PLAN SUBMITTER'S CHECKLIST

FOR SMALL (< 1 ACRE) NON-COMMERCIAL AND NON-INDUSTRIAL ESC PLANS

(All Applicable Minimum Standards must be addressed)

PROJECT NAME:_____

PROJECT ADDRESS:_____

OWNER CONTACT:_____

OWNER CONTACT ADDRESS:_____

CONTACT PHONE NO.:_____ EMAIL:_____

NARRATIVE

(Must be written out and all applicable items fully addressed)

☐ PROJECT DESCRIPTION:

(Briefly describe the nature and purpose of the land disturbing activity, and the area (acres) to be disturbed.) A TOTAL OF_____ACRES WILL BE DISTURBED DURING CONSTRUCTION. THE PURPOSE OF THIS PROJECT IS: _____

_____

_____

☐ EXISTING SITE CONDITIONS:

(Description of the existing topography (ground), vegetation and drainage) DESCRIBE SLOPE OF SITE (MOSTLY FLAT OR STEEP), EXISTING VEGETATION, DRAINAGE PATTERNS, BUILDINGS, STREAMS, ETC.) _____

_____

_____

_____

☐ ADJACENT PROPERTY:

(A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance) DESCRIBE WHAT BORDERS EACH SIDE OF THE PROPERTY. IDENTIFY ROAD NUMBERS/NAMES, BUILDINGS, STREAMS, INC. _____

_____

_____

☐ OFF-SITE AREAS:

(Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc. Will any other areas be disturbed?) IF OFF-SITE LOCATIONS WILL BE USED FOR SOIL, STOCKPILING, PERMANENT DISPOSAL OR BORROW SITES, DESCRIBE HOW THOSE AREAS WILL BE ADDRESSED.

_____

_____

☐ SOILS:

(A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure. This information may be obtained from the local Natural Resources Conservation Service Office (276) 694-3121) THE PREDOMINANT SOILS ON THE SITE ARE:

☐ CRITICAL EROSION AREAS:

(A description of areas on the site which have potentially serious erosion problems (e.g. steep slopes, channels, wet weather/underground springs, etc.) DESCRIBE ANY CRITICAL AREAS SUCH AS STEEP SLOPES, WETLANDS, SINKHOLES, STREAMS, ROADWAYS, ETC. AND HOW THEY WILL BE PROTECTED FROM EROSION AND SEDIMENTATION DAMAGE.

☐ EROSION & SEDIMENT CONTROL MEASURES:

(A description of the methods which will be used to control erosion and sedimentation on the site. Controls should meet the specifications in Chap. 3.) (e.g., straw barriers, basins, silt fence) STRUCTURAL PRACTICES: DESCRIBE STRUCTURAL E & S MEASURES TO BE USED ON THE SITE.

VEGETATIVE PRACTICES:

☐ PERMANENT STABILIZATION:

(A brief description including specifications of how the site will be stabilized after construction is completed.) ALL AREAS DISTURBED BY CONTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING.

PERMANENT SEEDING:		TYPES
MIXTURE	_____lbs.	_____per acre
	_____lbs.	_____per acre
	_____lbs.	_____per acre
	_____lbs.	_____per acre

SOIL AMENDMENTS:		
LIME	_____lbs.	_____per acre
FERTILIZER	_____lbs.	_____per acre
MULCH	_____applied at	_____tons per acre

SITE PLAN

The site plan or sketch should include the following items:
(An ** means this is a required item.)

_____ ** Vicinity map or label surrounding area so reviewer can locate site (A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.)

_____ ** North arrow
(The direction of north in relation to the site.)

_____ Limits of clearing and grading
(Areas which are to be cleared and graded.)

_____ ** Existing contours
(The existing contours of the site.)

_____ ** Final contours
(Changes to the existing contours, including final drainage patterns.)

_____ Existing vegetation (trees, grassed areas, etc.)
(The existing tree lines, grassed areas, or unique vegetation.)

_____ Soils (boundaries of different types)
(The boundaries of different soil types.)

_____ ** Existing drainage patterns (dividing lines, direction of flow) (The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of drainage area.

_____ ** Critical erosion areas
(Areas with potentially serious erosion problems. (See Chapter 6 for criteria.)

_____ ** Proposed developments (buildings, parking lots, etc.) (Show all improvements such as buildings, parking lots, access roads, utility construction etc.

_____ ** Location of E & S practices
(The locations of erosion and sediment controls and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapt. 3 of handbook.)

_____ ** Off-Site area (borrow or waste areas)
(Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.) Show locations of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)

_____ ** Detail drawings (for any E & S practices not in VA E & S Control Handbook or local handbook should be explained and illustrated with detail drawings.)

_____ Maintenance (schedule of regular inspections)
(A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.)

Certification

I hereby certify that I fully understand the provisions of the Patrick County Erosion and Sediment Ordinance and that I accept responsibility for carrying out this Erosion & Sediment Control Plan and that the plan will be properly carried out. I further grant the right-of-entry onto the property, as described above, to the designated county personnel for the purpose of inspecting and monitoring for compliance with the aforesaid ordinance.

Applicant: _____ Date: _____

STORMWATER MANAGEMENT & CALCULATIONS (IF APPLICABLE):

Will the development site cause an increase in peak runoff rates?_____

Will the increase in runoff cause flooding or channel degradation downstream? _____

Describe the strategy to control stormwater runoff? _____

Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, etc. Include calculations for pre and post-development runoff.

MINIMUM STANDARD 19 WILL BE SATISFIED BY (CHECK ONE OF THE FOLLOWING AND SHOW ALL CALCULATIONS) [Show calculations verifying that all on-site channels & pipes are adequate.]

_____ Show that the total drainage area to the point of analysis within the receiving channel is one hundred greater times than the contributing drainage area of the project in question (1% rule).

_____ Show that the receiving (natural) channel is adequate to convey the two-year storm and withstand erosion from the two-year storm.

_____ Show that the receiving (man-made) channel is adequate to convey the ten-year storm and withstand erosion from the two-year storm.

_____ Show that the receiving pipe or storm sewer system is adequate to convey the ten-year storm.

STORMWATER MANAGEMENT & CALCULATIONS (IF APPLICABLE):

_____ Improve the receiving channel to a condition where it will convey the ten-year storm and withstand erosion from the two-year storm (must provide evidence of permission to make improvements.)

_____ Improve the receiving pipe or storm sewer system to a condition where it will convey the ten-year storm (must provide evidence of permission to make improvement.)

_____ Develop a site design (detention facility) that will not cause the pre-developed peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel.

_____ Develop a site design (detention facility) that will not cause the pre-developed peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel.

_____ If an option is chosen that includes a stormwater detention/retention facility, _____ shall be responsible for permanent maintenance of the facility (after construction is complete). A Maintenance plan & agreement shall be submitted by the responsible party.

THE FOLLOWING GENERAL NOTES, MANAGEMENT STRATEGIES, AND MAINTENANCE NOTES SHALL BE INCORPORATED INTO THE PLAN

GENERAL EROSION & SEDIMENT CONTROL NOTES

ES-1 Unless otherwise indicated or a variance has been granted, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the VA Erosion & Sediment Control Handbook and Virginia Regulations 9VAC25-840 Erosion & Sediment Control Regulations.

ES-2 The local Plan Approving Authority (Patrick County ESC Office) must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity and one week prior to the final inspection. If no pre-construction conference has or will be scheduled, one must be scheduled with the Patrick County ESC Office. Patrick County's ESC Office telephone number is (276) 694-6094.

ES-3 All erosion and sediment control measures are to be placed prior to or as the first step in clearing.

ES-4 A copy of the approved erosion and sediment control plan and permit shall be maintained on the site at all times.

ES-5 Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas) the contractor shall submit a supplementary erosion control plan to the owner for review and approval by the plan approving authority.

ES-6 _____ is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the Patrick County ESC Office.

ES-7 All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.

ES-8 During dewatering operations, water will be pumped into an approved filtering device.

ES-9 _____ shall inspect all erosion control measures daily and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

MANAGEMENT STRATEGIES

1. Construction will be sequenced so that grading operations can begin and end as quickly as possible.

2. Sediment trapping measures will be installed as a first step in grading and will be seeded and mulched immediately following installation.

3. Permanent or Temporary Stabilization efforts will follow within 7 days after final grade has been reached on any portion of the site. Temporary Stabilization efforts will within 7 days to areas of the site that may not be at final grade but will remain dormant for more than 14 days. Permanent Stabilization efforts will be employed to all areas that will be left dormant for more than one year.

4. Areas which are not to be disturbed will be clearly marked by flags, signs, etc.

5. _____ shall be responsible for the installation and maintenance of all erosion and sediment control practices.

6. After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed and sediment basin(s) will be 1)_____ cleaned out and converted to permanent stormwater management basin(s) or 2)_____ removed and the disturbed areas stabilized (check one).

MAINTENANCE NOTES

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall event. The following items will be checked in particular:

1. Sediment basin(s) will be cleaned out when level of sediment buildup reaches the cleanout point indicated on the riser pipe.

2. Sediment trap(s) will be checked regularly for sediment cleanout.

3. Stone inlet & outlets structures will be checked regularly for sediment buildup which will prevent drainage. If the stone is clogged by sediment, it shall be removed and cleaned or replaced.

4. Silt fence will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment reaches halfway to the top of the barrier.

5. Seeded & Mulched areas will be checked regularly to ensure that a good stand is maintained. Mulch will be supplemented as needed and seeded areas should be fertilized and reseeded as needed.

9VAC25-840-40. Minimum Standards.

A VESCP must be consistent with the following criteria, techniques and methods:

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

   a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.

   b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent

stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

a. No more than 500 linear feet of trench may be opened at one time.

b. Excavated material shall be placed on the uphill side of trenches.

c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.

d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

e. Restabilization shall be accomplished in accordance with this chapter.

f. Applicable safety requirements shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions

shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP 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.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is 100 times greater than the contributing drainage area of the project in question;

(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.

(b) All previously constructed man-made channels shall be analyzed by the use of a 10-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

(c) Pipes and storm sewer systems shall be analyzed by the use of a 10-year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

(1) Improve the channels to a condition where a 10-year storm will not overtop the

banks and a two-year storm will not cause erosion to the channel, the bed, or the banks;

(2) Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;

(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a 10-year storm to increase when runoff outfalls into a man-made channel; or

(4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.

e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.

f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

h. All on-site channels must be verified to be adequate.

i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.

j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a

level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Act.

m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities (i) are in accordance with provisions for time limits on applicability of approved design criteria in 9VAC25-870-47 or grandfathering in 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMP) Regulation, in which case the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act shall apply, or (ii) are exempt pursuant to § 62.1-44.15:34 C 7 of the Act.

n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) Regulation shall be deemed to satisfy the requirements of this subdivision 19.

Statutory Authority

§ 62.1-44.15:52 of the Code of Virginia.

Historical Notes

Former 4VAC50-30-40, derived from VR625-02-00 § 4; eff September 13, 1990; amended, Virginia Register Volume 11, Issue 11, eff. March 22, 1995; Volume 29, Issue 4, eff. November 21, 2012; amended and renumbered, Virginia Register Volume 30, Issue 2, eff. October 23, 2013; amended, Virginia Register Volume 31, Issue 24, eff. August 26, 2015; Volume 33, Issue 4, eff. November 17, 2016.