

VIRGINIA DEPARTMENT OF TRANSPORTATION

# LOCATION AND DESIGN DIVISION

## INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

GENERAL SUBJECT: STORMWATER POLLUTION PREVENTION PLAN	NUMBER: IIM-LD-246.2
SPECIFIC SUBJECT: STORMWATER POLLUTION PREVENTION PLAN <b>DOCUMENTS AND COMPONENTS</b>	DATE: MARCH 19, 2010
	SUPERSEDES: IIM-LD-246.1
DIVISION ADMINISTRATOR APPROVAL:	Mohammad Mirshahi, P.E. State Location and Design Engineer Approved March 19, 2010

Changes are shaded.

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### CURRENT REVISION

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- Instructions for the development of the Stormwater Pollution Prevention Plan, General Information Sheets and Certification Form LD-445E have been revised to clarify the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (VSMP Construction Permit) requirements.
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### EFFECTIVE DATE

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- These instructions are effective upon receipt.
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### ACRONYMS

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- ESC – Erosion and Sediment Control
  - RLD – Responsible Land Disturber
  - R&B – Road and Bridge
  - SWM – Stormwater Management
  - SWPPP – Stormwater Pollution Prevention Plan
  - VDOT – Virginia Department of Transportation
  - VSMP – Virginia Stormwater Management Program

## 1.0 BACKGROUND

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- 1.1 Section 107.16 (e) of the 2007 VDOT R&B Specifications requires all land disturbance activities that disturb 10,000 square feet or greater (2500 square feet or greater in the area defined as Tidewater, Virginia in the Chesapeake Bay Preservation Act) (see the latest version of IIM-LD-11) to have a SWPPP.
  - 1.2 The VSMP General Permit for the Discharge of Stormwater from Construction Activities (hereafter referred to as the VSMP Construction Permit) also requires a SWPPP for activities covered under that permit. While a SWPPP is an important component of the VSMP Construction Permit, it is only one of the many requirements that must be addressed in order to be in full compliance with the conditions of the permit. Those persons who oversee or perform activities covered by the VSMP Construction Permit must review and understand all of the conditions and requirements contained within that permit.
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## 2.0 SWPPP APPLICABILITY AND REQUIREMENTS

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- 2.1 A SWPPP identifies potential sources of pollutants which may reasonably be expected to affect the stormwater discharges from land disturbing activity sites and any off site support areas and describes and ensures implementation of practices which will be used to reduce pollutants in such discharges.
- 2.2 The required contents of a SWPPP for those land disturbance activities requiring coverage under the VSMP Construction Permit are found in Section II D. of the General Permit section of the VSMP Regulations (4VAC50-60-1170).
- 2.3 Except for the items dealing with the post construction stormwater management requirements, the majority of the items that must be addressed in the SWPPP for land disturbance activities requiring VSMP Construction Permit coverage must also be addressed for those land disturbance activities that do not require VSMP Construction Permit coverage but do require an ESC Plan in accordance with the requirements of the Virginia ESC Law and Regulations.
- 2.4 When the land disturbing activity requires coverage under the VSMP Construction Permit, the SWPPP must also include a copy of the VSMP Construction Permit, the VSMP Construction Permit Registration Information form LD-445, the SWPPP Certification form LD-445E and the VSMP Construction Permit coverage letter received from DCR showing a project specific registration number.
- 2.5 The SWPPP is to include any off site support facilities used exclusively for the land disturbance activity (e.g., borrow and disposal sites, the contractor's storage and fueling areas, etc.).

- 2.6 For those land disturbance activities requiring coverage under the VSMP Construction Permit, Section II B.1. of the General Permit section of the VSMP Regulations (4VAC50-60-1170) requires the SWPPP to be signed by a person so identified in Section III K.2 of that same document. For a State Agency, that person is the principal executive officer or his designee.
- 2.7 Many of the items required in the SWPPP are typically contained in the construction plans (or other such documents) by means of the erosion and sediment control plans, post construction stormwater management plans, etc. and in other VDOT documents such as the R&B Standards and Specifications which can be incorporated into the SWPPP by reference.

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### 3.0 LD-445E

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- 3.1 For those land disturbance activities requiring coverage under the VSMP Construction Permit, the Permit requires that the SWPPP for any covered off site support facilities to be developed and included with the SWPPP for the primary land disturbance activity prior to issuance of permit coverage.
- 3.2 On most VDOT land disturbing activities, it is the responsibility of the contractor or other such person performing the land disturbance activity to identify the location of the off site support facilities and provide the stormwater pollution prevention plan for such to the project engineer/RLD for review and approval.
- 3.3 Since the VSMP Construction Permit coverage for VDOT land disturbance activities is normally obtained prior to the identification of the off site support areas, a mechanism is required whereby the project files can be documented and DCR can be assured that all of the information for the off site support facilities, as well as other required information not available at the time the VSMP Construction Permit coverage is applied for, has been or will be included in the SWPPP for the land disturbance activity. The mechanism to be used for this purpose will be **SWPPP Certification Form LD-445E**.
  - 3.3.1 Form LD-445E is also to be used to identify the VDOT person responsible for the inspection of the erosion and sediment control facilities.
  - 3.3.2 The DCR has approved the signature of the RLD on the LD-445E form as meeting the SWPPP signatory requirements contained in Section II B.1. of the General Permit section of the VSMP Regulations (4VAC50-60-1170).
  - 3.3.3 Form LD-445E is to be completed by the RLD for **all regulated land disturbing activities requiring VSMP Construction Permit Coverage and/or an ESC Plan/SWPPP**.
  - 3.3.4 A copy of completed form LD-445E is to be retained with the other SWPPP documents for the land disturbance activity.

- 3.3.5 For those land disturbing activities requiring coverage under the VSMP Construction Permit, the completed LD-445E form is to be forwarded to the District VSMP Construction Permit Coordinator for inclusion with other VSMP Construction Permit data that is forwarded monthly to the Central Office VSMP Construction Permit Coordinator.

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#### 4.0 SWPPP GENERAL INFORMATION SHEETS

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- 4.1 In order to provide a clear understanding of what is required in a SWPPP and to provide a reference as to where those items are located within the contract/construction documents, a set of SWPPP General Information Sheets has been developed. The SWPPP General Information Sheets provide a summary of the information required in Section II D. of the General Permit section of the VSMP Regulations (4VAC50-60-1170) and, where not included on the General Information Sheets, provide a reference to where that information can be found within the contract/construction documents for the land disturbance activity (e.g., the construction plans or other such documents, the VDOT R&B Standards and/or Specifications, contractor supplied documents, etc.).
- 4.2 The SWPPP General Information Sheets incorporate many of the notes previously included in the ESC General Notes as well as those necessary to identify and describe the post construction stormwater management plan for the land disturbance activity (if applicable).
- 4.3 The SWPPP General Information Sheets are to be included in the plan set (or other such documents) for all land disturbance activities requiring a VSMP Construction Permit and/or an erosion and sediment control plan. Completion and inclusion of the SWPPP General Information Sheets in the contract documents satisfies one of the many requirements contained in the VSMP Construction Permit. Those persons who oversee or perform activities covered by the VSMP Construction Permit must review and understand all of the conditions and requirements contained within that permit.
- 4.4 The SWPPP General Information Sheets are updated from time to time to clarify and/or include additional requirements as a result of changes to the VSMP Construction Permit and/or the VDOT's Approved ESC and SWM Standards and Specifications. Prior to finalization of the construction plans or other such documents for a proposed land disturbance activity, the Project Manager or other such project authority is to verify that the most recent SWPPP General Information Sheets are included.
- 4.5 The SWPPP General Information Sheets have been developed in two formats as follows:

- 4.5.1 Available in the CADD sheet 2000 cell library (referenced as SWPPP1, SWPPP2 & SWPPP3) for use with those land disturbance activities that have a formal set of construction plans (i.e., those developed under a Minimum (M) Plan or Complete (C) Plan Process).
- 4.5.2 Available in Falcon under the Engineering Services' eng-scr directory (No Plan sub-directory) as an 8.5 X 11 word document for use with those land disturbance activities developed under a No (N) Plan Process or for maintenance activities.
- 4.6 The SWPPP General Information Sheets are to be completed by the **ESC Plan Designer**, the Hydraulic Engineer or other **such** person who has the responsibility for developing the ESC and post construction SWM Plan (if applicable) for the land disturbance activity.
- 4.7 Information required by those notes on the SWPPP General Information Sheets designated with an asterisk is to be supplied/completed by the contractor or the VDOT RLD, as appropriate.
- 4.8 All information/notes in Sections I through VI of the SWPPP General Information Sheets are applicable to land disturbance activities requiring coverage under the VSMP Construction Permit.
- 4.9 For land disturbance activities not requiring coverage under the VSMP Construction Permit but requiring an ESC Plan, some information noted on the SWPPP General Information Sheets, specifically that in Section IV (notes 2 through 6) and Sections V and VI, may not be required. Those notes/information not applicable to a specific land disturbance activity should be noted as "Not applicable to this land disturbance activity".
- 4.10 For those activities requiring coverage under the VSMP Construction Permit, Section V of the SWPPP General Information Sheets requires a location map that **clearly** identifies the project location and all surface waters **(including names where applicable)**, such as rivers, streams, lakes, ponds, etc., within a one mile radius of the project site.
  - 4.10.1 Instructions for placing a location map in Section V can be found at the following web address:
    - 4.10.1.1 For projects with a formal set of construction plans:  
<http://www.virginiadot.org/business/locdes/LDHydraulics.asp>
    - 4.10.1.2 For No Plan projects or maintenance activities:  
<http://www.virginiadot.org/business/locdes/LDHydraulics.asp>
  - 4.10.2 Those unable to access the **noted** sites should contact the District or Central Office Hydraulics Section, as appropriate.

4.10.3 Other methods that produce the desired map may be used in lieu of those noted.

4.11 Except for the "In Service Date", the permanent BMP information (when applicable) in Section VI is to be completed by the Hydraulic Engineer (or other such person developing the post construction SWM Plan) and is to be based on the pre-construction design. This information is to be updated if, and as, any changes to the post construction SWM Plan are authorized during the construction phase of activity. Such changes are to be made as a formal revision to the plans. When submitting a request for termination of the VSMP Construction Permit coverage, the RLD is to add the date that the facility was placed into service as a permanent BMP to the other information in the Permanent BMP table and attach a copy of this table to the LD-445D form.

4.12 Some of the notes on the General Information Sheets require project specific user input. Some examples of the information required are as follows:

4.12.1 Section I General

4.12.1.1 Note 1 - Activity Description (Examples)

- This roadway construction project consists of adding two additional parallel lanes to an existing two lane rural roadway facility.
- This roadway construction project consists of improving an existing urban roadway intersection by adding left turn and right turn lanes.
- This roadway construction project consists of replacement of an existing bridge with a new bridge and improvements to the existing roadway approaches.
- This roadway construction project consists of widening an existing urban street and adding additional turn lanes.
- This roadway maintenance project consists of re-grading and enlarging the roadside ditches and replacing drainage pipes along an existing rural roadway.
- This roadway maintenance project consists of re-grading the roadside ditches and replacing deteriorated drainage pipes along an existing rural roadway in order to reestablish original grade and/or hydraulic capacity.

4.12.1.2 Note 6 - Critical Areas (Example)

- There is one farm pond located 1500' north of Station 29+00 Route 602 and an existing perennial stream located 1000' east of and parallel to Route 55 between Stations 204+00 and 212+00.

4.12.2 Section II Erosion and Sediment Control

4.12.2.1 Note 1 - Variances (Example)

- A variance to decrease the height of silt fence to 26" approved by letter from the Department of Conservation and Recreation's Abingdon Office dated July 15, 2006.

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## 5.0 SWPPP DOCUMENTS

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5.1 For VDOT land disturbance activities, the required documents for a SWPPP shall include, but are not limited to:

1. The construction plans/documents.
2. The SWPPP General Information Sheets (with all notes completed with appropriate information).
3. The ESC Plan.
4. The post construction SWM Plan (if applicable).
5. The VDOT R&B Standards and Specifications, Supplemental Specifications, Special Provisions and Special Provision Copied Notes.
6. A copy of the VSMP General Permit For Discharges Of Stormwater From Construction Activities (Construction Permit) (when applicable).
7. A copy of the VSMP Construction Permit coverage letter received from DCR (when applicable).
8. A copy of the VSMP Construction Permit Registration Information form LD-445, (when applicable).
9. A copy of the SWPPP Certification form LD-445E
10. Documents required to be developed by the contractor for erosion and sediment control and stormwater pollution prevention associated with any support facilities.
11. All ESC inspection reports.
12. All ESC and SWM design computations and supporting data.

5.2 All documents related to the SWPPP for a land disturbance activity (except for the ESC and SWM design computations and supporting data) shall be maintained at the activity site and shall be readily available for use by those with SWPPP implementation responsibilities. All documents related to the SWPPP for a land disturbance activity shall be readily available for review by others upon request during normal working business hours. SWPPP related information not included in the construction plans/documents, the VDOT R&B Standards, Specifications, Supplemental Specifications, Special Provisions or Special Provision Copied Notes and the ESC and SWM design computation files is to be kept in a separate paper and/or electronic file. Where no facilities are available at the activity site to maintain the SWPPP documents, they are to be kept at a location convenient to the activity site where they will be readily available for use by those with SWPPP implementation responsibilities and would be available for review by others upon request during normal business working hours. Where the SWPPP documents are not stored on-site, a copy of such documents, except for the ESC and SWM engineering calculations and documentation, shall be in the possession of those with day to day operational control over the implementation of the SWPPP (e.g. the RDL, ESC Inspector, etc.) whenever they are on site.

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## 6.0 SWPPP COMPONENTS

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- 6.1 The following includes the major components of a SWPPP, the person(s) responsible for ensuring that the component is addressed in the SWPPP for a specific land disturbing activity and how that component is addressed in the construction plans or other such documents for a VDOT land disturbing activity.
- 6.1.1 A copy of the VSMP Construction Permit registration statement and coverage letter (when applicable).
- The designated RLD ensures that a copy of the VSMP Construction Permit Registration Information form LD-445, a copy of the SWPPP Certification Form LD-445E and the VSMP Construction Permit coverage letter received from DCR is maintained in the SWPPP file.
- 6.1.2 A copy the VSMP Construction Permit (when applicable).
- The designated RLD ensures that a copy is maintained in the SWPPP file.
- 6.1.3 A narrative description of the nature of the construction activity, including the function of the project.
- The ESC Plan Designer incorporates project specific information into appropriate note(s) on the SWPPP General Information Sheets.
- 6.1.4 The intended sequence and timing of activities that disturb soils at the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation).
- The Contractor or other such person develops/supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.
- 6.1.5 A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated.
- The Contractor or other such person develops/supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.
- 6.1.6 Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities including off-site borrow and fill areas.
- The ESC Plan Designer obtains the information and incorporates it into the appropriate note on the SWPPP General Information Sheets.
- 6.1.7 A description of any other potential pollutant sources, such as vehicle fueling, storage of fertilizers or chemicals, sanitary waste facilities, etc.
- The Contractor or other such person develops/supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.



- 6.1.8 Identification of the nearest receiving waters at or near the construction site that will receive discharges from disturbed areas of the project.
- The ESC Plan Designer determines the information and incorporates it into the appropriate note on the SWPPP General Information Sheets.
- 6.1.9 The location and description of any discharge associated with industrial activity other than construction at the site. This includes stormwater discharges from dedicated asphalt plants and dedicated concrete plants that are covered by the VSMP Construction Permit for the project.
- This information is covered by a standard note on the SWPPP General Information Sheets.
- 6.1.10 A legible general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with sufficient detail to identify the location of the construction activity and surface waters within one mile of the construction activity.
- The ESC Plan Designer or the Hydraulic Engineer develops and incorporates the location map into Section V of the SWPPP General Information Sheets.
- 6.1.11 A legible site map/plan identifying the following:
- 6.1.11.1 Directions of stormwater flow and approximate slopes anticipated after major grading activities.
- The ESC Plan Designer ensures that the appropriate information (e.g., grading contours, typical sections, profiles and/or cross sections) is included in the construction plans or other such documents.
- 6.1.11.2 Areas of soil disturbance and areas of the site which will not be disturbed.
- The ESC Plan Designer ensures that the appropriate information (e.g., plan view construction limits and/or typical sections/cross sections) is included in the construction plans or other such documents.
- 6.1.11.3 Locations of major structural and nonstructural control measures identified in the SWPPP, including those that will be permanent after construction activities have been completed.
- The ESC Plan Designer ensures that the appropriate information is included in the construction plans or other such documents.
- 6.1.11.4 Locations where stabilization practices are expected to occur.
- The ESC Plan Designer ensures that the appropriate information (e.g., plan view construction limits and/or typical sections/cross sections) is included in the construction plans or other such documents.

- 6.1.11.5 Locations of surface waters.
  - The ESC Plan Designer ensures that the appropriate information is included in the construction plans or other such documents.
- 6.1.11.6 Locations where concentrated stormwater discharges from the construction site.
  - The ESC Plan Designer ensures that the appropriate information is included in the construction plans or other such documents.
- 6.1.11.7 Locations of off-site material, waste, borrow or equipment storage areas covered by the SWPPP.
  - The Contractor or other such person supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.
- 6.1.11.8 Locations of other potential pollutant sources, such as vehicle fueling, storage of chemicals, concrete wash-out areas, sanitary waste facilities, including those temporarily placed on the construction site, etc.
  - The Contractor or other such person supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.
- 6.1.11.9 Areas where final stabilization has been accomplished.
  - The Contractor or other such person supplies project specific information. The designated RLD ensures that the information is maintained in the SWPPP file.
- 6.1.12 The SWPPP shall include a description of all control measures that will be implemented as part of the construction activity to minimize pollutants in stormwater discharges. For each major construction activity identified, the SWPPP shall clearly describe appropriate control measures, the general sequencing during the construction process in which the control measures will be implemented, and which operator is responsible for the control measure's implementation.
  - The ESC Plan Designer develops ESC Plan and SWPPP for inclusion in the construction plans/documents. The Contractor or other such person provides proposed revisions to ESC Plan and SWPPP as necessary to meet differing field conditions or construction sequencing. The VDOT ESC Inspector reviews and the RLD approves any changes to ESC Plan and SWPPP. The RLD ensures that all required information is maintained in the SWPPP file in accordance with Section 107.16(e) of the 2007 Road and Bridge Specifications.
- 6.1.13 The SWPPP shall include a description of, and all necessary calculations supporting, all erosion and sediment control measures that will be installed during the construction process to control pollutants in stormwater discharges from the construction site.

- The ESC Plan Designer develops ESC Plan and required calculations. The ESC Plan is incorporated into the construction plans/documents. The ESC calculations are maintained in the project hydraulic files and the location of such files is documented by the ESC Plan Designer in the appropriate note on the SWPPP General Information Sheets.
- 6.1.14 The SWPPP shall describe measures to prevent the discharge of solid materials, including building materials, garbage, and debris to state waters, except as authorized by a Clean Water Act § 404 permit.
- This information covered by a standard note on the SWPPP General Information Sheets.
- 6.1.15 The SWPPP shall describe control measures used to comply with applicable state or local waste disposal, sanitary sewer or septic system regulations.
- This information covered by a standard note on the SWPPP General Information Sheets.
- 6.1.16 The SWPPP shall include a description of construction and waste materials expected to be stored on-site with updates as appropriate. The SWPPP shall also include a description of controls including storage practices, to minimize exposure of the materials to stormwater, and for spill prevention and response.
- The Contractor or other such person develops/supplies project specific information. The designated RLD reviews and approves the information and ensures that copies of such are maintained in the SWPPP file.
- 6.1.17 The SWPPP shall include a description of, and all necessary calculations supporting, all post-construction stormwater management measures that will be installed prior to the completion of the construction process to control pollutants in stormwater discharges after construction operations have been completed.
- The Hydraulic Engineer develops the post construction SWM Plan and required calculations. The post construction SWM Plan is incorporated into the construction plans/documents. The post construction SWM calculations are maintained in the project hydraulic files and the location of such files is documented by the Hydraulic Engineer in the appropriate note on the SWPPP General Information Sheets.
- 6.1.18 The SWPPP shall include a description of pollutant sources from off-site support areas and a description of control measures that will be implemented at those sites to minimize pollutant discharges.
- The Contractor or other such person develops/supplies project specific information. The designated RLD reviews and approves the information and ensures that copies of such are maintained in the SWPPP file.
- 6.1.19 The name and phone number of qualified personnel conducting the ESC inspections shall be included in the SWPPP.
- The VDOT RLD provides the appropriate information on SWPPP Certification form LD-445E and ensures a copy is maintained in the SWPPP file.

- 6.1.20 A report summarizing the scope of the ESC inspections, names and qualifications of personnel making the inspections, the dates of the inspections, major observations relating to the implementation of the SWPPP, and any actions taken.
- The Contractor's Erosion and Sediment Control Contractor Certified (ESCCC) person conducts initial inspections and completes the Construction Runoff Control Inspection Form C-107. The VDOT Certified ESC Inspector verifies inspection information on Form C-107 and the RLD ensures that all of the C-107 forms are maintained in the SWPPP file.
- 6.1.21 The pollutant identified in a Waste Load Allocation (WLA) as of the effective date of the VSMP Construction Permit must be specified in the SWPPP. The SWPPP shall include strategies and control measures to ensure consistency with the assumptions and requirements of the Total Maximum Daily Load (TMDL) WLA that apply to the operator's discharge.
- The ESC Plan Designer incorporates pollutant information into the appropriate note on the SWPPP General Information Sheets and ensures that the ESC and post construction SWM Plans consider requirements of the TMDL WLA.

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## 7.0 FORMS

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7.1 LD-445	VSMP Construction Permit Registration Information
7.2 LD-445D	VSMP Construction Permit Termination Notice
7.3 LD-445E	Stormwater Pollution Prevention Plan (SWPPP) Certification
7.4 C-107	Construction Runoff Control Inspection Form