SWPPP Template

Instructions

To help you develop the narrative section for VSMP permit and construction site SWPPP, the City of Galax has created this electronic comprehensive SWPPP template, which includes the requirements erosion and sediment control, stormwater management, and pollution prevention plans. The template is designed to help guide you through the development process and help ensure that your SWPPP addresses all the necessary elements stated in your construction general permit. For further guidance on developing your SWPPP, you may want to visit the EPA's website at www.epa.gov/npdes/swpppguide.

This template covers the SWPPP elements that most construction general permits require. However, there are two major reasons to customize this template:

1. To reflect the terms and conditions of your construction general permit and
2. To reflect the conditions at your site.

Tips for completing the SWPPP template

- Sections 1, 2, 3, and 4 of the Comprehensive SWPPP are required for the plan review submittal, as noted below. Sections 5, 6, and 7 of the Comprehensive SWPPP are not required to be completed at time of plan review submittal. However, these sections must be completed by the Applicant and/or the Contractor prior to construction. The Comprehensive SWPPP must be available at the construction site at all times during construction.
- The erosion and sediment control (Section 2) and stormwater management (Section 3) sections of the SWPPP shall be appropriately sealed and signed by a professional engineer, architect, surveyor, or landscape architect registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia, as required by the VSMP Authority.
- Multiple operators may share the same SWPPP, but make sure that responsibilities are clearly described.
- Modify this SWPPP template so that it addresses the requirements in your construction general permit and meets the needs of your project. Consider adding permit citations in the SWPPP when you address a specific permit requirement.

Stormwater Pollution Prevention Plan

For:

Insert Project Name
Insert Project Site Location/Address
Insert City, State, Zip Code
Insert Project Site Telephone Number (if applicable)

Operator(s):

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number

Stormwater Manager:

Insert Name

SWPPP Contact(s):

Insert Name
Insert Name
Insert Name

SWPPP Preparation Date:

mm / dd / yyyy

Estimated Project Dates:

Start of Construction: mm / dd / yyyy
Completion of Construction: mm / dd / yyyy

CERTIFICATION AND NOTIFICATION

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

Name: _____ Title: _____

Signature: _____ Date: _____

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SECTION 1: SITE INFORMATION

1.1 Project/Site Information

1. Project/Site Name: Insert Project Name
2. Project Street/Location: Insert Project Location
3. City/Town: Insert City 4. State: Insert State 5. Zip Code: Insert Zip Code
6. County: Insert County
7. Subdivision: Insert Subdivision
8. Tax Reference Number of Parcel(s): Insert Data
9. Parcel Number(s): Insert Data

Latitude/Longitude

10. Latitude: Longitude:

dd º mm ' ss '' N (degrees, minutes, seconds) dd º mm ' ss '' W (degrees, minutes, seconds)

or Link to e-permitting site

11. Method for determining latitude/longitude:

☐ USGS topographic map (specify scale: Insert Scale) ☐ EPA Web site ☐ GPS

☐ Other (please specify): Insert Other Method(s)

12. Is this project considered a federal facility? ☐ Yes ☐ No
13. VSMP permit number: Insert Permit Number
    a. (This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the construction general permit.)
14. Type of regional facility/facilities to which site contributes: Insert Type of Facility
15. Regional Facility Street/Location: Insert Facility Location
16. City: Insert City 17. State: Insert State 18. Zip Code: Insert Zip Code

1.2 Contact Information/Responsible Parties

1. **Operator(s)**:

   Insert Company or Organization Name

   Insert Name

   Insert Address

   Insert City, State, Zip Code

   Insert Telephone Number

   Insert Fax/Email

   Insert area of control (if more than one operator at site)

   Repeat as necessary

2. **Project Manager(s) or Site Supervisor(s)**:

   Insert Name

   Insert Company or Organization Name

   Insert Address

   Insert City, State, Zip Code

   Insert Telephone Number

   Insert Fax/Email

   Insert area of control (if more than one operator at site)

   Repeat as necessary

3. **Stormwater Manager and SWPPP Contact(s):**

   Insert Name

   Insert Company or Organization Name

   Insert Address

   Insert City, State, Zip Code

   Insert Telephone Number

   Insert Fax/Email (Optional)

   Repeat as necessary

4. This SWPPP Was Prepared By:

Insert Name

Insert Company or Organization Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

5. Subcontractor(s):

Insert Company or Organization Name

Insert Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Repeat as necessary

6. Responsible Land Disturber:

Insert Name

Insert DEQ Certification Number

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Repeat as necessary

7. Emergency 24 hour contact:

Insert Name

Insert Telephone Number

1.3 Nature and Sequence of Construction Activity

1. Describe the general scope of the work for the project, major phases of construction, etc.:

   INSERT TEXT HERE

2. What is the function of the construction activity?

   ☐ Residential ☐ Commercial ☐ Industrial ☐ Road Construction

   ☐ Linear Utility

   ☐ Other (please specify): INSERT TEXT HERE

3. Estimated Project Start Date: mm / dd / yyyy

4. Estimated Project Completion Date: mm / dd / yyyy

1.4 Construction Site Estimates & Statistics

The following are estimates of the construction site:

1. Construction Site Area to be disturbed _____ acres
2. Total Project Area _____ acres
3. Percentage impervious area before construction _____ %
4. Runoff coefficient before construction Refer to Sect 4.1 & 4.2
5. Percentage impervious area after construction _____ %
6. Runoff coefficient after construction Refer to Sect 4.1 & 4.2
7. Number of Acres treated by Regional Facility _____ acres

1.5 Existing Conditions

1. Soil type(s): Refer to Section 2.5.
2. Slopes (describe current slopes and note any changes due to grading or fill activities): Refer to Section 2.6.
3. Drainage Patterns: Refer to Section 4.1. or provide if Section 4.1 is not required.
4. Vegetation:

   INSERT TEXT HERE

   INSERT TEXT HERE

5. Other:

- INSERT TEXT HERE
- INSERT TEXT HERE

1.6 Receiving Waters

1. Description of receiving waters, include HUC Code for each: INSERT TEXT HERE
2. Description of storm sewer systems: INSERT TEXT HERE
3. Description of waters subject to TMDLs:

Waters subject to TMDLs	Type of Impairment	Cause of Impairment
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

4. Provide link to impaired water referenced from Virginia's TMDL website: INSERT TEXT HERE

5. Describe the designated uses of the water body: INSERT TEXT HERE

6. Please include a description and map of the watershed boundary: INSERT TEXT HERE

7. Please list any measures that will be used to meet the TMDL(s): INSERT TEXT HERE

8. Description of impaired waters:

Impaired Waters	Pollutant	Project Specific Control Measures
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

1.7 Site Features and Sensitive Areas to be Protected

Description of unique features and measures to protect them:

- INSERT TEXT HERE

1.8 Potential Sources of Pollution

[These pollutants must be addressed in the pollution prevention plan.]

Potentials sources of sediment to stormwater runoff:

- INSERT TEXT HERE
- INSERT TEXT HERE

Potential pollutants and sources, other than sediment, to stormwater runoff:

- INSERT TEXT HERE
- INSERT TEXT HERE

SECTION 2: EROSION AND SEDIMENT CONTROL

2.1 Project Description

1. General Description: Refer to Section 1.3.
2. Schedule: Refer to Section 1.3.
3. Site Data: Refer to Section 1.4.

2.2 Existing Site Conditions: Refer to Sections 1.5, 2.5, 2.6, and 4.1.

2.3 Adjacent Property

[Detailed description of adjacent properties including location]

2.4 Planned Earthwork Activities

1. General Earthwork: [General earthwork description]
2. Off-site Disposal: Any excess or unsuitable material will be transported to off-site disposal areas with erosion control plans that are approved by the authority having jurisdiction. The names of any offsite areas must be provided to the [jurisdiction] before any soil is transported offsite. The depths of topsoil/surficial soil in existing open areas range from approximately [depth] inches.
3. Trenching: Trenching will be performed to install the utilities.
4. Imported Material: Any imported material required for backfilling, stone bases, etc., is planned to be obtained from commercial regional quarries. All off-site land disturbing areas in which material is obtained or is disposed shall have an approved ESC plan.

2.5 Soils

[Add soils description and map and/or reference to soils information in appendices. Refer to http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm]

2.6 Critical Erosion Areas

Critical erosion areas may be encountered during grading operations as follows:

1. Proposed slopes near 3:1 or greater.
2. Drainage swales where surface runoff will be concentrated.

The proposed erosion and sediment control measures are intended to minimize any potential problems and promote stabilization.
[List any known critical erosion areas]

2.7 Erosion and Sediment Control Measures

All vegetative and structural erosion and sediment control practices will be constructed and maintained in accordance with the minimum standards and specifications of the "Virginia Erosion and Sediment Control Handbook" (VESCH), latest edition, as provided in the Appendix.

[Describe the areas that will be disturbed with each phase of construction and the methods (signs, fences, etc.) that you will use to protect those areas that should not be disturbed. Describe natural features identified earlier and how each will be protected during construction activity. Also describe how topsoil will be preserved. Provide a map showing the following information:

a. Areas and timing of soil disturbance and areas that will not be disturbed
b. Natural features to be preserved
c. Locations of major structural and non-structural BMPs identified in the SWPPP
d. Locations and timing of stabilization measures
e. Locations of off-site material, waste, borrow, or equipment storage areas
f. Locations of all waters of the U.S., including wetlands
g. Locations where stormwater discharges to a surface water
h. Locations of storm drain inlets
i. Areas where final stabilization has been accomplished]

2.8 Structural Practices

[EXAMPLES BELOW FOR COMMONLY USED PRACTICES; INSERT APPROPRIATE PROJECT-SPECIFIC PRACTICES AS NEEDED]

1. SAFETY FENCE – STD. & SPEC. 3.01

Safety fence shall be installed as shown on the plans to prohibit the undesirable use of an erosion control measure or land disturbing activity by the public.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.01
Removal Event:	Following stabilization of site

2. TEMPORARY STONE CONSTRUCTION ENTRANCE – STD. & SPEC. 3.02

Temporary stone construction entrance shall be installed as shown on the plans to reduce the amount of soil transported onto public roads or other paved areas.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec. 3.02
Removal Event:	Immediately prior to paving

3. CONSTRUCTION ROAD STABILIZATION – STD. & SPEC. 3.03

Temporary stabilization with stone shall be installed as shown on the plans for access roads and other traffic areas immediately after grading to reduce erosion caused by vehicles during wet weather, and to prevent having to regrade permanent roadbeds between initial grading and final stabilization.

Sequence of Installation:	Following establishment of subgrade elevation for the access drive and drive aisles
Maintenance:	Refer to Std. & Spec. 3.03
Removal Event:	Prior to placing subbase and pavement

4. STRAW BALE BARRIER – STD. & SPEC. 3.04

Disturbed areas shall be lined with straw bale barriers in locations shown on the plans to detain sediment and decrease storm water runoff velocity

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.04
Removal Event:	Following permanent stabilization of upstream areas

5. SILT FENCE - STD. & SPEC. 3.05

Disturbed areas and soil stockpile areas shall be lined with silt fence as shown on the plans to detain sediment and decrease storm water runoff velocity.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec. 3.05
Removal Event:	Following permanent stabilization of entire site

6. BRUSH BARRIER - STD. & SPEC. 3.06

Disturbed areas shall be lined with brush barriers as shown on the plans to intercept and retain sediment on-site.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.06
Removal Event:	Following permanent stabilization of upstream areas

7. STORM DRAIN INLET PROTECTION - STD. & SPEC. 3.07

Storm drain inlet protection shall be placed at existing and proposed grate inlets to prevent sediment from entering the storm piping.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.07
Removal Event:	Following permanent stabilization of all upland areas

8. CULVERT INLET PROTECTION – STD. & SPEC. 3.08

Culvert inlet protection shall be installed and consist of a sediment filter located at the inlet to storm sewer culverts, which prevents sediment from entering, accumulating in and being transferred by the culvert. It provides erosion control at culverts during the phase of the project where elevations and drainage patterns are changing, causing original control measures to be ineffective.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.08
Removal Event:	Following permanent stabilization of all upland areas

9. TEMPORARY DIVERSION DIKE - STD. & SPEC. 3.09

Temporary diversion dikes shall be constructed to divert runoff from a disturbed area to a sediment-trapping facility.

Sequence of Installation:	Concurrent with the construction of the sediment traps
Maintenance:	Refer to Std. & Spec. 3.09
Removal Event:	Following permanent stabilization of all upland areas

10. TEMPORARY FILL DIVERSION - STD. & SPEC. 3.10

Temporary fill diversions shall be constructed as shown on the plans to divert runoff along the top of an active earth fill to an appropriate stabilized outlet.

Sequence of Installation:	As needed at the end of each work day at the top of active fill slopes.
Maintenance:	Refer to Std. & Spec. 3.10
Removal Event:	Following permanent stabilization of all upland areas

11. TEMPORARY RIGHT-OF-WAY DIVERSION - STD. & SPEC. 3.11

Temporary right-of-way diversions shall be constructed within a sloping right-of-way to an appropriate stabilized outlet.

Sequence of Installation:	Concurrent with right-of-way grading activities.
Maintenance:	Refer to Std. & Spec. 3.11
Removal Event:	Prior to placing subbase and pavement

12. DIVERSION - STD. & SPEC. 3.12

Diversions shall be constructed as shown on the plans in accordance with design calculations to divert runoff to a stabilized outlet.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.12
Removal Event:	This is permanent and shall not be removed

13. TEMPORARY SEDIMENT TRAP – STD. & SPEC. 3.13

A temporary sediment trap shall be constructed as shown on the plans to detain sediment-laden runoff long enough for the majority of sediment to settle out.

Sequence of Installation:	Prior to any site disturbance and grading activities
Maintenance:	Refer to Std. & Spec. 3.13
Removal Event:	Following permanent stabilization of upland areas

14. TEMPORARY SEDIMENT BASIN – STD. & SPEC. 3.14

A temporary dam with a controlled stormwater release structure formed by constructing an embankment of compacted soil shall be constructed as shown on the plans at the base of a sloping disturbed area to detain sediment-laden runoff from

disturbed areas in “wet” and “dry” storage long enough for the majority of the sediment to settle out. Stabilization is required immediately after installation.

Sequence of Installation:	Prior to any site disturbance and grading activities
Maintenance:	Refer to Std. & Spec. 3.14
Removal Event:	Following permanent stabilization of entire site

15. TEMPORARY SLOPE DRAIN – STD. & SPEC. 3.15

Temporary slope drains shall be constructed as shown on the plans to temporarily conduct concentrated stormwater runoff safely down the face of a cut or fill slope without causing erosion on or below the slope.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.15
Removal Event:	Following permanent stabilization of upland and down slope areas.

16. PAVED FLUME – STD. & SPEC. 3.16

A permanent paved channel constructed to conduct stormwater runoff safely down the face of a slope without causing erosion problems on or below the slope.

Sequence of Installation:	Concurrent with the construction of the sediment traps
Maintenance:	Refer to Std. & Spec. 3.16
Removal Event:	This is permanent and shall not be removed.

17. STORMWATER CONVEYANCE CHANNEL (SCC) – STD. & SPEC. 3.17

Permanent SCCs are proposed to provide adequate channel to convey runoff, and shall be constructed in accordance with the plans, specifications, and engineering design calculations.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.17
Removal Event:	This is permanent and shall not be removed.

18. OUTLET PROTECTION – STD. & SPEC. 3.18

Structurally lined aprons or other acceptable energy dissipating devices placed at the outlets of pipes or paved channel sections, used to prevent scour at stormwater outlets, to protect the outlet structure and to minimize the potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.18
Removal Event:	This is permanent and shall not be removed.

19. RIPRAP – STD. & SPEC. 3.19

Large, loose, angular stone with filter fabric installed to protect soil from the erosive forces of concentrated runoff or stabilize slopes.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.19
Removal Event:	This is permanent and shall not be removed.

20. ROCK CHECK DAMS – STD. & SPEC 3.20

Small temporary stone dams constructed across a swale or drainage ditch in order to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch and trap sediment from adjacent areas.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.20
Removal Event:	Unless indicated as permanent, remove following permanent stabilization of the site.

21. LEVEL SPREADER – STD. & SPEC 3.21

An outlet for diversions and dikes consisting of an excavated depression constructed at zero grade to convert concentrated runoff to sheet flow and release it uniformly onto areas stabilized by existing vegetation.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.21
Removal Event:	This is permanent and shall not be removed.

22. STRUCTURAL STREAMBANK STABILIZATION – STD. & SPEC 3.23

Structural streambank stabilization should be installed as shown and described on the plans to protect streambanks from the erosive forces of flowing water.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.23

Removal Event:	This is permanent and shall not be removed.

23. TEMPORARY VEHICULAR STREAM CROSSING – STD. & SPEC 3.24

Temporary vehicular stream crossings must be installed whenever more than two (2) crossings (one-way) occur within six months.

Sequence of Installation:	Prior to stream crossing
Maintenance:	Refer to Std. & Spec. 3.24
Removal Event:	After construction is complete and the need to cross the stream is eliminated.

24. UTILITY STREAM CROSSING – STD. & SPEC 3.25

Utility stream crossings should be constructed in accordance with Std. and Spec. 3.25 to help protect sediment from entering the stream during construction and minimize the amount of disturbance.

Sequence of Installation:	As part of utility installation activities
Maintenance:	Refer to Std. & Spec. 3.25
Removal Event:	Following utility installation

25. DEWATERING STRUCTURE – STD. & SPEC. 3.26

A temporary settling and filtering device for water which is discharged from dewatering activities.

Sequence of Installation:	As needed
Maintenance:	Refer to Std. & Spec. 3.26
Removal Event:	After all dewatering has taken place.

26. TURBIDITY CURTAIN – STD. & SPEC. 3.27

A floating geotextile material to minimize sediment transport from a disturbed area adjacent to or within a body of water.

Sequence of Installation:	Prior to upstream land disturbance
Maintenance:	Refer to Std. & Spec. 3.27
Removal Event:	Following permanent upstream stabilization

27. SUBSURFACE DRAIN – STD. & SPEC. 3.28

A perforated conduit such as pipe, tubing or tile installed beneath the ground to intercept and convey ground water.

Sequence of Installation:	As needed with slope grading
Maintenance:	Refer to Std. & Spec. 3.28
Removal Event:	This is permanent and shall not be removed

28. SURFACE ROUGHENING – STD. & SPEC. 3.29

Provide a rough surface with horizontal depressions created by operating a tillage or other suitable implement on the contour, or by leaving slopes in a roughened condition by not fine-grading them.

Sequence of Installation:	As part of grading activities, prior to seeding
Maintenance:	Refer to Std. & Spec. 3.29
Removal Event:	Not Applicable

29. MS-16: UTILITY INSTALLATION

No more than 500 linear feet of utility trench may be opened at one time. Excavated material shall be placed on the uphill side of trenches. Effluent from dewatering operations shall be filtered or passed through approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property. Backfill material shall be properly compacted to minimize erosion and promote stabilization.

2.9 Vegetative Practices

GENERAL: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized by concrete or pavement. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion. New vegetation shall be maintained for one full year after planting. New seeding shall be supplied with adequate moisture, especially late in the season, and in abnormally hot or dry weather. Stabilization practices shall be accomplished in accordance with the appropriate VESCH Std. & Spec. as provided in the Appendix, and the Erosion and Sediment Control Plan. Selection of the appropriate seed mixture for temporary seeding will depend upon the time of year it is applied.

1. VEGETATIVE STREAMBANK STABILIZATION – STD. & SPEC. 3.22

Install vegetation to stabilize stream banks and protect from the erosive forces of flowing water where indicated on the plans.

Sequence of Installation:	Following grading activities

Maintenance:	Refer to Std. & Spec. 3.22; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	This is a permanent practice, refer to Std. & Spec. 3.22 for information on required repairs and vegetative establishment.

2. TOPSOILING – STD. & SPEC. 3.30

In order to stabilize final site grades, suitable, organic growth medium shall be used. This can be accomplished through on-site preservation of existing topsoil or imported topsoil.

Sequence of Installation:	Following final grading/surface roughening where applicable.
Maintenance:	Refer to Std. & Spec. 3.30; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	This is a permanent practice and shall not be removed.

3. TEMPORARY SEEDING – STD. & SPEC. 3.31

Temporary seeding shall be applied over denuded areas within 7 days for areas that will not be brought to final grade within 30 days. Temporary seeding mixes shall be as described on the detail drawings.

Sequence of Installation:	When cleared areas will not be brought to final grade within 30 days
Maintenance:	Refer to Std. & Spec. 3.31; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	As needed for final grading.

4. PERMANENT SEEDING – STD. & SPEC. 3.32

Permanent seeding shall also be used on all areas that are not at final grade and that will be left dormant for a period of more than 1 year. If conflicts exist between the project specifications and the VESCH Std. & Spec. 3.32, the more stringent requirement shall apply. Permanent seeding mixes and rates are found on sheet [XXX] Erosion and Sediment Control Details.

Sequence of Installation:	Within 7 days of achieving final grade or as noted above
Soil Testing Requirements:	Refer to Std. & Spec. 3.32
Maintenance:	Refer to Std. & Spec. 3.32; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be immediately reseeded, following identification of the cause of poor germination.

5. SODDING – STD. & SPEC. 3.33

Sod shall be installed where indicated on the plans in fine-graded areas to establish an immediate permanent turf cover.

Sequence of Installation:	Following establishment of final grade
Maintenance:	Refer to Std. & Spec. 3.33
Removal Event:	This is a permanent practice and should not be removed.

6. BERMUDAGRASS & ZOYSIAGRASS ESTABLISHMENT – STD. & SPEC. 3.34

Bermudagrass & Zoysiagrass shall be planted only where indicated on the plans using plugs, sprigs, or stolons to provide a vegetative ground cover more rapidly than traditional seeding methods.

Sequence of Installation:	Within 7 days of achieving final grade or as noted above
Soil Testing Requirements:	Refer to Std. & Spec. 3.34
Maintenance:	Refer to Std. & Spec. 3.34

7. MULCHING – STD. & SPEC. 3.35

Application of plant residues or other suitable material shall be installed to prevent erosion and foster growth of vegetation to areas which have been seeded or in areas which cannot be seeded because of season to provide some protection to the soil surface.

Sequence of Installation:	Following establishment of final grade and placement of lime, fertilize, and seed or in areas which cannot be seeded because of the season
Maintenance:	Refer to Std. & Spec. 3.35
Removal Event:	not applicable unless used for temporary cover in areas which cannot be seeded because of the season

8. SOIL STABILIZATION BLANKETS AND MATTING – STD. & SPEC. 3.36

Blankets and matting shall be used to aid in controlling erosion on critical areas by providing a microclimate which protects young vegetation and promotes its establishment. In addition, some types of soil stabilization mats are also used to raise the maximum permissible velocity of turf grass stands in channelized areas by "reinforcing the turf" to resist the forces of erosion during storm events.

Sequence of Installation:	Following establishment of final grade and placement of lime, fertilize, and seed.
Maintenance:	Refer to Std. & Spec. 3.36
Removal Event:	This is permanent and shall not be removed.

9. TREES, SHRUBS, VINES, & GROUNDCOVERS – STD. & SPEC. 3.37

Trees, shrubs, vines, and groundcovers shall be planted as indicated on the plans in order to stabilize disturbed areas.

Sequence of Installation:	Following establishment of final grade.
Maintenance:	Refer to Std. & Spec. 3.37
Removal Event:	This is permanent and shall not be removed.

10. TREE PRESERVATION AND PROTECTION – STD. & SPEC. 3.38

Desirable trees shall be protected from mechanical and other injury during land disturbing activity to ensure their survival.

Sequence of Installation:	Prior to any site disturbance and grading activities
Maintenance:	Refer to Std. & Spec. 3.38
Removal Event:	Following permanent stabilization of entire site

11. DUST CONTROL – STD. & SPEC. 3.39

During land disturbance, reduce surface and air movement of dust in areas subject to dust problems in order to prevent soil loss and reduce the presence of potentially harmful airborne substances.

Sequence of Installation:	Immediately as needed to reduce surface and air movement of dust in areas subject to dust problems
Maintenance:	Refer to Std. & Spec. 3.39
Removal Event:	N/A

2.10 Management Strategies

The Contractor will designate an employee certified as the "Responsible Land Disturber" (RLD), by the Commonwealth of Virginia, Department of Environmental Quality (VADEQ), who is in charge of and is responsible for carrying out the land-disturbing activities on this project. This employee shall also inspect for deficiencies immediately after each rainfall, at least daily during prolonged rainfall, and at least weekly when no rainfall occurs. Contractors shall provide written documentation to [Owner] that they meet this requirement prior to [Owner] awarding the construction contract, and [Owner] shall provide the name of the RLD to [Regulatory Authority] and VADEQ prior to land disturbance. In the interim until the work starts, [Interim RLD], [the licensed professional] is the RLD.

1. As first step measures, the construction entrance, silt fence, diversions, temporary sediment traps, temporary sediment basins, and inlet/culvert protection shall be installed as indicated prior to upslope land disturbance. [Modify as appropriate for individual projects]

2. Stabilization measures shall be applied to earthen structures such as diversions immediately after installation. [Modify as appropriate for individual projects]

3. Inlet protection as indicated on the Plan shall be installed for new inlets as they become operational.

4. Stockpiling of soil [is/is not] planned.

5. Gravel stabilization shall be installed on the building pad area and paved areas as soon as the “final” subgrade elevation is obtained.

6. Permanent seeding will be used on all disturbed areas that are not scheduled to receive concrete surfacing, or landscaping (hardwood mulch, etc.).

7. Areas that are not to be disturbed shall be clearly marked by flags, signs, etc.

8. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

2.11 Phased Construction Activities

[Describe the intended construction sequencing and timing of major activities, including grading activities, road and utility installation, and building phases. It may be useful to develop a separate, detailed site map for each phase of construction. Add phases as needed below.]

1. Phase I
    a. Describe phase
    b. Duration of phase (start date, end date)
    c. List BMPs associated with this phase
    d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)
2. Phase 2
    a. Describe phase
    b. Duration of phase (start date, end date)
    c. List BMPs associated with this phase
    d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)
3. Phase 3
    a. Describe phase
    b. Duration of phase (start date, end date)
    c. List BMPs associated with this phase
    d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)

4. After the stabilization of the site is complete, all temporary erosion and sediment control devices will be removed.

2.12 Permanent Stabilization

All areas disturbed by construction shall be stabilized with permanent seeding, landscaping, pavement, or concrete following the final grading.

2.13 Maintenance

1. The contractor shall inspect all erosion control measures immediately after each run-off producing rainfall event, at least daily during prolonged rainfall, at least weekly when no rainfall occurs, and in accordance with the Virginia Stormwater Management Program (VSMP) Permit Regulations. The following areas will be checked in particular:

    a. All devices used at entrances to the storm drain system shall be checked for their performance. If repairs need to be made, they shall be done in a responsible manner.

b. Sediment shall be removed when the sediment has accumulated to one half the design depth of the barrier. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

c. All vegetated areas shall be checked regularly to ensure that a good stand is maintained. Areas shall be fertilized and repaired by reseeding as necessary.

2. [Entity responsible for maintenance] personnel will be responsible for maintenance.

Required Certification

The submitted erosion and sediment control narrative (Section 2), including its referenced appendices, and attached plans are complete and meet all applicable requirements to the best of my knowledge.

Licensed Professional Signature / Seal or Applicant **Date**

SECTION 3: POLLUTION PREVENTION PLAN

3.1 Equipment and Vehicle Washing

[Describe measures to minimize the discharge of pollutants from wash waters.]

3.2 Building Materials/Products, Construction Wastes, Landscape Materials, and/or Other Materials

[Describe construction materials expected to be stored on-site and procedures for storage of materials to minimize exposure of the materials to stormwater.]

3.3 Chemical Spill/Leak Prevention and Control Plan

[Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.]

3.4 Washout Areas

[Describe location(s) and controls to minimize the potential for stormwater pollution from washout areas for concrete mixers, paint, stucco, etc.]

3.5 Equipment/Vehicle Fueling and Maintenance Practices

[Describe equipment/vehicle fueling and maintenance practices that will be implemented to control pollutants, including but not limited to, fuels, oils, soaps, and solvents, to stormwater (e.g., secondary containment, drip pans, spill kits, etc.).]

3.6 Allowable non-stormwater discharges

[For the allowable non-stormwater discharge(s) associated with construction activity, including dewatering activities, identified, describe controls and measures that will be implemented at those sites to minimize pollutant discharges. This includes irrigation, water related dust control, or other non-stormwater discharges.]

3.7 Material Handling and Waste Management

[Describe measures (i.e., trash disposal, sanitary wastes, recycling, and proper material handling) to prevent the discharge of solid materials to waters of the U.S., except as authorized by a permit issued under section 404 of the CWA.]

3.8 Additional BMPs:

[Describe any additional BMPs that don't fit into the above categories. Indicate the problem they are intended to address.]

SECTION 4: STORMWATER MANAGEMENT

4.1 General Information

1. Existing Conditions: Refer to Sections 1.5, 2.5, 2.6, and 4.1 of this report and refer to Figure [X] showing a map of existing conditions.

   [Provide a map(s) showing the following information.
   a. Topography and Contributing Drainage Areas and patterns;
   b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
   c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
   d. Natural features to be preserved;
   e. Current land use including existing structures, roads, and locations of known utilities and easements; and
   f. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels.]

2. Proposed Conditions: [Describe the proposed conditions and refer to Figure [X] showing a map of existing conditions.]

   [Provide a map(s) showing the following information.
   a. Proposed grading and Drainage Areas;
   b. The limits of clearing and grading, and the proposed drainage patterns on the site;
   c. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities;
   d. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements; and
   e. Identification and location of proposed stormwater facilities and discharges, including description of the surface waters, or karst features, into which the facility will discharge.]

3. Rainfall Values: Rainfall values were based on the VDOT's adoption & implementation of NOAA Atlas 14 rainfall precipitation frequency data. Rational runoff method was utilized to determine peak design flows for the runoff analysis.

Rainfall values can be found in [Refer to appendix or table – source: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=va].

4. Time of Concentration: Times of Concentration (Tc) for drainage areas were calculated utilizing the [method]. "Time of Concentration" flow routes are shown on [Figures] and the calculations for Tc are located in [Appendix].

5. Hydrologic Methodology: [Provide description of methodology used]

6. Hydraulic Methodology: [Provide description of methodology used]

7. Pre-Development Analysis

   [Provide a summary table of pre-development drainage areas including area, curve number, and time of concentration]

8. Development Analysis

   [Provide a summary table of development drainage areas including area, curve number, and time of concentration]

4.2 Water Quality Compliance

1. Design Criteria: [provide summary of criteria; example – New Development: 0.41 lbs / acre / year = X.XX total lbs / acre / year of phosphorus removal required]

2. Proposed Best Management Practices (BMPs)
   a. [type]
      i. Location:
      ii. XXX Acres Treated
      iii. X.XX total lbs / acre / year of phosphorus removal provided
   b. [type]
      i. Location:
      ii. XXX Acres Treated
      iii. X.XX total lbs / acre / year of phosphorus removal provided
   c. [type]
      i. Location:
      ii. XXX Acres Treated
      iii. X.XX total lbs / acre / year of phosphorus removal provided
   d. [type]
      i. Location:
      ii. XXX Acres Treated
      iii. X.XX total lbs / acre / year of phosphorus removal provided

3. Compliance - Runoff Reduction Method: Refer to Appendix [X] for the runoff reduction spreadsheet.
    a. Requirement: X.XX total lbs / acre / year of phosphorus removal
    b. Provided: X.XX total lbs / acre / year of phosphorus removal
    c. Adjusted Runoff Curve Number [Provide a summary table of development drainage areas, size, and adjusted runoff curve number]

4.3 Water Quantity Compliance

[Use adjusted curve numbers from the runoff reduction method in calculations below.]

1. Channel Protection Criteria: [Man-made][Restored][Natural] stormwater conveyance systems. Refer to Appendix [X] for detailed calculations.
    a. $Q_{\text{pre-developed, 1-yr, 24-hr}}$ = XXX cfs
    b. $RV_{\text{pre-developed, 1-yr, 24-hr}}$ = XXX cf
    c. $Q_{\text{developed, 1-yr, 24-hr}}$ = XXX cfs
    d. $RV_{\text{developed, 1-yr, 24-hr}}$ = XXX cf
    e. IF = [0.8][0.9]

2. Flood Protection Criteria: [Man-made][Restored][Natural] stormwater conveyance systems. Refer to Appendix [X] for detailed calculations.
    a. $Q_{\text{pre-developed, 10-yr, 24-hr}}$ = XXX cfs
    b. $Q_{\text{developed, 10-yr, 24-hr}}$ = XXX cfs

3. Proposed Stormwater Management Facilities

    [Provide description of any quantity storage, or explanation as to why none is required]
    a. [type and description]
        i. Location:
        ii. XXX Acres Tributary Drainage Area
        iii. [Description of the surface waters, or karst features, into which the facility will discharge.]
        iv. [Provide a table of pre/post runoff release rates tributary to the facility.]
    b. [type and description]
        i. Location:
        ii. XXX Acres Tributary Drainage Area
        iii. [Description of the surface waters, or karst features, into which the facility will discharge.]
        iv. [Provide a table of pre/post runoff release rates tributary to the facility.]

4.4 Post-Construction Inspections

1. BMP Description: INSERT TEXT HERE

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

2. BMP Description: INSERT TEXT HERE

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

3. BMP Description: INSERT TEXT HERE

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

Required Certification

The submitted stormwater management narrative (Section 4), including its referenced appendices, and attached plans are complete and meet all applicable requirements to the best of my knowledge.

Licensed Professional Signature / Seal or Applicant **Date**

SECTION 5: CONSTRUCTION INSPECTIONS and MAINTENANCE

5.1 Inspections

- **Inspection Personnel:**

  Identify the person(s) who will be responsible for conducting inspections and describe their qualifications.

  - INSERT TEXT HERE

- **Inspection Schedule and Procedures:**

  a. Inspections will be conducted at least once every 14 calendar days and within 48 hours following any runoff producing storm event. Where areas have been temporarily stabilized or runoff is unlikely due to winter conditions (e.g., the site is covered with snow or ice, or frozen ground exists) such inspections will be conducted at least once every month.

     - INSERT TEXT HERE

  b. Describe the general procedures for correcting problems when they are identified. Include responsible staff and timeframes for making corrections.

     - INSERT TEXT HERE

  c. Attach a copy of the inspection report you will use for your site.

     - See Appendix E.

5.2 Maintenance of Controls

Table 5.1 – Maintenance Procedures

Schedule Frequency	Actions to be Taken	Persons Responsible
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
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INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

SECTION 6: TRAINING

Describe Training Conducted:

- General stormwater and BMP awareness training for staff and subcontractors
  INSERT TEXT HERE
- Detailed training for staff and subcontractors with specific stormwater responsibilities
  INSERT TEXT HERE
- Individual(s) Responsible for Training:
  INSERT TEXT HERE

6.1 Pre-Construction Training

Date: mm / dd / yyyy **Start Time:** hh:mm **Finish Time:** hh:mm

Attendees

☐ Locality Number of attendees: INSERT TEXT HERE

☐ A/E Number of attendees: INSERT TEXT HERE

☐ Contractor Number of attendees: INSERT TEXT HERE

☐ Subcontractor(s) Number of attendees: INSERT TEXT HERE

Subjects Covered

- **Locality** INSERT TEXT HERE

- **Engineer**
  ☐ ESC/SWM Measures
  - INSERT COMMENTS HERE

  ☐ BMPs
  - INSERT COMMENTS HERE

  ☐ Other(s)
  - INSERT COMMENTS HERE

- **Contractor**
  ☐ Project Sequencing
  - INSERT COMMENTS HERE

  ☐ Material Handling and Waste Management
  - INSERT COMMENTS HERE

  ☐ Building Material Staging Area

- INSERT COMMENTS HERE

☐ Washout Areas

- INSERT COMMENTS HERE

☐ Equipment/Vehicle Fueling and Maintenance Areas

- INSERT COMMENTS HERE

☐ Allowable Non-Stormwater Discharges

- INSERT COMMENTS HERE

☐ Spill Prevention

- INSERT COMMENTS HERE

☐ Map of Good Housekeeping BMPs

- INSERT COMMENTS HERE

☐ Other(s)

- INSERT COMMENTS HERE

- **Subcontractor(s)** INSERT TEXT HERE

6.2 Progress Report Meeting

Date: mm / dd / yyyy **Start Time:** hh:mm **Finish Time:** hh:mm

Months to Project Completion: INSERT TEXT HERE

Attendees

☐ Locality Number of attendees: INSERT TEXT HERE

☐ Engineer Number of attendees: INSERT TEXT HERE

☐ Contractor Number of attendees: INSERT TEXT HERE

☐ Subcontractor(s) Number of attendees: INSERT TEXT HERE

Subjects Covered

- **Locality** INSERT TEXT HERE

- **Engineer** ☐ Final Stabilization Measures
  - (Refer to Section 7)
  - INSERT COMMENTS HERE

☐ Other(s)

- INSERT COMMENTS HERE

- **Contractor** INSERT TEXT HERE
- **Subcontractor(s)** INSERT TEXT HERE

6.3 Post-Construction Training

Date: mm / dd / yyyy **Start Time:** hh:mm **Finish Time:** hh:mm

Attendees

☐ Locality Number of attendees: INSERT TEXT HERE

☐ Engineer Number of attendees: INSERT TEXT HERE

☐ Contractor Number of attendees: INSERT TEXT HERE

☐ Subcontractor(s) Number of attendees: INSERT TEXT HERE

Subjects Covered

- **Locality** INSERT TEXT HERE

- **Engineer**

☐ Final Stabilization Measures

- (Refer to Section 7)
- INSERT COMMENTS HERE

☐ Post-Construction BMPs

- (Refer to Section 4)
- INSERT COMMENTS HERE

☐ Other(s)

- INSERT COMMENTS HERE

- **Contractor** INSERT TEXT HERE
- **Subcontractor(s)** INSERT TEXT HERE

SECTION 7: FINAL STABILIZATION

- INSERT PROCEDURES FOR FINAL STABILIZATION HERE