NOTE:

This SWPPP was prepared in accordance with City of Albany Unified Sustainable Development Ordinance(USDO). This SWPPP must be kept on the job site and available for use of contractors & sub-contractors. Certifications by Applicant/Developer and by the Contractors /Subcontractors are included. Sample Inspection Forms are included. A pre-construction meeting is required to be held with a representative with the City of Albany Department of Water prior to the start of construction. Maintenance Plan is attached and includes both temporary and permanent facilities maintenance. This SWPPP, together with all required plans, completed inspection forms and a log of activities including any mitigation of items noted on inspection forms must be kept on the job site and available for inspection by regulatory authorities. An electronic copy of the SWPPP Inspection must be submitted to the Stormwater Management Coordinator.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
& STORM WATER MANAGEMENT REPORT (SWMR)

Northern Rivers Behavioral Health Center

Proposed No. 58 Academy Road

CITY OF ALBANY
COUNTY OF ALBANY
STATE OF NEW YORK

Applicant: Parsons Child & Family Center

PREPARED BY:
HERSHBERG & HERSHBERG

CONSULTING ENGINEERS
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Albany, NY 12203-2908
Phone 518-459-3096
Fax 518-459-5683
Email hhershberg@aol.com

March 27, 2018

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INTRODUCTION

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by Parsons Child & Family Center (hereinafter the "Applicant") as site engineer for the construction of a residential building and outpatient treatment facility at Proposed No. 58 Academy Road.

DESCRIPTION OF EXISTING SITE:

PARCEL AREA

The existing parcel is known as Tax Map Parcel #75.12-2-1.1 listed as No. 60 Academy Road. The applicant proposes to create a new lot from No. 60 Academy Road to be listed as No. 58 Academy Road. The new lot contains 101,128 SF (2.32 acres) of land. The site contains a 7,884 ± SF residential building and 4,162 ± SF of pavement/sidewalk coverage with 3 parking spaces prior to construction. See site photo below.

Fig. No. 1 - Aerial Photo of Existing Site

PARCEL ZONING

The site lies entirely within the MU-CI: Mixed-Use, Campus/Institutional zoning district.

WATERCOURSES

There are no watercourses located within Proposed No. 58 Academy Road.

EXISTING WETLANDS

There are no Federal wetlands (Waters of the United States) or New York State Freshwater Wetlands within the site. A copy of the National Wetland Inventory site data is reproduced below.

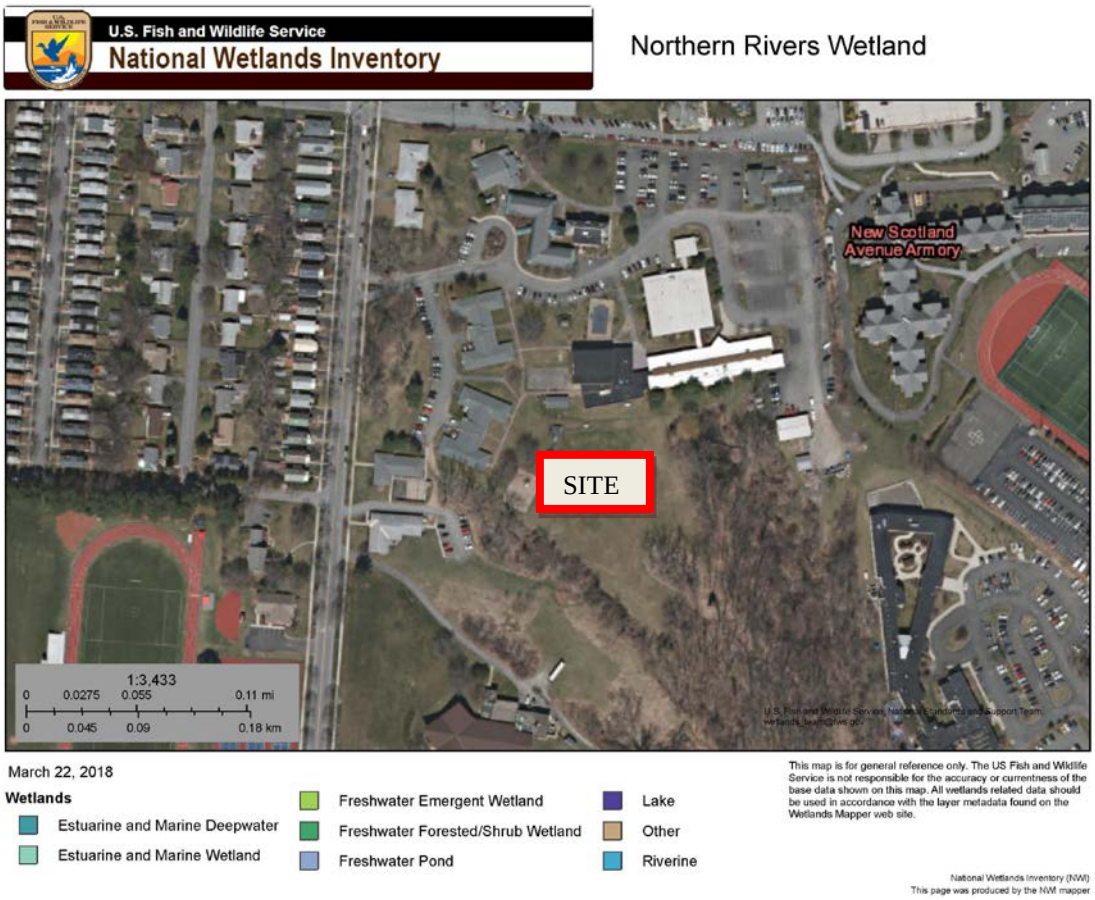


Fig. No. 2 - From National Wetland Inventory

FLOOD PLAIN

The site to be developed lies entirely within Zone X (Area of Minimal Flooding) as shown on Flood Insurance Rate Maps reproduced below:

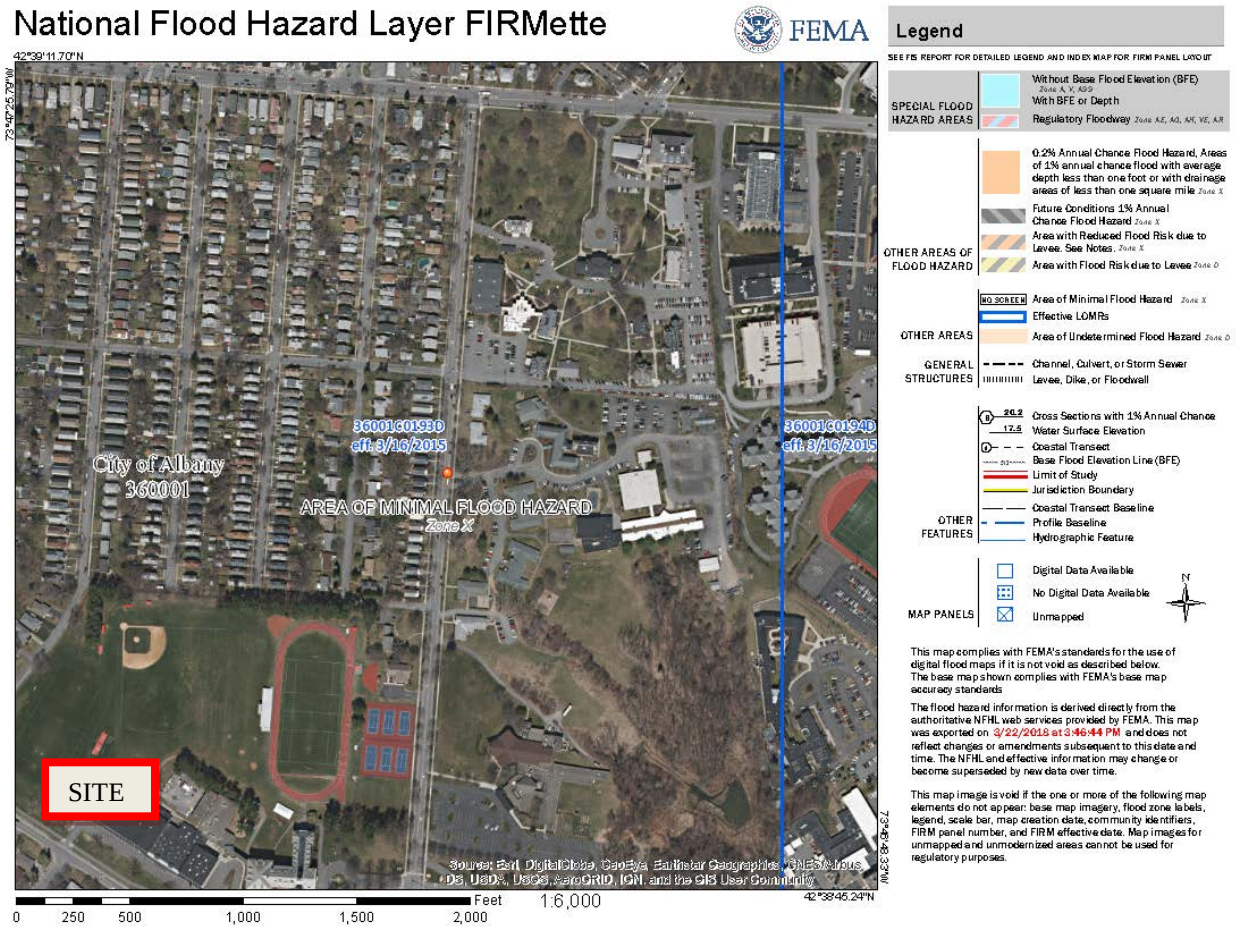


Fig. No. 3 – FEMA Firmette

HISTORIC OR ARCHEOLOGICAL RESOURCES

The entire site has been previously developed. The potential for finding any archaeological properties is very small. The oldest building on 60 Academy Road was built in 1955 and is not listed on any register of historic places.

LISTED, ENDANGERED OR THREATENED SPECIES

NYSDEC Environmental Resource Mapper shows no rare plants or animals or any significant natural community in the area of the project.

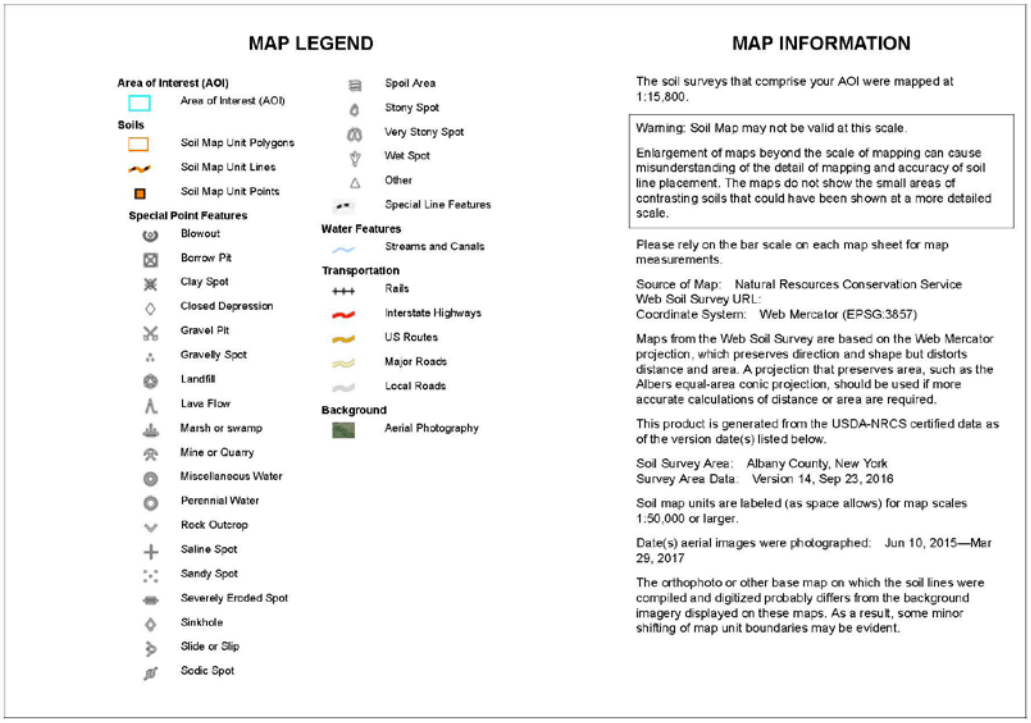
EXISTING USAGE

The site is currently occupied by a residential building owned by Parsons Child and Family Center.

EXISTING SOILS

The project area is located in an area of Udorthents Clayey- Urban Land Complex which is a Hydrologic Class C/D soil which makes it in appropriate for infiltration methods. The site specific geotechnical evaluation was accomplished by Dente Engineering in August, 2017 and is included as Appendix 3.

Fig. No. 4 – Soils Map



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 1:15,800.

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: Albany County, New York
Survey Area Data: Version 14, Sep 23, 2016

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

Date(s) aerial images were photographed: Jun 10, 2015—Mar 29, 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.

Fig. No. 5 - Map Legend

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Uh	Udorthents, clayey-Urban land complex	6.0	100.0%
Totals for Area of Interest		**6.0**	**100.0%**

Fig. No. 6 - Map Unit Legend

EXISTING SITE COVERAGE STATISTICS

The existing site coverage statistics are as shown below.

Description	Area (SF)	Area (Acres)	% of site
Building	7,884	0.18	7.80
Pavement/Sidewalk	4,162	0.10	4.12
Total Impervious	12,046	0.28	11.91
Pervious	89,082	2.05	88.09
Total Site	101,128	2.32	100.0

Fig. No. 7 - Existing Site Coverage Statistics

WATERSHED DESCRIPTION

A portion of the developed site drains from the west to a detention pond located to the east on 60 Academy Road and discharges through a culvert into a stream course. A portion of developed site drains from the west and bypasses the detention pond and discharges directly into the stream course located on 60 Academy Road. The stream course is tributary to a detention basin constructed by the City of Albany in an easement over the property of Congregation Beth Emeth. This basin outflows into the combined sewer located on Hackett Boulevard and is a portion of the Beaver Creek Sewer District.

SITE TOPOGRAPHY

The site slopes from the easterly side of the berm adjacent to the parking lot at an elevation of 221 +/- to the eastern boundary of the site at an elevation of 217 +/-.

DESCRIPTION OF INTENDED SITE DEVELOPMENT AND USE

The applicant proposes to construct a new building for residential and outpatient treatment purposes. The new building will contain 20 bedrooms. The parking lot will be expanded to include parking for 39 cars including 2 handicapped parking spaces.

.

PROPOSED SITE COVERAGE STATISTICS

The proposed site coverage statistics are as shown below.

Description	Area (SF)	Area (Acres)	% of site
Building	26,892	0.62	26.59
Pavement/Sidewalk	31,809	0.73	31.45
Total Impervious	58,701	1.35	58.05
Pervious	42,427	0.97	41.95
Total Site	101,128	2.32	100.0

Fig. No. 8 - Proposed Site Coverage Statistics

The site qualifies as a redevelopment site with an increase in Impervious Cover (IC) as described in Chapter 9 of the New York State Stormwater Management Design Manual.

SELECTED METHOD OF STORAGE:

The design of the SWMR includes the following elements of storage:

An existing detention pond will be expanded appropriately to detain the 10 and 100 year storm so that the outflow is less than the undeveloped conditions.

DESIGN CONSIDERATIONS:

The design of the SWPPP for the subject site considered the following critical factors:

1. Compliance with Section 375-4(G)(11) of the Unified Sustainable Development Ordinance entitled STORMWATER MANAGEMENT

   (a) All development and redevelopment in the City shall comply with the requirements of Article 14 of Chapter 133 (Stormwater Management and Erosion Control) of the City Code, and with Chapter 299 (Sewers) of the City Code.

   (b) Each application for development or redevelopment shall be referred to the Department of Water and Water Supply for a determination of whether the existing sanitary and storm sewer infrastructure is adequate in size, location, connectivity, and construction quality to accommodate expected flows of both sanitary sewer and stormwater from the proposed facility. If the Albany Department of Water and Water Supply determines that the existing sanitary and/or storm sewer infrastructure is not adequate to accommodate expected sanitary and stormwater flows from the proposed development, the City may require that the applicant modify the proposed development and/or install or contribute a proportional share of the overall cost to the installation of required storm and sanitary sewer infrastructure before the proposed development is approved, and the applicant may be required to pay its proportionate share of those costs.

   (c) All development and redevelopment within the City with a proposed area of disturbance greater than or equal to one-quarter (1/4) of an acre in size shall comply with the latest version of the New York State Department of Environmental Conservation

Stormwater Management Design Manual that are written as applicable to properties with areas of disturbance of one (1) acre in size or larger.

(d) The maximum allowable design peak-flow stormwater discharge into the combined sewer system shall be limited to the calculated peak-flow discharge of the **10-year storm for un-development site conditions**, as determined by a Professional Engineer, and to be reviewed and accepted by the Department of Water and Water Supply. (emphasis added)

2. During construction comply with the *New York State Standards and Specifications for Erosion and Sediment Control* dated July, 2016.

3. The permanent system complies with the New York State Stormwater Management Design Manual (hereinafter NYSSWDM), last revised January, 2015 with the exception of the consideration of the 10 year undeveloped site as opposed to the redevelopment standard.

CALCULATED FLOWS FROM THE SITE

The following table is prepared from the comparisons between the Un-developed and the proposed conditions as detailed on the HydroCAD®10.00 contained in Appendix 6.

UNDEVELOPED & POST DEVELOPMENT RUNOFF SUMMARY			
10 YEAR STORM		100 YEAR STORM	
UNDEVELOPED	*POST*	*UNDEVELOPED*	*POST*
4.05	*2.14*	8.41	*3.97*

Fig. No. 9 – Calculated Flows from the site

With the entire site considered as undeveloped for the existing computation, the peak-flow discharge of the post development site is reduced to less than the 10 year storm.

WATER QUALITY VOLUME

Water Quality Volume (WQ_v) is computed based upon the following formula:[1]

$$WQ_v = \frac{(P)\ (R_v)\ (A)}{12}$$

Where WQ_v = water quality volume (acre-feet)

P = 90% rainfall event[2] (1.20 inches)

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

A = site area in acres

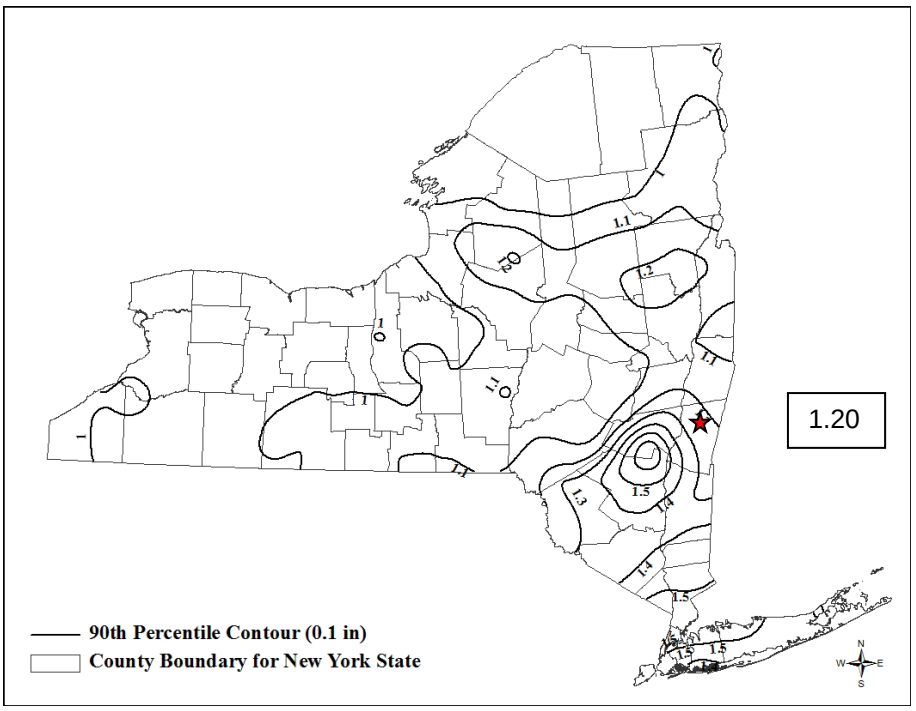


Fig. No. 10 – NYSDEC 90th Percentile Contour

[1] **Ibid.** Table 4-1, Page 4-3

[2] **Ibid.**, Page 4-2, Figure 4.1

The Water Quality Volume (WQ_v) is computed in Appendix #7. The total WQv for the site is 0.158 acre-feet (6,879 cubic feet). During the WQv storm the amount of storm drainage to be treated is 0.07 CFS. Treatment is provided by check dams placed 50 feet apart in the swale that is downstream of the existing detention pond.

CONSTRUCTION SEQUENCING & SEDIMENTATION AND EROSION CONTROL DURING CONSTRUCTION

The construction sequence for this project will be governed by the erosion and sediment control plan. Approximate timing is indicated where applicable in red following steps.

Prior to commencement of any work this SWPPP

- ✓ Assure that copy of SWMR & SWPPP is on the site. ON COMMENCEMENT
- ✓ Establish Qualified Individual who will be performing site inspection. ON COMMENCEMENT
- ✓ SWPPP Inspections must be performed by the qualified professional must be submitted to the MS4 Coordinator. FROM COMMENCEMENT UNTIL FILING THE NOTICE OF TERMINATION.
- ✓ Establish Trained Contractor who will be on site. At least one Trained Contractor must be on site whenever ground disturbing activities are being undertaken. ON COMMENCEMENT
- ✓ Establish contact person for Contractor/Subcontractor. ON COMMENCEMENT
- ✓ **IN CASE OF ANY SPILLS OF MATERIALS ON SITE, EXECUTE SPILL RESPONSE PLAN CONTAINED IN APPENDIX #9**

Construction Sequence

- ✓ Commence work on site. WITHIN 10 DAYS OF PRE-CONSTRUCTION MEETING
- ✓ Install silt fence or other controls as indicated on the plan. PRIOR TO COMMENCEMENT OF ANY GRADING – FENCE TO REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
- ✓ Grade and prepare construction access. PRIOR TO COMMENCEMENT OF ANY GRADING – CONSTRUCTION ACCESS TO REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
- ✓ Commence installation of the temporary sediment trap, interception swale, drop inlet protection, and portion of storm sewer. PRIOR TO BUILDING EXCAVATION.
- ✓ The existing pavement must be kept swept clean to avoid tracking materials onto any streets. CONTINUOUSLY FROM INCEPTION TO COMPLETION OF STABILIZATION OR FILING OF NOTICE OF TERMINATION.
- ✓ Maintain this area clean of debris and verify condition and safety of storage of materials listed below. Requires daily inspection. CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.
- ✓ Any construction materials, chemicals or construction debris must be stored in sealed receptacles, trailers or buildings. Any storage piles of materials meant for installation (i.e., sand, etc.) must be surrounded by sedimentation fence. The list of anticipated materials stored on site during construction is provided below and must be updated if any additional materials are utilized: CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.
    - ❑ Select Fill
    - ❑ Rip-rap
    - ❑ Fencing Materials
    - ❑ Concrete Structures

- Pipes
- Pipe Solvents
- Concrete for building
- Roofing Materials for Building
- Metal Materials for Building
- Building Materials for Building

✓ MSDS sheets must be available on site for all materials used or imported to the site. CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.

✓ Any chemical spills must be contained immediately on site and reported to NYSDEC. CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.

✓ Oil and grease spills from equipment shall be treated immediately. CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.

✓ Commence installation of the temporary sediment trap and interception swale. PRIOR TO GRADING.

✓ Clean interception swale and sediment trap as required. CONTINUOUSLY FROM INSTALLATION UNTIL FILING OF NOTICE OF TERMINATION.

✓ Install building, place pavement and prepare lawns and planters. PRIOR TO FILING OF NOTICE OF TERMINATION.

✓ Clean any downstream structures of any accumulated silt. PRIOR TO FILING OF NOTICE OF TERMINATION.

✓ Fine grade landscape beds. PRIOR TO FILING OF NOTICE OF TERMINATION.

✓ Place landscape materials. PRIOR TO FILING OF NOTICE OF TERMINATION.

✓ Seed and mulch. PRIOR TO FILING OF NOTICE OF TERMINATION.

- ✓ Obtain approval on Notice of Termination from MS4 coordinator after site has achieved >80% grass cover.. PRIOR TO FILING OF NOTICE OF TERMINATION.
- ✓ File NOTICE OF TERMINATION.

HOUSEKEEPING SECTION

During construction any construction materials, chemicals or construction debris must be stored in sealed receptacles, trailers or buildings. Any storage piles of materials meant for installation (i.e., sand, etc.) must be surrounded by sedimentation fence. The list of anticipated materials stored on site during construction is provided below and must be updated if any additional materials are utilized:

- ❑ Select Fill
- ❑ Rip-rap
- ❑ Fencing Materials
- ❑ Concrete Structures
- ❑ Pipes
- ❑ Pipe Solvents
- ❑ Concrete for building
- ❑ Roofing Materials for Building
- ❑ Building Materials for Building

MSDS sheets must be available on site for all materials used or imported to the site.

Any chemical spills must be contained immediately on site and reported to NYSDEC.

IN CASE OF ANY SPILLS OF MATERIALS ON SITE, EXECUTE SPILL RESPONSE PLAN CONTAINED IN APPENDIX #8

Oil and grease spills from equipment shall be treated immediately. Vehicle fueling must take place in designated area. Relocate designated fueling area when required. A concrete truck washout must be provided and used by all trucks washing out concrete. Pit must be maintained and pumped out regularly.

After construction, materials and chemicals must be stored in sealed receptacles or in buildings. Daily inspection by trained individual shall be made by staff to ensure that materials listed below are properly stored. The list of anticipated materials stored on site after occupancy of the building and solar farm is provided below and must be updated if any additional materials are utilized:

- Cleaning Materials for Building

MSDS sheets must be available on site for all materials utilized for used or imported to the site. Any chemical spills must be contained immediately on site and reported to NYSDEC. Oil and grease spills from equipment shall be treated immediately.

DESCRIPTION OF NEED FOR WINTER CONDITION

The construction sequence for this project may require work between November 15th and April 1st of any year when construction is ongoing. Some unstabilized soil areas may exist on November 15th. This Section is issued for use in the event that such conditions exist. The **STANDARD AND SPECIFICATIONS FOR WINTER STABILIZATION** (reproduced below) will apply to this project area. Accommodations for wintertime conditions are addressed below.

STANDARD AND SPECIFICATIONS FOR WINTER STABILIZATION

Definition & Scope

A temporary site specific, enhanced erosion and sediment control plan to manage runoff and sediment at the site during construction activities in the winter months to protect off-site water resources.

Conditions Where Practice Applies

This standard applies to all construction activities involved with ongoing land disturbance and exposure between November 15th to the following April 1st.

Design Criteria

1. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.

2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.

3. A minimum 25 foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.

4. Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5 feet apart, installed on the contour.

5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.

6. Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.

7. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.

8. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.

9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.

10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:

    a. work will resume within 24 hours in the same area and no precipitation is forecast or;

    b. the work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.

11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.

Maintenance

The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the "winter season", **all** bare exposed soil must be stabilized by established vegetation, straw or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

Compliance inspections must be performed and reports filed properly in accordance with the SWPPP for all sites under a winter shutdown.

WINTER CONDITIONS ITEMS TO BE ADDRESSED

1. Identify areas within the site to store snow which is tributary to the temporary sediment control trap. As work progresses this area may move but positive drainage tributary to the temporary sediment control trap must be maintained.

2. Widen stabilized construction access points to a minimum of 15 feet. Where pavement forms a portion of that route, maintain 50 feet of stone pavement meeting the detail as shown on the SWPPP plan. Stockpile a minimum of 25 cubic yard of stone for the purposes of establishing stone access point after snow storms.

3, Where any areas at the street grade or within two feet of the street grade remain disturbed overnight, stabilize those areas using 6” of broken stone.

4. Where equipment or vehicles are traversing the bottom of the excavation, establish paths using 6” of broken stone.

5. At any point on the perimeter where drainage from accumulated snow or ice will drain away from the site protect these areas coir logs or polyethelene coated check dam materials (Filtrexx, Erosion eel or equal).

6. If work is to cease for more than 3 days, stabilize all disturbed soils.

WINTER CONDITIONS SUMMARY:

The following is a summary of the required work if wintertime as presented by the preparer of this report:

1. The temporary system and control measures proposed herein and on the plans comply with the *New York State Standards and Specifications for Erosion and Sediment Control* dated July, 2016.
2. The winter stabilization complies with Standard and Specifications for Winter Stabilization as described *New York State Standards and Specifications for Erosion and Sediment Control* dated July, 2016.

MAINTENANCE PLAN

The maintenance of the detention pond and vegetated swale will be the responsibility of the applicant. Maintenance plans have been developed and are contained in Appendix #4.

SUMMARY:

The following is a summary of the findings of this study as presented by the preparer of this report:

1. The temporary system and control measures proposed herein and on the plans comply with the *New York State Standards and Specifications for Erosion and Sediment Control* dated July, 2016.
2. The permanent system complies with Section 375-4(G)(11) of the Unified Sustainable Development Ordinance entitled STORMWATER MANAGEMENT.

CONCLUSION:

It is the conclusion of the Engineer that the drainage system, as designed, will function adequately and will not adversely affect adjacent or downstream properties.

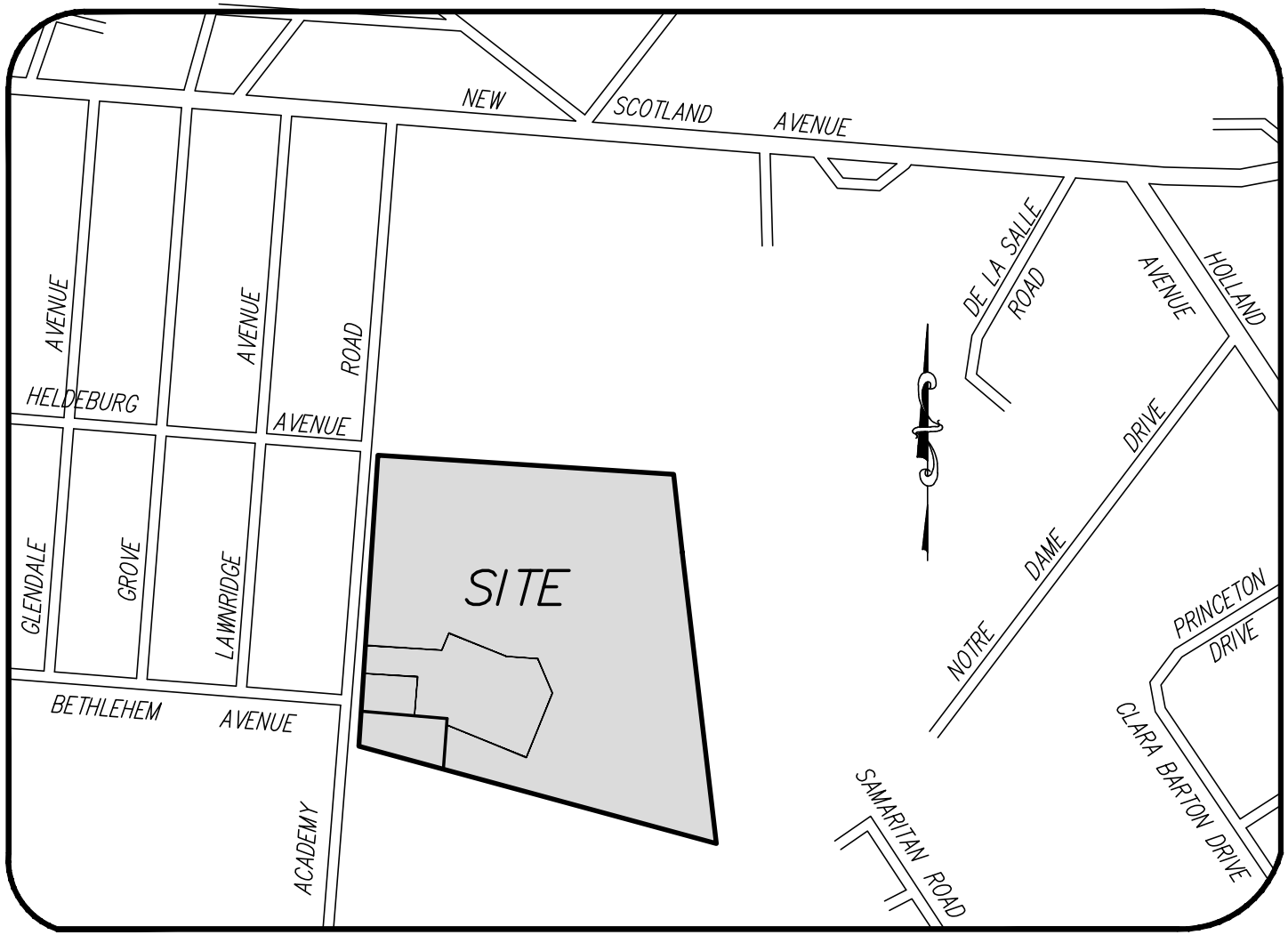
Prepared by: _____

Daniel R. Hershberg, P.E. & L.S.
Lic. No. 044226

File:DRH/SWPPP/SWPPPSWMR20170216.DOC

APPENDIX #1

SITE LOCATION MAP



VICINITY MAP

MAP NOT TO SCALE

APPENDIX #2

TRIBUTARY AREA MAPS

A — DENOTES TRIBUTARY AREA NODE

R1 — DENOTES REACH NODE

DENOTES LIMITS OF TRIBUTARY AREA

DENOTES Tc / Tt

1P — DENOTES STORAGE

100 LF @ 0.23%

475 LF @ 1.41%

100 LF @ 1.5%

250 LF @ 0.4%

steps & landing

BASKETBALL COURT

PAVILION

TAC GYM

NEIL HELLMAN SCHOOL MASONRY BUILDING

underground elec. route unknown

gas route unknown

21" CIP

8" CMP

METAL MAINTENANCE BUILDING

WOODEN GARAGE

No.80 ACADEMY ROAD
TAX MAP No.
75.12-2-1.1
LANDS N/F OF
PARSONS CHILD & FAMILY CENTER

No.82 ACADEMY ROAD
TAX MAP No.
75.12-2-1.2
LANDS N/F OF
PARSONS CHILD & FAMILY CENTER

No.64 ACADEMY ROAD
TAX MAP No.
75.12-2-1.3
LANDS N/F OF
PARSONS CHILD & FAMILY CENTER

No.100 ACADEMY ROAD
TAX MAP No.
75.12-2-2
LANDS N/F OF
CONGREGATION BETH EMETH
L.1369 P.63

EXISTING BOTTOM OF DETENTION POND

EXISTING TOP OF DETENTION POND

DETENTION POND

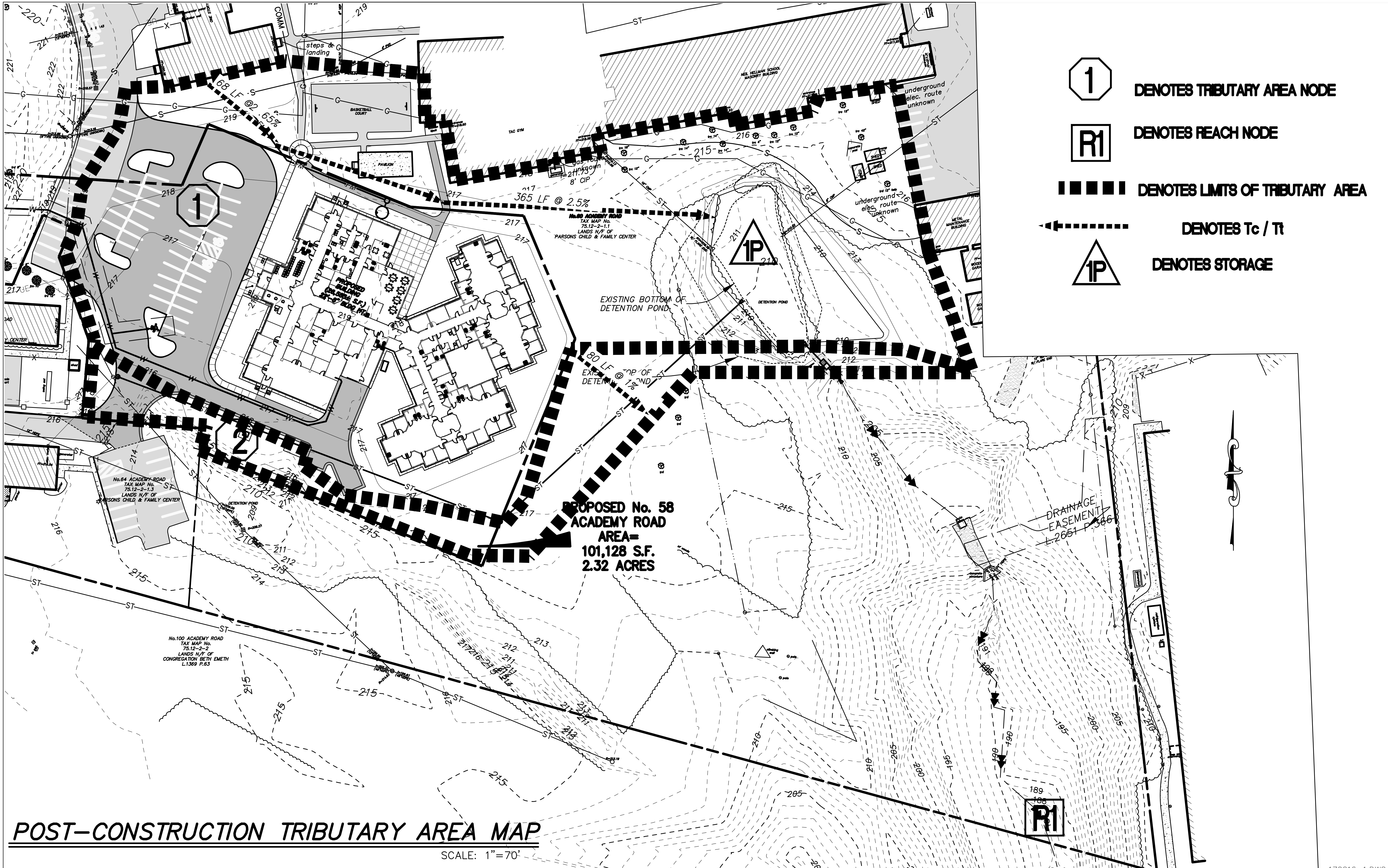
PROPOSED No. 58
ACADEMY ROAD
AREA=
101,128 S.F.
2.32 ACRES

DRAINAGE EASEMENT
L.2651 P.566

UNDEVELOPED TRIBUTARY AREA MAP

SCALE: 1"=70'

170216-1.DWG



POST-CONSTRUCTION TRIBUTARY AREA MAP

SCALE: 1"=70'

APPENDIX #3

Geotechnical Evaluation
August, 2017

GEOTECHNICAL EVALUATION
NORTHERN RIVERS FACILITY
ALBANY, NEW YORK

Dente File No. FDE-17-192

I. INTRODUCTION

This report presents the results of a geotechnical evaluation completed by the Dente Group for the proposed Facility Building in Albany, New York. The evaluation was completed in general accord with Dente proposal number FDE-16-240, which was accepted by John Kellogg of BBL Construction Services of Albany, New York.

In general, our scope of services for this project consisted of the following:

- Review of Geotechnical studies completed by this office at nearby sites,
- Layout and completion of nine test borings,
- Preparation of this report, which summarizes the results of our explorations and presents recommendations to assist in planning for the geotechnical related aspects of the project.

This report and the recommendations contained within it were developed for specific application to the site and construction planned, as we currently understand it. Corrections in our understanding, changes in the structure locations, their grades, loads, etc. should be brought to our attention so that we may evaluate their effect upon the recommendations offered in this report.

It should be understood that this report was prepared, in part, on the basis of a limited field exploration. The borings were advanced at discrete locations and the overburden soils sampled at specific depths. Conditions are only known at the locations and through the depths investigated. Conditions at other locations and depths may be

.

Dente Group, A Terracon Company 594 Broadway Watervliet, NY 12189
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different, and these differences may impact upon the conclusions reached and the recommendations offered. For this reason, we strongly recommend that we be retained to provide site observation services during construction.

This report was prepared for informational purposes only and should not be considered part of the contract documents. It should be made available to interested parties in its entirety only. Should the data contained in this report not be adequate for the contractors' bidding purposes, the contractors may make their own investigations, tests, and analyses for use in bid preparation.

The recommendations offered in this report concerning the control of surface and subsurface waters, moisture or vapor membranes address conventional Geotechnical Engineering aspects only and are not to be construed as recommendations for controlling or providing an environment that would prohibit or control infestations of the structure or its surroundings with mold or other biological agents.

II. SITE AND PROJECT DESCRIPTION

The site is located along the east side Academy Road as depicted on the USGS and Site Plan presented in Appendix A. The proposed building site is generally level and currently a lawn and playground area.

The new building is to be a 1 story slab on grade structure with a plan area of about 26,000sf.

III. SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated through the completion of nine test borings at the approximate locations shown on the plan in Appendix A. The test borings were completed using a standard rotary drill rig equipped with hollow stem augers. As the augers were advanced, the overburden soils were sampled and their relative density determined using split-spoon sampling techniques in general accord with ASTM D1586 procedures. Representative portions of the recovered soil samples were transported to our office for visual classification by a Geotechnical Engineer. Individual subsurface logs were prepared for the borings on this basis and are presented in Appendix B.

The subsurface logs should be reviewed for a description of the conditions encountered at the specific test locations. It should be understood that conditions are only known at the depths and locations sampled. Conditions at other depths and locations may be different.

Subsurface Profile

About nil to between two and four feet of fill material was found at the site in some areas and is composed of relatively loose mixtures of the native site fine sands with little to some silt. The underlying native soils were also composed of fine sand with little to some silt. These soils were initially brown, moist, and of a loose to firm relative density. These soils were mottled in some areas at depths as shallow as two to three feet, indicating seasonal high water. Underlying the granular soils are brown grading to grey varved and laminated silt and clay. These were of a medium/stiff grading to very soft consistency through the depths explored at this site, about 42 feet.

Groundwater Conditions

Groundwater measurements were attempted at completion of drilling and sampling and the results are noted on the individual subsurface logs. It should be understood that these measurements likely do not accurately reflect the actual groundwater depths because adequate time did not pass after completion of drilling for water to enter and achieve a static level in the augers.

Based on the change in the soil coloration, it appears that the static groundwater level was generally present below about 15 feet. Layers of trapped or perched groundwater should be expected to exist seasonally within the surface sand soils at very shallow depths.

IV. GEOTECHNICAL RECOMMENDATIONS

A. General Site Evaluation

Based upon our evaluation of the subsurface conditions disclosed through our investigation, we have developed the following general conclusions and recommendations to assist in planning for design and construction.

1. All existing fills should be removed and replaced beneath new building areas. Consideration can be given to leaving the fills in place beneath pavements provided that the surfaces are proof-rolled and stabilized and the Owner accepts some risk that settlement may occur and require maintenance.
2. The new buildings may be supported using ordinary spread foundations bearing upon the undisturbed native soils or on structural fill placed to establish design grades.
3. Layers of trapped or perched groundwater may be encountered in the site excavations at shallow depths, seasonally. For these reasons, perimeter swales and or underdrains should be provided along and beneath pavements, and foundation drains along the sides of the perimeter building foundations.

4. Site preparation should preferably be done during a seasonal dry period to reduce the adverse impacts of soft/wet subgrades on construction. This will minimize the quantity of undercutting that will be required to remove and replace soft and/or wet soils and establish a stable base for construction. A contingency should be carried in the project budget for undercutting and replacement of soft and/or wet subgrade soils.
5. The on-site soils, in some areas and at certain depths, contain appreciable amounts of silt, and they will be very sensitive to construction activities and even slight variations in moisture content.

The following report sections provide detailed recommendations to assist in planning for design and construction. We should review plans and specifications prior to their release for bidding to allow us to refine our recommendations, if required, and confirm that our recommendations were properly interpreted and applied.

B. Seismic Design Considerations

For seismic design purposes, we evaluated the site conditions in accord with Section 1613 of the International Building Code (2015) adopted by New York State. On this basis, it was determined that Seismic Site Class “D - Stiff Profile” is applicable to this project. Based upon the composition of the site soils, liquefaction should not occur in response to earthquake motions. The site classification and liquefaction analyses is based, in part, upon shear wave velocity testing conducted in similar subsurface profiles in the general project area.

C. Site Preparation and Earthwork

We caution that the subgrade soils, where silt rich, will easily soften and lose strength when subjected to ordinary construction equipment traffic when the soils are wet. The contractor should make efforts to maintain the subgrades in a dry and stable condition. These efforts may include the installation of drainage trenches and shaping of subgrade surfaces to promote runoff away from the construction areas, restricting construction equipment traffic from traveling across the subgrade surface when it is wet, and installing temporary haul and construction roads as appropriate for the specific weather conditions and equipment he intends to employ at the site.

Site preparation in the proposed building pad and pavement areas should commence with the clearing and stripping of topsoil and surficial organics along with the installation of perimeter swales to intercept and divert runoff away from the work areas. All existing fills should be removed from beneath new building pads and extending at least five (5) feet beyond their perimeter. The fills may be left in place

beneath pavements provided that the surfaces are proof-rolled and stabilized as recommended below and the Owner accepts some risk that settlement may occur.

The subgrades must be shaped, crowned, and sloped to promote their drainage at all times and that of the granular structural fills which will overlie them. Prior to placing fills, the building and pavement subgrades should be proof-rolled by completing at least three (3) passes using a steel drum roller with a static weight of at least ten (10) tons. The roller should operate in the static mode unless directed otherwise by a Geotechnical Engineer observing the work. Any subgrade soils that are or become soft and wet should be undercut and stabilized accordingly.

Both suitable site soils and Imported Structural Fill may be used as fill and backfill in building and pavement areas, and they should consist of well graded bank-run sand and gravel with no particles larger than three (3) inches, between 30 and 70 percent passing the No. 4 sieve, and less than 15 percent, by weight, of material finer than a No. 200 mesh sieve. The fill should not contain recycled asphalt, bricks, glass, pyritic shale, or recycled concrete, unless the recycled concrete is from a NYSDOT approved stockpile, and even then only with the owner's specific consent.

The Structural Fill should be placed in uniform loose layers no more than about one (1) foot in thickness where heavy vibratory compaction equipment is used. Smaller lifts should be used where hand operated equipment is required for compaction. Each lift should be compacted to no less than 95 percent of the maximum dry density for the soil which is established by the Modified Proctor Compaction Test, ASTM D1557. In landscape areas, the compaction may be reduced to 90 percent of maximum dry density.

D. Foundations

New building foundations may be seated on the undisturbed native soils or imported Structural Fill placed to increase site grades.

The foundations may be proportioned for a maximum net allowable bearing pressure equal to 3,000 psf. Continuous wall and isolated column foundations should have minimum widths of 18 and 36 inches, respectively, even if this results in a bearing pressure which is less than the maximum allowable. Exterior foundations should bear at least four (4) feet beneath final adjacent exterior grades to afford frost penetration protection. Interior foundations may be seated at a nominal two (2) foot depth below the floor slab if allowed by local codes.

Assuming standard care is used in preparing the bearing grades, we estimate that total foundation settlement should be less than one (1) inch. The settlements should occur within a few days after construction is completed and each load increment is applied.

The installation of a perimeter foundation drain is recommended for the new building.

E. Floor Slabs

Floor slabs should be constructed upon a minimum eight (8) inch thick subbase of Imported Structural Fill and four (4) inch thick base of crushed stone (ASTM Blend 57 material). A vapor retarder (Stego Wrap 15 mil Class A or equivalent) should be installed if floor coverings or moisture sensitive coatings are to be placed on the slab. The vapor retarder should be positioned above or below the stone base in accord with the American Concrete Institute Manual of Concrete Practice Manual Section 302.1R. A modulus of subgrade reaction equal to 150 pounds per cubic inch (pci) at the top of the stone base layer may be assumed for the slab design purposes.

F. Pavements

Two flexible pavement sections are provided for consideration at the site dependent upon anticipated traffic types. A Heavy Section should be used for entrance drives and areas subject to repeated truck traffic, and a Light Section employed for areas subject to automobile parking and occasional delivery and/or service trucks. We should review final grading plans to determine if modifications to the pavement design are needed.

MATERIAL SECTION	THICKNESS (inches)		NYSDOT SPECIFICATION
	Light Section	Heavy Section	
Wearing Course	1	1	403 Type 6
Binder Course	2	3	403 Type 3
Base Course	8	12	304 Type 2
Fabric – Mirafi 500X or Eq.	Yes	Yes	-

Note: The base course thickness may be reduced to 8" where at least 12" of imported Structural Fill is placed beneath the subgrade elevation.

Rigid Portland concrete pavement may be designed to bear upon twelve (12) inches of NYSDOT Type 2 material and the synthetic fabric recommended above, and designed in accord with the recommended procedures of the American Concrete Institute or Portland Cement Association using a composite modulus of subgrade reaction equal to 150 pounds per cubic inch when constructed upon the subgrades prepared as recommended previously.

All base course layers and their subgrades should be drained through sloping and crowning of subgrades to the peripheral swales and/or french drains recommended previously, or to underdrains where appropriate to the final grading plan to assure satisfactory performance. Peripheral and intermediate under drains should also be incorporated, as well as gravel backfilled utilities with sloped subgrades, to assure that drained base courses are provided. All base course materials should be compacted to 95 percent of the material's maximum dry density as established through the Modified Proctor Test, ASTM D-1557.

It should be understood that sidewalks and pavements constructed upon the site's soils will heave as frost seasonally penetrates the subgrades. The magnitude of the seasonal heave will vary with many factors, and result in differential movements. As the frost leaves the ground, the sidewalks and pavements will settle back, but not entirely in all areas, and this may accentuate the differential movements across the pavement areas. Where curbs, walks, and storm drains meet these pavements, these differential heave and settlements may result in undesirable movements, and create trip hazards. To limit the magnitude of heave and the creation of these uneven joints to generally tolerable magnitudes for most winters, a sixteen (16) inch thick crushed stone base course, composed of Blend 57 aggregate, may be placed beneath the sensitive sidewalk, drive, etc. areas. The stone layer must have an underdrain placed within it.

It should also be understood that the recommended pavement sections were not designed to support heavy construction equipment loads which would require an augmented section. The contractor should construct temporary haul and construction roadways and routes about the site as appropriate for the specific weather conditions and construction equipment he intends to employ, and the overburden soil conditions encountered in the specific areas. Construction period traffic should not be routed across the recommended pavement sections unless augmented.

Finally, all pavements require routine maintenance and occasional repairs. Failure to provide maintenance and complete the required repairs in a timely manner will result in a shortened pavement service life.

G. Plan Review and Construction Monitoring

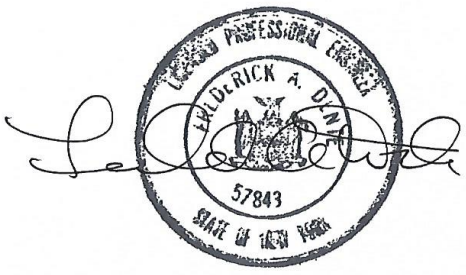
The Dente Group should be retained to review plans and specifications related to site grading, foundations, and earthwork prior to their release for bidding to confirm that the recommendations contained herein were properly interpreted and applied.

It should be understood that the actual subsurface conditions that exist across this site will only be known when the site is excavated. For this reason, we should be retained to monitor earthwork and bearing grade preparations for foundations, floor slabs, and pavements. The presence of the Geotechnical Engineer during the earthwork and foundation construction phases will allow validation of the subsurface conditions assumed to exist for this study and the design recommended in this report. We believe this construction sequence observation and testing should be provided by us as a consultant to the Owner, Architect, or Construction Manager. We do not believe these services should be provided through the general or earthwork contractor.

V. CLOSURE

This report was prepared for specific application to the project site and the construction planned using methods and practices common to Geotechnical Engineering in the area and at the time of its preparation. No other warranty, either expressed or implied, is made. We appreciate the opportunity to be of service. Should questions arise or if we may be of any other service, please contact us at your convenience.

Prepared by,
Dente Group



Fred A. Dente
Principal

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed*. The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

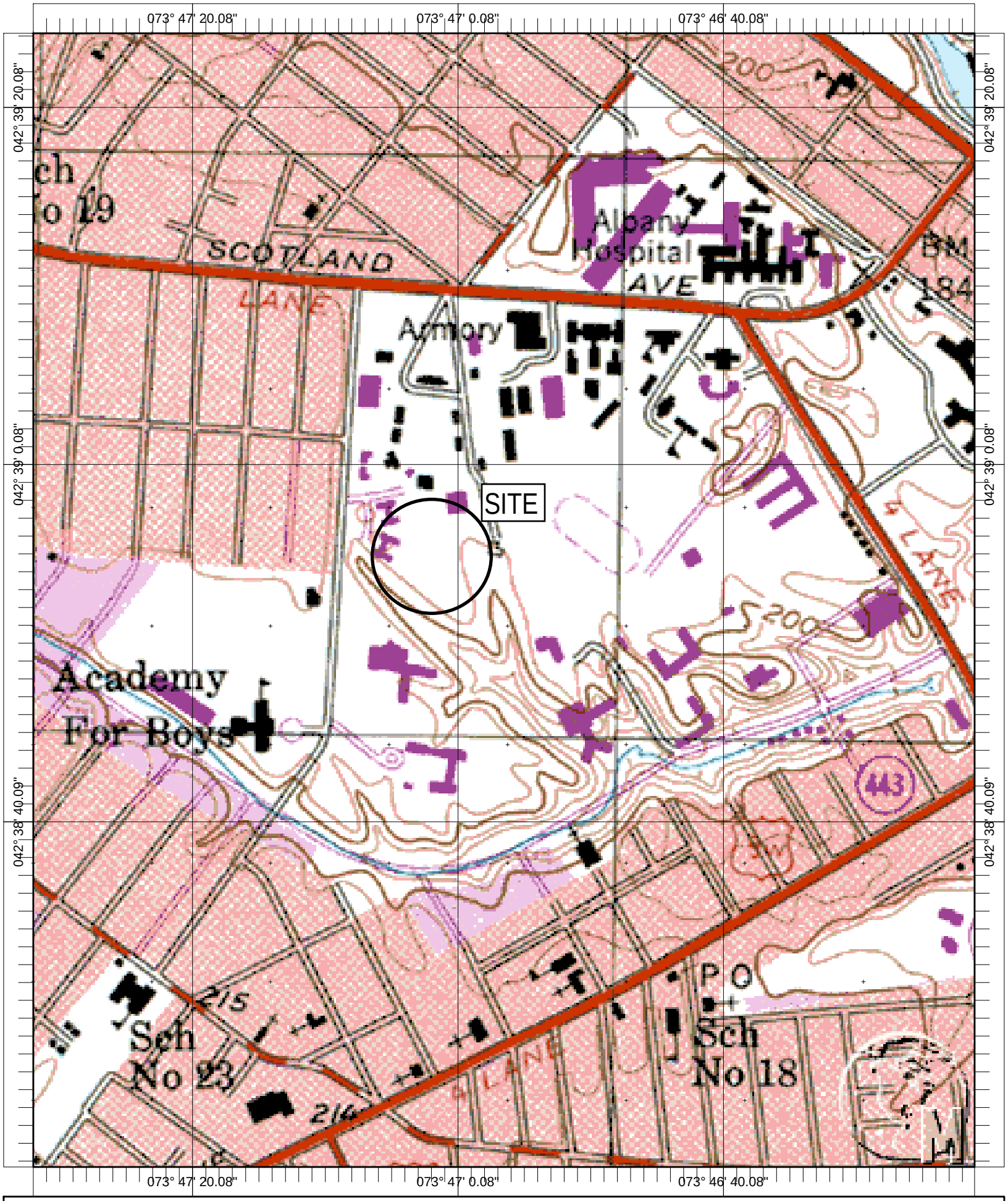
The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org



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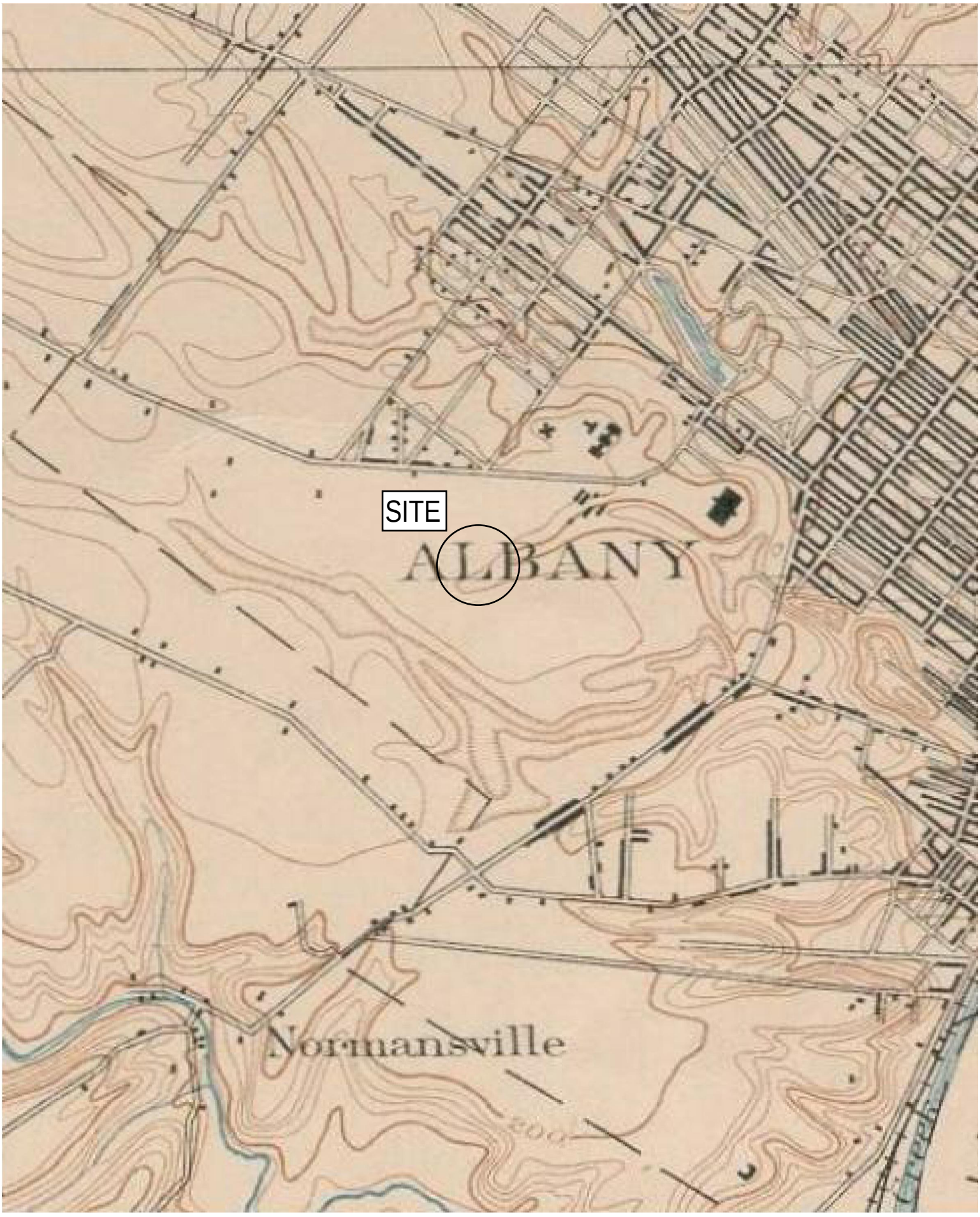
Date: 10/19/117
Scale: 1 inch equals 666 feet

Location: 042° 38' 52.5" N 073° 46' 56.7" W



Northern Rivers, Albany, New York 1893


73° 47' 6" W
73° 46' 55" W
42° 38' 57" N
42° 38' 52" N
599590
599610
599630
599650
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599690
599710
599730
599750
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599790
599810
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Uh
Soil Map may not be valid at this scale.
Map Scale: 1:1,170 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 15 30 60 90
Feet
0 50 100 200 300
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 1:15,800.

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: Albany County, New York
Survey Area Data: Version 14, Sep 23, 2016

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

Date(s) aerial images were photographed: Jun 10, 2015—Mar 29, 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
Uh	Udorthents, clayey-Urban land complex	6.0	100.0%
Totals for Area of Interest		**6.0**	**100.0%**

Albany County, New York

Uh—Udorthents, clayey-Urban land complex

Map Unit Setting

National map unit symbol: 9pj2
Mean annual precipitation: 36 to 41 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 100 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, clayey, and similar soils: 40 percent
Urban land: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Clayey

Typical profile

H1 - 0 to 18 inches: silty clay
H2 - 18 to 72 inches: stratified silt loam to clay

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well 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 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Minor Components

Scio

Percent of map unit: 10 percent
Hydric soil rating: No

Hudson

Percent of map unit: 10 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 7 percent
Hydric soil rating: No

Madalin

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

Data Source Information

Soil Survey Area: Albany County, New York
Survey Area Data: Version 14, Sep 23, 2016

View southwest from the area of B-2

View east from the area of B-1

View northwest from the area of B-7

View northwest from the area of B-4

HERSHBERG & HERSHBERG
Consulting Engineers and Land Surveyors
18 Locust Street
Albany, New York 12203
ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, IS ILLEGAL
REVISIONS
DATE
REMARKS
SITE PLAN FOR
No. 60 ACADEMY ROAD
ALBANY, NEW YORK
FILE: 170216
SCALE: 1"=30'
BY: MLW
CHK: DRH
DATE: 9/14/17
170216-1.DWG
C2
LEGEND
GENERAL NOTES
Soil Boring Locations
FOR MUNICIPAL APPROVAL ONLY-NOT INTENDED FOR CONSTRUCTION
GRAPHIC SCALE
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9

INTERPRETATION OF SUBSURFACE LOGS

The Subsurface Logs present observations and the results of tests performed in the field by the Driller, Technicians, Geologists and Geotechnical Engineers as noted. Soil/Rock Classifications are made visually, unless otherwise noted, on a portion of the materials recovered through the sampling process and may not necessarily be representative of the materials between sampling intervals or locations.

The following defines some of the terms utilized in the preparation of the Subsurface Logs.

SOIL CLASSIFICATIONS

Soil Classifications are visual descriptions on the basis of the Unified Soil Classification ASTM D-2487 and USBR, 1973 with additional comments by weight of constituents by BUHRMASTER. The soil density or consistency is based on the penetration resistance determined by ASTM METHOD D1586. Soil Moisture of the recovered materials is described as DRY, MOIST, WET or SATURATED.

SIZE DESCRIPTION		RELATIVE DENSITY/CONSISTENCY (basis ASTM D1586)			
SOIL TYPE	PARTICLE SIZE	GRANULAR SOIL		COHESIVE SOIL	
BOULDER	> 12	DENSITY	BLOWS/FT.	CONSISTENCY	BLOWS/FT.
COBBLE	3" - 12"	LOOSE	< 10	VERY SOFT	< 3
GRAVEL-COARSE	3" - 3/4"	FIRM	11 - 30	SOFT	4 - 5
GRAVEL - FINE	3/4" - #4	COMPACT	31 - 50	MEDIUM	6 - 15
SAND - COARSE	#4 - #10	VERY COMPACT	50 +	STIFF	16 - 25
SAND - MEDIUM	#10 - #40			HARD	25 +
SAND - FINE	#40 - #200				
SILT/NONPLASTIC	< #200				
CLAY/PLASTIC	< #200				

SOIL STRUCTURE		RELATIVE PROPORTION OF SOIL TYPES	
STRUCTURE	DESCRIPTION	DESCRIPTION	% OF SAMPLE BY WEIGHT
LAYER	6" THICK OR GREATER	AND	35 - 50
SEAM	6" THICK OR LESS	SOME	20 - 35
PARTING	LESS THAN 1/4" THICK	LITTLE	10 - 20
VARVED	UNIFORM HORIZONTAL PARTINGS OR SEAMS	TRACE	LESS THAN 10

Note that the classification of soils or soil like materials is subject to the limitations imposed by the size of the sampler, the size of the sample and its degree of disturbance and moisture.

ROCK CLASSIFICATIONS

Rock Classifications are visual descriptions on the basis of the Driller's, Technician's, Geologist's or Geotechnical Engineer's observations of the coring activity and the recovered samples applying the following classifications.

CLASSIFICATION TERM	DESCRIPTION
VERY HARD	NOT SCRATCHED BY KNIFE
HARD	SCRATCHED WITH DIFFICULTY
MEDIUM HARD	SCRATCHED EASILY
SOFT	SCRATCHED WITH FINGERNAIL
VERY WEATHERED	DISINTEGRATED WITH NUMEROUS SOIL SEAM
WEATHERED	SLIGHT DISINTEGRATION, STAINING, NO SEAMS
SOUND	NO EVIDENCE OF ABOVE
MASSIVE	ROCK LAYER GREATER THAN 36" THICK
THICK BEDDED	ROCK LAYER 12" - 36"
BEDDED	ROCK LAYER 4" - 12"
THIN BEDDED	ROCK LAYER 1" - 4"
LAMINATED	ROCK LAYER LESS THAN 1"
FRACTURES	NATURAL BREAKS AT SOME ANGLE TO BEDS

Core sample recovery is expressed as percent recovered of total sampled. The ROCK QUALITY DESIGNATION (RQD) is the total length of core sample pieces exceeding 4" length divided by the total core sample length for N size cored.

GENERAL

- Soil and Rock classifications are made visually on samples recovered. The presence of Gravel, Cobbles and Boulders will influence sample recovery classification density/consistency determination.
- Groundwater, if encountered, was measured and its depth recorded at the time and under the conditions as noted.
- Topsoil or pavements, if present, were measured and recorded at the time and under the conditions as noted.
- Stratification Lines are approximate boundaries between soil types. These transitions may be gradual or distinct and are approximated.

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-1

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 218.5’
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 3" Topsoil
	1	4	7				**FILL**: Brown Fine SAND, Some Silt, gravel
				4	5	11	Noted (MOIST)
	2	4	3				Grades Brown Fine SAND, Little to trace silt,
				2	1	5	**(MOIST, FIRM TO LOOSE)**
	3	WH	1				Dark Brown Fine SAND, trace silt, roots noted
5'				1	2	2	**(MOIST, LOOSE)**
	4	3	4				
				5	6	9	Brown SILT and CLAY
	5	4	8				Grades Little Gray Mottling
				9	12	17	
10'	6	4	6				Grades Silt Partings
				6	8	12	
15'	7	1	2				Grades Gray
				2	3	4	**(MOIST, MEDIUM & STIFF TO SOFT)**
							End of boring 17.0’ depth.
							Groundwater was not present within auger
20'							casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-2

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 219.0'
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 3" Topsoil
	1	2	2				**POSSIBLE FILL**: Brown Mottled Fine SAND,
				3	3	5	Little Silt (MOIST)
	2	4	5				Grades Brown/Orange Mottled, Some Silt
				6	6	11	**(MOIST, LOOSE TO FIRM)**
	3	3	7				Brown SILT and CLAY
5'				8	11	15	
	4	14	16				
				14	16	30	
10'	5	3	3				Grades Gray
				4	4	7	
15'	6	1	1				Silt Seams noted
				4	4	5	**(MOIST, MEDIUM & HARD TO SOFT)**
							End of boring 17.0' depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-3

PROJECT: Northern Rivers	**DATE**	**START:** 9/27/17	**FINISH:** 9/27/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 219.0'
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 2" Topsoil
	1	2	5				**POSSIBLE FILL**: Brown Fine SAND, Some
				7	7	12	Silt (MOIST)
	2	5	6				Grades Little Gray Mottling
				5	6	11	**(MOIST, FIRM)**
	3	1	4				
5'				8	12	12	Brown SILT and CLAY, Silt Seams noted
	4	14	18				Grades Gray
				20	18	38	
10'	5	3	4				
				4	4	8	
15'	6	1	1				
				1	3	2	**(MOIST, MEDIUM & HARD TO V. SOFT)**
							End of boring 17.0' depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-4

PROJECT: Northern Rivers	**DATE**	**START:** 9/27/17	**FINISH:** 9/27/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 218.0'
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 4" Topsoil
	1	1	2				**POSSIBLE FILL:** Brown/Gray Mottled Fine
				3	4	5	SAND, Little Silt (MOIST)
	2	5	7				Grades Little Gray Mottling, perched water
				8	8	15	Noted **(MOIST, LOOSE AND FIRM)**
	3	3	1				
5'				5	8	6	Brown SILT and CLAY
	4	12	13				Grades Brown/Gray Mottled
				14	18	27	
							Grades Gray
10'	5	1	3				
				3	3	6	
15'	6	1	2				Similar with Silt Seams
				2	3	4	**(MOIST, MEDIUM & HARD TO SOFT)**
							End of boring 17.0' depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-5

PROJECT: Northern Rivers	**DATE**	**START:** 9/27/17	**FINISH:** 9/27/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 218.0’
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	1	1	3				**POSSIBLE FILL**: Brown/Orange Mottled Fine
				3	5	6	SAND, Some Silt
	2	4	5				**(MOIST, LOOSE)**
				3	2	8	Brown SILT and CLAY
	3	4	7				
5'				11	14	18	
	4	16	16				
				18	20	34	
	5	4	6				Grades Gray
				5	6	11	
10'	6	1	2				
				3	3	5	
15'	7	3	5				Silt Seams noted
				4	5	9	
20'	8	1	1				
				1	2	2	
25'	9	WH	1/12”				
				-	1	1	

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-5 contin.

PROJECT: Northern Rivers	**DATE**	**START:** 9/27/17	**FINISH:** 9/27/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 218.0'
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	10	WH	WH				Gray SILT and CLAY
				WH	1	WH	
35'	11	WH	WH				
				2	3	2	
40'	12	WH	WH				**(MOIST, MEDIUM, HARD, STIFF AND**
				2	2	2	**VERY SOFT)**
							End of boring 42.0' depth.
							Groundwater was not present within auger
45'							Casings upon completion of borehole.
50'							
55'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-6

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 217.5’
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 1” Topsoil
	1	2	2				**POSSIBLE FILL:** Brown Fine SAND, Little Silt
				2	2	4	
	2	2	4				**(MOIST, LOOSE)**
				4	4	8	
	3	2	3				Brown SILT and CLAY
5'				7	9	10	
	4	15	16				
				18	17	34	
10'	5	3	4				Grades Gray with Silt Bands
				5	5	9	
15'	6	2	3				
				4	4	7	**(MOIST, MEDIUM AND HARD)**
							End of boring 17.0’ depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-7

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 217.5’
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 3" Topsoil
	1	1	2				**POSSIBLE FILL**: Brown/Gray Mottled Fine
				2	2	4	SAND, Little Silt (MOIST)
	2	3	3				**(MOIST, LOOSE)**
				4	3	7	
	3	3	7				Brown SILT and CLAY, Little Gray Mottling
5'				9	11	16	
	4	14	15				
				20	16	35	
10'	5	3	2				Grades Gray
				4	3	6	
15'	6	2	2				
				3	4	5	**(MOIST, MEDIUM & HARD TO SOFT)**
							End of boring 17.0’ depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-8

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 217.5'
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 2" Topsoil
	1	2	2				**POSSIBLE FILL**: Brown/Gray Mottled Fine
				3	3	5	SAND, Little Silt (MOIST)
	2	3	3				Grades Brown Fine SAND, Little Silt
				4	4	7	**(MOIST, LOOSE)**
	3	3	2				
5'				5	7	7	Brown SILT and CLAY
	4	8	12				
				16	16	28	Grades Gray
10'	5	3	3				
				4	5	7	
15'	6	2	3				
				4	4	7	**(MOIST, MEDIUM AND HARD)**
							End of boring 17.0' depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-9

PROJECT: Northern Rivers	**DATE**	**START:** 9/28/17	**FINISH:** 9/28/17

LOCATION: Albany, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM
CLIENT: BBL Construction Services	D1586 Drilling Methods with Auto Hammer
JOB NUMBER: FDE-17-192	**SURFACE ELEVATION**: +/- 217.5’
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 2” Topsoil
	1	2	2				**POSSIBLE FILL:** Brown/Orange Mottled
				3	3	5	Fine SAND, Some Silt (MOIST)
	2	4	4				Grades Little Gray Mottling, perched water
				6	6	10	Noted **(MOIST, LOOSE)**
	3	1	4				Brown SILT and CLAY
5'				7	9	11	
	4	14	14				Grades Gray with Fine Sand Partings
				16	16	30	
10'	5	2	2				
				3	4	5	
15'	6	2	2				
				3	3	5	**(MOIST, MEDIUM & HARD TO SOFT)**
							End of boring 17.0’ depth.
							Groundwater was not present within auger
20'							Casings upon completion of borehole.
25'							

APPENDIX #4

MAINTENANCE PLAN

Facility Owner (Responsible Party):
Parsons Child and Family Center
60 Academy Road
Albany, NY 12208

The facility owner will be responsible to provide capital funding for this facility. The source will be from infrastructure funds set aside for construction. On an annual basis the responsible party will budget funds to fund the annual operating and maintenance costs. The facility owner must maintain all drainage facilities, stormwater quantity control facilities and all stormwater quality control facilities in accordance with approved plans and with this maintenance manual. Complete inspection form and retain with SWPPP. Inspection may be performed by a Qualified Inspector or a Qualified Professional. The Qualified Inspector is defined in GP #0-15-002 as follows:

> **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.*

The Qualified Professional is defined in GP #0-15-002 as follows:

> **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 in order to prepare a SWPPP that conforms to the Department's technical standard. 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.

The elements of this SWPPP which require inspection include:

Overall Function of Collection System
This inspection includes pipe from catch basins to the detention basin. Also examine the quality of vegetation cover. If vegetation is not in healthy condition report to owner and schedule another site visit after vegetation is restored to required levels. If objectionable odors exist determine source and report to the owner for correction. Determine schedule for repair and make an inspection upon repair.

Vegetation cover within the tributary area. The inspection shall verify that on lawns or other seeded areas that vegetation covers a minimum of 90% of the exposed ground. Other areas such as mulch beds or landscaped areas shall be inspected to verify that proper mulching is in place.

Rip-Rap or broken stone in in overflow and check dams. Inspection shall verify that these areas are to proper grade and that no material has been moved by erosive impact of water.

Concrete structures. Inspection shall verify that structures and their metal frames & grates or metal covers are in good condition. Structures shall be opened to verify that structures are clean.

Housekeeping Section – This section describes items requiring regular checking and should be conducted on a daily basis.

Daily inspection.

Debris cleanup – Remove and dispose of all debris encountered on roadway, near outfalls or in area adjacent to public right-of-way.

Materials storage – Verify that all materials identified in the Housekeeping Section have been properly stored.

Oil & Grease – Any visible oil and grease shall be treated with proper materials to capture residue. Remove any materials from the site. If possible, determine cause of accumulation of oil & grease and address these.

Monthly inspection or inspection after every significant rainfall (0.5 inches in 24 hours) shall determine whether the following benchmarks are reached in which case appropriate action shall be taken.

Condition of vegetation – Vegetation within the detention basin and in the dry swale basin should be examined to determine the condition. Other areas with seeded lawns should be maintained in accordance with good cultural practices. Mow and remove clippings if required. Dead or diseased plant material shall be replaced.

Annual inspection shall determine whether the following benchmarks are reached in which case appropriate action shall be taken:

Detention Pond and Vegetated Swale

Operation, Maintenance and Management Inspection Checklist (Complete in 3 Pages)

Project: Northern Rivers Behavioral Health Center
Location: 58 Academy Road
City of Albany, Albany County, NY
Site Status: _____
Date: _____
Time: _____
Inspector: _____

MAINTENANCE ITEM	SATISFACTORY(S)/ UNSATISFACTORY(U)	COMMENTS

1. Cleanout (Monthly or after any significant storm event)

Contributing areas clean of debris ☐ **(S)** ☐ **(U)**

2. Oil and Grease (Monthly)

Inspect water for evidence of oil & grease ☐ **(S)** ☐ **(U)**

Activities in drainage area minimize oil ☐ **(S)** ☐ **(U)**
and grease entry

3. Vegetation & Check Dams Control (Monthly)

Contributing drainage area stabilized ☐ **(S)** ☐ **(U)**

No evidence of erosion ☐ **(S)** ☐ **(U)**

Area mowed and clipping removed ☐ **(S)** ☐ **(U)**

Check Dams in place and functioning ☐ **(S)** ☐ **(U)**

MAINTENANCE ITEM	SATISFACTORY(S)/ UNSATISFACTORY(U)	COMMENTS

4. Structural Components (Annual)

No evidence of structural deterioration ☐ **(S)** ☐ **(U)**

All grates are in good condition ☐ **(S)** ☐ **(U)**

No evidence of spalling or cracking of structural parts ☐ **(S)** ☐ **(U)**

No evidence of damage to practice signs ☐ **(S)** ☐ **(U)**

5. Outlet Spillway (Annual)

Good condition, no need for repairs ☐ **(S)** ☐ **(U)**

No evidence of erosion ☐ **(S)** ☐ **(U)**

6. Overall Function of Facility (Annual)

No replacement of pipes or catch Basins required ☐ **(S)** ☐ **(U)**

Evidence of flow bypassing facility ☐ **(S)** ☐ **(U)**

No noticeable odors outside of facility ☐ **(S)** ☐ **(U)**

Check vegetation Condition ☐ **(S)** ☐ **(U)**

7. Winter Conditions and Transition Periods (Daily)

Follow winter conditions for Construction between November 15th and April 1st ☐ **(S)** ☐ **(U)**

After April 1st during spring thaw, If ground remains unstabilized Extend winter conditions ☐ **(S)** ☐ **(U)**

Prior to November 15th, if freezing occurs and ground remains unstabilized Extend winter conditions ☐ **(S)** ☐ **(U)**

Comments:

Actions to be Taken:

APPENDIX #5

STORMWATER MANAGEMENT SYSTEM MAINTENANCE AGREEMENT

STORMWATER MANAGEMENT SYSTEM MAINTENANCE AGREEMENT
Northern Rivers Behavioral Heath Center

THIS AGREEMENT ("Agreement") is made and entered into on the ___ day of , 2018, by and between Parsons Child and Family Center,, with an address at 60 Academy Road, Albany, NY 12208 (hereinafter referred to as the "Facility Owner"), and

CITY OF ALBANY, a municipal corporation with an address at 24 Eagle Street, Albany, New York 12207 (hereinafter referred to as the "City").

WITNESSETH:

WHEREAS, the Facility Owner is the owner of the subject parcel of land in the City of Albany, County of Albany and State of New York as more particularly located at 58 Academy Road, Albany New York.

WHEREAS, the City and the Facility Owner desire that the stormwater management system be built in accordance with the approved project documents and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components; and

WHEREAS, the City has requested this legally binding and enforceable maintenance agreement from the Facility Owner; and

WHEREAS, the Facility Owner is representing the following design documents, with their City approved revisions, as containing all necessary information to construct, operate and maintain the stormwater management system for the lifetime of the facility:

a. Plan set submitted to the City representing a stormwater management system including stormwater collection, conveyance and storage using structures designed and specified by Hershberg & Hershberg, Consulting Engineers, sealed by Daniel R. Hershberg, P.E., as the Engineer of Record. The plan sheets showing features associated with the stormwater management system are listed below.

Sheet#	Date	Drawing Title
C-1 Existing Conditions Plan	9/4/17, Last Revised 2/23/18	Existing Conditions Plan. Northern Rivers Behavioral Health Center
C-2 Site Demolition Plan	9/4/17, Last Revised 2/23/18	Site Demolition Plan. Northern Rivers Behavioral Health Center
C-3 Site Plan	9/4/17, Last Revised 2/23/18	Site Plan. Northern Rivers Behavioral Health Center
C-4 Utility Plan	2/27/18, Last Revised 2/23/18	Utility Plan Northern Rivers Behavioral Health Center
C-5 Utility Profiles	2/27/18, Last Revised 2/23/18	Utility Profiles Northern Rivers Behavioral Health Center
C-6 Erosion and Sediment Control Plan	2/27/18, Last Revised 2/23/18	Erosion and Sediment Control Plan. Northern Rivers Behavioral Health Center
C-7 Landscaping Plan	2/27/18, Last Revised 2/23/18	Lighting Plan. Northern Rivers Behavioral Health Center
C-8 Lighting Plan	2/27/18, Last Revised 2/23/18	Landscaping Plan. Northern Rivers Behavioral Health Center
C-9 Details	2/27/18, Last Revised 2/23/18	Details. Northern Rivers Behavioral Health Center
C-10 Details	2/27/18, Last Revised 2/23/18	Details Northern Rivers Behavioral Health Center

b. *STORM WATER POLLUTION PREVENTION PLAN (SWPPP) & STORM WATER MANAGEMENT REPORT (SWMR)*, Northern Rivers Behavioral Health Center prepared by Hershberg & Hershberg, Consulting Engineers and Land Surveyors , March 22,2018

IN CONSIDERATION THEREOF, the parties agree as follow:

1. The Facility Owner shall be responsible for maintaining the storm water facility in a manner to prevent silt from becoming tributary to the City's storm water drainage system.

2. Operation and maintenance, including inspection and cleaning of the full storm water drainage system, shall be the responsibility of the Facility Owner.

3. In the event the Facility Owner fails to maintain the system in a manner to control storm water the City may order the system cleaned and bill the Facility Owner the full cost of this work at labor cost (direct labor plus 50% salary burden) and materials (at cost) if work is performed by the Department of Water & Water Supply; or the cost of a subcontractor plus 10% of the subcontractor's bill if the Department of Water & Water Supply obtains a subcontractor to perform the work. Invoices are payable to the Department of Water & Water Supply within ten (10) business days from the date of invoice. In the event payment for costs is not received within said ten (10) day period, the Department of Water & Water Supply shall have the right to file a lien in the amount of the invoice, together with reasonable costs of collection incurred in connection therewith, against the property of the Facility Owner.

4. The City has the right to access the premises for periodic inspections and to perform any maintenance of the stormwater system.

5. The Facility Owner shall disclose this Agreement to any successor or assignees in interest.

6. This Agreement is binding on the Facility Owner and any successor or assignees in interest hereof.

7. Facility Owner agrees to defend, indemnify, and save harmless the CITY and its officers, employees and agents, from and against all claims, actions, causes of action, injuries, damages, losses, liabilities, and expenses (including, without limitation, reasonable attorney's fees and court costs) arising out of, or in consequence of, any negligent or intentional act or omission of Facility Owner to the extent of its or their responsibility for such claims, actions, causes of action, injuries, damages, losses, liabilities, and expenses. The provisions of this Article shall survive any termination or expiration of this Agreement.

[Signatures on next page]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed by their duly authorized officers as of the day and year first above written.

CITY OF ALBANY, NEW ORK

BY:_____
KATHY M. SHEEHAN
MAYOR, CITY OF ALBANY

PARSONS FAMILY AND CHILD CENTER

BY_____-
AUDREY LAFRENIER
PARSONS FAMILY AND CHILD CENTER

STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

On the _ day of_____ , 201_, before me the undersigned, a Notary Public in and for said State, personally appeared _____ , personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

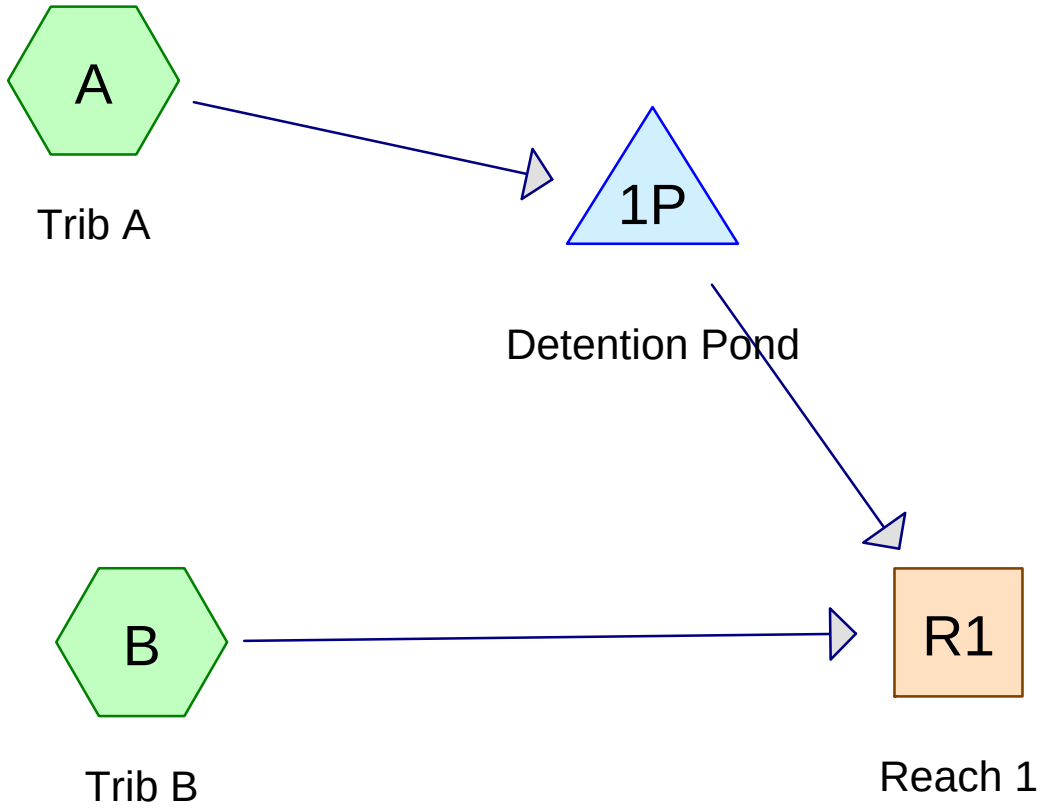
STATE OF NEW YORK)
) ss.:
COUNTY OF ALBANY)

On the _ day of_____ , 201_, before me the undersigned, a Notary Public in and for said State, personally appeared _____ , personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

APPENDIX #6

HydroCAD 10.0 CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 170216-pre
Prepared by Hershberg & Hershberg, Printed 3/21/2018

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.127	74	>75% Grass cover, Good, HSG C (A, B)
4.127	**74**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
4.127	HSG C	A, B
0.000	HSG D	
0.000	Other	
4.127		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	4.127	0.000	0.000	4.127	>75% Grass cover, Good	A, B
0.000	**0.000**	**4.127**	**0.000**	**0.000**	**4.127**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment A: Trib A Runoff Area=104,413 sf 0.00% Impervious Runoff Depth=1.97"
Flow Length=525' Tc=29.8 min CN=74 Runoff=3.98 cfs 0.394 af

Subcatchment B: Trib B Runoff Area=75,356 sf 0.00% Impervious Runoff Depth=1.97"
Flow Length=350' Tc=16.6 min CN=74 Runoff=4.06 cfs 0.284 af

Reach R1: Reach 1 Avg. Flow Depth=0.33' Max Vel=1.95 fps Inflow=4.40 cfs 0.678 af
n=0.060 L=475.0' S=0.0476 '/' Capacity=471.23 cfs Outflow=4.05 cfs 0.678 af

Pond 1P: Detention Pond Peak Elev=211.42' Storage=7,572 cf Inflow=3.98 cfs 0.394 af
Outflow=0.56 cfs 0.394 af

Total Runoff Area = 4.127 ac Runoff Volume = 0.678 af Average Runoff Depth = 1.97"
100.00% Pervious = 4.127 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A: Trib A

This subcatchment reproduces the runoff calculation from Sample Job #1 in the TR-20 manual.

Since TR-20 has no CN or Tc calculation procedures, these values have been entered directly, rather than using HydroCAD's built-in CN lookup table and Tc calculation procedures.

The resulting peak flow is approximately 4% higher than the published TR-20 value of 2097 CFS. This difference is due to the more recent polynomial-based rainfall distributions used in HydroCAD.

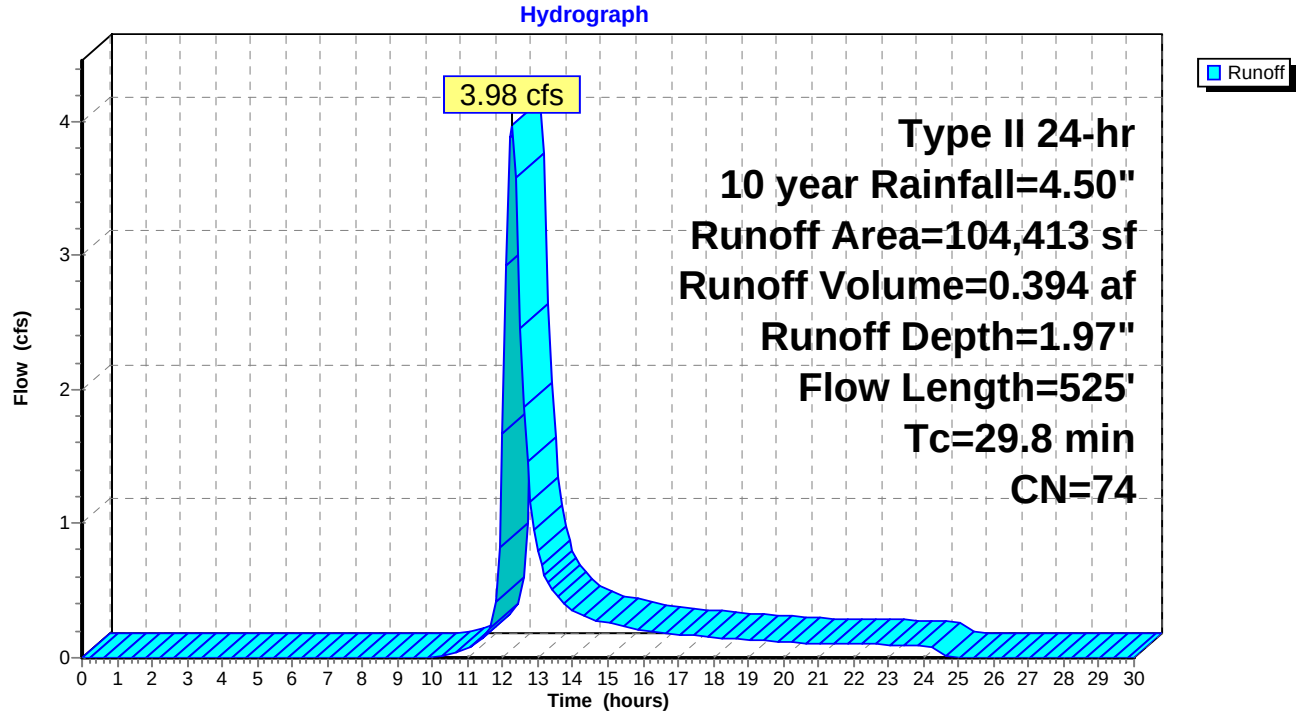
Runoff = 3.98 cfs @ 12.25 hrs, Volume= 0.394 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 10 year Rainfall=4.50"

Area (sf)	CN	Description
104,413	74	>75% Grass cover, Good, HSG C
104,413		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.8	100	0.0023	0.06		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.60"
4.0	425	0.0141	1.78		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
29.8	525	Total			

Subcatchment A: Trib A



Summary for Subcatchment B: Trib B

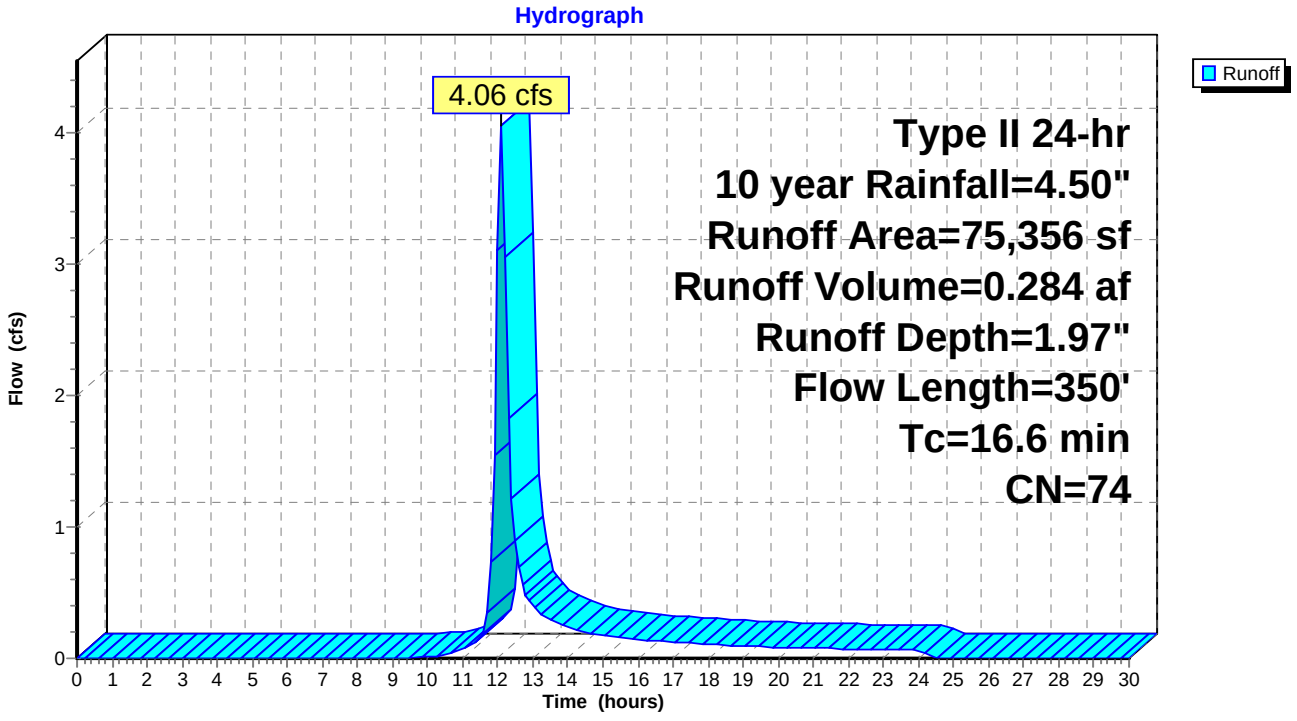
Runoff = 4.06 cfs @ 12.10 hrs, Volume= 0.284 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 10 year Rainfall=4.50"

Area (sf)	CN	Description
75,356	74	>75% Grass cover, Good, HSG C
75,356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0150	0.14		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.60"
4.4	250	0.0040	0.95		**Shallow Concentrated Flow, Grass** Grassed Waterway Kv= 15.0 fps
16.6	350	Total			

Subcatchment B: Trib B



Summary for Reach R1: Reach 1

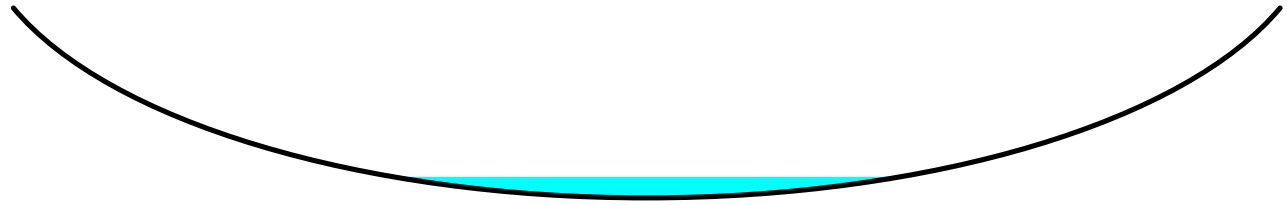
Inflow Area = 4.127 ac, 0.00% Impervious, Inflow Depth > 1.97" for 10 year event
Inflow = 4.40 cfs @ 12.10 hrs, Volume= 0.678 af
Outflow = 4.05 cfs @ 12.15 hrs, Volume= 0.678 af, Atten= 8%, Lag= 3.1 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.95 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 9.6 min

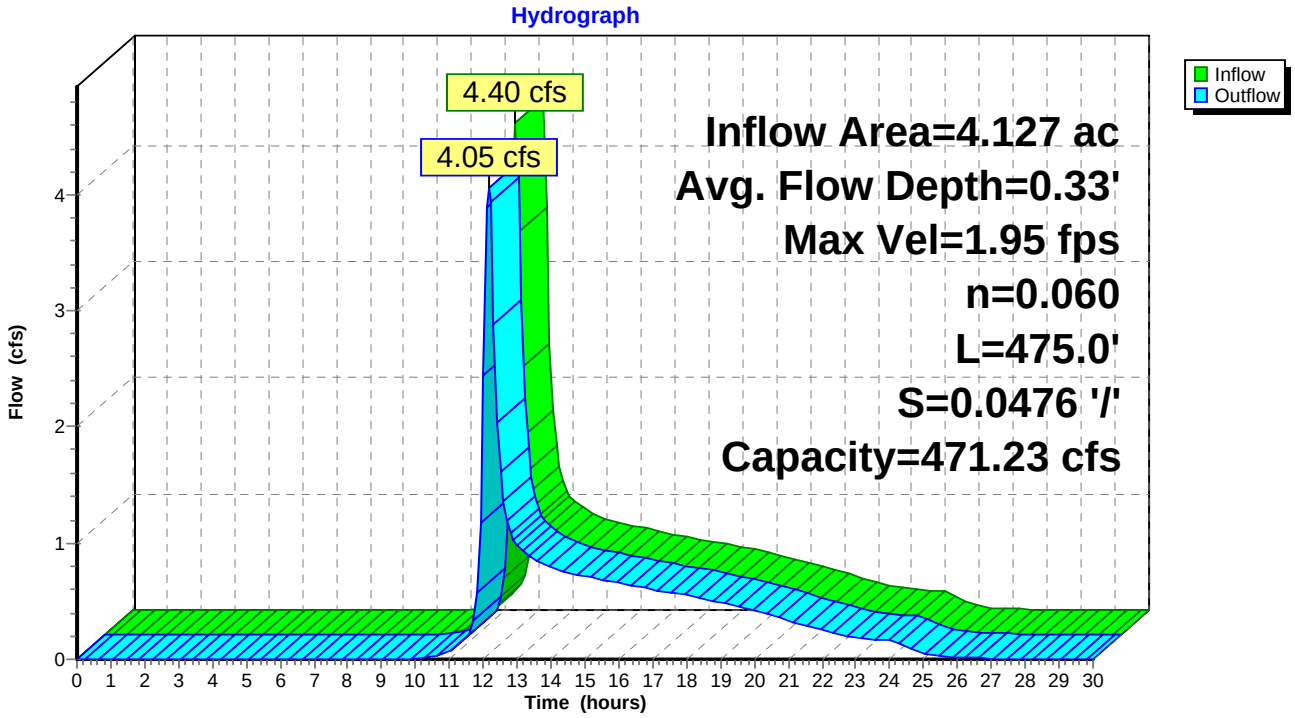
Peak Storage= 977 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 3.00' Flow Area= 56.0 sf, Capacity= 471.23 cfs

28.00' x 3.00' deep Parabolic Channel, n= 0.060
Length= 475.0' Slope= 0.0476 '/'
Inlet Invert= 209.33', Outlet Invert= 186.70'

‡



Reach R1: Reach 1



Summary for Pond 1P: Detention Pond

Inflow Area = 2.397 ac, 0.00% Impervious, Inflow Depth = 1.97" for 10 year event
Inflow = 3.98 cfs @ 12.25 hrs, Volume= 0.394 af
Outflow = 0.56 cfs @ 13.31 hrs, Volume= 0.394 af, Atten= 86%, Lag= 63.3 min
Primary = 0.56 cfs @ 13.31 hrs, Volume= 0.394 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Peak Elev= 211.42' @ 13.31 hrs Surf.Area= 8,176 sf Storage= 7,572 cf

Plug-Flow detention time= 144.2 min calculated for 0.392 af (100% of inflow)
Center-of-Mass det. time= 143.9 min (1,005.4 - 861.5)

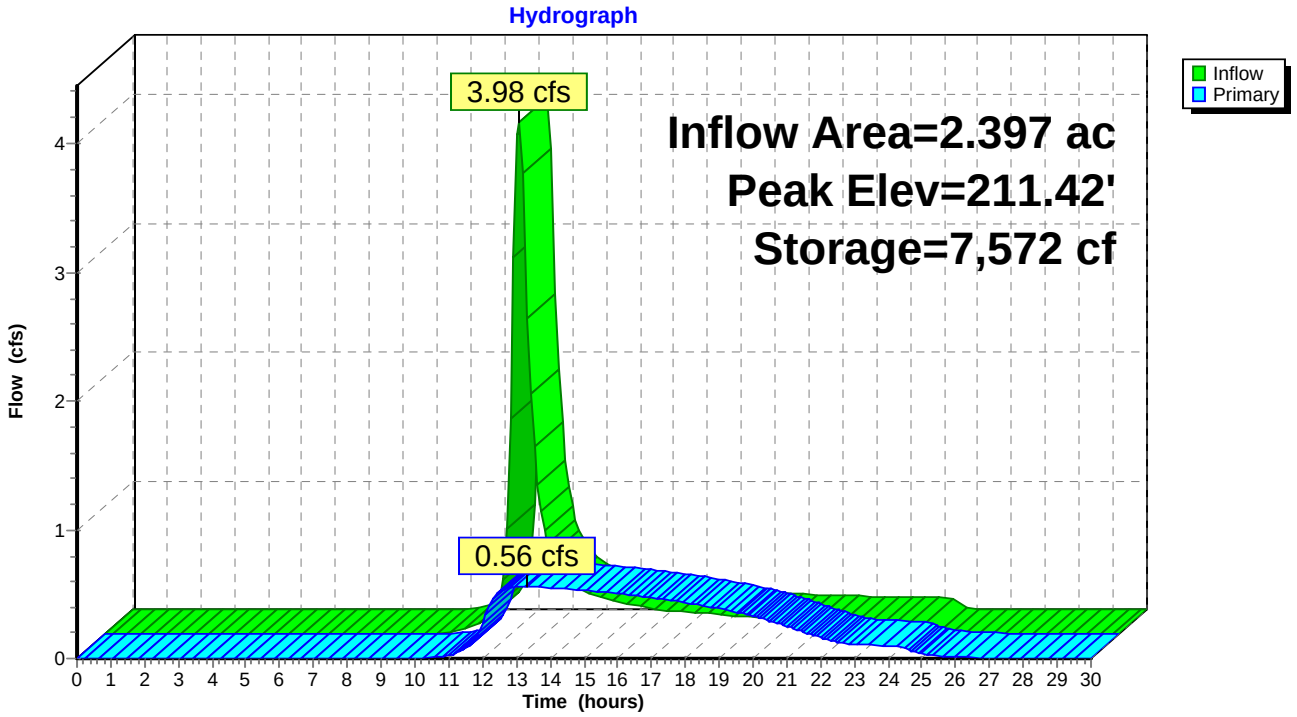
Volume	Invert	Avail.Storage	Storage Description
#1	209.50'	25,419 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
209.50	840	0	0
210.00	2,000	710	710
211.00	5,793	3,897	4,607
212.00	11,407	8,600	13,207
213.00	13,018	12,213	25,419

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.56 cfs @ 13.31 hrs HW=211.42' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.56 cfs @ 6.38 fps)

Pond 1P: Detention Pond



Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment A: Trib A Runoff Area=104,413 sf 0.00% Impervious Runoff Depth=4.04"
Flow Length=525' Tc=29.8 min CN=74 Runoff=8.38 cfs 0.807 af

Subcatchment B: Trib B Runoff Area=75,356 sf 0.00% Impervious Runoff Depth=4.04"
Flow Length=350' Tc=16.6 min CN=74 Runoff=8.36 cfs 0.583 af

Reach R1: Reach 1 Avg. Flow Depth=0.46' Max Vel=2.45 fps Inflow=8.84 cfs 1.389 af
n=0.060 L=475.0' S=0.0476 '/' Capacity=471.23 cfs Outflow=8.41 cfs 1.389 af

Pond 1P: Detention Pond Peak Elev=212.45' Storage=18,459 cf Inflow=8.38 cfs 0.807 af
Outflow=0.70 cfs 0.806 af

Total Runoff Area = 4.127 ac Runoff Volume = 1.390 af Average Runoff Depth = 4.04"
100.00% Pervious = 4.127 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A: Trib A

This subcatchment reproduces the runoff calculation from Sample Job #1 in the TR-20 manual.

Since TR-20 has no CN or Tc calculation procedures, these values have been entered directly, rather than using HydroCAD's built-in CN lookup table and Tc calculation procedures.

The resulting peak flow is approximately 4% higher than the published TR-20 value of 2097 CFS. This difference is due to the more recent polynomial-based rainfall distributions used in HydroCAD.

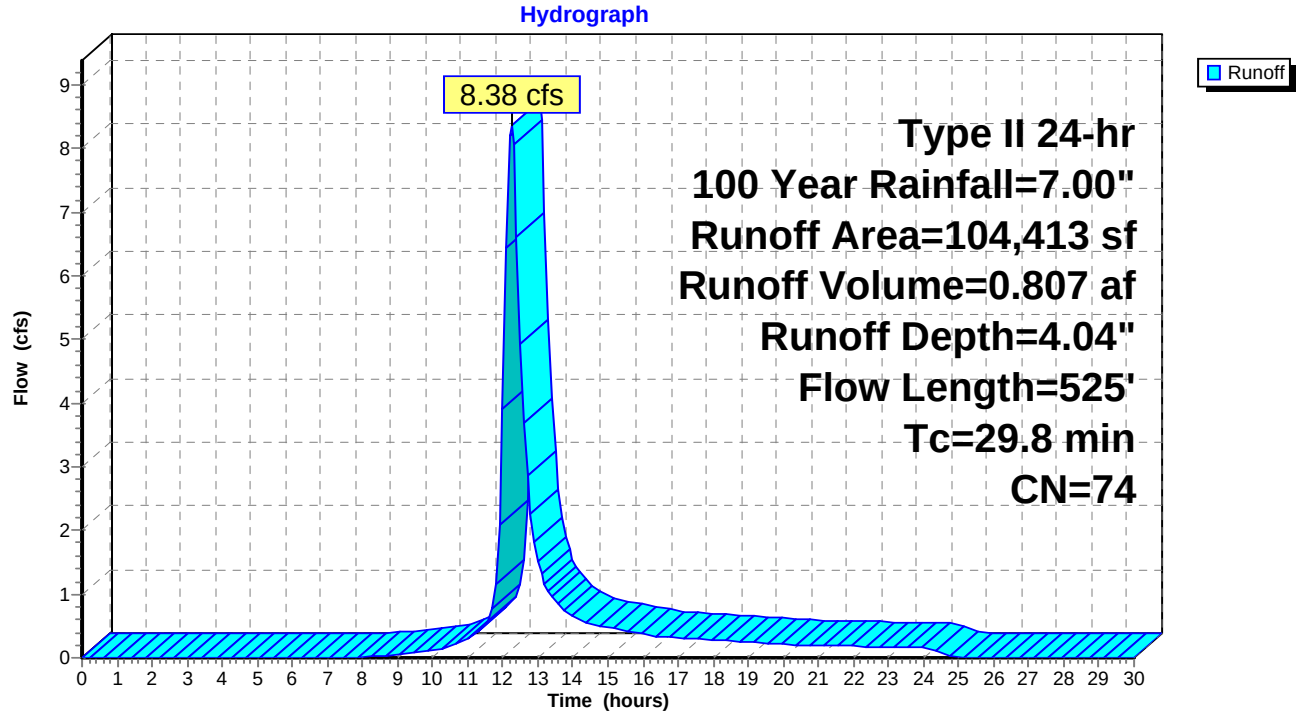
Runoff = 8.38 cfs @ 12.24 hrs, Volume= 0.807 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 100 Year Rainfall=7.00"

Area (sf)	CN	Description
104,413	74	>75% Grass cover, Good, HSG C
104,413		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.8	100	0.0023	0.06		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.60"
4.0	425	0.0141	1.78		**Shallow Concentrated Flow, grass** Grassed Waterway Kv= 15.0 fps
29.8	525	Total			

Subcatchment A: Trib A



Summary for Subcatchment B: Trib B

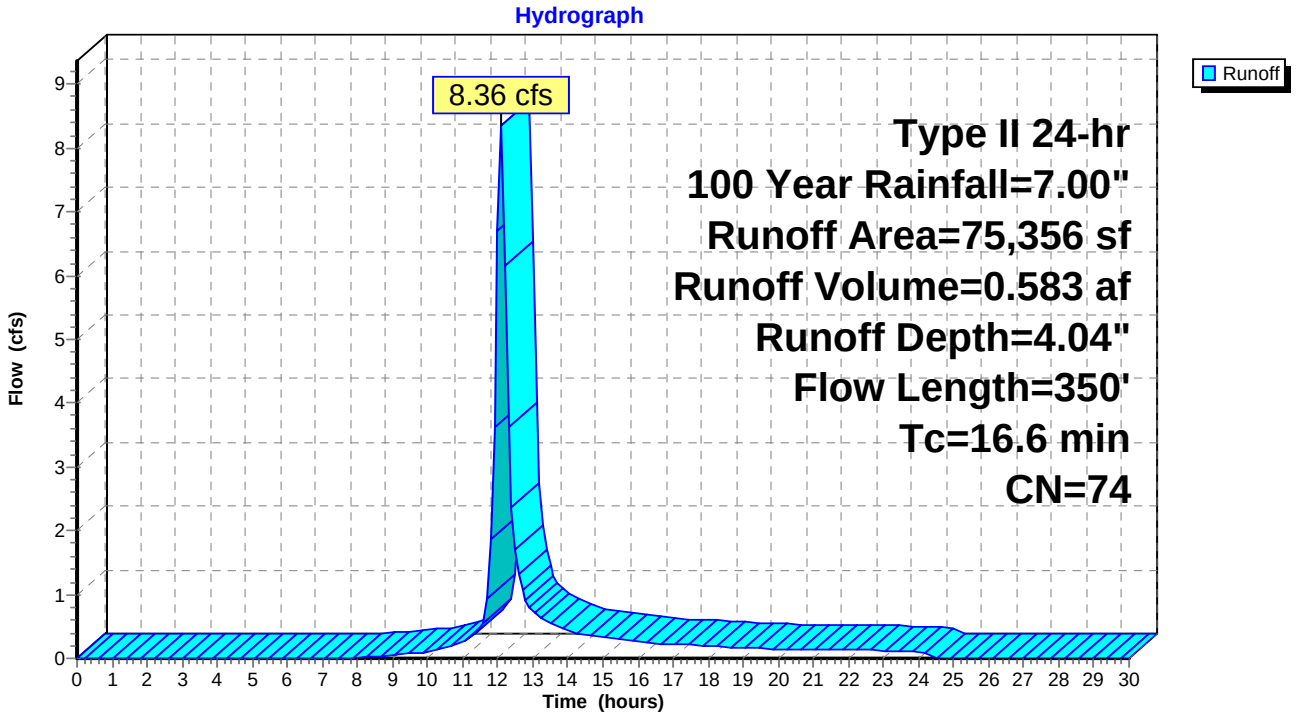
Runoff = 8.36 cfs @ 12.09 hrs, Volume= 0.583 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 100 Year Rainfall=7.00"

Area (sf)	CN	Description
75,356	74	>75% Grass cover, Good, HSG C
75,356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0150	0.14		**Sheet Flow, Sheet** Grass: Short n= 0.150 P2= 2.60"
4.4	250	0.0040	0.95		**Shallow Concentrated Flow, Grass** Grassed Waterway Kv= 15.0 fps
16.6	350	Total			

Subcatchment B: Trib B



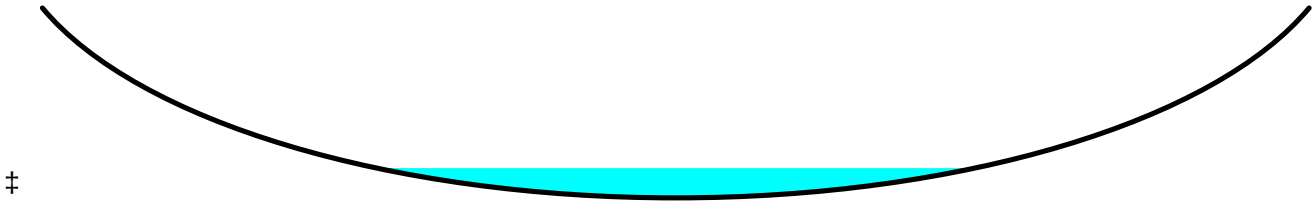
Summary for Reach R1: Reach 1

Inflow Area = 4.127 ac, 0.00% Impervious, Inflow Depth > 4.04" for 100 Year event
Inflow = 8.84 cfs @ 12.09 hrs, Volume= 1.389 af
Outflow = 8.41 cfs @ 12.13 hrs, Volume= 1.389 af, Atten= 5%, Lag= 2.3 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.45 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 7.6 min

Peak Storage= 1,621 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 3.00' Flow Area= 56.0 sf, Capacity= 471.23 cfs

28.00' x 3.00' deep Parabolic Channel, n= 0.060
Length= 475.0' Slope= 0.0476 '/'
Inlet Invert= 209.33', Outlet Invert= 186.70'



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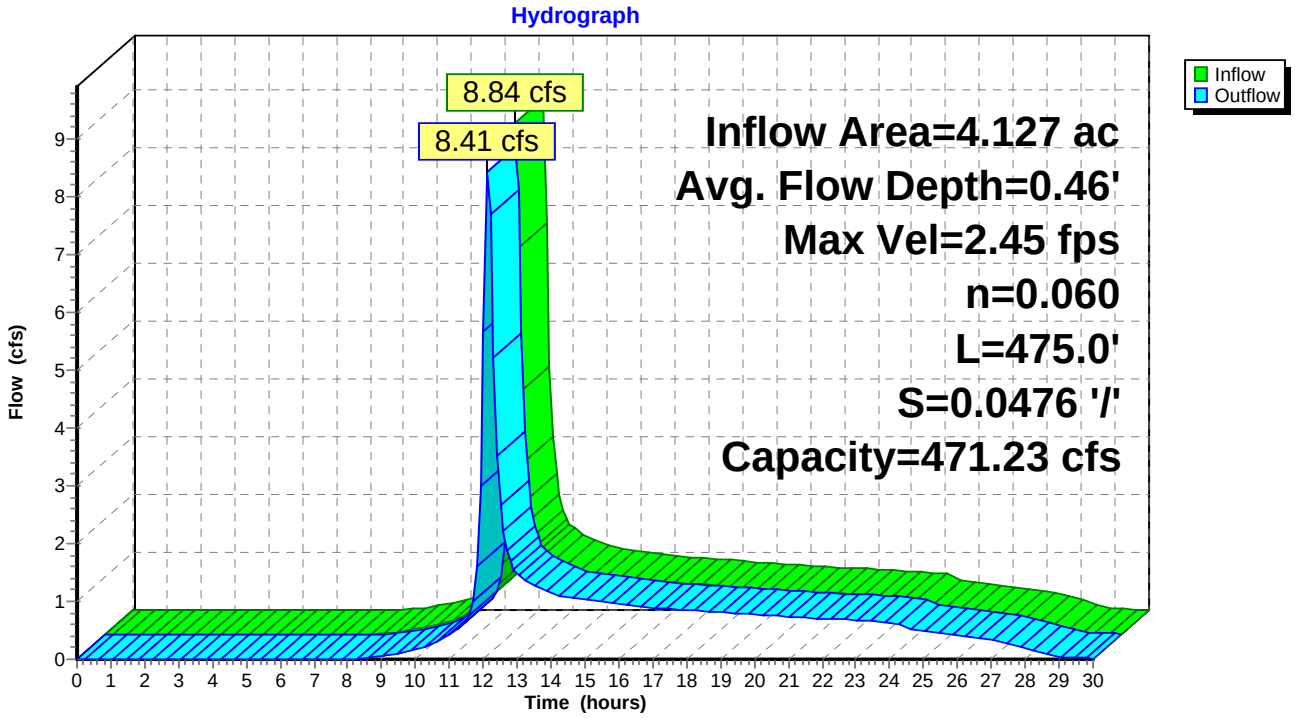
Reach R1: Reach 1



Summary for Pond 1P: Detention Pond

Inflow Area = 2.397 ac, 0.00% Impervious, Inflow Depth = 4.04" for 100 Year event
Inflow = 8.38 cfs @ 12.24 hrs, Volume= 0.807 af
Outflow = 0.70 cfs @ 13.87 hrs, Volume= 0.806 af, Atten= 92%, Lag= 97.4 min
Primary = 0.70 cfs @ 13.87 hrs, Volume= 0.806 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Peak Elev= 212.45' @ 13.87 hrs Surf.Area= 12,126 sf Storage= 18,459 cf

Plug-Flow detention time= 291.7 min calculated for 0.804 af (100% of inflow)
Center-of-Mass det. time= 290.8 min (1,131.7 - 840.9)

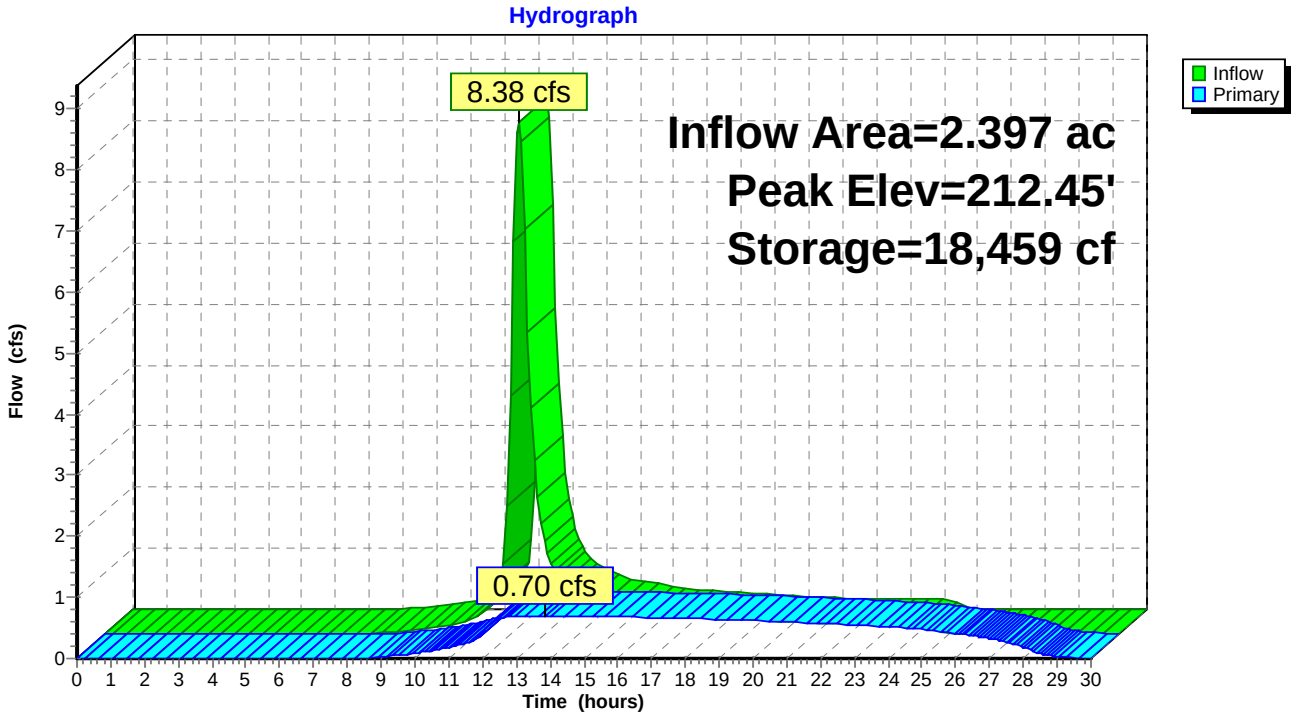
Volume	Invert	Avail.Storage	Storage Description
#1	209.50'	25,419 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

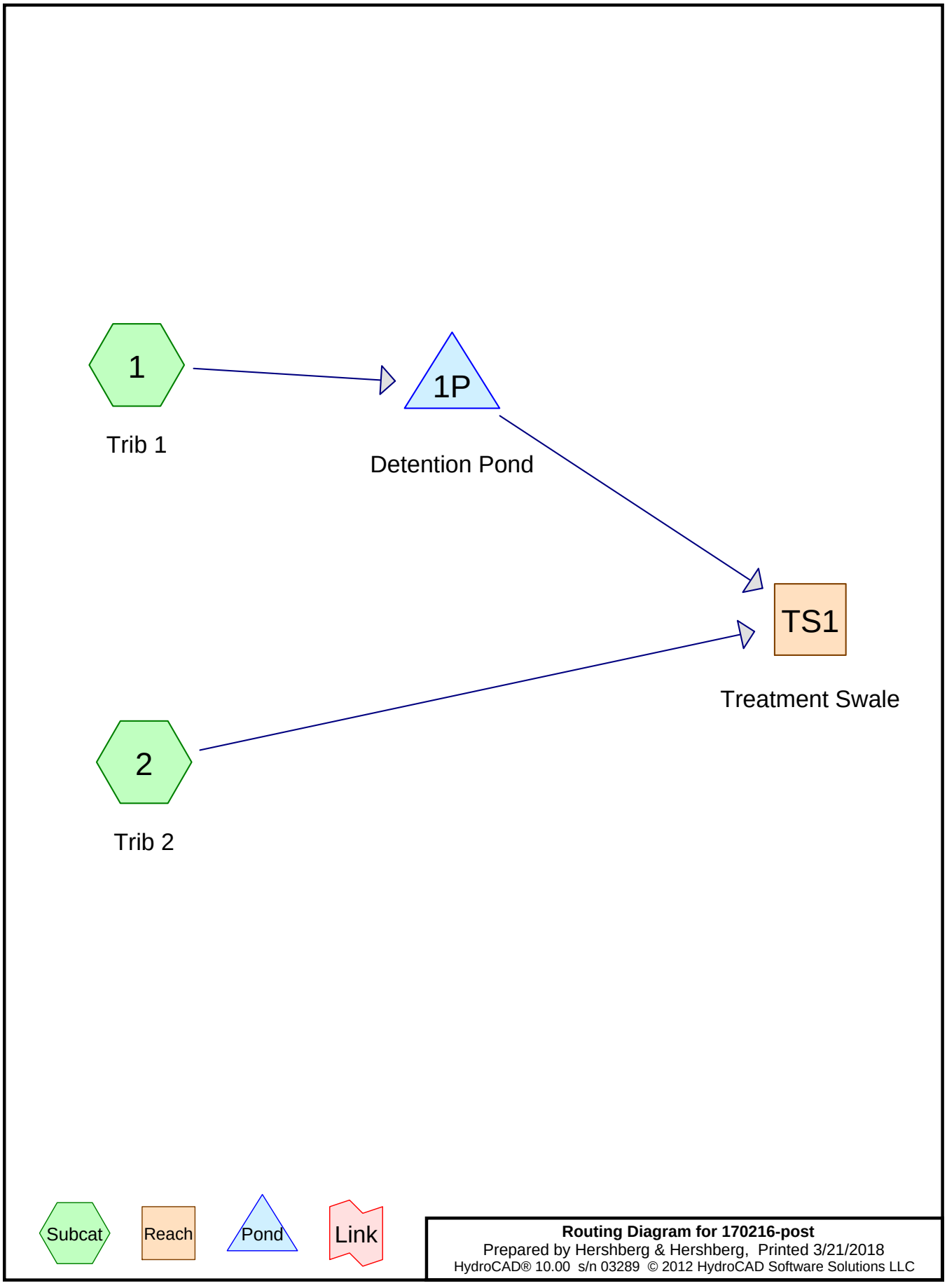
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
209.50	840	0	0
210.00	2,000	710	710
211.00	5,793	3,897	4,607
212.00	11,407	8,600	13,207
213.00	13,018	12,213	25,419

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.70 cfs @ 13.87 hrs HW=212.45' (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 0.70 cfs @ 8.03 fps)

Pond 1P: Detention Pond





Routing Diagram for 170216-post
Prepared by Hershberg & Hershberg, Printed 3/21/2018

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.665	74	>75% Grass cover, Good, HSG C (1, 2)
0.012	98	Paved parking, HSG C (2)
1.629	98	Roofs, HSG C (1)
4.306	**83**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
4.306	HSG C	1, 2
0.000	HSG D	
0.000	Other	
4.306		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	2.665	0.000	0.000	2.665	>75% Grass cover, Good	1, 2
0.000	0.000	0.012	0.000	0.000	0.012	Paved parking	2
0.000	0.000	1.629	0.000	0.000	1.629	Roofs	1
0.000	**0.000**	**4.306**	**0.000**	**0.000**	**4.306**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Trib 1 Runoff Area=162,371 sf 43.69% Impervious Runoff Depth=2.82"
Flow Length=433' Tc=3.3 min CN=84 Runoff=17.08 cfs 0.875 af

Subcatchment 2: Trib 2 Runoff Area=25,195 sf 2.14% Impervious Runoff Depth=2.05"
Flow Length=80' Slope=0.0100 '/' Tc=12.0 min CN=75 Runoff=1.57 cfs 0.099 af

Reach TS1: Treatment Swale Avg. Flow Depth=0.25' Max Vel=1.62 fps Inflow=2.28 cfs 0.880 af
n=0.060 L=475.0' S=0.0476 '/' Capacity=471.23 cfs Outflow=2.14 cfs 0.878 af

Pond 1P: Detention Pond Peak Elev=211.43' Storage=22,040 cf Inflow=17.08 cfs 0.875 af
Outflow=0.79 cfs 0.782 af

Total Runoff Area = 4.306 ac Runoff Volume = 0.974 af Average Runoff Depth = 2.71"
61.89% Pervious = 2.665 ac 38.11% Impervious = 1.641 ac

Summary for Subcatchment 1: Trib 1

This subcatchment reproduces the runoff calculation from Sample Job #1 in the TR-20 manual.

Since TR-20 has no CN or Tc calculation procedures, these values have been entered directly, rather than using HydroCAD's built-in CN lookup table and Tc calculation procedures.

The resulting peak flow is approximately 4% higher than the published TR-20 value of 2097 CFS. This difference is due to the more recent polynomial-based rainfall distributions used in HydroCAD.

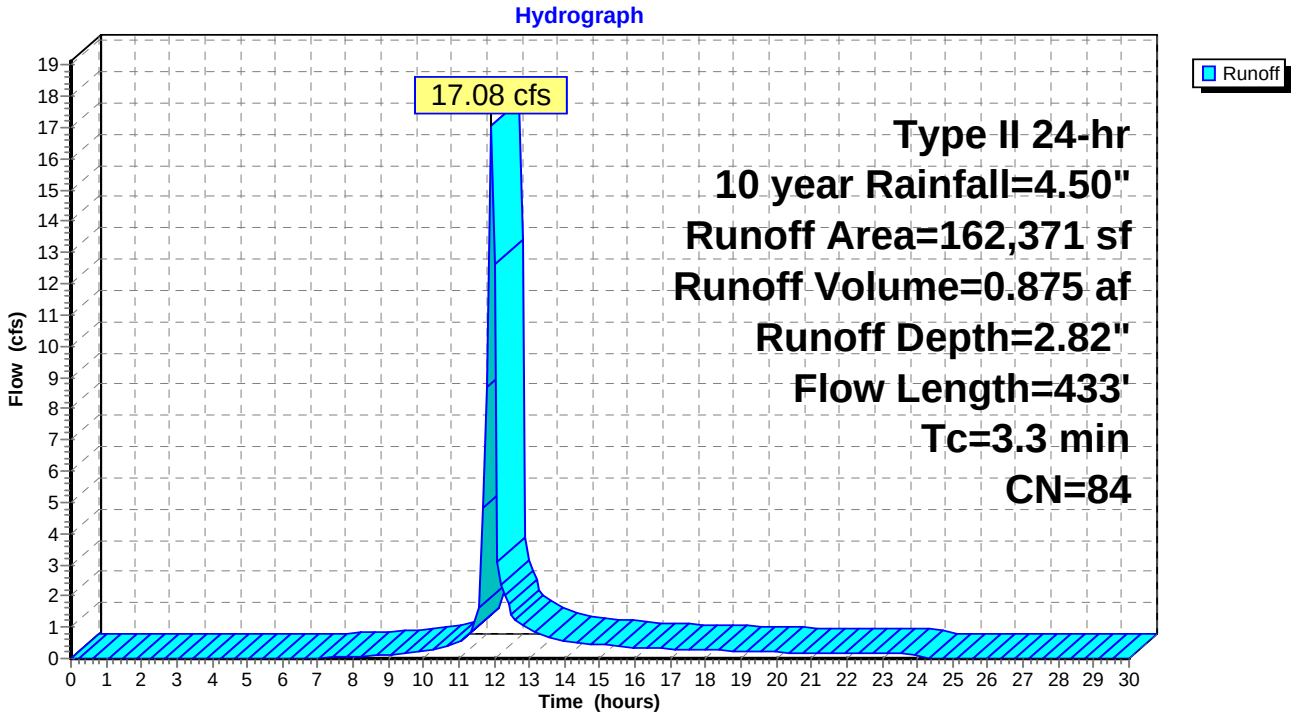
Runoff = 17.08 cfs @ 11.92 hrs, Volume= 0.875 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 10 year Rainfall=4.50"

Area (sf)	CN	Description
91,431	74	>75% Grass cover, Good, HSG C
70,940	98	Roofs, HSG C
162,371	84	Weighted Average
91,431		56.31% Pervious Area
70,940		43.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	68	0.0265	1.28		**Sheet Flow, Sheet** Smooth surfaces n= 0.011 P2= 2.60"
2.4	365	0.0250	2.55		**Shallow Concentrated Flow, Grass** Unpaved Kv= 16.1 fps
3.3	433	Total			

Subcatchment 1: Trib 1



Summary for Subcatchment 2: Trib 2

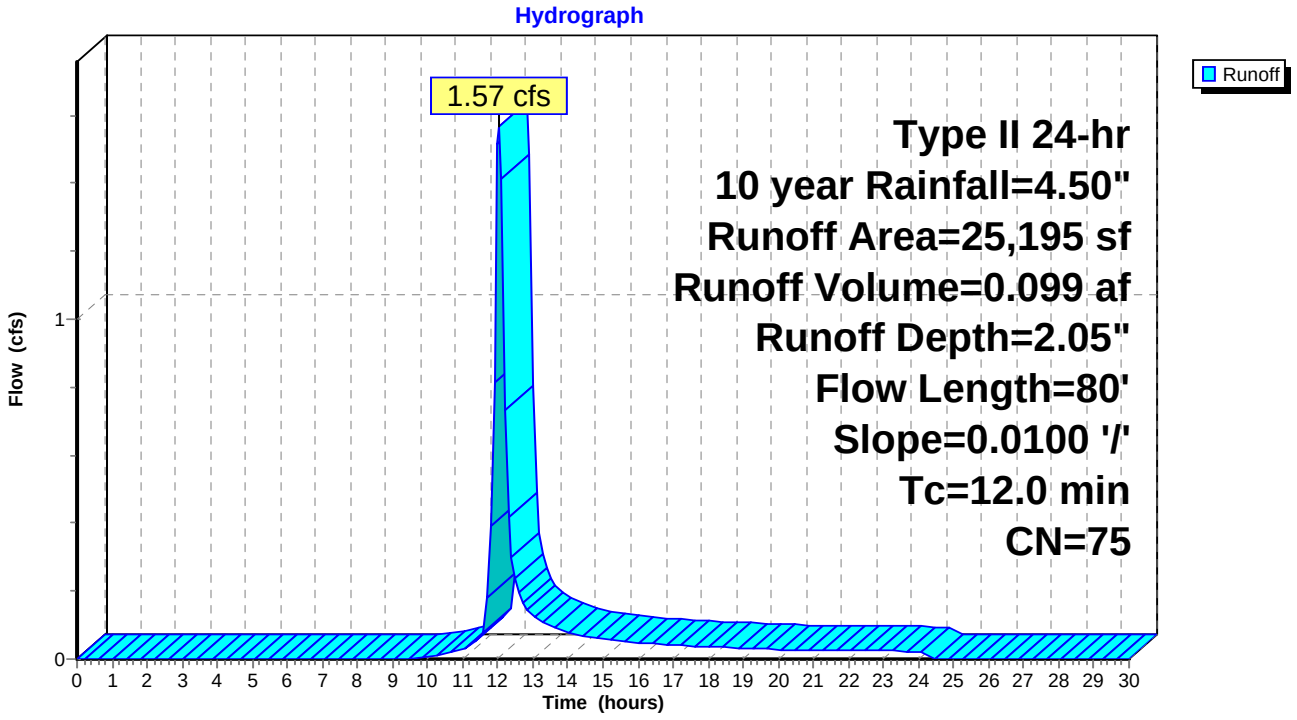
Runoff = 1.57 cfs @ 12.04 hrs, Volume= 0.099 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 10 year Rainfall=4.50"

Area (sf)	CN	Description
540	98	Paved parking, HSG C
24,655	74	>75% Grass cover, Good, HSG C
25,195	75	Weighted Average
24,655		97.86% Pervious Area
540		2.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	80	0.0100	0.11		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2: Trib 2



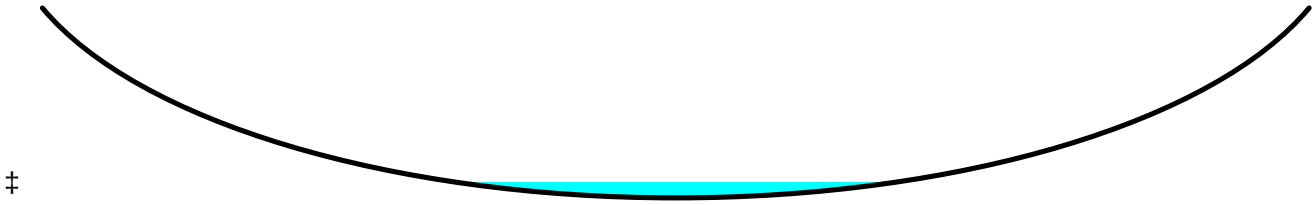
Summary for Reach TS1: Treatment Swale

Inflow Area = 4.306 ac, 38.11% Impervious, Inflow Depth > 2.45" for 10 year event
Inflow = 2.28 cfs @ 12.05 hrs, Volume= 0.880 af
Outflow = 2.14 cfs @ 12.11 hrs, Volume= 0.878 af, Atten= 6%, Lag= 4.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.62 fps, Min. Travel Time= 4.9 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 8.6 min

Peak Storage= 626 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 3.00' Flow Area= 56.0 sf, Capacity= 471.23 cfs

28.00' x 3.00' deep Parabolic Channel, n= 0.060
Length= 475.0' Slope= 0.0476 '/'
Inlet Invert= 209.33', Outlet Invert= 186.70'



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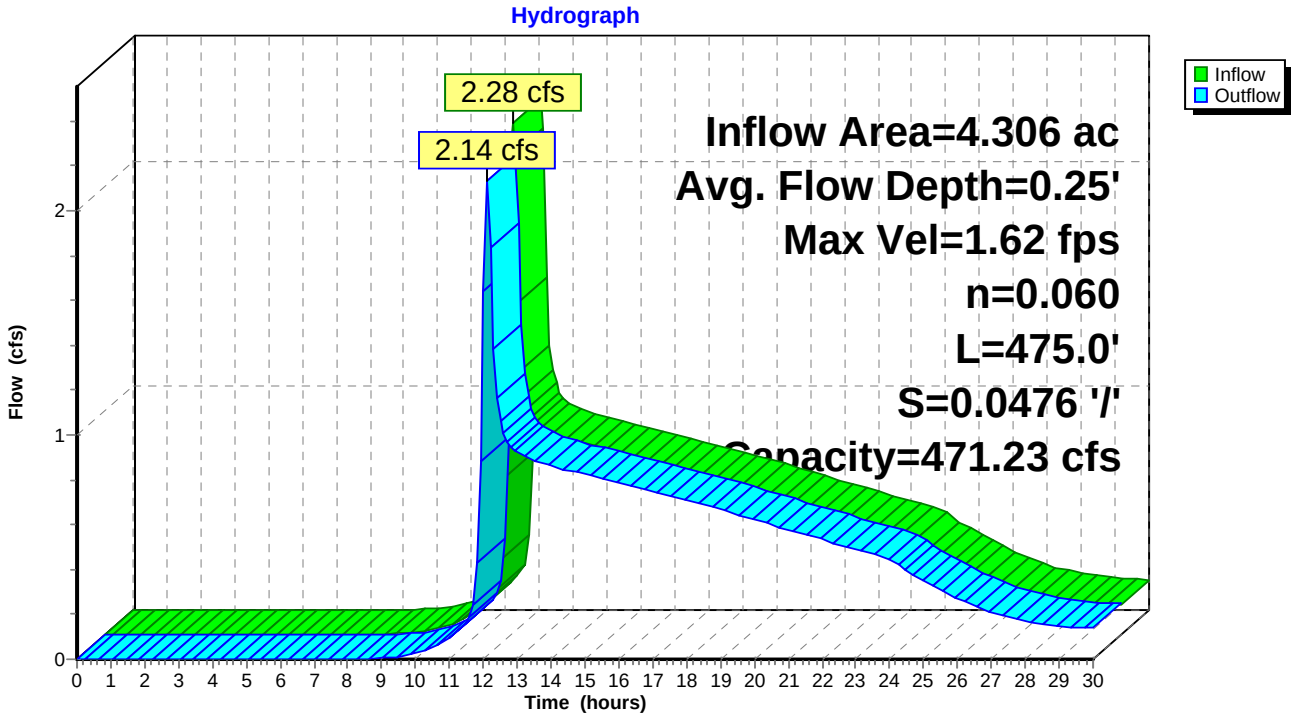
Reach TS1: Treatment Swale



Summary for Pond 1P: Detention Pond

Inflow Area = 3.728 ac, 43.69% Impervious, Inflow Depth = 2.82" for 10 year event
Inflow = 17.08 cfs @ 11.92 hrs, Volume= 0.875 af
Outflow = 0.79 cfs @ 13.29 hrs, Volume= 0.782 af, Atten= 95%, Lag= 82.4 min
Primary = 0.79 cfs @ 13.29 hrs, Volume= 0.782 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Peak Elev= 211.43' @ 13.29 hrs Surf.Area= 14,262 sf Storage= 22,040 cf

Plug-Flow detention time= 357.8 min calculated for 0.782 af (89% of inflow)
Center-of-Mass det. time= 304.3 min (1,113.5 - 809.2)

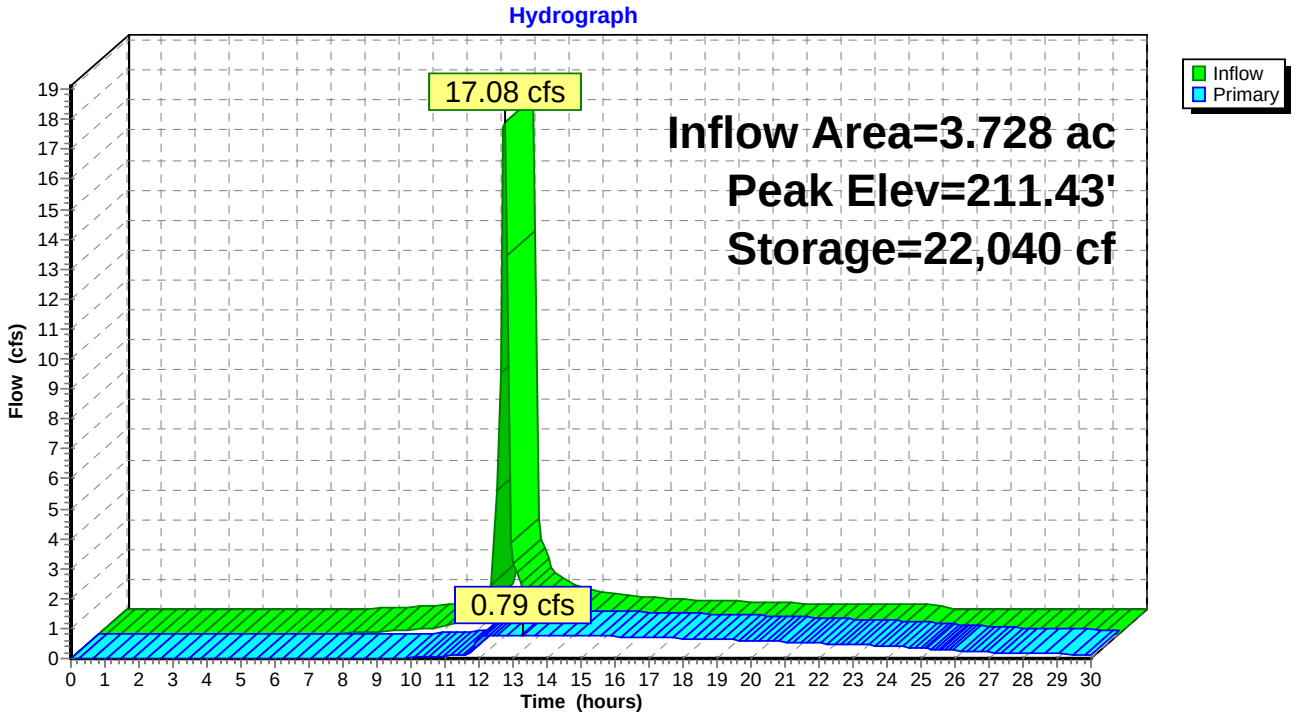
Volume	Invert	Avail.Storage	Storage Description
#1	209.50'	43,396 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
209.50	7,500	0	0
210.00	10,500	4,500	4,500
211.00	12,995	11,748	16,248
212.00	15,975	14,485	30,733
212.75	17,795	12,664	43,396

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	210.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.79 cfs @ 13.29 hrs HW=211.43' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.46 fps)
2=Orifice/Grate (Orifice Controls 0.47 cfs @ 5.40 fps)

Pond 1P: Detention Pond



Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1: Trib 1 Runoff Area=162,371 sf 43.69% Impervious Runoff Depth=5.14"
Flow Length=433' Tc=3.3 min CN=84 Runoff=30.44 cfs 1.597 af

Subcatchment 2: Trib 2 Runoff Area=25,195 sf 2.14% Impervious Runoff Depth=4.15"
Flow Length=80' Slope=0.0100 '/' Tc=12.0 min CN=75 Runoff=3.19 cfs 0.200 af

Reach TS1: Treatment Swale Avg. Flow Depth=0.33' Max Vel=1.96 fps Inflow=4.19 cfs 1.570 af
n=0.060 L=475.0' S=0.0476 '/' Capacity=471.23 cfs Outflow=3.97 cfs 1.565 af

Pond 1P: Detention Pond Peak Elev=212.73' Storage=43,000 cf Inflow=30.44 cfs 1.597 af
Outflow=1.09 cfs 1.370 af

Total Runoff Area = 4.306 ac Runoff Volume = 1.797 af Average Runoff Depth = 5.01"
61.89% Pervious = 2.665 ac 38.11% Impervious = 1.641 ac

Summary for Subcatchment 1: Trib 1

This subcatchment reproduces the runoff calculation from Sample Job #1 in the TR-20 manual.

Since TR-20 has no CN or Tc calculation procedures, these values have been entered directly, rather than using HydroCAD's built-in CN lookup table and Tc calculation procedures.

The resulting peak flow is approximately 4% higher than the published TR-20 value of 2097 CFS. This difference is due to the more recent polynomial-based rainfall distributions used in HydroCAD.

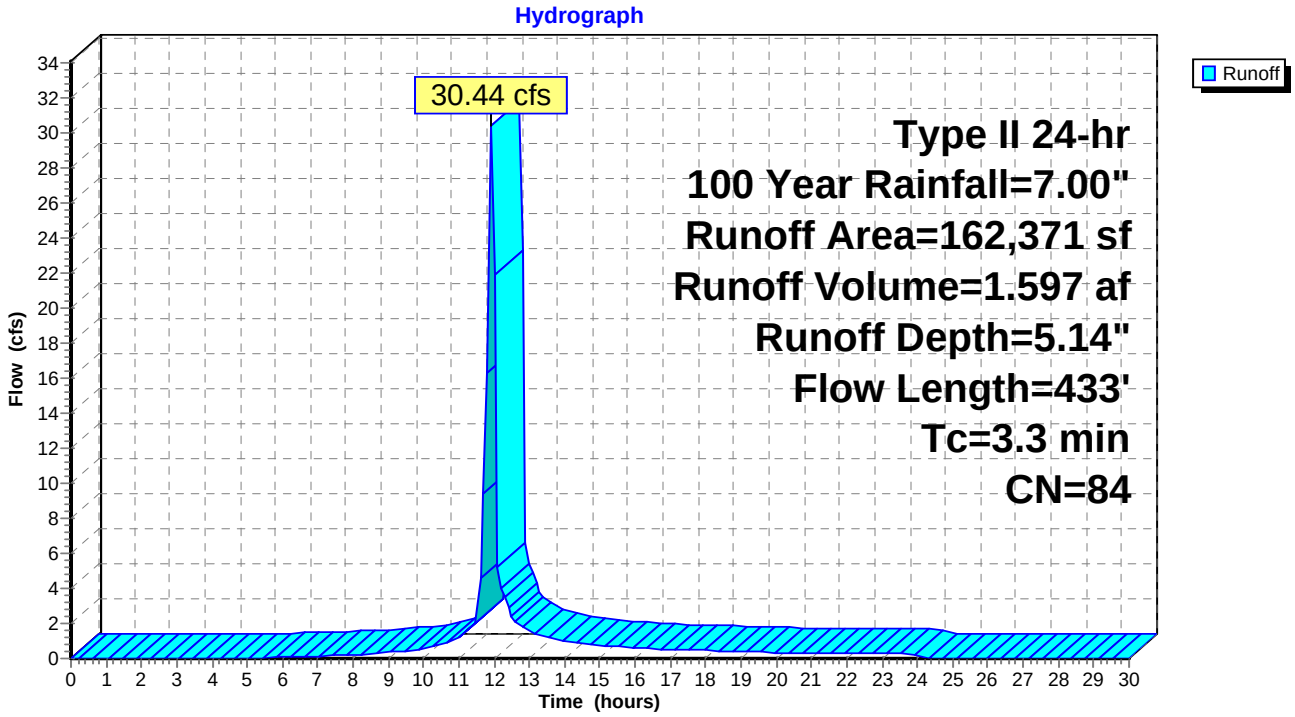
Runoff = 30.44 cfs @ 11.91 hrs, Volume= 1.597 af, Depth= 5.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 100 Year Rainfall=7.00"

Area (sf)	CN	Description
91,431	74	>75% Grass cover, Good, HSG C
70,940	98	Roofs, HSG C
162,371	84	Weighted Average
91,431		56.31% Pervious Area
70,940		43.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	68	0.0265	1.28		**Sheet Flow, Sheet** Smooth surfaces n= 0.011 P2= 2.60"
2.4	365	0.0250	2.55		**Shallow Concentrated Flow, Grass** Unpaved Kv= 16.1 fps
3.3	433	Total			

Subcatchment 1: Trib 1



Summary for Subcatchment 2: Trib 2

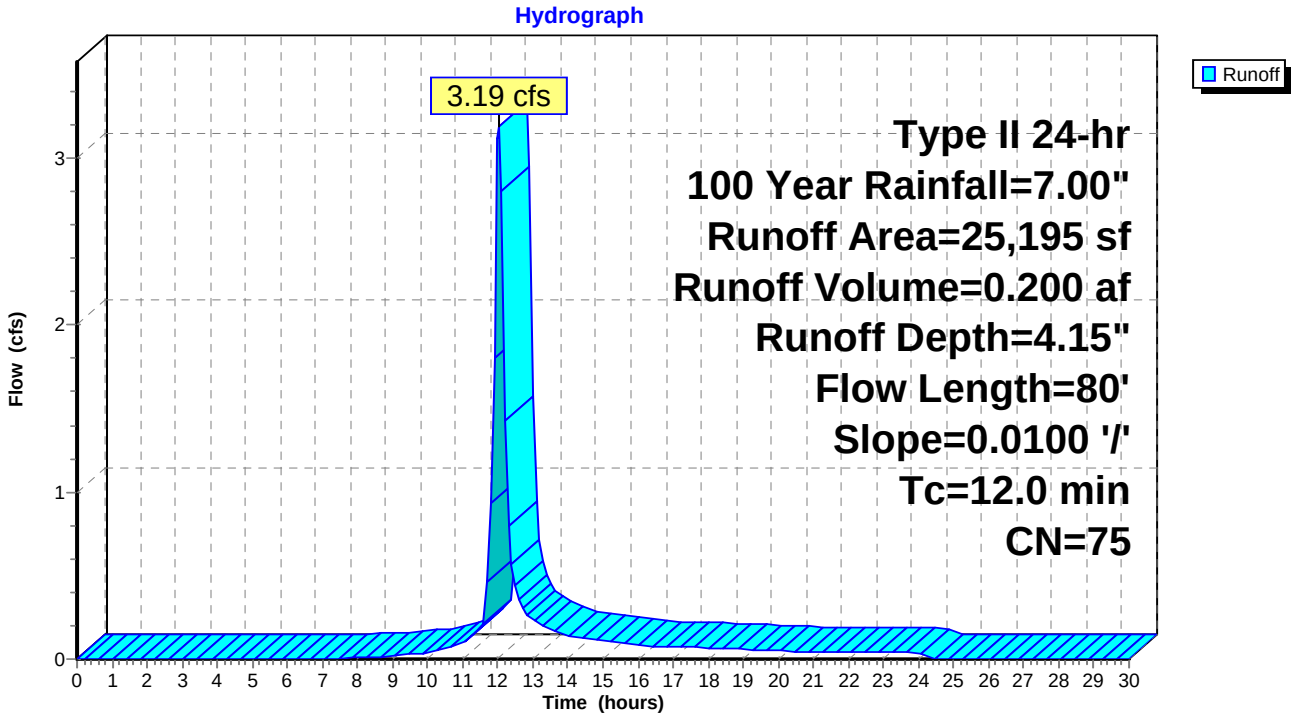
Runoff = 3.19 cfs @ 12.03 hrs, Volume= 0.200 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Type II 24-hr 100 Year Rainfall=7.00"

Area (sf)	CN	Description
540	98	Paved parking, HSG C
24,655	74	>75% Grass cover, Good, HSG C
25,195	75	Weighted Average
24,655		97.86% Pervious Area
540		2.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	80	0.0100	0.11		**Sheet Flow, Grass** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 2: Trib 2



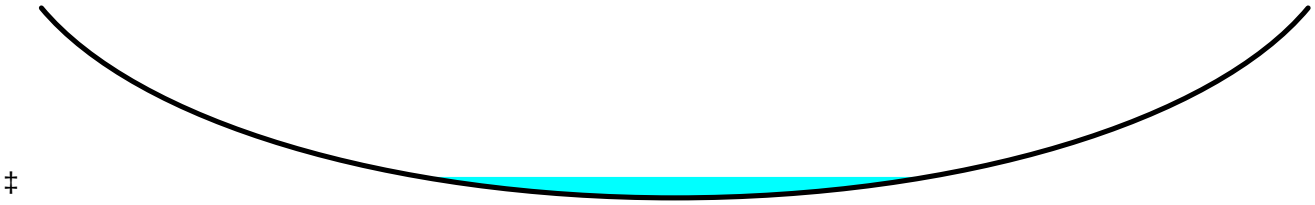
Summary for Reach TS1: Treatment Swale

Inflow Area = 4.306 ac, 38.11% Impervious, Inflow Depth > 4.38" for 100 Year event
Inflow = 4.19 cfs @ 12.04 hrs, Volume= 1.570 af
Outflow = 3.97 cfs @ 12.09 hrs, Volume= 1.565 af, Atten= 5%, Lag= 3.5 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.96 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 1.08 fps, Avg. Travel Time= 7.3 min

Peak Storage= 963 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 3.00' Flow Area= 56.0 sf, Capacity= 471.23 cfs

28.00' x 3.00' deep Parabolic Channel, n= 0.060
Length= 475.0' Slope= 0.0476 '/'
Inlet Invert= 209.33', Outlet Invert= 186.70'



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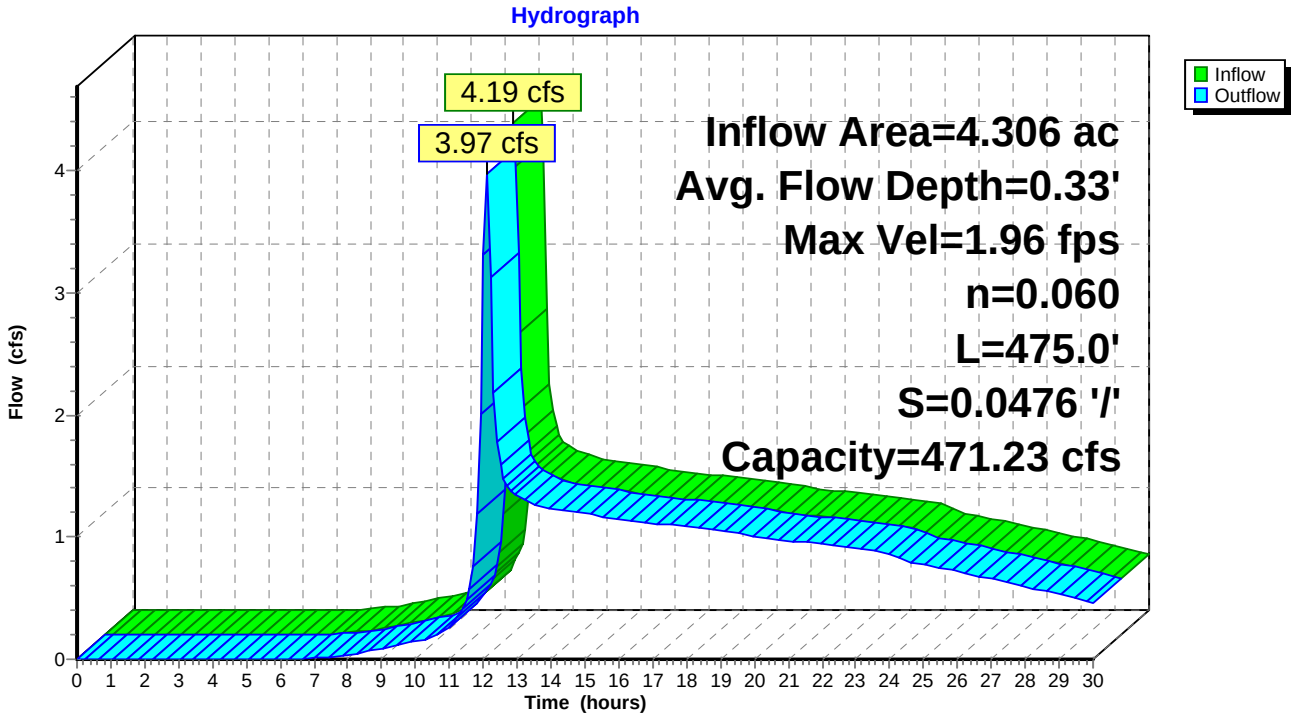
Reach TS1: Treatment Swale



Summary for Pond 1P: Detention Pond

Inflow Area = 3.728 ac, 43.69% Impervious, Inflow Depth = 5.14" for 100 Year event
Inflow = 30.44 cfs @ 11.91 hrs, Volume= 1.597 af
Outflow = 1.09 cfs @ 13.67 hrs, Volume= 1.370 af, Atten= 96%, Lag= 105.7 min
Primary = 1.09 cfs @ 13.67 hrs, Volume= 1.370 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Peak Elev= 212.73' @ 13.67 hrs Surf.Area= 17,741 sf Storage= 43,000 cf

Plug-Flow detention time= 444.6 min calculated for 1.366 af (86% of inflow)
Center-of-Mass det. time= 380.6 min (1,172.7 - 792.2)

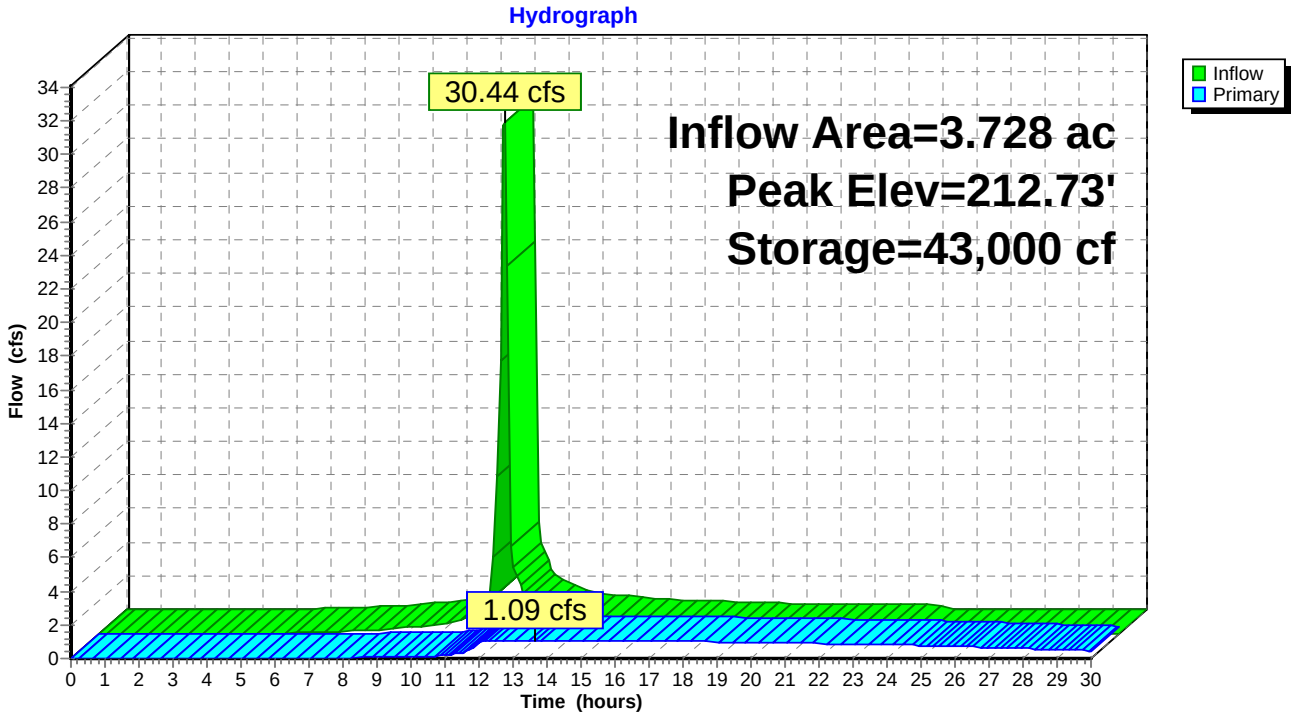
Volume	Invert	Avail.Storage	Storage Description
#1	209.50'	43,396 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
209.50	7,500	0	0
210.00	10,500	4,500	4,500
211.00	12,995	11,748	16,248
212.00	15,975	14,485	30,733
212.75	17,795	12,664	43,396

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	210.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=1.09 cfs @ 13.67 hrs HW=212.73' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.42 cfs @ 8.48 fps)
2=Orifice/Grate (Orifice Controls 0.67 cfs @ 7.71 fps)

Pond 1P: Detention Pond



APPENDIX #7

WQV CALCULATION

COMPUTATION OF WATER QUALITY VOLUME (WQ_v)

Paved Area (Acres)	1.64
I (Impervious Cover)	63.1%
Rv = 0.05+0.009I	0.62
	1.2
A (site area in acres)	2.60
$WQ_v = [(P)(R_v)(A)]/12$ (in acre-feet)	0.158
WQ_v (in cubic-feet)	6,879

APPENDIX #8

SPILL RESPONSE PLAN

SPILL RESPONSE PLAN

NORTHERN RIVERS BEHAVIORAL HEALTH CENTER

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

Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spill in excess or suspected to be in excess of two gallons will be reported to the

NYSDEC Spill Response Unit. Notification to NYSDEC (1-800-457- 7362) must be completed within two hours of the discovery of the spill.

Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to: absorbent pads, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

All spills will be cleaned up immediately after discovery.

The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with spilled substance.

Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.

The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

The contractor/trained individual will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area on the onsite construction office or trailer.

A Spill Response Report notification are provided below.

SPILL RESPONSE REPORT

NORTHERN RIVERS BEHAVIORAL HEALTH CENTER

Within 1 hour of a spill discovery less than 2 gallons in volume the following must be notified:

Parsons Child and Family Center, 518-426-2600
City of Albany, Randy Milano, P.E., City Engineer, 518-427-7481
City of Albany, Neil O'Connor, P.E., 518-434-5300

Within 1 hour of a spill discovery greater than 2 gallons in volume the following must be notified:

NYSDEC Spill Response Hotline 800-457-7362
Parsons Child and Family Center, 518-426-2600
City of Albany, Randy Milano, P.E., City Engineer, 518-427-7481
City of Albany, Neil O'Connor, P.E., 518-434-5300
Spill Response Contractor, *To Be Designated*

ATTACHMENT NO. 1

DEEP RIPPING & DECOMPACTION (APRIL 2008)

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

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Land Resource Consultant and Environmental Compliance Monitor
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NYS Dept. of Agriculture & Markets)

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) "Deep Ripping;" and 2) "Decompaction" (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil's water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

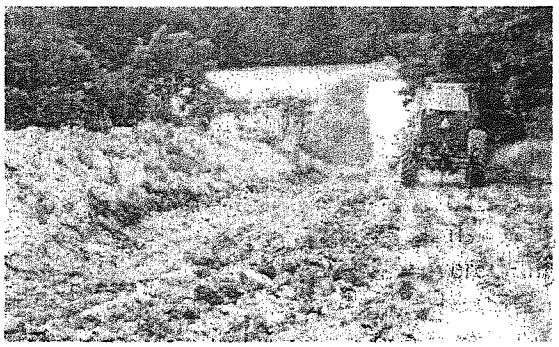


Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper "rips" through severely compressed subsoil.

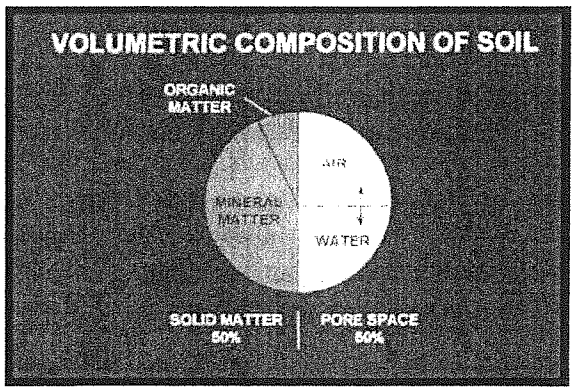


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterallly) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

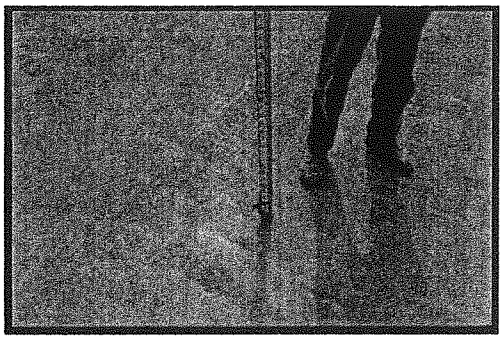


Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures
- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures
- Decreases runoff volume generated and provides hydrologic source control
- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility/Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

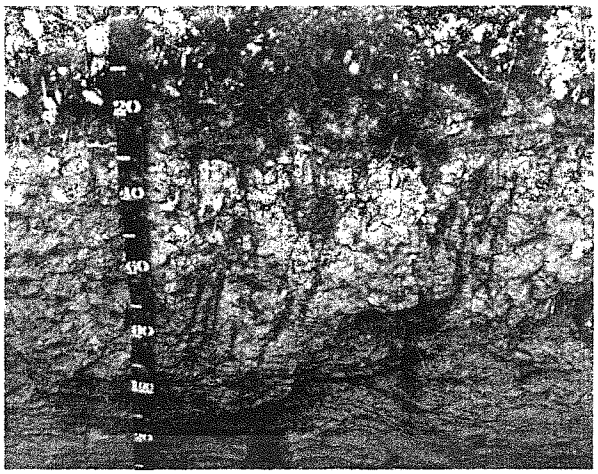


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a "plastic" or "liquid" state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the "slicing and smearing" of the material or added "squeezing and compression" instead of the necessary fracturing. Ample drying time is needed for a "rippable" soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The "poor man's Atterberg field test" for soil plasticity is a simple "hand-roll" method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a "plastic" state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

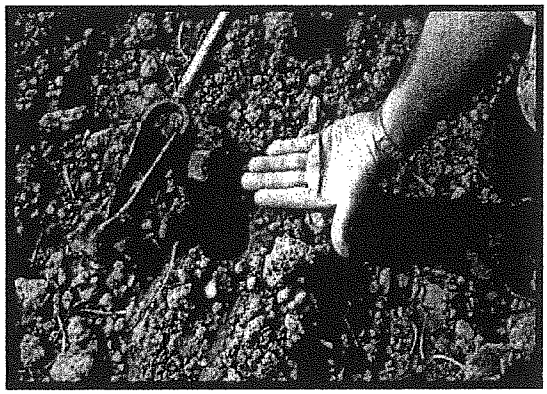


Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, "decompaction," mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area's soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).

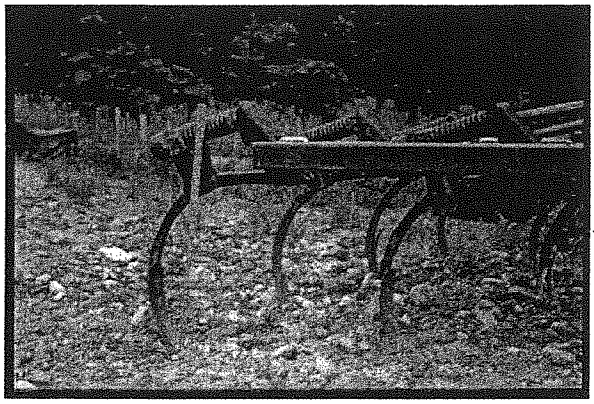


Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.

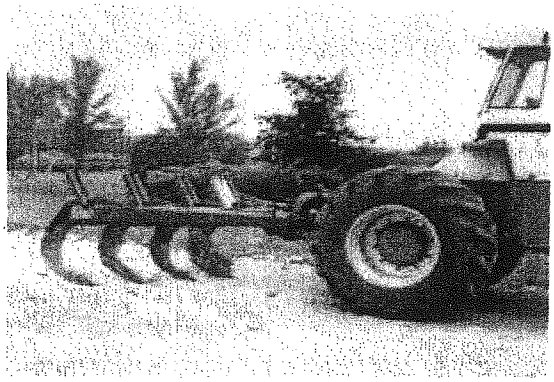


Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.

Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

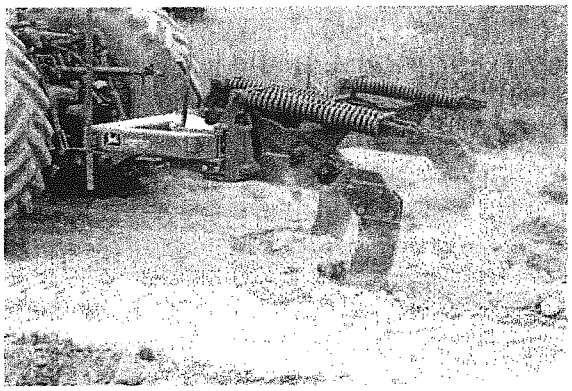


Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

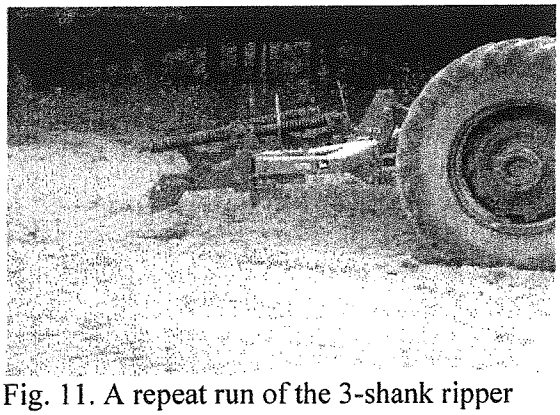


Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

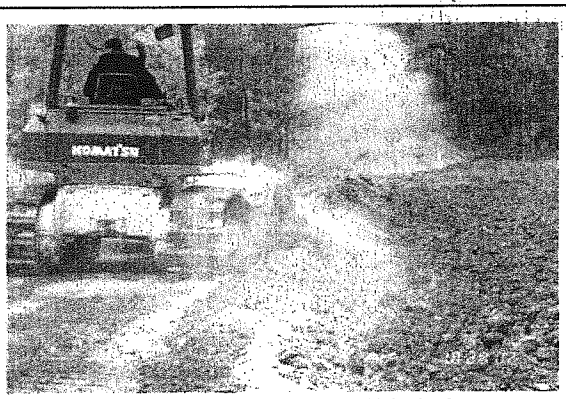


Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.

Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

- A second series of passes makes a broad "S" shaped pattern of rips, continually and gradually alternating the "S" curves between opposite edges inside the compacted corridor.

- The third and final series again uses the broad, alternating S pattern, but it is "flip-flopped" to continually cross the previous S pattern along the corridor's centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site's soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.

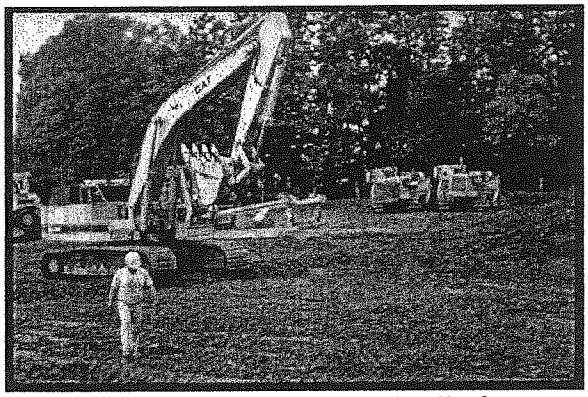


Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.

Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.
- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.
- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.
- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.
- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.
- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks
- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.
- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.
- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report.* Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.
- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe;* and, *for 913* (smaller-frame model) *V-Ripper.* Deep, angled-leg subsoiler. Access by internet search of: *Bigham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*
- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester.* http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

ATTACHMENT NO. 2

COMPLETED NOTICE OF INTENT

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.18

(Submission #: 34R-DAMW-EZ0R, version 1)

PRINTED ON 3/27/2018

Summary

Submission #:	34R-DAMW-EZ0R	**Date Submitted:**	Not Submitted
Form:	NOI for coverage under Stormwater General Permit for Construction Activity version 1.18 (Northern Rivers Behavioral Health Center)	**Status:**	Draft
Applicant:	Daniel Hershberg	**Active Steps:**	Form Submitted
Reference #:			
Description:	NOI for coverage under Stormwater General Permit for Construction Activity		

Notes
There are currently no Submission Notes.

Details

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
Parsons Child and Family Center

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

Owner/Operator Contact Person First Name
Audrey

Owner/Operator Mailing Address
60 Academy Road

City
Albany

State
NY

Zip
12208

Phone
518-426-2600

Email
NONE PROVIDED

Federal Tax ID
NONE PROVIDED

Project Location

Project/Site Name
Northern Rivers Behavioral Health Center

Street Address (Not P.O. Box)
58 Academy Road

Side of Street
East

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

State
New York

Zip
12208

County
ALBANY

DEC Region
4

Name of Nearest Cross Street
Bethlehem Avenue

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
East

Tax Map Numbers Section-Block-Parcel
75.12-2-1.1

Tax Map Numbers
NONE PROVIDED

1. Coordinates

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

Navigate to your location and click on the map to get the X,Y coordinates
42.6488834288118,-73.78472264505007

Project Details

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

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

Pre-Development Existing Landuse
Institutional/School

Post-Development Future Land Use
Institutional/School

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

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. *** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
5.2

Total Area to be Disturbed (acres)
2.6

Existing Impervious Area to be Disturbed (acres)
0.33

Future Impervious Area Within Disturbed Area (acres)
1.35

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

---

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

A (%)
0

B (%)
0

C (%)
100

D (%)
0

7. Is this a phased project?
No

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

Start Date
06/01/2018

End Date
06/30/2019

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

9a. Type of waterbody identified in question 9?
Other Type On Site

Other Waterbody Type Off Site Description
NONE PROVIDED

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

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

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

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

If No, skip question 13.

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

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

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

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

Yes

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

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
Yes

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

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

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

Required SWPPP Components

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

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

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

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

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

SWPPP Preparer
Hershberg & Hershberg

Contact Name (Last, Space, First)
Hershberg Daniel

Mailing Address
18 Locust St

City
Albany

State
New York

Zip
12203

Phone
518-459-3096

Email

dan@hhershberg.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form: 1) Click on the link below to download a blank certification form 2) The certified SWPPP preparer should sign this form 3) Scan the signed form 4) Upload the scanned document

Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification - Attachment

20170216SWPPP Preparer Certification Form (GP-0-15-002).pdf

Comment: NONE PROVIDED

Erosion & Sediment Control Criteria

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

Yes

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

Temporary Structural

Check Dams
Perimeter Dike/Swale
Sediment Traps
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical

None

Vegetative Measures

Mulching

Permanent Structural

Land Grading

Other

NONE PROVIDED

Post-Construction Criteria

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

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

NONE PROVIDED

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

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

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

0.158

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28). Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice. Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

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

NONE PROVIDED

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

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

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

NONE PROVIDED

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

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP. If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30). Also, provide the total impervious area that contributes runoff to each practice selected. NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)

0.158

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

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

0.158

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

If Yes, go to question 36. If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required (acre-feet)

0.0

CPv Provided (acre-feet)

0.0

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

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

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
0.0

Post-Development (CFS)
0.0

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
0.0

Post-Development (CFS)
0.0

37a. The need to meet the Qp and Qf criteria has been waived because:

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

If Yes, Identify the entity responsible for the long term Operation and Maintenance
Parsons Child and Family Center

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
This NOI was prepared for the City of Albany Department of Water & Water Supply for an application under USDO

Post-Construction SMP Identification

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

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

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
0.0

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
0.0

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0.0

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0.0

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
0.0

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
0.0

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
0.0

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
0.0

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
0.0

Total Contributing Impervious Acres for Rain Garden (RR-6)
0.0

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
0.0

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
0.0

Total Contributing Impervious Acres for Porous Pavement (RR-9)
0.0

Total Contributing Impervious Acres for Green Roof (RR-10)
0.0

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
0.0

Total Contributing Impervious Acres for Infiltration Basin (I-2)
0.0

Total Contributing Impervious Acres for Dry Well (I-3)
0.0

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
0.0

Total Contributing Impervious Acres for Bioretention (F-5)
0.0

Total Contributing Impervious Acres for Dry Swale (O-1)
0.0

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
0.0

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

0.0

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
0.0

Total Contributing Impervious Acres for Multiple Pond System (P-4)
0.0

Total Contributing Impervious Acres for Pocket Pond (P-5)
0.0

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
0.0

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
0.0

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
0.0

Total Contributing Impervious Acres for Organic Filter (F-4)
0.0

Total Contributing Impervious Acres for Shallow Wetland (W-1)
0.0

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
0.0

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
0.0

Total Contributing Impervious Acres for Pocket Wetland (W-4)
0.0

Total Contributing Impervious Acres for Wet Swale (O-2)
1.35

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

Total Contributing Impervious Area for Hydrodynamic
0.0

Total Contributing Impervious Area for Wet Vault
0.0

Total Contributing Impervious Area for Media Filter
0.0

"Other" Alternative SMP?
0.0

Total Contributing Impervious Area for "Other"
0.0

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

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

Manufacturer of Alternative SMP

NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

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

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

If Other, then identify
NONE PROVIDED

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

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

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

MS4 SWPPP Acceptance

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

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
No

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.

MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload - Attachment
20170216 SWPPP Accept.pdf
Comment: NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form * - Attachment
5-Owner-OperatorCertForm.pdf
Comment: NONE PROVIDED

Attachments

Date	Attachment Name	Context
03/27/2018 10:05 AM	20170216 SWPPP Accept.pdf	v1 - MS4 SWPPP Acceptance
03/27/2018 10:09 AM	20170216SWPPP Preparer Certification Form (GP-0-15-002).pdf	v1 - Required SWPPP Components
03/27/2018 10:07 AM	5-Owner-OperatorCertForm.pdf	v1 - Owner/Operator Certification

Status History

Date	User	Processing Status
None		

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Deemed Complete	Toni Cioffi	

ATTACHMENT NO. 3

NOTICE OF TERMINATION
(BLANK FOR FUTURE USE)

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:

5. 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, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, 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 2010)

ATTACHMENT NO. 4

CERTIFICATION OF CONTRACTOR

Contractor/Subcontractor SWPPP Certification

NOTE: This SWPPP identifies for each measure identified in the SWPPP, the contractor(s) and subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the SWPPP must sign a copy of the certification statement. All certifications must be included in the SWPPP. Additionally, new contractors and subcontractors need to similarly certify. All contractors and subcontractors identified in a SWPPP shall sign a copy of this certification statement before undertaking any construction activity at the site identified in the SWPPP:

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.

SERVICES PROVIDED BY THIS CONTRACTOR/SUBCONTRACTOR:

(Contractor/Subcontractor must complete)

List all trades covered: _____

_____

_____

Signature

_____

Name & Title (Print or Type)

_____

Name of Entity Constituting Contractor/Subcontractor (Print or Type)

_____

Address of Entity Constituting Contractor/Subcontractor (Print or Type)

_____

Phone Number/Fax Number of Entity Constituting Contractor/Subcontractor (Print or Type)

Signatory Requirements – This SWPPP certification shall be signed as follows:

a. For a corporation: by (1) a president, secretary, treasurer, or vice- president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decision making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

ATTACHMENT NO. 5

CERTIFICATION OF OWNER/DEVELOPER

ATTACHMENT NO. 6
SAMPLE INSPECTION FORM
FOR USE
DURING CONSTRUCTION
UNTIL FILING OF NOTICE OF TERMINATION
(NOT)
UNDER SPDES GENERAL PERMIT
(GP# 0-15-002)

CONSTRUCTION DURATION SWPPP INSPECTION REPORT

Project:		
Owner/Contractor:		
Qualified Inspector:		
Qualified Professional:		
Inspection Date:	Inspection Time:	Temperature:
Weather Conditions:	Soil Conditions: **DRY** / WET / SATURATED / FROZEN / SNOW COVERED	

INSPECTION CHECK LIST

Record Keeping

Yes	No	N/A	
			Is a copy of the Notice of Intent (NOI) and acknowledgment on site?
			Is a copy of the SWPPP report and all necessary signed permittee and contractor certification statements retained at the construction site?
			Is a copy of the SPDES General Permit retained at the construction site?
			Are the SWPPP inspection report logs retained at the construction site?

Visual Observations

Describe water runoff conditions at all points of discharge from the construction site. Include identification of any silt or sediment discharges from the site, including discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.).

Discharge Point	Sediment Discharge		Description of runoff water and sediment discharge (if applicable)
	Yes	No	
NA			

Describe conditions of all natural surface water bodies 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 water body.

Water body	Sediment Discharge		Description of water and sediment discharge (if applicable)
	Yes	No	
NA			

Describe areas where temporary or permanent stabilization are required or have been implemented.

Area	Description of stabilization (temporary or permanent), type of stabilization, installed or required
Building Pad	

Yes	No	N/A	
			Is the construction entrance/exit installed and effective? If No, recommendations;
			Are the public roads being kept clean?
			Is the perimeter silt fence installed, effective and cleaned?
			Does the perimeter silt fence require repairs or replacement? If yes provide location(s):
			Is inlet protection installed in accordance with approved details? If No, recommendations;
			Is outlet protection installed and effective? If No recommendations;

CONSTRUCTION DURATION SWPPP INSPECTION REPORT

Yes	No	N/A	
			Is a temporary sediment basin installed and effective? If No recommendations;
			Are soil stockpiles on site surrounded within a silt fence enclosure? If No, recommendations;
			Are there currently less than 5 acres of disturbed soils at the site? If No, explain;
			Has the contractor completed repairs/remediation's recommended in previous inspection report? If No, recommendations;

Housekeeping

Yes	No	N/A	
			Litter, including building materials, has been picked up, and has been disposed of in appropriate dumpsters? Are the dumpsters being emptied regularly? If No, explain;
			Construction equipment has been inspected for oil and grease leaks?
			All construction equipment that was found to be leaking has been repaired?
			Hazardous or toxic materials, including oil, grease, detergents and solvents, are stored under cover where they cannot come in contact with storm water?
			Empty containers have been disposed of?
			Onsite fueling areas are being maintained and have adequate spill protection devices?

Use this space to explain each "No" checked above and to provide additional comments as necessary. Identify any areas with gully erosion on slopes, loss of vegetation, seed or mulch, excessive deposition of sediments or ponding water along diversion or barrier systems. Also identify any areas of erosion near outlet or overflow structures in the sedimentation basin areas.

Signature of Qualified Inspector: _____

Signature of Qualified Professional: _____ Project Name:

Project Location:

Signature of Owner's Representative: _____ Project File No.

CONSTRUCTION DURATION SWPPP INSPECTION REPORT

ADDITIONAL NOTES AND LIST OF DEFFICENCIES

MAP POCKET #1

MAP #C – 3

SITE PLAN

GEOTECHNICAL RECOMMENDATIONS

1. ALL EXISTING FILLS SHOULD BE REMOVED AND REPLACED BENEATH NEW BUILDING ARES. CONSIDERATION CAN BE GIVEN TO LEAVING THE FILLS IN PLACE BENEATH PAVEMENTS PROVIDED THAT THE SURFACES ARE PROOF–ROLLED AND STABILIZED AND THE OWNER ACCEPTS SOME RISK THAT SETTLEMENT MAY OCCUR AND REQUIRE MAINTENANCE.

2. THE NEW BUILDINGS MAY BE SUPPORTED USING ORDINARY SPREAD FOUNDATIONS BEARING UPON THE UNDISTURBED NATIVE SOULS OR ON STRUCTURAL FILL PLACED TO ESTABLISH DESIGN GRADES.

3. LAYERS OF TRAPPED OR PERCHED GROUNDWATER MAY BE ENCOUNTERED IN THE SITE EXCAVATIONS AT SHALLOW DEPTHS, SEASONALLY. FOR THESE REASONS, PERIMETER SWALES AND OR UNDERDRAINS SHOULD BE PROVIDED ALONG AND BENEATH PAVEMENTS, AND FOUNDATION DRAINS ALONG THE SIDES OF THE PERIMETER BUILDING FOUNDATIONS.

4. SITE PREPARATION SHOULD PREFERABLY BE DONE DURING A SEASONAL DRY PERIOD TO REDUCE THE ADVERSE IMPACTS OF SOFT AND/OR WET SOILS AND ESTABLISH A STABLE BASE FOR CONSTRUCTION. A CONTINGENCY SHOULD BE CARRIED IN THE PROJECT BUDJET FOR UNDERCUTTING AND REPLACEMENT OF SOFT AND/OR WET SUBGRDE SOILS.

5. THE ON–SITE SOILS, IN SOME AREAS AND AT CERTAIN DEPTHS, CONTAIN APPRECIABLE AMOUNTS OF SILT, AND THEY WILL BE VERY SENSITIVE TO CONSTRUCTION ACTIVITIES AND EVEN SLIGHT VARIATIONS IN MOISTURE CONTENT.

NOTE

1. A GEOTECHNICAL ENGINEER SHOULD BE ON SITE DURING DURING THE EARTHWORK AND FOUNDATION PHASES. REPORTS DURING CONSTRUCTION SHALL BE FORWARDED TO THE CITY OF ALBANY DEPARTMENT OF ENGINEERING.

CITY OF ALBANY NOTES

SITE REQUIREMENTS:

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE FOLLOWING:

THE REMOVAL AND REPLACING OF ALL EXISTING SIDEWALKS, CURBS, STREET PAVEMENT, TREES, BRICK PAVERS, AND SHRUBBERY DAMAGED DURING THE COURSE OF THIS PROJECT AND WITHIN THE FULL LIMITATIONS OF THE PROJECT.

IT WILL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL METHODS AVAILABLE HAVE BEEN TAKEN TO PROTECT ALL THE AFOREMENTIONED ENTITIES BEFORE CONSTRUCTION WORK BEGINS.

IF AT ANY TIME DURING SAID CONSTRUCTION, THE CITY ENGINEER OR HIS REPRESENTATIVE DEEM THAT ANY AND/OR ALL PORTIONS OF SIDEWALK, CURB PAVEMENT AND/OR ANY OTHER APPURTENANCES HAVE BEEN DAMAGED BY EITHER THE GENERAL CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS, IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE ALL REPAIRS AND/OR CORRECTIONS TO SAID AREAS WITHOUT ANY COST TO THE CITY OF ALBANY.

PERMIT REQUIREMENTS:

THE GENERAL CONTRACTOR, PRIOR TO BEGINNING ANY WORK ON SAID PROJECT, WILL PROCURE THE FOLLOWING PERMITS WHERE APPLICABLE:

*ENGINEERING DEPARTMENT	*DEPARTMENT OF GENERAL SERVICES
*GRADING AND MINING	*CURB CUT APPLICATION
*SANITARY/STORM SEWER	*SIDEWALK/CURB RESTORATION
*RETAINING WALL	*STREET RESTORATION
*WATER DEPARTMENT	*WATER SERVICE

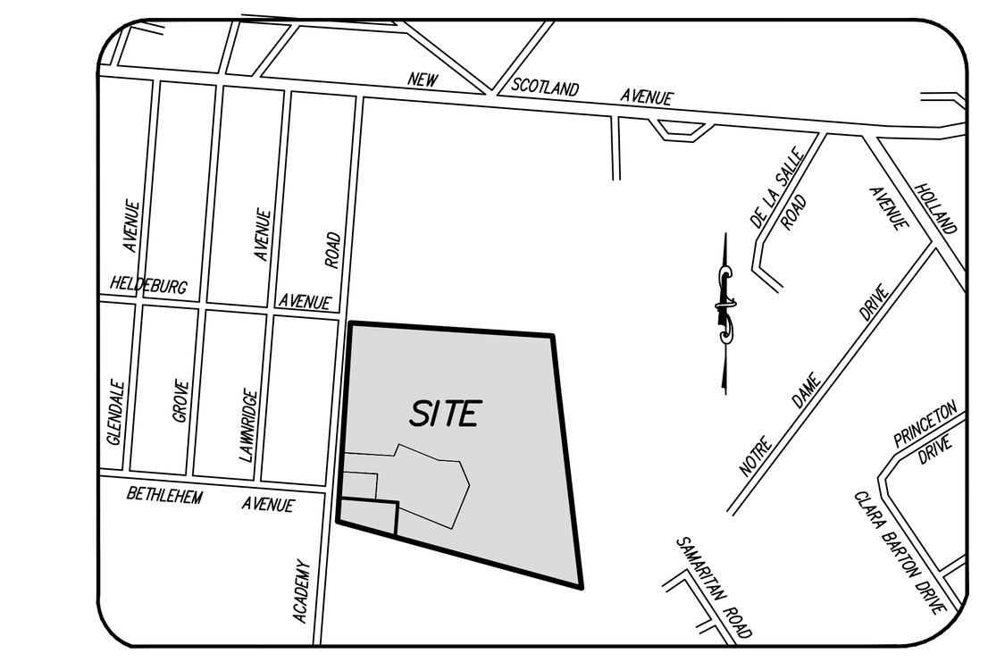
THE CONTRACTOR WILL PROCURE BEFORE BEGINNING OF CONSTRUCTION ALL REQUIRED PERMITS LIABILITY INSURANCE FOR $1,000,000.00 AND A PERFORMANCE BOND AS ASSESSED BY CITY ENGINEER. BOND AND LIABILITY INSURANCE TO BE SUBMITTED TO THE ENGINEERING DEPARTMENT BEFORE THE GENERAL CONTRACTOR INTENDS TO BEGIN ANY SITE EXCAVATION.

THE CONTRACTOR WILL NOTIFY THE ENGINEERING DEPARTMENT FORTY–EIGHT (48) HOURS PRIOR TO PERFORMING ALL UTILITY OR SITE RESTORATION WORK. FAILURE TO NOTIFY THE ENGINEERING DEPARTMENT BEFORE BEGINNING WORK COULD RESULT IN A ONE HUNDRED DOLLAR ($100.00) FINE FOR EACH DAY THE OFFENSE OCCURS.

THE CONTRACTOR WILL NOTIFY THE DEPARTMENT OF WATER AND WATER SUPPLY FORTY–EIGHT (48) HOURS PRIOR TO SCHEDULE AN INSPECTION FOR WATER, SANITARY AND STORM UTILITY WORK.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



VICINITY MAP

MAP NOT TO SCALE

EXISTING LEGEND

R.O.W. RIGHT OF WAY; No. NUMBER; enc. ENCROACHMENT; P.O.B. POINT OF BEGINNING; S.F. SQUARE FEET; N/F NOW OR FORMERLY; N NORTH; S SOUTH; E EAST; W WEST; tel. TELEPHONE; elec. ELECTRIC; L. LIBER; P. PAGE; EXISTING CONTOUR; STORM LINE; SEWER LINE; WATER LINE; GAS LINE; UNDERGROUND ELECTRIC; MONUMENT; IRON ROD; MANHOLE; CATCHBASIN; SIGN; BOLLARD; FENCE LINE; GUARD RAIL; OVERHEAD WIRE, UTILITY POLE & GUY WIRE; TRAFFIC FLOW ACCESS AREA; WATER SHUT OFF; WATER VALVE; HYDRANT; GAS VALVE; STREET LIGHT; LIGHT POLE; CONCRETE; PAVEMENT; STONE

PROPOSED LEGEND

PROPOSED CONTOUR; PROPOSED CHECK DAMS; PROPOSED SANITARY SEWER; PROPOSED WATER SERVICE; PROPOSED FORCE MAIN; PROPOSED STORM SEWER; PROPOSED CONCRETE CURB; PROPOSED HYDRANT; PROPOSED PAVEMENT & STRIPING; PROPOSED CONCRETE WALK; PROPOSED ASPHALT WALK

ZONING INFORMATION

MU–CI DISTRICT (MIXED–USE CAMPUS/INSTITUTIONAL)

MIN. FRONT YARD	N/A
MAX. FRONT YARD	20 FEET
MIN. SIDE YARD	0 FEET
MIN. REAR YARD	0 FEET ADJACENT TO 'R' DISTRICT MIN. 15'
MAX. HEIGHT, PRINCIPAL BLDG	8 1/2 STORIES*
MAX. HEIGHT, ACCESSORY BLDG	1 1/2 STORIES
MAX. LOT COVERAGE	60%

* ANY PORTION OF A BUILDING LOCATED WITH 50 FEET OF ANY ABUTTING R–1M DISTRICT IS LIMITED TO 3 STORIES.

ZONING INFORMATION ADOPTED FROM:
CITY OF ALBANY
UNIFIED SUSTAINABLE DEVELOPMENT ORDINANCE
APRIL 2017
PH. (518) 434–5190

PARKING TABLE (WITHIN PROPOSED No. 58 ACADEMY ROAD ONLY)

PARKING SPACES PRE–CONSTRUCTION	3
PARKING SPACES POST–CONSTRUCTION	39

SITE COVERAGE STATISTICS No. 58 ACADEMY ROAD EXISTING

description	s.f.	acres	%
gross site area	101,128	2.32	100.00
impervious area	12,046	0.28	11.91
building coverage	7,884	0.18	7.80
pervious area	89,082	2.05	88.09
pavement/sidewalk coverage	4,162	0.10	4.12

SITE COVERAGE STATISTICS No. 58 ACADEMY ROAD PROPOSED

description	s.f.	acres	%
gross site area	101,128	2.32	100.00
impervious area	58,701	1.35	58.05
building coverage	26,892	0.62	26.59
pervious area	42,427	0.97	41.95
pavement/sidewalk coverage	31,809	0.73	31.45

HERSHBERG & HERSHBERG
Consulting Engineers and Land Surveyors
18 Locust Street
Albany, New York 12203

STATE OF NEW YORK · DANIEL R. HERSHBERG · LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR · 044226 · EXCELSIOR

REVISIONS

REMARKS	DATE	REMARKS
PROPOSED PROPERTY LINE	10/12/17	
GENERAL REVISIONS	12/14/17	
GENERAL REVISIONS	12/18/17	
AWD & ENGINEERING COMMENTS	3/29/18	

SITE PLAN
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
PROPOSED No. 58 ACADEMY ROAD
ALBANY, NEW YORK

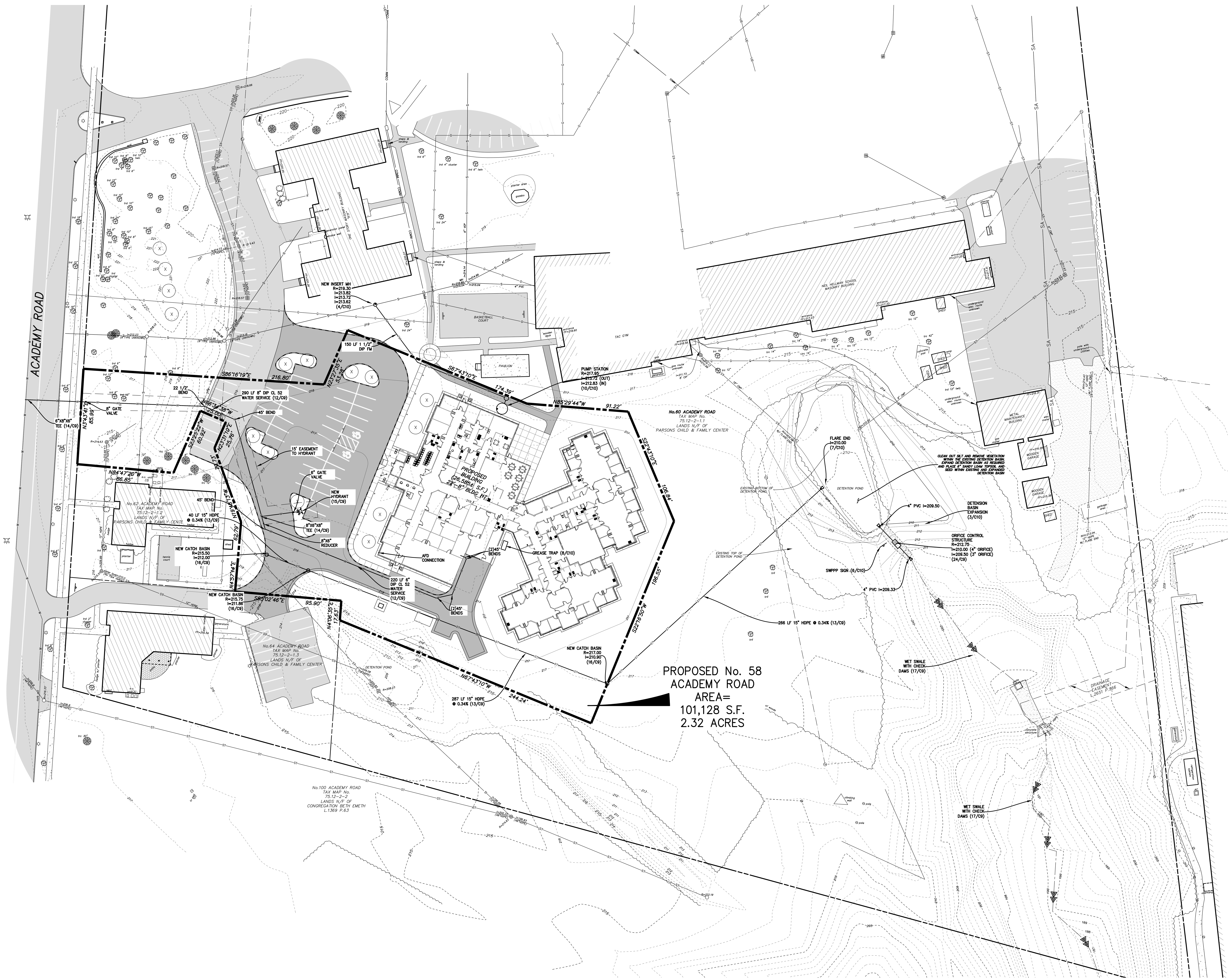
FILE: 170216 | SCALE: 1"=30' | BY: MLW | CHK: DRH | DATE: 9/14/17 | 170216–1.DWG

C3

MAP POCKET #2

MAP #C – 4

UTILITY PLAN

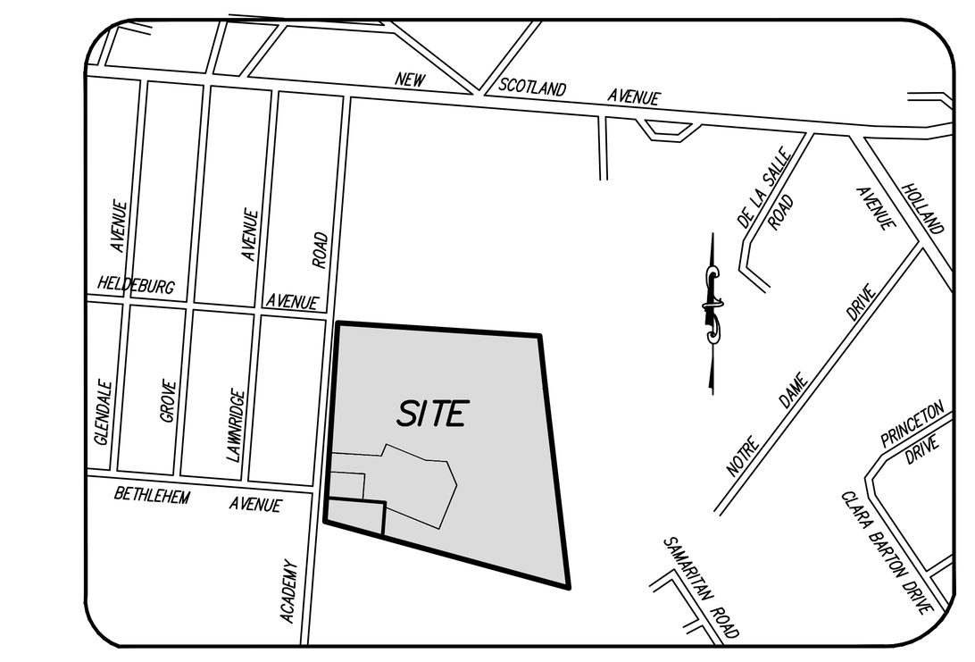


NOTES

1. 48 HOURS NOTICE MUST BE GIVEN TO DEPARTMENT OF WATER FOR INSPECTIONS FOR THE SANITARY, WATER AND STORMWATER UTILITIES.

2. PRESSURE AND LEAKAGE TESTING OF THE WATER MAIN SHALL BE WITNESSED BY DEPARTMENT STAFF AND ACCEPTABLE BACTERIOLOGICAL TEST MUST BE SUBMITTED AND ACCEPTED BY THE DEPARTMENT PRIOR TO FINAL OF THE NEW WATER MAIN.

3. KNOX BOX FOR PROPOSED BUILDING WILL BE LOCATED AT BUILDING ENTRANCE.



VICINITY MAP

MAP NOT TO SCALE

EXISTING LEGEND

R.O.W.	RIGHT OF WAY		MONUMENT
No.	NUMBER		IRON ROD
enc.	ENCROACHMENT	MH	MANHOLE
P.O.B.	POINT OF BEGINNING		CATCHBASIN
S.F.	SQUARE FEET		SIGN
N/F	NOW OR FORMERLY		BOLLARD
N	NORTH		FENCE LINE
S	SOUTH		GUARD RAIL
E	EAST		OVERHEAD WIRE, UTILITY POLE & GUY WIRE
W	WEST		TRAFFIC FLOW ACCESS AREA
tel.	TELEPHONE	WSO	WATER SHUT OFF
elec.	ELECTRIC	WV	WATER VALVE
L.	LIBER		HYDRANT
P.	PAGE	GV	GAS VALVE
231	EXISTING CONTOUR		STREET LIGHT
ST	STORM LINE		LIGHT POLE
S	SEWER LINE		CONCRETE
W	WATER LINE		PAVEMENT
G	GAS LINE		STONE
UE	UNDERGROUND ELECTRIC		
COMM	UNDERGROUND ELECTRIC		

PROPOSED LEGEND

231	PROPOSED CONTOUR
	PROPOSED CHECK DAMS
S	PROPOSED SANITARY SEWER
W	PROPOSED WATER SERVICE
FM	PROPOSED FORCE MAIN
ST	PROPOSED STORM SEWER
	PROPOSED CONCRETE CURB
	PROPOSED HYDRANT
	PROPOSED PAVEMENT & STRIPING
	PROPOSED CONCRETE WALK
	PROPOSED ASPHALT WALK

HERSHBERG & HERSHBERG

Consulting Engineers and Land Surveyors

18 Locust Street
Albany, New York 12203

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, IS ILLEGAL

STATE OF NEW YORK · DANIEL R. HERSHBERG · EXCELSIOR · 044226 · LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR

DATE	REMARKS
3/29/18	AWD & ENGINEERING COMMENTS

REVISIONS

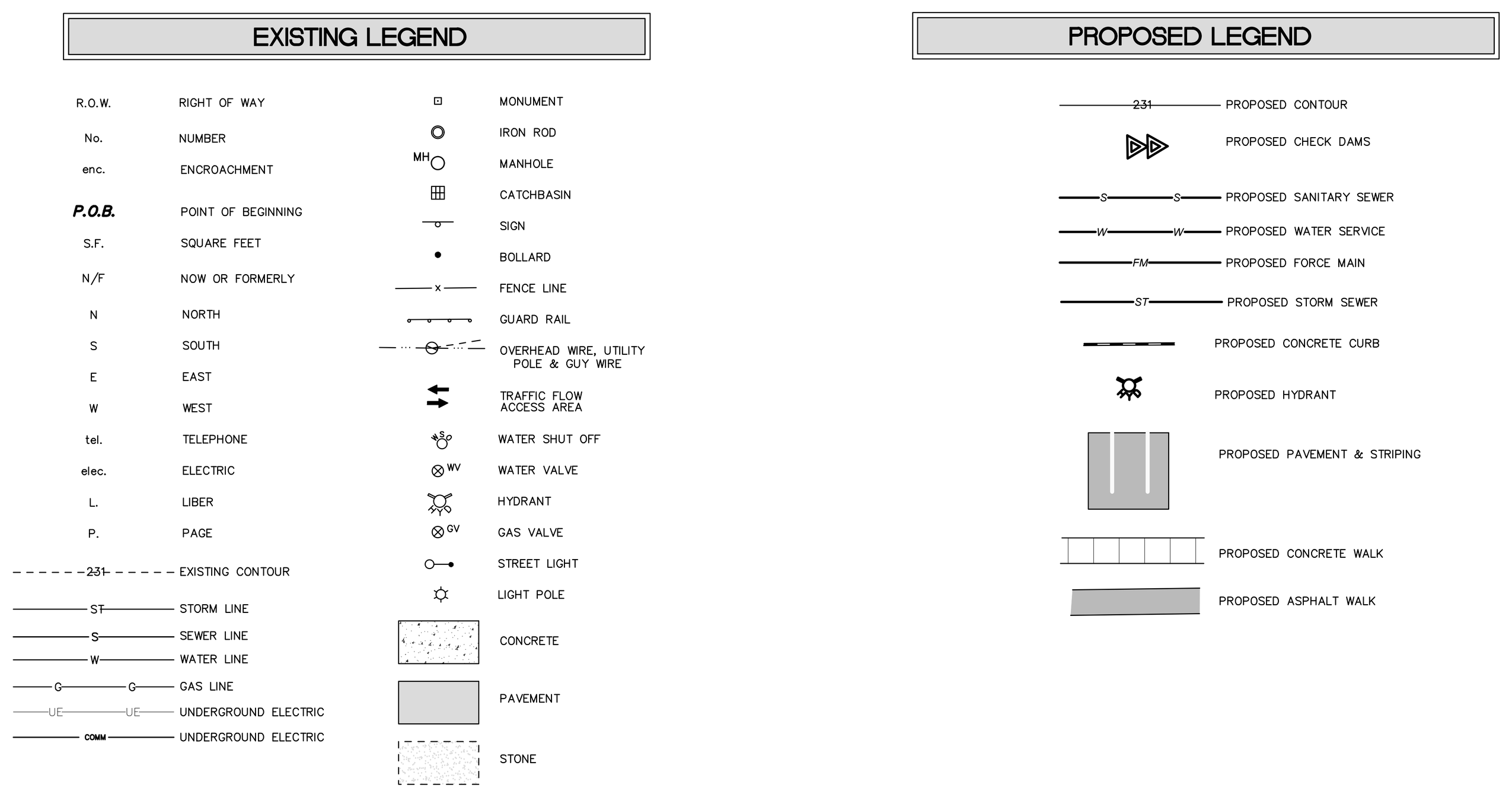
UTILITY PLAN
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
PROPOSED No. 58 ACADEMY ROAD
ALBANY, NEW YORK

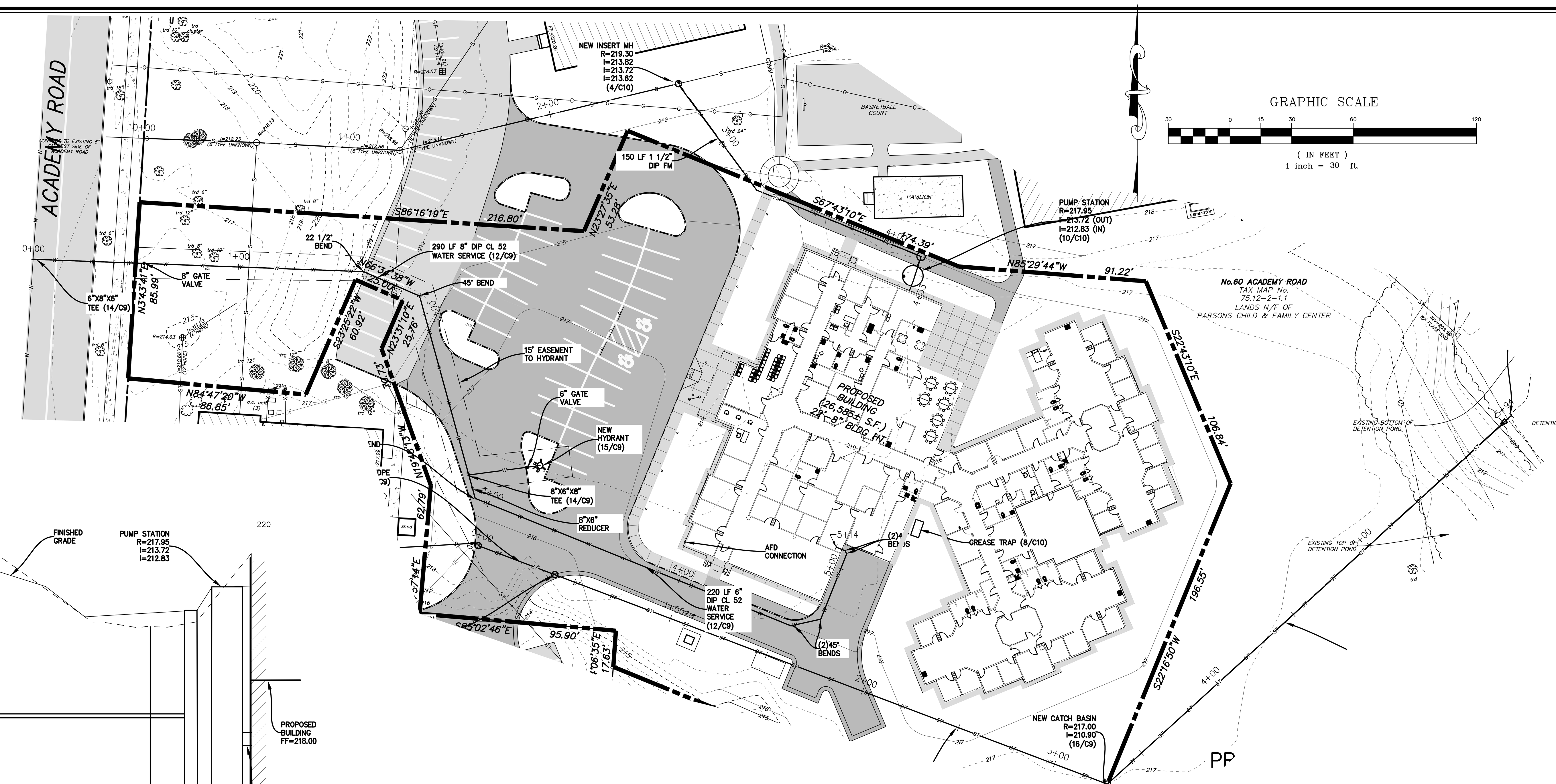
FILE: 170216 | SCALE: 1"=30' | BY: MLW | CHK: DRH | DATE: 2/27/18 | 170216-1.DWG

C4

MAP POCKET #3

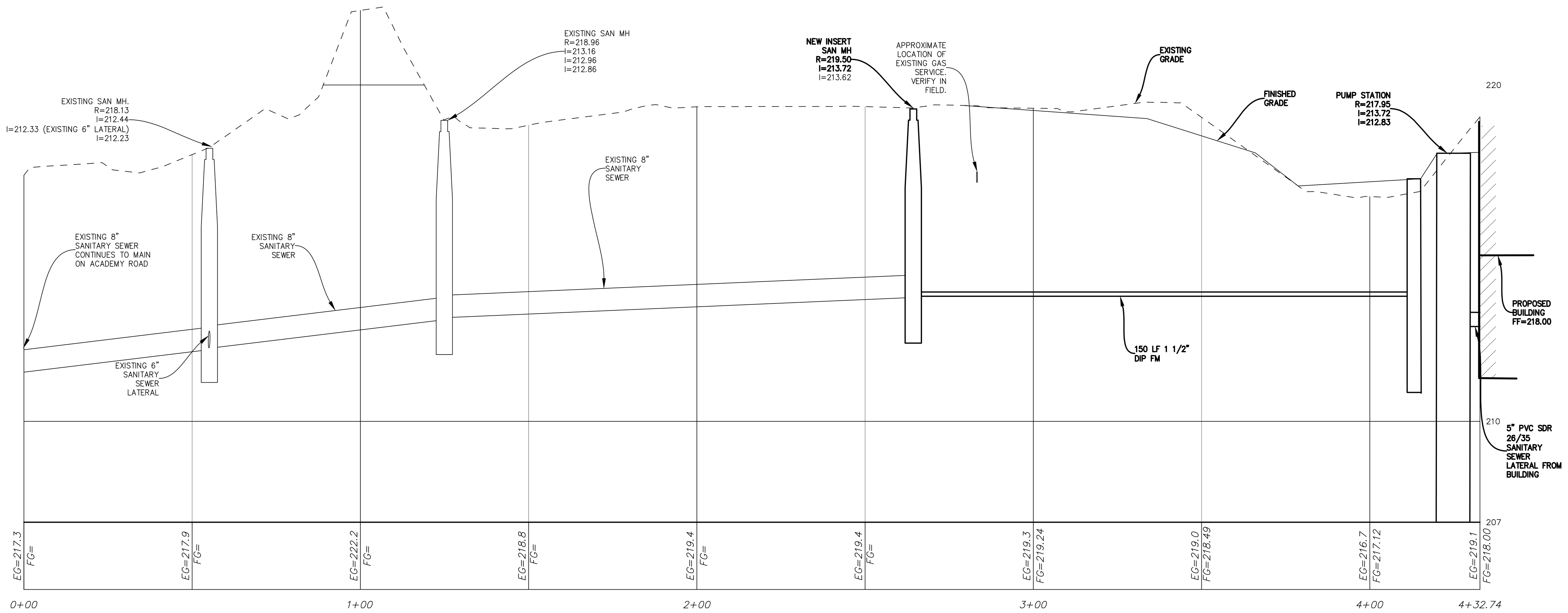
SHEET C-5
UTILITY PROFILES





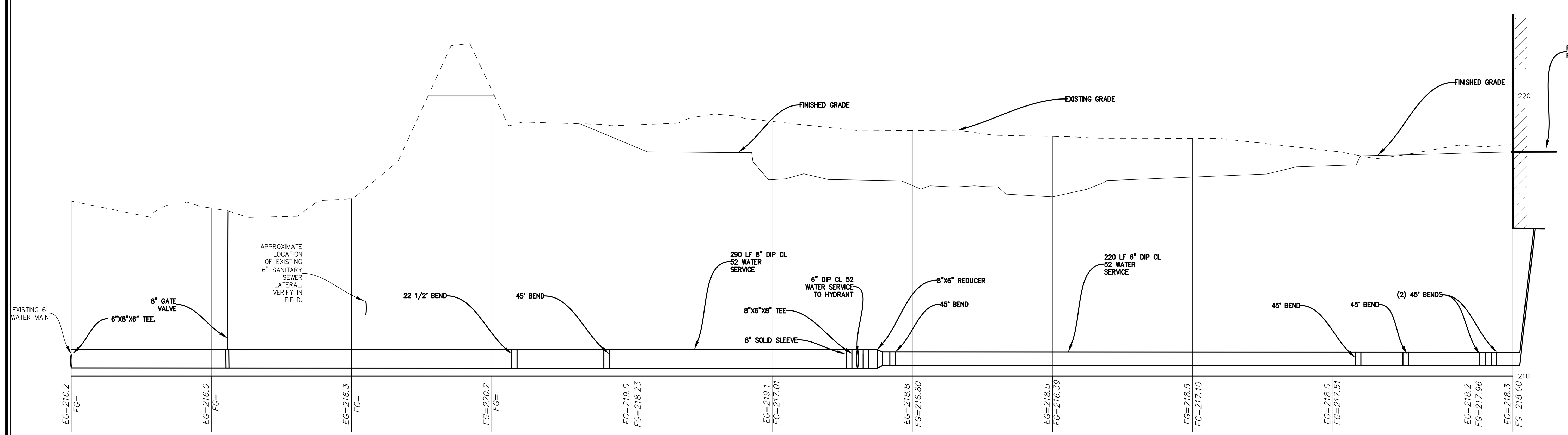
UTILITY PLAN

SCALE: 1"=30'



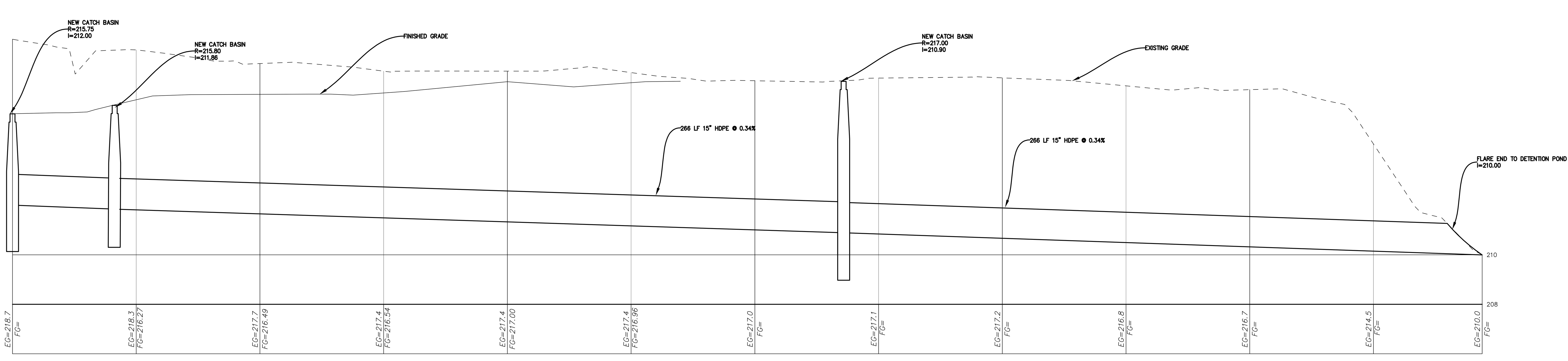
SANITARY SEWER PROFILE

SCALE=1"=20' (H) 1"=2' (V)



WATER SERVICE PROFILE

SCALE=1"=20' (H) 1"=2' (V)



STORM SEWER PROFILE

SCALE=1"=20' (H) 1"=2' (V)

NOTES

1. 48 HOURS NOTICE MUST BE GIVEN TO DEPARTMENT OF WATER FOR INSPECTIONS FOR THE SANITARY, WATER AND STORMWATER UTILITIES.

2. PRESSURE AND LEAKAGE TESTING OF THE WATER MAIN SHALL BE WITNESSED BY DEPARTMENT STAFF AND ACCEPTABLE BACTERIOLOGICAL TEST MUST BE SUBMITTED AND ACCEPTED BY THE DEPARTMENT PRIOR TO FINAL OF THE NEW WATER MAIN.

HERSHBERG & HERSHBERG
Consulting Engineers and Land Surveyors
18 Locust Street
Albany, New York 12203

DATE	REMARKS
3/29/18	AWD & ENGINEERING COMMENTS

REVISIONS

UTILITY PROFILES
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
PROPOSED No. 58 ACADEMY ROAD
ALBANY, NEW YORK

FILE: 170216 | SCALE: AS NOTED | BY: MLW | CHK: DRH | DATE: 2/27/18 | 170216-1.DWG

C5

MAP POCKET #4

MAP #C – 6

EROSION AND SEDIMENT CONTROL PLAN

ESC LEGEND

- SILT FENCE
- 201 — TEMPORARY SEDIMENT CONTROL TRAP CONTOURS
- TEMPORARY PERIMETER SWALE
- DROP INLET PROTECTION
- CONSTRUCTION STAGING AND STOCKPILE AREAS
- VEHICLE FUELING AREA

GRAPHIC SCALE

30 0 15 30 60 120

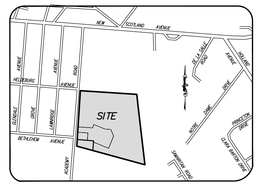
(IN FEET)
1 inch = 30 ft.

EXISTING LEGEND

R.O.W.	RIGHT OF WAY		MONUMENT
No.	NUMBER		IRON ROD
enc.	ENCROACHMENT	MH	MANHOLE
P.O.B.	POINT OF BEGINNING		CATCHBASIN
S.F.	SQUARE FEET		SIGN
N/F	NOW OR FORMERLY		BOLLARD
N	NORTH		FENCE LINE
S	SOUTH		GUARD RAIL
E	EAST		OVERHEAD WIRE, UTILITY POLE & GUY WIRE
W	WEST		TRAFFIC FLOW ACCESS AREA
tel.	TELEPHONE		WATER SHUT OFF
elec.	ELECTRIC	WV	WATER VALVE
L.	LIBER		HYDRANT
P.	PAGE	GV	GAS VALVE
201	EXISTING CONTOUR		STREET LIGHT
ST	STORM LINE		LIGHT POLE
S	SEWER LINE		CONCRETE
W	WATER LINE		PAVEMENT
G	GAS LINE		STONE
UE	UNDERGROUND ELECTRIC		
OHW	UNDERGROUND ELECTRIC		

PROPOSED LEGEND

- 201 — PROPOSED CONTOUR
- PROPOSED CHECK DAMS
- PROPOSED SANITARY SEWER
- PROPOSED WATER SERVICE
- PROPOSED FORCE MAIN
- PROPOSED STORM SEWER
- PROPOSED CONCRETE CURB
- PROPOSED HYDRANT
- PROPOSED PAVEMENT & STRIPING
- PROPOSED CONCRETE WALK
- PROPOSED ASPHALT WALK



VICINITY MAP

MAP NOT TO SCALE

CONSTRUCTION SEQUENCING & SEDIMENTATION AND EROSION CONTROL DURING CONSTRUCTION

The construction sequence for this project will be governed by the erosion and sediment control plan. Approximate timing is indicated where applicable in red following steps.

Prior to commencement of any work this SWPPP

- ✓ Assure that copy of SWMR & SWPPP is on the site. **ON COMMENCEMENT**
- ✓ Establish Qualified Individual who will be performing site inspection. **ON COMMENCEMENT**
- ✓ SWPPP inspections must be performed by the qualified professional must be submitted to the MS4 Coordinator. **From Commencement until filing the Notice of Termination.**
- ✓ Establish Trained Contractor who will be on site. At least one Trained Contractor must be on site whenever ground disturbing activities are being undertaken. **ON COMMENCEMENT**
- ✓ Establish contact person for Contractor/Subcontractor. **ON COMMENCEMENT**
- ✓ **IN CASE OF ANY SPILLS OF MATERIALS ON SITE, EXECUTE SPILL RESPONSE PLAN CONTAINED IN APPENDIX #9**

Construction Sequence

- ✓ Commence work on site. **WITHIN 10 DAYS OF PRE-CONSTRUCTION MEETING**
- ✓ Install silt fence or other controls as indicated on the plan. **PRIOR TO COMMENCEMENT OF ANY GRADING – FENCE TO REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.**
- ✓ Grade and prepare construction access. **PRIOR TO COMMENCEMENT OF ANY GRADING – CONSTRUCTION ACCESS TO REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.**
- ✓ Commence installation of the temporary sediment trap, interception swale, drop inlet protection, and portion of storm sewer. **PRIOR TO BUILDING EXCAVATION.**
- ✓ The existing pavement must be kept swept clean to avoid tracking materials onto any streets. **CONTINUOUSLY FROM INCEPTION TO COMPLETION OF STABILIZATION OR FILING OF NOTICE OF TERMINATION.**
- ✓ Maintain this area clean of debris and verify condition and safety of storage of materials listed below. Requires daily inspection. **CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.**
- ✓ Any construction materials, chemicals or construction debris must be stored in sealed receptacles, trailers or buildings. Any storage piles of materials meant for installation (i.e., sand, etc.) must be surrounded by sedimentation fence. The list of anticipated materials stored on site during construction is provided below and must be updated if any additional materials are utilized. **CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.**
  - Select Fill
  - Rip-rap
  - Fencing Materials
  - Concrete Structures
  - Pipes
  - Pipe Solvents
  - Concrete for building
  - Roofing Materials for Building
  - Metal Materials for Building
  - Building Materials for Building
- ✓ MSDS sheets must be available on site for all materials used or imported to the site. **CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.**
- ✓ Any chemical spills must be contained immediately on site and reported to NYSDEC. **CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.**
- ✓ Oil and grease spills from equipment shall be treated immediately. **CONTINUOUSLY FROM INCEPTION TO FILING OF NOTICE OF TERMINATION.**
- ✓ Commence installation of the temporary sediment trap and interception swale. **PRIOR TO GRADING.**
- ✓ Clean interception swale and sediment trap as required. **CONTINUOUSLY FROM INSTALLATION UNTIL FILING OF NOTICE OF TERMINATION.**
- ✓ Install building, place pavement and prepare lawns and planters. **PRIOR TO FILING OF NOTICE OF TERMINATION.**
- ✓ Install Hydrodynamic Separator and connect to discharge pipe. **UPON REACHING SUBSTANTIAL COMPLETION**
- ✓ Clean any downstream structures of any accumulated silt. **PRIOR TO FILING OF** NOTICE OF TERMINATION.
- ✓ Fine-grade landscape beds. PRIOR TO FILING OF NOTICE OF TERMINATION.
- ✓ Place landscape materials. PRIOR TO FILING OF NOTICE OF TERMINATION.
- ✓ Seed and mulch. PRIOR TO FILING OF NOTICE OF TERMINATION.
- ✓ Obtain approval on Notice of Termination from MS4 coordinator after site has achieved >80% grass cover. PRIOR TO FILING OF NOTICE OF TERMINATION.
- ✓ File NOTICE OF TERMINATION.

HOUSEKEEPING SECTION

During construction any construction materials, chemicals or construction debris must be stored in sealed receptacles, trailers or buildings. Any storage piles of materials meant for installation (i.e., sand, etc.) must be surrounded by sedimentation fence. The list of anticipated materials stored on site during construction is provided below and must be updated if any additional materials are utilized:

- Select Fill
- Rip-rap
- Fencing Materials
- Concrete Structures
- Pipes
- Pipe Solvents
- Concrete for building
- Roofing Materials for Building
- Building Materials for Building

MSDS sheets must be available on site for all materials used or imported to the site.

Any chemical spills must be contained immediately on site and reported to NYSDEC.

IN CASE OF ANY SPILLS OF MATERIALS ON SITE, EXECUTE SPILL RESPONSE PLAN CONTAINED IN APPENDIX #8

Oil and grease spills from equipment shall be treated immediately. Vehicle fueling must take place in designated area. Relocate designated fueling area when required. A concrete truck washout must be provided and used by all trucks washing out concrete. Pit must be maintained and pumped out regularly.

After construction, materials and chemicals must be stored in sealed receptacles or in buildings. Daily inspection by trained individual shall be made by staff to ensure that materials listed below are properly stored. The list of anticipated materials stored on site after occupancy of the building and solar farm is provided below and must be updated if any additional materials are utilized:

- Cleaning Materials for Building

MSDS sheets must be available on site for all materials utilized for used or imported to the site. Any chemical spills must be contained immediately on site and reported to NYSDEC. Oil and grease spills from equipment shall be treated immediately.

HERSHBERG & HERSHBERG
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STATE OF NEW YORK — TIMOTHY R. HERSHBERG — 244228 — LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR

REVISIONS	REMARKS	DATE
AND & ENGINEERING COMMENTS		3/29/18
	REMARKS	DATE
	REMARKS	DATE
	REMARKS	DATE

EROSION AND SEDIMENT CONTROL PLAN
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
PROPOSED No. 58 ACADEMY ROAD
ALBANY, NEW YORK

DES: TDG/DS | SCALE: 1"=30' | CK: MLW | DWG: SBN | DATE: 5/14/17 | T:\2016-139\E

C6

MAP POCKET #5

MAP #C – 9

DETAILS

1/C9 ASPHALT PAVEMENT DETAIL
NOT TO SCALE
2/C9 INTEGRAL WALK & CURB DETAIL
NOT TO SCALE
3/C9 HANDICAPPED RAMP DETAIL
NOT TO SCALE
4/C9 HANDICAPPED RAMP DETAIL
NOT TO SCALE
DETECTABLE WARNING SURFACE DETAIL
5/C9 GRANITE CURB DETAIL
NOT TO SCALE
NOTE:
1. EXPANSION JOINT MATERIAL SHALL INSTALLED WHEN CURB IS SET AGAINST NEW OR EXISTING SIDEWALK AS ORDERED BY THE ENGINEER.
2. FOR NEW CONSTRUCTION, A 6" CURB REVEAL SHALL BE MAINTAINED, FOR CURB REPLACEMENT OR RESETTING, MATCH EXISTING REVEAL. FOR DROP CURB, MAXIMUM HEIGHT SHALL BE 1/2".
3. UNLESS OTHERWISE NOTED, ALL ITEMS ASSOCIATED WITH GRANITE CURB INSTALLATION SHALL BE PAID FOR UNDER ITEM 609.0201
NOTES:
1. SIDEWALK SLOPE FROM BUILDING WALL TO CURB TO BE 1/8" PER FOOT
2. SIDEWALK FINISH TO BE MAGNESIUM FLOAT FINISH
3. CONCRETE WALK TO CONFORM TO CITY OF ALBANY ENGINEERING SPECIFICATIONS
4. CONCRETE USED SHALL HAVE AN AIR CONTENT OF 5% MIN. TO 7% MAX., AND A SLUMP OF THREE INCHES MIN. TO FIVE INCHES MAX.
5. ALL CONCRETE SIDEWALK REPLACEMENT SHALL BE TO FULL PANEL LIMITS. PARTIAL REPLACEMENTS WILL NOT BE ALLOWED.
6. EXPANSION JOINTS TO BE PLACED BETWEEN ADJACENT SLABS, AT BUILDING LINE OR PENETRATING STRUCTURES.
7. ALL CURBING SHALL BE RESET OR REPLACED AS REQUIRED IN ACCORDANCE WITH CITY DETAILS.
LONGITUDINAL SECTION
CROSS SECTION
6/C9 CONCRETE WALK REPAIR DETAIL IN CITY R.O.W.
NOT TO SCALE
7/C9 HANDICAP SIGN
8/C9 HANDICAP SIGN
9/C9 HANDICAP SYMBOL
10/C9 HANDICAPPED PAVEMENT STRIPING DETAIL
11/C9 IN LINE CLEANOUT DETAIL
NOT TO SCALE
12/C9 TYPICAL WATER SERVICE TRENCH DETAIL
NOT TO SCALE
13/C9 TYPICAL STORM SEWER TRENCH DETAIL
NOT TO SCALE
14/C9 TEE CONNECTION DETAIL
NOT TO SCALE
15/C9 TYPICAL HYDRANT DETAIL
NOT TO SCALE
16/C9 CATCH BASIN DETAIL
NOT TO SCALE
17/C9 WET SWALE AND CHECK DAM DETAIL
NOT TO SCALE
18/C9 ANCHORED STABILIZATION MATTING
NOT TO SCALE
NOTE:
USE THIS DETAIL AS REQUIRED TO STABILIZE SLOPES DURING CONSTRUCTION AND UPON COMPLETION OF CLEARING AND GRADING TO PREVENT EROSION OF SLOPES.
EXCAVATED DEPTH MIN. 1' TO A MAX. 2' BELOW TOP OF INLET.
DRILL TWO (2) WEEP HOLES THROUGH THE CONCRETE STRUCTURE 3" ABOVE THE BOTTOM OF EXCAVATION. COVER WITH HARDWARE CLOTH ALLOWING DRAINAGE BUT PREVENTING SEDIMENT FROM ENTERING THE STRUCTURE. REPLACE CLOTH AS NEEDED TO ALLOW DRAINAGE THROUGHOUT THE CONSTRUCTION PROCESS.
OUTLET TO ON-SITE STORMWATER MANAGEMENT SYSTEM.
CONSTRUCTION SPECIFICATIONS:
1. INSTALL INLET PROTECTION IN ACCORDANCE WITH THE JULY 2016 "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".
2. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
3. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
4. WEEP HOLES SHALL BE PROTECTED BY 2"ø STONE OR GRAVEL.
5. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL EXCAVATION WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
6. THE MAXIMUM DRAINAGE AREA SHALL BE 1 ACRE.
DESIGN CRITERIA:
LIMIT THE DRAINAGE AREA TO THE INLET DEVICE TO ONE (1) ACRE. EXCAVATED SIDE SLOPES SHALL BE NO STEEPER THEN 2:1. THE MINIMUM DEPTH SHALL BE 1 FOOT AND THE MAXIMUM DEPTH 2 FEET AS MEASURED FROM THE CREST OF THE INLET STRUCTURE. SHAPE THE EXCAVATED BASIN TO FIT CONDITIONS WITH THE LONGEST DIMENSION ORIENTATED TOWARD THE LONGEST INFLOW AREA TO PROVIDE MAXIMUM TRAP EFFICIENCY. THE CAPACITY OF THE EXCAVATED BASIN SHOULD BE ESTABLISHED TO CONTAIN 900 CUBIC FEET PER ACRE OF DISTURBED AREA. WEEP HOLES, PROTECTED BY FABRIC AND STONE, SHOULD BE PROVIDED FOR DRAINING THE TEMPORARY POOL.
INSPECT AND CLEAN THE EXCAVATED BASIN AFTER EVERY STORM. SEDIMENT SHOULD BE REMOVED WHEN 50 PERCENT OF THE STORAGE VOLUME IS ACHIEVED. THIS MATERIAL SHOULD BE INCORPORATED INTO THE SITE IN A STABILIZED MANNER.
19/C9 EXCAVATED DROP INLET PROTECTION
NOT TO SCALE
EXCAVATED WASHOUT STRUCTURE
WASHOUT STRUCTURE WITH STRAW BALES
NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH
CONCRETE WASHOUT
CONCRETE WASHOUT SIGN DETAIL
(OR EQUIVALENT)
WASHOUT STRUCTURE WITH WOOD PLANKS
CONSTRUCTION SPECIFICATIONS
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.
20/C9 ONSITE CONCRETE TRUCK WASHOUT STRUCTURE DETAIL
NOT TO SCALE
MAXIMUM ALLOWABLE SLOPE LENGTH
MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A SECTION OF SILT FENCE SHALL BE AS FOLLOWS:
SLOPE STEEPNESS: MAX. SLOPE LENGTH:
1:2 25 FT
1:3 50 FT
1:4 75 FT
1:5 OR FLATTER 100 FT
NOTE: MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO SILT FENCE SECTION SHALL NOT EXCEED 1/4 ACRE PER 100 FT OF FENCE. CONCENTRATED DISCHARGE OF SEDIMENT LADEN WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO THE FENCING.
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
1. INSTALL SILT FENCE IN ACCORDANCE WITH "THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A.
2. WOVEN WIRE FENCE SHALL BE 12 1/2 GA., 6" MAXIMUM MESH OPENING, FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
3. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
4. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE WRAPPED TOGETHER PER SILT FENCE JOINT DETAIL ON THIS SHEET.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN ACCUMULATION REACHES 1/2 OF DESIGN CAPACITY OF FENCE (1/2 HEIGHT OF FILTER FABRIC) OR WHEN "BULGES" DEVELOP IN FENCING.
POSTS: STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 12 1/2 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
WRAP ENDS OF SILT FENCE SECTIONS TOGETHER TO PREVENT FLOW OF SEDIMENT BETWEEN SECTIONS
SILT FENCE JOINT DETAIL
21/C9 SILT FENCE DETAIL
NOT TO SCALE
22/C9 VEHICLE AND EQUIPMENT FUELING DETAIL
NOT TO SCALE
23/C9 WATER SERVICE ABANDONMENT DETAIL
NOT TO SCALE
24/C9 ORIFICE CONTROL STRUCTURE DETAIL
HERSHBERG & HERSHBERG
Consulting Engineers and Land Surveyors
18 Locust Street
Albany, New York 12203
ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, IS ILLEGAL
STATE OF NEW YORK
DANIEL R. HERSHBERG
044226
LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR
DATE
REMARKS
AWD. & ENGINEERING COMMENTS 3/29/18
REVISIONS
DETAILS
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
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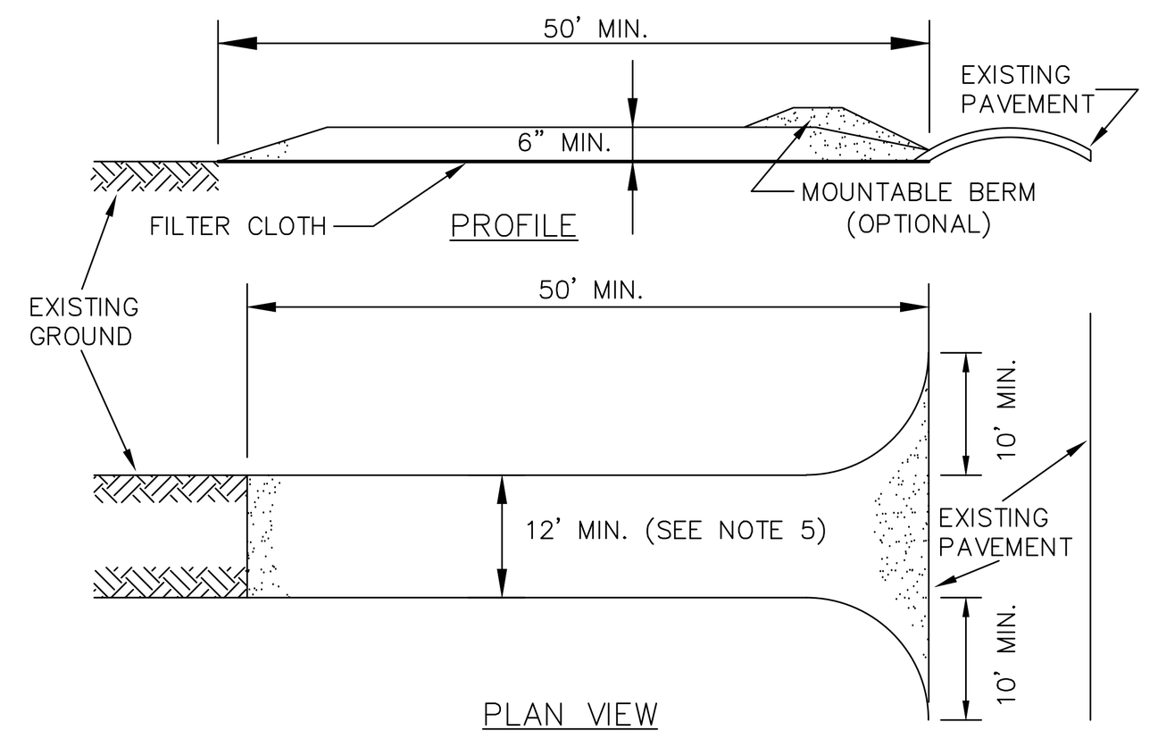
ALBANY, NEW YORK
FILE: 170216
SCALE: 1"=30'
BY: MLW
CHK: DRH
DATE: 9/14/17
170216-1.DWG
C9

MAP POCKET #6

MAP #C –10

DETAILS



CONSTRUCTION SPECIFICATIONS:

1. INSTALL CONSTRUCTION ACCESS IN ACCORDANCE WITH "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A.

2. STONE SIZE –USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.

3. LENGTH – NOT LESS THAN 50 FEET {EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).

4. THICKNESS– NOT LESS THAN (6) INCHES.

5. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. IF CONSTRUCTED AS THE ONLY ENTRANCE TO THE SITE, WIDTH SHALL BE TWENTY–FOUR (24) FEET.

5. STABILIZATION FABRIC – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

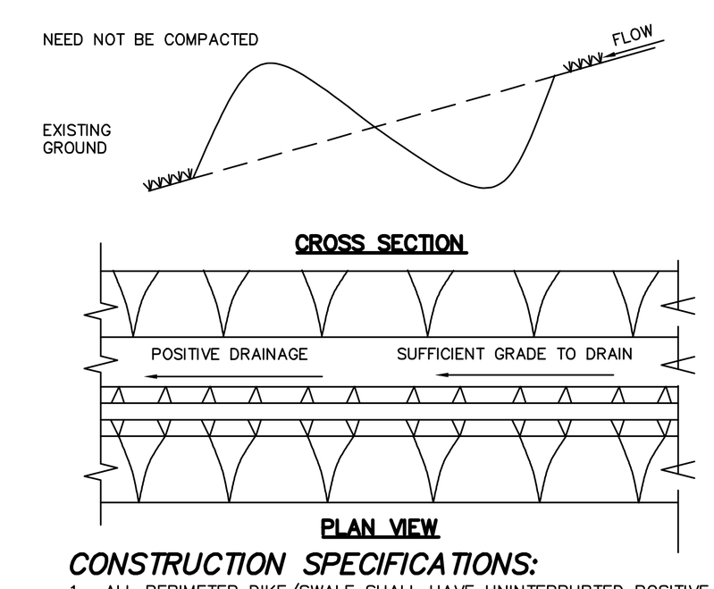
7. MAINTENANCE – THE ACCESS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING DR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. ALL SEDIMENT SPILLED, DROPPED. WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.

8. WHEN WASHING IS REQUIRED. IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS ONTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

1/C10 STABILIZED CONSTRUCTION ACCESS DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON–EROSION VELOCITY.
4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATIONS FOR TEMPORARY SEEDING AND MULCHING, AND SHALL BE DONE WITHIN 10 DAYS.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

MAX. DRAINAGE AREA LIMIT: 2 ACRES

DESIGN CRITERIA:

THE PERIMETER DIKE/SWAL SHALL NOT BE CONSTRUCTED OUTSIDE PROPERTY LINES OR SETBACKS WITHOUT OBTAINING LEGAL EASEMENTS FROM AFFECTED ADJACENT PROPERTY OWNERS. A DESIGN IS NOT REQUIRED FOR PERIMETER DIKE/SWALE. THE FOLLOWING CRITERIA SHALL BE USED:

DRAINAGE AREA – LESS THAN 2 ACRES (FOR DRAINAGE AREAS LARGER THAN 2 ACRES BUT LESS THAN 10 ACRES, SEE EARTH DIKE OR CONSTRUCTION DITCH; FOR DRAINAGE AREAS LARGER THAN 10 ACRES, SEE STANDARD AND SPECIFICATIONS FOR DIVERSION).

HEIGHT – 18 INCHES MINIMUM FROM BOTTOM OF SWALE TO TOP OF DIKE EVENLY DIVIDED BETWEEN DIKE HEIGHT AND SWALE DEPTH.

BOTTOM WIDTH OF DIKE – 2 FEET MINIMUM.

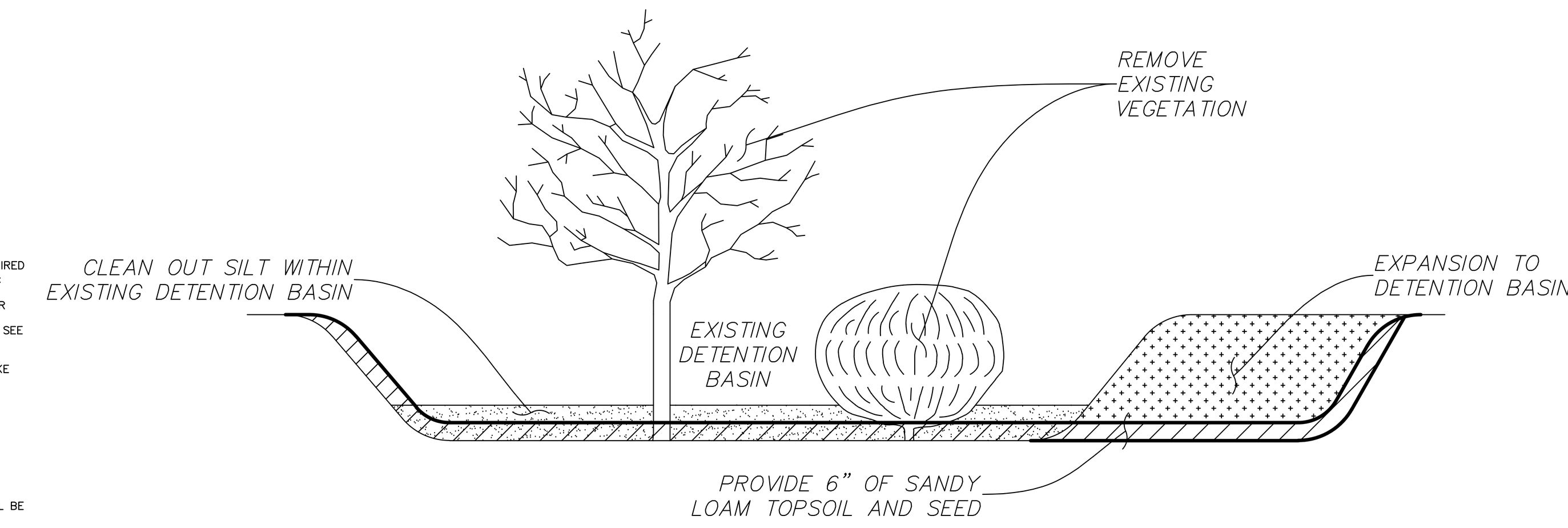
WIDTH OF SWALE – 2 FEET MINIMUM

GRADE – DEPENDENT UPON TOPOGRAPHY, BUT SHALL HAVE POSITIVE DRAINAGE (SUFFICIENT GRADE TO DRAIN) TO AN ADEQUATE OUTLET. MAXIMUM ALLOWABLE GRADE NOT TO EXCEED 8 PERCENT.

STABILIZATION – THE DISTURBED AREA OF THE DIKE AND SWALE SHALL BE STABILIZED WITHIN 2 DAYS OF INSTALLATION FOR CONSTRUCTION DITCH (SEE PAGE 3.4).

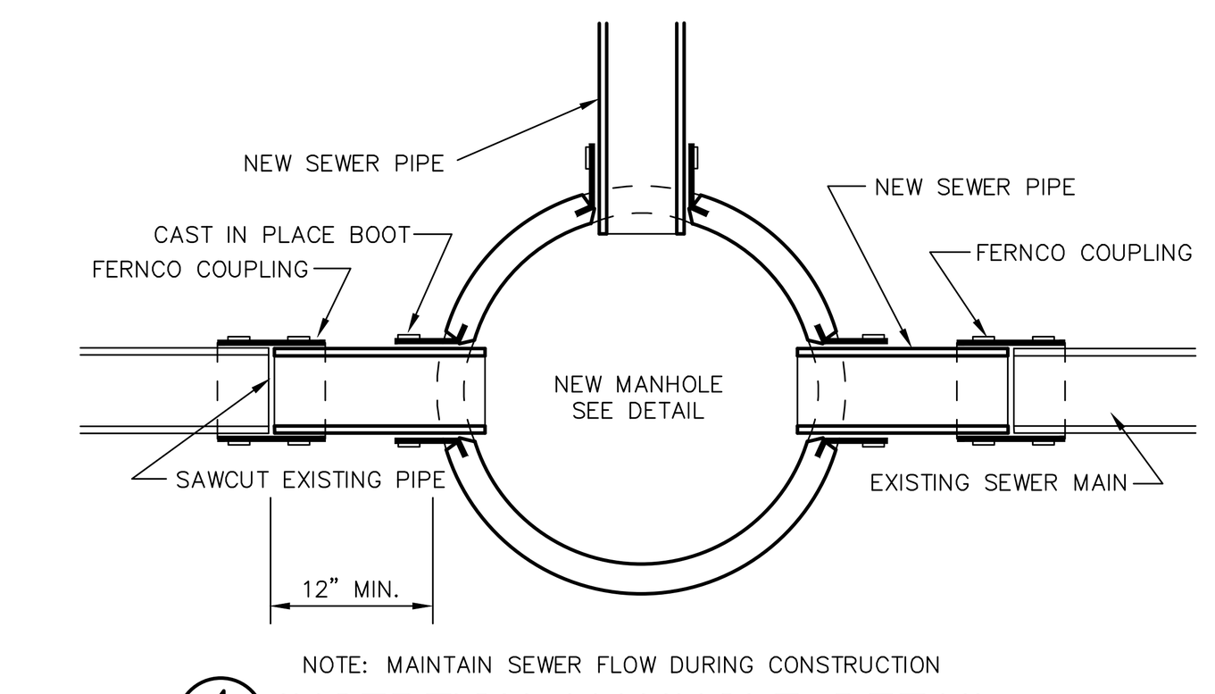
2/C10 TEMPORARY PERIMETER DIKE OR SWALE DETAIL

NOT TO SCALE



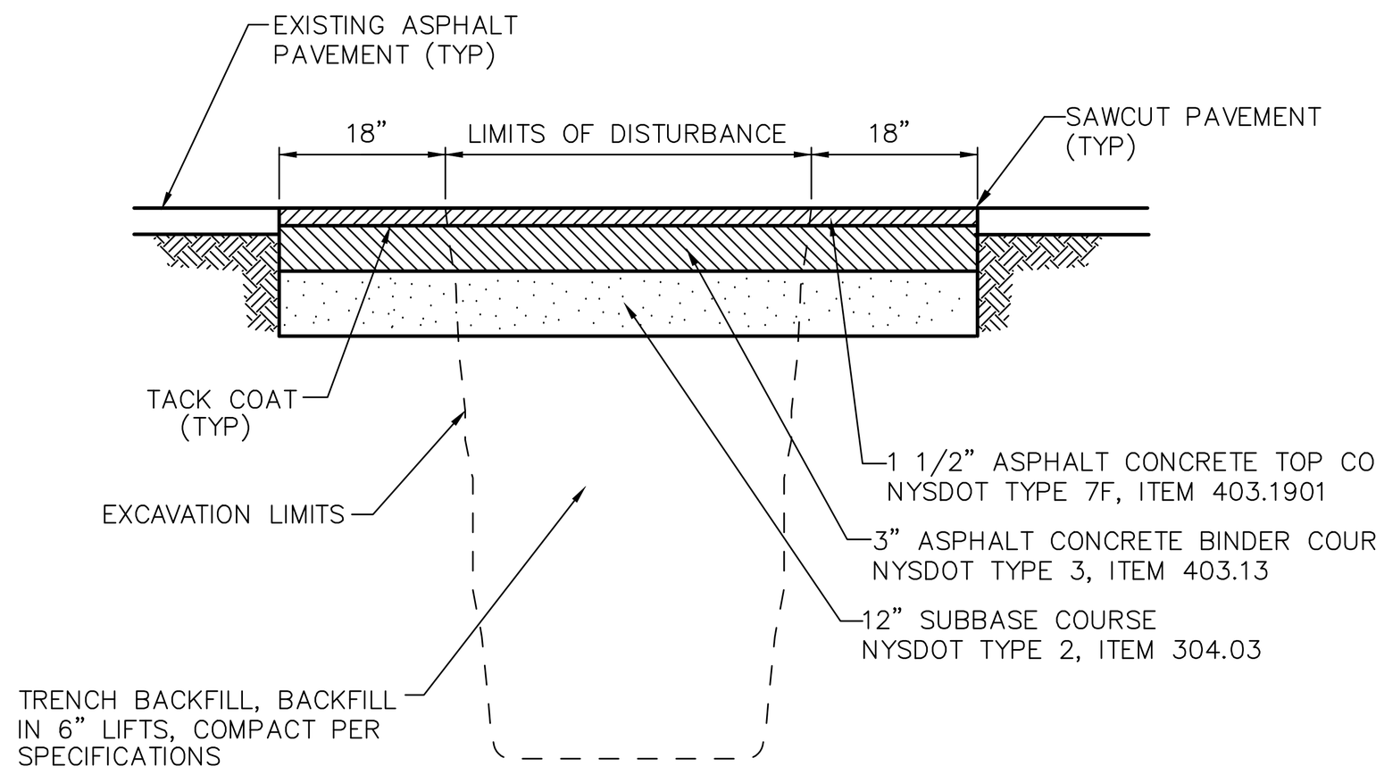
3/C10 DETENTION BASIN EXPANSION DETAIL

NOT TO SCALE



4/C10 INSERTION MANHOLE DETAIL

NOT TO SCALE

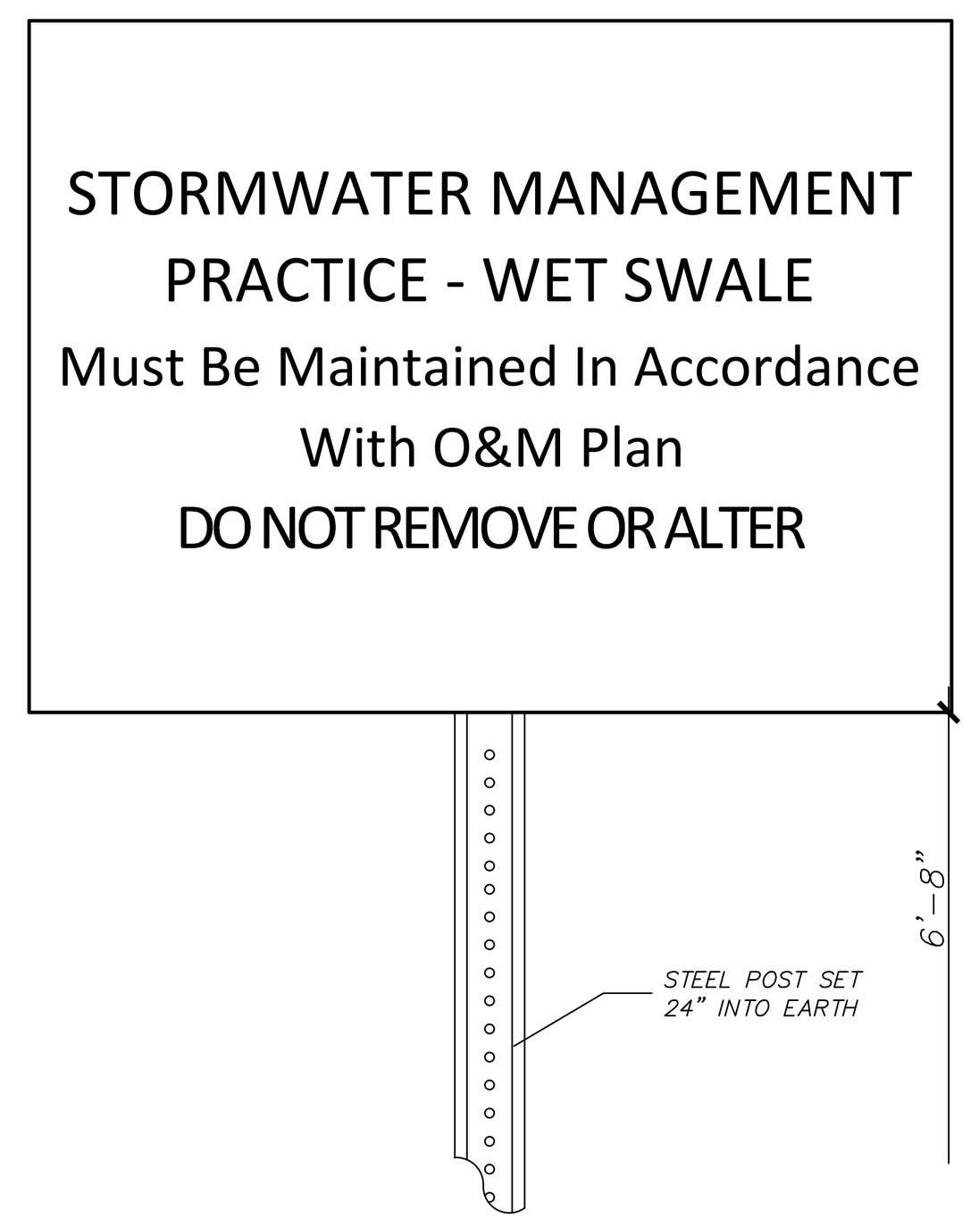


NOTE:

1. IF LIMITS OF TRENCHING EXCEEDS 50 FEET, CONTRACTOR SHALL COMPLETE CURB TO CURB MILLING PER CITY DETAILS
2. ALL PAVEMENT MARKINGS DISTURBED SHALL BE RESTORED TO THE SATISFACTION OF THE CITY
3. ALL JOINTS TO BE SEALED WITH ASPHALT EMULSION (AC–20) NYSDOT ITEM 702–0500

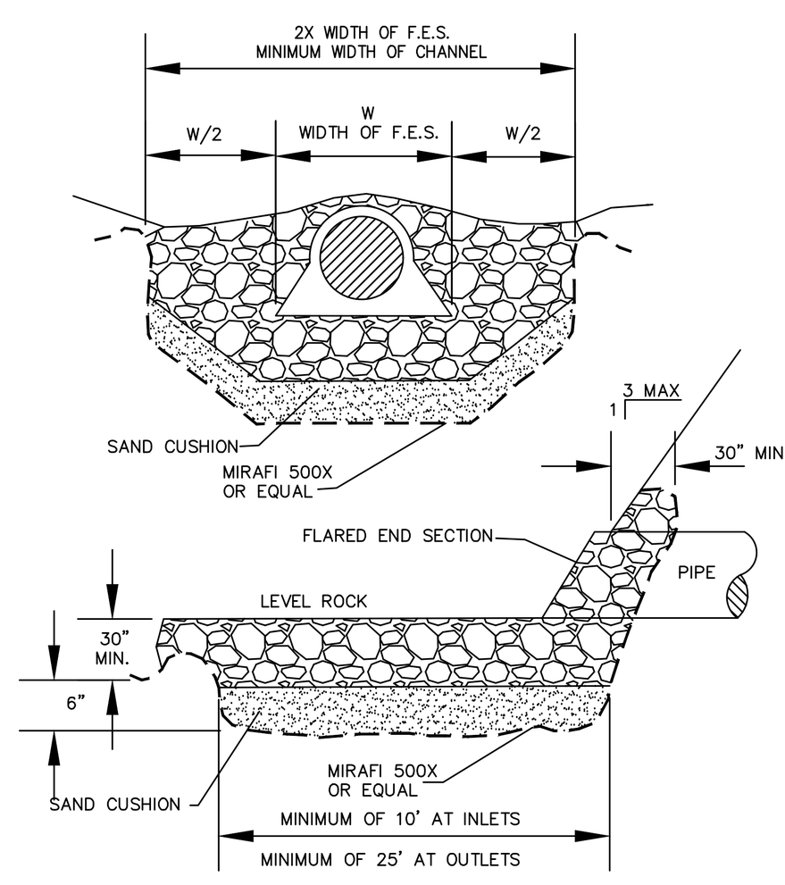
5/C10 ASPHALT PAVEMENT REPAIR DETAIL IN CITY R.O.W

NOT TO SCALE



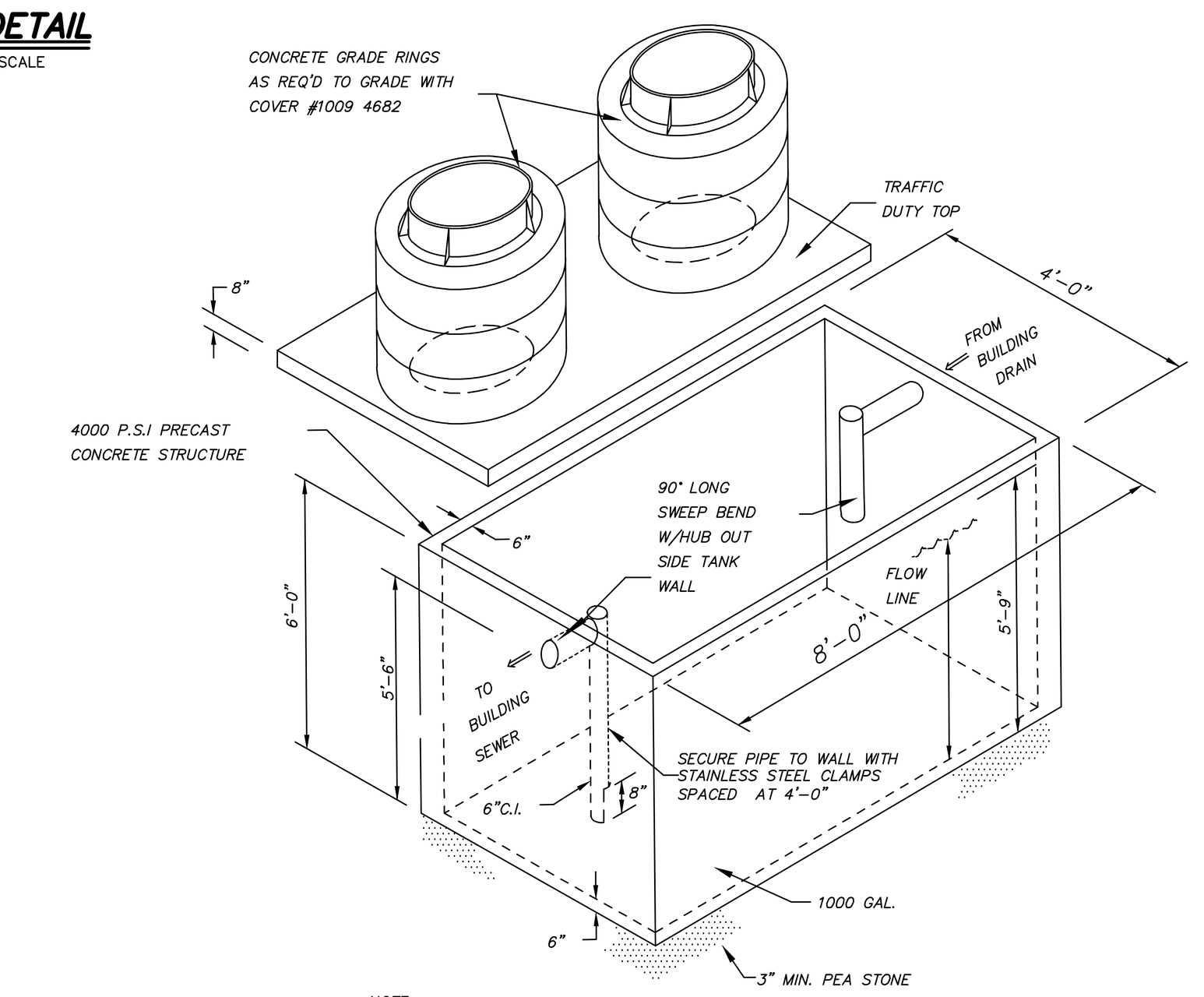
6/C10 STORMWATER MANAGEMENT PRACTICE SIGN (AT WET SWALE LOCATION)

NOT TO SCALE



7/C10 FLARE END SECTION DETAIL

NOT TO SCALE



NOTE:

1. GREASE & OIL INTERCEPTOR SHALL BE INSTALLED IN CONFORMANCE WITH THE CITY OF ALBANY DEPARTMENT OF GENERAL SERVICES.

2. THE TANKS SHALL BE DESIGNED FOR H–20 LOADING. (TRAFFIC DUTY).

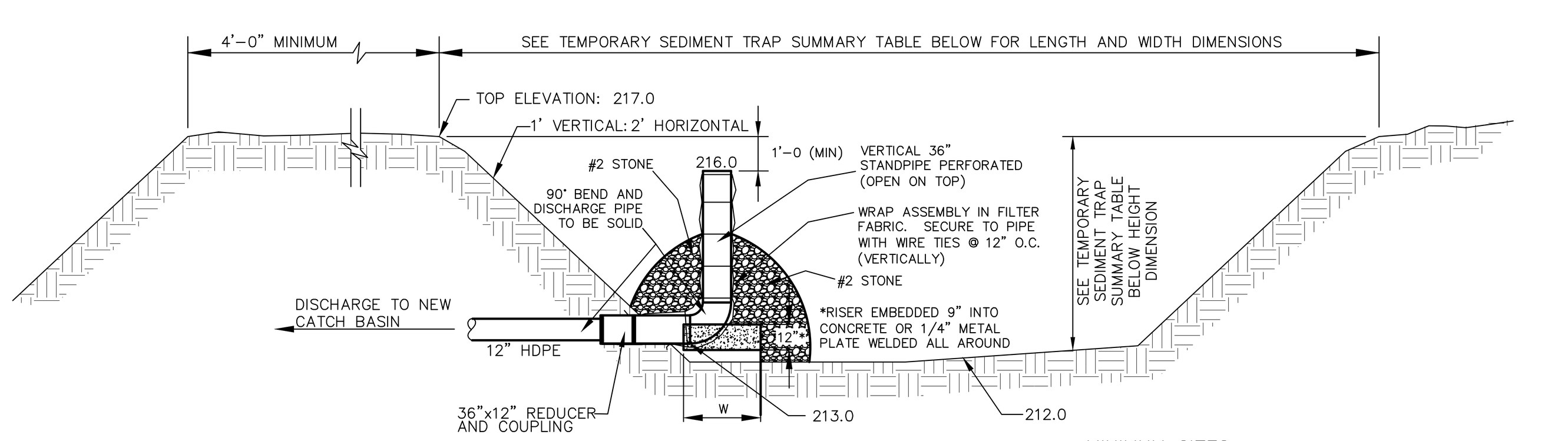
3. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.

4. EXTERIOR OF TANK SHALL RECEIVE BITUMINOUS COATING TO ENSURE WATER TIGHTNESS & PREVENT DETERIORATION.

5. THE TANKS SHALL BE MANUFACTURED BY THE FORT MILLER CO. INC OR KISTNER CONCRETE PRODUCTS, INC.

8/C10 GREASE & OIL INTERCEPTOR DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT, THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER–SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ½ THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FATTER.
9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT.
10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL.
11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING EQUIVALENT SIEVE SIZE OF 40–80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER–LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS.
12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE TO PREVENT FLOTATION. FOR CONCRETE BASE THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES, A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THE PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

DESIGN CRITERIA:

IF THE DRAINAGE AREA TO THE PROPOSED TRAP LOCATION EXCEEDS 5 ACRES, OR THE TRAP IS IN PLACE BEYOND ON CONSTRUCTION SEASON, OR ANY OF THE ADDITIONAL DESIGN CRITERIA PRESENTED HERE CANNOT BE MET, A FULL SEDIMENT BASIN MUST BE USED. SEE STANDARD AND SPECIFICATION FOR SEDIMENT BASIN ON PAGE 5.19.

DRAINAGE AREA – THE MAXIMUM DRAINAGE AREA FOR ALL SEDIMENT TRAPS SHALL BE 5 ACRES.

LOCATION – SEDIMENT TRAPS SHALL BE LOCATED SO THAT THEY CAN BE INSTALLED PRIOR TO GRADING OR FILLING IN THE DRAINAGE AREA THEY ARE TO PROTECT. TRAPS MUST **NOT BE LOCATED ANY CLOSER THAN 20 FEET** FROM A PROPOSED BUILDING FOUNDATION IF THE TRAP IS TO FUNCTION DURING BUILDING CONSTRUCTION. LOCATE TRAPS TO OBTAIN MAXIMUM STORAGE BENEFIT FROM THE TERRAIN AND FOR EASE OF CLEANOUT AND DISPOSAL OF THE TRAPPED SEDIMENT.

TRAP SIZE – THE VOLUME OF A SEDIMENT TRAP AS MEASURED AT THE ELEVATION OF THE CREST OF THE OUTLET SHALL BE AT LEAST 3,600 CUBIC FEET PER ACRE OF DRAINAGE AREA. A MINIMUM LENGTH TO WIDTH RATIO OF 2:1 SHOULD BE PROVIDED. THE VOLUME OF A CONSTRUCTED TRAP SHALL BE CALCULATED USING STANDARD MATHEMATICAL PROCEDURES. THE VOLUME OF A NATURAL SEDIMENT TRAP MAY BE APPROXIMATED BY THE EQUATION: VOLUME (CU.FT.) = 0.4 X SURFACE AREA (SQ.FT.) X MAXIMUM DEPTH (FT.).

TRAP CLEANOUT – SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO THE ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ½ OF THE DESIGN DEPTH OF THE TRAP. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN A PROTECTED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

EMBANKMENT – ALL EARTH EMBANKMENTS FOR SEDIMENT TRAPS SHALL NOT EXCEED FIVE (5) FEET IN HEIGHT AS MEASURED AT THE LOW POINT OF THE ORIGINAL GROUND ALONG THE CENTERLINE OF THE EMBANKMENT. EMBANKMENTS SHALL HAVE A MINIMUM FOUR (4) FOOT WIDE TOP AND SIDE SLOPES OF 2:1 OR FLATTER. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH AS SOON AS IT IS COMPLETED.

THE ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER TO ANY SEDIMENT TRAP WILL EQUAL OR EXCEED THE MAXIMUM HEIGHT OF THE OUTLET STRUCTURE ALONG THE ENTIRE LENGTH OF THE TRAP.

EXCAVATION – ALL EXCAVATION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMAL. EXCAVATED PORTIONS OF SEDIMENT TRAPS SHALL HAVE 1:1 OR FLATTER SLOPES.

OUTLET – THE OUTLET SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED IN SUCH A MANNER THAT SEDIMENT DOES NOT LEAVE THE TRAP AND THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.

SEDIMENT TRAPS MUST OUTLET ONTO STABILIZED (PREFERABLE UNDISTURBED) GROUND, INTO A WATERCOURSE, STABILIZED CHANNEL, OR INTO A STORM DRAIN SYSTEM. DISTANCE BETWEEN INLET AND OUTLET SHOULD BE MAXIMIZED TO THE LONGEST LENGTH PRACTICABLE. ALL TRAPS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER CONSTRUCTION.

MINIMUM SIZES

BARRREL DIAMETER[1] (INCHES)	RISER DIAMETER[1] (INCHES)	MAXIMUM DRAINAGE AREA (ACRES)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5

[1] BARREL DIAMETER MAY BE SAME SIZE AS RISER DIAMETER

CONSTRUCTION SEQUENCE SUMMARY TABLE

CS#	DISTURBED AREA
CS1	2.28 ACRES

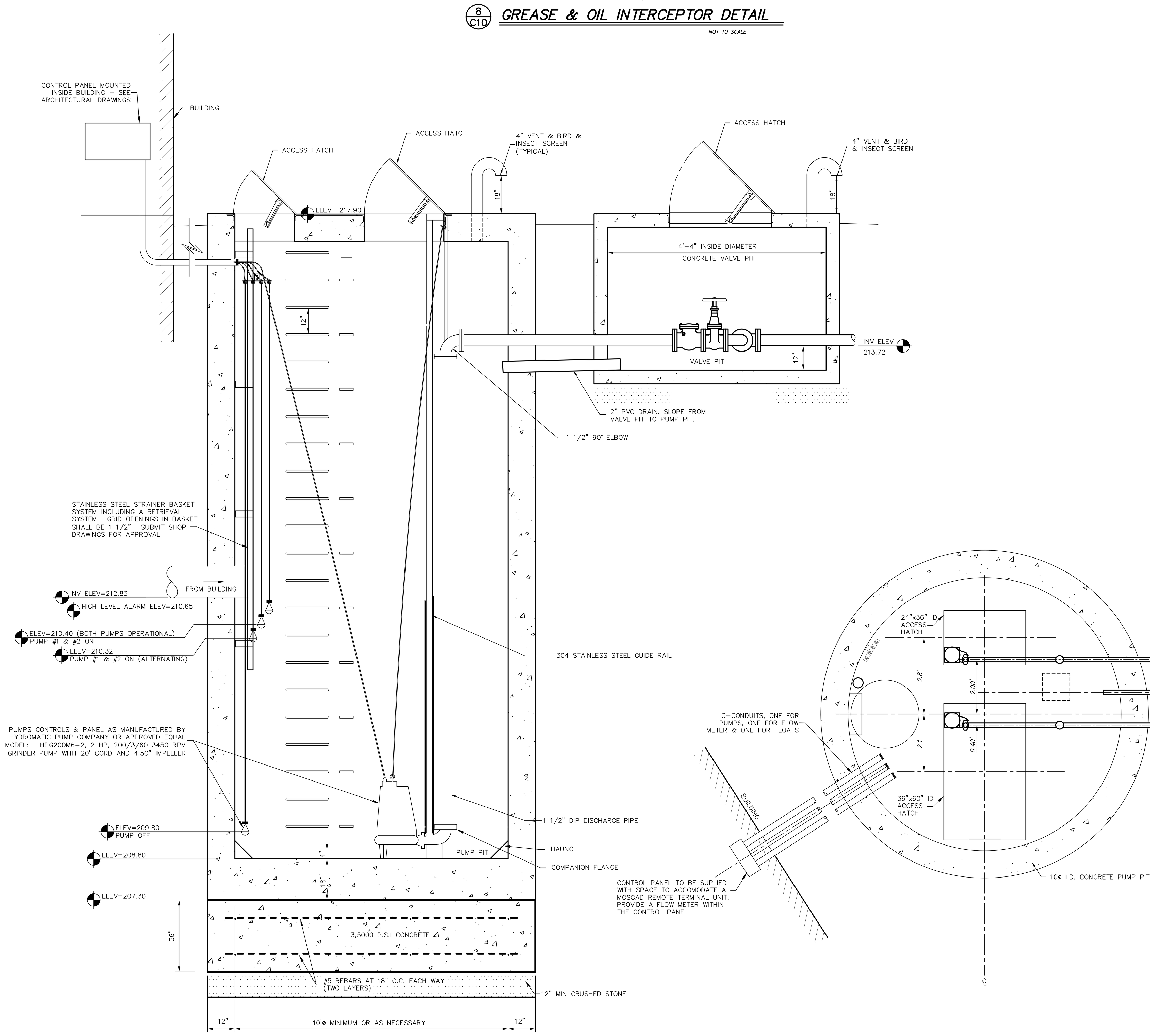
TEMPORARY SEDIMENT TRAP SUMMARY TABLE

DESCRIPTION	TRAP No.1
TYPE	I
DRAINAGE AREA	2.28 ACRES
STORAGE REQ'D	303 C.Y.
STORAGE PROVIDED*	313 C.Y.
PIPE OUTLET	12
DEPTH BELOW OUTLET	12"
ENBANKMENT HT.	10'
50% CLEANOUT ELEVATION	214.5
INVERT OUT ELEVATION	213.0
LENGTH x WIDTH x HT*	85'x25'x4'

*STORAGE CAPACITY FROM THE TOP ELEVATION OF THE RISER PIPE OUTLET TO THE TRAP BOTTOM

9/C10 TEMPORARY SEDIMENT CONTROL TRAP DETAIL

NOT TO SCALE



10/C10 PUMP STATION PLAN AND SECTION DETAIL

NOT TO SCALE

HERSHBERG & HERSHBERG
Consulting Engineers and Land Surveyors
18 Locust Street
Albany, New York 12203

STATE OF NEW YORK · DANIEL R. HERSHBERG · LICENSED PROFESSIONAL ENGINEER & LAND SURVEYOR · 044226

REVISIONS

REMARKS	DATE	REMARKS	DATE	REMARKS	DATE	REMARKS	DATE
AWD & ENGINEERING COMMENTS	3/29/18						

DETAILS
NORTHERN RIVERS BEHAVIOR HEALTH CENTER
PROPOSED No. 58 ACADEMY ROAD
ALBANY, NEW YORK

FILE: 170216 | SCALE: 1"=30' | BY: MLW | CHK: DRH | DATE: 9/14/17 | 170216–1.DWG

C10