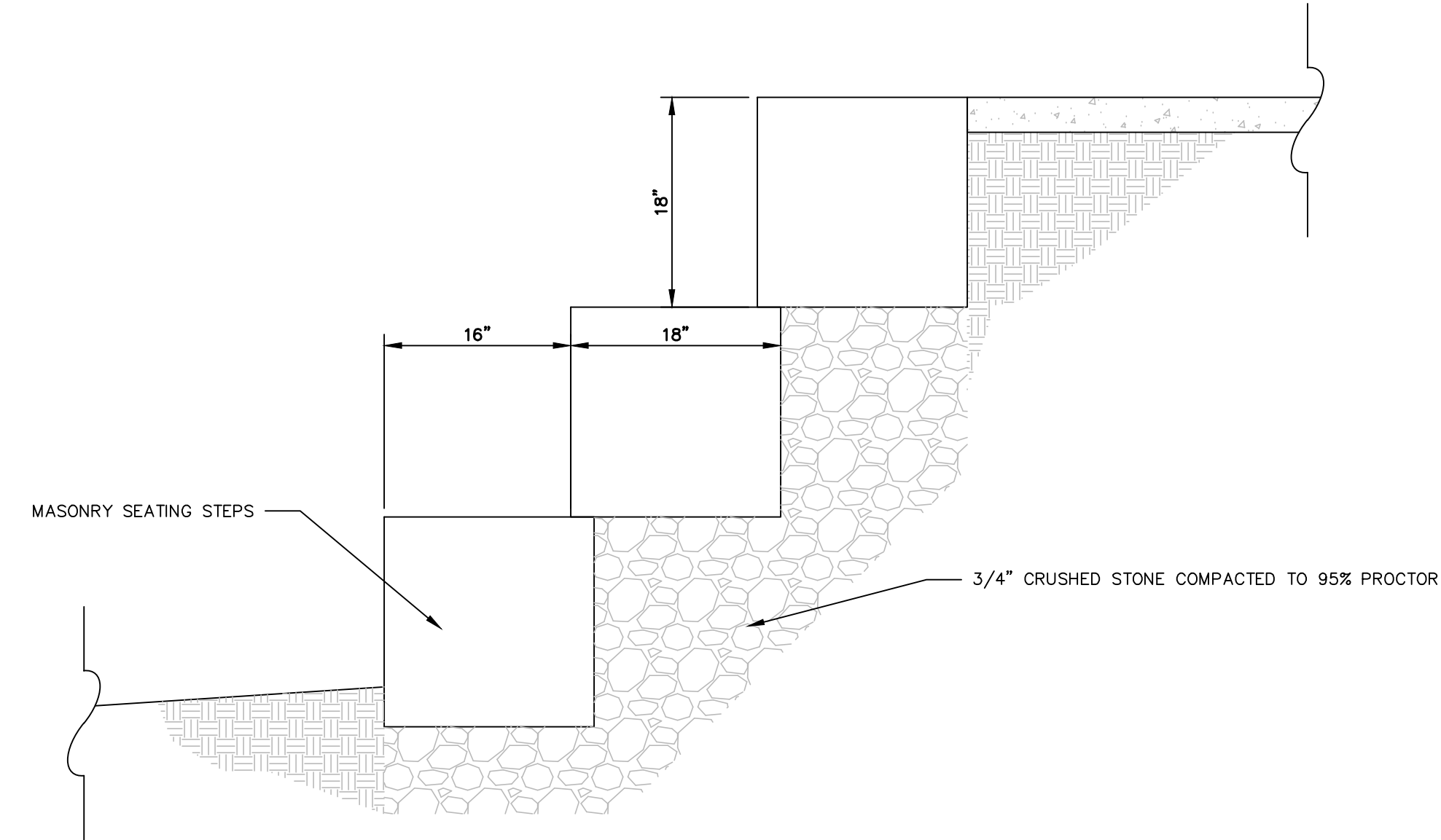
MILENIO Product Data Sheet



This reinforced stone bench, named after Millennium Square in the City of Valletta where it was first used, is a flexible modular system of geometric elements that can be used in diverse ways. One can sit on it, or on the ground beside it, where it serves as a simple divider and backdrop. Straight, left angled and right angled modules can be used singly or in multiples to form diverse combinations.

STYLE	DEPTH	LENGTH	HEIGHT	PRODUCT WEIGHT
straight	18"	96"	18"	1,680 LB
angled right	6"	108"	18"	2,240 LB
angled left	6"	108"	18"	2,240 LB

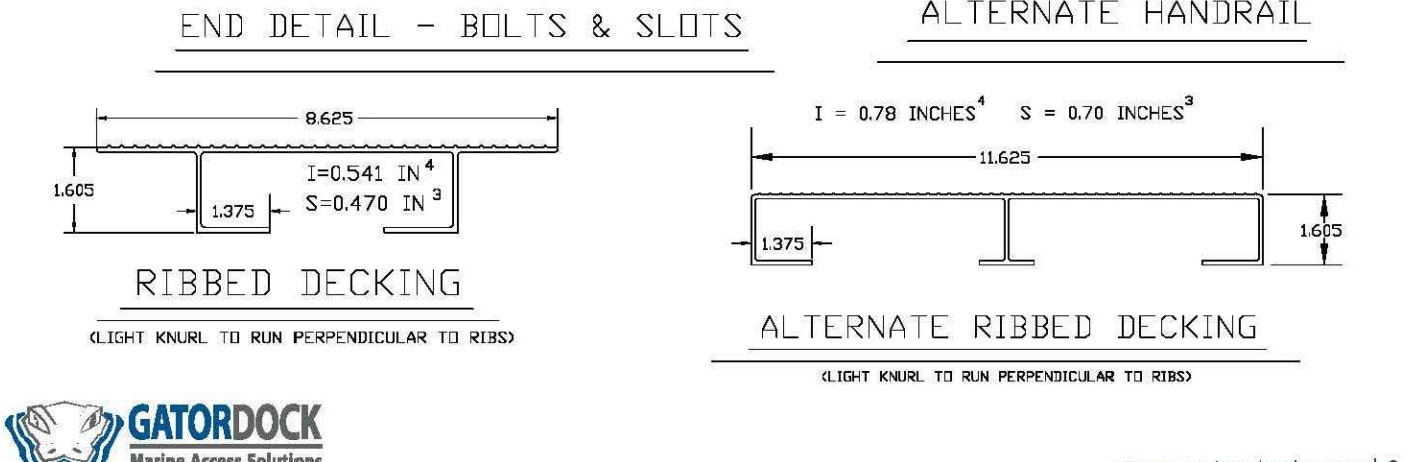
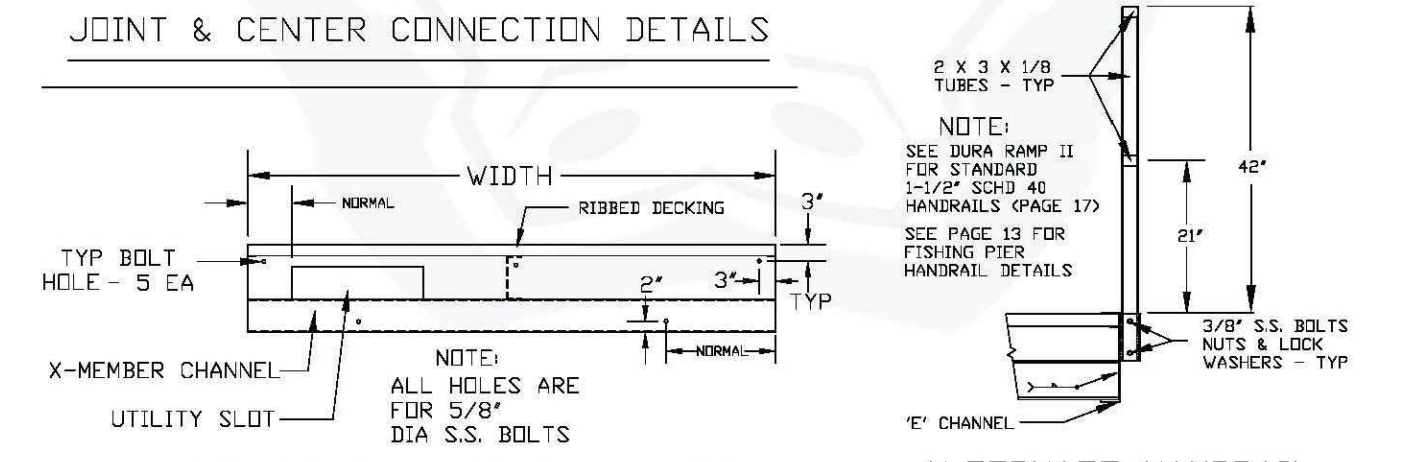
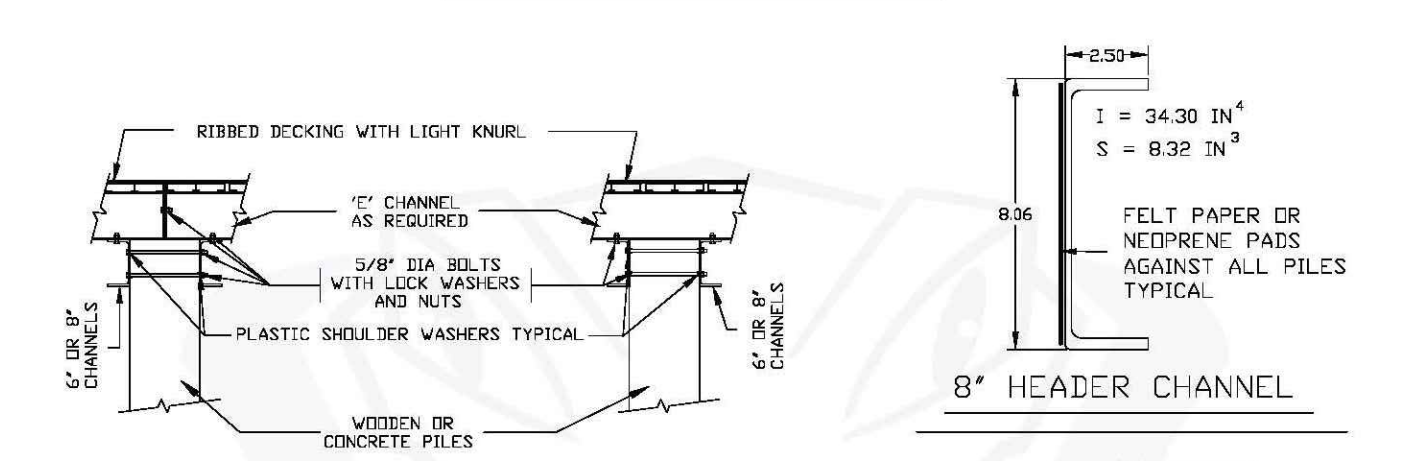
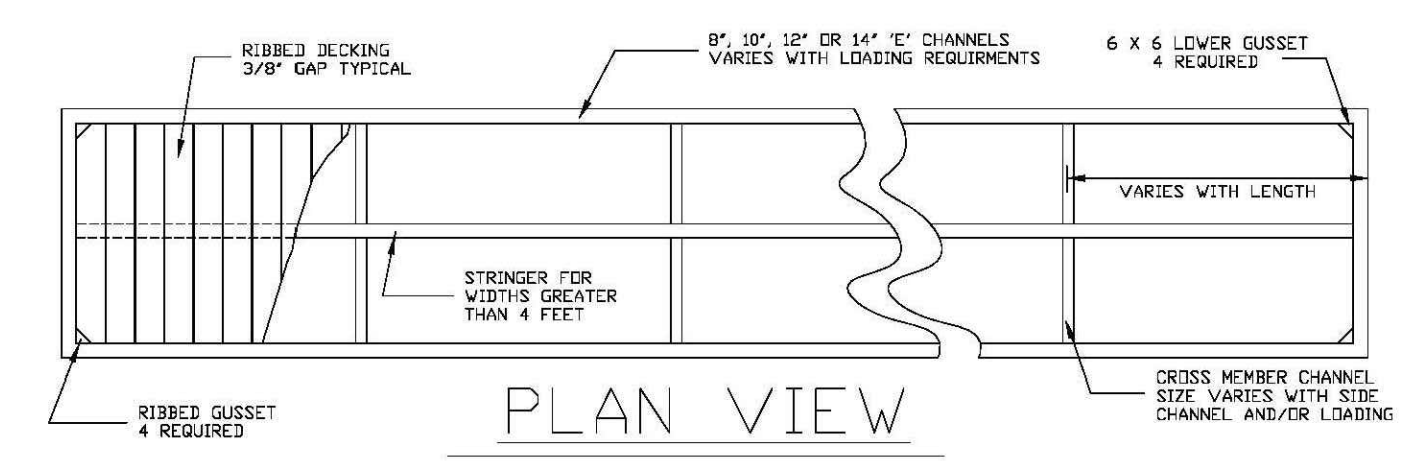
- Bench**
- Milenio is a Reinforced Cast Stone bench.
 - This landscape bench is available in Gray, Black White and Beige, with an acid-etched/antireflective finish.
 - Milenio is offered in a straight, angled right, or angled left module, and is freestanding.
 - Visit landscapeforms.com and review drawings to determine right and left configurations of bench.
- Material**
- Milenio Cast Stone is cast stone that is poured and cast over an iron rebar cage built to fit within the wall of the mold.
 - Milenio Cast Stone makes it possible to cast thinner, irregularly shaped forms while retaining acceptable strength.
 - The colors of Escalco cast stone products are neutral, muted and earth-toned and are derived from the aggregates used in casting.
 - No color additives in manufacture and no color applied to finished products.
 - The color range of every Escalco cast stone product is pre-determined by the formulation used in its manufacture.
 - Cast stone products do not require any specific maintenance during their estimated lifespan of more than 30 years.
 - Water absorption and freeze-thaw cycles can cause weathering, a responsibility of the process that takes place in natural rock.
 - Escalco applies a waterproof finish to its products to protect against the process.
 - Escalco cast stone products are large and heavy.
 - Shipping, handling, staging and installing these pieces is more akin to handling large masonry or pre-fabricated architectural elements.
 - See installation guide for important information.



MASONRY SEATING STEPS

SCALE: NTS

ALUMINUM FIXED PIER SYSTEMS



NOTE: DETAIL IS SCHEMATIC. CONTRACTOR SHALL SUBMIT SHOP DRAWING SIGNED & SEALED BY A NYS PROFESSIONAL ENGINEER.

TYPICAL RETAINING WALL DETAIL SCHEDULE

SCALE: NTS

RETAINING WALL SCHEDULE									
DIMENSIONS					REINFORCING				
H	W	T	A	B	C	D	E	D	E
6'-0"	1'-0"	1'-0"	3'-7"	0'-8"	2'-0"	#4@12" #5@9" 2"			
8'-0"	1'-0"	1'-0"	4'-7"	1'-3"	2'-4"	#4@8" #4@8"			
10'-0"	1'-0"	1'-0"	6'-2"	1'-8"	3'-5"	#4@8" #4@8"			
12'-0"	1'-0"	1'-0"	7'-8"	1'-10"	4'-11"	#4@8" #4@8"			

NOTE: RETAINING WALLS TO BE SIZED ACCORDING TO THIS SCHEDULE U.G.N. ON PLAN.

BENCH

SCALE: NTS

ORCHARD LAKE OBSERVATION PLATFORMS

SCALE: NTS

NO.	DATE	REVISION DESCRIPTION	INT.
1	3/29/19	UPDATED PER TOWN COMMENTS AND COORDINATION	ER/AL

NO.	DATE	REVISION DESCRIPTION	INT.

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 181 Broadway, Newburgh, New York, NY 12550
 301 Tarrytown Road, 1st Floor, White Plains, NY 10603
 Corporate Office: 914.231.8500
 www.CameronEngineering.com

PROJECT NAME: **GYRODYNE, LLC - MOD MIXED-USE CAMPUS**
 PROJECT LOCATION: **TOWN OF CORTLANDT WESTCHESTER COUNTY, NY**

TITLE: **DETAILS (6)**
 DISCIPLINE: **CIVIL**

PROJECT ENGINEER: **MAD**
 DESIGNED BY: **MAD**
 DRAWN BY: **MAD**
 CHECKED BY: **KMM**

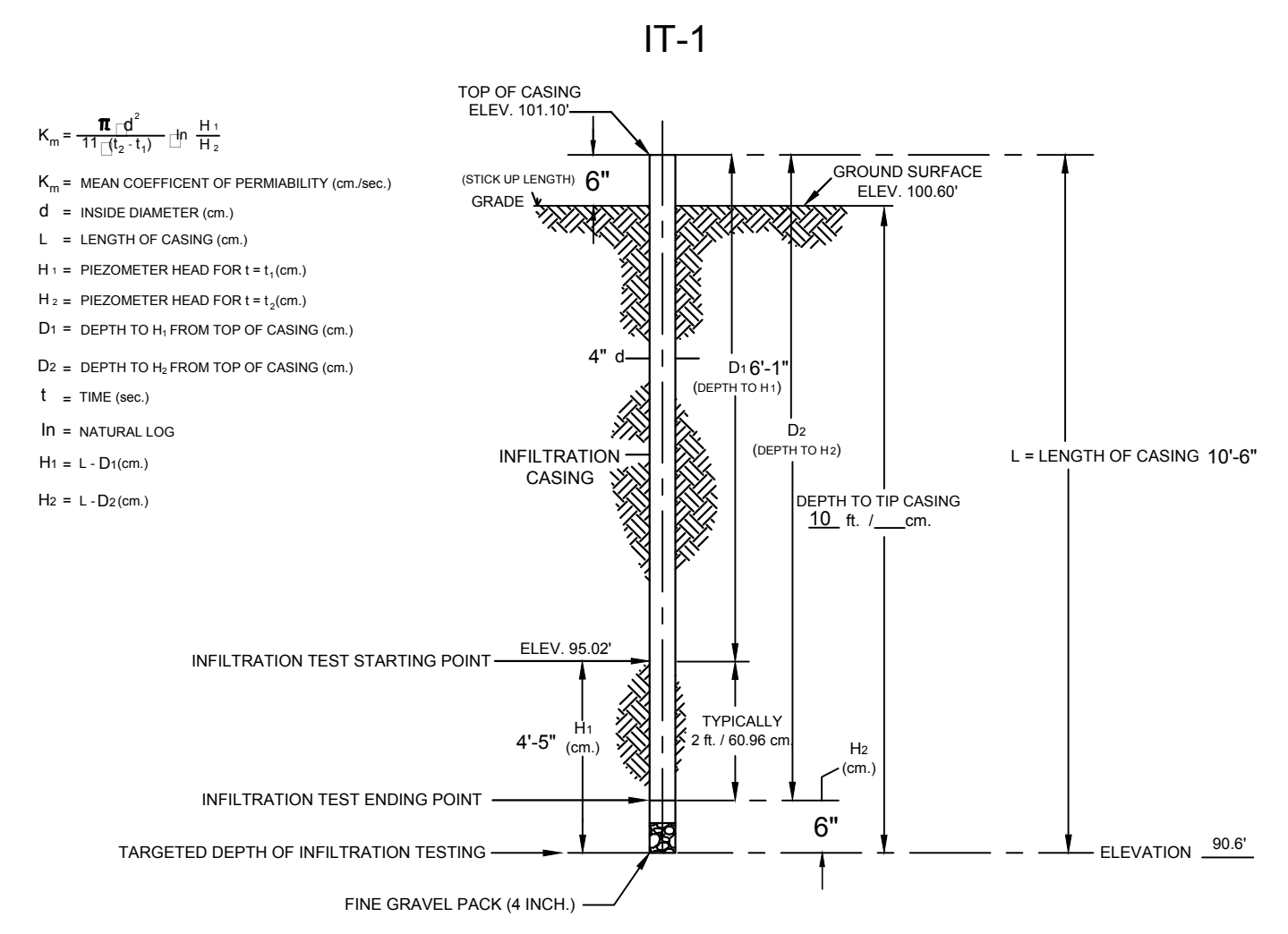
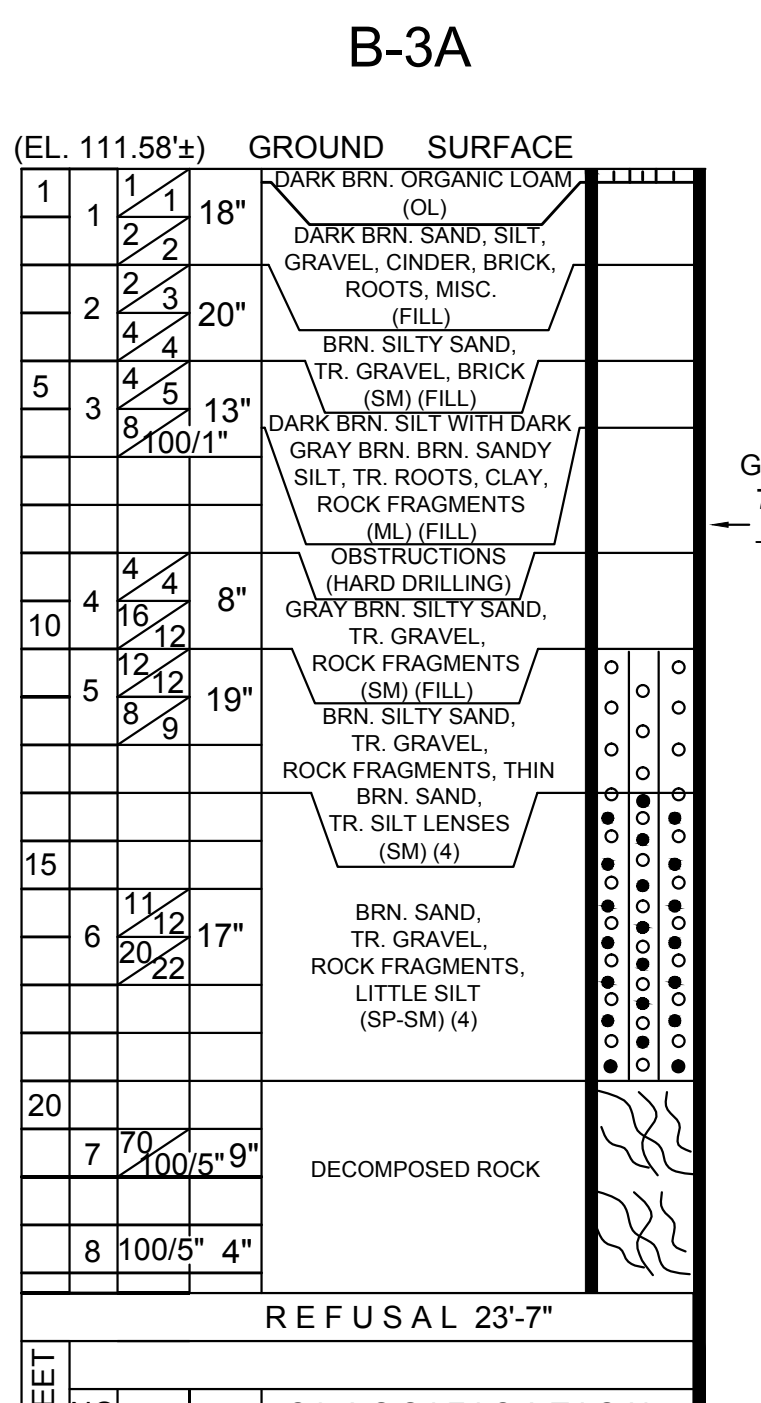
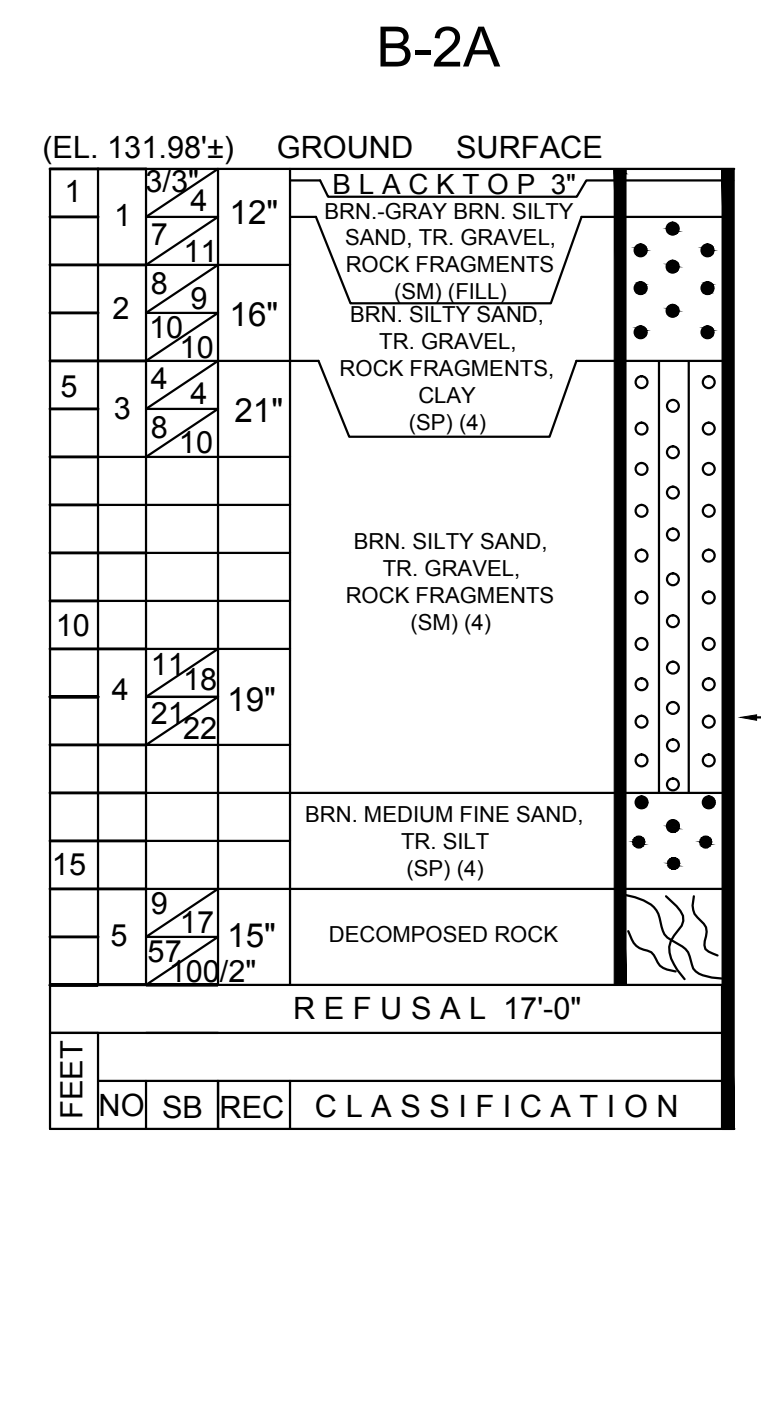
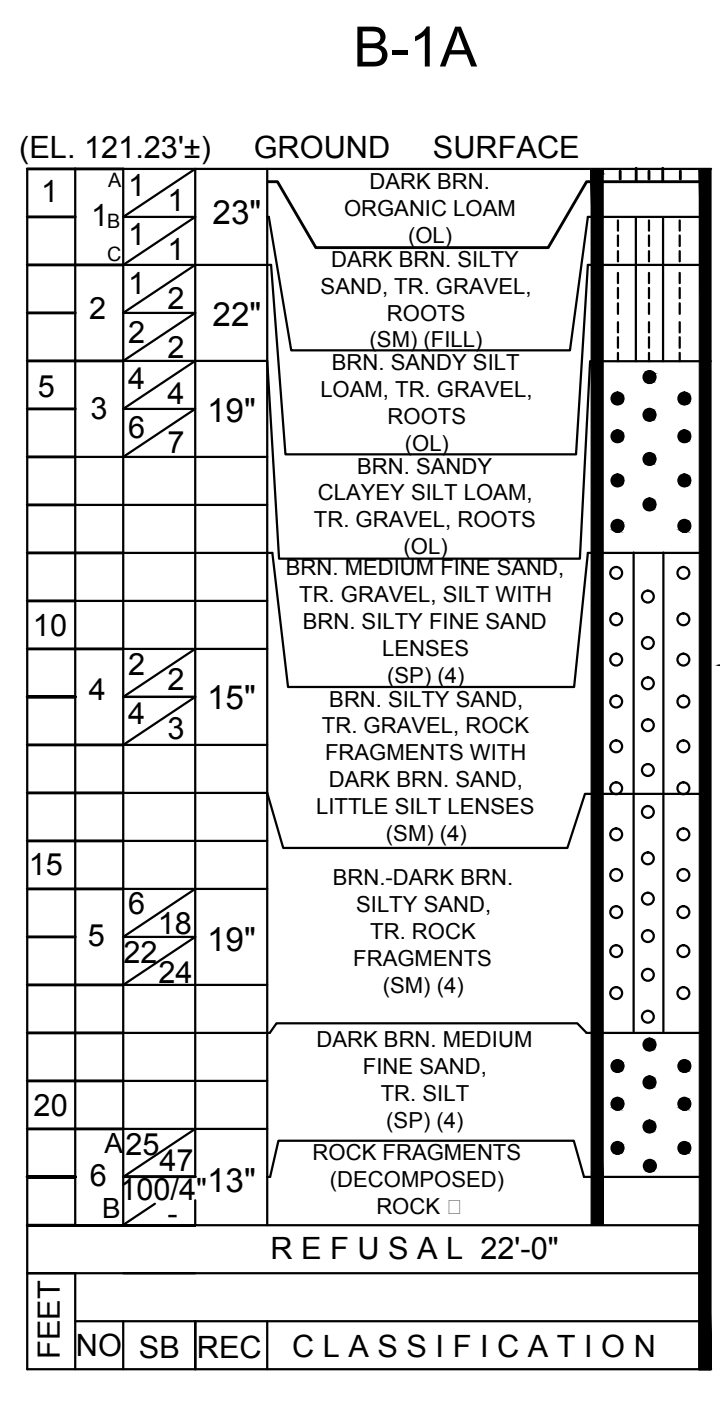
PROJECT NO.: **CE338A**
 JOB NO.: **CE338A**
 DATE: **03-30-2017**
 SCALE: **AS SHOWN**

DRAWING NO.: **C8.6**
 SHEET **21** OF **22**

APPENDIX C

SOIL BORINGS REPORT

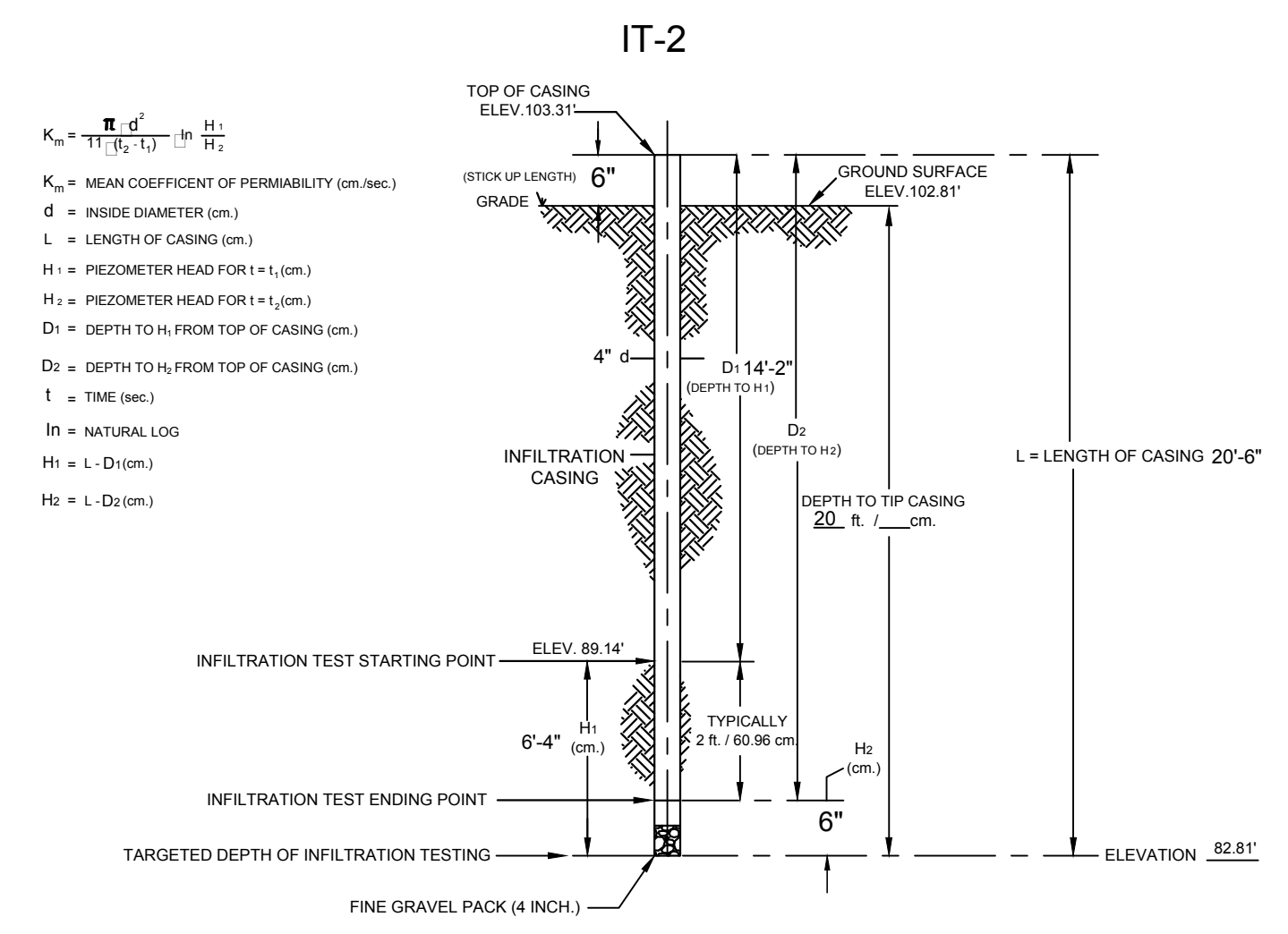
USDA SOIL REPORT



IT-1 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 7:45AM 8:45AM 60 MINUTES	60 MINUTES	5" WATER LEVEL DROP
NO. 2 8:45AM 9:45AM 60 MINUTES	60 MINUTES	4" WATER LEVEL DROP
NO. 3 10:45AM 11:45AM 60 MINUTES	60 MINUTES	4" WATER LEVEL DROP
NO. 4 11:45AM 12:45PM 60 MINUTES	60 MINUTES	4" WATER LEVEL DROP

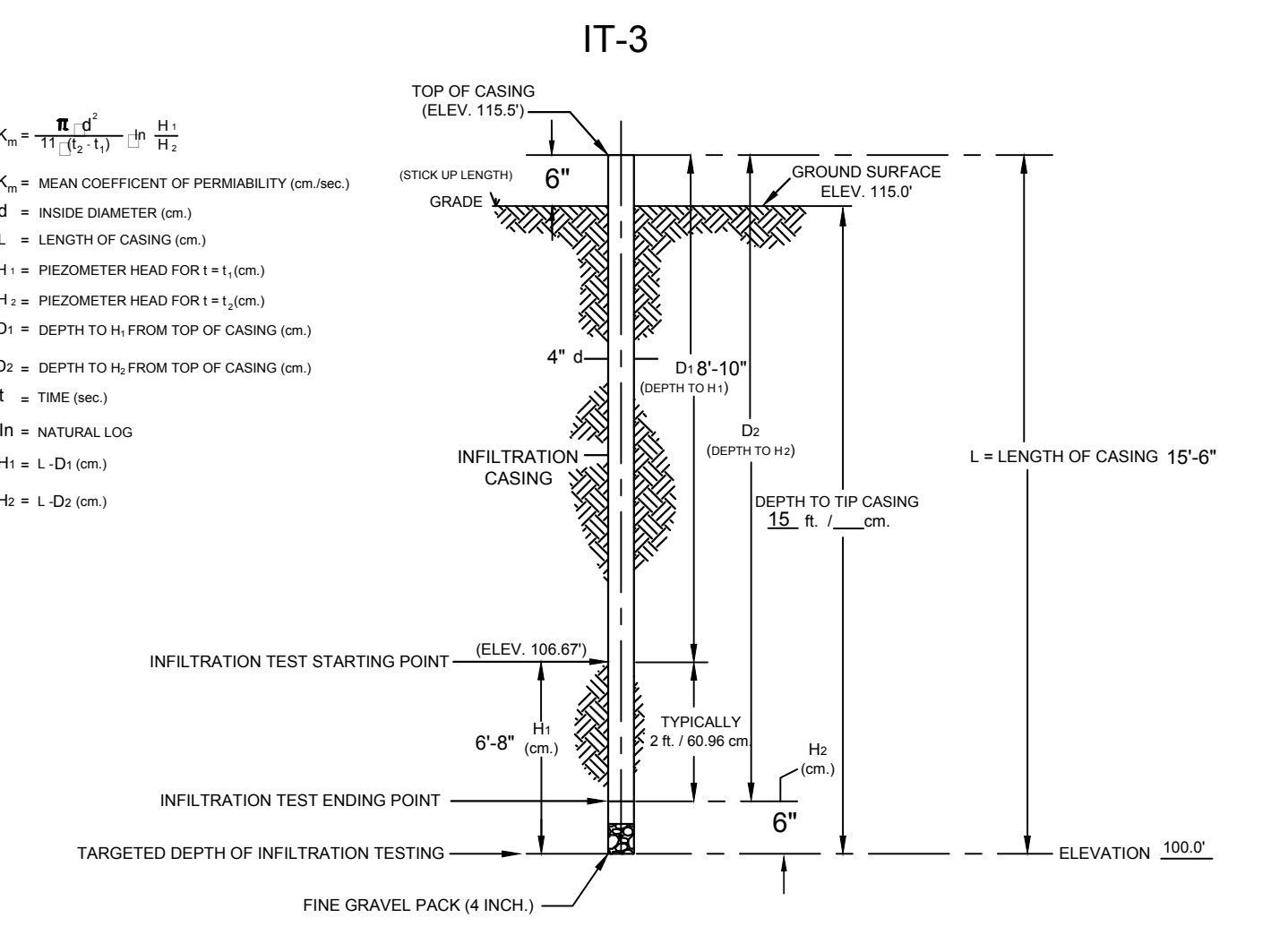
$K_{fs} = 8.382 \times 10^{-5}$



IT-2 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 7:54AM 8:54AM 60 MINUTES	60 MINUTES	NO CHANGE IN WATER LEVEL
NO. 2 9:54AM 10:54AM 60 MINUTES	60 MINUTES	NO CHANGE IN WATER LEVEL
NO. 3 10:54AM 11:54AM 60 MINUTES	60 MINUTES	NO CHANGE IN WATER LEVEL
NO. 4 11:54AM 12:54PM 60 MINUTES	60 MINUTES	NO CHANGE IN WATER LEVEL

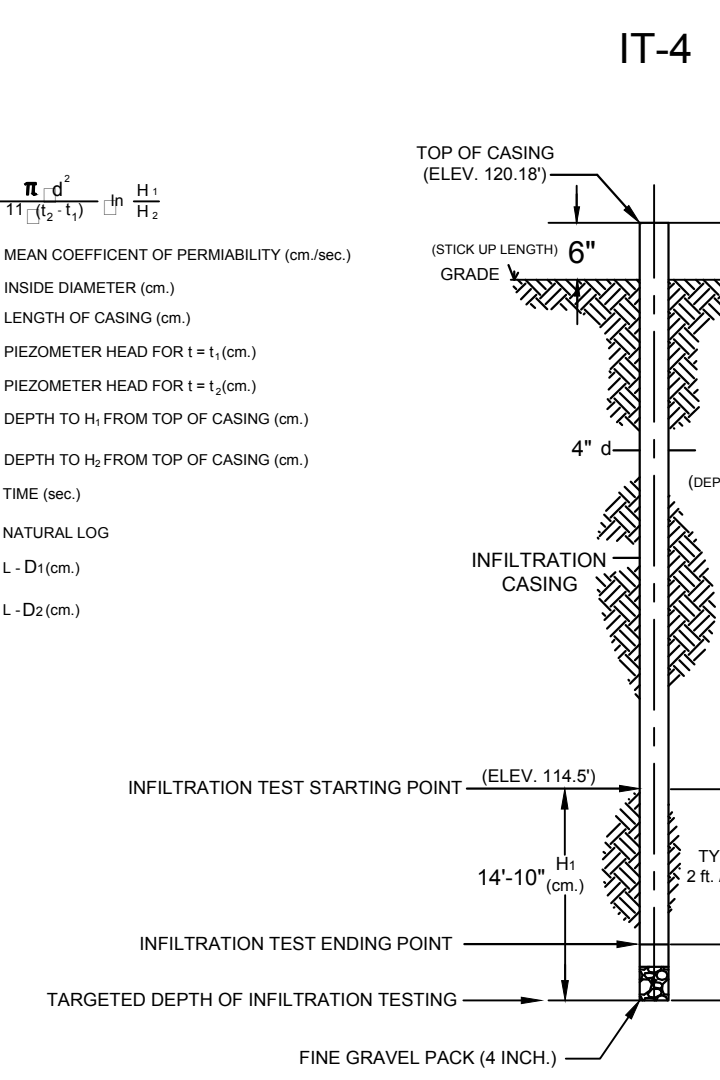
$K_{fs} = 2.22 \times 10^{-4}$



IT-3 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 8:01AM 9:01AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1.25"
NO. 2 10:01AM 11:01AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1"
NO. 3 11:01AM 12:01PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1"
NO. 4 12:01PM 1:01PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED .75"

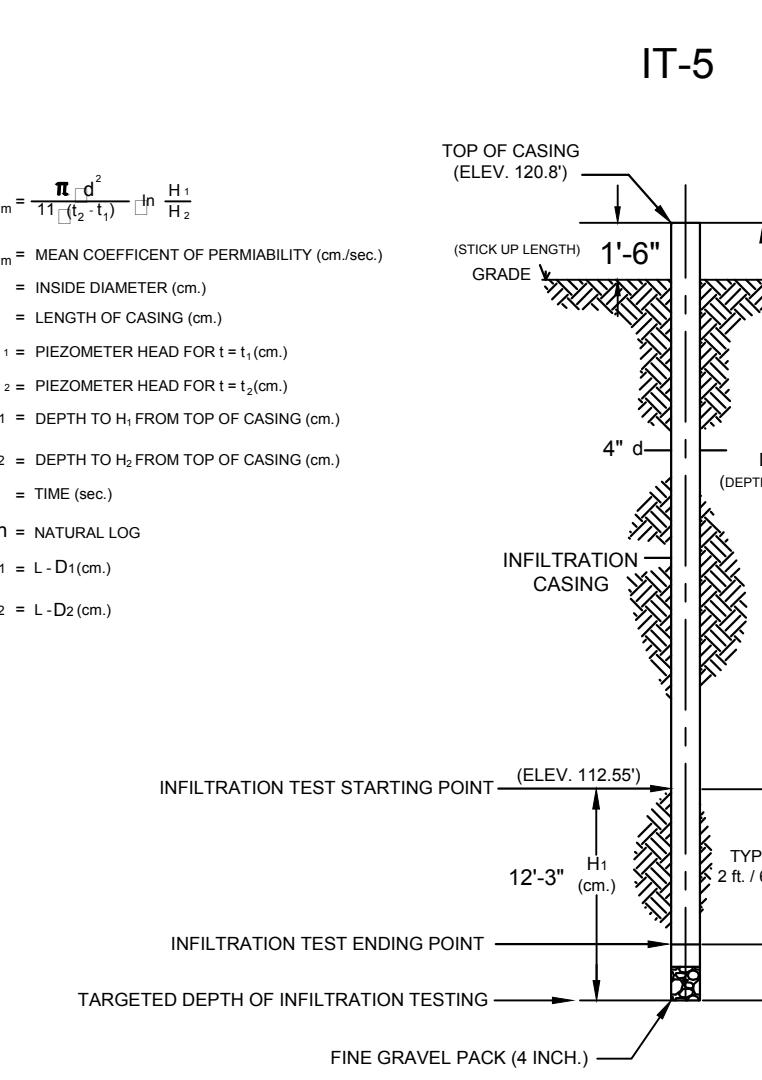
$K_{fs} = 2.22 \times 10^{-4}$



IT-4 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 8:02AM 9:02AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1.25"
NO. 2 10:02AM 11:02AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1.25"
NO. 3 11:02AM 12:02PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED .75"
NO. 4 12:02PM 1:02PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED .75"

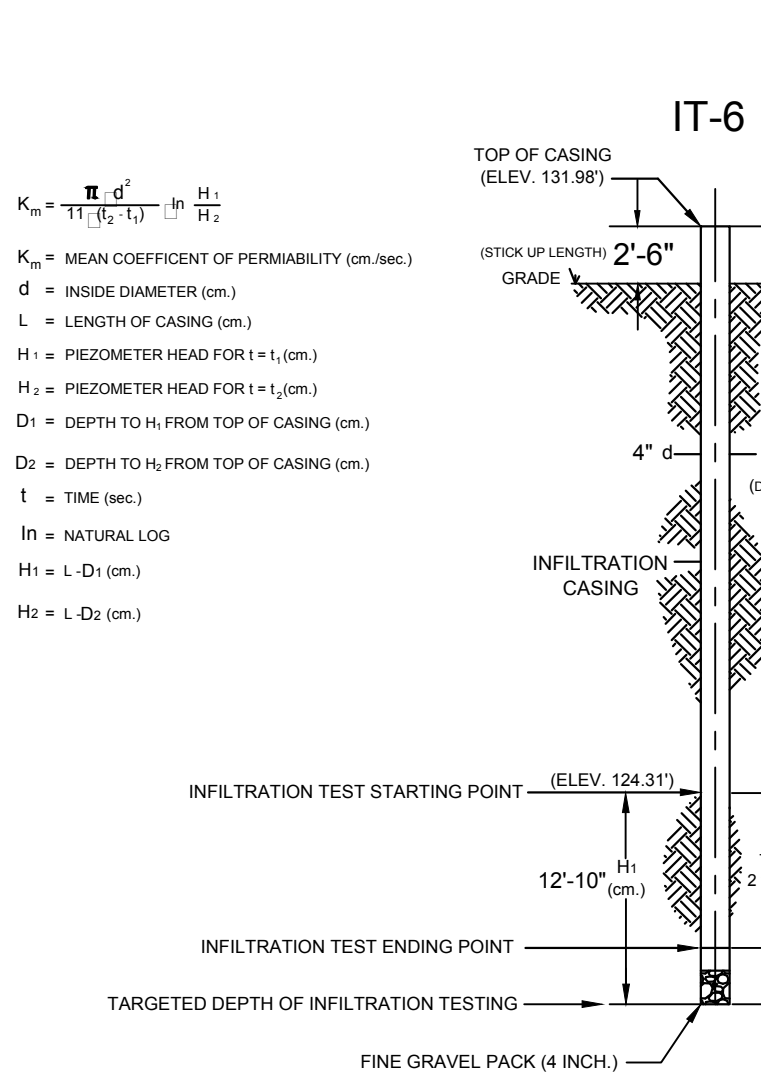
$K_{fs} = 4.42 \times 10^{-4}$



IT-5 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 11:00AM 12:00PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 3"
NO. 2 12:00PM 1:00PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 2"
NO. 3 2:00PM 3:00PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1"
NO. 4 3:00PM 4:00PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1"

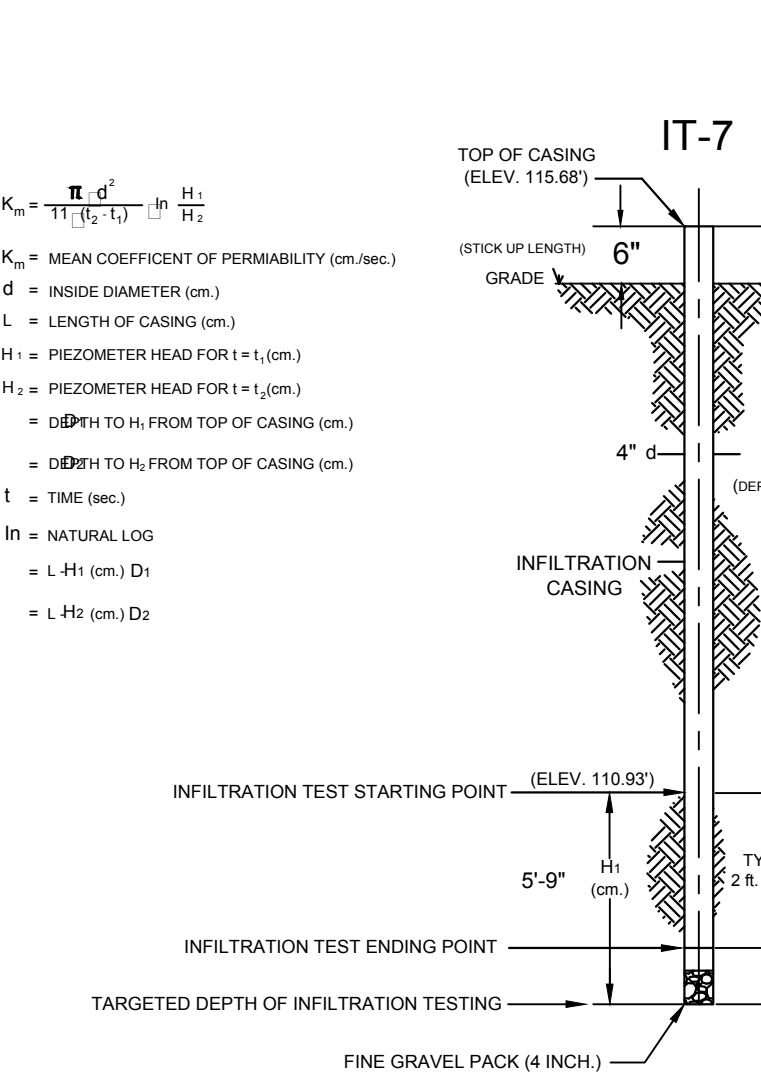
$K_{fs} = 9.4 \times 10^{-5}$



IT-6 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 10:13AM 11:13AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 2.0"
NO. 2 12:13PM 1:13PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 2.0"
NO. 3 1:13PM 2:13PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1.0"
NO. 4 2:13PM 3:13PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 1.0"

$K_{fs} = 1.00 \times 10^{-4}$



IT-7 FALLING HEAD INFILTRATION TEST DATA

TIME (MIN. & SEC.)	ELAPSED	COMMENTS
NO. 1 7:40AM 8:40AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 5"
NO. 2 8:40AM 9:40AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 25"
NO. 3 10:40AM 11:40AM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 25"
NO. 4 11:40AM 12:40PM 60 MINUTES	60 MINUTES	WATER LEVEL DROPPED 0.75"

$K_{fs} = 3.87 \times 10^{-4}$

UNIFIED SOIL CLASSIFICATION

SOIL GROUPS	TYPICAL NAMES AND SOIL SYMBOLS
1a Thru 1d	B E D R O C K
GW	WELL GRADED GRAVELS, GRAVEL SAND MIXTURES, LITTLE OR NO FINES
GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LITTLE OR NO FINES
GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURE
GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURE
SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
SM	SILTY SANDS, SAND - SILT MIXTURES
SC	CLAYEY SANDS, SAND - CLAY MIXTURES
ML	INORGANIC SILTS, VERY FINE SANDS, CLAYEY SILTS, SLIGHT PLASTICITY
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS SANDY CLAYS, SILTY CLAYS
OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SILTS, ELASTIC SILTS
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

ALLOWABLE FOUNDATION & LATERAL PRESSURES, N.Y.S. BLDG. CODE TABLE 1804.2

CLASS OF MATERIALS	FOUNDATION PRESSURE (PSF)	LATERAL BEARING BELOW NATURAL GRADE (PSF)	LATERAL SLIDING COEFFICIENT OF FRICTION (μ)	RESISTANCE (PSF)
1. CRYSTALLINE BEDROCK	12,000	1,200	0.70	-
2. SEDIMENTARY & FOLIATED ROCK	4,000	400	0.35	-
3. SANDY GRAVEL & OR GRAVEL (GW & GP)	3,000	200	0.35	-
4. SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL & CLAYEY GRAVEL (SW, SP, SM, SC, GM & GC)	2,000	150	0.25	-
5. CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT (ML, MH AND CH)	1,500 ^a	100	-	130

FOR 1: 1 POUND PER SQUARE FOOT = 0.0479 kPa, 1 POUND PER SQUARE FOOT = 0.157 kPa/m.
 a. COEFFICIENT TO BE MULTIPLIED BY THE DEAD LOAD.
 b. LATERAL SLIDING RESISTANCE VALUE TO BE MULTIPLIED BY THE CONTACT AREA, AS LIMITED BY SECTION 1804.3.
 c. WHERE THE CODE ENFORCEMENT OFFICIAL DETERMINES THAT IN LARGE SOILS WITH AN ALLOWABLE BEARING CAPACITY OF LESS THAN 1,500 PSF ARE LIKELY TO BE PRESENT AT THE SITE, THE ALLOWABLE BEARING CAPACITY SHALL BE DETERMINED BY A SOILS INVESTIGATION.
 d. AN INCREASE OF ONE-THIRD IS PERMITTED WHEN USING THE ALTERNATE LOAD COMBINATIONS SECTION 1605.3.2 THAT INCLUDE WIND OR EARTHQUAKE LOADS.

COMPACTION RELATED TO SPOON BLOWS PER FOOT

SAND	SOFT	10 OR LESS
LOOSE	15 OR LESS	10 OR LESS
MEDIUM	16 TO 39	MEDIUM 11 TO 29
DENSE	40 OR MORE	HARD 30 OR MORE

*** N * STANDARD PENETRATION TEST** (2" SPOON, 140# HAMMER, 30" FALL)

SPHOON BLOW COUNT IS GENERALLY SHOWN IN 6" INCREMENTS FOR 2" DRIVE TO OBTAIN BLOWS PER FOOT (N) USE THE 2ND & 3RD 6" INCREMENT

SIZES, INCHES	EXTRA HEAVY CASING	SAMPLE SPOON
2.5	2.0	2.0
HAMMER WEIGHT, POUNDS	140	140
HAMMER FALL, INCHES	30	30

CB - CASING BLOWS PER 1 FOOT DRIVE UD - UNDISTURBED SOIL SAMPLE
 SB - SPOON BLOWS PER 6 INCH DRIVE NO - SAMPLE NUMBER
 P - PUSHED BY WEIGHT OF HAMMER W - DEPTH FROM GND, SUR. NOTED AT EACH 5' WORK - WEIGHT OF HAMMER
 THE LIABILITY OF SOIL MECHANICS DRILLING CORP., ITS OFFICERS OR EMPLOYEES, FOR ERRORS, OMISSIONS OR NEGLIGENCE RESULTING IN PERSONAL INJURIES, PROPERTY DAMAGE OR ANY CONSEQUENTIAL DAMAGES, IS LIMITED TO THE AMOUNT OF THE FEE PAID FOR THIS REPORT. THE RETENTION OR USE OF ANY PART OF THIS REPORT WILL CONSTITUTE AN ACCEPTANCE OF THIS LIMITED LIABILITY. IF THIS IS UNACCEPTABLE, THE CLIENT MUST NOTIFY SOIL MECHANICS DRILLING CORP. IN WRITING BY CERTIFIED MAIL WITHIN SEVEN DAYS FROM THE DATE OF RECEIPT. THE FEE CHARGED FOR THIS REPORT IS BASED ON THIS LIMITATION OF LIABILITY WHICH IS THE ESSENCE OF THIS AGREEMENT. IF THE CLIENT WANTS A HIGHER LIMITATION OF LIABILITY, SOIL MECHANICS DRILLING CORP. WILL NEGOTIATE ONE, BASED UPON A HIGHER FEE BEING CHARGED FOR THE ADDITIONAL ASSUMPTION OF LIABILITY. SOIL MECHANICS DRILLING CORP., ITS OFFICERS OR EMPLOYEES, HAVE NO LIABILITY OR RESPONSIBILITY TO PERSONS OTHER THAN THE CLIENT FOR WHOM THIS REPORT WAS PREPARED. ANYONE, OTHER THAN OUR CLIENT, RELIES ON THIS REPORT AT THEIR OWN RISK.

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 WOODBURY, NEW YORK 11797

SOIL MECHANICS DRILLING CORP.
 subsurface investigations
 3770 MERRICK ROAD • SEAFORD, NEW YORK 11783 • 516-221-2333
SUBSURFACE INVESTIGATION
 CORTLANDT MEDICAL CENTER
 19 80 CROMPOND ROAD
 CORTLANDT, NEW YORK

VERTICAL BORING SCALE: 1/4" = 1'-0" UNLESS NOTED OTHERWISE
 DRAWING DATE: APRIL 11, 2017
 DATES OF BORING: APRIL 3 & 4, 2017
 DRAWN BY: NAR
 CHECKED BY: CV
 REVISION DATE:
 DRAWING NUMBER: 16L423.A3
 SHEET 1 OF 1



SOIL TEST BORING / INFILTRATION TEST LOCATION PLAN

- NOTES**
- SOIL DESCRIPTIONS ARE BY VISUAL EXAMINATION OF SOIL SAMPLES RECOVERED DURING DRILLING OPERATIONS.
 - SOIL DESCRIPTIONS ARE IN ACCORD WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM.
 - GROUND WATER TABLE WAS MEASURED INSIDE THE DRILL CASING AT THE COMPLETION OF EACH BOREHOLE.
 - SOIL STRATIFICATIONS ARE ACCURATE TO WITHIN TWO FEET VERTICALLY.
 - SOIL SAMPLES WERE OBTAINED USING A CENTRAL MINE EQUIPMENT (CME) AUTOMATIC TRIP HAMMER.
 - SOIL TEST BORING GROUND SURFACE ELEVATIONS SHOWN ARE REFERENCED TO TOP OF CURB AT ASSUMED B.M. EL. 100.00'.
 - DENOTES SOIL TEST BORINGS PREVIOUSLY DRILLED.



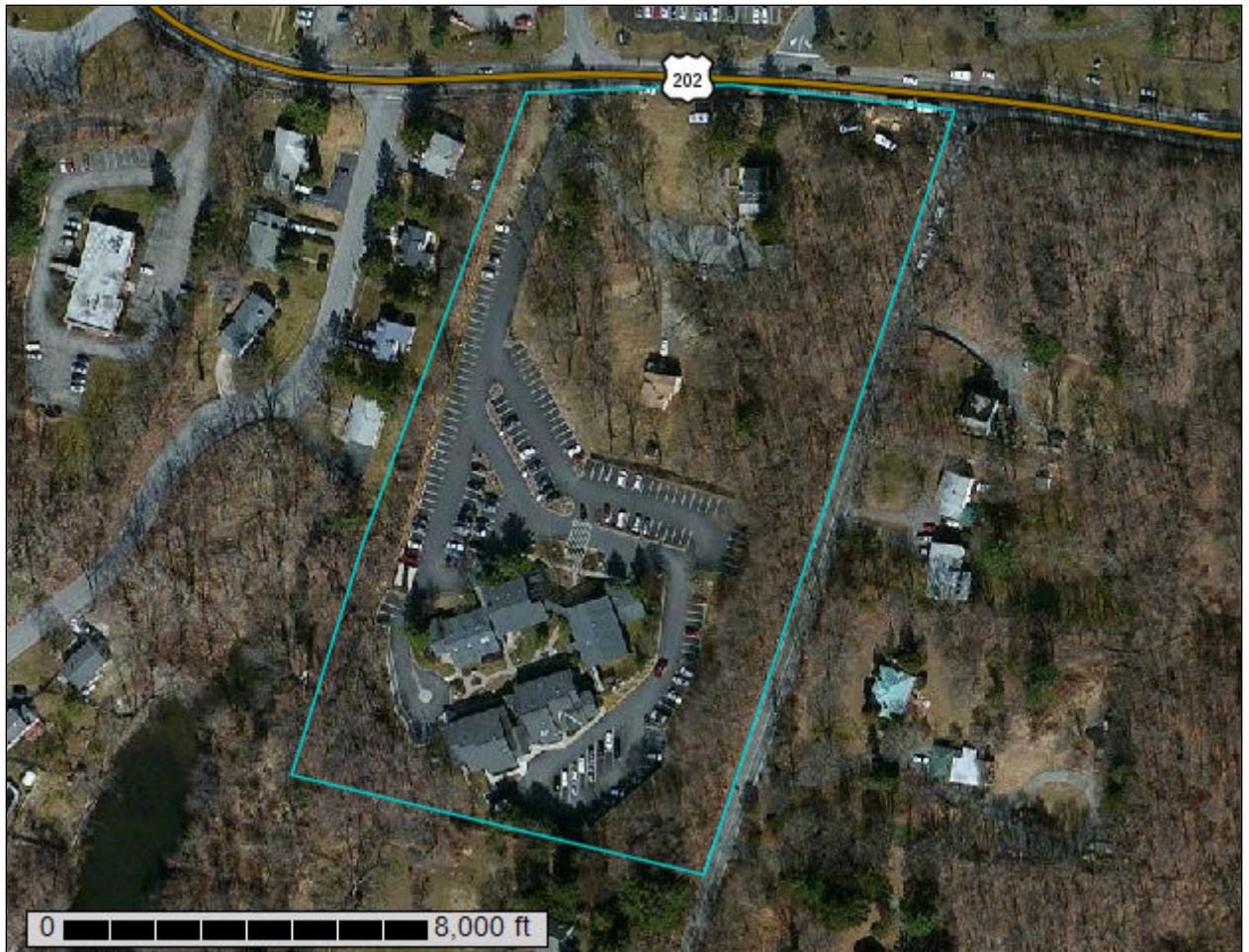
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Westchester County, New York**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

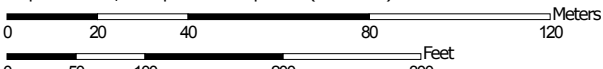
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




Map Scale: 1:1,670 if printed on A portrait (8.5" x 11") sheet.



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 1:12,000.

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: Westchester County, New York
 Survey Area Data: Version 12, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 26, 2011—Apr 16, 2012

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

Westchester County, New York (NY119)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	4.1	48.8%
Fr	Fredon silt loam	0.2	2.0%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	0.0	0.0%
RhB	Riverhead loam, 3 to 8 percent slopes	4.2	49.2%
Totals for Area of Interest		8.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

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pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Westchester County, New York

ChD—Charlton fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2wh0t
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton, fine sandy loam

Percent of map unit: 5 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton

Percent of map unit: 5 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Chatfield

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Nose slope, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Canton

Percent of map unit: 2 percent
Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Fr—Fredon silt loam

Map Unit Setting

National map unit symbol: bd8l
Elevation: 250 to 1,200 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Fredon, poorly drained, and similar soils: 50 percent

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Fredon, somewhat poorly drained, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fredon, Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 7 inches: silt loam

H2 - 7 to 24 inches: fine sandy loam

H3 - 24 to 60 inches: stratified very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Description of Fredon, Somewhat Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 7 inches: silt loam

H2 - 7 to 24 inches: fine sandy loam

H3 - 24 to 60 inches: stratified very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)

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Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Pompton

Percent of map unit: 5 percent
Hydric soil rating: No

Leicester

Percent of map unit: 3 percent
Landform: Depressions
Hydric soil rating: Yes

Fluvaquents

Percent of map unit: 2 percent
Landform: Flood plains
Hydric soil rating: Yes

Udifluvents

Percent of map unit: 2 percent
Hydric soil rating: No

Sutton

Percent of map unit: 2 percent
Hydric soil rating: No

Palms

Percent of map unit: 1 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

PnC—Paxton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w66y
Elevation: 0 to 1,320 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 15 inches: fine sandy loam

Bw2 - 15 to 26 inches: fine sandy loam

Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 7 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent

Landform: Drumlins, ground moraines, hills

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Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent

Landform: Depressions, drumlins, ground moraines, drainageways, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Hydric soil rating: Yes

RhB—Riverhead loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd9g

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Riverhead and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting

Landform: Deltas, terraces

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 6 inches: loam

H2 - 6 to 25 inches: sandy loam

H3 - 25 to 30 inches: loamy sand

H4 - 30 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

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Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Pompton

Percent of map unit: 5 percent
Hydric soil rating: No

Charlton

Percent of map unit: 4 percent
Hydric soil rating: No

Hinckley

Percent of map unit: 3 percent
Hydric soil rating: No

Knickerbocker

Percent of map unit: 3 percent
Hydric soil rating: No

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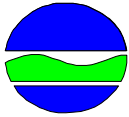
APPENDIX D

NOTICE OF INTENT (NOI)

&

NOTICE OF TERMINATION (NOT)

NOTICE OF INTENT



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

NYR
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

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

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

Phone (Owner/Operator) - - Fax (Owner/Operator) - -

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

- FOREST
- PASTURE/OPEN LAND
- CULTIVATED LAND
- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY
- PARKING LOT
- OTHER

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**Post-Development
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- MUNICIPAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY (water, sewer, gas, etc.)
- PARKING LOT
- CLEARING/GRADING ONLY
- DEMOLITION, NO REDEVELOPMENT
- WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- OTHER

Number of Lots

--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area																				
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5. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

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

A <table border="1" style="display: inline-table; width: 40px; height: 25px;"> <tr> <td style="width: 15px;"></td><td style="width: 15px;"></td><td style="width: 10px;"></td> </tr> </table> %				B <table border="1" style="display: inline-table; width: 40px; height: 25px;"> <tr> <td style="width: 15px;"></td><td style="width: 15px;"></td><td style="width: 10px;"></td> </tr> </table> %				C <table border="1" style="display: inline-table; width: 40px; height: 25px;"> <tr> <td style="width: 15px;"></td><td style="width: 15px;"></td><td style="width: 10px;"></td> </tr> </table> %				D <table border="1" style="display: inline-table; width: 40px; height: 25px;"> <tr> <td style="width: 15px;"></td><td style="width: 15px;"></td><td style="width: 10px;"></td> </tr> </table> %			

7. Is this a phased project? Yes No

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

Start Date <table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td> </tr> </table> / <table border="1" style="display: inline-table; width: 20px; height: 25px;"> <tr> <td style="width: 20px;"></td> </tr> </table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td> </tr> </table>								-	End Date <table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td> </tr> </table> / <table border="1" style="display: inline-table; width: 20px; height: 25px;"> <tr> <td style="width: 20px;"></td> </tr> </table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"> <tr> <td style="width: 20px;"></td><td style="width: 20px;"></td><td style="width: 20px;"></td> </tr> </table>							

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

Name
[Grid for name entry]

9a. Type of waterbody identified in Question 9?

- Wetland / State Jurisdiction On Site (Answer 9b)
Wetland / State Jurisdiction Off Site
Wetland / Federal Jurisdiction On Site (Answer 9b)
Wetland / Federal Jurisdiction Off Site
Stream / Creek On Site
Stream / Creek Off Site
River On Site
River Off Site
Lake On Site
Lake Off Site
Other Type On Site
Other Type Off Site

9b. How was the wetland identified?

- Regulatory Map
Delineated by Consultant
Delineated by Army Corps of Engineers
Other (identify)

[Grid for 'Other Type Off Site' answer]

[Grid for 'Other (identify)' answer]

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? Yes No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002? Yes No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? Yes 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? Yes No
If Yes, what is the acreage to be disturbed? [Grid for acreage]

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

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

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

Two rows of empty grid boxes for text entry.

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

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

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

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

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 No

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 No
If No, skip questions 23 and 27-39.

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 No

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

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

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required (#28).

Also, provide in Table 1 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 Tables 1 and 2 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.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)				
<input type="radio"/> Rain Garden (RR-6)				
<input type="radio"/> Stormwater Planter (RR-7)				
<input type="radio"/> Rain Barrel/Cistern (RR-8)				
<input type="radio"/> Porous Pavement (RR-9)				
<input type="radio"/> Green Roof (RR-10)				
<u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)				
<input type="radio"/> Infiltration Basin (I-2)				
<input type="radio"/> Dry Well (I-3)				
<input type="radio"/> Underground Infiltration System (I-4)				
<input type="radio"/> Bioretention (F-5)				
<input type="radio"/> Dry Swale (O-1)				
<u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)				
<input type="radio"/> Wet Pond (P-2)				
<input type="radio"/> Wet Extended Detention (P-3)				
<input type="radio"/> Multiple Pond System (P-4)				
<input type="radio"/> Pocket Pond (P-5)				
<input type="radio"/> Surface Sand Filter (F-1)				
<input type="radio"/> Underground Sand Filter (F-2)				
<input type="radio"/> Perimeter Sand Filter (F-3)				
<input type="radio"/> Organic Filter (F-4)				
<input type="radio"/> Shallow Wetland (W-1)				
<input type="radio"/> Extended Detention Wetland (W-2)				
<input type="radio"/> Pond/Wetland System (W-3)				
<input type="radio"/> Pocket Wetland (W-4)				
<input type="radio"/> Wet Swale (O-2)				

**Table 2 - Alternative SMPs
(DO NOT INCLUDE PRACTICES BEING
USED FOR PRETREATMENT ONLY)**

<u>Alternative SMP</u>	<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Hydrodynamic	<input type="text"/>	<input type="text"/>
<input type="radio"/> Wet Vault	<input type="text"/>	<input type="text"/>
<input type="radio"/> Media Filter	<input type="text"/>	<input type="text"/>
<input type="radio"/> Other <input type="text"/>	<input type="text"/>	<input type="text"/>

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

Name

Manufacturer

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.

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

Total RRv provided

. acre-feet

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

Yes No

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

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. acre-feet

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

Yes No

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, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 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.

WQv Provided

				.						acre-feet
--	--	--	--	---	--	--	--	--	--	-----------

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 - RRv 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).

--	--	--

--	--	--

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? Yes No

If Yes, go to question 36.

If No, sizing criteria has not been met, so 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	CPv Provided												
<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> acre-feet							<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> acre-feet						

36a. The need to provide channel protection has been waived because:

- Site discharges directly to tidal waters or a fifth order or larger stream.
- 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.

Total Overbank Flood Control Criteria (Qp)

Pre-Development	Post-development												
<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> CFS							<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> CFS						

Total Extreme Flood Control Criteria (Qf)

Pre-Development	Post-development												
<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> CFS							<table style="border: 1px solid black; display: inline-table;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <table style="border: 1px solid black; display: inline-table; margin-left: 10px;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> CFS						

**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: **Gyro, LLC EIN**
2. Street Address: **One Flowerfield, Suite 24**
3. City/State/Zip: **St. James, NY 11780**
4. Contact Person: **Peter Pitsiokos** 4a. Telephone: **631-584-5400**
4b. Contact Person E-Mail: **peter@gyrodyne.com**

II. Project Site Information

5. Project/Site Name: **Gyrodyne, LLC-MOD Mixed-Use Campus - Phase 1**
6. Street Address: **Crompond Rd**
7. City/Zip: **Town of Cortlandt**
8. County: **Westchester, NY**

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)

APPENDIX E

MS4 SIGN-OFF SHEET



Department of
Environmental
Conservation

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

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:

12. MS4 SPDES Permit Identification Number: NYR20A

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:

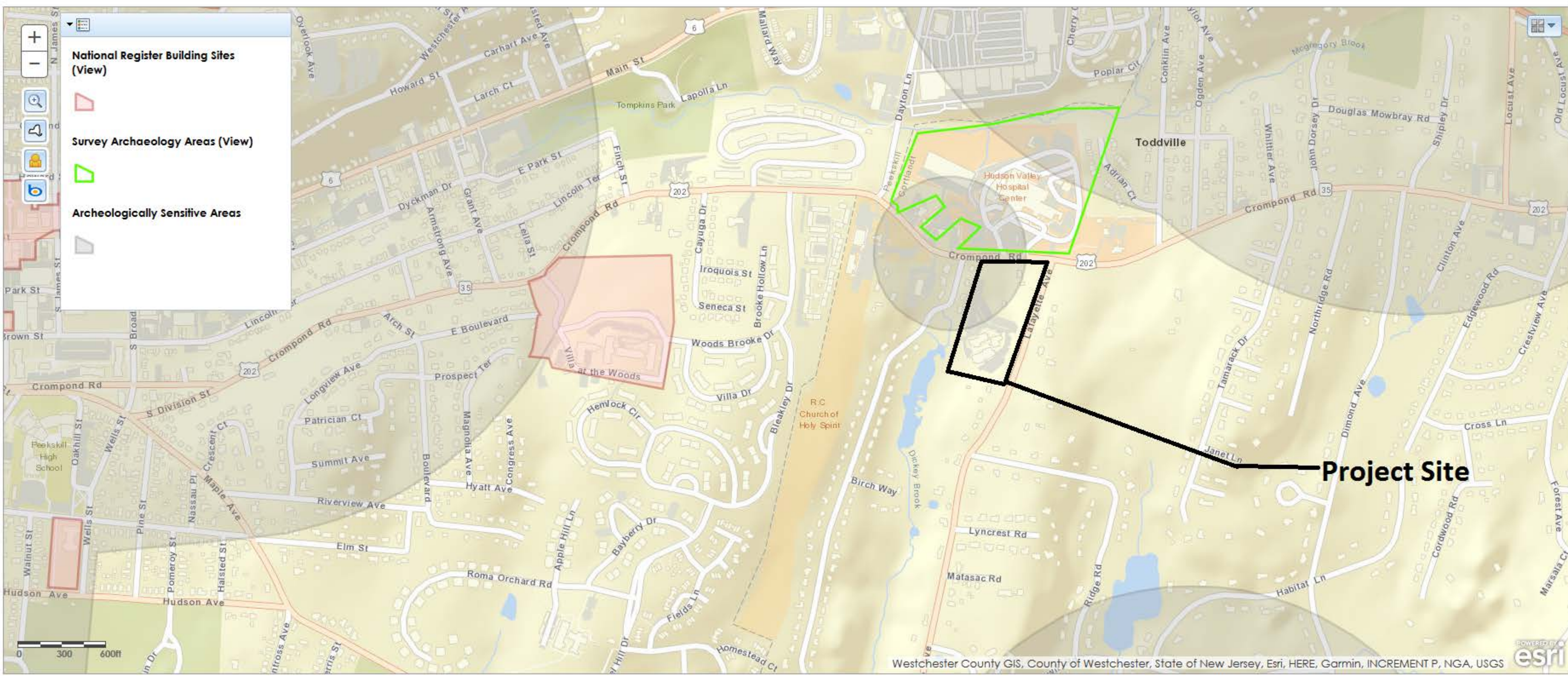
Signature:

Date:

VI. Additional Information

APPENDIX F

HISTORIC & ARCHEOLOGICAL SUPPORTING DOCUMENTATION



APPENDIX G

CONTRACTOR CERTIFICATION STATEMENT

CONTRACTOR CERTIFICATION

All construction at Gyrodyne, LLC – Mod Mixed-Use Campus, 1985 Crompond Rd, Town of Cortlandt, Westchester County, New York will be the responsibility of the site operator, _____ . In accordance with Part III(A)(6) of GP-0-15-002, all contractors and subcontractors performing work at the subject construction site must sign the following certification statement:

“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 Pollution 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.”

Owner/Operator Representative	Trained Contractor	Trained Subcontractor (If Necessary)
_____ Name	_____ Name	_____ Name
_____ Signature and Date	_____ Signature and Date	_____ Signature and Date
_____ Title/Responsible For	_____ Title/Responsible For	_____ Title/Responsible For
_____ 	_____ 	_____
_____ Company and Address	_____ Company and Address	_____ Company and Address
_____ Telephone Number	_____ Telephone Number	_____ Telephone Number

APPENDIX H

SUMMARY OF CALCULATIONS USED IN PROVIDING WQ_v, CP_v, Q_p, and Q_f

[Redacted]

Present

1. Runoff Curve Number

Soil Name	Hydrologic Group	Cover Description	CN (table 2-2)	Area (ac)	(CN)x(Area)
RhB (HSG-A)		Impervious Cover Paved	98	0.83	81.34
		Impervious Cover Bldg & Walkway	98	0.11	10.78
		Grass Combination (Fair)	43	3.26	140.18
			Totals:	4.20	232.30
				CN (Weighted):	56
				S (Weighted):	8

2. Runoff

	Units			Storm #1	Storm #2
Frequency	(yr)			10	100
Rainfall, P-24 hour	(in)			5.05	9.02
Runoff Depth, Q	(in)			1.07	3.62

Developed

1. Runoff Curve Number

Soil Name	Hydrologic Group	Cover Description	CN (table 2-2)	Area (ac)	(CN)x(Area)
RhB (HSG-A)		Impervious Cover Bldg & Walkway	98	1.26	123.48
		Impervious Cover Paved	98	1.16	113.68
		Porous Pavement	76	0.74	56.24
		Landscape (good)	39	1.34	52.26
			Totals:	4.50	345.66
				CN (Weighted):	77
				S (Weighted):	3

2. Runoff

	Units			Storm #1	Storm #2
Frequency	(yr)			10	100
Rainfall, P-24 hour	(in)			5.05	9.02
Runoff Depth, Q	(in)			2.66	6.22

Present			
Sheet Flow (Applicable to T_c only)			
	Units	1	
Surface Description	--	Woods-Light	
Manning's Roughness Coefficient, n	--	0.4	
Flow Length, L	(ft)	155	
Two-year 24-hour rainfall, P_2	(in)	3.50	
Land slope, s	(ft/ft)	0.21	
T_t	(hr)	0.190	0.190

Shallow Concentrated Flow			
	Units	2.1	2.2
Surface Description (paved or unpaved)	--	Paved	Paved
Flow Length, L	(ft)	355	57
Watercourse slope, s	(in)	0.04	0.005
Average Velocity, V	(ft/ft)	4.07	1.44
T_t	(hr)	0.024	0.011
			0.035

Channel Flow			
	Units		
Surface Description	--		
Cross sectional flow area, a	(ft ²)		
Wetted perimeter, pw	(ft)		
Hydraulic radius	(ft)		
Channel slope, s	(ft/ft)		
Manning's roughness coefficient, n	--		
Average Velocity, V	(ft/s)		
Flow length, L	(ft)		
T_t	(hr)		
		Watershed T_c (hr) =	0.225

Developed				
Sheet Flow (Applicable to T_c only)				
	Units	1.1	1.2	
Surface Description	--	Short Grass Prairie	Concrete	
Manning's Roughness Coefficient, n	--	0.15	0.011	
Flow Length, L	(ft)	56	84	
Two-year 24-hour rainfall, P_2	(in)	3.50	3.5	
Land slope, s	(ft/ft)	0.04	0.04	
T_t	(hr)	0.074	0.013	0.087

Shallow Concentrated Flow				
	Units	2		
Surface Description (paved or unpaved)	--	Paved		
Flow Length, L	(ft)	50		
Watercourse slope, s	(in)	0.024		
Average Velocity, V	(ft/ft)	3.15		
T_t	(hr)	0.004		0.004

Channel Flow				
	Units			
Surface Description	--			
Cross sectional flow area, a	(ft ²)			
Wetted perimeter, pw	(ft)			
Hydraulic radius	(ft)			
Channel slope, s	(ft/ft)			
Manning's roughness coefficient, n	--			
Average Velocity, V	(ft/s)			
Flow length, L	(ft)			
T_t	(hr)			
Watershed T_c (hr)=				0.092

Present

1. Data	
Drainage area, Am	0.0066
Runoff curve number, CN	56
Time of concentration, Tc	0
rainfall distribution	III
pond and swamp	1.0

	Units	Storm #1	Storm #2
2. Frequency	(yr)	10	100
3. Rainfall, P(24-hr)	(in)	5.05	9.02
4. Initial abstraction, I _a - Table 4-1	(in)	1.571	1.571
5. Compute I _a /P	--	0.31	0.17
6. Unit peak discharge, q _u - Figure 4-11	(csm/in)	460	510
7. runoff, Q	(in)	1.07	3.62
8. Pond Swamp Adjustment Factor, F _p	--	1.0	1.0
9. Peak Discharge, q _p	(cfs)	3.22	12.13

Developed

1. Data	
Drainage area, Am	0.0070
Runoff curve number, CN	77
Time of concentration, Tc	0.092
rainfall distribution	III
pond and swamp	1.0

	Units	Storm #1	Storm #2
2. Frequency	(yr)	10	100
3. Rainfall, P(24-hr)	(in)	5.05	9.02
4. Initial abstraction, I _a - Table 4-1	(in)	0.597	0.597
5. Compute I _a /P	--	0.12	0.07
6. Unit peak discharge, q _u - Figure 4-11	(csm/in)	650	670
7. runoff, Q	(in)	2.66	6.22
8. Pond Swamp Adjustment Factor, F _p	--	1.0	1.0
9. Peak Discharge, q _p	(cfs)	12.18	29.29

Worksheet 6b: Detention basin storage, storage volume (V_s) known

Project: Cortlandt Manor

Location: Outfall #2 - Crompond Rd.

Developed			
1. Data		Storm #1	Storm #2
Drainage Area A_m^2	(mi ²)	0.0066	0.0066
Rainfall Distribution Type	--	III	III
2. Frequency	(yr)	10	100
3. Storage Volume	(ac-ft)	1.11	1.11
4. Runoff, Q	(in)	2.66	6.22
5. Runoff Volume	(ac-ft)	0.93	2.18
6. Compute V_s/V_r	--	1.19	0.51
7. q_o/q_i - Figure 6-1	--	N/A	0.14
8. Peak inflow discharge	cfs	N/A	29.29
9. Peak outflow discharge	cfs	N/A	4.10
10. Maximum storage E_{max}	--	N/A	N/A

APPENDIX I

**NYS DEC SPDES General Permit for Stormwater Discharges
From Construction Activity**



Department of
Environmental
Conservation

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

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-15-002

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2015

Expiration Date: January 28, 2020

Modification Date:

July 14, 2015 – Correction of typographical error in definition of “New Development”,
Appendix A

John J. Ferguson
Chief Permit Administrator


Authorized Signature

Date

7-15-15

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’s *State Pollutant Discharge Elimination System (“SPDES”)* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law (“ECL”)*.

This general permit (“permit”) is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent (“NOI”) to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation (“the Department”) regional office (see Appendix G). They are also available on the Department’s website at:

<http://www.dec.ny.gov/>

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 Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They 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.**

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 SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
 FROM CONSTRUCTION ACTIVITIES**

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(Part I)

I.

Part I. 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

Discharges 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 August 2005, 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

(Part I.B.1)

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

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

- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
- (ii) Control stormwater *discharges* to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;
- (iii) *Minimize* the amount of soil exposed during *construction activity*;
- (iv) *Minimize* the disturbance of *steep slopes*;
- (v) *Minimize* sediment *discharges* from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
- (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover.

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.** *Discharges* from dewatering activities, including *discharges*

(Part I.B.1.c)

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 and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
- (iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following *discharges* 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

(Part I.B.1.f)

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

(Part I.C.2.a.ii)

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

(Part I.C.2.b.ii)

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 *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.

c. Sizing Criteria for Redevelopment Activity

(Part I.C.2.c.i)

- (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.

(Part I.C.2.c.iv)

- (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 *discharges* 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 *discharges* 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 *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or

(Part I.D)

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* from firefighting activities; fire hydrant flushings; waters 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 washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated *groundwater* or spring water; uncontaminated *discharges* from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *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:

(Part I.F)

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges from construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.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 *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb one or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb two or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

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.C.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

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

d. Documentation that:

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

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

II. Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

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 NOI form to the Department in order to be authorized to *discharge* under this permit. 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. 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 its 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. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *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.E. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

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.

B. 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) 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.B.2 above

(Part II.B.3)

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. The Department may suspend or deny an *owner’s or operator’s* coverage

(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. 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.B. of this permit.

C. 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-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, 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

(Part II.C.3.a)

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 August 2005.
 - 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. 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*.
 5. 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

(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-10-001), an *owner or operator* of a *construction activity* with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to *discharge* in accordance with GP-0-15-002, 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-0-15-002.

E. Change of *Owner or Operator*

2. 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. 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.A.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.

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)

III. **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:
 - 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 *qualified inspector*, the Department or other regulatory authority.
5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

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.C.4. of this permit.

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

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

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

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the

(Part III.A.6)

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 August 2005. 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

(Part III.B.1.d)

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 August 2005, 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 August 2005;
- 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 August 2005. Include the reason for the deviation or alternative design

(Part III.B.1.I)

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

(Part III.B.2.c.iv)

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)

IV. 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

(Part IV.C)

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),
- 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

(Part IV.C.2.b)

the *owner or operator* has received authorization in accordance with Part II.C.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.A.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

(Part IV.C.2.e)

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;

(Part IV.C.4.i)

- 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.C.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

V. **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.A.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.

(Part V.A.2)

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.E. 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.

(Part V.A.5)

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.

VI. Part VI. REPORTING AND RETENTION OF 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.A.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)

VII. 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.

(Part VII.E)

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

(Part VII.H.1.a.i)

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

(Part VII.H.2.b)

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

(Part VII.K.1)

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.

(Part VII.N)

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.

VIII. APPENDIX A

Definitions

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.

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.

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).

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

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*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

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.

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, 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 required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

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,
- Stream bank restoration projects (does not include the placement of spoil material),
- 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 makes 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 with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

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 sources. 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 sources, 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, 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.

IX. 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**

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</p> <ul style="list-style-type: none">• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> 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 <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> 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.
<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none">• 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• Bike paths and trails• Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project• Slope stabilization projects• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics• Spoil areas that will be covered with vegetation• Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that <i>alter hydrology from pre to post development</i> conditions• Athletic fields (natural grass) that do not include the construction or reconstruction of <i>impervious area</i> <u>and</u> do not <i>alter hydrology from pre to post development</i> 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 <i>impervious cover</i>• 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 less than five acres and construction activities that include the construction or reconstruction of impervious area
<p>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</p> <ul style="list-style-type: none">• 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.

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 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 townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- 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, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW’s and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- 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
- 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 Where Enhanced Phosphorus Removal Standards Are Required**

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

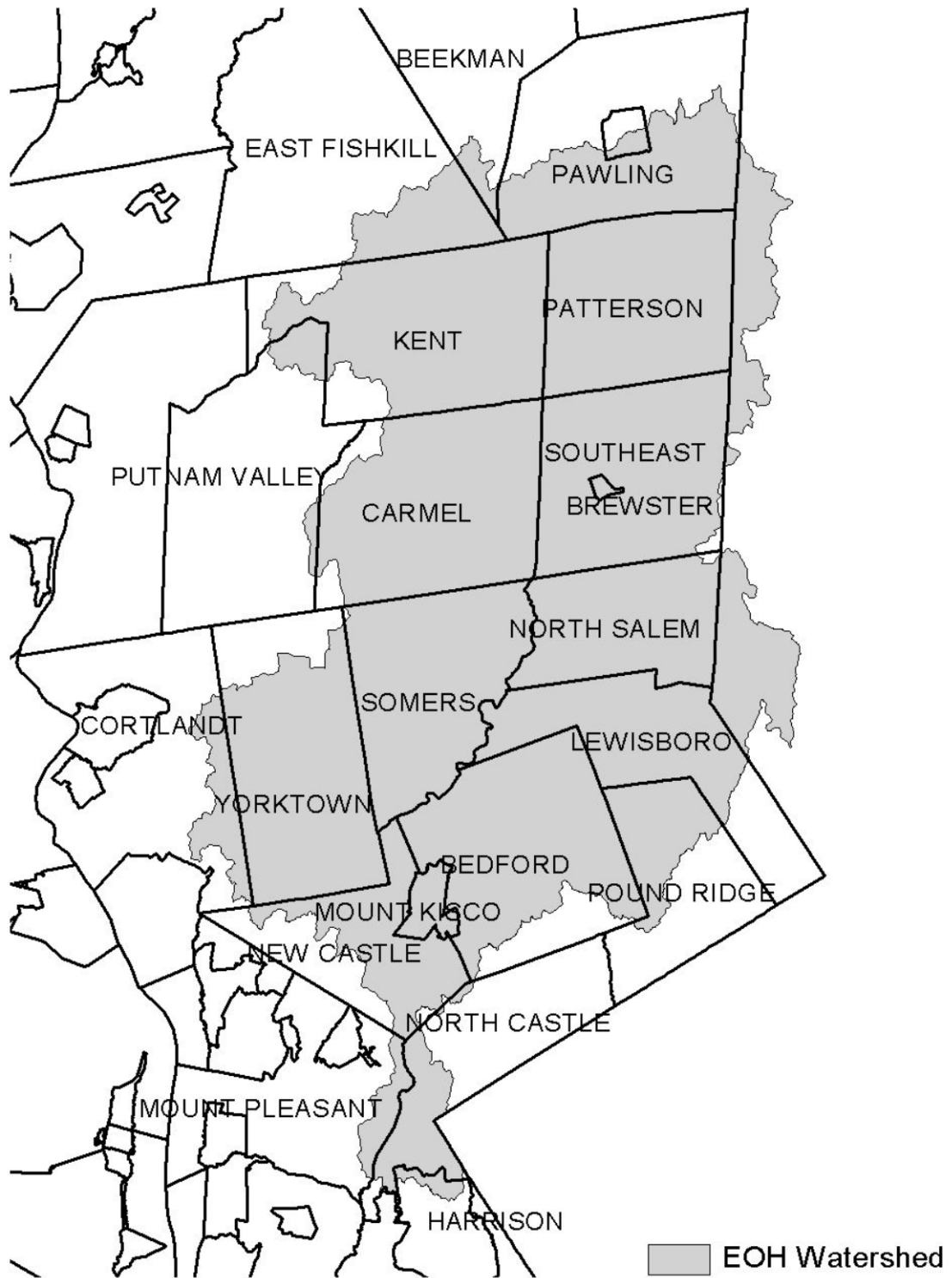


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

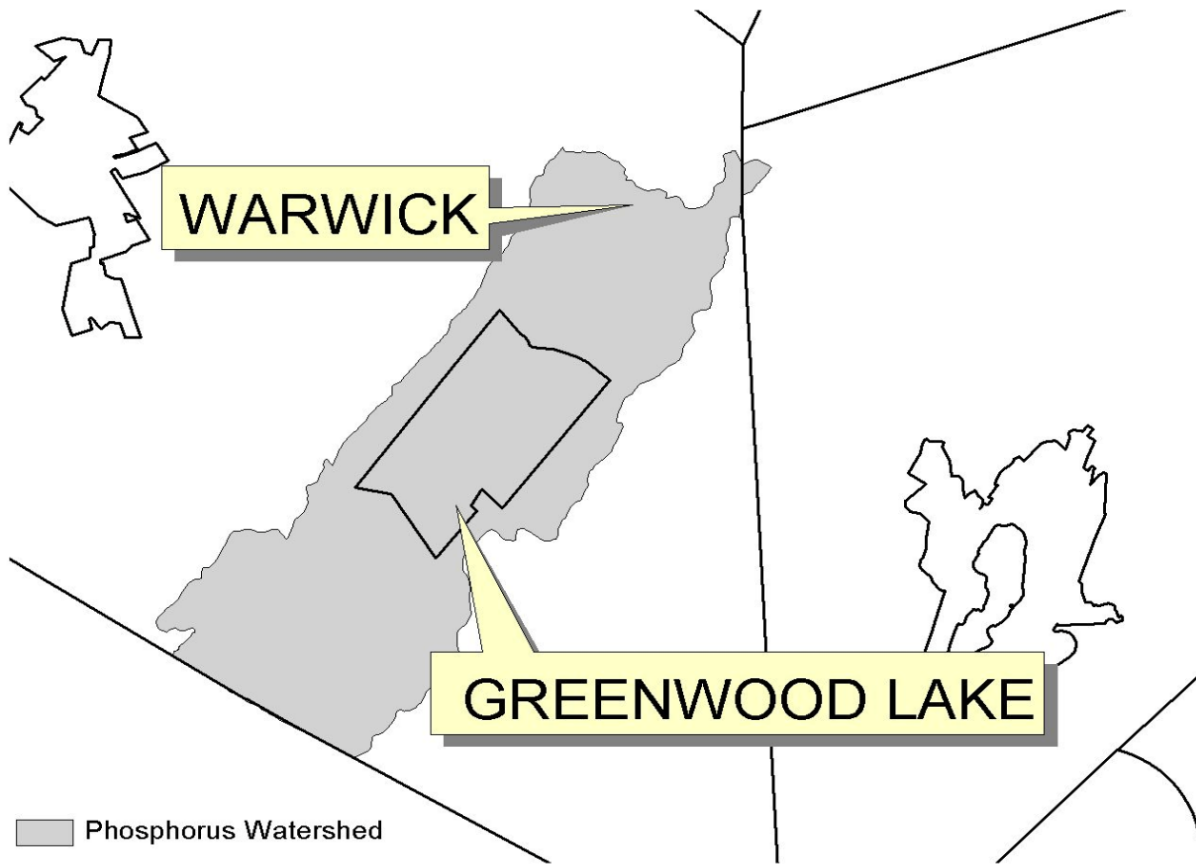


Figure 4 - Oscawana Lake Watershed

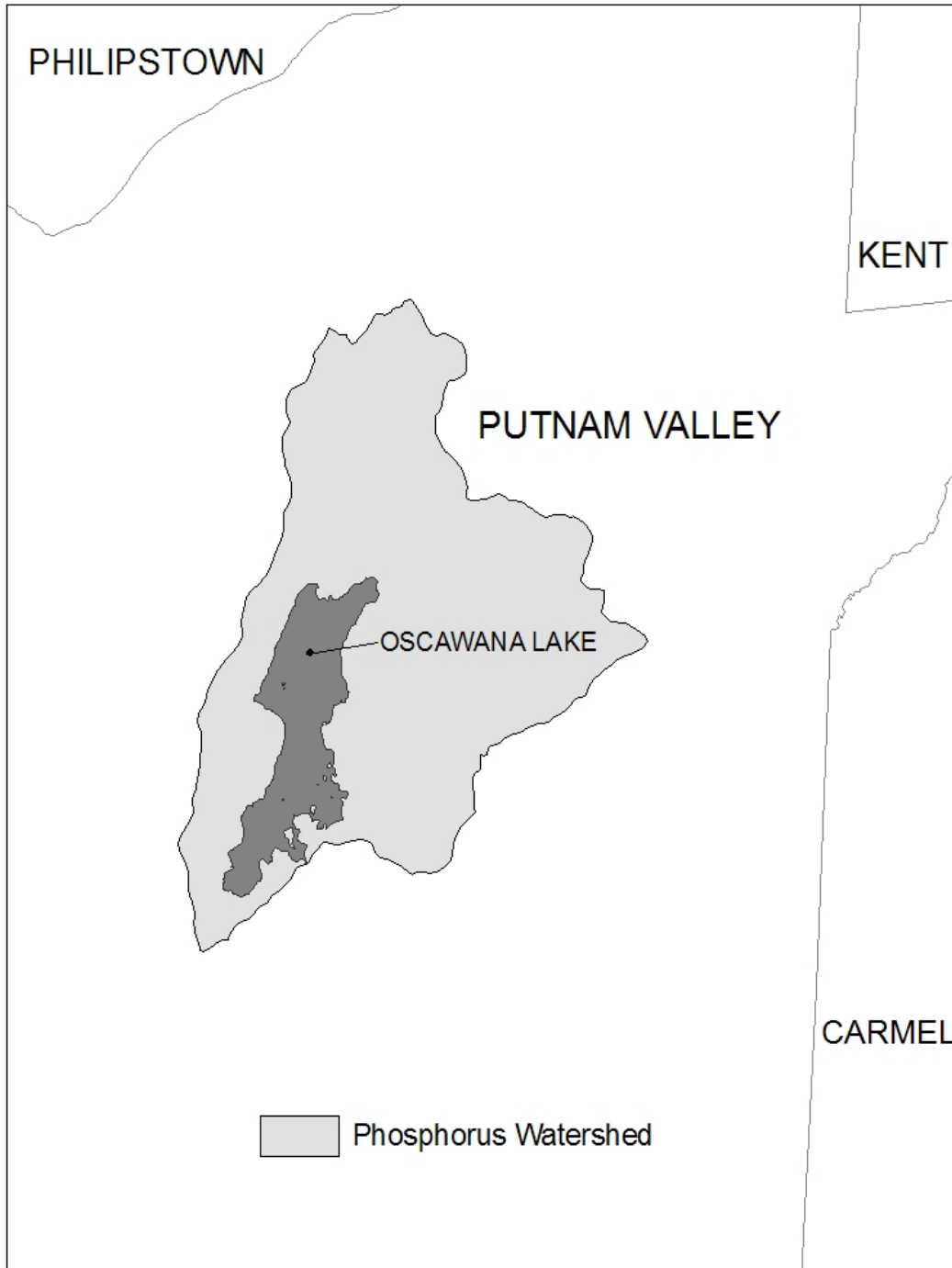
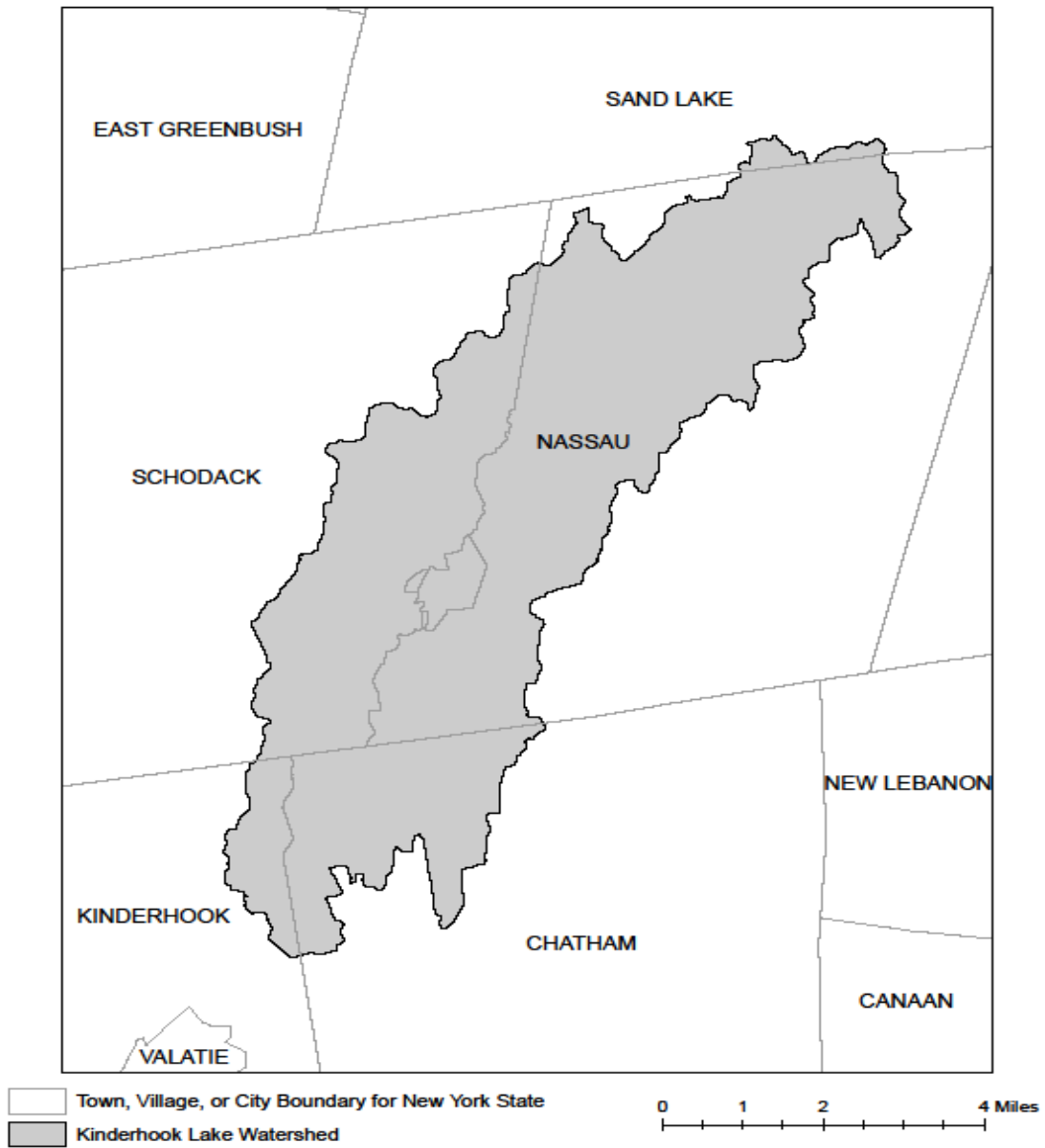


Figure 5: Kinderhook Lake Watershed



XI. **APPENDIX D**

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

XII. APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *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	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linlyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Chautauqua	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wappinger Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	Oneida	Ballou, Nail Creeks
		Onondaga	Ley Creek and tribs
		Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moriches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moriches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinnecock Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L.George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L.George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincolndale
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

Note: The list above identifies those waters from the final New York State "2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated January 2015, that are impaired by silt, sediment or nutrients.

XIII. APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
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 ROAD AVON, 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 AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

**EVERGREEN MANOR
CORTLANDT, NEW YORK**

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

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**EVERGREEN MANOR
CORTLANDT, NEW YORK**

STORMWATER POLLUTION PREVENTION PLAN

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I. SWPPP NARRATIVE SUMMARY

I. SWPPP NARRATIVE SUMMARY

The following Stormwater Pollution Prevention Plan (SWPPP) has been designed to evaluate the potential stormwater management impacts anticipated with the proposed Evergreen Manor Project Site in Cortlandt, New York and to provide measures to minimize impacts to the maximum extent practicable during construction and after completion of the project with the use of temporary and permanent treatment practices outlined in the SWPPP.

The stormwater management analysis has been prepared to be in conformance with the NYSDEC SPDES General Permit GP-015-002 requirements for stormwater quantity and quality control, including runoff reduction requirements to mimic existing infiltration conditions. In accordance with the NYSDEC SPDES General Permit GP-015-002 requirements, the proposed stormwater management improvements are designed based on the NYSDEC New York State Stormwater Management Design Manual (Design Manual), dated January 2015.

This SWPPP includes text (the documents bound in this notebook) and contract drawings, details and specifications that describe the existing condition of the site and the proposed conditions during and after construction.

A. **Applicant Information**

1. Project Sponsor

VS Construction

(Owner of lot 33.12-2-8; Contract vendee of lots 33.12-2-1 & 33.12-2-7)

37 Croton Dam Road

Ossining, New York 10562

2. Project Contractors

TBD *(Minimum of fourteen (14) calendar days prior to filing for permit coverage)*

3. Project Engineers

Divney Tung Schwalbe, LLP

1 North Broadway, Suite 1407

White Plains, NY 10601

Contact: Gerhard M Schwalbe, P.E.

914-428-0010

jschwalbe@divneytungschwalbe.com

4. Project Location

a. Address

The Evergreen Manor Project Site is an approximately 28.6-acre property (the “Property”) consisting of a 17-acre parcel located at 2003 Crompond Road (formerly known as the Evergreen Manor Hotel) and an adjacent 11-acre parcel. The Property is located immediately south of New York-Presbyterian Hudson Valley Hospital in the Town of Cortlandt, Westchester County, New York.

See Figure No. 1 *Site Location Map* for Project Site Location.

b. Description

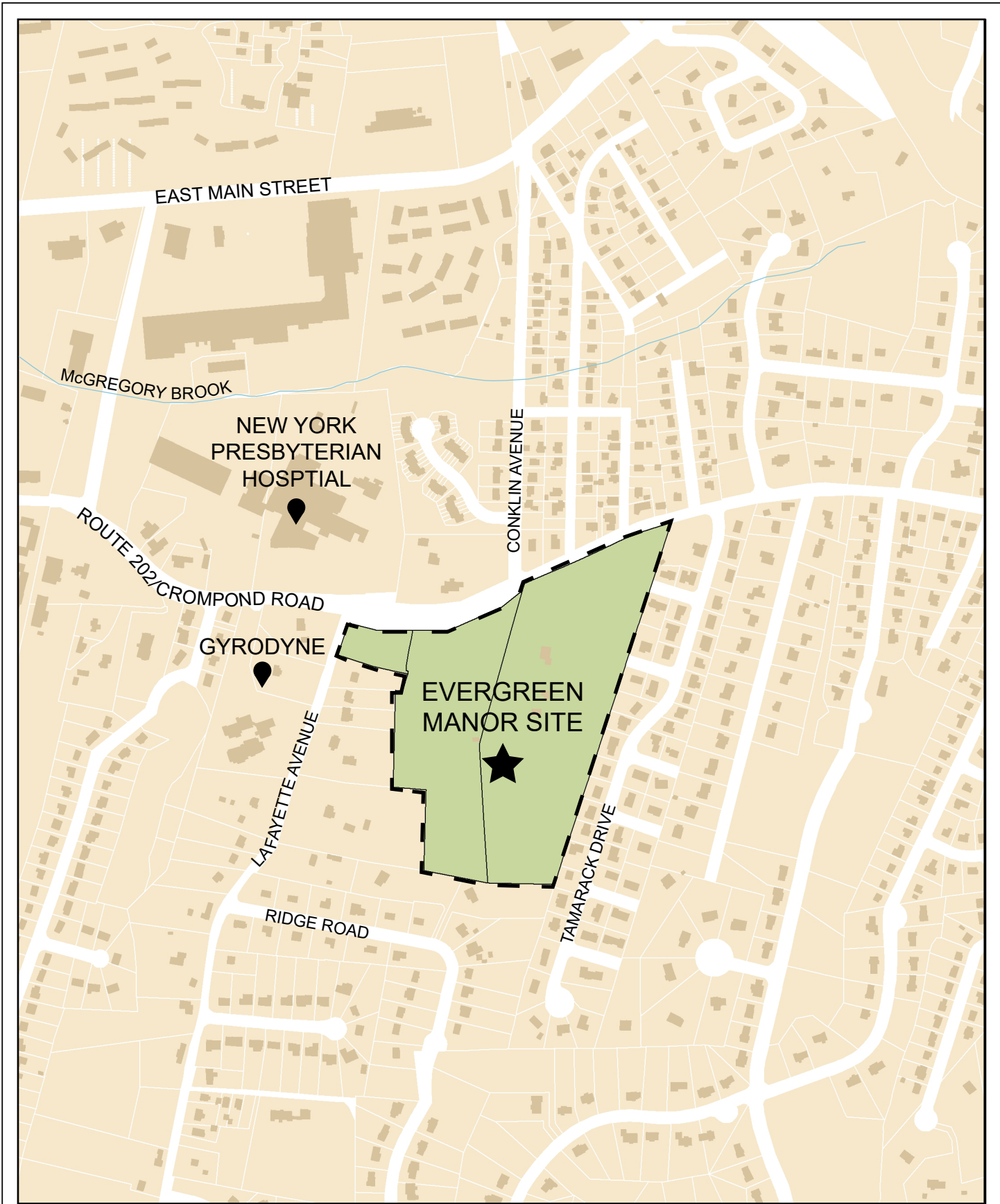
The Project site consists of three contiguous parcels fronting the south side of Crompond Road (Route 35/202), extending from 2003 Crompond Road to Lafayette Avenue in the Town of Cortlandt, and encompass tax parcels 33.12-2-1, 33.12-2-7 and 33.12-2-8.

The Project site is predominately vacant land with a few existing structures. The Site is directly surrounded by mostly single-family residential uses and a few low-density multi-family residential lots. Northwest of the Site, across from Crompond Road, is the New York Presbyterian Hospital. To the west of the Site, across Lafayette Avenue, is the future Site of Gyrodyne’s mixed-use, medical-oriented campus.

The property is no longer occupied and is currently largely woods, meadow and open space, except for the main house and accessory buildings on-site. There is an existing ridge line which divides the property with approximately half the site gradually sloping to the north to an existing wetland along Crompond Road, and the remaining portion of the site draining to the existing wetland system along the southwestern boundary.

c. Wetlands

Within the 28.6-acre Project site, there are two (2) federally regulated United States Army Corp of Engineers (USACOE) jurisdictional wetlands delineated by the wetland scientist, a 1.7-ac on-site wetland along Crompond Road at the northern boundary and a 1.6-ac on-site wetland along the southwestern parcel line. The wetland along Crompond Road (State Highway No. 331, U.S. Route 202 and N.Y.S. Route 35) receives off-site stormwater runoff from the State Highway right-of-way.



0 600 1200 FEET

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Intelligent Land Use

SITE LOCATION MAP

EVERGREEN MANOR
TOWN OF CORTLANDT, NEW YORK

SWM-1

B. Project Soils

1. USDA Mapping & General Description

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provides on-line resources and soil mapping. A soil report was prepared for the site location, a copy of which is in the Appendix.

The following is a breakdown of the soil types across the site.

<u>Unit Symbol</u>	<u>Unit Name</u>
ChB	Charlton fine sandy loam, 3-8% slopes
ChC	Charlton fine sandy loam, 8-15% slopes
ChD	Charlton fine sandy loam, 15-25% slopes
LcB	Leicester loam, 3-8% slopes
PnC	Paxton fine sandy loam, 8-15% slopes
PnD	Paxton fine sandy loam, 15-25% slopes
Ra	Raynam silt loam
RdB	Ridgebury loam, 3-8% slopes
UhC	Urban land – Charlton complex, 8-15% slopes
UpC	Urban land – Paxton complex, 8-15% slopes
UwB	Urban land – Woodbridge complex, 3-8% slopes

Charlton fine sandy loam make up approximately 40% of the site, generally within the center of the property. Paxton fine sandy loam is approximately 25% of the site along the eastern boundary line. Leicester loam is approximately 25% of the site, immediately west of the Paxton fine sandy loam on the eastern side of the property. The remaining 10% of the site is a combination of Raynam silt loam, Ridgebury loam and Urban Land.

2. Hydrologic Soil Group (HSG)

The NYSDEC Design Manual allows for proposed design considerations based on the hydrologic soil group of the existing soils being disturbed. The hydrologic soil group for the project site is approximately 50% C type soils and 50% D type soils. The USDA NRCS breakdown is as follows.

<u>Unit Symbol</u>	<u>HSG</u>	<u>S^(*)</u>
ChB	B	0.40
ChC	B	0.40
ChD	B	0.40
LcB	A/D	0.20
PnC	C	0.30
PnD	C	0.30

Ra	C/D	0.20
RdB	A	0.55
UhC		
UpC	D	0.20
UwB	D	0.20

^(*)*S=HSG Specific Reduction Factor, NYSDEC Design Manual*

3. Colloidal Soils

In the event that colloidal soils are encountered during construction that cannot be settled out through typical erosion control measures, the sediment trap outlets will be modified to allow manual operation. Stormwater runoff will be retained in the sediment traps to allow the colloidal soils to settle out. Prior to forecasted storm events, the retained stormwater will be released at a controlled rate through a filter to provide capacity for the next storm. Flocculants may not be used without prior approval from the NYSDEC.

C. **Project Description**

1. Project Background

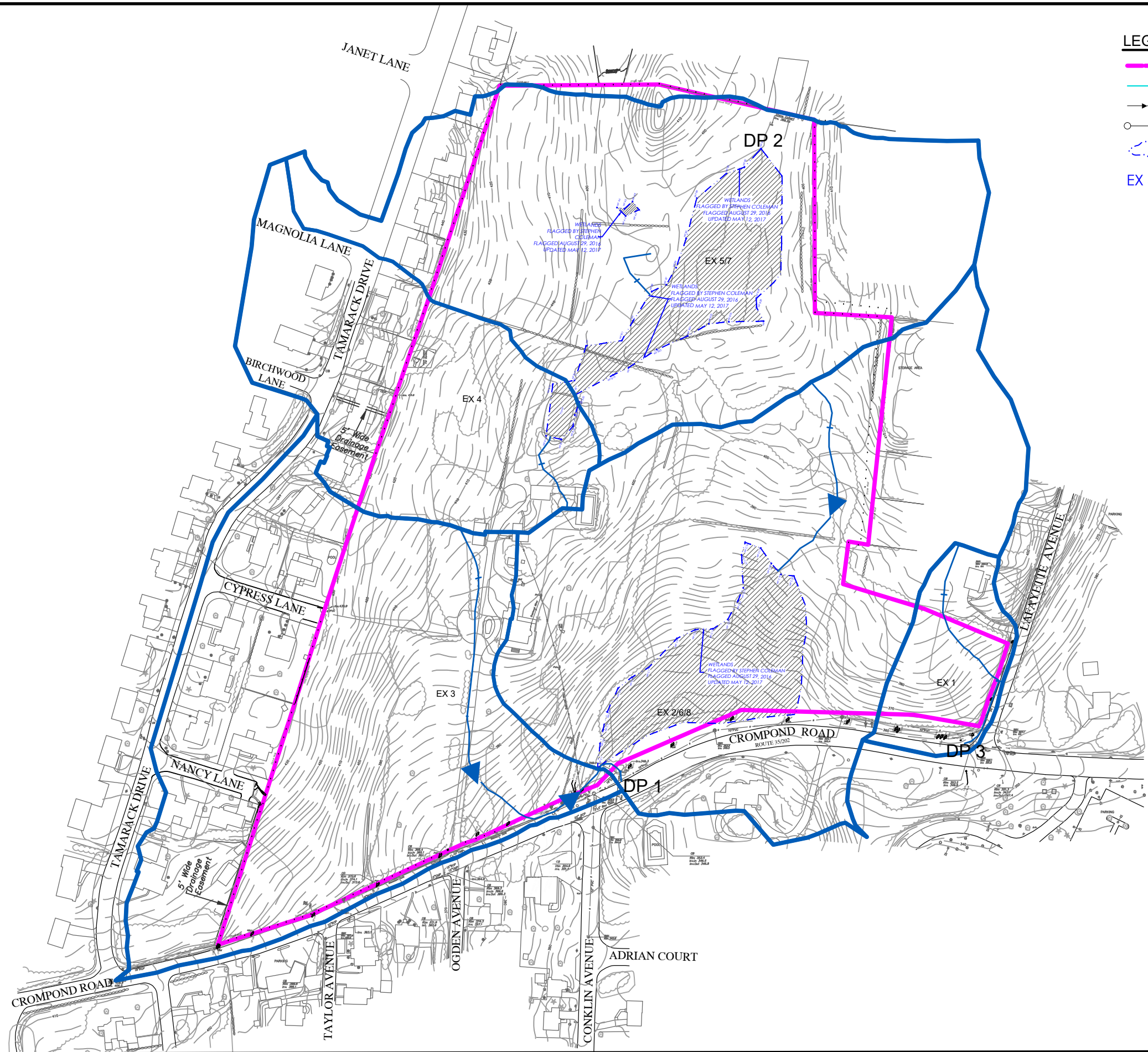
The proposed project includes the potential development of approximately 166 residential units, 120 assisted living units, a 99-room hotel, 12,000 SF of lab space, 7,000 SF of restaurant space, and 15,000 SF of retail space.

2. Existing Drainage Conditions

The project site is divided between two watershed areas, the majority draining north to the McGregory Brook Basin, and remaining draining south to the Furnace Brook Basin. Discharge Point 2 (DP-2) contributes to the Furnace Brook Basin and DP-1 and DP-3 are part of the McGregory Brook Basin.

LEGEND

- PROPERTY LINE
- WATERSHED BOUNDARY
- EXISTING PIPE NETWORK
- - - WETLAND
- EX 4 WATERSHED



3. Overall Stormwater Management Plan

The proposed Project is estimated to disturb approximately 17 acres. Under existing conditions, impervious areas within the limit of disturbance area totals approximately 0.5 acres, and under proposed conditions, impervious areas are estimated to be approximately 10.0 acres, an estimated 9.5-acre increase of impervious area.

Under developed conditions, the existing subwatershed boundaries are generally maintained and have been further divided to model catchment areas to proposed stormwater management measures.

See Figure No. 3 for Developed Drainage Conditions.

Low impact design green infrastructure measures are proposed to address the runoff reduction volume (RRv) requirements. Due to potential rock and groundwater modeling, should RRv not be able to equal 100% of the water quality volume (WQv), a minimum RRv can be applied.

Green infrastructure measure for the proposed on-site development include bioretention areas, stormwater planters and underground infiltration basins. These measures will provide additional WQv to meet minimum requirements and ensure that the proposed peak rates of runoff to the off-site collection system are at or below existing conditions.

4. Stormwater Management Objectives

The stormwater management plan has been developed and will be implemented so that the quantity and quality of stormwater runoff during construction and after development are not significantly altered from preconstruction conditions. Primary stormwater management objectives are to replicate as close as possible pre-development hydrology and to avoid causing downstream flooding and flood damage and to employ all means practicable to mitigate increases in pollutant (total suspended solids and total phosphorus) loads that will occur as a result of the proposed Project.

5. Municipal Separate Stormwater Sewer Systems (MS4) & Consultants

The project site is located within the Town of Cortlandt MS4. The SWPPP will require MS4 approval prior to filing the Notice of Intent (NOI) to request coverage under the NYSDEC General SPDES Permit.

6. Project Permits and Approvals

The following are anticipated permits and approvals to be sought for the Project.

Town of Cortlandt

- Zoning Amendment
- Site Plan Approval
- Subdivision Approval
- Wetland Permit
- Watercourse Diversion
- Steep Slope Permit
- Tree Permit

Westchester County (WC)

- Department of Health: Public Water and Sewer Extensions, Subdivision Approval, Backflow Devices

State of New York (NYS)

- Department of Environmental Conservation: SPDES Permit
- Historic Preservation Office: Historic and Archeology Sensitivity Review
- Department of Transportation: Highway Work Permit

Federal (US)

- Army Corps of Engineers: Wetland Permit

The Town approvals will include review of the proposed extension of an existing culvert under a new driveway and filling of wetland areas. Further discussion of impacts and mitigation can be found in the expanded EAF Part 3.

The Department of Transportation approval will include review of the proposed access and traffic improvements and associated stormwater measures.

D. Construction Program

1. Duration of Activity

The first phase of construction activity is expected to be completed over approximately a two-year period and will involve the grading and construction of new access roadways, parking areas, underground utility systems, building footing and foundation systems, building structures, stormwater management measures, landscaping and other physical improvements.

2. Sequencing Schedule

The proposed project will be constructed in several phases of development including clearing and demolition of existing buildings and construction of new facilities and driveway improvements. The first phase will consist of the Assisted Living and Residential apartments on proposed Parcels 3 and 4, including the main entrance road and related stormwater and utility systems. The remaining parcels may be developed after the completion of the first phase. A more detailed Construction Phasing Plan is included in Appendix C.

3. Construction Refuse Control

All contractors working on the site will provide adequate trash containment services for the construction site at the start of work to maintain a clean, debris-free work area. Typical facilities may be covered containers with openings three inches or smaller or approved equal and will be emptied on a regular basis. Refuse will be removed from site via a solid-waste contractor and be recycled or disposed per Federal, State and local requirements. Refuse will not be disposed of on site.

E. Erosion and Sediment Control

1. Temporary Practices

Temporary structures and practices, as described on the Erosion & Sediment Control Plan drawings, will be installed and maintained throughout the duration of the project's construction. As required by the General Permit, structures and practices located in disturbed areas of the site will be inspected by a Qualified Inspector at least every seven calendar days. Areas of the site that have been finally stabilized will be inspected at least every month until the entire site has been finally stabilized. Following each inspection, the Qualified Inspector is required to document their inspection in a certified inspection report as outlined in Part IV.C. of the GP 0-15-002. Based on the results of the inspections, appropriate revisions to the SWPPP and its implementation will be completed within seven calendar days following the inspection. Refer to the Appendix for a copy of an inspection report

form to be used to complete the inspections. Completed reports will be added to and retained as part of this SWPPP.

2. Permanent Structures

Permanent structures and measures implemented to control the project's quantity and/or the quality of the stormwater will require regular inspections and maintenance. These include permanent erosion control practices (soil stabilization), water quality control practices (i.e. bioretention areas), and related stormwater flow controlling structures (culverts, catch basins, etc.). The project sponsor will be responsible for inspecting and maintaining permanent stormwater management structures and practices.

3. Inspection and Maintenance Procedures

Per Part IV.B. of the General Permit (GP 0-15-002), a Trained Contractor is required to ensure that the erosion and sediment control practices and pollution prevention measures are being implemented daily within the active work area. As previously described and outline in Part IV. C of the General Permit, site observations are to be performed by a Qualified Inspector at least once every seven (7) calendar days when soil disturbance is less than five (5) acres, and twice every seven (7) calendar days when soil disturbance in greater than five (5) acres. A minimum of two (2) full calendar days must separate regular inspections.

Compliance with the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities (GP 0-15-002) includes, but is not limited to, completing the following activities:

- a. Retaining a copy of this SWPPP including text, appendices, and drawings at the site until the date of final stabilization;
- b. Posting a copy of the NOI and a project description at the construction site for public viewing;
- c. Maintaining the SWPPP current;
- d. Submitting a certified Notice of Termination when the site has finally been stabilized and discharges from construction activities have been eliminated;
- e. Maintaining a copy of this SWPPP by the operator for three years following the date of final stabilization.

The contractor shall refer to the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities (GP 0-15-002) included in the Appendix for a complete listing of permit requirements for compliance.

II. STORMWATER MANAGEMENT REPORT

II. STORMWATER MANAGEMENT REPORT

A. Water Quality Control

I. Stormwater Site Planning and Green Infrastructure Objectives

a. Avoid the Impacts (Preserve Natural Features)

The proposed site plan for the Project has been designed to integrate the Project into the surroundings in an environmentally sensitive manner to the extent possible. The proposed new landscaping and stormwater measures are located to maintain natural buffers with the neighboring sites and incorporate native plantings.

b. Reducing the Impacts (Minimize Hard Surfaces)

The current proposed site plan reflects a layout that minimizes the proposed hard surfaces associated with the Project by providing garage parking, where feasible, and shared driveways.

c. Managing the Impacts

Without appropriate stormwater management measures, proposed development on the project site can impact the quality and quantity of the stormwater runoff from the drainage area with the removal of trees, absorbent top soil and natural depressions. The removal of elements that naturally store stormwater runoff by both intercepting, infiltrating and temporarily ponding water result in the concentration of stormwater runoff pollutants and peak rate of flow that could cause downstream erosion. The goal of the proposed stormwater management measures are to attempt to mimic the pre-development condition of the land cover. The project's proposed stormwater management design incorporates the guidelines and requirements outlined in the NYSDEC New York State Stormwater Management Design Manual ("Design Manual") set forth to as closely replicate pre-construction hydrologic conditions while providing treatment and control of runoff. In addition to maintaining stormwater runoff flow from the proposed watershed areas in a manner similar to existing drainage patterns, the peak rates of runoff at each storm event up to a 100-year storm frequency will be less than or equal to existing conditions.

Refer to Table No. 1 *Existing Drainage Conditions* and Table No. 2 *Developed Drainage Conditions* for a summary of the subwatershed breakdowns for existing and developed conditions.

The following is an outline of the NYSDEC Design Manual's Five-Step Stormwater Management Planning Process that was employed for the project to minimize, reduce or manage the potential impacts.

NYSDEC Five-Step Stormwater Management Planning Process:

- 1) Site Planning (*Minimize & Reduce Stormwater Impacts*)
 - a) Preserving Existing Wooded Buffers
 - b) Preserving Existing Wetland/Watercourse, Establishing Wetland Buffers
 - c) Limit of Disturbance Minimized
- 2) Water Quality Volume (*WQ_v*) Calculation
 - a) $WQ_v = 90\%$ storm event
 - b) $P_{1yr} = 1.2$ in
- 3) Green Infrastructure Techniques & Standard SMPs (*Manage the Impacts*)
 - a) Stormwater Measures with Runoff Reduction Volume (RR_v) Capacity
 - b) Green Infrastructure Techniques:
 1. Bioretention Areas
 - a. HSG B/C Soils with Underdrain
 - b. $RR_v = 40\% WQ_v$
 2. Stormwater Planters
 - a. Flow-Through Planter for Roof Runoff
 - b. $RR_v = 100\% WQ_v$
 3. Underground Infiltration Basins
 - a. $RR_v = 100\% WQ_v$
- 4) Stormwater Management Practices (SMPs) for Remaining *WQ_v*
- 5) Detention Volume and Peak Rate Control Practices up to and including the 100-yr Storm Event
 - a) Bioretention Areas
 - b) Underground Infiltration Basins
 - c) Underground Detention Systems

2. Rainfall Data/Source

As outlined in the NYSDEC Design Manual, in addition to the 90% storm event (water quality event), the storm frequencies to be used as a basis for computing peak rate of discharge shall be the storms expected once every 1, 10 and 100 years with a duration of 24 hours as defined by the U.S. Department of Agriculture Soil Conservation Service. Rainfall data maps from the New York State Stormwater Management Design Manual, January 2015, are used to determine rainfall intensity by storm frequency. Additional storm events expected once every 25 and 50 years were analyzed. Rainfall data was collected from the Northeast Regional Climate Center for the project site. The rainfall depths are as follows:

<u>Storm Event</u>	<u>Rainfall Depth (in)</u>
90% Storm Event	1.2
1-Year Storm Event	2.75
2-Year Storm Event	3.37
10-Year Storm Event	5.09
25-Year Storm Event	6.44
50-Year Storm Event	7.71
100-Year Storm Event	9.24

3. Water Quality Volume (WQv) Calculations

WQv is calculated to be the volume of stormwater runoff from the 90% Rainfall Event, or the 24-hour storm event that occurs 90% of the time which tends to contain higher pollutant levels. WQv requirements are generally met using Standard Treatment Practices (STP), Green Infrastructure measures (GI) and Alternative Treatment Practices. Acceptable measures outlined in the NYSSWM Design Manual are designed to capture and treat the water quality volume and generally provide 80% Total Suspended Solids (TSS) removals and 40% Total Phosphorus (TP) removals. Refer to Table No. 3 *Stormwater Quality Management Measures* for a summary.

Initial WQv requirement calculations are adjusted as runoff reduction techniques are applied. If treatment of 100% of the WQv cannot be addressed by runoff reduction (RRv) techniques, NYSDEC Standard Treatment Practices and Alternative Treatment Practices (for redevelopment areas only) are acceptable measures to address the remaining adjusted WQv requirements. The Project will incorporate the use of bioretention practices and a hydrodynamic separator to meet the adjusted WQv requirements.

4. Runoff Reduction Volume (RRv) Calculations

Under the NYSDEC General Permit GP-0-15-002, upstream adjuncts, referred to as green infrastructure runoff reduction measures, are required within each subwatershed to treat a portion of stormwater runoff at the source and to allow for infiltration upstream of proposed standard SMP practices, if feasible. This Runoff Reduction Volume (RRv) is calculated to be the total developed water quality volume for new construction and can be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration, where feasible.

a. Site Limitations & Justification of Infeasibility

When meeting treatment of 100% RRv (100% WQv) is not feasible, the NYSDEC New York State Stormwater Management Design Manual allows for

the application of a Specified Reduction Factor (S) to be applied, correlated to the Hydrologic Soil Group (HSG) classification. For HSG C, S is equal to 0.30, and for HSG D, S is equal to 0.20. The following provides justification for applying the Specified Reduction Factor to the RRv calculations.

- 1) Land Use – Consideration is made when selecting green infrastructure measures that the Project land use limits practices due to safety concerns and to maintain existing buffers.
- 2) Soils & Groundwater – Given the potential of high seasonal groundwater, the green infrastructure selection practices are further limited.
- 3) Slopes – Existing slopes > 15% preclude the use of infiltration practices

b. Standard Treatment Practice Selection

- 1) Bioretention (*with underdrain*) - To be used in areas to treat runoff from roads, walks, driveways and parking areas
- 2) Underground Infiltration Basins – To be used in areas to treat runoff from roads, walks, driveways and parking areas

c. Green Infrastructure Practice Selection

The following measures are proposed to treat stormwater runoff at the source and provide a percentage of WQv towards the RRv requirements.

- 1) Stormwater Planters – To be used to treat runoff from roof

d. Alternative Treatment Practice

The use of a hydrodynamic separator is proposed at the main entry drive section off Crompond Road and will treat up to the equivalent area of existing on-site impervious area (approximately 0.5 acres).

B. Water Quantity Control

In accordance with the NYSDEC New York State Stormwater Management Design Manual (NYSSMDM, January 2015), the proposed detention measures, underground infiltration pipes, have been included in the hydraulic model of the proposed project. Until percolation testing is completed in each of the proposed locations, a minimum of 0.5 inch/hour infiltration rate has been applied to the model. The available extended detention storage above the water quality volume in the Bioretention Areas has been modeled. The peak rates of runoff from the developed site at each discharge point are calculated to be equal to or less than the peak rates under existing conditions for the 1-year, 2-year, 10-year, 25-year, 50-year and 100-year storm event frequency.

Refer to Table No. 4 *Design Flow Summary* for peak flow control modeling.

TABLE NO. 1

**EVERGREEN MANOR
CORTLANDT, NEW YORK**

EXISTING DRAINAGE CONDITIONS

WATERSHED/ SUBBASIN ID	AREA (ac) ⁽¹⁾			(2) I (%)	(3) CN	(4) Tc (HRS)	DESIGN POINT #
	IMPERV. TOTAL	PERVIOUS	TOTAL AREA				
EX 2/6/8	0.71	13.02	13.73	5.2	62	0.31	1
EX 3	0.59	11.37	11.96	4.9	76	0.22	1
EX 4	0.21	5.58	5.79	3.6	77	0.19	2
EX 5/7	1.12	11.42	12.54	8.9	65	0.19	2
EX 1	0.00	1.61	1.61	0.0	57	0.13	3
TOTAL AREA	2.62	43.00	45.62				

1. Area based on watershed evaluation, including areas upstream of project site.
2. I=Percent Impervious, (Impervious Area/Total Area)*100%; $R_v = 0.05 + 0.009(I)$, Minimum $R_v = 0.2$
3. CN=Curve Number
4. Tc=Time of Concentration, Tt=Travel Time

TABLE NO. 2

EVERGREEN MANOR
CORTLANDT, NEW YORK

DEVELOPED DRAINAGE CONDITIONS

WATERSHED/ SUBBASIN ID	AREA (AC) ⁽¹⁾			(2) I (%)	(3) CN	(4) T _c (HRS)	DESIGN POINT #
	IMP. TOTAL	PERVIOUS	TOTAL AREA				
Dev 3 Ex	0.43	7.71	8.14	5.3	79	0.18	1
Dev 3 UG-3	0.68	0.00	0.68	100.0	98	0.08	1
Dev 3 BR-3W	0.62	0.75	1.36	45.4	78	0.08	1
Dev 3 BR-3E	0.63	0.37	1.00	62.8	84	0.08	1
Dev 8 BR-8	0.82	0.77	1.59	51.8	80	0.08	1
Dev 8 HDS-8	0.13	0.12	0.25	53.2	81	0.08	1
Dev 6 Ex	0.67	6.53	7.21	9.3	64	0.21	1
Dev 1 UG-1E	0.52	0.16	0.68	76.1	89	0.08	1
Dev 2 UG-2	1.49	0.34	1.83	81.4	91	0.08	1
Dev 5 UG-5	1.40	0.77	2.17	64.4	85	0.08	1
Dev 4 BR-4N	1.13	1.19	2.32	48.7	79	0.08	1
Dev 4 BR-4S	2.00	0.71	2.71	73.9	88	0.08	2
Dev 4/7 Ex	1.12	13.04	14.15	7.9	69	0.19	2
Dev 1 UG-1W	0.36	0.06	0.42	84.8	92	0.08	3
Dev 1 Ex	0.00	1.10	1.10	0.0	59	0.14	3
TOTAL AREA	12.00	33.62	45.62				

1. Area based on watershed evaluation, including areas upstream of project site.

2. I=Percent Impervious, (Impervious Area/Total Area)*100%; $R_v = 0.05 + 0.009(I)$, Minimum $R_v = 0.2$

3. CN=Curve Number

4. T_c=Time of Concentration, T_t=Travel Time. T_c of 5 min(0.08hrs) assumed at interior developed lots

EVERGREEN MANOR
CORTLANDT, NEW YORK

STORMWATER QUALITY MANAGEMENT MEASURES

ON-SITE SUMMARY

ON-SITE CALC ^s		EX AREA	PROPOSED AREA		I ³ (%)	R _v ⁴	S ⁷	WQv			Runoff Reduction Volume RRv ⁹				Adjusted WqV After RRv				
Wtrshd ID	Parcel ID	IMP (ac)	IMP (ac)	TOTAL (ac)				Standard ⁸ (cft)	Redevelopment (cf) ¹⁰ Ex Imp New Const		WQ _p (cft)	New Const (cft)	Min RRv (cft)	Provided (cft)	Required (cft)	Provided (cft)			
Dev 1 UG-1E, Dev 1 UG-1W	Lot 1	0.00	1.10	1.96	56	0.55	0.40	4,547	0	4,547	4,547	4,547	1,819	4,547	0				
Dev 2 UG-2	Lot 2	0.00	1.56	2.16	72	0.70	0.40	6,476	0	6,476	6,476	6,476	2,591	6,476	0				
Dev 3 UG-3, Dev 3 BR-3W, Dev 3 BR-3E	Lot 3	0.00	1.89	6.07	31	0.33	0.40	7,829	0	7,829	7,829	7,829	3,132	7,829	0				
Dev 4 BR-4N, Dev 4 BR-4S	Lot 4	0.00	3.22	5.30	61	0.60	0.40	13,326	0	13,326	13,326	13,326	5,330	13,326	0				
Dev 5 UG-5	Lot 5	0.00	1.47	3.15	47	0.47	0.40	6,074	0	6,074	6,074	6,074	2,430	6,074	0				
Dev 8 BR-8, Dev 8 HDS-8	Lot 8	0.52	0.81	0.98	83	0.80	0.40	3,355	1,612	1,206	2,818	1,206	1,342	2,516	301	373			
								41,607	41,070										
											Total RRv	40,768	Add'l WQv	373					
											Total WQv						41,141		

STORMWATER MANAGEMENT SELECTION PRACTICES

STORMWATER MANAGEMENT MEASURE	RRv (cf)	Add'l WQv (cf)
Green Infrastructure Measure: Stormwater Planters	11,472	
Standard Treatment Practice: Bioretention Practice UG Infiltration System	10,597 17,778	
Alternative Treatment Practice: Hydrodynamic Separators		373
TOTAL	39,847	373
	40,219 Total WQv	

NOTES

- Stormwater management practices provided for each individual developed Lot.
- Design per New York State Stormwater Management Design Manual, August 2010.
- I=Impervious Cover (%)
- R_v = 0.05+0.009(I), Minimum R_v=0.2
- P=90% Rainfall Event Number
- P (in) = 1.2 (NYSDEC SW Mapper, 02/08/2018)
- S=Hydrologic Soil Group (HSG) Specific Reduction Factor
- Standard WQv=[(P)(Rv)(A)]/12, See Table No. 2
- Runoff Reduction Vol, RRv=[(P)(Rv*)(Ai)]/12. Per NYSSMDM Chapter 9, meeting RRv not required for redevelopment areas, but encouraged. Ai=New Const Imp Area (increase in imp area) Rv*= 0.95
Minimum RRv (due to space constraints and effort to maintain buffer at rear and sides of project site)=RRv*S
- Redevelopment WQv: Redevelopment WQv 25% Ex WQv or 75% Ex WQv using NYSDEC Alternative Measures + New Construction WQv (100% WQv of Increased Impervious Area). 25% Ex WQv used, WQv of Alternative Measure will be adjusted in table below.

1. Stormwater Planter: Green Infrastructure Af=WQv x (df)/[k x (hf + df)(tf)]

Egr Soil: k=(ft/d)	4		
depth	1.5	Ponding Depth:	0.5
porosity	0.2	Filter Time:	0.2
Gravel: depth	1.00		
porosity	0.4		

SWM Measure	Surf Area (sf)	Stor WQv (cf)	Equiv Roof Area (sf)	Bldg Roof Area (sf)	RRv (cf)
SWP-1	800	711	7,485	7,438	707
SWP-2	1,700	1,511	15,906	15,750	1,496
SWP-3	3,800	3,378	35,556	35,152	3,339
SWP-4	4,800	4,267	44,912	44,768	4,253
SWP-5	1,900	1,689	17,778	17,646	1,676
					11,472

SW Planter Layout	
Width (lf)	Min L(lf)
6	133
6	283
6	633
6	800
6	317

2. Bioretention Practice (SMP F-5) : Af=WQv x (df)/[k x (hf + df)(tf)]

RRv Capacity for Std SMP (Table 3.5) HSG A@B w U:	80%
HSG C&D w UD:	40%
Egr Soil: k=(ft/d)	0.5
depth	2.5
porosity	0.2
Gravel: depth	0.67
porosity	0.4
	Ponding Depth: 0.5
	Filter Time: 1.0
	Equivalent Depth: 1.3

SWM Measure	Surf Area (sf)	Stor WQv (cf)	Equiv Imp Area (sf)	Contrib Imp Area (sf)	RRv (cf)
BR-3E	1,250	1,583	16,667	23,628	1,583
BR-3W	2,048	2,594	27,307	23,628	2,245
BR-4N	3,418	4,329	45,573	22,384	2,126
BR-4S	2,079	2,633	27,720	22,384	2,126
BR-8	2,832	3,587	37,760	26,488	2,516
			11,627	155,027	10,597

3. UG Infiltration System (w/ 18" gravel bed depth) :

Infiltration Rate MINIMUM (in/hr)=	0.5
porosity of gravel core, n=	0.4

Infiltration Rate Conversion: (ft/12 in) * (hr/3,600 s) * (surface area ft²)

RRv=Storage Volume in pipe and reservoir **BELOW** WQv orifice

SWM	Total L (lf)	Diameter (lf)	Surface Area (sf)	Infiltration Rate (ft ² /s)	Stor Vol (cf)	Contrib Area (ac)	Total WQv (RRv) (cf)	Pretreat A As (sf)
Isolator Row UG-1E	75	5	800	0.0093	1,953	0.52	2,150	17
Infil'n Basin UG-1E	150	5	1,400	0.0162	3,785			
Isolator Row UG-1W	55	5	600	0.0069	1,440	0.36	1,475	12
Infil'n Basin UG-1W	220	5	1,950	0.0226	5,490			
Isolator Row UG-2	115	5	1,200	0.0139	2,978	1.56	6,476	52
Infil'n Basin UG-2	460	5	3,900	0.0451	11,372			
Isolator Row UG-3	55	5	600	0.0069	1,440	1.89	7,829	63
Infil'n Basin UG-3	330	5	2,850	0.0330	8,190			
Isolator Row UG-4S	260	5	2,650	0.0307	6,695	3.22	13,326	108
Infil'n Basin UG-4S	520	5	4,638	0.0537	12,993			
Isolator Row UG-5	100	5	1,050	0.0122	2,593	1.47	6,074	49
Infil'n Basin UG-5	400	5	3,413	0.0395	9,901			

includes spacing 1/2 diam of pipe

Pretreatment Area, A_p=(0.0081)WQv; (Note: A_s=(0.066)WQv for I < 75%)

4. Hydrodynamic Separators: Alternative Stormwater Measure

Note: Redevelopment WQv = WQv/3 to adjust for 25% WQv for GI/Standard Practices versus 75% WQv for Alternative Measures

SWM Measure	Contrib Imp Area (ac)	WQv (cf)	Redev WQv (cf)	#HDS
HDS-8	11,773	0.3	1,118	373

TABLE NO. 4

EVERGREEN MANOR
CORTLANDT, NEW YORK

DESIGN FLOW SUMMARY

DESIGN POINT NO.			1-YEAR			2-YEAR			10-YEAR			100-YEAR		
			SW Flow (CFS)	Runoff Volume (CFT)		SW Flow (CFS)	Runoff Volume (CFT)		SW Flow (CFS)	Runoff Volume (CFT)		SW Flow (CFS)	Runoff Volume (CFT)	
NRCC Project Site Rainfall (in)			2.75			3.37			5.09			9.24		
Project Site SWM Analysis	DP 1	Existing	9.5	1.2	52,011	16.4	1.9	82,851	36.8	4.3	187,744	79.9	11.5	499,720
		Developed	9.5	1.7	74,400	15.6	2.7	115,478	34.6	5.6	245,286	79.6	13.9	605,832
		Delta	0.0		22,390	-0.8		32,626	-2.2		57,543	-0.3		106,112
	DP 2	Existing	1.6	0.5	23,740	7.3	1.1	45,956	29.5	2.8	121,445	84.8	7.9	345,605
		Developed	1.2	0.6	24,132	3.9	1.1	46,261	22.3	2.7	119,529	82.0	7.6	332,232
		Delta	-0.4		392	-3.4		305	-7.2		-1,917	-2.8		-13,373
	DP 3	Existing	0.1	0.0	1,045	0.3	0.0	2,134	1.6	0.2	6,752	6.1	0.5	22,869
		Developed	0.1	0.0	2,134	0.3	0.1	3,485	1.3	0.2	8,407	6.1	0.6	25,178
		Delta	0.0		1,089	0.0		1,350	-0.3		1,655	0.0		2,309

C. Erosion & Sediment Control

1. Construction Erosion & Sediment Control Plan

The goal of the proposed erosion and sediment control measures at the Project Site is to prevent erosion through runoff controls and soil stabilization. If runoff controls and soil stabilization are not sufficient, sediment controls are proposed to remove sediment from water. The following describes the three methodologies.

a. Runoff Control

Proposed runoff controls for the Project include diversion swales to keep stormwater runoff from undisturbed areas from flowing onto the limit of work area. Within the work area, temporary swales are designed to direct water away from disturbed areas. Check dams are proposed within the swales to allow for the settling of sediment. Outlet protection is required at each of the perimeter's existing headwalls to the boundary wetlands until the site is stabilized.

b. Soil Stabilization

Temporary and permanent soil stabilization include mulching, seeding and slope stabilization with plantings and/or fabrics. Mulching can be performed with wood chips, spray mulching and gravel. Temporary seeding is encouraged in disturbed areas outside of the current work area. This includes stockpiled material that is not anticipated to be used for a month or longer. Stabilizing steep slopes is imperative to protect the downstream work areas, and can include rolled matting, gabion walls, plant plugs and proprietary slope stabilization methods.

c. Sediment Control

Proposed sediment control measures on-site include stabilized construction entrances at both the northern work area and the southern village site. Concrete washout areas will be provided adjacent to the construction entrances. Sediment traps and basins are proposed, sized for the contributing drainage area (3,600 cf/acre). These measures include filtering systems at the outlet to ensure that there is no sediment transport from the site. Inlet protection is required at each of the perimeter's existing drain inlets and at any proposed inlets until the site is stabilized. Along the downhill slopes of the disturbed work areas, silt fence is required and must be properly installed and 'toed-in' to the soil.

d. 5 Acre Disturbance

No disturbance greater than five acres will occur without prior written approval from the MS4 which will be included in the SWPPP.

2. Post Construction Management Plan

Upon final stabilization of the project site, permanent measures are required to be inspected, observed and maintained for the life of the project. The permanent measures will provide erosion and sediment control by slowing down runoff and removing pollutants. Stabilized vegetated areas will provide additional benefits by minimizing the impacts and reducing stormwater runoff.

3. Inspections & Maintenance of Permanent Structures

The key to success of the proposed erosion and sediment control measures is regular inspections and observation and on-going maintenance for the life of the project. It is anticipated that the measures will require cleaning, replacement and maintenance as outlined in Table No. 5, Stormwater Management Inspections & Maintenance of Permanent Structures. The project sponsor will be responsible for inspecting and maintaining permanent stormwater management structures and practices.

**Table No. 5
Stormwater Management Inspections & Maintenance of Permanent Structures**

Structure Or Practice	Minimum Inspection Frequency	Conditions to be Identified	Maintenance Required
Paved Areas	Semi-Annually	Pavement Damage	Repair or repave; Remove sand
Bioretention, Swales, Planters,	Semi-Annually	Weeds, Sediment Accumulation	Mulch and weed with landscaping, Remove sediment when capacity reduced by 10% or +
Vegetated Areas	Monthly	Erosion	Regrade & vegetate as necessary
Drainage Pipes, UG Infiltration	Semi-Annually	Debris Accumulation	Remove debris when cross-sectional area of pipe is reduced by 10% or +
Catch Basins, Inlets & Manholes	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +

A formal maintenance agreement and guarantee will be established between the Project Sponsor and the MS4, Town of Cortlandt. The agreement will outline the reporting procedures and action plan remediation, if required. The MS4 is required to provide on-going reporting to the NYSDEC on an annual basis.

4. Soil Restoration

Upon completion of mass earthwork and prior to the fine grading of planted stormwater management measures, the contractor is required to restore the original properties and porosity of the soil by deep till and amendment with compost in all areas that are to remain pervious. This will reduce the generation of runoff and enhance the runoff reduction performance of the grass channels, rain gardens, bioretention areas and tree plantings.

Conclusion

The SWPPP evaluates the potential stormwater management impacts anticipated with the proposed project and insures that those impacts are mitigated both during and post construction with the use of temporary and permanent stormwater treatment practices. As included in the Appendix, the stormwater management analysis has been prepared consistent with the NYSDEC New York State Stormwater Management Design Manual (Design Manual), dated January 2015, guidelines and requirements for stormwater quantity and quality control, including runoff reduction requirements to mimic existing infiltration conditions, thereby being in conformance with the NYSDEC SPDES General Permit GP-0-15-002 requirements.

III. APPENDIX

EVERGREEN MANOR
CORTLANDT, NEW YORK

**PRELIMINARY STORMWATER
POLLUTION PREVENTION PLAN
APPENDIX**

Prepared for the Fulfillment of:

**New York State Department of Environmental Conservation
SPDES General Permit for Stormwater Discharges from Construction Activities
Permit No. GP-0-15-002**

Prepared By:

**DIVNEY TUNG SCHWALBE, LLP
One North Broadway, Suite 1407
White Plains, New York 10601**

January 2019

1 APPENDIX A

A.METHODOLOGY

A. METHODOLOGY

1. Zero Increase in Watershed Peak Runoff

In accordance with standard development practices, the peak rate of stormwater discharge from the site after the completion of development shall not exceed the estimated pre-development peak discharge.

2. Storm Frequencies

The storm frequencies to be used as a basis for computing peak rate of discharge shall be storms expected once every 1, 2, 10, 25, 50, and 100 years with a duration of 24 hours as defined by the U.S. Department of Agriculture Soil Conservation Service.

3. Technical Approach

The method used for estimating peak discharge shall be as per the document released by the Engineering Division of the U.S. Department of Agriculture Soil Conservation Service titled "Urban Hydrology for Small Watersheds", Technical Release No. 55, dated June 1986, Type III Storm Distribution. This criterion governs the data that is input into the software, namely the Haestad Methods Quick TR-55 computer program. A summary of the flows under existing and proposed conditions is provided. The complete input and output data is available upon request.

4. Soil Classifications

The soil classifications and their limits were provided from mapping compiled by the U.S. Department of Agriculture Soil Conservation Service. The USDA report summary is provided at the end of Section A. Methodology.

5. Detention Requirements

The continuity equation and level pool reservoir routing methods¹ are used to route watershed inflow hydrographs through the stormwater management measures.

6. Rainfall Intensity

The model was run using the Northeast Regional Climate Center rainfall depths for the project site, and in accordance with the NYSDEC revised stormwater rainfall depths outlined in the New York State Stormwater Management Design Manual, January 2015. Frequency and intensities, which have been used in this report, are as follows:

CORTLANDT, WESTCHESTER COUNTY, NEW YORK
RAINFALL INTENSITY BY STORM FREQUENCY

Storm Frequency Year	Rainfall Intensity (24-Hour Period) (Inches)
100	9.24
50	7.71
25	6.44
10	5.09
2	3.37
1	2.75
<i>90% Event</i>	<i>1.2</i>

¹ Soil Conservation Service, *Technical Release – 55*, 1986, Chapter 6.

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New York
Location	
Longitude	73.889 degrees West
Latitude	41.290 degrees North
Elevation	0 feet
Date/Time	Thu, 08 Feb 2018 11:57:07 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.52	0.64	0.84	1.05	1.31	1yr	0.91	1.23	1.50	1.84	2.25	2.75	3.13	1yr	2.44	3.01	3.49	4.16	4.81	1yr
2yr	0.40	0.62	0.77	1.01	1.27	1.59	2yr	1.10	1.48	1.82	2.24	2.75	3.37	3.78	2yr	2.98	3.64	4.18	4.92	5.60	2yr
5yr	0.46	0.72	0.90	1.21	1.55	1.96	5yr	1.34	1.81	2.26	2.81	3.46	4.26	4.81	5yr	3.77	4.63	5.34	6.16	6.94	5yr
10yr	0.51	0.81	1.02	1.38	1.80	2.30	10yr	1.55	2.12	2.67	3.33	4.13	5.09	5.78	10yr	4.50	5.55	6.43	7.30	8.17	10yr
25yr	0.59	0.93	1.19	1.65	2.19	2.84	25yr	1.89	2.60	3.32	4.18	5.22	6.44	7.36	25yr	5.70	7.08	8.22	9.13	10.13	25yr
50yr	0.66	1.06	1.35	1.90	2.56	3.35	50yr	2.21	3.04	3.93	4.97	6.22	7.71	8.85	50yr	6.83	8.51	9.90	10.83	11.93	50yr
100yr	0.74	1.19	1.54	2.19	2.99	3.94	100yr	2.58	3.56	4.65	5.92	7.43	9.24	10.64	100yr	8.18	10.23	11.94	12.84	14.05	100yr
200yr	0.84	1.37	1.77	2.53	3.49	4.65	200yr	3.01	4.18	5.50	7.04	8.88	11.08	12.81	200yr	9.81	12.32	14.40	15.23	16.56	200yr
500yr	0.99	1.63	2.12	3.08	4.31	5.79	500yr	3.72	5.15	6.89	8.87	11.25	14.12	16.38	500yr	12.49	15.75	18.46	19.09	20.59	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.27	0.42	0.52	0.69	0.85	1.14	1yr	0.74	1.12	1.35	1.70	2.10	2.32	2.70	1yr	2.05	2.60	3.25	3.85	4.47	1yr
2yr	0.39	0.60	0.73	0.99	1.23	1.47	2yr	1.06	1.44	1.68	2.13	2.67	3.25	3.67	2yr	2.88	3.53	4.05	4.76	5.44	2yr
5yr	0.44	0.67	0.83	1.14	1.46	1.72	5yr	1.26	1.68	1.97	2.49	3.12	4.03	4.43	5yr	3.56	4.26	4.89	5.69	6.38	5yr
10yr	0.48	0.74	0.91	1.28	1.65	1.93	10yr	1.42	1.88	2.22	2.78	3.51	4.47	5.09	10yr	3.96	4.89	5.62	6.49	7.16	10yr
25yr	0.55	0.83	1.04	1.48	1.94	2.23	25yr	1.68	2.18	2.59	3.20	4.12	5.34	6.12	25yr	4.72	5.89	7.17	7.74	8.31	25yr
50yr	0.61	0.92	1.15	1.65	2.22	2.50	50yr	1.92	2.45	2.94	3.59	4.66	6.13	7.02	50yr	5.42	6.75	8.38	8.85	9.31	50yr
100yr	0.68	1.03	1.29	1.86	2.56	2.83	100yr	2.21	2.77	3.34	4.02	5.30	7.05	8.08	100yr	6.24	7.77	9.80	10.13	10.43	100yr
200yr	0.77	1.15	1.46	2.11	2.95	3.19	200yr	2.54	3.12	3.80	4.53	6.02	8.14	9.30	200yr	7.21	8.94	11.48	11.57	11.69	200yr
500yr	0.90	1.35	1.73	2.52	3.58	3.76	500yr	3.09	3.68	4.54	5.31	7.17	9.90	11.22	500yr	8.76	10.79	14.19	13.83	13.55	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.37	0.58	0.71	0.95	1.17	1.42	1yr	1.01	1.39	1.61	2.06	2.50	2.95	3.38	1yr	2.61	3.25	3.73	4.55	5.21	1yr
2yr	0.41	0.64	0.79	1.07	1.32	1.58	2yr	1.14	1.55	1.80	2.32	2.88	3.54	3.96	2yr	3.13	3.81	4.35	5.12	5.84	2yr
5yr	0.49	0.76	0.95	1.30	1.65	1.98	5yr	1.42	1.94	2.30	2.98	3.77	4.51	5.23	5yr	3.99	5.03	5.81	6.68	7.47	5yr
10yr	0.57	0.88	1.09	1.53	1.97	2.37	10yr	1.70	2.32	2.76	3.62	4.61	5.75	6.51	10yr	5.09	6.26	7.27	8.19	9.08	10yr
25yr	0.70	1.07	1.33	1.89	2.49	3.00	25yr	2.15	2.93	3.53	4.74	6.01	7.62	8.68	25yr	6.75	8.35	9.26	10.73	11.72	25yr
50yr	0.81	1.24	1.54	2.21	2.98	3.61	50yr	2.57	3.53	4.23	5.79	7.35	9.45	10.79	50yr	8.36	10.37	11.45	13.16	14.22	50yr
100yr	0.95	1.44	1.80	2.60	3.57	4.32	100yr	3.08	4.23	5.09	7.10	8.98	11.71	13.43	100yr	10.36	12.91	14.15	16.16	17.27	100yr
200yr	1.11	1.67	2.11	3.05	4.26	5.18	200yr	3.68	5.06	6.11	8.65	10.95	14.51	16.72	200yr	12.84	16.08	17.50	19.81	20.98	200yr
500yr	1.37	2.03	2.61	3.80	5.40	6.58	500yr	4.66	6.43	7.77	11.30	14.24	19.27	22.35	500yr	17.06	21.49	23.18	26.01	27.17	500yr

B. SUMMARY TABLES

B.1. CURVE NUMBER COMPUTATIONS

APPENDIX TABLE NO. 1

EVERGREEN MANOR
CORTLANDT, NEW YORK

EXISTING CONDITIONS CURVE NUMBER COMPUTATIONS

WATERSHED/ SUBBASIN ID	HYDRO- LOGIC GROUP ¹	COVER TYPE ²	TOTAL AREA (AC)	IMPERVIOUS AREA			PERVIOUS AREA			WEIGHTED CN
				AREA (AC)	CN ⁵	A x CN	AREA (AC)	CN ⁵	A x CN	
EX 2/6/8	B	Woods	3.22				3.22	55	177	55
	B	Open Space	10.51	0.71	98	70	9.80	61	598	63
TOTAL:			13.73	0.71		70	13.02		775	62
EX 3	D	1/3 ac Res	4.85				4.85	86	417	86
	C	Woods	3.69	0.22	98	21	3.47	70	243	72
	B	Open Space	3.42	0.37	98	36	3.05	61	186	65
TOTAL:			11.96	0.59		58	11.37		846	76
EX 4	D	1/3 ac Res	2.91				2.91	86	250	86
	C	Woods	1.55				1.55	70	109	70
	B	Open Space	1.32	0.21	98	20	1.12	61	68	67
TOTAL:			5.79	0.21		20	5.58		427	77
EX 5/7	D	1/3 ac Res	1.33				1.33	86	115	86
	C	Woods	2.04				2.04	70	143	70
	B	Woods/Wtld	9.17	1.12	98	109	8.05	55	443	60
TOTAL:			12.54	1.12		109	11.42		700	65
EX 1	B	Woods	0.96				0.96	55	53	55
	B	Open Space	0.65	0.00	98	0	0.65	61	39	61
TOTAL:			1.61	0.00		0	1.61		92	57

1. Hydrologic Soil Group classification, see Soil Survey of Putnam and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.
2. S=Hydrologic Soil Group (HSG) Specific Reduction Factor
3. Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.
3. Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June
4. Specific Reduction factors for the HSGs per NYSSMD.

HSG A	0.55
HSG B	0.40
HSG C	0.30
HSG D	0.20
5. CN values from Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

APPENDIX TABLE NO. 2

EVERGREEN MANOR
CORTLANDT, NEW YORK

DEVELOPED CONDITIONS CURVE NUMBER COMPUTATIONS

WATERSHED/ SUBBASIN ID	HYDRO- LOGIC GROUP ¹	COVER TYPE ²	TOTAL AREA (AC)	IMPERVIOUS AREA			PERVIOUS AREA			WEIGHTED CN
				AREA (AC)	CN ⁵	A x CN	AREA (AC)	CN ⁵	A x CN	
Dev 3 Ex	D	1/3 ac Res	4.85				4.85	86	417	86
	C	Woods	1.49				1.49	70	104	70
	B	Open Space	1.80	0.43	98	42	1.37	61	84	70
TOTAL:				0.43		42	7.71		605	79
Dev 3 UG-3	B	Bldg/Parking	0.68	0.68	98	67	0.00	61	0	98
TOTAL:				0.68		67	0.00		0	98
Dev 3 BR-3W	B	Open Space	1.36	0.62	98	61	0.75	61	45	78
TOTAL:				0.62		61	0.75		45	78
Dev 3 BR-3E	B	Parking	1.00	0.63	98	61	0.37	61	23	84
TOTAL:				0.63		61	0.37		23	84
Dev 8 BR-8	B	Bldg/Parking	1.59	0.82	98	81	0.77	61	47	80
TOTAL:				0.82		81	0.77		47	80
Dev 8 HDS-8	B	Bldg/Parking	0.25	0.13	98	13	0.12	61	7	81
TOTAL:				0.13		13	0.12		7	81
Dev 6 Ex	B	Woods	0.55				0.55	55	31	55
	B	Open Space	6.65	0.67	98	66	5.98	61	365	65
TOTAL:				0.67		66	6.53		395	64
Dev 1 UG-1E	B	Bldg/Parking	0.68	0.52	98	51	0.16	61	10	89
TOTAL:				0.52		51	0.16		10	89
Dev 2 UG-2	B	Development	1.83	1.49	98	146	0.34	61	21	91
TOTAL:				1.49		146	0.34		21	91
Dev 5 UG-5	B	Development	2.17	1.40	98	137	0.77	61	47	85
TOTAL:				1.40		137	0.77		47	85
Dev 4 BR-4N	B	Development	2.32	1.13	98	111	1.19	61	73	79
TOTAL:				1.13		111	1.19		73	79
Dev 4 BR-4S	B	Development	2.71	2.00	98	196	0.71	61	43	88
TOTAL:				2.00		196	0.71		43	88
Dev 4/7 Ex	D	1/3 ac Res	1.33				1.33	86	115	86
	C	Woods	7.65				7.65	70	536	70
	B	Woods/Wtld	5.17	1.12	98	109	4.06	55	223	64
TOTAL:				1.12		109	13.04		873	69
Dev 1 UG-1W	B	Development	0.42	0.36	98	35	0.06	61	4	92
TOTAL:				0.36		35	0.06		4	92
Dev 1 Ex	B	Woods	0.28				0.28	55	15	55
	B	Open Space	0.82				0.82	61	50	61
TOTAL:				0.00		0	1.10		66	59

1. Hydrologic Soil Group classification, see Soil Survey of Putnam and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.
2. S=Hydrologic Soil Group (HSG) Specific Reduction Factor
3. Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.
4. Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1
5. Specific Reduction factors for the HSGs per NYSSMD: HSG A 0.55

B.2. TIME OF CONCENTRATION

APPENDIX TABLE NO. 3

**EVERGREEN MANOR
CORTLANDT, NEW YORK**

EXISTING TIME OF CONCENTRATION (OR TRAVEL TIME)

SHEET FLOW

1. Surface Description (See Table Below) ¹
2. Mannings Roughness Coefficient **n**
3. Flow Length (Total $L \leq 100\text{FT}$) **L** ft
4. 2-YR 24-HR Rainfall ² **P₂** in
5. Land Slope **s** ft/ft
6. Travel Time
 $T_t = (0.007(nL)^{0.8}) / (P_2^{0.5} s^{0.4})$ **T_t** hr

SHALLOW CONCENTRATED FLOW

7. Surface Description (paved or unpaved)
8. Flow Length **L** ft
9. Watercourse Slope **s** ft/ft
10. Average Velocity ³ **V** ft/s
11. $T_t = L / 3600V$ **T_t** hr

CHANNEL FLOW

12. Cross Sectional Flow Area **a** ft²
13. Wetted Perimeter **p_w** ft
14. Hydraulic Radius, $r = a/p_w$ **r** ft
15. Channel Slope **s** ft/ft
16. Manning's Roughness Coefficient ⁴ **n**
17. Velocity = $(1.49r^{2/3}s^{1/2})/n$ **V** ft/s
18. Flow Length **L** ft
19. $T_t = L / 3600V$ **T_t** hr

TOTAL WATERSHED T_c **T_c** hr

WATERSHED/ SUBBASIN ID				
EX 2/6/8	EX 3	EX 4	EX 5/7	EX 1
9	6	6	9	6
0.4	0.24	0.24	0.4	0.24
100	100	100	63	100
3.5	3.5	3.5	3.5	3.5
0.03	0.05	0.10	0.04	0.11
0.29	0.16	0.12	0.17	0.11
unpaved	unpaved	unpaved	unpaved	unpaved
316	360	423	134	205
0.065	0.125	0.009	0.022	0.142
4.10	5.80	1.60	2.40	6.00
0.02	0.02	0.07	0.02	0.01
	8.00			8.00
	20.47			20.47
	0.39			0.39
	0.02			0.07
	0.05			0.05
	2.4			4.3
	387			140
	0.04			0.01
0.31	0.22	0.19	0.19	0.13

ROUGHNESS COEFFICIENTS (Manning's n) FOR SHEET FLOW ¹		
1	Smooth (conc, asphalt, gravel, bare soil)	0.011
2	Fallow (no residue)	0.05
3	Cultivated Soils, Residue Cover $\leq 20\%$	0.06
4	Cultivated Soils, Residue Cover $> 20\%$	0.17
5	Short Grass Prairie	0.15
6	Dense Grass	0.24
7	Bermuda Grass	0.41
8	Range (natural)	0.13
9	Woods (light)	0.4

- 1 Table 3-1. - Roughness coefficients (Manning's n) for SHEET FLOW, TR-55 Urban Hydrology for Small Watersheds, page 3-3.
- 2 Westchester County Rainfall, NYSDEC Amendment NY-1, November 7, 1990, page 2-14.5
- 3 Figure 3-1. - Average velocities for estimating travel time for shallow concentrated flow, TR-55 Urban Hydrology for Small Watersheds, page 3-2.
- 4 Roughness coefficients (Manning's n) for CHANNEL FLOW. See Handbook of Hydraulics or equal.

APPENDIX TABLE NO. 4

**EVERGREEN MANOR
CORTLANDT, NEW YORK**

DEVELOPED TIME OF CONCENTRATION (OR TRAVEL TIME)

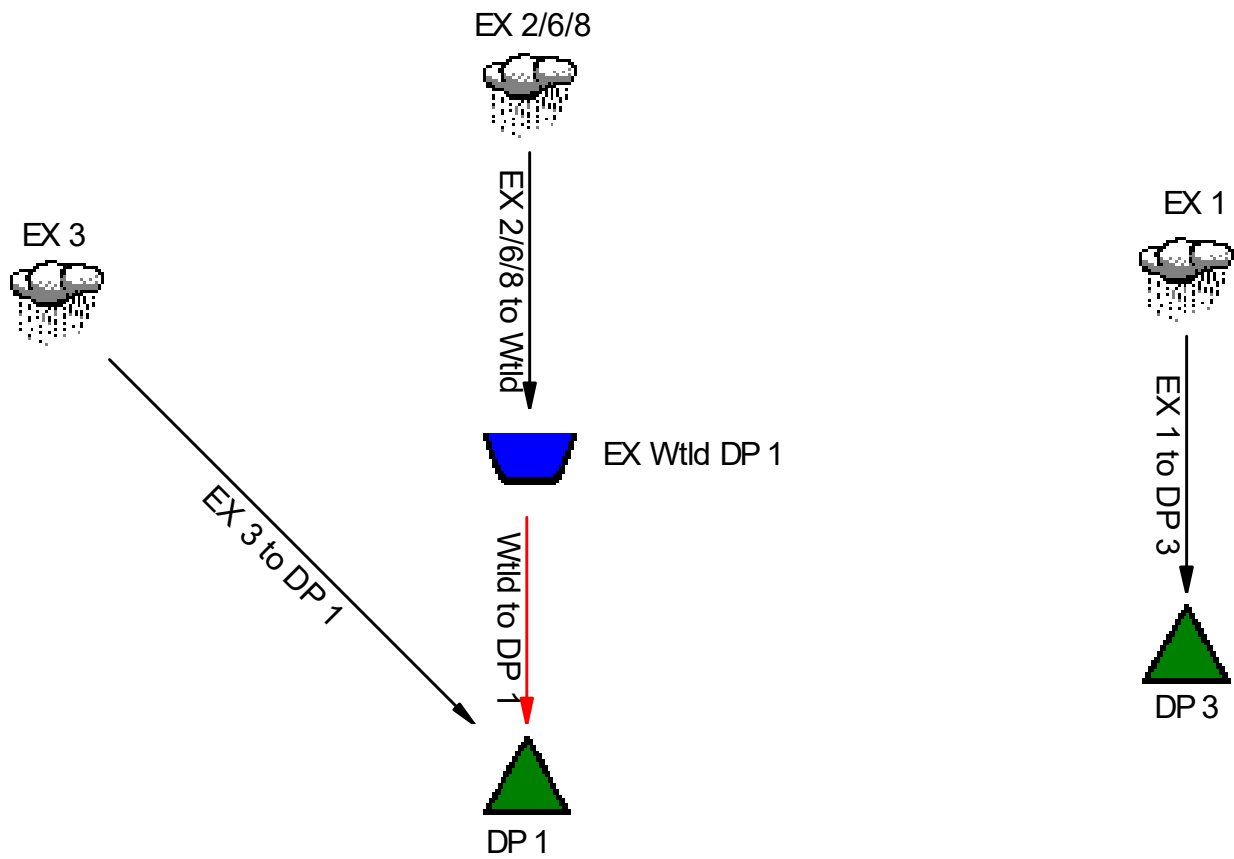
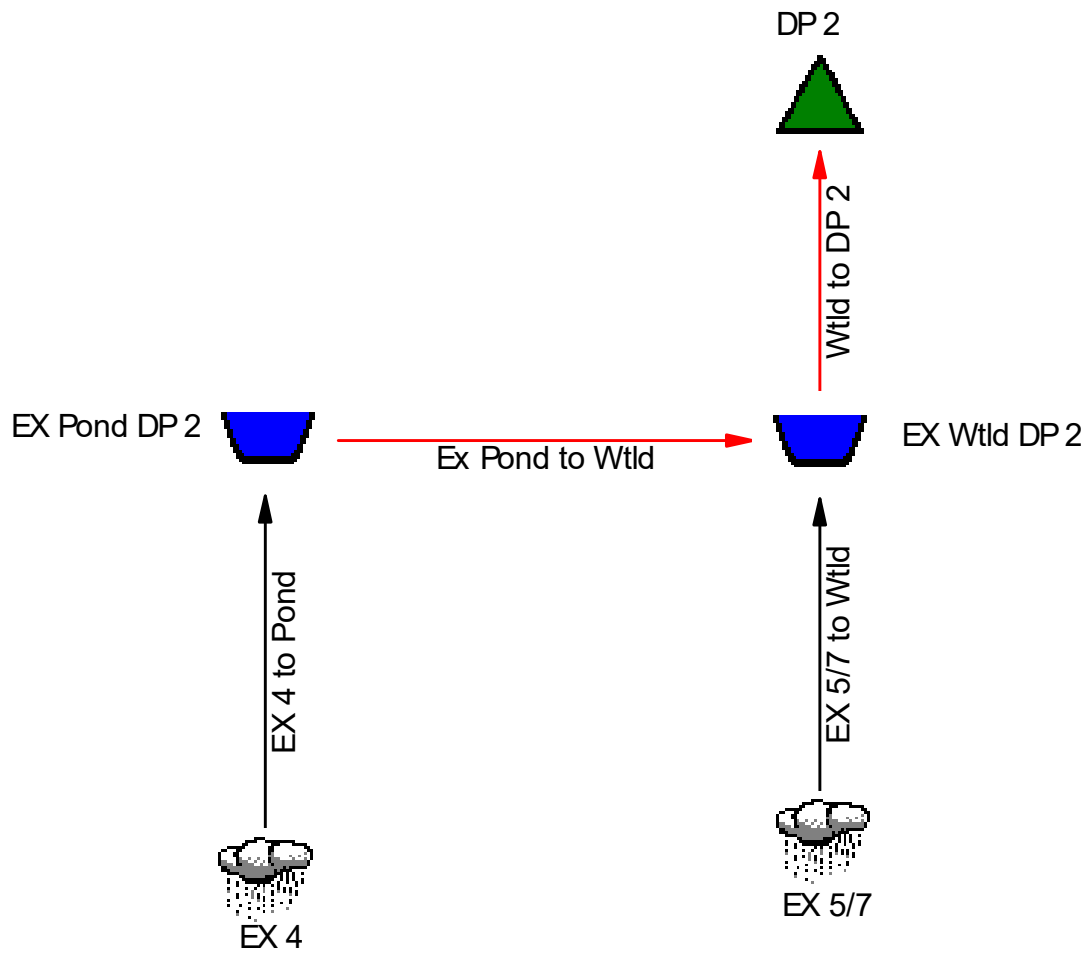
	WATERSHED/ SUBBASIN ID			
	Dev 3 Ex	Dev 6 Ex	Dev 4/7 Ex	Dev 1 Ex
<u>SHEET FLOW</u>				
1. Surface Description (See Table Below) ¹	9	9	9	6
2. Mannings Roughness Coefficient n	0.4	0.4	0.4	0.24
3. Flow Length (Total L ≤ 100FT) L ft	100	100	63	100
4. 2-YR 24-HR Rainfall ² P₂ in	3.5	3.5	3.5	3.5
5. Land Slope s ft/ft	0.14	0.10	0.04	0.11
6. Travel Time $T_t = (0.007(nL)^{0.8}) / (P_2^{0.5} s^{0.4})$ T_t hr	0.16	0.18	0.17	0.11
<u>SHALLOW CONCENTRATED FLOW</u>				
7. Surface Description (paved or unpaved)	unpaved	unpaved	unpaved	unpaved
8. Flow Length L ft	345	392	134	251
9. Watercourse Slope s ft/ft	0.090	0.059	0.022	0.116
10. Average Velocity ³ V ft/s	5.00	3.60	2.40	5.50
11. $T_t = L / 3600V$ T_t hr	0.02	0.03	0.02	0.01
<u>CHANNEL FLOW</u>				
12. Cross Sectional Flow Area a ft ²	3.14			8.00
13. Wetted Perimeter p_w ft	6.28			20.47
14. Hydraulic Radius, $r = a/p_w$ r ft	0.50			0.39
15. Channel Slope s ft/ft	0.17			0.07
16. Manning's Roughness Coefficient ⁴ n	0.01			0.05
17. Velocity = $(1.49r^{2/3}s^{1/2})/n$ V ft/s	30.1			4.3
18. Flow Length L ft	140			140
19. $T_t = L / 3600V$ T_t hr	0.00			0.01
<u>TOTAL WATERSHED T_c</u> T_c hr	0.18	0.21	0.19	0.14

ROUGHNESS COEFFICIENTS (Manning's n) FOR SHEET FLOW ¹	
1 Smooth (conc, asphalt, gravel, bare soil)	0.011
2 Fallow (no residue)	0.05
3 Cultivated Soils, Residue Cover ≤ 20%	0.06
4 Cultivated Soils, Residue Cover > 20%	0.17
5 Short Grass Prairie	0.15
6 Dense Grass	0.24
7 Bermuda Grass	0.41
8 Range (natural)	0.13
9 Woods (light & dense)	0.4

- Table 3-1. - Roughness coefficients (Manning's n) for SHEET FLOW, TR-55 Urban Hydrology for Small Watersheds, p 3-3.
- Westchester County Rainfall, NYSDEC Amendment NY-1, November 7, 1990, page 2-14.5
- Figure 3-1. - Average velocities for estimating travel time for shallow concentrated flow, TR-55 Urban Hydrology for Small Watersheds, page 3-2.
- Roughness coefficients (Manning's n) for CHANNEL FLOW. See Handbook of Hydraulics or equal.
- T_c of 5 min(0.08hrs) assumed at interior developed lots

C. POND PACK MODELS

C.1. EXISTING CONDITIONS



MASTER DESIGN STORM SUMMARY

Network Storm Collection: 812Evergreen

Return Event	Total Depth in	Rainfall Type	RNF ID
1	2.7500	Synthetic Curve	TypeIII 24hr
2	3.3700	Synthetic Curve	TypeIII 24hr
10	5.0900	Synthetic Curve	TypeIII 24hr
25	6.4400	Synthetic Curve	TypeIII 24hr
50	7.7100	Synthetic Curve	TypeIII 24hr
100	9.2400	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 1	JCT	1	1.194		12.2000	9.51		
*DP 1	JCT	2	1.902		12.2000	16.37		
*DP 1	JCT	10	4.310		12.2000	36.80		
*DP 1	JCT	25	6.492		12.1500	50.44		
*DP 1	JCT	50	8.691		12.1500	63.76		
*DP 1	JCT	100	11.472		12.1500	79.87		
*DP 2	JCT	1	.545		13.0000	1.61		
*DP 2	JCT	2	1.055		12.4500	7.31		
*DP 2	JCT	10	2.788		12.2500	29.51		
*DP 2	JCT	25	4.357		12.2000	46.64		
*DP 2	JCT	50	5.938		12.2000	63.50		
*DP 2	JCT	100	7.934		12.2000	84.79		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 3	JCT	1	.024		12.3500	.10		
*DP 3	JCT	2	.049		12.2000	.32		
*DP 3	JCT	10	.155		12.1500	1.64		
*DP 3	JCT	25	.262		12.1500	2.94		
*DP 3	JCT	50	.375		12.1500	4.31		
*DP 3	JCT	100	.525		12.1000	6.07		
EX 1	AREA	1	.024		12.3500	.10		
EX 1	AREA	2	.049		12.2000	.32		
EX 1	AREA	10	.155		12.1500	1.64		
EX 1	AREA	25	.262		12.1500	2.94		
EX 1	AREA	50	.375		12.1500	4.31		
EX 1	AREA	100	.525		12.1000	6.07		
EX 2/6/8	AREA	1	.347		12.4000	1.91		
EX 2/6/8	AREA	2	.636		12.3000	4.48		
EX 2/6/8	AREA	10	1.710		12.2500	15.03		
EX 2/6/8	AREA	25	2.743		12.2500	25.18		
EX 2/6/8	AREA	50	3.814		12.2500	35.57		
EX 2/6/8	AREA	100	5.196		12.2500	48.80		
EX 3	AREA	1	.848		12.2000	8.43		
EX 3	AREA	2	1.268		12.2000	12.95		
EX 3	AREA	10	2.601		12.1500	27.31		
EX 3	AREA	25	3.750		12.1500	39.49		
EX 3	AREA	50	4.878		12.1500	51.23		
EX 3	AREA	100	6.277		12.1500	65.53		
EX 4	AREA	1	.435		12.1500	4.56		
EX 4	AREA	2	.644		12.1500	6.95		
EX 4	AREA	10	1.302		12.1500	14.33		
EX 4	AREA	25	1.865		12.1500	20.48		
EX 4	AREA	50	2.417		12.1500	26.37		
EX 4	AREA	100	3.099		12.1500	33.52		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
EX 5/7	AREA	1	.414		12.2000	3.13		
EX 5/7	AREA	2	.716		12.2000	6.51		
EX 5/7	AREA	10	1.791		12.1500	18.86		
EX 5/7	AREA	25	2.796		12.1500	30.35		
EX 5/7	AREA	50	3.826		12.1500	41.96		
EX 5/7	AREA	100	5.140		12.1500	56.57		
EX POND DP 2 IN	POND	1	.435		12.1500	4.56		
EX POND DP 2 IN	POND	2	.644		12.1500	6.95		
EX POND DP 2 IN	POND	10	1.302		12.1500	14.33		
EX POND DP 2 IN	POND	25	1.865		12.1500	20.48		
EX POND DP 2 IN	POND	50	2.417		12.1500	26.37		
EX POND DP 2 IN	POND	100	3.099		12.1500	33.52		
EX POND DP 2 OUT	POND	1	.417		12.2000	4.50	395.41	.000
EX POND DP 2 OUT	POND	2	.626		12.2000	6.81	395.46	.000
EX POND DP 2 OUT	POND	10	1.284		12.1500	14.04	395.59	.000
EX POND DP 2 OUT	POND	25	1.847		12.1500	20.17	395.68	.000
EX POND DP 2 OUT	POND	50	2.399		12.1500	26.05	395.76	.000
EX POND DP 2 OUT	POND	100	3.081		12.1500	33.24	395.86	.000
EX WTLD DP 1 IN	POND	1	.347		12.4000	1.91		
EX WTLD DP 1 IN	POND	2	.636		12.3000	4.48		
EX WTLD DP 1 IN	POND	10	1.710		12.2500	15.03		
EX WTLD DP 1 IN	POND	25	2.743		12.2500	25.18		
EX WTLD DP 1 IN	POND	50	3.814		12.2500	35.57		
EX WTLD DP 1 IN	POND	100	5.196		12.2500	48.80		
EX WTLD DP 1 OUT	POND	1	.346		12.4000	1.89	349.41	.000
EX WTLD DP 1 OUT	POND	2	.635		12.3500	4.46	349.83	.000
EX WTLD DP 1 OUT	POND	10	1.709		12.4500	11.13	351.16	.000
EX WTLD DP 1 OUT	POND	25	2.741		12.5500	14.27	352.27	.000
EX WTLD DP 1 OUT	POND	50	3.813		12.6000	16.11	353.04	.000
EX WTLD DP 1 OUT	POND	100	5.195		12.4000	39.31	353.31	.000

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
EX WTLD DP 2 IN	POND	1	.831		12.2000	7.63		
EX WTLD DP 2 IN	POND	2	1.342		12.2000	13.32		
EX WTLD DP 2 IN	POND	10	3.075		12.1500	32.90		
EX WTLD DP 2 IN	POND	25	4.644		12.1500	50.52		
EX WTLD DP 2 IN	POND	50	6.224		12.1500	68.02		
EX WTLD DP 2 IN	POND	100	8.220		12.1500	89.81		
EX WTLD DP 2 OUT	POND	1	.545		13.0000	1.61	393.27	.000
EX WTLD DP 2 OUT	POND	2	1.055		12.4500	7.31	393.32	.000
EX WTLD DP 2 OUT	POND	10	2.788		12.2500	29.51	393.45	.000
EX WTLD DP 2 OUT	POND	25	4.357		12.2000	46.64	393.53	.000
EX WTLD DP 2 OUT	POND	50	5.938		12.2000	63.50	393.59	.000
EX WTLD DP 2 OUT	POND	100	7.934		12.2000	84.79	393.66	.000

C.2. DEVELOPED CONDITIONS

MASTER DESIGN STORM SUMMARY

Network Storm Collection: 812Evergreen

Return Event	Total Depth in	Rainfall Type	RNF ID
1	2.7500	Synthetic Curve	TypeIII 24hr
2	3.3700	Synthetic Curve	TypeIII 24hr
10	5.0900	Synthetic Curve	TypeIII 24hr
25	6.4400	Synthetic Curve	TypeIII 24hr
50	7.7100	Synthetic Curve	TypeIII 24hr
100	9.2400	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
BR-3E	IN	POND	1		12.1000	1.37		
BR-3E	IN	POND	2		12.1000	1.90		
BR-3E	IN	POND	10		12.1000	3.42		
BR-3E	IN	POND	25		12.1000	4.62		
BR-3E	IN	POND	50		12.1000	5.75		
BR-3E	IN	POND	100		12.1000	7.11		
BR-3E	OUT	POND	1		12.4000	.44	3.90	.000
BR-3E	OUT	POND	2		12.3500	.69	4.21	.000
BR-3E	OUT	POND	10		12.3500	1.13	5.12	.000
BR-3E	OUT	POND	25		12.4000	1.35	5.71	.000
BR-3E	OUT	POND	50		12.4500	1.52	6.24	.000
BR-3E	OUT	POND	100		12.4500	1.69	6.85	.000

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
BR-3W	IN	POND	1		12.1000	1.33		
BR-3W	IN	POND	2		12.1000	1.98		
BR-3W	IN	POND	10		12.1000	3.94		
BR-3W	IN	POND	25		12.1000	5.55		
BR-3W	IN	POND	50		12.1000	7.09		
BR-3W	IN	POND	100		12.1000	8.95		
BR-3W	OUT	POND	1		14.2000	.10	3.73	.000
BR-3W	OUT	POND	2		12.6000	.35	3.85	.000
BR-3W	OUT	POND	10		12.4500	.95	4.68	.000
BR-3W	OUT	POND	25		12.5000	1.21	5.31	.000
BR-3W	OUT	POND	50		12.5000	1.40	5.85	.000
BR-3W	OUT	POND	100		12.5000	1.56	6.42	.000
BR-4N	IN	POND	1		12.1000	2.41		
BR-4N	IN	POND	2		12.1000	3.54		
BR-4N	IN	POND	10		12.1000	6.93		
BR-4N	IN	POND	25		12.1000	9.69		
BR-4N	IN	POND	50		12.1000	12.32		
BR-4N	IN	POND	100		12.1000	15.48		
BR-4N	OUT	POND	1		13.4500	.25	3.72	.000
BR-4N	OUT	POND	2		12.4500	1.18	3.85	.000
BR-4N	OUT	POND	10		12.1500	5.72	4.19	.000
BR-4N	OUT	POND	25		12.1500	7.45	4.43	.000
BR-4N	OUT	POND	50		12.2000	8.66	4.70	.000
BR-4N	OUT	POND	100		12.2000	10.03	5.06	.000
BR-4S	IN	POND	1		12.1000	4.37		
BR-4S	IN	POND	2		12.1000	5.84		
BR-4S	IN	POND	10		12.1000	9.97		
BR-4S	IN	POND	25		12.1000	11.20		
BR-4S	IN	POND	50		12.1000	11.47		
BR-4S	IN	POND	100		12.1000	11.72		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
BR-4S	OUT POND	1	.307		12.1500	4.07	3.92	.000
BR-4S	OUT POND	2	.432		12.1500	5.47	4.01	.000
BR-4S	OUT POND	10	.794		12.2000	8.13	4.41	.000
BR-4S	OUT POND	25	1.068		12.2000	9.33	4.70	.000
BR-4S	OUT POND	50	1.305		12.2500	9.81	4.83	.000
BR-4S	OUT POND	100	1.581		12.2500	10.28	4.96	.000
BR-8	IN POND	1	.141		12.1000	1.75		
BR-8	IN POND	2	.203		12.1000	2.54		
BR-8	IN POND	10	.394		12.1000	4.89		
BR-8	IN POND	25	.554		12.1000	6.79		
BR-8	IN POND	50	.709		12.1000	8.59		
BR-8	IN POND	100	.900		12.1000	10.76		
BR-8	OUT POND	1	.055		14.1500	.13	3.72	.000
BR-8	OUT POND	2	.117		12.5500	.51	3.80	.000
BR-8	OUT POND	10	.307		12.2000	2.76	4.20	.000
BR-8	OUT POND	25	.468		12.2500	3.62	4.58	.000
BR-8	OUT POND	50	.623		12.2500	4.20	4.90	.000
BR-8	OUT POND	100	.814		12.3000	4.78	5.27	.000
DEV 1 EX	AREA	1	.020		12.3000	.10		
DEV 1 EX	AREA	2	.040		12.1500	.30		
DEV 1 EX	AREA	10	.118		12.1500	1.27		
DEV 1 EX	AREA	25	.195		12.1500	2.20		
DEV 1 EX	AREA	50	.276		12.1500	3.16		
DEV 1 EX	AREA	100	.382		12.1500	4.40		
DEV 1 UG-1E	AREA	1	.095		12.1000	1.17		
DEV 1 UG-1E	AREA	2	.127		12.1000	1.55		
DEV 1 UG-1E	AREA	10	.219		12.1000	2.59		
DEV 1 UG-1E	AREA	25	.293		12.1000	3.40		
DEV 1 UG-1E	AREA	50	.363		12.1000	4.16		
DEV 1 UG-1E	AREA	100	.448		12.1000	5.07		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DEV 1 UG-1W	AREA	1	.067		12.1000	.81		
DEV 1 UG-1W	AREA	2	.088		12.1000	1.05		
DEV 1 UG-1W	AREA	10	.146		12.1000	1.68		
DEV 1 UG-1W	AREA	25	.193		12.1000	2.18		
DEV 1 UG-1W	AREA	50	.236		12.1000	2.64		
DEV 1 UG-1W	AREA	100	.290		12.1000	3.20		
DEV 1UG-1E	IN POND	1	.095		12.1000	1.17		
DEV 1UG-1E	IN POND	2	.127		12.1000	1.55		
DEV 1UG-1E	IN POND	10	.219		12.1000	2.59		
DEV 1UG-1E	IN POND	25	.293		12.1000	3.40		
DEV 1UG-1E	IN POND	50	.363		12.1000	4.16		
DEV 1UG-1E	IN POND	100	.448		12.1000	5.07		
DEV 1UG-1E	OUT POND	1	.064		12.4500	.08	2.16	.000
DEV 1UG-1E	OUT POND	2	.090		12.8500	.10	2.87	.000
DEV 1UG-1E	OUT POND	10	.170		12.3500	.99	4.45	.000
DEV 1UG-1E	OUT POND	25	.240		12.1500	3.73	4.66	.000
DEV 1UG-1E	OUT POND	50	.307		12.0500	4.92	4.73	.000
DEV 1UG-1E	OUT POND	100	.389		12.0500	5.07	4.74	.000
DEV 1UG-1W	IN POND	1	.067		12.1000	.81		
DEV 1UG-1W	IN POND	2	.088		12.1000	1.05		
DEV 1UG-1W	IN POND	10	.146		12.1000	1.68		
DEV 1UG-1W	IN POND	25	.193		12.1000	2.18		
DEV 1UG-1W	IN POND	50	.236		12.1000	2.64		
DEV 1UG-1W	IN POND	100	.290		12.1000	3.20		
DEV 1UG-1W	OUT POND	1	.029		12.4000	.03	1.51	.000
DEV 1UG-1W	OUT POND	2	.040		12.3500	.03	1.93	.000
DEV 1UG-1W	OUT POND	10	.075		14.0000	.05	3.21	.000
DEV 1UG-1W	OUT POND	25	.107		14.0500	.10	4.34	.000
DEV 1UG-1W	OUT POND	50	.147		12.4000	.89	4.45	.000
DEV 1UG-1W	OUT POND	100	.196		12.2000	2.39	4.58	.000

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DEV 2 UG-2	AREA	1	.280		12.1000	3.42		
DEV 2 UG-2	AREA	2	.369		12.1000	4.43		
DEV 2 UG-2	AREA	10	.621		12.1000	7.22		
DEV 2 UG-2	AREA	25	.822		12.1000	9.39		
DEV 2 UG-2	AREA	50	1.012		12.1000	11.41		
DEV 2 UG-2	AREA	100	1.243		12.1000	13.84		
DEV 2 UG-2	IN POND	1	.280		12.1000	3.42		
DEV 2 UG-2	IN POND	2	.369		12.1000	4.43		
DEV 2 UG-2	IN POND	10	.621		12.1000	7.22		
DEV 2 UG-2	IN POND	25	.822		12.1000	9.39		
DEV 2 UG-2	IN POND	50	1.012		12.1000	11.41		
DEV 2 UG-2	IN POND	100	1.243		12.1000	13.84		
DEV 2 UG-2	OUT POND	1	.208		12.5500	.35	2.32	.000
DEV 2 UG-2	OUT POND	2	.288		12.7500	.40	3.02	.000
DEV 2 UG-2	OUT POND	10	.523		12.3000	3.28	4.28	.000
DEV 2 UG-2	OUT POND	25	.715		12.1500	8.56	4.56	.000
DEV 2 UG-2	OUT POND	50	.898		12.1000	11.26	4.68	.000
DEV 2 UG-2	OUT POND	100	1.123		12.1000	13.68	4.78	.000
DEV 3 BR-3E	AREA	1	.109		12.1000	1.37		
DEV 3 BR-3E	AREA	2	.152		12.1000	1.90		
DEV 3 BR-3E	AREA	10	.279		12.1000	3.42		
DEV 3 BR-3E	AREA	25	.384		12.1000	4.62		
DEV 3 BR-3E	AREA	50	.485		12.1000	5.75		
DEV 3 BR-3E	AREA	100	.608		12.1000	7.11		
DEV 3 BR-3W	AREA	1	.108		12.1000	1.33		
DEV 3 BR-3W	AREA	2	.159		12.1000	1.98		
DEV 3 BR-3W	AREA	10	.316		12.1000	3.94		
DEV 3 BR-3W	AREA	25	.450		12.1000	5.55		
DEV 3 BR-3W	AREA	50	.581		12.1000	7.09		
DEV 3 BR-3W	AREA	100	.742		12.1000	8.95		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DEV 3 EX	AREA	1	.684		12.1500	7.46		
DEV 3 EX	AREA	2	.994		12.1500	11.03		
DEV 3 EX	AREA	10	1.953		12.1500	21.80		
DEV 3 EX	AREA	25	2.764		12.1500	30.64		
DEV 3 EX	AREA	50	3.553		12.1500	39.05		
DEV 3 EX	AREA	100	4.526		12.1500	49.22		
DEV 3 UG-3	AREA	1	.143		12.1000	1.55		
DEV 3 UG-3	AREA	2	.178		12.1000	1.91		
DEV 3 UG-3	AREA	10	.275		12.1000	2.91		
DEV 3 UG-3	AREA	25	.351		12.1000	3.68		
DEV 3 UG-3	AREA	50	.423		12.1000	4.42		
DEV 3 UG-3	AREA	100	.510		12.1000	5.29		
DEV 3 UG-3	IN POND	1	.143		12.1000	1.55		
DEV 3 UG-3	IN POND	2	.178		12.1000	1.91		
DEV 3 UG-3	IN POND	10	.275		12.1000	2.91		
DEV 3 UG-3	IN POND	25	.351		12.1000	3.68		
DEV 3 UG-3	IN POND	50	.423		12.1000	4.42		
DEV 3 UG-3	IN POND	100	.510		12.1000	5.29		
DEV 3 UG-3	OUT POND	1	.056		12.4000	.04	2.25	.000
DEV 3 UG-3	OUT POND	2	.074		12.7000	.04	2.80	.000
DEV 3 UG-3	OUT POND	10	.136		13.3500	.19	4.28	.000
DEV 3 UG-3	OUT POND	25	.206		12.3000	1.64	4.44	.000
DEV 3 UG-3	OUT POND	50	.274		12.1500	4.17	4.61	.000
DEV 3 UG-3	OUT POND	100	.356		12.0500	5.49	4.68	.000
DEV 4 BR-4N	AREA	1	.195		12.1000	2.41		
DEV 4 BR-4N	AREA	2	.283		12.1000	3.54		
DEV 4 BR-4N	AREA	10	.557		12.1000	6.93		
DEV 4 BR-4N	AREA	25	.788		12.1000	9.69		
DEV 4 BR-4N	AREA	50	1.013		12.1000	12.32		
DEV 4 BR-4N	AREA	100	1.290		12.1000	15.48		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DEV 4 BR-4S	AREA	1	.361		12.1000	4.48		
DEV 4 BR-4S	AREA	2	.486		12.1000	5.97		
DEV 4 BR-4S	AREA	10	.848		12.1000	10.12		
DEV 4 BR-4S	AREA	25	1.141		12.1000	13.37		
DEV 4 BR-4S	AREA	50	1.419		12.1000	16.40		
DEV 4 BR-4S	AREA	100	1.758		12.1000	20.03		
DEV 4 UG-4S	IN POND	1	.307		12.1500	4.07		
DEV 4 UG-4S	IN POND	2	.432		12.1500	5.47		
DEV 4 UG-4S	IN POND	10	.794		12.2000	8.13		
DEV 4 UG-4S	IN POND	25	1.087		12.1000	10.65		
DEV 4 UG-4S	IN POND	50	1.366		12.1000	13.83		
DEV 4 UG-4S	IN POND	100	1.704		12.1000	17.66		
DEV 4 UG-4S	OUT POND	1	.222		13.1500	.33	2.05	.000
DEV 4 UG-4S	OUT POND	2	.333		13.2500	.39	2.93	.000
DEV 4 UG-4S	OUT POND	10	.663		12.4000	5.03	4.38	.000
DEV 4 UG-4S	OUT POND	25	.943		12.2500	9.07	4.58	.000
DEV 4 UG-4S	OUT POND	50	1.212		12.1500	13.57	4.77	.000
DEV 4 UG-4S	OUT POND	100	1.540		12.1000	17.57	4.92	.000
DEV 4/7 EX	AREA	1	.637		12.2000	5.72		
DEV 4/7 EX	AREA	2	1.034		12.1500	10.21		
DEV 4/7 EX	AREA	10	2.385		12.1500	25.76		
DEV 4/7 EX	AREA	25	3.608		12.1500	39.58		
DEV 4/7 EX	AREA	50	4.839		12.1500	53.26		
DEV 4/7 EX	AREA	100	6.392		12.1500	70.24		
DEV 5 UG-5	AREA	1	.250		12.1000	3.12		
DEV 5 UG-5	AREA	2	.344		12.1000	4.28		
DEV 5 UG-5	AREA	10	.624		12.1000	7.59		
DEV 5 UG-5	AREA	25	.853		12.1000	10.21		
DEV 5 UG-5	AREA	50	1.073		12.1000	12.65		
DEV 5 UG-5	AREA	100	1.341		12.1000	15.59		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DEV 5 UG-5	IN	POND	1		12.1000	3.12		
DEV 5 UG-5	IN	POND	2		12.1000	4.28		
DEV 5 UG-5	IN	POND	10		12.1000	7.59		
DEV 5 UG-5	IN	POND	25		12.1000	10.21		
DEV 5 UG-5	IN	POND	50		12.1000	12.65		
DEV 5 UG-5	IN	POND	100		12.1000	15.59		
DEV 5 UG-5	OUT	POND	1		12.8500	.35	2.27	.000
DEV 5 UG-5	OUT	POND	2		12.8000	.41	3.14	.000
DEV 5 UG-5	OUT	POND	10		12.2000	4.94	4.38	.000
DEV 5 UG-5	OUT	POND	25		12.1000	10.56	4.65	.000
DEV 5 UG-5	OUT	POND	50		12.1000	12.51	4.73	.000
DEV 5 UG-5	OUT	POND	100		12.1000	15.39	4.84	.000
DEV 6 EX	AREA		1		12.2500	1.51		
DEV 6 EX	AREA		2		12.2000	3.32		
DEV 6 EX	AREA		10		12.1500	9.93		
DEV 6 EX	AREA		25		12.1500	16.29		
DEV 6 EX	AREA		50		12.1500	22.75		
DEV 6 EX	AREA		100		12.1500	30.93		
DEV 8 BR-8	AREA		1		12.1000	1.75		
DEV 8 BR-8	AREA		2		12.1000	2.54		
DEV 8 BR-8	AREA		10		12.1000	4.89		
DEV 8 BR-8	AREA		25		12.1000	6.79		
DEV 8 BR-8	AREA		50		12.1000	8.59		
DEV 8 BR-8	AREA		100		12.1000	10.76		
DEV 8 HDS-8	AREA		1		12.1000	.29		
DEV 8 HDS-8	AREA		2		12.1000	.42		
DEV 8 HDS-8	AREA		10		12.1000	.79		
DEV 8 HDS-8	AREA		25		12.1000	1.09		
DEV 8 HDS-8	AREA		50		12.1000	1.37		
DEV 8 HDS-8	AREA		100		12.1000	1.71		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 1	JCT	1	1.709		12.2000	9.46		
*DP 1	JCT	2	2.651		12.1500	15.57		
*DP 1	JCT	10	5.632		12.1500	34.56		
*DP 1	JCT	25	8.218		12.1500	47.61		
*DP 1	JCT	50	10.757		12.1500	62.30		
*DP 1	JCT	100	13.908		12.2000	79.61		
*DP 2	JCT	1	.554		13.7500	1.23		
*DP 2	JCT	2	1.062		12.6000	3.88		
*DP 2	JCT	10	2.744		12.2500	22.29		
*DP 2	JCT	25	4.247		12.2500	39.89		
*DP 2	JCT	50	5.746		12.2000	60.29		
*DP 2	JCT	100	7.627		12.2000	82.03		
*DP 3	JCT	1	.049		12.3000	.13		
*DP 3	JCT	2	.080		12.1500	.33		
*DP 3	JCT	10	.193		12.1500	1.31		
*DP 3	JCT	25	.302		12.1500	2.24		
*DP 3	JCT	50	.423		12.1500	3.21		
*DP 3	JCT	100	.578		12.2000	6.10		
EX POND DP 2 IN	POND	1	.222		13.1500	.33		
EX POND DP 2 IN	POND	2	.333		13.2500	.39		
EX POND DP 2 IN	POND	10	.663		12.4000	5.03		
EX POND DP 2 IN	POND	25	.943		12.2500	9.07		
EX POND DP 2 IN	POND	50	1.212		12.1500	13.57		
EX POND DP 2 IN	POND	100	1.540		12.1000	17.57		
EX POND DP 2 OUT	POND	1	.204		13.1500	.33	395.27	.000
EX POND DP 2 OUT	POND	2	.315		13.1500	.39	395.28	.000
EX POND DP 2 OUT	POND	10	.645		12.4500	4.78	395.41	.000
EX POND DP 2 OUT	POND	25	.925		12.3000	9.00	395.50	.000
EX POND DP 2 OUT	POND	50	1.194		12.1500	13.39	395.58	.000
EX POND DP 2 OUT	POND	100	1.522		12.1500	17.21	395.64	.000

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
EX WTLD DP 2 IN	POND	1	.841		12.2000	5.72		
EX WTLD DP 2 IN	POND	2	1.349		12.1500	10.21		
EX WTLD DP 2 IN	POND	10	3.031		12.1500	26.13		
EX WTLD DP 2 IN	POND	25	4.534		12.2000	42.27		
EX WTLD DP 2 IN	POND	50	6.033		12.1500	66.66		
EX WTLD DP 2 IN	POND	100	7.914		12.1500	87.45		
EX WTLD DP 2 OUT	POND	1	.554		13.7500	1.23	393.27	.000
EX WTLD DP 2 OUT	POND	2	1.062		12.6000	3.88	393.30	.000
EX WTLD DP 2 OUT	POND	10	2.744		12.2500	22.29	393.42	.000
EX WTLD DP 2 OUT	POND	25	4.247		12.2500	39.89	393.50	.000
EX WTLD DP 2 OUT	POND	50	5.746		12.2000	60.29	393.58	.000
EX WTLD DP 2 OUT	POND	100	7.627		12.2000	82.03	393.65	.000
FS DEV-4S IN	POND	1	.361		12.1000	4.48		
FS DEV-4S IN	POND	2	.486		12.1000	5.97		
FS DEV-4S IN	POND	10	.848		12.1000	10.12		
FS DEV-4S IN	POND	25	1.141		12.1000	13.37		
FS DEV-4S IN	POND	50	1.419		12.1000	16.40		
FS DEV-4S IN	POND	100	1.758		12.1000	20.03		
+FS DEV-4S OUT	POND	1	.361		12.1000	4.37	1.22	.000
+FS DEV-4S OUT	POND	2	.486		12.1000	5.84	1.60	.000
+FS DEV-4S OUT	POND	10	.848		12.1000	9.97	3.47	.000
+FS DEV-4S OUT	POND	25	1.141		12.1000	13.19	4.22	.000
+FS DEV-4S OUT	POND	50	1.419		12.1000	16.21	4.39	.000
+FS DEV-4S OUT	POND	100	1.758		12.1000	19.82	4.56	.000
WTLD DP 1 IN	POND	1	.852		12.2500	2.38		
WTLD DP 1 IN	POND	2	1.374		12.4000	4.99		
WTLD DP 1 IN	POND	10	3.049		12.2000	25.16		
WTLD DP 1 IN	POND	25	4.515		12.1500	49.45		
WTLD DP 1 IN	POND	50	5.967		12.1500	61.75		
WTLD DP 1 IN	POND	100	7.779		12.1000	77.65		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
WTLD DP 1	OUT POND	1	.852		12.2500	2.36	349.50	.000
WTLD DP 1	OUT POND	2	1.373		12.4000	4.97	349.91	.000
WTLD DP 1	OUT POND	10	3.048		12.5000	14.20	352.24	.000
WTLD DP 1	OUT POND	25	4.514		12.5500	17.04	353.46	.000
WTLD DP 1	OUT POND	50	5.966		12.5000	27.04	354.12	.000
WTLD DP 1	OUT POND	100	7.778		12.4000	44.04	354.50	.000

2 APPENDIX B

**EVERGREEN MANOR
TOWN OF CORTLANDT
WESTCHESTER COUNTY, NEW YORK**

CONTRACTOR CERTIFICATION STATEMENT

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

CONTRACTOR

Company: _____

Address: _____

Telephone: _____

CERTIFICATION

Signature: _____

Name: _____

Title: _____

Date: _____

TRAINED INDIVIDUAL

Name: _____

Title: _____

CONSTRUCTION/SWPPP ACTIVITY RESPONSIBILITY:

3 APPENDIX C

EVERGREEN MANOR
TOWN OF CORTLANDT
WESTCHESTER COUNTY, NEW YORK

CONSTRUCTION ACTIVITY INITIATION AND COMPLETION DATES

AREA		SEDIMENT CONTROL MEASURES	CLEARING AND GRUBBING OF VEGETATION	STRIPPING & STOCKPILING OF TOPSOIL	ROUGH GRADING	TEMP. STABILIZE	FINISH GRADING & TOPSOIL SPREADING	PAVING	PERM. STABILIZE
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								
	BEGIN								
	END								

Note: Attach a map for delineation of area.

4 APPENDIX D

National Flood Hazard Layer FIRMMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Regulatory Floodway Zone AE, AO, AH, VE, AR</i>

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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>

OTHER AREAS OF FLOOD HAZARD		Area with Reduced Flood Risk due to Levee, See Notes, <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)

OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available

MAP PANELS		Unmapped
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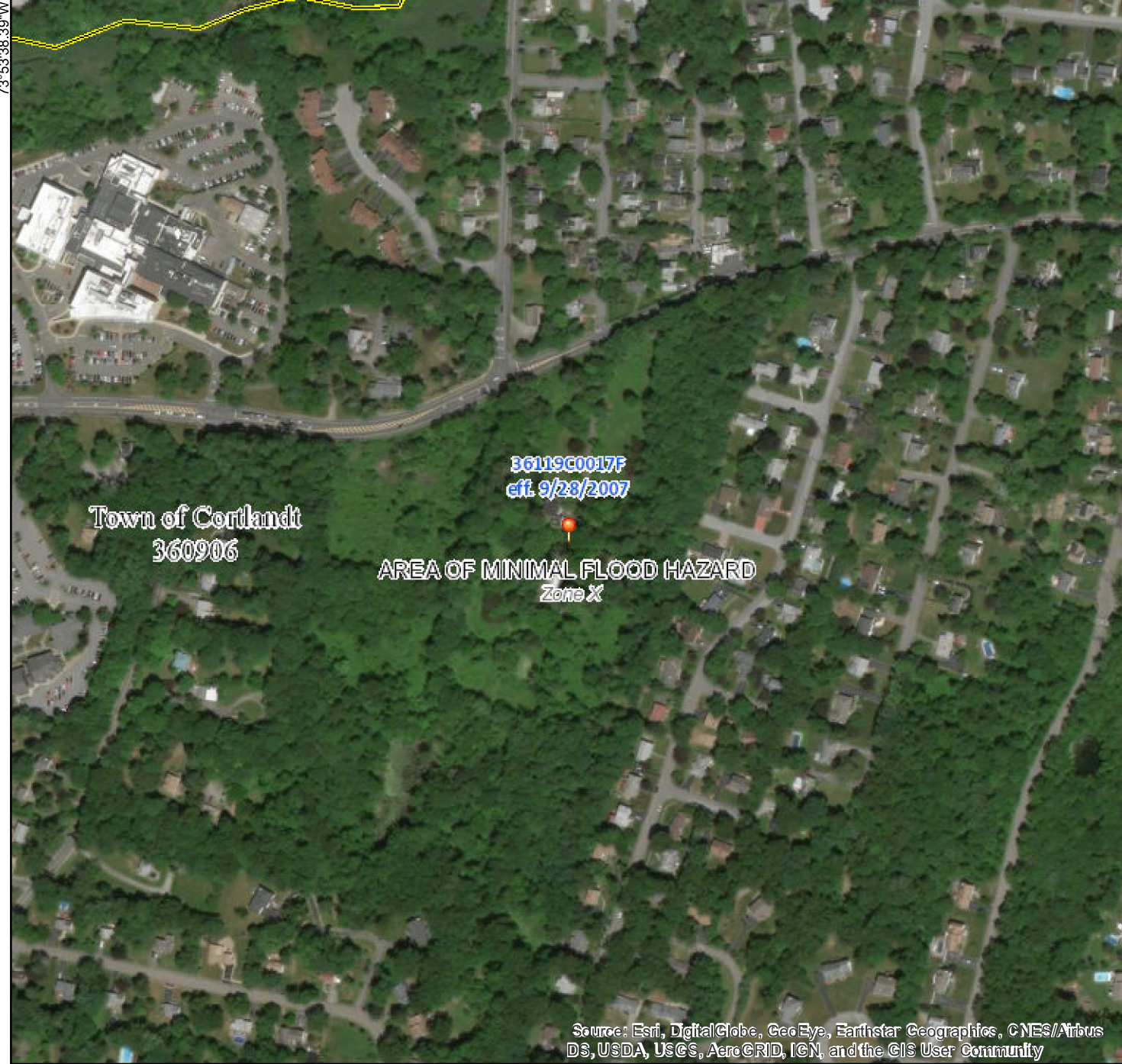


This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/8/2018 at 12:01:12 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: base map 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.

41°17'39.70"N



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 250 500 1,000 1,500 2,000 Feet 1:6,000 41°17'12.66"N

73°53'0.93"W



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Westchester County, New York**

Evergreen Manor



January 9, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

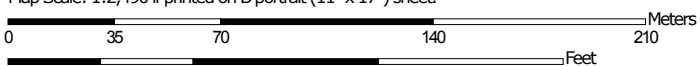
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:2,490 if printed on B portrait (11" x 17") sheet.



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 1:12,000.

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: Westchester County, New York
 Survey Area Data: Version 13, Oct 8, 2017

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	4.0	14.2%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	4.9	17.5%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	2.5	8.7%
LcB	Leicester loam, 3 to 8 percent slopes, stony	7.0	24.7%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	7.0	24.7%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	0.1	0.4%
Ra	Raynham silt loam	1.1	3.8%
RhB	Riverhead loam, 3 to 8 percent slopes	0.9	3.1%
UhC	Urban land-Charlton complex, 8 to 15 percent slopes	0.4	1.5%
UpC	Urban land-Paxton complex, 8 to 15 percent slopes	0.2	0.7%
UwB	Urban land-Woodbridge complex, 3 to 8 percent slopes	0.2	0.7%
Totals for Area of Interest		28.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called

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noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can

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be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Westchester County, New York

ChB—Charlton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wh0n
Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Charlton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton

Percent of map unit: 8 percent

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Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton

Percent of map unit: 5 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Leicester

Percent of map unit: 1 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield

Percent of map unit: 1 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

ChC—Charlton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wh0q
Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Charlton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills

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Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw - 7 to 22 inches: gravelly fine sandy loam

C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Sutton, fine sandy loam

Percent of map unit: 5 percent

Landform: Ground moraines, ridges, hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Paxton

Percent of map unit: 5 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Hydric soil rating: No

Chatfield

Percent of map unit: 3 percent

Landform: Ridges, hills

Landform position (two-dimensional): Summit, backslope, shoulder

Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex

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Across-slope shape: Linear, convex
Hydric soil rating: No

Canton

Percent of map unit: 2 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope, nose slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

ChD—Charlton fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2wh0t
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches

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Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton, fine sandy loam

Percent of map unit: 5 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton

Percent of map unit: 5 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Chatfield

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Nose slope, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Canton

Percent of map unit: 2 percent
Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

LcB—Leicester loam, 3 to 8 percent slopes, stony

Map Unit Setting

National map unit symbol: bd8w
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Leicester, somewhat poorly drained, and similar soils: 50 percent
Leicester, poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Leicester, Somewhat Poorly Drained

Setting

Landform: Hills, till plains, ridges
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy acid till derived mostly from schist and gneiss

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 26 inches: sandy loam
C - 26 to 60 inches: sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 0.1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A/D
Hydric soil rating: No

Description of Leicester, Poorly Drained

Setting

Landform: Ridges, hills, till plains
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy acid till derived mostly from schist and gneiss

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 26 inches: sandy loam
C - 26 to 60 inches: sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 0.1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Sun

Percent of map unit: 7 percent
Landform: Depressions
Hydric soil rating: Yes

Sutton

Percent of map unit: 5 percent
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 3 percent
Hydric soil rating: No

PnC—Paxton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w66y

Elevation: 0 to 1,320 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 15 inches: fine sandy loam

Bw2 - 15 to 26 inches: fine sandy loam

Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

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Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent
Landform: Depressions, drumlins, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

PnD—Paxton fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2w67j
Elevation: 0 to 1,450 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope

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Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 15 inches: fine sandy loam

Bw2 - 15 to 26 inches: fine sandy loam

Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 8 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Ridgebury

Percent of map unit: 1 percent

Landform: Drumlins, ground moraines, drainageways, hills, depressions

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave, linear

Custom Soil Resource Report

Across-slope shape: Concave, linear
Hydric soil rating: Yes

Ra—Raynham silt loam

Map Unit Setting

National map unit symbol: bd99
Elevation: 50 to 500 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Raynham and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raynham

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 32 inches: silt loam
H3 - 32 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

Sun

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Leicester

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed soils, occasionally flooded

Percent of map unit: 2 percent
Hydric soil rating: Yes

RhB—Riverhead loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd9g
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Riverhead and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting

Landform: Deltas, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 25 inches: sandy loam
H3 - 25 to 30 inches: loamy sand
H4 - 30 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent

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Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Pompton

Percent of map unit: 5 percent

Hydric soil rating: No

Charlton

Percent of map unit: 4 percent

Hydric soil rating: No

Hinckley

Percent of map unit: 3 percent

Hydric soil rating: No

Knickerbocker

Percent of map unit: 3 percent

Hydric soil rating: No

UhC—Urban land-Charlton complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: bd7l

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 40 percent

Charlton and similar soils: 35 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ridges, hills, till plains

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Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Acid loamy till derived mainly from schist, gneiss, or granite

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 24 inches: sandy loam

H3 - 24 to 60 inches: sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 7.5 inches)

Minor Components

Chatfield

Percent of map unit: 5 percent

Hydric soil rating: No

Leicester

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: No

Sutton

Percent of map unit: 5 percent

Hydric soil rating: No

Udorthents

Percent of map unit: 5 percent

Hydric soil rating: No

Sun

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Hollis

Percent of map unit: 2 percent

Hydric soil rating: No

UpC—Urban land-Paxton complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w67t
Elevation: 10 to 880 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 40 percent
Paxton and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam

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Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 10 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Woodbridge

Percent of map unit: 5 percent

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Ridgebury

Percent of map unit: 5 percent

Landform: Drumlins, ground moraines, drainageways, hills, depressions

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Hydric soil rating: Yes

Udorthents

Percent of map unit: 5 percent

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

UwB—Urban land-Woodbridge complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w68c

Elevation: 0 to 920 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 145 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent

Woodbridge and similar soils: 25 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 0 inches to manufactured layer

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Description of Woodbridge

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw1 - 7 to 18 inches: fine sandy loam

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Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, drainageways, hills, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Paxton

Percent of map unit: 5 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Udorthents

Percent of map unit: 5 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

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5 APPENDIX E



Department of
Environmental
Conservation

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

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-15-002

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2015

Expiration Date: January 28, 2020

Modification Date:

July 14, 2015 – Correction of typographical error in definition of “New Development”,
Appendix A

November 23, 2016 – Updated to require the use of the New York State Standards and
Specifications for Erosion and Sediment Control, dated November
2016. The use of this standard will be required as of February 1,
2017.

John J. Ferguson
Chief Permit Administrator


Authorized Signature

11.14.16
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’s *State Pollutant Discharge Elimination System (“SPDES”)* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law (“ECL”)*.

This general permit (“permit”) is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent (“NOI”) to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation (“the Department”) regional office (see Appendix G). They are also available on the Department’s website at:

<http://www.dec.ny.gov/>

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 Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They 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.**

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 SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
 FROM CONSTRUCTION ACTIVITIES**

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(Part I)

Part I. 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

Discharges 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

(Part I.B.1)

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

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

- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
- (ii) Control stormwater *discharges* to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;
- (iii) *Minimize* the amount of soil exposed during *construction activity*;
- (iv) *Minimize* the disturbance of *steep slopes*;
- (v) *Minimize* sediment *discharges* from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
- (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover.

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.** *Discharges* from dewatering activities, including *discharges*

(Part I.B.1.c)

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 and other materials present on the site to precipitation and to stormwater.* Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge of pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
- (iii) Prevent the *discharge of pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following *discharges* 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

(Part I.B.1.f)

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

(Part I.C.2.a.ii)

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

(Part I.C.2.b.ii)

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 *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.

c. Sizing Criteria for Redevelopment Activity

(Part I.C.2.c.i)

- (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.

(Part I.C.2.c.iv)

- (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 *discharges* 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 *discharges* 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 *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or

(Part I.D)

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* from firefighting activities; fire hydrant flushings; waters 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 washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated *groundwater* or spring water; uncontaminated *discharges* from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *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:

(Part I.F)

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges from construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.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 *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb one or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb two or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

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.C.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

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

d. Documentation that:

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

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

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

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 NOI form to the Department in order to be authorized to *discharge* under this permit. 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. 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 its 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. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *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.E. (*Change of Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

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.

B. 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) 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.B.2 above

(Part II.B.3)

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. The Department may suspend or deny an *owner’s or operator’s* coverage

(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. 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.B. of this permit.

C. 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-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, 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

(Part II.C.3.a)

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. 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*.
 5. 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

(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-10-001), an *owner or operator* of a *construction activity* with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to *discharge* in accordance with GP-0-15-002, 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-0-15-002.

E. 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. 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.A.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.

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)

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:
 - 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 *qualified inspector*, the Department or other regulatory authority.
5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

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.C.4. of this permit.

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

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

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

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the

(Part III.A.6)

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

(Part III.B.1.d)

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

(Part III.B.1.I)

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

(Part III.B.2.c.iv)

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)

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

(Part IV.C)

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),
- 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

(Part IV.C.2.b)

the *owner or operator* has received authorization in accordance with Part II.C.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.A.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

(Part IV.C.2.e)

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;

(Part IV.C.4.i)

- 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.C.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.A.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.

(Part V.A.2)

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.E. 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.

(Part V.A.5)

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 OF 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.A.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)

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.

(Part VII.E)

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

(Part VII.H.1.a.i)

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

(Part VII.H.2.b)

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

(Part VII.K.1)

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.

(Part VII.N)

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

Definitions

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.

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.

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).

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

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*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

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.

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, 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 required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

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,
- Stream bank restoration projects (does not include the placement of spoil material),
- 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 makes 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 with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

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 sources. 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 sources, 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, 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 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
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), 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 less than five acres and construction activities that include the construction or reconstruction of impervious area

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.

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 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 townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- 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, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- 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
- 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 Where Enhanced Phosphorus Removal Standards Are Required

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

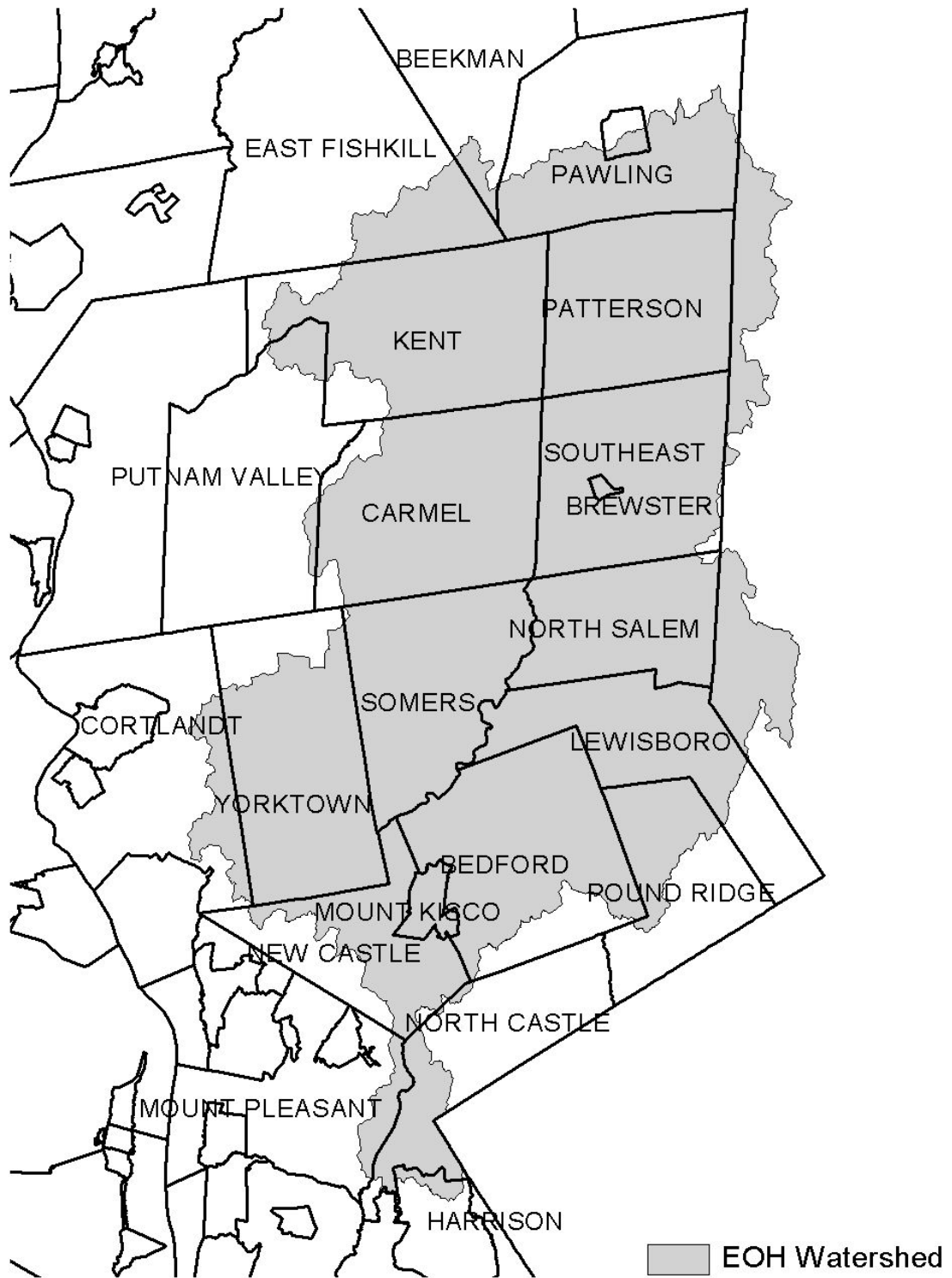


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

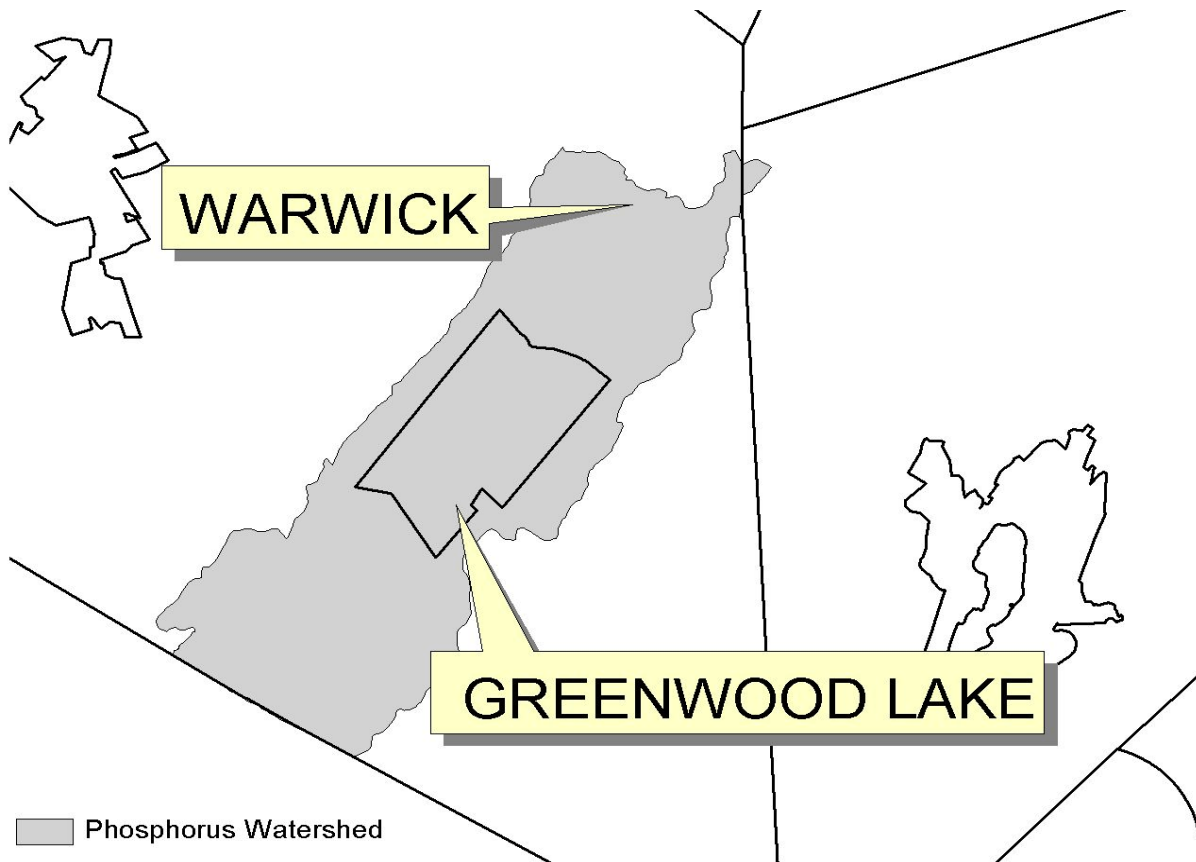


Figure 4 - Oscawana Lake Watershed

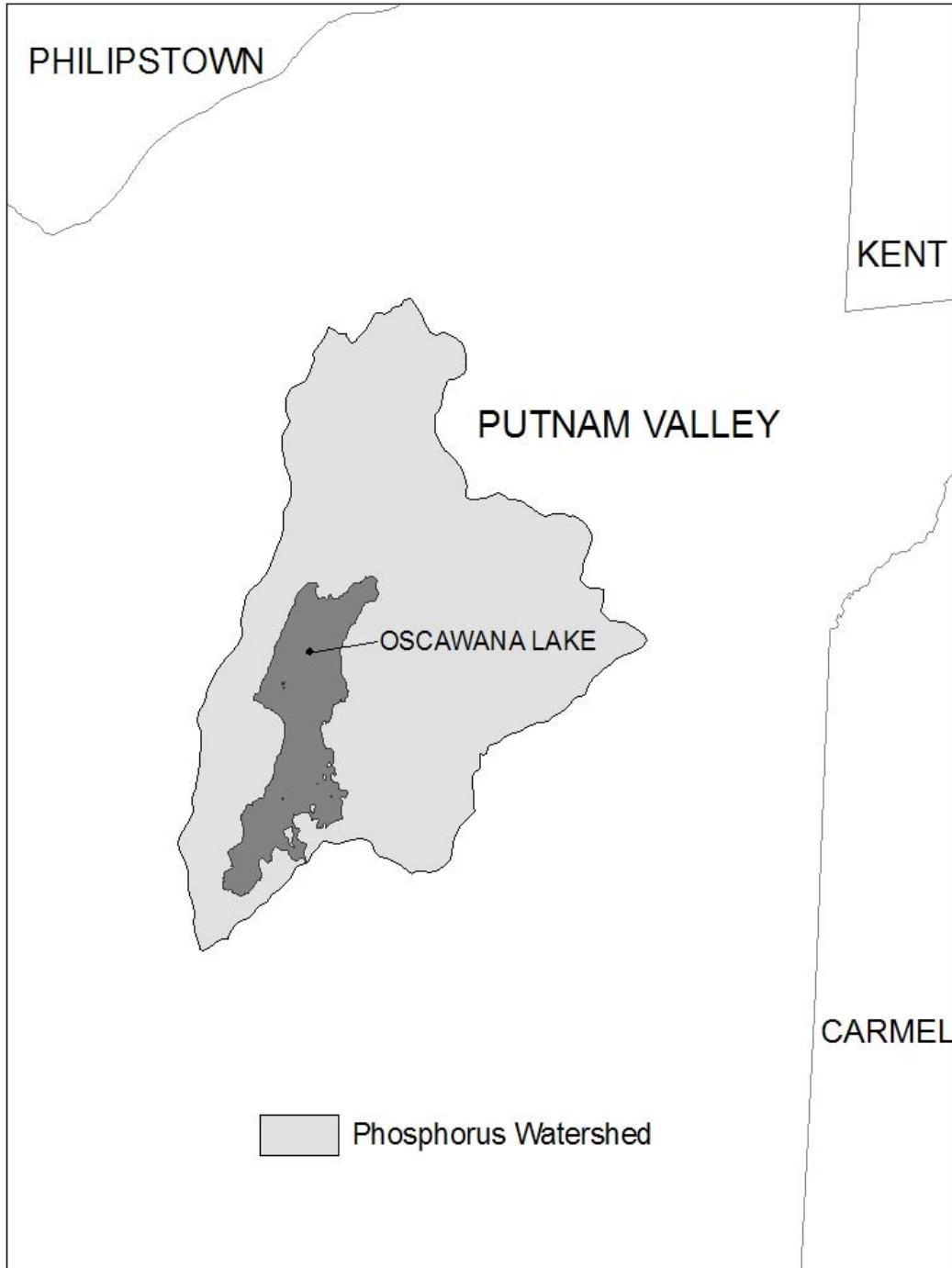
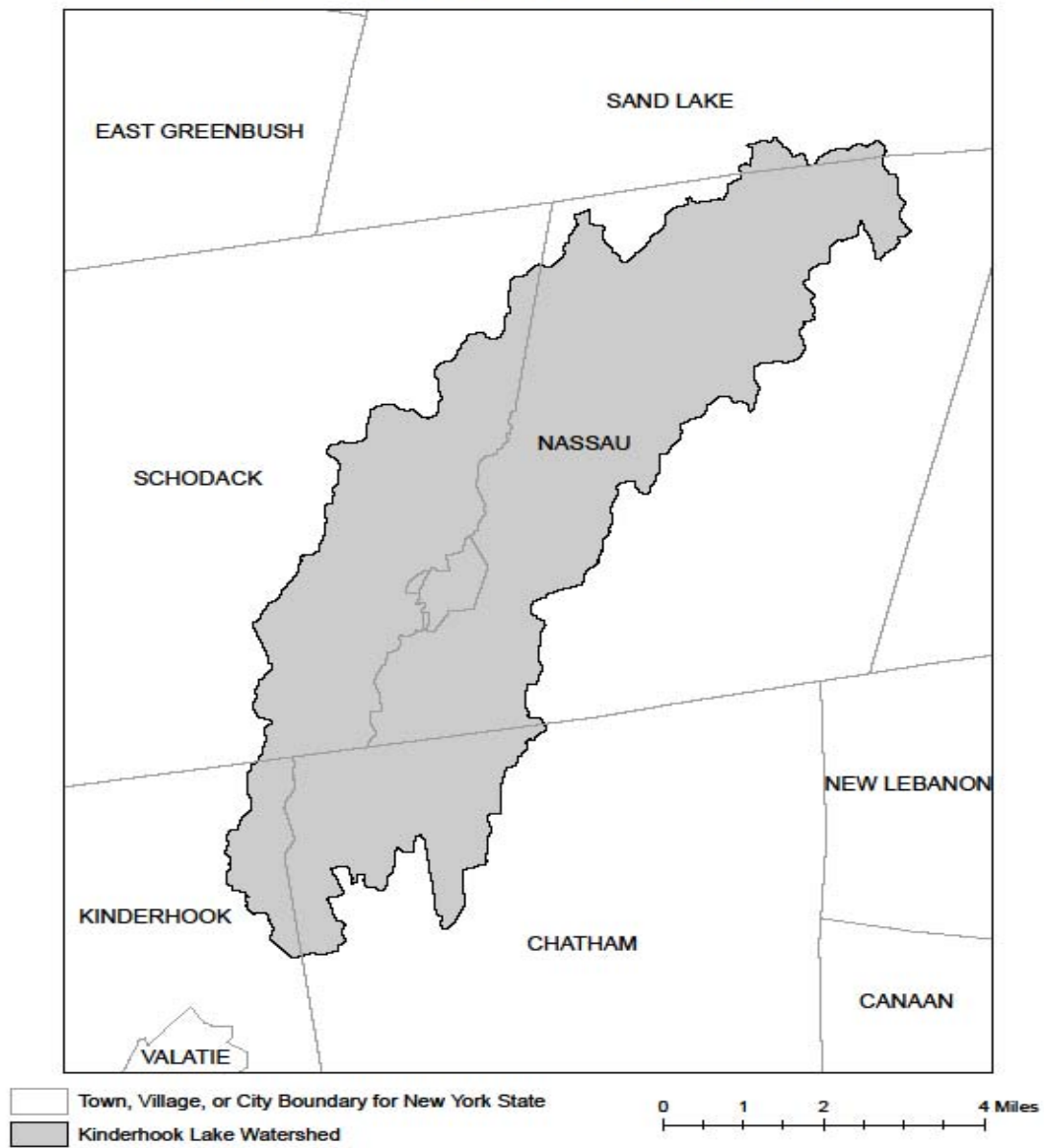


Figure 5: Kinderhook Lake Watershed



APPENDIX D

Watersheds 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

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *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	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linlyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Chautauqua	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wappinger Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	Oneida	Ballou, Nail Creeks
		Onondaga	Ley Creek and tribs
		Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moriches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moriches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinnecock Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L.George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L.George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincolndale
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

Note: The list above identifies those waters from the final New York State "2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated January 2015, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
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 ROAD AVON, 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 AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

6 APPENDIX F



Department of
Environmental
Conservation

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

**MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance
Form**

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

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:

12. MS4 SPDES Permit Identification Number: NYR20A _____

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:

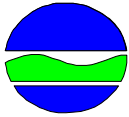
Title/Position:

Signature:

Date:

VI. Additional Information

NOTICE OF INTENT



New York State Department of Environmental Conservation

Division of Water

625 Broadway, 4th Floor

Albany, New York 12233-3505

NYR [] [] [] [] [] [] (For DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT - RETURN THIS FORM TO THE ADDRESS ABOVE OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

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

V S Construction Corp

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Santucci

Owner/Operator Contact Person First Name

Valerio

Owner/Operator Mailing Address

37 Crotton Dam Road

City

Ossining

State

NY

Zip

10562 - [] [] []

Phone (Owner/Operator)

914 - 739 - 7362

Fax (Owner/Operator)

914 - 739 - 7156

Email (Owner/Operator)

vsconstruction@premierathletic.com

FED TAX ID

[] [] - [] [] [] [] [] [] (not required for individuals)

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

SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

- FOREST
- PASTURE/OPEN LAND
- CULTIVATED LAND
- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY
- PARKING LOT
- OTHER

h o t e l - a b a n d o n e d

**Post-Development
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- MUNICIPAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY (water, sewer, gas, etc.)
- PARKING LOT
- CLEARING/GRADING ONLY
- DEMOLITION, NO REDEVELOPMENT
- WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- OTHER

Number of Lots

--	--	--

m i x e d - u s e

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area																				
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	2	8	.	6																			
	1	7	.																				
		0	.	5																			
	1	0	.																				

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

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

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5	0												
5	0												

7. Is this a phased project? Yes No

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

Start Date	-	End Date																				
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0	1	/	1	5	/	2	0	2	0													
0	1	/	1	5	/	2	0	2	5													

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

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

T O W N O F C O R T L A N D T

N E W Y O K R D E P A R T M E N T O F T R A N S P O R T A T I O N

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

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

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

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

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 No

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 No
If No, skip questions 23 and 27-39.

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 No

Post-construction Stormwater Management Practice (SMP) Requirements

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

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

- Preservation of Undisturbed Areas**
- Preservation of Buffers**
- Reduction of Clearing and Grading**
- Locating Development in Less Sensitive Areas**
- Roadway Reduction**
- Sidewalk Reduction**
- Driveway Reduction**
- Cul-de-sac Reduction**
- Building Footprint Reduction**
- Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

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

Total WQv Required

. **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required (#28).

Also, provide in Table 1 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 Tables 1 and 2 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.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area (acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Rain Garden (RR-6)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input checked="" type="radio"/> Stormwater Planter (RR-7)	<input type="text"/>	<input type="text"/>	2	7 7
<input type="radio"/> Rain Barrel/Cistern (RR-8)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Porous Pavement (RR-9)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Green Roof (RR-10)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Infiltration Basin (I-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Dry Well (I-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input checked="" type="radio"/> Underground Infiltration System (I-4)	<input type="text"/>	<input type="text"/>	9	0 2
<input checked="" type="radio"/> Bioretention (F-5)	<input type="text"/>	<input type="text"/>	2	7 2
<input type="radio"/> Dry Swale (O-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Pond (P-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Extended Detention (P-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Multiple Pond System (P-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Pond (P-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Surface Sand Filter (F-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Underground Sand Filter (F-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Perimeter Sand Filter (F-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Organic Filter (F-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Shallow Wetland (W-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Extended Detention Wetland (W-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pond/Wetland System (W-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Pocket Wetland (W-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
<input type="radio"/> Wet Swale (O-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv (=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 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.

WQv Provided

--	--	--	--	--	--	--	--

 .

--	--	--	--	--

 acre-feet

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 - RRv 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).

--	--	--	--

 .

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35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? **Yes** **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so 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	CPv Provided																
<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 1.7									<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 2.3								
acre-feet	acre-feet																

36a. The need to provide channel protection has been waived because:

- Site discharges directly to tidal waters or a fifth order or larger stream.
- 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.

Total Overbank Flood Control Criteria (Qp)

Pre-Development	Post-development																
<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 67.9									<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 58.2								
CFS	CFS																

Total Extreme Flood Control Criteria (Qf)

Pre-Development	Post-development																
<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 170.8									<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> 167.7								
CFS	CFS																

**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:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

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:

7 APPENDIX G

STORMWATER POLLUTION PREVENTION PLAN OBSERVATION REPORT

PROJECT :
LOCATION:

Evergreen Manor
Cortlandt, New York

DATE OF INSPECTION: _____
TIME OF INSPECTION: _____
DATE OF PREVIOUS INSPECTION: _____
WEATHER: _____
SOIL CONDITION: _____
INSPECTOR: _____

OBSERVATION:

Condition of Runoff at Discharge Points:

- _____
- _____
- _____
- _____

Erosion and Sediment Control Practies to be Repaired:

- _____
- _____
- _____
- _____

Erosion and Sediment Control Practies to be Installed:

- _____
- _____
- _____
- _____

General Comments

- _____
- _____
- _____
- _____
- _____
- _____

CERTIFICATION:

The facility is within compliance with the SWPPP and the SPDES General Permit No. GP-0-15-002 once the above recommendations have been incorporated into the plan. 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 personal properly gathered and evaluated the information submitted. Based on my inquiry of the persons or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to section 210.45 of the Penal Law.

Distribution:

signed: _____

Divney Tung Schwalbe, LLP

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White Plains, New York 10601
(914) 428-0010
(914) 428-0017 (fax)