



VDOT'S STORMWATER MANAGEMENT PROGRAM

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by

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TODAY'S TOPICS

- **General overview of VDOT's SWM Program**
- **Changes related to July 1, 2014 implementation of VSMP regulatory requirements and the new VPDES General Permit for the Discharge of Stormwater from Construction Activities**

VDOT'S STORMWATER MANAGEMENT PROGRAM AREAS

- **Erosion and Sediment Control (ESC) Program**
- **Pollution Prevention (P2) Program**
 - ✓ For construction site support areas
- **Post Construction Stormwater Management (SWM) Program**
 - ✓ Water Quality/Quantity BMPs
- **VPDES Permit Program**
 - ✓ Construction General Permit
 - ✓ Small Municipal Separate Storm Sewer Systems (MS-4) General Permit

VDOT SWM PROGRAM (CONT.)

Except for MS4 Permit, SWM Program components are applicable for all VDOT Regulated Land Disturbance Activities (RLDA) statewide including, but not limited to, projects and activities developed under the following plan processes:

RAAP

SAPP

Minimum Plan

No Plan

PPTA

Design Build

Capital Outlay

Rural Rustic

Routine/Non-Routine Maintenance Activities

VDOT SWM PROGRAM (CONT.)

MS4 Permit is applicable to the 15 CU Areas of the State

Bristol District

Bristol

Kingsport

Culpeper District

Charlottesville

Fredericksburg District

Fredericksburg

Hampton Roads District

Williamsburg

Virginia Beach

Lynchburg District

Danville

Lynchburg

Northern Virginia District

Washington, DC

Richmond District

Richmond

Salem District

Blacksburg

Roanoke

Staunton District

Harrisonburg

Winchester

Staunton/Waynesboro

VDOT SWM PROGRAM (CONT.)

VDOT submits its ESC and SWM Standards and Specifications to DEQ for approval

Once approved, VDOT is given authority to operate its SWM Program including:

- Program Administration**
- Plan Design**
- Plan Review**
- Construction Inspection (ESC and P2)**
- Internal Compliance Enforcement**
- BMP Construction Certification**
- BMP Inspection and Maintenance**

EROSION AND SEDIMENT CONTROL (ESC) PROGRAM

Applicable to all land disturbing activities (construction or maintenance) that equal or exceed the following land disturbance threshold amounts:

- Localities designated in the CBP Act as Tidewater, Virginia – 2,500 square feet
- All other areas – 10,000 square feet
- Includes:
 - ✓ Grading of gravel surfaces (roadway and shoulder)
 - ✓ Shoulder and ditch restoration
 - ✓ Borrow/disposal areas

VDOT Guidance – Instructional and Informational Memorandum IIM-LD-11

POLLUTION PREVENTION (P2) PROGRAM

- **For construction site support activities**
- **Applicable to all VDOT land disturbing activities requiring an ESC Plan**
- **Contractor develops for VDOT review**
- **P2 Plan incorporated into project's SWPPP**
- **VDOT Guidance - P2 Field Guide for Construction Activities (Draft)**

STORMWATER MANAGEMENT (SWM) PROGRAM (POST CONSTRUCTION)

Applicable to all land disturbing activities that disturb an area equal to or greater than the following):

- Areas in a designated CB Preservation Area – 2,500 square feet
- All other areas – 1 Acre

***Routine maintenance operations exempt including:**

- Grading of gravel surfaces to maintain travel way
 - Pavement milling and/or overlay
 - Paving an existing compacted (impervious) gravel surface
- * Restoring to original construction (line, grade and hydraulic capacity) with no disturbance of subgrade

SWM) PROGRAM (POST CONSTRUCTION) (CONT.)

Utilize Nutrient Credit Purchase Program to satisfy water quality requirements where:

- Land disturbance is less than 5 acres
 - Required Phosphorus reductions is less than 10 lbs./yr.
 - 75% of phosphorus reductions are achieved on-site
- 20 Nutrient Credit Banks approved by DEQ
- VDOT has purchase contracts with 9 Banks
 - 160 + Lbs. purchased to date

Under Development:

- Standardized construction details and specifications for most non-proprietary BMPs on DEQ BMP Clearing House
- MTD (Manufactured Treatment Device) Approved Products List
- IIM for Part IIB Technical Criteria

VDOT Guidance

- IIM-LD-195 (Part II C Technical Criteria)
- IIM-LD-251 (Nutrient Credit Purchase)

VPDES CONSTRUCTION GENERAL PERMIT PROGRAM

Applicable to any land disturbing activity that disturbs an area equal to or greater than one acre

- Exemption - Routine maintenance operations
- Coverage must be obtained prior to any land disturbing activity (except when responding to a public emergency)
- VDOT secures coverage for all of its RLDA's
- Requires a project specific Stormwater Pollution Prevention Plan (SWPPP)

VDOT Guidance – IIM-LD-242

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Components:

- ESC Plan
- P2 Plan
- SWM Plan (Post Construction)
- Special Conditions for areas that discharge to Impaired, TMDL and Exceptional waters
 - ✓ Construction inspection frequency
 - ✓ Soil stabilization timetable
 - ✓ Nutrient applications

Note: VDOT implements special conditions on all of its RLDAs statewide

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) (Cont.)

Required for all Land Disturbing Activities:

- Needing VPDES Construction General Permit Coverage (VPDES requirement)
- Needing ESC Plan (VDOT requirement - R&B Specification 107.16(e))

SWPPP General Information Sheets:

- General notes to satisfy VPDES requirements for Project Information, ESC Plan, SWPPP Information, Post Construction SWM Plan, P2 Plan and BMP data
- Included in all VDOT construction plans for RLDA's

VDOT Guidance – IIM-LD-246

VPDES MS-4 GENERAL PERMIT PROGRAM

Required For the discharge from Small Municipal Separate Storm Sewer Systems (MS4) in the 15 Census Urbanized Areas Of Virginia

➤ **VDOT currently covered under Phase II General Permit MS4 General Permit Contains Six Minimum Control Measures that must be addressed in the Permittee's Implementation Plan**

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
 - Includes outfall* location map
 - ✓ 90% + complete
 - ✓ 14,000 + outfalls identified to date
 - * Direct discharge to waters of the U.S.

VPDES MS-4 GENERAL PERMIT PROGRAM (Cont.)

4. Construction Site Stormwater Run-Off Control

- Includes ESC and P2 Plans

5. Post Construction Stormwater Management

- Water quality/quantity BMPs

6. Pollution Prevention/Good Housekeeping for Municipal Operations

- SWPPPs for 67 identified High Priority facilities

Special Conditions - TMDL Plans

- 21 Local TMDLs (sediment, nutrients, bacteria, PCBs, etc.)
- Chesapeake Bay TMDL (sediment and nutrients)

VDOT MS4 website:

http://www.virginiadot.org/programs/stormwater_management.asp

NON-VDOT PROJECTS/LAND DISTURBING ACTIVITIES

- **Roadways constructed as a part of a residential or commercial development that will ultimately be maintained by VDOT**
Example: Subdivision Streets and Industrial Access Roads
- **Additions to VDOT roadways constructed in conjunction with an offsite residential or commercial development**
Example: Lane additions, crossovers and connections
- **Roadways constructed by Counties, Cities, Towns, Federal or other State Agencies that will ultimately be maintained by VDOT**
Example: Locally Administered Projects and Federal Lands Projects

SWM RESPONSIBILITIES ON NON-VDOT PROJECTS/LAND DISTURBING ACTIVITIES

ESC/VSMP Authority

- Plan review and approval for ESC/P2/SWM Plans
- Construction Inspections for ESC/P2/SWM Plan implementation

Locality or Federal/State Agency

- For BMPs to be operated or maintained by VDOT, provide VDOT
 - ✓ Pre-construction details/plans and calculations for VDOT review and approval
 - ✓ Final construction details/plans and calculations for VDOT file (Falcon)
 - ✓ Construction certification and BMP information for VDOT BMP Data Base (LD-445D form)

Contracting Party

- Obtain VPDES Construction Permit coverage

VDOT

- Review and approval of BMP design and construction for those BMPs to be operated or maintained by VDOT

JULY 1, 2014

WHAT HAPPENED??

Full Implementation of VSMP

Regulatory Requirements

- **Part IIB Technical Criteria**
- **New General Construction Permit**
- **Certification for SWM Personnel**
- **Some localities became VSMP**

Authorities

PART II B TECHNICAL CRITERIA

Applicable to all non-grandfathered projects and includes:

- **Runoff Reduction methodology for water quality.**
- **Energy Balance Equation for downstream channel protection.**

Grandfathered projects can continue to use Part IIC criteria which includes:

- **Technology/Performance Based criteria for water quality.**
- **MS-19 for downstream channel protection (linear projects).**

For VDOT, Grandfathered projects are those:

- **That have allocated funding in FY13 or prior and,**
- **Will be under construction prior to 7/1/19.**

PART II B TECHNICAL CRITERIA (Cont.)

NEW BMPS ON VIRGINIA BMP CLEARING HOUSE WEBSITE

- **Non- Proprietary**
 - **Dry/Wet Swales**
 - **Bioretention/Infiltration facilities**
 - **Wet/Dry Basins**
 - **Constructed Wetlands**
 - **Permeable Pavement**
- **Proprietary**
 - **Manufactured Treatment Devices (MTDs)**
- **VDOT developing construction detail sheets, material specifications and protocols for construction sequencing and inspections for non-proprietary BMPs located on BMP Clearing House website that are applicable to roadway projects.**
- **VDOT developing Approved Products List for MTDs for use on VDOT projects**

VPDES GENERAL CONSTRUCTION PERMIT

- **Effective 7/1/14 through 6/30/19.**
- **Applicable to land disturbances of one acre or greater.**
- **Previously permitted projects had to be re-permitted and were given 60 days to update SWPPPs for any new or revised permit requirements after new permit coverage was received.**

DOCUMENTS IMPACTED BY NEW CONSTRUCTION PERMIT REQUIREMENTS

Road and Bridge Specifications

- **Section 106.08**
- **Section 107.02**
- **Section 107.16(a)**
- **Section 107.16(b)**
- **Section 107.16(e)**
- **Section 301.01**
- **Section 303.03**
- **Section 303.04**
- **Section 603**

DOCUMENTS IMPACTED BY NEW CONSTRUCTION PERMIT REQUIREMENTS (Cont.)

SWPPP General Information Sheets

- **Various notes in:**
 - **Section I**
 - **Section II**
 - **Section V**
 - **Section VI**

NEW CONSTRUCTION PERMIT REQUIREMENTS

ROAD AND BRIDGE SPECIFICATIONS

- Requires contractor to have formal Pollution Prevention Plan (P2) for all of his activities.
- Requires initiation of soil stabilization on all portions of project at final grade or that will not be disturbed for greater than 14 days.
- Requires soil stabilization to be completed within 7 days after initiation.
- Requires site inspections for ESC and P2 at least once every 7 calendar days and after any measurable storm event (0.25” over 24 hour period) or twice every 7 calendar days.
- Requires contractor to install rain gage and document daily readings when required to identify measurable storm event.
- Sets time limits on completion of identified corrective actions as a result of inspections (i.e., prior to next anticipated measurable storm event or 7 days after inspection, whichever comes first).

NEW CONSTRUCTION PERMIT REQUIREMENTS

ROAD AND BRIDGE SPECIFICATIONS (Cont.)

- **Requires the contractor to amend/update the SWPPP to include:**
 - **Revisions or modifications to the ESC or P2 Plan due to site conditions, construction sequencing or scheduling.**
 - **Additional or modified ESC or P2 measures implemented to correct problems or deficiencies.**
 - **Identification of any new or additional persons not previously identified that will be responsible for implementing and maintaining ESC and P2 controls.**
 - **Dates when major grading activities occur, construction activities temporarily or permanently cease on portions of the site and when stabilization measures are initiated.**
 - **Documentation of replaced or modified ESC or P2 controls.**

NEW CONSTRUCTION PERMIT REQUIREMENTS

ROAD AND BRIDGE SPECIFICATIONS (Cont.)

- Identification of areas where final stabilization has occurred and no further SWPPP or inspection requirements apply.
- Date, description and preventative measures taken where any prohibited discharge occurs.
- Description of any measures taken to address deficiencies identified through the ESC and P2 inspection process.
- SWPPPs are required to be updated within 7 days after implementation/approval of amendments, modifications or revisions to the ESC or P2 Plans or any other component of the SWPPP.
- Changes to the SWPPP are required to be approved by the VDOT engineer, documented by the contractor on the Record Set of Plans and signed by both the contractor and the VDOT engineer.

NEW CONSTRUCTION PERMIT REQUIREMENTS

SWPPP GENERAL INFORMATION SHEET NOTES

Section I

- Requires identification of Impaired, TMDL and Exceptional waters that the land disturbance activity discharges to.
- Requires the identification of all onsite support facilities in the SWPPP.
- Requires the identification of the location of the rain gage in the SWPPP (when applicable).
- Provides procedures for recording daily rain gage data (when applicable).
- Requires identification of persons responsible for inspection of ESC and P2 measures.

NEW CONSTRUCTION PERMIT REQUIREMENTS

SWPPP GENERAL INFORMATION SHEET NOTES (Cont.)

Section II

- Prohibits application of nutrients during rainfall events.
- Requires the identification of responsible parties for installation and maintenance of ESC measures.
- Requires contractor to plan and implement his land disturbance operations to:
 - Control stormwater runoff within site to minimize erosion.
 - Control stormwater discharges to minimize erosion at outlets and in downstream channels.
 - Minimize the amount of soil exposed.
 - Minimize the disturbance of steep slopes,
 - Minimize the discharge of sediment.
 - Provide/maintain natural buffers around surface waters.
 - Minimize soil compaction.
 - Preserve topsoil.

NEW CONSTRUCTION PERMIT REQUIREMENTS

SWPPP GENERAL INFORMATION SHEET NOTES (Cont.)

- Requires stockpiles to be stabilized or protected with sediment trapping devices.
- Requires sediment tracking onto public or paved roadways to be minimized through the use of construction entrances.
- Requires all material tracked onto a public or paved roadway to be cleaned up at the end of each work day.

Section V

- Defines prohibited and allowed discharges from the construction site.
- Requires the contractor to develop a formal pollution prevention plan for all of his onsite operations that have a potential to generate a pollutant that may reasonably be expected to affect the quality of stormwater discharges from the land disturbance activity.

NEW CONSTRUCTION PERMIT REQUIREMENTS

SWPPP GENERAL INFORMATION SHEET NOTES (Cont.)

- Identifies the required components of the contractor's pollution prevention plan including the practices that will be implemented to:
 - Prevent and respond to leaks, spills and other releases.
 - Prevent the discharge of fuels and chemicals from vehicle fueling and maintenance activities.
 - Prevent the discharge of soaps, solvents, detergents and wash water from construction materials.
 - Minimize the discharge of pollutants from vehicle and equipment washing.
 - Direct concrete wash water to a leak-proof container or settling basin and dispose of waste.
 - Minimize the discharge of pollutants from storage, handling and disposal of construction products, materials and waste.

NEW CONSTRUCTION PERMIT REQUIREMENTS

SWPPP GENERAL INFORMATION SHEET NOTES (Cont.)

- Prevent the discharge of fuel, oils and other petroleum products, hazardous or toxic waste and sanitary wastes.
- Provide pollution prevention awareness (including prevention practices, disposal practices and appropriate disposal locations) for all applicable wastes (including wash water) to appropriate personnel.

Section VI

- Requires formal revision to plans to document any changes to plan details for post construction BMPs.
- Requires certification by P.E. that BMPs were constructed in accordance with their plan details (use LD-445D VPDES Construction Permit Termination form).
- Requires the submission of final shop drawings for Manufactured Treat Devices (MTDs) installed on the project with other BMP information submitted with LD-445D form.

DEQ STORMWATER MANAGEMENT CERTIFICATIONS

Follows similar path as Erosion and Sediment Control Certifications.

➤ **SWM Inspector:**

- ✓ **For those that inspect BMPs (during construction and post construction).**
- ✓ **Requires DEQ 2 day Basic SWM and Inspector Class and,**
- ✓ **Requires passing DEQ certification exam.**

➤ **SWM Plan Reviewer:**

- ✓ **For those that review and approve SWM Plans.**
- ✓ **Requires DEQ 3 day Basic SWM and Plan Reviewer Class and,**
- ✓ **Requires passing DEQ certification exam.**
- ✓ **Professional license does not exempt one from training or exam for initial certification (different than ESC Plan Reviewer).**

DEQ SWM CERTIFICATIONS (Cont.)

- **Certifications are good for 3 years.**
- **Re-certification requires an accumulation of professional development hours over the 3 year period.**
- **DEQ provides all SWM certification training.**
- **Provisional certification for those who:**
 - ✓ **Are enrolled in DEQ training program and,**
 - ✓ **Successfully complete certification exam within two years of completing first required training course.**

VSMP AUTHORITY

- **The VSMP Authority:**
 - ✓ **Reviews and approves SWPPPs (ESC, SWM & P2 Plans).**
 - ✓ **Performs construction site inspections.**
 - ✓ **Processes applications for VSMP Construction Permit coverage.**
 - ✓ **Initiates enforcement actions for non-compliance.**
- **Localities in a MS4 area (59) were required to assume the VSMP Authority role.**
- **Localities outside a MS4 area had the option to assume the VSMP Authority role or have DEQ continue to be the VSMP Authority for them (33 opted to become a VSMP Authority).**
- **DEQ will continue to be the VSMP Authority for VDOT.**
- **Through its Annual ESC and SWM Standards and Specifications approval, VDOT is authorized to perform the plan reviews and approvals and construction site inspections on its land disturbing activities.**

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