

**RATIONALE**

**STATE OF TENNESSEE NPDES GENERAL PERMIT for  
DISCHARGES of STORM WATER ASSOCIATED with  
CONSTRUCTION ACTIVITIES**

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**1 Introduction**

This permit rationale (or fact sheet) sets forth the Division of Water Pollution Control’s (the division’s) basis for permit conditions to be applied statewide for the reissuance of the Tennessee NPDES General Permit for Discharges of Storm Water Associated with Construction Activities (CGP). The CGP is intended to authorize storm water point source discharges to waters of the State of Tennessee from construction activities that result in the disturbance of one acre or more of total land area.

**2 Background**

On November 16, 1990, the EPA issued an NPDES rule (Phase I) that required a wide range of industrial activities to obtain permits to discharge storm water runoff. Category ten (x) from the extensive definition of "storm water discharges associated with industrial activity," (promulgated by the EPA in 40 CFR §122.26(b)(14)) includes construction activity, identified as following:

*“construction activity including clearing, grading and excavation activities except operations that result in the disturbance of less than five acres of total land area and which are not a part of a larger common plan of development or sale”*

NPDES General Permit for Discharges of Storm Water Associated with Construction Activity  
Rationale

In December 1999, EPA finalized the "Phase II" regulations, which require controls on storm water discharges from a broader sector of municipalities, industries, and construction sites. On March 10, 2003, Phase II regulations came into effect, and extended coverage to construction activities (including other land-disturbing activities) that disturb one to five acres in size, including even smaller sites (<1 acre) that are part of a larger common plan of development or sale.

Because permit requirements for the above described construction activities are similar across the state, and because of the number of facilities now in existence and expected to be created in the future, it has been the division's position that this category of sources would be controlled appropriately under an NPDES general permit<sup>1</sup>. Initially, the State of Tennessee promulgated a general permit rule applicable to such construction activities. This general permit by rule became effective on September 26, 1992. The subsequent general NPDES permits had expiration dates of May 31, 2005 and May 30, 2010.

For the purpose of this proposed general permit, the term "storm water discharges associated with construction activity" means a discharge from any conveyance which is used for collecting and conveying storm water from construction activities including clearing, grading, filling and excavating (including borrow pits), or other similar construction activities that result in the disturbance of one acre or more of total land area.

### **3 Construction Activity and Potential Impacts on Water Quality**

Disturbed soil, if not managed properly, can be washed off-site during storms. Unless proper erosion prevention and sediment controls are used for construction activities, silt transport to local surface water is likely. Excessive silt in waterways causes adverse impacts due to biological alterations, reduced passage in rivers and streams, higher drinking water treatment costs for removing the sediment, and the alteration of water's physical/chemical properties, resulting in degradation of its quality. This degradation process is known as "siltation".

Historically, silt has been one of the primary pollutants in Tennessee waterways. The division has experimented with multiple ways to determine if a stream, river, or reservoir is impaired due to silt. These methods include visual observations, chemical analysis (total suspended solids), and macroinvertebrate/habitat surveys. The most satisfactory method for identification of impairment due to silt has been biological surveys that include habitat assessments. Ecoregions vary in the amount of silt that can be tolerated before aquatic life is impaired. Through work at reference streams, staff found that the appearance of sediment/silt in the water is often, but not always, associated with loss of biological integrity. Thus, for water quality assessment purposes, it is important to establish whether or not aquatic life is being impaired. For those streams where loss of biological integrity can be documented, the habitat assessment can determine if this loss is due to excessive silt deposits.<sup>2</sup>

TDEC has determined that 22% of its assessed rivers and streams are polluted due to siltation (down from 27.2% as reported in the 2005 CGP rationale)<sup>3</sup>. Since one millimeter of soil over one acre site can

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<sup>1</sup> TDEC Rules, Chapter [1200-04-05-.02](#), - *Definitions*, states in paragraph (64): "Permit means an authorization, license, or equivalent control document issued by the Division of Water Pollution Control which implements the requirements of the TWQCA. "Permit" includes an NPDES "general permit."

<sup>2</sup> [http://tn.gov/environment/wpc/publications/pdf/2008\\_305b.pdf](http://tn.gov/environment/wpc/publications/pdf/2008_305b.pdf), page 28

<sup>3</sup> [http://tn.gov/environment/wpc/publications/pdf/2008\\_305b.pdf](http://tn.gov/environment/wpc/publications/pdf/2008_305b.pdf), page 45

weigh 5 tons, even a minor uncontrolled construction activity can cause major impairment in surface waters. Soil losses from pastureland averages 1.5 tons/acre-year, cropland cultivation can lose 20 tons/acre-year, whereas major construction activities can result in 150 to 200 tons/acre-year in the stormwater runoff.

Site topography, ground cover and best management practices (BMP) are the key parameters for successful erosion control. This NPDES general permit requires that BMPs be used by the operators at construction sites. However, supplementary controls may be necessary for some specific site and construction activities to achieve effective protection of receiving stream and minimize degradation of water resources.

## 4 Present Permit Conditions

The present system protects the quality of the waters of the state exclusively through the administration of the Tennessee Department of Environment and Conservation's (TDEC) eight regional Environmental Field Offices (EFOs) and Nashville Central Office. Property owners, developers, builders, contractors and subcontractors who plan to conduct any construction must submit a Notice of Intent (NOI) and receive Notice of Coverage (NOC) from TDEC. Requesting coverage under the general permit means that an applicant had obtained and examined a copy of the permit, and thereby acknowledges applicant's claim of ability to be in compliance with permit terms and conditions.

## 5 Proposed Changes in the New Construction General Permit

### 5.1 Sites covered under the current CGP would get automatic coverage under the proposed permit. These permittees were given 6 months to revise and implement a Storm Water Pollution Prevention Plan, if necessary

The division considered requesting re-submission of a notice of intent (NOI) following the issuance of the new CGP for those sites where construction activities are still in progress at the time of the previous permit expiration date. However, the contents of the NOI were not substantially changed in the new permit. Requesting an additional copy of the NOI would impose an additional paperwork burden on the current permittees and the division. Re-submitted NOI would not provide any additional information regarding active construction sites. Therefore, division's intent is to provide continuation of permit coverage for all permittees that still operate construction sites during this transition period.

There will be no additional fees associated with an extension of coverage for existing sites under the new permit. The division may, at its discretion, require permittees to confirm an intent to be covered under the new permit following its effective date.

Notice of termination (NOT) requirements for operators are still applicable under the new permit. Operators of an existing site presently permitted under the current construction general permit shall maintain full compliance with the current storm water pollution prevention plan (SWPPP). The current SWPPP should be modified, if necessary, to meet requirements of this permit, and the SWPPP changes implemented no later than 6 months following the new permit effective date.

## **5.2 Stormwater discharges associated with construction support activities**

The new permit clarifies that only discharges from support activities associated with a permitted construction site can be authorized under this permit.

## **5.3 References to “High Quality Waters” were updated**

All references using the term “high quality waters” were replaced with “exceptional quality waters,” according to TDEC Rules, [Chapter 1200-4-3-.06](#).

## **5.4 Comprehensive Storm Water Pollution Prevention Plan (SWPPP)**

The new permit requires a comprehensive SWPPP be submitted by the initial developer:

*“The initial, comprehensive SWPPP, developed and submitted by the initial permittee (typically owner/developer), should address all construction-related activities from the date construction commences to the date of termination of permit coverage, to the maximum extent practicable. The SWPPP must be developed, implemented and updated according to the requirements in part 3 below (SWPPP Requirements) and subpart 2.3 below (Responsibilities of Operators). The SWPPP must be implemented prior to commencement of construction activities.*

*If the initial, comprehensive SWPPP does not address all activities until final stabilization of the site, an updated SWPPP or addendums to the plan addressing all aspects of current site disturbance must be prepared. An active SWPPP must be in place for all disturbed portions of a site until each portion has been completed and finally stabilized.*

*Preparation and implementation of the comprehensive SWPPP may be a cooperative effort with all operators at a site. Primary permittees at the site may develop a SWPPP addressing only their portion of the project, as long as the proposed Best Management Practices (BMPs) are compatible with the comprehensive SWPPP and complying with conditions of this general permit. However, new operators with design and operational control of their portion of the construction site are expected to adopt, modify, update and implement a comprehensive SWPPP.”*

## **5.5 The issuance of the NOC may be delayed until adequate wastewater treatment and accompanying permits are assured.**

If any Aquatic Resource Alteration Permits (ARAP) are required for a site in areas proposed for active construction, the NOC will not be issued until coverage under the ARAP is granted, unless justification prior to ARAP issuance can be made in the SWPPP. If wetlands are thought to be located in areas proposed for the active construction site, the NOC will not be issued until all potential wetland areas have been delineated by the applicant or their qualified designee and a certified party and any required ARAPs are obtained. The treatment and disposal of wastewater (including, but not limited to sanitary wastewater) generated during and after the construction must be also addressed.

## **5.6 Verbal confirmation of NOI completeness does not authorize storm water discharges from construction sites**

The new permit authorizes discharges from a construction site as of the effective date and time the division prepares the NOC, informing the permittee that the NOI, SWPPP and appropriate fee were received and storm water discharges from a construction activity have been approved under the new

permit. Assigning a permit tracking number by the division to a proposed discharge from a construction site does not confirm or imply an authorization to discharge under the new permit.

### **5.7 Roles and responsibilities of new site operators are clarified in a new permit**

Typical construction site operators are: an owner/developer, a commercial builder and a contractor.

*“For stormwater discharges from construction sites or portions of the sites where the operator changes (new owner), or projects where an operator is added (new contractor) after the initial NOI and comprehensive SWPPP have been submitted, the supplemental (submitted by a new contractor) or additional (submitted by a new owner) NOI should be submitted as soon as practicable, and always before the new operator commences work at the site. The supplemental NOI must reference the project name and tracking number assigned to the initial primary permittee’s NOI.*

*If the site under the control of the new owner is inactive and all areas disturbed are completely stabilized, the NOI may not need to be submitted immediately upon assuming operational control. However, the division should be notified if a new operator obtains operational control at a site, but commencement of construction under the direction of the operator at the site is going to be delayed.*

*If upon the sale or transfer of the site’s ownership does not change the signatory requirements for the NOI, but the site’s owner or developer’s company name has changed, a new, updated NOI should be submitted to the division. If the new operator agrees to comply with an existing comprehensive SWPPP already implemented at the site, a copy of the supplemental or modified SWPPP does not have to be submitted with the NOI. There will be no additional fees associated with the sale or transfer of ownership for existing permitted sites.*

*If the transfer of ownership is due to foreclosure or a permittee filing for bankruptcy proceedings, the new owner (including but not limited to a lending institution) must obtain permit coverage if the property is inactive, but is not stabilized sufficiently. If the property is sufficiently stabilized permit coverage may not be necessary, unless and until construction activity at the site resumes.”*

### **5.8 Construction site map requirements were clarified**

*“An excerpt (8 ½” by 11” or 11” by 17”) from the appropriate 7.5 minute United States Geological Survey (USGS) topographic map, with the site centered must be included with the NOI. The center and the entire proposed construction area must be clearly identified (outlined) on this map. NOIs for linear projects must specify the location of each end of the construction area and all areas to be disturbed. [...] Commercial builders shall submit a plat map that clearly indicates the lots which the builder has purchased and for which they are applying for permit coverage. The plat map should also list and indicate all outfall points and the location of EPSCs that will be used on-site.”*

### **5.9 Quality assurance of erosion prevention and sediment controls by performing site assessments for construction sites by a registered engineer or landscape architect**

*“The new permit requires for the registered engineer or landscape architect to perform quality assurance of erosion prevention and sediment controls by performing site assessments for construction sites involving drainage to an outfall totaling 10 or more acres or 5 or more acres. The site assessments shall be conducted on a monthly basis for projects discharging into impaired or Exceptional Tennessee waters and on a quarterly basis for all other receiving waterbodies. Site assessments shall be conducted on a monthly basis on sites with steep slopes. As a minimum, site assessments should be performed to*

*verify the functionality and performance of the EPSC measures described in the SWPPP. Site assessments should be performed with the site inspector, and should include a review and update (if applicable) of the field SWPPP. Quality assurance site assessments shall be documented and the documentation kept with the SWPPP at the site. Quality assurance site assessment can take the place of one of the twice weekly inspections requirement.”*

**5.10 Description of runoff controls and their timing during various phases must be identified in the SWPPP**

*“The [SWPPP](#) must include erosion prevention and sediment control plans showing the approximate location of each control measure along with a description of the timing during the construction process for implementing each measure (e.g., prior to the start of earth disturbance, as the slopes are altered and after major grading is finished). The different phases of construction (initial/major grading, installation of infrastructure, final contours, etc.) and the erosion preventions and sediment control measures that will be utilized during each phase should be depicted on multiple plan sheets (see paragraphs below). Half sheets are acceptable. One sheet showing all EPSCs that will be used during the life of the project will not be considered complete. [...] For site disturbances less than 5 acres, at least two separate EPSC plan sheets shall be developed. [...] For site disturbances more than 5 acres, at least 3 separate EPSC plan sheets shall be developed.”*

**5.11 Erosion prevention and sediment controls (EPSC) must be consistent with the EPSC handbook**

*“The design, inspection and maintenance of Best Management Practices (BMPs) described in SWPPP must be prepared in accordance with good engineering practices and at a minimum shall be consistent with the requirements and recommendations contained in the current edition of the Tennessee Erosion and Sediment Control Handbook.”*

**5.12 Physical or chemical treatment must be in accordance with manufacturer’s specifications**

*“Proposed physical and/or chemical treatment must be researched and applied according to the manufacturer’s guidelines and fully described in the SWPPP.”*

**5.13 Project phasing is required on all sites**

*“Construction phasing is required on all projects regardless of size as a major practice for minimizing erosion and limiting sedimentation.”*

**5.14 Steep slopes definition was added to the new permit**

*“**Steep Slope**” A natural or created slope of 20% grade or greater and an elevation change of 20 feet or more. Designers of sites with steep slopes must pay special attention to stormwater management in the [SWPPP](#) to engineer runoff non-erosively around or over a steep slope. In addition, site managers should focus on erosion prevention on the slope(s) and stabilize the slope(s) as soon as practicable to prevent slope failure and/or sediment discharges from the project.*

**5.15 Steep slope stabilization requirement was added**

*“Steep slopes shall be stabilized not later than 7 days after construction activity on the slope has temporarily or permanently ceased.”*

**5.16 Inspector training and certification requirements were modified**

The new permit does not recognize equivalency to ‘Fundamentals of Erosion Prevention and Sediment Control Level I’ for conducting twice weekly inspections. Also, licensed engineer or landscape architect is required to have completed a Level II course:

*“Inspectors performing the required twice weekly inspections must an active certification by completing the “Fundamentals of Erosion Prevention and Sediment Control Level I” course. The engineer or a landscape architect (see section 3.1.1 above) that prepared the drainage and structure design portion of the SWPPP must also have successfully completed the “Fundamentals of Erosion Prevention and Sediment Control Level II” course if they are to conduct the required inspections.”*

**5.17 All inspections must be documented on a form**

*“All inspections shall be documented on the Construction Stormwater Inspection Certification form provided in Appendix C of this permit for all construction sites. Inspection documentation will be maintained on site and made available to the division upon request. Inspection reports must be submitted to the division within 10 days of the request.”*

**5.18 Construction and development effluent guidelines were added to the permit**

Non-numeric effluent limitation guidelines, as promulgated in 40 C.F.R. 450 and published in the Federal Register on December 1, 2009, were added to this construction permit. Numeric portion of the same guidelines was vacated by the U.S. EPA, pending further research of applicable turbidity limitations.

**5.19 Requirements for termination of permit coverage were further clarified**

**5.20 A definition for 2-year and 5-year storms was updated to account for intensity**

“2-year and 5-year design storm depths and intensities” The estimated design rainfall amounts, for any return period interval (i.e., 2-yr, 5-yr, 25-yr, etc.) in terms of either 24-hour depths or intensities for any duration, can be found by accessing the following NOAA National Weather Service Atlas 14 data for Tennessee: [http://hdsc.nws.noaa.gov/hdsc/pfds/orb/tn\\_pfds.html](http://hdsc.nws.noaa.gov/hdsc/pfds/orb/tn_pfds.html). Other data sources may be acceptable with prior written approval by TDEC Water Pollution Control.

**5.21 A definition for “Final Stabilization” was updated**

“Final Stabilization” means that all soil disturbing activities at the site have been completed and either of the two following criteria are met:

- a. A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a uniform density of at least 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, and all slopes and channels have been permanently stabilized against erosion, or

b. Equivalent permanent stabilization measures (such as the use of riprap; permanent geotextiles, hardened surface materials including concrete, asphalt, gabion baskets, or Reno mattresses) have been employed.

#### **5.22 A definition for “Inspector” was updated**

“Inspector” An inspector is a person that has successfully completed the “Fundamentals of Erosion Prevention and Sediment Control Level I” course or equivalent course. An inspector performs and documents the required inspections, paying particular attention to time-sensitive permit requirements such as stabilization and maintenance activities. An inspector may also have the following responsibilities:

- a) oversee the requirements of other construction-related permits, such as Aquatic Resources Alteration Permit or Corps of Engineers permit for construction activities in or around Waters of the State;
- b) update field SWPPPs;
- c) conduct pre-construction inspection to verify that undisturbed areas have been properly marked and initial measures have been installed; and
- d) inform the permit holder of activities that may be necessary to gain or remain in compliance with the CGP and other environmental permits.

#### **5.23 A definition for “Quality Assurance Site Assessment” was added**

“Quality Assurance Site Assessment” means documented site inspection to verify the functionality and performance of the SWPPP and for determining if construction, operation and maintenance accurately comply with permit requirements, as presented in the narrative, engineering specifications; maps, plans and drawings; and details for erosion prevention, sediment control and stormwater management.

#### **5.24 A definition for “Sediment Basin” was updated**

“Sediment basin” A temporary basin consisting of an embankment constructed across a wet weather conveyance, or an excavation that creates a basin or by a combination of both. A sediment basin typically consists of a forebay cell, dam, impoundment, permanent pool, primary spillway, secondary or emergency spillway, and surface dewatering device. The size and shape of the basin depends on the location, size of drainage area, incoming runoff volume and peak flow, soil type and particle size, land cover, and receiving stream classification (i.e., impaired, HQ, or unimpaired).

## **6 Permit Issuance and Public Notice Procedures**

This general permit is drafted in accordance with applicable NPDES regulations (40 CFR 122, 123, 124, and 125), the Tennessee Water Quality Control Act (T.C.A. § 69-3-101, et.seq.), and the TDEC’s permit issuance regulations in TN Rule 1200-4-05.

The applicable regulations for issuance of this general permit are found in 40 CFR 122.28 and 123.44, and the regulations for fact sheet requirements are found in 40 CFR 124.8 and 124.56.

The division will publish notice of its intent to issue the CGP for storm water discharges associated with construction activity and notice of one or more public hearings to receive comments on the draft permit. At least 30 days notice will be given for the public hearings. Comments will be received at least 10 ten

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Rationale

days after the last hearing. Any interested person may request copies of the rationale (fact sheet) and draft permit and submit written comments on the draft permit.

The division will hold public hearings at the following locations:

<b>Date</b>	<b>City</b>	<b>Location</b>	<b>Time</b>
October 27, 2010	Nashville, TN 37243	401 Church Street 17 <sup>th</sup> Floor L&C Tower Conference Room 17 "B"	12:00 P.M. Central Time
November 10, 2010	Chattanooga, TN 37402	Chattanooga EFO Auditorium 540 McCallie Avenue	12:00 P.M. Eastern Time
November 17, 2010	Knoxville, TN 37921	2711 Middlebrook Pike	12:00 P.M. Eastern Time
December 1, 2010	Jackson, TN 38305	1625 Hollywood Drive	12:00 P.M. Central Time
December 8, 2010	Bartlett, TN 38134	Bartlett Station Municipal Center 5868 Stage Road	12:00 P.M. Central Time

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