DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

SHRUB OAK INTERNATIONAL SCHOOL

TOWN OF YORKTOWN, NEW YORK

STORMWATER POLLUTION PREVENTION PLAN: PHASE 1

Prepared for the Fulfillment of:

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

Prepared By:

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

April 20, 2018

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

STORMWATER POLLUTION PREVENTION PLAN PHASE 1

TABLE OF CONTENTS

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

STORMWATER POLLUTION PREVENTION PLAN PHASE 1

LIST OF FIGURES

LIST OF TABLES

I. SWPPP NARRATIVE SUMMARY

I. SWPPP NARRATIVE SUMMARY

The following Stormwater Pollution Prevention Plan (SWPPP) Phase 1 has been prepared to support the *Draft Stormwater Pollution Prevention Plan (SWPPP) for Stormwater Construction Permit*, dated June 12, 2017 as prepared by H2M architects + engineers for the entire proposed redevelopment project during the State Environmental Quality Review (SEQR) process. Future phases of the redevelopment project will require separate SWPPPs to be prepared.

This SWPPP Phase 1 has been designed to evaluate the potential stormwater management impacts anticipated with the proposed Shrub Oak International School Phase 1 redevelopment project in the Town of Yorktown, New York. The SWPPP Phase 1 provides measures to minimize impacts to the maximum extent practicable during construction and after completion of the project with the use of temporary and permanent treatment practices outlined in the SWPPP. Upon approval of the Shrub Oak International School SWPPP Phase 1 by the MS4, the issuance of a Notice of Intent (NOI) to the New York State Department of Environmental Conservation (NYSDEC) for coverage under their General Permit (GP 0-15-002) will be made.

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

This SWPPP Phase 1 includes text (the documents bound in this notebook) and contract drawings, details and specifications that describe the existing condition of the site and the proposed conditions during and after construction.

II. SWPPP CONSTRUCTION ACTIVITY DESCRIPTION

II. SWPPP CONSTRUCTION ACTIVITY DESCRIPTION

A. Applicant Information

1. Project Sponsor

Shrub Oak International School, LLC
80 Broad Street, Suite 1702
New York, NY 10004
Contact: Michael Koffler
212-867-2922
mk@k3learn.com

2. Project Contractors

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

3. Project Engineers

Divney Tung Schwalbe, LLP
1 North Broadway, Suite 1407
White Plains, NY 10601
Contact: Gerhard M Schwalbe, P.E.
914-428-0010
jschwalbe@divneytungschwalbe.com

4. Project Location

a. Address

The Shrub Oak International School campus is located at the former Loyola Seminary site at 3151 Stoney Street, Mohegan Lake in the Town of Yorktown, NY 10547 in Westchester County New York. The campus is approximately 127.2 acres. The site's tax parcel ID is 26.06-1-2, Section 26.05, Block 1, Lot 4.

The proposed Phase 1 upgrades at the Shrub Oak International School campus encompasses approximately 1.7 acres limit of disturbance of the total estimated 12 acres to be disturbed at the completion of the project.

See Figure No. 1 for Project Site Location.

b. Description

The Shrub Oak International School is generally bounded by Stoney Street to the east, residential development to the north and west, and the Town of Yorktown Granite Knolls Sports & Recreation Complex to the south. The campus is within the Clove Brook watershed, part of the Bronx River Basin watershed.

The currently developed Shrub Oak International School campus includes the main school building and ancillary structures, associated driveways, parking and sidewalks.

c. Bodies of Waters/Wetlands

Woodland areas exist along the western half of the school property and encompass 10.23 acres of fresh water wetlands[1] and their associated 100-foot wetland/watercourse buffer. Within the total anticipated limit of disturbance area for the proposed site redevelopment, there are no inventoried wetlands or bodies of water.

Furthermore, a small section of the western wooded portion of the project site is located within the 100-year flood plain of Lake Mohegan. This area will not be disturbed as part of the redevelopment project. The FEMA FIRMette is provided in the Appendix.

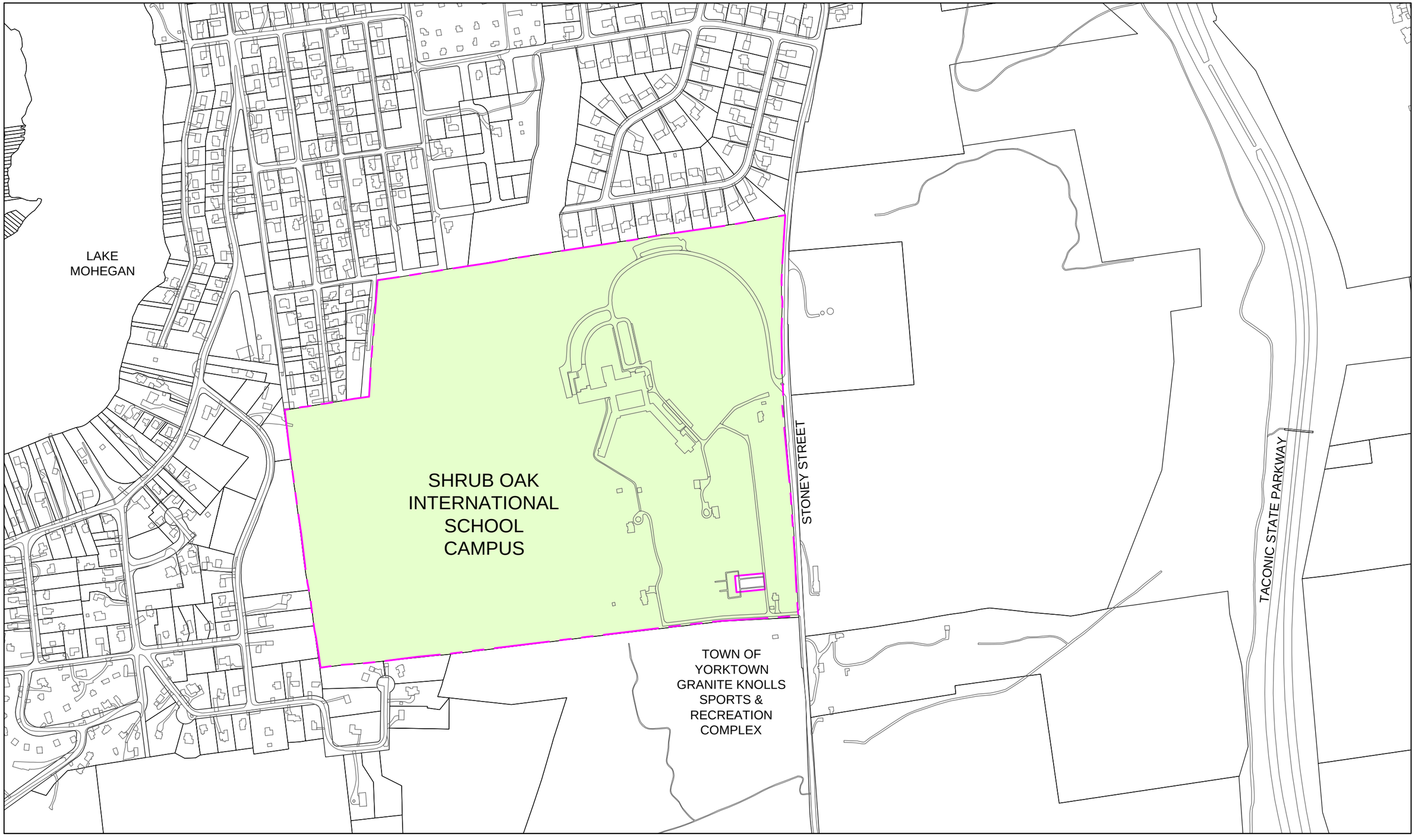
B. **Project Soils**

1. USDA Mapping & General Description

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provides on-line resources and soil mapping. A custom soil report was prepared for the overall currently developed Shrub Oak International School campus, a copy of which is in the Appendix.

In addition to Urban Land, the predominant soil type across Phase 1 of the Shrub Oak International School's redevelopment project is Paxton fine sandy loam, ranging from approximately 3 to 15 percent slopes. The USDA defines Paxton fine sandy loam soils natural drainage class as well-drained and runoff class as medium, with a very low to moderately low capacity to transmit water (Ksat)[2].

[1] As documented on survey prepared by Badey & Watson Surveying & Engineering P.C., 2017. Preliminary wetlands boundary flagged by Tim Miller Associates, Inc. during week of April 10, 2017.
[2] USDA NRCS defines Paxton fine sandy loam with a very low to moderately low (0.00 to 0.14 in/hr) Ksat rate.



N

0 250 500

DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

Site Location Map

SHRUB OAK INTERNATIONAL SCHOOL SWM FIGURE NO. 1

TOWN OF YORKTOWN

2. Hydrologic Soil Group (HSG)

The NYSDEC Design Manual allows for runoff reduction volume adjustments to proposed designs based on the hydrologic soil group of the existing soils being disturbed. The hydrologic soil group (HSG) for the predominant soils across the Phase 1 portion of the redevelopment project is HSG C type soil. The USDA NRCS breakdown is as follows.

Unit Symbol	Unit Name	HSG	S(*)
PnB	Paxton fine sandy loam, 3-8% slopes	C	0.30
PnC	Paxton fine sandy loam, 8-15% slopes	C	0.30
Uf	Urban Land	C	0.30

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

3. Colloidal Soils

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

C. **Project Description**

1. Project Background

Phase 1 of the proposed Shrub Oak International School redevelopment project encompasses internal improvements to the central portion of the main building along with updates to existing on-site residences, improvements to the existing garage and restoration of the greenhouse. In addition, Phase 1 will include the creation of a barn for farm animals, installation of fencing and lights, construction of a helistop and redevelopment of the existing paved areas and sidewalks adjacent to the existing building improvements.

See Figure No. 2 for Layout Plan.

2. Existing Drainage Conditions

The Shrub Oak International School campus straddles the Peekskill Hollow Brook watershed, ultimately discharging to the Hudson River, and the Hunter Book Basin watershed, part of the New Croton Reservoir drainage basin. The limit of disturbance for the Phase 1 redevelopment portion of the project is within the

Peekskill Hollow Brook watershed. The subsequent phases of the proposed project will also partially disturb area within the New Croton Reservoir drainage basin, part of the New York City's Water Supply. Separate SWPPPs will be prepared for the subsequent phases.

The SWPPP Phase 1 applies to proposed redevelopment within the Peekskill Hollow Brook watershed.

Under existing drainage conditions, approximately half of the developed site drains west towards the on-site wetland/watercourse system. Stormwater runoff is conveyed via a series of existing storm piping daylighting to the hillside and downstream drainage swales.

The other half of the developed site drains to the east to Stoney Street. Stormwater runoff is conveyed via existing storm piping daylighting to the hillside and downstream drainage swales. Within this eastern drainage area of the developed site and beginning approximately 100 feet south of the existing main entry off Stoney Street and continuing south is located within the New Croton Reservoir drainage basin, part of the New York City Department of Environmental Protection (NYCDEP) watershed. The Phase 1 project is isolated to the northern portion of the eastern drainage area that is part of the Peekskill Hollow Brook watershed.

See Figure No. 3 for Existing Drainage Conditions – Phase 1.

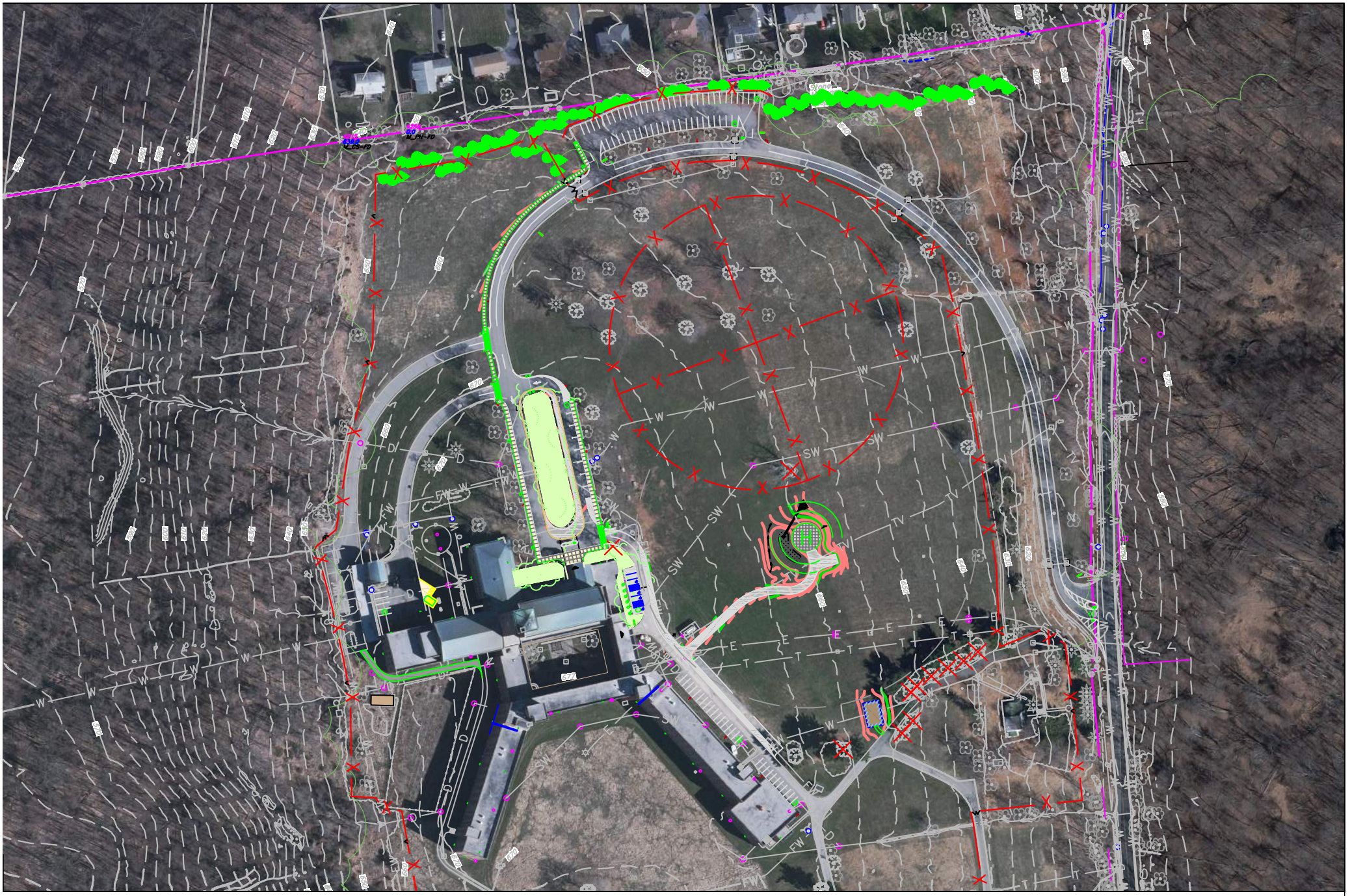
3. Overall Stormwater Management Plan

The proposed Phase 1 redevelopment project total limit of disturbance is estimated at 1.7 acres, which includes pavement resurfacing. Exclusive of these maintenance areas, the stormwater management limit of disturbance is approximately 1.2 acres. Under proposed conditions, an estimated 0.4 acre increase in impervious area is projected.

Under developed conditions, the existing subwatershed boundaries are generally maintained and the DP remain the same.

See Figure No. 4 for Proposed Drainage Conditions.

Low impact design green infrastructure measures (Tree Plantings) and a standard treatment practice (STP F-1 Bioretention Area) are proposed to address the runoff reduction volume (RRv) requirements for the newly created impervious areas.



N

0 100 200

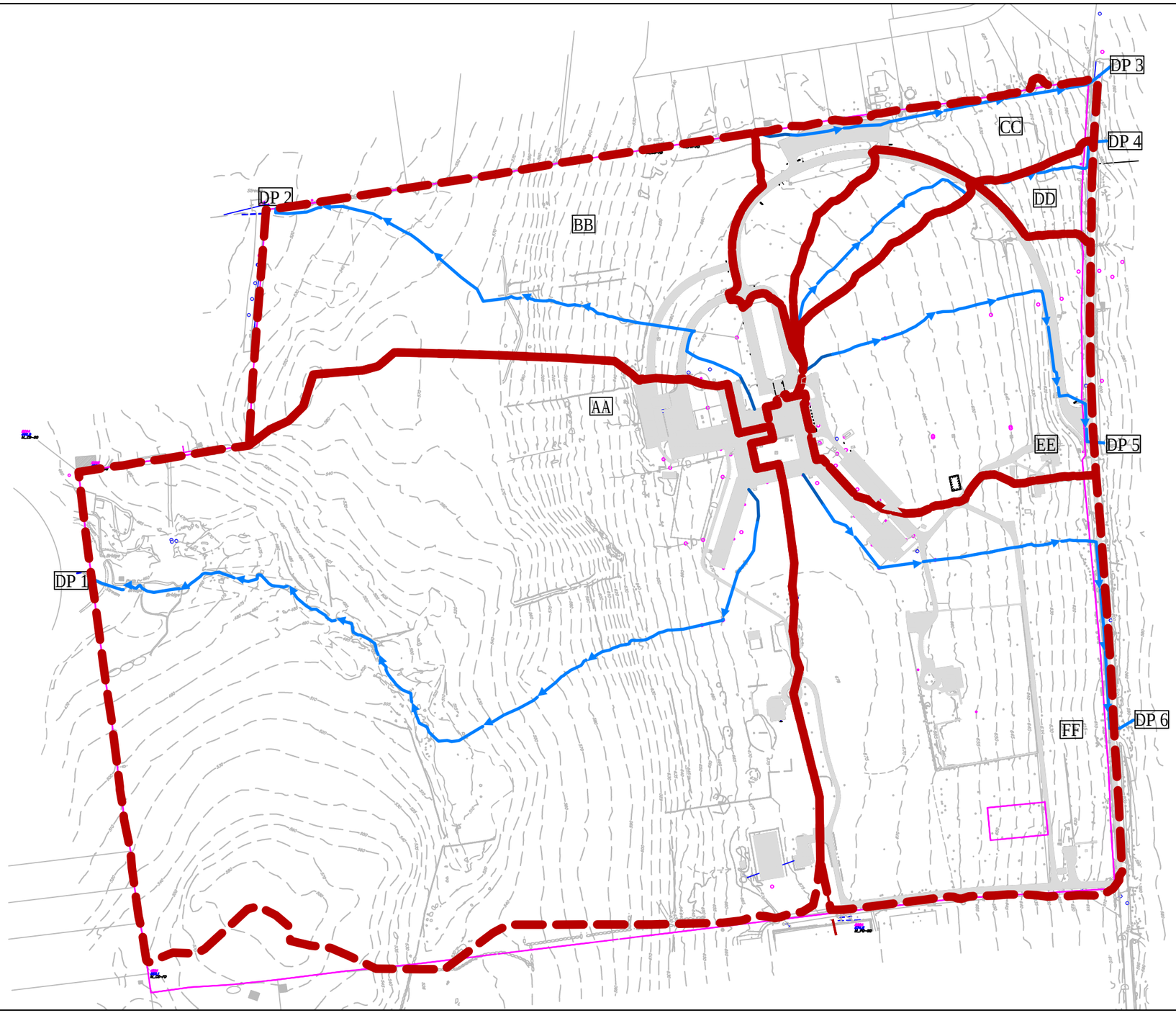
DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

Phase 1 Layout Plan

SHRUB OAK INTERNATIONAL SCHOOL

TOWN OF YORKTOWN

SWM FIGURE NO. 2



N

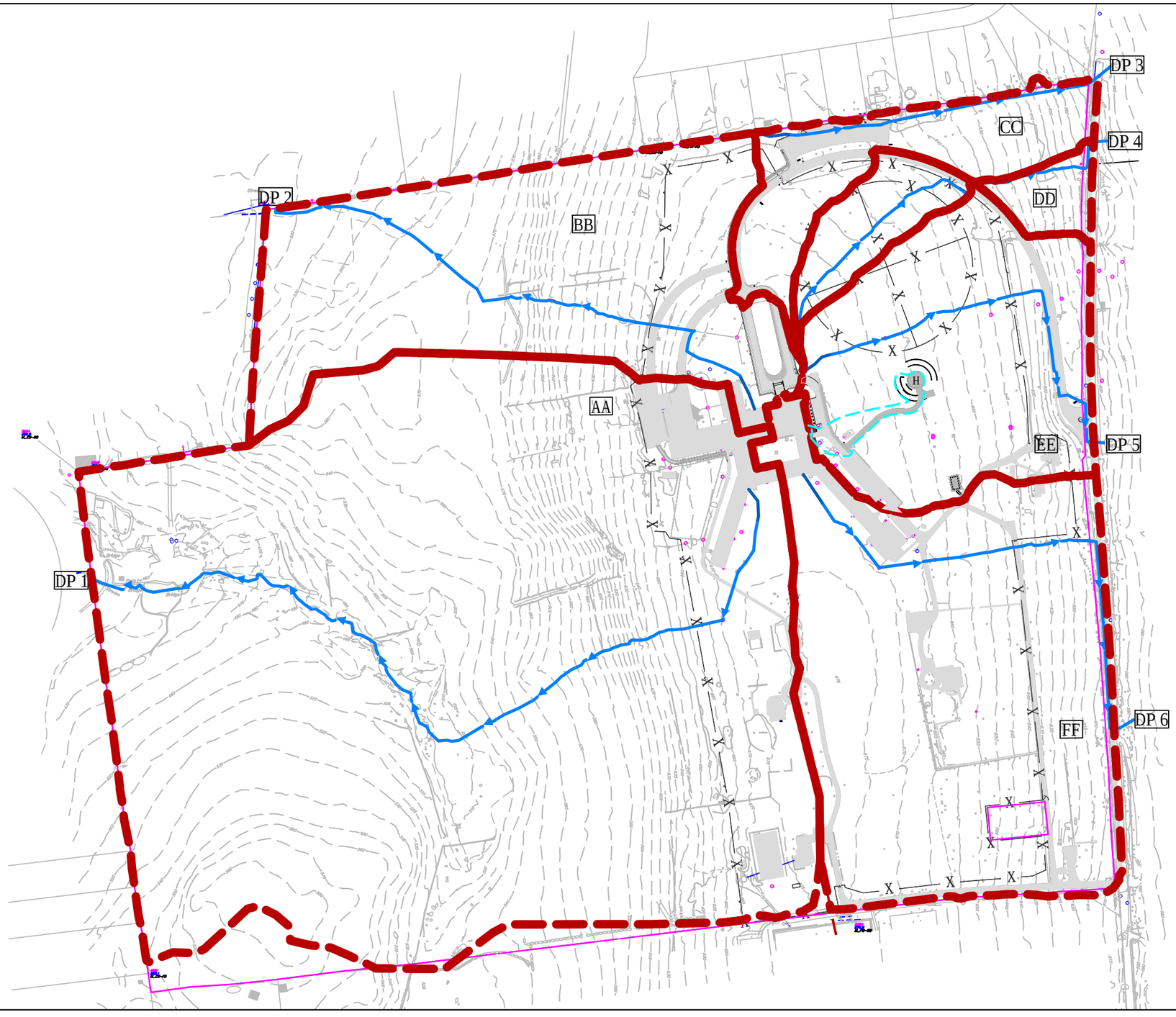
0 150 300

DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

Existing Conditions Phase 1

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN

SWM FIGURE NO. 3



N

0 150 300

DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

Proposed Conditions Phase 1

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN

SWM FIGURE NO. 4

Because of existing infrastructure and in order to minimize the limit of disturbance, 100% of the Water Quality Volume (WQv) is not feasible. The NYSDEC Design Manual allows for the specific reduction factor (S) of 0.3 to be applied within hydrologic soil group (HSG) C.

The Bioretention Area has been sized to address RRv and WQv and provides detention to mitigate the modest increase in impervious area. The proposed peak rate of runoff at each DP is at or below existing conditions for the 1, 10 and 100-year storm events.

4. Stormwater Management Objectives

   The stormwater management plan has been developed and will be implemented so that the quantity and quality of stormwater runoff during construction and after development are not significantly altered from preconstruction conditions. Primary stormwater management objectives are to replicate as close as possible pre-development hydrology and to avoid causing downstream flooding and flood damage and to employ all means practicable to mitigate increases in pollutant (total suspended solids and total phosphorus) loads that will occur because of the proposed Phase 1 upgrades at the Shrub Oak International School campus.

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

   The Town of Yorktown is the designated MS4 for the Shrub Oak International School campus, including the proposed Phase 1 upgrades project. Their NYSDEC MS4 SPDES Permit Number is NYR20A007.

6. Project Permits and Approvals

   The following is a list of the anticipated permits and approvals to be sought for Phase 1 of the Shrub Oak International School campus improvement project.

   Town of Yorktown

   - Shrub Oak International School – Phase 1 Site Plan Approval

   New York State (NYS)

   - Department of Environmental Conservation – SPDES Stormwater Permit

D. **Construction Program**

1. Duration of Activity

   The construction activity for the proposed Phase 1 sitework upgrades is expected to be completed over approximately a three-month period and will involve the grading and construction of a helistop pad, animal barn, sidewalk, pavement widening for

vehicular movement, stormwater management measures, landscaping and other physical improvements.

2. Sequencing Schedule

   As previously described, the proposed Phase 1 sitework upgrades will improvement of existing driveways and sidewalks to meet anticipated campus needs. Concurrently the proposed upgrades will include the construction of the helistop pad, access driveway and small animal barn. Construction activities are to be completed during the summer 2018.

3. Construction Refuse Control

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

E. **Erosion and Sediment Control**

1. Temporary Practices

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

2. Permanent Structures

   Permanent structures and measures implemented to control the project's quantity and/or the quality of the stormwater will require regular inspections and maintenance. These include permanent erosion control practices (soil stabilization), water quality control practices (i.e. Bioretention Area), and related stormwater flow

controlling structures (i.e. catch basins). The project sponsor will be responsible for inspecting and maintaining permanent stormwater management structures and practices.

3. Inspection and Maintenance Procedures

Per Part IV.B. of the General Permit (GP 0-15-002), a Trained Contractor is required to ensure that the erosion and sediment control practices and pollution prevention measures are being implemented daily within the active work area. As previously described and outline in Part IV. C of the General Permit, site observations are to be performed by a Qualified Inspector at least once every seven (7) calendar days when soil disturbance is less than five (5) acres, and twice every seven (7) calendar days when soil disturbance in greater than five (5) acres. A minimum of two (2) full calendar days must separate regular inspections. Proposed site disturbance for Phase 1 will not exceed 5 acres.

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

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

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

III. STORMWATER MANAGEMENT REPORT

III. **STORMWATER MANAGEMENT REPORT**

A. **Water Quality Control**

1. Stormwater Site Planning and Green Infrastructure Objectives

a. Avoid the Impacts (Preserve Natural Features)

The proposed site plan for Phase 1 has been designed to integrate the proposed site improvements into the existing developed Shrub Oak International School campus and the surrounding woodland areas in an environmentally sensitive manner. The Project has been organized to take advantage of the Site's currently developed areas.

b. Reducing the Impacts (Minimize Hard Surfaces)

The current proposed site plan reflects a layout that minimizes the proposed hard surfaces associated within Phase 1. Existing parking was amended to for efficiency and to provide sufficient aisle width for vehicular travel. Additional impervious area was limited to mainly sidewalks and the helistop.

c. Managing the Impacts

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

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

d. **NYSDEC Five-Step Stormwater Management Planning Process**:

1) Site Planning (*Minimize & Reduce Stormwater Impacts*)
   a) Reusing/Redeveloping Existing Developed Area
   b) Redeveloping Existing Impervious Areas
   c) Preserving Existing Wooded Buffers
   d) Limit of Disturbance Minimized
2) Water Quality Volume (*WQv*) Calculation
   a) WQv = 90% storm event
   b) P 1yr = 1.2 in
3) Green Infrastructure Techniques & Standard SMPs (*Manage the Impacts*)
   a) Stormwater Measures with Runoff Reduction Volume (RRv) Capacity
   b) Green Infrastructure Techniques:
      1. Tree Plantings
      2. Retrofits: Catch basin inserts
         (Note: No credit is taken for the proposed catch basin inserts under Phase 1. Water quality benefits for catch basin inserts will be applied to future Phase 2 sitework improvements)
4) Stormwater Management Practices (SMPs) for Remaining WQv
   a) Bioretention Area
5) Detention Volume and Peak Rate Control Practices up to and including the 100-yr Storm Event
   a) Bioretention Area

Refer to Table Nos. 1 and 2 *Existing Drainage Conditions* and *Developed Drainage Conditions* respectively for a summary of the subwatershed drainage conditions under existing and developed conditions, including area (A), Curve Number (CN) and Time of Concentration (Tc).

2. Rainfall Data/Source

As outlined in the NYSDEC Design Manual, in addition to the 90% storm event (water quality event), the storm frequencies to be used as a basis for computing peak rate of discharge shall be the storms expected once every 1, 10 and 100 years with a duration of 24 hours as defined by the U.S. Department of Agriculture Soil Conservation Service. The rainfall data maps from the Northeast Regional Climate Center Extreme Precipitation Tables were used to determine rainfall intensity by storm frequency.

TABLE NO. 1

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

EXISTING DRAINAGE CONDITIONS

WATERSHED/ SUBBASIN ID	AREA (ac)[1]			(2) I (%)	(2) R_v	(3) CN	(4) Tc (HRS)	(5) WQv (CFT)	DESIGN POINT #
	IMPERV. TOTAL	PERVIOUS	TOTAL AREA						
A	1.87	62.95	64.82	2.9	0.20	71	0.38	56,471	1
B	0.85	17.01	17.86	4.8	0.20	72	0.32	15,562	2
C	0.83	4.50	5.33	15.6	0.20	77	0.28	4,640	3
D	0.20	3.28	3.48	5.6	0.20	75	0.31	3,029	4
E	1.14	11.21	12.35	9.2	0.20	76	0.23	10,763	5
F *(DEP)*	2.50	20.10	22.60	11.1	0.20	77	0.60	73,921	6
TOTAL AREA	7.38	119.05	**126.44**						

1. Area based on watershed evaluation, including areas upstream of project site.
2. I=Percent Impervious, (Impervious Area/Total Area)*100%; $R_v = 0.05+0.009(I)$, Minimum Rv=0.2
3. CN=Curve Number
4. Tc=Time of Concentration, Tt=Travel Time
5. Standard WQv=[(P)(Rv)(A)]/12; P=90% Rainfall Event Number(in)= 1.2
   WQv adjustment to be taken for redevelopment in Table No. 3

TABLE NO. 2

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

DEVELOPED DRAINAGE CONDITIONS

WATERSHED/ SUBBASIN ID	AREA (AC) [1]			(2) I (%)	(2) R_v	(3) CN	(4) Tc (HRS)	(5) Total WQv (CFT)	DESIGN POINT #
	IMP. TOTAL	PERVIOUS	TOTAL AREA						
AA	1.91	62.91	64.82	2.9	0.20	71	0.38	56,471	1
BB	0.95	16.91	17.86	5.3	0.20	72	0.32	15,562	2
CC	0.84	4.48	5.33	15.8	0.20	77	0.28	4,640	3
DD	0.20	3.28	3.48	5.6	0.20	75	0.31	3,029	4
EE	1.15	10.69	11.84	9.7	0.20	76	0.23	10,314	5
EE SWM	0.19	0.32	0.51	37.3	0.39	83	0.08	865	5
FF *(DEP)*	2.50	20.10	22.60	11.1	0.20	77	0.60	73,921	6
TOTAL AREA	7.74	118.70	**126.44**						

1. Area based on watershed evaluation, including areas upstream of project site.
2. I=Percent Impervious, (Impervious Area/Total Area)*100%; $R_v = 0.05+0.009(I)$, Minimum Rv=0.2
3. CN=Curve Number
4. Tc=Time of Concentration, Tt=Travel Time; minimum Tc 0.0833 used for porous pavements and detention subwatersheds.
5. Standard WQv=[(P)(Rv)(A)]/12; P=90% Rainfall Event Number(in)= 1.2

The rainfall depths are as follows:

Storm Event	Rainfall Depth (in)
90% Storm Event	1.2
1-Year Storm Event	2.75
10-Year Storm Event	5.07
100-Year Storm Event	9.19

3. Water Quality Volume (WQv) Calculations

   Water Quality Volume is calculated to be the volume of runoff from the 90% Rainfall Event, the storm event that occurs 90% of the time, and contains higher pollutant levels. The NYSDEC WQv formula (*WQv=[(P)(Rv)(A)]/12*) is used. WQv requirements are generally met using Standard Treatment Practices (STP), Green Infrastructure measures (GI) and Alternative Treatment Practices. Acceptable measures outlined in the Design Manual are designed to capture and treat the water quality volume and generally provide 80% Total Suspended Solids (TSS) removals and 40% Total Phosphorus (TP) removals.

   Initial WQv requirement calculations are adjusted as runoff reduction techniques are applied. If 100% of the WQv cannot be address by runoff reduction techniques, NYSDEC Standard Treatment Practices are acceptable measures to address the remaining adjusted WQv requirements. The Project will incorporate the use of a Bioretention Practice (SMP F-5) to meet the adjusted WQv requirements.

4. Runoff Reduction Volume (RRv) Calculations

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

   a. Site Limitations & Justification of Infeasibility

      When meeting 100% RRv is not feasible, the NYSDEC New York State Stormwater Management Design Manual allows for the application of a Specified Reduction Factor (S) to be applied, correlated to the Hydrologic Soil Group (HSG) classification. For HSG C, S is equal to 0.30.

   b. Standard Treatment Practice Selection

      1) Bioretention Practice *(40% WQv applied to RRv in HSG C Soils)* - To be used in areas to treat runoff from helistop and associated access drive.

c. Green Infrastructure Practice Selection

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

1) Tree Plantings – The existing tree plantings downstream of the new sidewalk and improved driveway will provide WQv treatment opportunities prior to sheet flowing to the wetland system. Per the guidelines of the NYSDEC Manual, the equivalent of 100 square feet of contributing impervious area can be applied to each tree, either existing or newly planted, if the catchment area is directed to the tree. Existing trees must be at least 4-inch caliper to be eligible for the reduction.[3]
2) Retrofits – The Town Engineer for Yorktown has requested that catch basin inserts be incorporated as retrofits to provide water quality benefits at the existing developed campus. While the inserts will be provided as part of Phase 1, no credit will be applied until Phase 2 where the proposed sitework improvements will occur within these associated drainage areas.

Refer to Table No. 3 *Stormwater Quality Management Measures* for water quality volume and runoff reduction estimates.

B. **Water Quantity Control**

In addition to the requirements for meeting RRv and WQv, detention requirements must be met for Channel Protection Volume (CPv, 1-year storm event), Overbank Flood Control (Qp, 10-yr storm), Extreme Storm Control (Qf, 100-yr storm).

In accordance with the NYSDEC New York State Stormwater Management Design Manual (NYSSMDM, January 2015), the proposed bioretention practice has been included in the hydraulic model of the proposed project. The available extended detention storage above the water quality volume in the system has been modeled. The peak rates of runoff from the developed site at each discharge point are calculated to be generally equal to or less than the peak rates under existing conditions for the 1-year, 10-year and 100-year storm event frequency.

Refer to Table No. 4 *Stormwater Management Basin Summary* and Table No. 5 *Stormwater Flow Summary* for water quality control summaries for Phase 1.

[3] *New York State Stormwater Management Design Manual*, Chapter 5 Green Infrastructure Practices, Section 5.3 Green Infrastructure Techniques, Section 5.3.4 Tree Planting/Tree Pit; page 5-61. January 2015.

TABLE NO. 3

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

STORMWATER QUALITY MANAGEMENT MEASURES

ON-SITE SUMMARY

ON-SITE CALCs[1]	LOD[1] (ac)	EXIST IMP AREA (ac)	PROP IMP AREA (ac)	I[3] (%)	R_v[4]	S[7]	WQv[8] (cf)	Runoff Reduction Volume RRv[9]			Adjusted WqV After RRv	
								100% RRv (cf)	Min RRv (cf)	Provided (cf)	Required (cf)	Provided (cf)
AA	0.10	0.01	0.05	53	0.53	0.30	237	237	71	**227**	0	**1**
BB	0.40	0.00	0.10	25	0.27	0.30	475	475	142	**409**	66	**66**
CC	0.06	0.00	0.02	28	0.30	0.30	73	73	22	**64**	9	**12**
EE	0.68	0.00	0.20	29	0.31	0.30	920	920	276	**413**	507	**562**
									Total RRv	**1,113**	**Add'l WQv**	**641**
									Total WQv		**1,754**	

STORMWATER MANAGEMENT SELECTION PRACTICES

STORMWATER MANAGEMENT MEASURE	RRv (cf)	Add'l WQv (cf)	
Green Infrastructure Measure:			
Tree Planting	795	79	
Bioretention Practice	318	562	
TOTAL	**1,113**	**641**	
	1,754		**Total WQv**

NOTES

1. Scope of SWM analysis pertains to proposed improvements within the Limit of Disturbance (LOD) area. Pavement maintenance (sub-base to remain) not included in SWM LOD area.
2. Design per New York State Stormwater Management Design Manual, Jan 2015
3. I=Impervious Cover (%)
4. Rv = 0.05+0.009(I), Minimum Rv=0.2
5. P=90% Rainfall Event Number
6. **P** (in) = **1.2** (NYSDEC SW Mapper, 02/08/2018)
7. S=Hydrologic Soil Group (HSG) Specific Reduction Factor
8. Standard WQv=[(P)(Rv)(A)]/12
9. Runoff Reduction Vol, RRv=[(P)(Rv*)(Ai)]/ **Rv*= 0.95**
   Min RRv (due to existing infrastructure, HSG C soils and minimizing LOD)

1. Tree Planting/Tree Pit:

(towards new and existing trees within catchment area)

Impervious Area credit= 100 SF/tree

** Forested slope, min trees applied* ***(equiv to riparian buffer/filter strip)***

SWM Measure	# Trees	*Equiv Imp Area (sf)*	*Contrib Imp A (sf)*	Equiv RRv (cf)	Add'l WQv (cf)
TP-AA*	24	*2,400*	2,387	**227**	**1**
TP-BB*	50	*5,000*	4,303	**409**	**66**
TP-CC	8	*800*	676	**64**	**12**
TP-EE	10	*1,000*	1,083	**95**	**0**
		9,200		**795**	**79**

2. Bioretention Practice *(SMP F-5)* :

Af=WQv x (df) / [k x (hf + df)(tf)]

RRv Capacity for Std SMP (Table 3.5) HSG C: *40%*

Egr Soil: k=(ft/d): 0.5 Gravel depth (ft): 0.67

depth (ft): 2.5 Ponding Depth (ft): 0.5

porosity: 0.2 Filter Time (d): 2.0

SWM Measure	Filter Area (sf)	Stor Vol (cf)	*Equiv Imp Area (sf)*	*Contrib Imp A (sf)*	Equiv RRv (cf)	Add'l WQv (cf)
BIOR-EE	800	880	*9,263*	*8,363*	**318**	**562**
	800		*9,263*		**318**	**562**

SWM Measure	Water Quality Vol (WQv) (cf)			WQv Storage Pre-Filtration (cf)		
	Total WQv	25% Req'd Pretreat	75% Req'd Storage	Pretreat grass/gravel/ mulch	Surf Vol (6" depth)	WQv Storage b4 Filter
BIOR-EE	880	*220*	660	*272*	400	672

TABLE NO. 4

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

STORMWATER MANAGEMENT BASIN SUMMARY

Bioretention System - F-5 NYSDEC Design

Basin ID	Surf Area Elev	OCS	Top Berm Elev	1-YEAR			2-YEAR			10-YEAR			100-YEAR		
				HWE[1]	SV[2]	$Qpeak_3$	HWE[1]	SV[2]	$Qpeak_3$	HWE[1]	SV[2]	$Qpeak_3$	HWE[1]	SV[2]	$Qpeak_3$
BIOR-EE	660.00	U.D. 657.0; 8-in d riser 660.5	662.00	660.29	0.02	0.07	660.53	0.03	0.13	660.77	0.04	0.94	661.49	0.08	1.76

[1] High Water Elevation (Feet) [2] Storage Volume (Acre Feet) [3] Qpeak (cfs)

TABLE NO. 5

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

DESIGN FLOW SUMMARY

DESIGN POINT NO.			1-YEAR		2-YEAR		10-YEAR		100-YEAR	
			SW Flow (CFS)	Runoff Volume (CFT)	SW Flow (CFS)	Runoff Volume (CFT)	SW Flow (CFS)	Runoff Volume (CFT)	SW Flow (CFS)	Runoff Volume (CFT)
NRCC Project Site Rainfall (in)			2.75		3.36		5.07		9.19	
Western Wetland System	**DP 1**	Existing	25.3	146,100	42.5	229,605	100.4	510,480	266.4	1,324,137
		Developed	25.3	146,100	42.5	229,605	100.4	510,480	266.4	1,324,137
		Delta	0.0	0	0.0	0	0.0	0	0.0	0
	DP 2	Existing	8.1	43,037	13.5	66,821	31.1	216,580	79.7	373,004
		Developed	8.1	43,037	13.5	66,821	31.1	216,580	79.7	373,004
		Delta	0.0	0	0.0	0	0.0	0	0.0	0
Eastern Stoney Street System	**DP 3**	Existing	3.7	17,468	5.6	25,700	11.4	51,880	27.2	123,405
		Developed	3.7	17,468	5.6	25,700	11.4	51,880	27.2	123,405
		Delta	0.0	0	0.0	0	0.0	0	0.0	0
	DP 4	Existing	2.0	10,106	3.2	15,202	6.8	31,668	16.5	77,406
		Developed	2.0	10,106	3.2	15,202	6.8	31,668	16.5	77,406
		Delta	0.0	0	0.0	0	0.0	0	0.0	0
	DP 5	Existing	8.5	38,115	13.2	56,715	27.9	116,262	66.6	280,265
		Developed	8.2	38,856	12.7	57,543	27.6	117,438	65.5	281,833
		Delta	-0.3	741	-0.5	828	-0.2	1,176	-1.0	1,568
NYCDEP Watershed	**DP 6**	Existing	11.5	73,921	17.5	108,856	36.3	219,934	85.6	522,981
		Developed	11.5	73,921	17.5	108,856	36.3	219,934	85.6	522,981
		Delta	0.0	0	0.0	0	0.0	0	0.0	0

C. **Erosion & Sediment Control**

1. Construction Erosion & Sediment Control Plan

The goal of the proposed erosion and sediment control measures at the Shrub Oak International School Phase 1 project is to prevent erosion through runoff controls and soil stabilization. If runoff controls and soil stabilization are not sufficient, sediment controls are proposed to remove sediment from water. The following describes the three methodologies.

a. Runoff Control

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

b. Soil Stabilization

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

c. Sediment Control

Proposed sediment control measures on-site include stabilized construction entrances to the work area with a wheel wash down area. A sediment trap is proposed in the future location of the bioretention area and is sufficient in size to accommodate the contributing drainage area (3,600 cf/acre). Inlet protection is required at each of the perimeter's existing drain inlets and at any proposed inlets until the site is stabilized. Along the downhill slopes of the disturbed work areas, silt fence is required and must be properly installed and 'toed-in' to the soil. These measures are provided so as no sediment is transported from the site.

d. 5 Acre Disturbance

Given that the total limit of disturbance area for Phase 1 is approximately 1.7 acres, is not anticipated that the proposed project will disturb greater than five

acres at any given time. No disturbance greater than five acres will occur without prior written approval from the MS4.

2. Post Construction Management Plan

   Upon final stabilization of the Shrub Oak International School Phase 1 project, permanent measures are required to be inspected, observed and maintained for the life of the project. The permanent measures will provide erosion and sediment control by slowing down runoff and removing pollutants. Stabilized vegetated areas will provide additional benefits by minimizing impacts and reducing runoff.

3. Inspections & Maintenance of Permanent Structures

   The key to success of the proposed erosion and sediment control measures is regular inspections and observation and on-going maintenance for the life of the project. It is anticipated that the measures will require cleaning, replacement and maintenance as outlined in Table No. 6, Stormwater Management Inspections & Maintenance of Permanent Structures. The project sponsor will be responsible for inspecting and maintaining permanent stormwater management structures and practices.

Table No. 6
Stormwater Management Inspections & Maintenance of Permanent Structures

Structure Or Practice	Min Inspection Frequency	Conditions to be Identified	Maintenance Required
Bioretention Practice	Semi-Annually	Weeds, Sediment & Debris Accumulation, Plant Condition	Mulch and weed with landscaping, vegetation in sumps limited to 18"h. Mulch annually. Replace dead plant material. Remove sediment when capacity reduced by 10% or + *Note: Debris and trash removal may be required on a monthly basis*
Tree Planting, Vegetated Areas	Monthly	Erosion, Weeds, Tree & Plant Condition	Regrade & vegetate as necessary. Mulch, water & protect young trees, Replace dead trees and plant material
Paved Areas	Semi-Annually	Pavement Damage	Repair or repave; Remove sand
Drainage Pipes	Semi-Annually	Debris Accumulation	Remove debris when cross-sectional area of pipe is reduced by 10% or +
Catch Basins, Inlets & MH	Semi-Annually	Sediment Accumulation	Remove sediment min. of 2x year or when storage reduced by 10% or +

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

The Town of Yorktown has prepared a sample maintenance agreement which they will provide to the Applicant. Upon project completion, the maintenance agreement will be formalized and will be filed with Westchester County Clerk's office. The maintenance agreement will continue with the ownership of the property.

IV. CONCLUSION

IV. Conclusion

The Shrub Oak International School Phase 1 SWPPP evaluates the potential stormwater management impacts anticipated with the proposed sitework upgrades at the campus and insures that those modest impacts are mitigated both during and post construction with the use of temporary and permanent stormwater treatment practices. As included in the Appendix, the stormwater management analysis has been prepared consistent with the NYSDEC New York State Stormwater Management Design Manual (Design Manual), dated January 2015, guidelines and requirements for stormwater quantity and quality control, including runoff reduction requirements to mimic existing infiltration conditions, thereby being in conformance with the NYSDEC SPDES General Permit GP-0-15-002 requirements.

APPENDIX

DIVNEY • TUNG • SCHWALBE
Intelligent Land Use

SHRUB OAK INTERNATIONAL SCHOOL

TOWN OF YORKTOWN, NEW YORK

STORMWATER POLLUTION PREVENTION PLAN APPENDIX: PHASE 1

Prepared for the Fulfillment of:

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

Prepared By:

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

April 20, 2018

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

STORMWATER POLLUTION PREVENTION PLAN PHASE 1 APPENDIX

TABLE OF CONTENTS

1. METHODOLOGY

A. METHODOLOGY

1. Zero Increase in Watershed Peak Runoff

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

2. Storm Frequencies

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

3. Technical Approach

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

4. Soil Classifications

The soil classifications and their limits were provided from mapping compiled by the U.S. Department of Agriculture (USDA) Soil Conservation Service. See attached Custom Soil Resource Report prepared for the project limit of disturbance area.

5. Infiltration Requirements

The continuity equation and level pool reservoir routing methods[1] are used to route watershed inflow hydrographs through the underground infiltration systems. A constant infiltration rate is applied to the SCS TR-55 model, calculated as a conversion of the percolation rate across the infiltration bed surface area.

6. Rainfall Intensity

The model was run using the Northeast Regional Climate Center Extreme Precipitation Tables. Frequency and intensities, which have been used in this report, are as follows:

SHRUB OAK INTERNATIONAL SCHOOL

RAINFALL INTENSITY BY STORM FREQUENCY[2]

Storm Frequency Year	Rainfall Intensity (24-Hour Period) (Inches)
100	9.19
10	5.07
2	3.36
1	2.75
90% Event	*1.2*

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

[2] Northeast Regional Climate Center Extreme Precipitation Tables. Longitude 73.838 degrees West, Latitude 41.310 degrees North. February 13, 2018. *http://precip.eas.cornell.edu*

2. SUMMARY TABLES

TABLE NO.

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

EXISTING CONDITIONS CURVE NUMBER COMPUTATIONS

WATERSHED/ SUBBASIN ID	HYDRO-LOGIC GROUP [1]	COVER TYPE [2]	TOTAL AREA (AC)	IMPERVIOUS AREA			PERVIOUS AREA			WEIGHTED CN
				AREA (AC)	CN [5]	A x CN	AREA (AC)	CN [5]	A x CN	
A	C	Woods	56.35				56.35	70	3944	70
	C	Open Space	6.60				6.60	74	489	74
	C	Impervious	1.87	1.87	98	183				98
TOTAL:			64.82	1.87		183	62.95		4433	71
B	C	Woods	12.96				12.96	70	907	70
	C	Open Space	4.05				4.05	74	300	74
	C	Impervious	0.85	0.85	98	83				98
TOTAL:			17.86	0.85		83	17.01		1207	72
C	C	Woods	1.25				1.25	70	87	70
	C	Open Space	3.25				3.25	74	240	74
	C	Impervious	0.83	0.83	98	81				98
TOTAL:			5.33	0.83		81	4.50		328	77
D	C	Open Space	3.28				3.28	74	243	74
	C	Impervious	0.20	0.20	98	19				98
TOTAL:			3.48	0.20		19	3.28		243	75
E	C	Open Space	11.21				11.21	74	830	74
	C	Impervious	1.14	1.14	98	112				
TOTAL:			12.35	1.14		112	11.21		830	76
F (DEP)	C	Open Space	20.10				20.10	74	1487	74
	C	Impervious	2.50	2.50	98	245				
TOTAL:			22.60	2.50		245	20.10		1487	77

1. Hydrologic Soil Group classification, see Soil Survey of Putnam and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.
2. S=Hydrologic Soil Group (HSG) Specific Reduction Factor
2. Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.
3. Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, Jun
4. Specific Reduction factors for the HSGs per NYSSM1

HSG A	0.55
HSG B	0.40
HSG C	0.30
HSG D	0.20

5. CN values from Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.

TABLE NO.

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

DEVELOPED CONDITIONS CURVE NUMBER COMPUTATIONS

WATERSHED/ SUBBASIN ID	HYDRO-LOGIC GROUP [1]	COVER TYPE [2]	TOTAL AREA (AC)	IMPERVIOUS AREA			PERVIOUS AREA			WEIGHTED CN
				AREA (AC)	CN [5]	A x CN	AREA (AC)	CN [5]	A x CN	
AA	C	Woods	56.35				56.35	70	3944	70
	C	Open Space	6.56				6.56	74	486	74
	C	Impervious	1.91	1.91	98	187				
TOTAL:			64.82	1.91		187	62.91		4430	71
BB	C	Woods	12.96				12.96	70	907	70
	C	Open Space	3.96				3.96	74	293	74
	C	Impervious	0.95	0.95	98	93				
TOTAL:			17.86	0.95		93	16.91		1200	72
CC	C	Woods	1.25				1.25	70	87	70
	C	Open Space	3.23				3.23	74	239	74
	C	Impervious	0.84	0.84	98	83				98
TOTAL:			5.33	0.84		83	4.48		327	77
DD	C	Open Space	3.28				3.28	74	243	74
	C	Impervious	0.20	0.20	98	19				
TOTAL:			3.48	0.20		19	3.28		243	75
EE	C	Open Space	10.69				10.69	74	791	74
	C	Impervious	1.15	1.15	98	112				
TOTAL:			11.84	1.15		112	10.69		791	76
EE SWM	C	Open Space	0.32				0.32	74	24	74
	C	Impervious	0.19	0.19	98	19				
TOTAL:			0.51	0.19		19	0.32		24	83
FF (DEP)	C	Open Space	20.10				20.10	74	1487	74
	C	Impervious	2.50	2.50	98	245				
TOTAL:			22.60	2.50		245	20.10		1487	77

1. Hydrologic Soil Group classification, see Soil Survey of Putnam and Westchester Counties, New York. United States Department of Agriculture, Soil Conservation Service.
2. S=Hydrologic Soil Group (HSG) Specific Reduction Factor
2. Cover Type as listed per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, June 1986, page 2-5.
3. Hydrologic Condition either Poor, Fair or Good per Tables 2-2a.-c.-Runoff Curve Numbers for Urban Areas, TR-55 Urban Hydrology for Small Watersheds, Second Edition, Jun
4. Specific Reduction factors for the HSGs per NYSSM1 HSG A 0.55

TABLE NO.

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

EXISTING TIME OF CONCENTRATION (OR TRAVEL TIME)

				WATERSHED/ SUBBASIN ID					
				A	**B**	**C**	**D**	**E**	**F (DEP)**
SHEET FLOW									
1.	Surface Description (See Table Below) [1]			6	6	6	6	6	6
2.	Mannings Roughness Coefficient	**n**		0.24	0.24	0.24	0.24	0.24	0.24
3.	Flow Length (Total L≤100FT)	**L**	ft	100	100	100	100	100	100
4.	2-YR 24-HR Rainfall [2]	$\mathbf{P_2}$	in	3.5	3.5	3.5	3.5	3.5	3.5
5.	Land Slope	**s**	ft/ft	0.01	0.01	0.03	0.02	0.04	0.00
6.	Travel Time $Tt = (0.007(\mathbf{nL})^{0.8})/(\mathbf{P_2}^{0.5}*\mathbf{s}^{0.4})$	$\mathbf{T_t}$	hr	**0.30**	**0.30**	**0.19**	**0.24**	**0.17**	**0.52**
SHALLOW CONCENTRATED FLOW									
7.	Surface Description (paved or unpaved)			unpaved	unpaved	paved	unpaved	unpaved	unpaved
8.	Flow Length	**L**	ft	150	162	659	597	607	236
9.	Watercourse Slope	**s**	ft/ft	0.010	0.034	0.014	0.054	0.083	0.008
10.	Average Velocity [3]	**V**	ft/s	1.6	3.0	2.4	3.7	4.6	1.4
11.	$Tt = \mathbf{L} / 3600\mathbf{V}$	$\mathbf{T_t}$	hr	**0.03**	**0.02**	**0.08**	**0.04**	**0.04**	**0.05**
CHANNEL FLOW									
12.	Cross Sectional Flow Area	**a**	ft^2	12.0	12.0	0.8	12.0	0.8	0.79
13.	Wetted Perimeter	$\mathbf{p_w}$	ft	9.7	9.7	3.1	9.7	3.1	3.14
14.	Hydraulic Radius, $r = a/p_w$	**r**	ft	1.24	1.24	0.25	1.24	0.25	0.25
15.	Channel Slope	**s**	ft/ft	0.04	0.16	0.14	0.07	0.03	0.07
16.	Manning's Roughness Coefficient [4]	**n**		0.05	0.05	0.01	0.05	0.01	0.01
17.	Velocity = $(1.49r^{2/3}s^{1/2})/n$	**V**	ft/s	6.9	13.7	17.0	9.0	8.2	12.0
18.	Flow Length	**L**	ft	1232	475	633	911	524	1192
19.	$Tt = \mathbf{L} / 3600\mathbf{V}$	$\mathbf{T_t}$	hr	**0.05**	**0.01**	**0.01**	**0.03**	**0.02**	**0.03**
TOTAL WATERSHED Tc		$\mathbf{T_c}$	hr	**0.38**	**0.32**	**0.28**	**0.31**	**0.23**	**0.60**

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

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

TABLE NO.

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

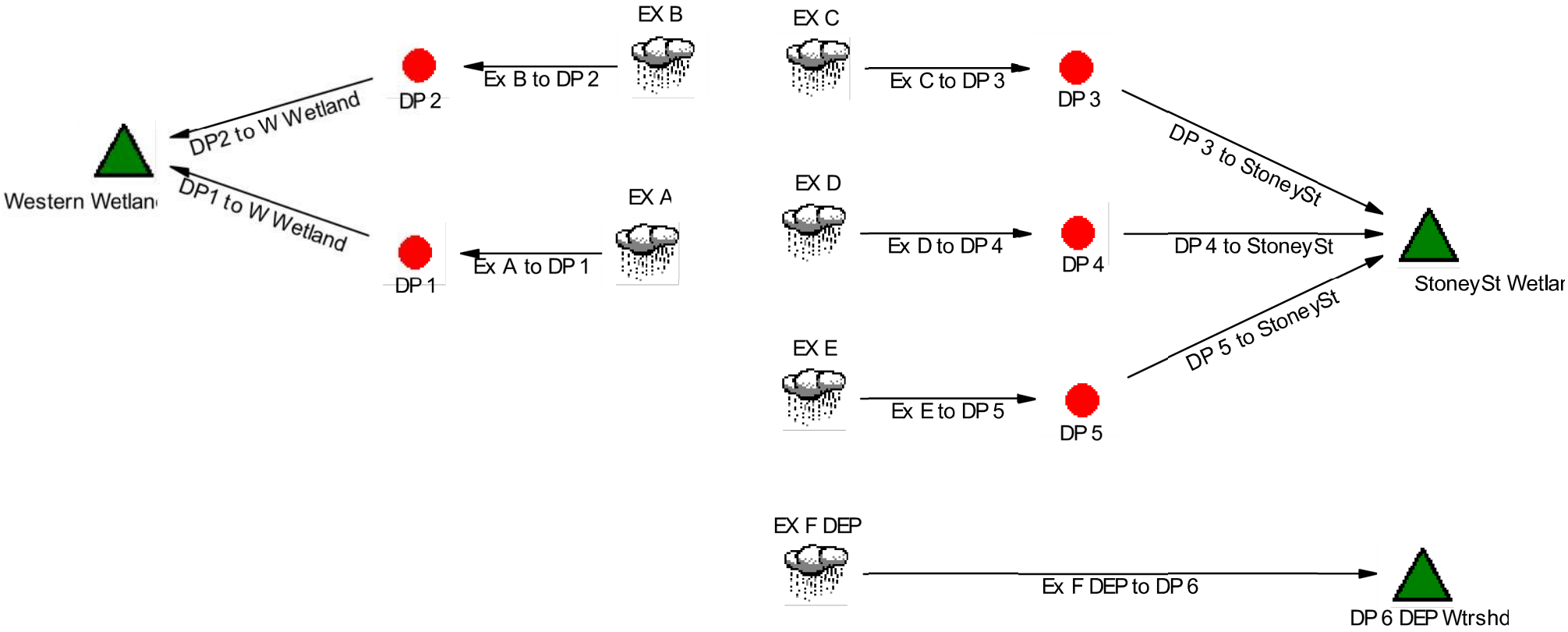
DEVELOPED TIME OF CONCENTRATION (OR TRAVEL TIME)

				WATERSHED/ SUBBASIN ID					
				AA	**BB**	**CC**	**DD**	**EE**	**FF (DEP)**
SHEET FLOW									
1.	Surface Description (See Table Below) [1]			6	6	6	6	6	6
2.	Mannings Roughness Coefficient	**n**		0.24	0.24	0.24	0.24	0.24	0.24
3.	Flow Length (Total L≤100FT)	**L**	ft	100	100	100	100	100	100
4.	2-YR 24-HR Rainfall [2]	$\mathbf{P_2}$	in	3.5	3.5	3.5	3.5	3.5	3.5
5.	Land Slope	**s**	ft/ft	0.01	0.01	0.03	0.02	0.04	0.00
6.	Travel Time $Tt = (0.007(\mathbf{nL})^{0.8})/(\mathbf{P_2}^{0.5}*\mathbf{s}^{0.4})$	$\mathbf{T_t}$	hr	**0.30**	**0.30**	**0.19**	**0.24**	**0.17**	**0.52**
SHALLOW CONCENTRATED FLOW									
7.	Surface Description (paved or unpaved)			paved	unpaved	unpaved	unpaved	unpaved	unpaved
8.	Flow Length	**L**	ft	150	162	659	597	607	236
9.	Watercourse Slope	**s**	ft/ft	0.010	0.034	0.014	0.054	0.083	0.008
10.	Average Velocity [3]	**V**	ft/s	1.6	3.0	2.4	3.7	4.6	1.4
11.	$Tt = \mathbf{L} / 3600\mathbf{V}$	$\mathbf{T_t}$	hr	**0.03**	**0.02**	**0.08**	**0.04**	**0.04**	**0.05**
CHANNEL FLOW									
12.	Cross Sectional Flow Area	**a**	ft^2	12.0	12.0	0.8	12.0	0.8	0.79
13.	Wetted Perimeter	$\mathbf{p_w}$	ft	9.7	9.7	3.1	9.7	3.1	3.14
14.	Hydraulic Radius, $r = a/p_w$	**r**	ft	1.24	1.24	0.25	1.24	0.25	0.25
15.	Channel Slope	**s**	ft/ft	0.04	0.16	0.14	0.07	0.03	0.07
16.	Manning's Roughness Coefficient [4]	**n**		0.05	0.05	0.01	0.05	0.01	0.01
17.	Velocity = $(1.49r^{2/3}s^{1/2})/n$	**V**	ft/s	6.9	13.7	17.0	9.0	8.2	12.0
18.	Flow Length	**L**	ft	1232	475	633	911	524	1192
19.	$Tt = \mathbf{L} / 3600\mathbf{V}$	$\mathbf{T_t}$	hr	**0.05**	**0.01**	**0.01**	**0.03**	**0.02**	**0.03**
TOTAL WATERSHED Tc		$\mathbf{T_c}$	hr	**0.38**	**0.32**	**0.28**	**0.31**	**0.23**	**0.60**

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

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

3. POND PACK MODELS


EX B
EX C
DP2 to W Wetland
DP 2
Ex B to DP 2
Ex C to DP 3
DP 3
DP 3 to StoneySt
Western Wetlan
EX D
EX A
DP1 to W Wetland
DP 1
Ex A to DP 1
Ex D to DP 4
DP 4
DP 4 to StoneySt
StoneySt Wetlar
EX E
DP 5 to StoneySt
Ex E to DP 5
DP 5
EX F DEP
Ex F DEP to DP 6
DP 6 DEP Wtrshd

MASTER DESIGN STORM SUMMARY

Network Storm Collection: SOIS

Return Event	Total Depth in	Rainfall Type	RNF ID
1	2.7500	Synthetic Curve	TypeIII 24hr
2	3.3600	Synthetic Curve	TypeIII 24hr
10	5.0700	Synthetic Curve	TypeIII 24hr
25	6.4200	Synthetic Curve	TypeIII 24hr
50	7.6800	Synthetic Curve	TypeIII 24hr
100	9.1900	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DP 1	JCT	1	3.354		12.3333	25.29		
DP 1	JCT	2	5.271		12.3333	42.54		
DP 1	JCT	10	11.719		12.2500	100.40		
DP 1	JCT	25	17.505		12.2500	152.59		
DP 1	JCT	50	23.240		12.2500	203.61		
DP 1	JCT	100	30.398		12.2500	266.39		
DP 2	JCT	1	.988		12.2500	8.09		
DP 2	JCT	2	1.534		12.2500	13.48		
DP 2	JCT	10	3.352		12.2500	31.13		
DP 2	JCT	25	4.972		12.2500	46.51		
DP 2	JCT	50	6.572		12.2500	61.44		
DP 2	JCT	100	8.563		12.2500	79.70		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DP 3	JCT	1	.401		12.2500	3.70		
DP 3	JCT	2	.590		12.2500	5.57		
DP 3	JCT	10	1.191		12.1667	11.44		
DP 3	JCT	25	1.710		12.1667	16.51		
DP 3	JCT	50	2.213		12.1667	21.34		
DP 3	JCT	100	2.833		12.1667	27.19		
DP 4	JCT	1	.232		12.2500	2.04		
DP 4	JCT	2	.349		12.2500	3.19		
DP 4	JCT	10	.727		12.2500	6.83		
DP 4	JCT	25	1.056		12.2500	9.92		
DP 4	JCT	50	1.379		12.2500	12.89		
DP 4	JCT	100	1.777		12.2500	16.49		
DP 5	JCT	1	.875		12.1667	8.50		
DP 5	JCT	2	1.302		12.1667	13.16		
DP 5	JCT	10	2.669		12.1667	27.85		
DP 5	JCT	25	3.854		12.1667	40.28		
DP 5	JCT	50	5.010		12.1667	52.16		
DP 5	JCT	100	6.434		12.1667	66.55		
*DP 6 DEP WTRSHD	JCT	1	1.697		12.5000	11.54		
*DP 6 DEP WTRSHD	JCT	2	2.499		12.4167	17.48		
*DP 6 DEP WTRSHD	JCT	10	5.049		12.4167	36.32		
*DP 6 DEP WTRSHD	JCT	25	7.246		12.4167	52.18		
*DP 6 DEP WTRSHD	JCT	50	9.380		12.4167	67.31		
*DP 6 DEP WTRSHD	JCT	100	12.006		12.4167	85.62		
EX A	AREA	1	3.354		12.3333	25.29		
EX A	AREA	2	5.271		12.3333	42.54		
EX A	AREA	10	11.719		12.2500	100.40		
EX A	AREA	25	17.505		12.2500	152.59		
EX A	AREA	50	23.240		12.2500	203.61		
EX A	AREA	100	30.398		12.2500	266.39		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

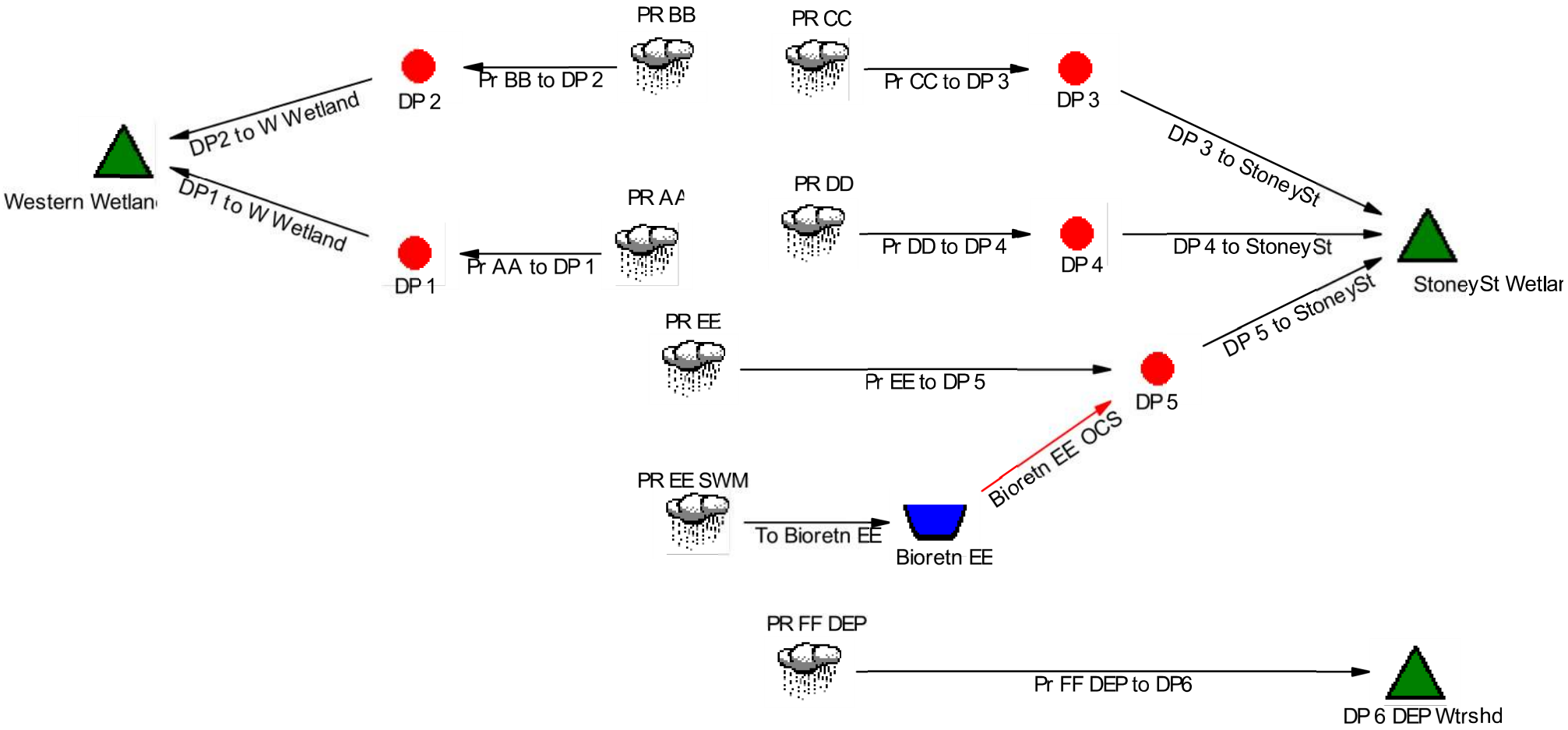
(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
EX B	AREA	1	.988		12.2500	8.09		
EX B	AREA	2	1.534		12.2500	13.48		
EX B	AREA	10	3.352		12.2500	31.13		
EX B	AREA	25	4.972		12.2500	46.51		
EX B	AREA	50	6.572		12.2500	61.44		
EX B	AREA	100	8.563		12.2500	79.70		
EX C	AREA	1	.401		12.2500	3.70		
EX C	AREA	2	.590		12.2500	5.57		
EX C	AREA	10	1.191		12.1667	11.44		
EX C	AREA	25	1.710		12.1667	16.51		
EX C	AREA	50	2.213		12.1667	21.34		
EX C	AREA	100	2.833		12.1667	27.19		
EX D	AREA	1	.232		12.2500	2.04		
EX D	AREA	2	.349		12.2500	3.19		
EX D	AREA	10	.727		12.2500	6.83		
EX D	AREA	25	1.056		12.2500	9.92		
EX D	AREA	50	1.379		12.2500	12.89		
EX D	AREA	100	1.777		12.2500	16.49		
EX E	AREA	1	.875		12.1667	8.50		
EX E	AREA	2	1.302		12.1667	13.16		
EX E	AREA	10	2.669		12.1667	27.85		
EX E	AREA	25	3.854		12.1667	40.28		
EX E	AREA	50	5.010		12.1667	52.16		
EX E	AREA	100	6.434		12.1667	66.55		
EX F DEP	AREA	1	1.697		12.5000	11.54		
EX F DEP	AREA	2	2.499		12.4167	17.48		
EX F DEP	AREA	10	5.049		12.4167	36.32		
EX F DEP	AREA	25	7.246		12.4167	52.18		
EX F DEP	AREA	50	9.380		12.4167	67.31		
EX F DEP	AREA	100	12.006		12.4167	85.62		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*STONEYST WETLAND	JCT	1	1.508		12.1667	13.86		
*STONEYST WETLAND	JCT	2	2.240		12.1667	21.53		
*STONEYST WETLAND	JCT	10	4.587		12.1667	45.76		
*STONEYST WETLAND	JCT	25	6.621		12.1667	66.31		
*STONEYST WETLAND	JCT	50	8.602		12.1667	85.97		
*STONEYST WETLAND	JCT	100	11.044		12.1667	109.80		
*WESTERN WETLAND	JCT	1	4.342		12.3333	33.17		
*WESTERN WETLAND	JCT	2	6.805		12.3333	55.29		
*WESTERN WETLAND	JCT	10	15.071		12.2500	131.53		
*WESTERN WETLAND	JCT	25	22.477		12.2500	199.10		
*WESTERN WETLAND	JCT	50	29.812		12.2500	265.05		
*WESTERN WETLAND	JCT	100	38.962		12.2500	346.08		


PR BB
PR CC
DP 2
Pr BB to DP 2
Pr CC to DP 3
DP 3
DP2 to W Wetland
DP 3 to StoneySt
Western Wetlan
DP1 to W Wetland
PR AA
PR DD
Pr AA to DP 1
Pr DD to DP 4
DP 4
DP 4 to StoneySt
DP 1
StoneySt Wetlar
PR EE
DP 5 to StoneySt
Pr EE to DP 5
DP 5
Bioretn EE OCS
PR EE SWM
To Bioretn EE
Bioretn EE
PR FF DEP
Pr FF DEP to DP6
DP 6 DEP Wtrshd

MASTER DESIGN STORM SUMMARY

Network Storm Collection: SOIS

Return Event	Total Depth in	Rainfall Type	RNF ID
1	2.7500	Synthetic Curve	TypeIII 24hr
2	3.3600	Synthetic Curve	TypeIII 24hr
10	5.0700	Synthetic Curve	TypeIII 24hr
25	6.4200	Synthetic Curve	TypeIII 24hr
50	7.6800	Synthetic Curve	TypeIII 24hr
100	9.1900	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
BIORETN EE	IN POND	1	.053		12.0833	.65		
BIORETN EE	IN POND	2	.074		12.0833	.91		
BIORETN EE	IN POND	10	.137		12.0833	1.67		
BIORETN EE	IN POND	25	.190		12.0833	2.28		
BIORETN EE	IN POND	50	.240		12.0833	2.85		
BIORETN EE	IN POND	100	.302		12.0833	3.54		
BIORETN EE	OUT POND	1	.053		12.1667	.07	660.29	.023
BIORETN EE	OUT POND	2	.074		12.6667	.13	660.53	.033
BIORETN EE	OUT POND	10	.137		12.2500	.94	660.77	.044
BIORETN EE	OUT POND	25	.190		12.2500	1.28	661.01	.056
BIORETN EE	OUT POND	50	.240		12.2500	1.52	661.24	.068
BIORETN EE	OUT POND	100	.302		12.2500	1.76	661.49	.082

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DP 1	JCT	1	3.354		12.3333	25.29		
DP 1	JCT	2	5.271		12.3333	42.54		
DP 1	JCT	10	11.719		12.2500	100.40		
DP 1	JCT	25	17.505		12.2500	152.59		
DP 1	JCT	50	23.240		12.2500	203.61		
DP 1	JCT	100	30.398		12.2500	266.39		
DP 2	JCT	1	.988		12.2500	8.09		
DP 2	JCT	2	1.534		12.2500	13.48		
DP 2	JCT	10	3.352		12.2500	31.13		
DP 2	JCT	25	4.972		12.2500	46.51		
DP 2	JCT	50	6.572		12.2500	61.44		
DP 2	JCT	100	8.563		12.2500	79.70		
DP 3	JCT	1	.401		12.2500	3.70		
DP 3	JCT	2	.590		12.2500	5.57		
DP 3	JCT	10	1.191		12.1667	11.44		
DP 3	JCT	25	1.710		12.1667	16.51		
DP 3	JCT	50	2.213		12.1667	21.34		
DP 3	JCT	100	2.833		12.1667	27.19		
DP 4	JCT	1	.232		12.2500	2.04		
DP 4	JCT	2	.349		12.2500	3.19		
DP 4	JCT	10	.727		12.2500	6.83		
DP 4	JCT	25	1.056		12.2500	9.92		
DP 4	JCT	50	1.379		12.2500	12.89		
DP 4	JCT	100	1.777		12.2500	16.49		
DP 5	JCT	1	.892		12.1667	8.22		
DP 5	JCT	2	1.321		12.1667	12.69		
DP 5	JCT	10	2.696		12.1667	27.61		
DP 5	JCT	25	3.885		12.1667	39.87		
DP 5	JCT	50	5.043		12.1667	51.50		
DP 5	JCT	100	6.470		12.1667	65.51		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 6 DEP WTRSHD	JCT	1	1.697		12.5000	11.54		
*DP 6 DEP WTRSHD	JCT	2	2.499		12.4167	17.48		
*DP 6 DEP WTRSHD	JCT	10	5.049		12.4167	36.32		
*DP 6 DEP WTRSHD	JCT	25	7.246		12.4167	52.18		
*DP 6 DEP WTRSHD	JCT	50	9.380		12.4167	67.31		
*DP 6 DEP WTRSHD	JCT	100	12.006		12.4167	85.62		
PR AA	AREA	1	3.354		12.3333	25.29		
PR AA	AREA	2	5.271		12.3333	42.54		
PR AA	AREA	10	11.719		12.2500	100.40		
PR AA	AREA	25	17.505		12.2500	152.59		
PR AA	AREA	50	23.240		12.2500	203.61		
PR AA	AREA	100	30.398		12.2500	266.39		
PR BB	AREA	1	.988		12.2500	8.09		
PR BB	AREA	2	1.534		12.2500	13.48		
PR BB	AREA	10	3.352		12.2500	31.13		
PR BB	AREA	25	4.972		12.2500	46.51		
PR BB	AREA	50	6.572		12.2500	61.44		
PR BB	AREA	100	8.563		12.2500	79.70		
PR CC	AREA	1	.401		12.2500	3.70		
PR CC	AREA	2	.590		12.2500	5.57		
PR CC	AREA	10	1.191		12.1667	11.44		
PR CC	AREA	25	1.710		12.1667	16.51		
PR CC	AREA	50	2.213		12.1667	21.34		
PR CC	AREA	100	2.833		12.1667	27.19		
PR DD	AREA	1	.232		12.2500	2.04		
PR DD	AREA	2	.349		12.2500	3.19		
PR DD	AREA	10	.727		12.2500	6.83		
PR DD	AREA	25	1.056		12.2500	9.92		
PR DD	AREA	50	1.379		12.2500	12.89		
PR DD	AREA	100	1.777		12.2500	16.49		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

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

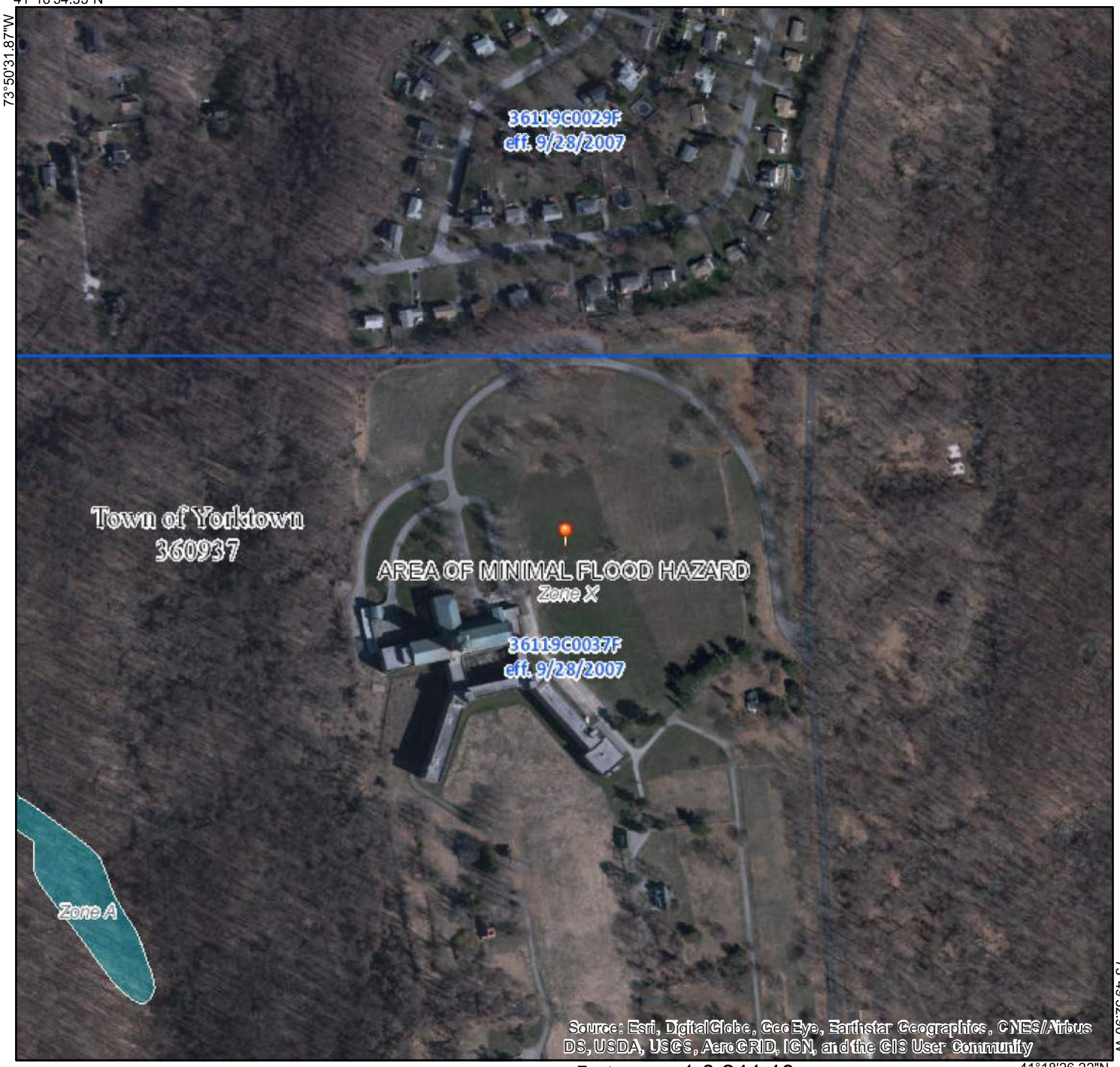
Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
PR EE	AREA	1	.839		12.1667	8.15		
PR EE	AREA	2	1.248		12.1667	12.62		
PR EE	AREA	10	2.559		12.1667	26.70		
PR EE	AREA	25	3.695		12.1667	38.61		
PR EE	AREA	50	4.803		12.1667	50.00		
PR EE	AREA	100	6.168		12.1667	63.80		
PR EE SWM	AREA	1	.053		12.0833	.65		
PR EE SWM	AREA	2	.074		12.0833	.91		
PR EE SWM	AREA	10	.137		12.0833	1.67		
PR EE SWM	AREA	25	.190		12.0833	2.28		
PR EE SWM	AREA	50	.240		12.0833	2.85		
PR EE SWM	AREA	100	.302		12.0833	3.54		
PR FF DEP	AREA	1	1.697		12.5000	11.54		
PR FF DEP	AREA	2	2.499		12.4167	17.48		
PR FF DEP	AREA	10	5.049		12.4167	36.32		
PR FF DEP	AREA	25	7.246		12.4167	52.18		
PR FF DEP	AREA	50	9.380		12.4167	67.31		
PR FF DEP	AREA	100	12.006		12.4167	85.62		
*STONEYST WETLAND	JCT	1	1.525		12.2500	13.60		
*STONEYST WETLAND	JCT	2	2.260		12.1667	21.06		
*STONEYST WETLAND	JCT	10	4.614		12.1667	45.53		
*STONEYST WETLAND	JCT	25	6.651		12.1667	65.90		
*STONEYST WETLAND	JCT	50	8.635		12.1667	85.31		
*STONEYST WETLAND	JCT	100	11.080		12.1667	108.76		
*WESTERN WETLAND	JCT	1	4.342		12.3333	33.17		
*WESTERN WETLAND	JCT	2	6.805		12.3333	55.29		
*WESTERN WETLAND	JCT	10	15.071		12.2500	131.53		
*WESTERN WETLAND	JCT	25	22.477		12.2500	199.10		
*WESTERN WETLAND	JCT	50	29.812		12.2500	265.05		
*WESTERN WETLAND	JCT	100	38.962		12.2500	346.08		

4. USDA SOILS REPORT

5. FEMA FIRMETTE

National Flood Hazard Layer FIRMette

FEMA



Feet

0 250 500 1,000 1,500 2,000

1:6,241.13

Legend

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

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

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

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

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2018 at 8:35:28 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

6. NYSDEC GENERAL PERMIT

C A U T I O N TO THE CONTRACTOR

General Permit GP-0-15-002

The *New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities* Permit No. GP-0-15-002 is made a part of these Construction Documents and includes conditions that must be adhered. The Permit can be accessed using the link to the New York State Department of Environmental Conservation Web Site as follows:

http://www.dec.ny.gov/docs/water_pdf/gp015002.pdf

It is strongly recommended that the Contractor review and become familiar with the requirements of the General Permit. As part of the SWPPP, a copy of the General Permit must be included on-site, at an accessible location, until such time as the disturbed areas have achieved final stabilization and the NOT submitted to the NYSDEC.

7. CONTRACTOR CERTIFICATIONS

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

CONTRACTOR CERTIFICATION STATEMENT

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

CONTRACTOR

Company: _____

Address: _____

_____

Telephone: _____

CERTIFICATION

Signature: _____

Name: _____

Title: _____

Date: _____

TRAINED INDIVIDUAL

Name: _____

Title: _____

CONSTRUCTION/SWPPP ACTIVITY RESPONSIBILITY:

_____

_____

_____

8. CONSTRUCTION ACTIVITY INITIATION & COMPLETION DATES

SHRUB OAK INTERNATIONAL SCHOOL
TOWN OF YORKTOWN, NEW YORK

CONSTRUCTION ACTIVITY INITIATION AND COMPLETION DATES

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

Note: Attach a map for delineation of area.

9. SWPPP OBSERVATION REPORT

STORMWATER POLLUTION PREVENTION PLAN OBSERVATION REPORT

PROJECT : **Shrub Oak International School**
LOCATION: **Town of Yorktown, New York**

DATE OF INSPECTION:
TIME OF INSPECTION:
DATE OF PREVIOUS INSPECTION:
WEATHER:
SOIL CONDITION:
INSPECTOR:

OBSERVATION:

Condition of Runoff at Discharge Points:

-
-
-
-

Erosion and Sediment Control Practies to be Repaired:

-
-
-
-

Erosion and Sediment Control Practies to be Installed:

-
-
-
-

General Comments

-
-
-
-
-
-

CERTIFICATION:

The facility is within compliance with the SWPPP and the SPDES General Permit No. GP-0-15-002 once the above recommendations have been incorporated into the plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personal properly gathered and evaluated the information submitted. Based on my inquiry of the persons or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to section 210.45 of the Penal Law.

Distribution:

signed: _____

Divney Tung Schwalbe, LLP
One North Broadway
White Plains, New York 10601
(914) 428-0010
(914) 428-0017 (fax)

10. AGENCY CORRESPONDENCE

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A _____
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

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

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.18

(Submission #: 30W-C7PF-DN7M, version 1)

PRINTED ON 4/19/2018

Summary

Submission #:	30W-C7PF-DN7M	**Date Submitted:**	Not Submitted
Form:	NOI for coverage under Stormwater General Permit for Construction Activity	**Status:**	Draft
Applicant:	Maria Alfaro	**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.)
Shrub Oak International School, LLC

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

Owner/Operator Contact Person First Name
Michael

Owner/Operator Mailing Address
80 Broad Street, Suite 1702

City
New York

State
NY

Zip
10004

Phone
212-867-2922

Email
mk@k3learn.com

Federal Tax ID
NONE PROVIDED

Project Location

Project/Site Name
Shrub Oak International School

Street Address (Not P.O. Box)
3151 Stoney Street

Side of Street
West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Town of Yorktown

State
NY

Zip
10547

County
WESTCHESTER

DEC Region
3

Name of Nearest Cross Street
Judy Road

Distance to Nearest Cross Street (Feet)
2100

Project In Relation to Cross Street
South

Tax Map Numbers Section-Block-Parcel
26.05-1-4

Tax Map Numbers
26.06-1-2

1. Coordinates

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

Navigate to your location and click on the map to get the X,Y coordinates
41.3101441,-73.8378171

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)
127.2

Total Area to be Disturbed (acres)
1.2

Existing Impervious Area to be Disturbed (acres)
0.0

Future Impervious Area Within Disturbed Area (acres)
0.4

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
05/07/2018

End Date
08/17/2018

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
west to on-site wetland then Mohegan Lake and east to ultimately Hudson River

9a. Type of waterbody identified in question 9?
Wetland/Federal Jurisdiction On Site (Answer 9b)
River Off Site
Lake Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
Delineated by Consultant

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?
Town of Yorktwon

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

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?

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
Divney Tung Schwalbe, LLP

Contact Name (Last, Space, First)
Schwalbe, Gerhard M

Mailing Address
1 North Broadway, Suite 1407

City
White Plains

State
NY

Zip
10601

Phone
914-428-0010

Email
jschwalbe@divneytungschwalbe.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
NONE PROVIDED
Comment: NONE PROVIDED

Erosion & Sediment Control Criteria

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

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

Temporary Structural
Construction Road Stabilization
Dust Control
Level Spreader
Sediment Basin
Stabilized Construction Entrance
Storm Drain Inlet Protection
Temporary Swale

Biotechnical
None

Vegetative Measures
Mulching
Protecting Vegetation
Temporary Swale

Permanent Structural
Diversion
Land Grading

Other
NONE PROVIDED

Post-Construction Criteria

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

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Undisturbed Area
Preservation of Buffers
Reduction of Clearing and Grading
Locating Development in Less Sensitive Areas

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

0.0391

29. Post-construction SMP Identification

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

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

0.0256

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

No

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

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

0.0117

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

Yes

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)

0.0147

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).

0.0403

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)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

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

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

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
27.9

Post-Development (CFS)
27.6

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
66.6

Post-Development (CFS)
65.5

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
Shrub Oak International School

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
The campus is a developed site. Goal is to provide improved vehicular and pedestrian access and construct a helistop pad and access drive. Work has been limited to developed areas and existing infrastructure and HSG C soils limit availability to meet 100% of WQv using RRv techniques.

Post-Construction SMP Identification

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

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

RR Techniques (Area Reduction)

Round to the nearest tenth

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

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

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

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

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

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
0.194

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

RR Techniques (Volume Reduction)

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

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

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

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

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

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

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

Standard SMPs with RRv Capacity

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

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

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

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
0.192

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

Standard SMPs

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufacturer 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?

MS4 SWPPP Acceptance Form Download

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

MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload - Attachment
NONE PROVIDED
Comment: NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

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

Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form * - Attachment

NONE PROVIDED

Comment: NONE PROVIDED

Attachments

Date	Attachment Name	Context

Status History

Date	User	Processing Status
None		

Processing Steps

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

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

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

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

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)