

**TENNESSEE DEPARTMENT OF
TRANSPORTATION**

STORMWATER MANAGEMENT PROGRAM

**NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

PERMIT: TNS077585

Prepared for:



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LIST OF ACRONYMS

BMP	Best Management Practice
ECU	Environmental Compliance Unit
EPSC	erosion protection and sediment control
IDDE	Illicit Discharge Detection and Elimination
MCM	minimum control measure
MEP	Maximum Extent Practicable
MS4	municipal separate stormwater sewer system
NPDES	National Pollutant Discharge Elimination System
QA/QC	Quality Assurance/Quality Control
SCM	Stormwater Control Measures
SEP	Standard Environmental Procedure
SFMP	Stormwater Field Monitoring Program
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TEMA	Tennessee Emergency Management Agency
TS4	Transportation Separate Storm Sewer System

EXECUTIVE SUMMARY

The Tennessee Department of Transportation (TDOT) operates an extensive network of highways, rights-of-way, and associated facilities that have the potential to impact stormwater quality across the State. In accordance with the National Pollutant Discharge Elimination System Permit Number: TNS077585, effective August 1, 2023, through July 31, 2028, TDOT is required to develop, implement, and maintain a Transportation Separate Storm Sewer System Stormwater Management Program (SWMP).

The purpose of this SWMP is to outline TDOT's comprehensive approach to managing stormwater discharges in a manner that reduces pollutants to the Maximum Extent Practicable and ensures compliance with applicable State and federal water quality standards. The program establishes policies, procedures, Best Management Practices, and Stormwater Control Measures designed to minimize impacts to receiving waters from stormwater runoff associated with TDOT operations.

Consistent with permit requirements, the SWMP addresses six minimum control measures:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention and Good Housekeeping

This SWMP applies statewide to all TDOT-owned or operated highways, rights-of-way, and covered facilities. Implementation of this program demonstrates TDOT's commitment to environmental stewardship, regulatory compliance, and the protection of Tennessee's water resources.

1.0 INTRODUCTION

The Tennessee Department of Transportation (TDOT) was reissued the National Pollutant Discharge Elimination System (NPDES) Permit Number: TNS077585 (NPDES Permit), on August 1, 2023 (Appendix A). This permit authorizes stormwater discharges from TDOT-owned and operated transportation systems and associated facilities and establishes requirements for managing those discharges through a structured Stormwater Management Program (SWMP).

Section 2.0 of the permit requires TDOT to develop, implement, and enforce a Transportation Separate Storm Sewer System (TS4) SWMP. As specified in Section 2.1.a, the program must be designed to minimize the discharge of pollutants to the Maximum Extent Practicable (MEP) and must not cause or contribute to violations of State water quality standards in receiving waters.

To meet these requirements, TDOT has developed this SWMP to document the framework under which stormwater is managed across its system. The SWMP defines the policies, procedures, Best Management Practices (BMPs), and Stormwater Control Measures (SCMs) implemented to control stormwater runoff and reduce pollutant loading from highways, rights-of-way, and covered facilities.

The SWMP has been developed in accordance with applicable regulatory authorities, including:

- Tennessee Water Quality Control Act (T.C.A. § 69-3-101 et seq.)
- Clean Water Act (33 U.S.C. § 1251 et seq.)
- 40 Code of Federal Regulations Parts 122 and 130
- Tennessee Rule 0400-40-05-.15 (Permanent Stormwater Management)
- NPDES Permit

This document serves as the primary reference for TDOT's stormwater management activities and demonstrates compliance with permit requirements through implementation of the six required minimum control measures (MCMs). The SWMP applies to all applicable TDOT operations statewide and will be updated as necessary to reflect regulatory changes, program improvements, and adaptive management practices.

1.1 Background

The TDOT TS4 consists of an extensive statewide network of transportation infrastructure and associated facilities. This system includes state highways, interstates, and their associated rights-of-way, as well as TDOT-owned or operated facilities such as regional and district headquarters, county garages, weigh stations, rest areas, welcome centers, and maintenance facilities.

Stormwater generated within the TS4 is collected and conveyed through a variety of structural components, including inlets, ditches, swales, culverts, storm drains, pipes, and outfalls. These conveyance systems ultimately discharge stormwater to waters of the State of Tennessee.

Stormwater runoff is generated when precipitation flows over impervious or compacted surfaces rather than infiltrating into the ground. As runoff moves across transportation corridors and associated surfaces, it can mobilize and transport pollutants present on those surfaces. These pollutants may include sediment, debris, oils and greases, metals, nutrients, and other contaminants, which can ultimately be conveyed to nearby water features such as streams, rivers, and lakes, etc. As a permittee under the NPDES, administered by the Tennessee Department of Environment and Conservation (TDEC), TDOT is responsible for managing stormwater discharges associated with its transportation system. TDOT's TS4 encompasses more than 15,000 miles of highways and currently has 189 facilities statewide.

Collectively, these highways and facilities are defined as TDOT's TS4. Unlike municipal separate storm sewer systems (MS4s), which are typically operated by local governments, TDOT's system is designated as a TS4 due to its statewide transportation infrastructure. Accordingly, TDOT's NPDES Permit is referred to as a TS4 Permit.

1.2 Authorized Discharges and Limitations:

In accordance with Section 1.1 of the NPDES Permit, TDOT is authorized to discharge stormwater runoff from its TS4 to waters of the State of Tennessee, provided such discharges comply with all applicable permit conditions.

Pursuant to Section 1.3 (Eligibility), the permit also authorizes certain non-stormwater discharges that are incidental in nature and not significant contributors of pollutants. These allowable non-stormwater discharges include typical sources such as potable water discharges, groundwater, irrigation flows, foundation drains, wash water, and firefighting activities, provided they are not determined to be sources of pollutants and are managed in accordance with the TS4 SWMP.

Notwithstanding these authorizations, Section 1.5 (Limitations on Coverage) identifies discharges that are not authorized under this permit. These include, but are not limited to, stormwater discharges associated with regulated construction activities (Section 1.5.1), discharges mixed with unauthorized non-stormwater sources, discharges covered under other NPDES permits (Section 1.5.2), and discharges resulting from spills or improper disposal of materials (Section 1.5.3), except as allowed under emergency conditions.

Additionally, discharges that are not protective of threatened or endangered species (Section 1.5.4), or that cause or contribute to violations of applicable water quality standards, including those associated with Total Maximum Daily Loads and antidegradation requirements (Section 1.5.5), are prohibited under this permit.

Discharges that do not meet the authorization and eligibility criteria established in Sections 1.1 and 1.3 must obtain coverage under an alternative general permit or an individual NPDES permit prior to discharge.

To ensure that all authorized discharges are effectively controlled and that unauthorized discharges are prevented, TDOT is required under Section 2.0 of the permit to develop, implement, and maintain a comprehensive TS4 SWMP. This program establishes the framework through which TDOT achieves compliance with permit conditions and minimizes pollutant discharges to the MEP.

The following sections describe the structure, components, and implementation of TDOT's SWMP in accordance with permit requirements.

2.0 STORMWATER MANAGEMENT PROGRAM

The TS4 Permit requires TDOT to develop, maintain, and enforce adequate legal authority to control the discharge of pollutants to and from its TS4. As a non-traditional MS4, TDOT fulfills this requirement through a combination of state statutes, administrative codes, contract specifications, and interagency agreements in lieu of local ordinances. TDOT has control over the highway system through ownership, easements, lease agreements, or title transfer, and is responsible for maintaining and operating the system in accordance with applicable state laws and regulations. Authority to regulate discharges from third parties is derived from Tennessee Code Annotated Title 54-5 (State Highways), as well as TDOT construction contract specifications, which require contractors to comply with the TS4 Permit and this SWMP.

To meet the requirements of the NPDES Permit, TDOT has developed and implemented a comprehensive SWMP structured around six MCMs:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control
5. Post-Construction/Permanent Stormwater Management
6. Pollution Prevention and Good Housekeeping for Covered Facilities

The SWMP is organized to align with the structure and requirements of the TS4 Permit. While some program elements are implemented as standalone initiatives, this SWMP integrates and references those efforts to ensure a cohesive and comprehensive approach.

The overall purpose of the SWMP is to minimize the discharge of pollutants to the MEP and to prevent the cause or contribution to violations of State water quality standards in receiving waters. This is achieved through the coordinated implementation of the six MCMs and associated program activities.

The following sections describe how TDOT will implement specific measures, procedures, and program elements to meet these goals and satisfy applicable regulatory requirements under the TS4 Permit.

2.1 Education and Outreach

TDOT utilizes a three-pronged approach to provide training and outreach in accordance with permit requirements. Each component is described in detail below and includes specific measures and actions implemented by TDOT. These efforts target three primary audiences: the general public, TDOT contractors, and TDOT employees.

TDOT is currently engaged in a variety of public education and outreach activities, as outlined in the remainder of this section.

2.1.1 Public Outreach

TDOT is currently developing and maintaining a website to inform the public about the TS4 SWMP and its activities. This includes making this SWMP, along with associated referenced documents and program elements, available. As part of its public education and outreach efforts, all appropriate TS4 programmatic documents will be provided and maintained on this site.

TDOT continues to implement and/or fund local and statewide education campaigns that include the Keep Tennessee Beautiful, Litter Hotline, Adopt-A-Highway, and Litter Grants in all 95 counties. Furthermore, citizens are encouraged to report acts of littering from motor vehicles through various programs detailed in the Litter Grant Annual Report. Several initiatives aimed at educating the public are detailed in Table 1.

Table 1 Litter Prevention Programs, Objectives, and Target Audience		
Activity	Subject/Objective	Target Audience
Keep Tennessee Beautiful	An adjunct service of the University of Memphis providing expertise in litter prevention education, litter law enforcement, community enhancement through beautification, and volunteer recruitment and management.	General Public
Litter Hotline	Establish a system for citizens to report acts of littering from motor vehicles.	General Public
Adopt a Highway	Free for those who commit to cleaning up a TDOT-approved 2-mile stretch of highway.	General Public
County Litter Grants	Offers funding to subsidize local county pickup operations and enhance litter prevention education across Tennessee.	Tennessee Counties
Nobody Trashes Tennessee	This program is designed to encourage Tennesseans to pick up their trash and minimize litter from travelers along TDOT-maintained roadways and rights-of-way.	General Public
833-TDOT-FIX	Allows for reporting a need for maintenance or pollutant pickup.	General Public

Notes:

Source: Fiscal Year 2025 Litter Grant Annual Report
TDOT = Tennessee Department of Transportation

As part of the Public Involvement and Participation initiative, TDOT provides public access to the SWMP records and associated plans will be made available online upon finalization.

In addition, citizens are encouraged to report illegal spills, dumping, or other disposal of materials onto TDOT highways and rights-of-way through the Litter Hotline and may volunteer to assist in pollutant removal through the Adopt-a-Highway or County Litter Grant programs.

2.1.2 Contractor Outreach

TDOT has set minimum levels of certification for all construction projects overseen or contracted by TDOT. TDOT has developed a manual outlining how erosion prevention and sediment control (EPSC) will be accomplished on construction projects and the stormwater control measures TDOT contractors must meet in the completion of projects. Specifically, contractors are required to follow the measures outlined in the TDOT Special Provisions and Specifications Book which can be found [here](#). In addition, TDOT has developed a number of publications in order to assist contractors with the control of sediment transport during and after construction projects. This includes the TDOT [EPSC Manual](#) and the [drainage manual](#).

Contractors are made aware that the steps outlined in this EPSC Manual must be followed during any construction project performed on behalf of TDOT. The manual and program include requirements for conducting and documenting EPSC inspections. Contractors are made aware of the requirements for SCM and BMPs and implement the appropriate SCM or BMPs to maintain compliance with EPSC measures, which are incorporated into highway design documents. In addition to the EPSC Manual, TDOT has developed specific [BMP design documents](#) to provide contractors with standards associated with sediment control.

In general, most TDOT construction projects are conducted under a Construction General Permit, which includes the requirements of having trained inspectors (Level 1 at a minimum) conduct biweekly inspections of the construction site, followed by an independent inspection conducted by a third party on a monthly basis. All inspectors are required to have completed at least EPSC Level 1 training. Third-party inspectors are required to have completed Level 1 and Level 2 EPSC certification training. These requirements ensure that during construction projects, sediment pollution is controlled and mitigated.

Additionally, Special Provision 107FP requires that contractors provide a primary contact for EPSC and environmental matters, who have successfully completed TDEC's Level I training course. Training records are required to be maintained by the various TDOT contractors. The Special Provisions and Spec Book are available [here](#).

2.1.3 Tennessee Department of Transportation Employee Outreach

TDOT implements comprehensive training programs to ensure employees are equipped to minimize pollutant discharges and comply with TS4 Permit requirements. These programs address both construction-related activities and facility operations, ensuring that stormwater management practices are consistently applied across all aspects of TDOT's responsibilities.

For construction-related activities, TDOT has developed and implemented a training program for the Fundamentals of EPSC tailored to meet TDOT construction needs in accordance with Section 2.2.1.4 of the NPDES Permit. This training is required for TDOT employees who provide oversight where EPSC inspections are required. Personnel within the Construction and Maintenance Divisions must complete EPSC Level 1 training to ensure proper control of sediment, a primary pollutant in stormwater runoff. TDOT has established procedures to ensure that sediment control measures are incorporated throughout all phases of a project, from initial planning and design through construction and completion. In addition, design staff are trained to incorporate standard drawings and erosion prevention measures into project plans, as discussed in Section 2.1.2.

For facility operations, TDOT maintains an annual training program for employees working at Regional, District, and County facilities. This training covers the requirements of the 23 Standard Environmental Procedures (SEPs), Stormwater Pollution Prevention Plan (SWPPP) requirements, and Spill Prevention, Control, and Countermeasure requirements where applicable. Additional topics include waste management, underground storage tank operations, grounds maintenance, spill response, and wash pad operations. The program emphasizes TDOT's integrated environmental management approach, which is designed to minimize the potential for pollutants to enter stormwater runoff from facility operations.

2.2 Public Involvement/Participation

A portion of the opportunities for public involvement are discussed in Section 2.1 Education and Outreach. In addition to those opportunities, TDOT will provide notice to the public for many of the core TS4 plans (such as this SWMP) for review and/or comment prior to finalization.

2.3 Illicit Discharge Detection and Elimination

TDOT implements an IDDE program in accordance with the NPDES Permit to identify, investigate, eliminate, and report illicit discharges within its TS4, particularly within urbanized areas. The program is guided by a formal IDDE Plan that establishes procedures, responsibilities, and methodologies for compliance. TDOT currently operates under an IDDE Plan developed under the initial stormwater permit and the current version of this plan is included as Appendix B of this SWMP.

2.4 Construction Site Stormwater Runoff Control

The primary contaminant of concern at TDOT construction sites is sediment. As previously discussed in Section 2.1, both TDOT and contractor employees must hold the necessary Level 1/2 or Certified Professional in Erosion and Sediment Control certifications to inspect construction sites for the purpose of ensuring erosion and sediment control BMPs are implemented on the project.

TDOT evaluates the control of sediment throughout project development and delivery. The initial design must incorporate appropriate SCMs in order to effectively control sediment transport during the construction process. TDOT has developed several guidance documents and manuals, including various [TDOT Design Standards and Specifications](#), as well as an EPSC Inspection Manual. Additional resources, including the EPSC Manual, can be found [here](#). These documents serve as the foundation for stormwater control and protection during construction alongside the quality assurance/quality control (QA/QC) inspection process discussed in the training section of this document.

2.5 Post-Construction/Permanent Stormwater Management in New Development and Redevelopment

As previously discussed, TDOT incorporates SCMs within its roadway design packages. Under the current permit, some measures will not be included on projects that are already in the pre-construction process and where right-of-way has been purchased. To apply these measures would result in undue delays of projects that have already been funded through federal and/or state agencies. TDOT is currently evaluating how new SCMs will impact projects (including costs and timing) and how these issues may be mitigated to the extent possible while still achieving full compliance with the specified permit requirements. This SWMP and any associated policies or guidance will be posted on the TDOT website upon completion.

TDOT relies on measures such as vegetative swales, retention ponds, riparian buffers, armoring, and open-grade pavement to control stormwater on its roads and rights-of-way. TDOT has conducted studies evaluating the current vegetative swale design in meeting the infiltration requirements associated with stormwater and found that, at the sites tested, the TDOT design met the standards expressed in the permit. Also, when used, open-grade friction course pavement has been found to reduce many pollutants in stormwater but requires significantly more maintenance than normal asphalt or concrete surfaces. TDOT continues to evaluate the potential impacts of using open grade pavement and will update the information in this SWMP plan when a final decision concerning its continued use is made. Additional SCMs are being evaluated for inclusion in TDOT design guidance which will be updated upon completion of the design flow process with regard to SCM selection.

For control of pollutants in stormwater from TDOT facilities, TDOT has developed several SEPs that include requirements for spill response, material storage, and grounds maintenance. The requirements of these SEPs are included within the annual training provided to TDOT facility employees and require control of pollutants and pollutant sources at TDOT facilities. In addition, to evaluate the impact of these SEPs, TDOT conducts annual monitoring at approximately 10% of its

facilities statewide. Samples are analyzed for parameters specified within the permit and reported to TDEC annually.

With regard to illicit discharges that occur onto the TDOT TS4 footprint, TDOT coordinates with federal, state, and local agencies (including adjacent MS4 permit holders) to identify and mitigate the discharge. TDOT currently does not have statutory authority from the Tennessee Legislature to develop or enforce ordinances or regulations concerning discharges or other issues that could or do result in violation of the Tennessee stormwater regulations. Because TDOT lacks the legal authority to enforce controls on illicit discharges into its systems, TDOT must coordinate the resolution of these issues through coordination with traditional MS4 permittees and the appropriate/relevant state regulatory agencies

2.5.1 Permanent Stormwater Standards

The TS4 Permit includes provisions to establish permanent stormwater standards for new development and redevelopment projects TDOT is currently working to incorporate the permit requirements into developing projects state-wide (both for new projects and redevelopment projects). TDOT is evaluating project impacts to fully understand the costs and timing impacts these required measures will have on projects once fully implemented. Upon completion of the initial evaluation phase of this effort, the program will be formally established with the objective that all project reviews and required SCMs are incorporated into each project and project phase as required.

TDOT is in the process of incorporating SCMs into its design process as required. Currently, TDOT is utilizing seven SCMs, including vegetative filter strips, swales, sand filters, and hydrodynamic separators. [Standard drawings](#) for these measures are available online. As additional measures are identified and incorporated into TDOT standard designs, they will be provided online.

TDOT is in the process of developing an inspection program to ensure SCMs are properly installed and effective in meeting permit-specified limits for the life of the project. Additional information will be made available on the TDOT Stormwater Management website as it is finalized.

2.5.2 Stormwater Mitigation and Public Stormwater Fund

TDOT is evaluating the potential use of a Stormwater Mitigation and Public Stormwater Fund. This program, if adopted, will be developed to include a mitigation project approval procedure. It should be noted that offsite stormwater mitigation will be accomplished within the same United States Geological Survey Hydrologic Unit Code 12 as the new development or redevelopment project, if practicable. TDOT is aware that due to land availability constraints, especially in highly urbanized areas, mitigation within the same United States Geological Survey Hydrologic Unit Code 12 may be difficult.

2.5.3 Water Quality Riparian Buffers

As part of the approved TDOT design process the buffer requirements are included within approved design documents. The conditions meeting the requirements of this section are detailed in the TDOT Roadway Design Guidelines, Chapter 9, Subsection 4, and are shown in Table 2.

Table 2 Riparian Buffer Requirements			
	Average buffer width (feet)	Minimum buffer width (feet)	Notes
Waters with available parameters for siltation or habitat alteration or unassessed waters	30	15	The criteria for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than the required minimum width at any measured location. If the new development or redevelopment site encompasses both sides of a stream, buffer averaging can be applied to both sides but must be applied independently.
Exceptional Tennessee Waters or waters with unavailable parameters for siltation or habitat alteration	60	30	

2.5.4 Codes and Ordinances Review and Update

At this time, TDOT has not been granted authority to develop or enforce codes by the Tennessee Legislature. As such, TDOT must rely on the coordination with and support of other federal, state, and local agencies to resolve issues arising from activities or incidents that do not originate from TDOT operations or construction. In the event IDDEs or incidents occur within the TDOT footprint from third parties, TDOT currently notifies the local Emergency Management Agency and TDEC (in instances where pollution reaches waters of the State). TDOT is currently evaluating the existing process for potential modification. It is anticipated that this review will be completed by June 2026.

2.5.5 Development of Project Plan Review, Approval, and Enforcement

TDOT is still in the process of developing certain portions of the overall SWMP such as the final incorporation of SCMs into TDOT design/construction projects and identification/selection process to evaluate new or existing BMPs. Once this is complete and implemented, it is anticipated that a formal evaluation process similar to that of the TDOT Construction QA/QC process will be conducted to ensure SCMs are designated, designed, and installed in accordance with the approved design documents. For internal projects, this shall be incorporated into contract language to ensure that TDOT construction contractors adhere to the requirements found within the approved designs. There will be no enforcement measures (outside of general contract enforcement) as TDOT has not been granted such legal authority by the Tennessee Legislature at this time.

2.5.6 Maintenance of Permanent Stormwater Control Measure Assets

Currently, TDOT is evaluating how maintenance is conducted on existing assets and structures. TDOT has incorporated asset maintenance activities into its normal road evaluation process, which operates on a rotating basis statewide. Rights-of-way and associated structures are inspected and repaired, as necessary. Completion is tracked by State route and road mile. TDOT is in the process of determining whether a more formalized tracking and maintenance system should be undertaken in order to ensure long-term functionality and performance of these assets/structures. Upon completion of the internal review, this SWMP plan will be updated, and any additional guidance documentation (inspection manuals, etc.) will be provided on the website.

2.5.7 Inventory and Tracking of Permanent Stormwater Control Measures

All SCMs for new construction projects are initially identified with plan and specification drawings associated with the project. TDOT intends to field verify these structures upon project completion and develop a list of measures installed statewide, along with their specific locations. Currently, TDOT does not have a consolidated inventory of SCMs (swales, retention ponds, etc.) that are deployed along TDOT-controlled right-of-way. TDOT is evaluating the best manner to collect and store this information in a central system. Maintenance of existing structures is conducted on a rotating basis during inspections conducted by the TDOT Maintenance Division on an as-needed basis when issues are noted during inspections.

Upon completion of the review and determination of the path forward regarding the capture and inventory of these assets, this SWMP plan will be updated. This is anticipated to be completed by December 2026.

TDOT will implement and maintain an internal database of all public and private SCMs installed on new projects. This system will be maintained and include:

- Location and project identification
- Type and design of the SCM
- Responsible party contact information
- Inspection schedules
- Maintenance procedures and frequency
- Photographs
- Maintenance and inspection records

As required by the permit, the Annual Report will include a listing of all projects and the SCMs being implemented. The specific means of collection and maintaining of records to support the development of the Annual Report will be provided with an update to this document once a formal process is approved and adopted by TDOT.

2.5.8 Pollution Prevention/Housekeeping for Tennessee Department of Transportation Covered Facilities

As required by the TS4 Permit, all TDOT facilities either have a SWPPP, or a No-Exposure Certification submitted to TDEC. Facility SWPPPs are reviewed annually and updated every 5 years. The SWPPPs require quarterly and annual assessments to be conducted to evaluate stormwater and dry weather discharges from each covered TDOT facility. In addition, releases of materials or petroleum to site grounds are captured in spill reports, and cleanup is conducted as needed to minimize the potential of pollutant migration offsite. Any changes to facility structures or operations that impact stormwater are incorporated into the existing facility SWPPP.

In addition to the SWPPPs, TDOT has developed an integrated facilities compliance program that includes SEPs specifying measures to support pollution prevention and good housekeeping at TDOT brick-and-mortar facilities.

TDOT implements pollution prevention practices at covered facilities to minimize pollutant exposure to stormwater through the SEPs. Measures include:

- Facility-specific SWPPPs — SEPs for fueling, washing, maintenance, and material storage
- Covered or controlled vehicle and equipment washing
- Spill prevention, response, and cleanup procedures
- Storage of materials and chemicals
- Regular inspections and employee training — No Exposure Certifications where applicable
- Facility monitoring of stormwater
- Grounds maintenance

2.5.9 Standard Environmental Procedure

TDOT has developed and maintained written SEPs to ensure that facilities do not conflict with SWPPP provisions and to address environmental concerns. A complete list of the SEPs is provided in Table 3.

Table 3 Tennessee Department of Transportation Standard Environmental Procedures	
Procedure Number	Standard Environmental Procedure Title
SEP: ED.FC.001	Spill Prevention and Response at TDOT Facilities
SEP: ED.FC.002	Operating Requirements for Waste Accumulation Areas
SEP: ED.FC.003	Empty Container Management
SEP: ED.FC.004	Highway Marking Operations
SEP: ED.FC.005	Parts Washer Units and Brake Washer Units
SEP: ED.FC.006	Roll-Off Boxes for the Management of Wastes Found Along Rights-of-Way and on Other TDOT-Maintained Properties
SEP: ED.FC.007	Salt Handling and Salt Brine/Calcium Chloride/Liquid De-Icer Management
SEP: ED.FC.008	Operating Requirements for Satellite Accumulation Areas
SEP: ED.FC.009	Shipment and Disposal of Special, Nonhazardous, and Hazardous Wastes
SEP: ED.FC.010	Universal Waste Management
SEP: ED.FC.011	Underground Storage Tanks
SEP: ED.FC.012	Vehicle Wash Operations
SEP: ED.FC.013	Used Oil Management
SEP: ED.FC.014	Facility Management of Material Stockpiles
SEP: ED.FC.015	SWPPP Management at Unstaffed Facilities
SEP: ED.FC.016	Release of Captured Stormwater from Secondary Containment
SEP: ED.FC.017	Management of Waste Tires- Rescinded
SEP: ED.FC.018	Management of Scrap Metal
SEP: ED.FC.019	Management of Environmental Records
SEP: ED.FC.020	Hazardous Waste Generator Reporting Requirements
SEP: ED.FC.021	Animal Carcass Management
SEP: ED.FC.022	Waste Management Records Requirement
SEP: ED.FC.023	Storage of Petroleum and Oils at TDOT Ferry Locations
SEP: ED.FC.024	Management of Emergency Strike Force Tanks

Notes:

TDOT = Tennessee Department of Transportation
SEP = Standard Environmental Procedure
SWPPP = Stormwater Pollution Prevention Plan

3.0 VIOLATIONS OF WATER QUALITY STANDARDS

It is TDOT's policy that any release to waters of the State be reported upon discovery to TDEC. This includes IDDEs from TDOT and non-TDOT sources. In many cases, releases on TDOT facilities do not leave the facility boundary and are addressed through onsite cleanup. For these instances, a spill report is documented with the facility SWPPP, but notice is not made to TDEC.

4.0 COMPLIANCE RESPONSE PLANS

TDOT does not have a formal Compliance Response Plan as it does not have the legal authority to develop ordinances or rules under State law. TDOT has, however, developed an IDDE Plan, but faces challenges in the implementation of overall compliance response due to the lack of legal authority to develop ordinances, levy fines, or mandate cleanup of illicit discharges within the TS4 footprint, except those originating from TDOT operations. TDOT evaluates illicit discharges upon becoming aware of them and notifies/coordinates with other federal, local, and state authorities as appropriate.

TDOT has developed an IDDE Plan that includes all procedures and steps that TDOT will take to identify, track and eliminate illicit Discharges. This IDDE plan is included as Appendix B. .

5.0 LEGAL AUTHORITY

TDOT does not have the legal authority to levy fines or penalties for violations of the standards specified within the TS4 Permit. TDOT derives its authority to regulate discharges to its TS4 from third parties through the Tennessee Code 54-5 (State Highways) which does not include enforcement provisions at present. This results in limitations in the implementation of the TS4 Program (relative to a typical municipality), resulting from TDOT's inability to create any enforcement mechanisms, such as codes or ordinances. As such, TDOT lacks the legal authority to enforce controls on illicit discharges into its systems, severely limiting the ability to function in a manner similar to a municipal MS4 for many program areas. To address this constraint, TDOT coordinates issues (IDDEs, etc.) with appropriate regulatory and response authorities across the state. Agencies and organizations coordinated with on a case-by-case basis include: TDEC, local Emergency Management Agencies, TEMA, and local law enforcement. Any issues regarding illicit discharges to waters of the state are coordinated with TDEC.

6.0 STORMWATER MANAGEMENT PROGRAM REVIEW AND MODIFICATION

TDOT will conduct a program review at least annually and update this SWMP plan as needed. The SWMP plan will be continuously evaluated as activities to achieve each measurable goal within the permit are completed. The result of these evaluations will be included within the required Annual Report, along with any necessary identified revisions to the overall program. Any updates or identified revisions to the SWMP or the associated plans will be outlined within the report.

6.1 Program Modification

Minor modifications to the SWMP, as defined in Section 2.6.2.1 of the TS4 Permit, do not require public notification. In the event of a major modification, as defined in Section 2.6.2.2 of the TS4 Permit, TDEC-Division of Water Resources will be notified 30 days prior to the formal public notice. TDOT will coordinate with TDEC regarding public notice and modification type when required.

7.0 FIELD MONITORING

The Stormwater Field Monitoring Program (SFMP) is structured around two complementary components that together provide a comprehensive evaluation of stormwater quality and management performance across TDOT facilities. The first component, Stormwater Monitoring for Covered Facilities, focuses on regulatory compliance by collecting and analyzing stormwater samples from representative facilities to assess pollutant concentrations relative to permit benchmarks. The second component, Stormwater Monitoring — Effluent Characterization and BMP/SCM Effectiveness, uses monitoring data to better understand the nature and sources of pollutants in stormwater runoff and to evaluate the performance of BMPs and SCMs implemented by TDOT. Together, these components support both compliance and adaptive management by enabling TDOT to identify potential issues, implement corrective actions, and continuously improve stormwater management practices to minimize pollutant discharges to the maximum extent practicable.

7.1 Stormwater Monitoring Covered Facilities

TDOT has developed and maintains an SFMP to monitor pollutants in stormwater runoff from TDOT-owned and operated facilities. The SFMP establishes the overall framework, objectives, and methodologies used to evaluate stormwater quality, ensure compliance with permit requirements, and assess the effectiveness of SCMs.

TDOT operates a large number of facilities statewide and implements a representative monitoring approach to ensure efficiency and effectiveness. Each year, approximately 10% of applicable facilities (approximately 14 facilities) are selected for monitoring based on criteria such as facility type, potential pollutant sources, proximity to receiving waters, and historical data. This approach ensures that monitoring results are representative of overall facility operations while remaining practical and cost-effective. TDOT has developed a Stormwater Field Monitoring Program that outlines the selection, sampling, and analysis of stormwater runoff from TDOT facilities. This program is included as Appendix C.

7.1.1 Visual Examination

In addition to analytical monitoring, TDOT conducts routine visual inspections of stormwater discharges at covered facilities in accordance with SWPPP requirements and the TS4 Permit. Visual examinations are conducted quarterly during qualifying storm events and include a range of qualitative observations used to identify potential contamination.

Inspections evaluate characteristics such as color, odor, turbidity, floatable materials, oil sheen, deposits, vegetation impacts, and structural conditions at outfalls. These indicators provide an initial assessment of stormwater quality and help identify potential pollutant sources.

A dry weather inspection is also conducted to confirm the absence of non-stormwater discharges. Visual inspection findings are documented using standardized inspection forms and maintained as part of the facility SWPPP. Inspection records are managed by the TDOT ECU and are used to support compliance documentation and program evaluation.

7.2 Stormwater Monitoring — Effluent Characterization and Best Management Practice/Stormwater Control Measure Effectiveness

As previously discussed, annual sampling of stormwater discharges is conducted under the SFMP. Because the TDOT TS4 footprint includes both brick-and-mortar infrastructure and rights-of-way, TDOT evaluates stormwater conditions as needed across these areas. In addition, the SFMP includes efforts to characterize effluent and evaluate the effectiveness of BMPs and SCMs through monitoring conducted before and after implementation. Together, these activities support a data-driven approach to improving stormwater management practices, ensuring compliance, and minimizing pollutant discharges to the maximum extent practicable.

7.2.1 BMP/Stormwater Control Measure Effectiveness

During the initial permit term, TDOT conducted several studies to evaluate both BMPs and SCMs. These efforts included evaluating swale design and effectiveness, assessing the speciation of *E. coli* in highway runoff, and examining the use of open-graded friction course pavement to reduce contaminants in stormwater. While BMPs historically evaluated have primarily been post-construction in nature, TDOT is also developing an evaluation plan to consider BMPs associated with construction activities.

A study is currently being scoped to assess underutilized BMPs related to sediment control during construction. This effort will consider the potential use of selected sediment control measures to better understand factors influencing their use and their effectiveness. Monitoring will be conducted on at least one type of BMP across the state. Under the proposed plan, potential BMPs for initial evaluation may include measures such as silt fence check dams used on construction sites. TDOT may identify and consider additional BMPs for evaluation throughout the duration of the TS4 permit.

8.0 MONITORING PROCEDURES

The SFMP establishes detailed procedures for stormwater sampling, data collection, and QA to ensure consistency, accuracy, and regulatory compliance. Stormwater samples are collected during qualifying storm events (rainfall greater than 0.01 inches and at least 72 hours since the previous measurable event) and are typically obtained during the first flush of runoff. Sampling may be conducted manually or through the use of automatic samplers installed at facility outfalls. The SFMP is included as Appendix C of this document.

Appendix A
Tennessee Department of Transportation
National Pollutant Discharge Elimination System
Permit Number: TNS077585



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

June 26, 2023

Mr. Butch Eley
Deputy Governor & Commissioner of Transportation
e-copy: TDOT.COMMISSIONER'S.Office@tn.gov
Tennessee Department of Transportation

Subject: **NPDES Permit No. TNS077585**
Tennessee Department of Transportation (TDOT)
Tennessee (Statewide Permit)

Dear Mr. Eley:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application.

Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment.

Any petition for permit appeal under this subsection (i) shall be filed with the Technical Secretary of the Water Quality, Oil and Gas Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

TDEC has activated a new email address to accept appeals electronically. If you wish to file an appeal, you may do so by emailing the appeal and any attachments to TDEC.Appeals@tn.gov. If you file an appeal electronically, you do not have to send a paper copy. If you have questions about your electronic filing, you can call (615) 532-0131. Electronic filing is encouraged, but not required.

If you have questions, please contact the Statewide Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Ms. Ariel Wessel-Fuss at (615) 532-0642 or by E-mail at Ariel.Wessel-Fuss@tn.gov.

Sincerely,



Vojin Janjić
Manager, Water-Based Systems

Enclosure

CC: Permit File
Ms. Mary Kuo, US EPA Region 4, kuo.mary@epa.gov
Mr. Klint Rommel, TDOT Environmental Compliance Office, Tennessee Department of Transportation (TDOT), klint.rommel@tn.gov
Mr. Jacob Dorman, Contech Engineered Solutions LLC, jacob.Dorman@ContechES.com
NPDES Permit Section, EPA Region IV, r4npdespermits@epa.gov
Ms. Carma H. Smith, Tennessee Department of Transportation, carma.h.smith@tn.gov



**Authorization to Discharge Under the
National Pollutant Discharge Elimination System (NPDES)
Permit Number TNS077585**

Issued by
**Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102**

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

As an operator of a statewide transportation separate storm sewer system, the **Tennessee Department of Transportation (TDOT)** is authorized to discharge stormwater runoff into waters of the State of Tennessee in accordance with the various eligibility criteria, administrative procedures, program requirements in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **August 1, 2023**

This permit shall expire on: **July 31, 2028**

Issuance date: **June 26, 2023**

for Jennifer Dodd
Director

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APPENDIX 1 R-17

1. AUTHORIZATION AND SCOPE OF THE PERMIT

1.1. AUTHORIZED DISCHARGES

The Tennessee Department of Transportation (TDOT) is authorized to discharge from point sources to waters of the state, in accordance with the following conditions and provisions, stormwater and allowable non-stormwater from all portions of its transportation separate storm sewer system (TS4) (as defined in subpart 1.2) within the State of Tennessee, which includes but is not limited to interstate highways, divided highways, multiple lane roads and primary roads and its owned/operated facilities.

1.2. AREA OF PERMIT COVERAGE

This permit authorizes discharges of stormwater runoff from:

- the state roads, interstate highways, and associated right-of-ways that TDOT either owns or maintains and;
- facilities covered under this permit (see paragraph below) that TDOT owns or operates throughout Tennessee.

Covered Facilities includes Region Headquarters Facilities, District Headquarters Facilities, County Garages, Truck Weigh Stations, Welcome Centers, Rest Areas, Floating Maintenance Facilities, Floating Salt Storage Facilities, Floating HELP Truck Facilities, and other facilities owned and/or operated by TDOT. (Note: "Floating" facilities are those that are separate from TDOT Region HQ Facilities, District HQ Facilities, or County Garages.)

The Areas listed in this subpart will be collectively referred to as the Transportation Separate Storm Sewer System (TS4).

1.3. ELIGIBILITY

This permit authorizes stormwater discharges from TDOT highways and from TDOT covered facilities, as well as the following non-stormwater sources, provided that TDOT has not determined these sources to be contributors of pollutants to waters:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;

- Rising ground waters;
- Uncontaminated ground water infiltration (Infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.);
- Uncontaminated pumped ground water;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensate;
- Irrigation water;
- Springs;
- Water from crawl space pumps,
- Footing drains;
- Individual residential car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Sidewalk, driveway, and street wash water (including tunnel cleaning); and
- Discharges or flows from firefighting activities.

For discharges not eligible for coverage under this permit, TDOT must apply for and receive an individual or other applicable general NPDES permit prior to discharging.

1.4. RESPONSIBILITY OF THE PERMITTEE

1.4.1. TDOT Responsibilities

TDOT is responsible for the following:

- a. Compliance with permit conditions relating to discharges where they are owner and/or operator;
- b. Where permit conditions are established for specific portions of the TS4, the permittee need only comply with the permit conditions relating to those portions of the TS4 for which they are the owner/operator; and

- c. Submission of annual reporting requirements as specified in Part 5;
- d. Collection of monitoring data as required by Section 2.7, and according to such agreements as may be established between the TDOT and the division; and
- e. Ensuring implementation of system-wide stormwater management program elements, including any system-wide public education efforts.

1.5. LIMITATIONS ON COVERAGE

The following discharges are not authorized by this permit and may be required to have additional permit coverage:

1.5.1. Discharges of stormwater from construction projects disturbing one or more acres.

These discharges are to be covered under the General NPDES Permit for Discharges of Stormwater Associated with Construction Activity or other applicable general permits or may require an individual NPDES permit.

Discharges that are mixed with sources of non-stormwater unless such non-stormwater discharges are:

- Authorized under a separate NPDES permit; or
- A non-stormwater discharge as listed in 1.3

1.5.2. Stormwater discharges currently covered under another permit.

1.5.3. Discharges of materials resulting from a spill.

Exception: emergency discharges required to prevent imminent threat to human health or to prevent severe property damage, provided reasonable and prudent measures have been taken to minimize the impact of the discharges.

1.5.4. Discharges not protective of aquatic or semi-aquatic threatened and endangered species.

Stormwater Discharges not protective of aquatic or semi-aquatic threatened and endangered species, species deemed in need of management or special concern species - Discharges or discharge-related activities that are likely to jeopardize the continued existence of listed or proposed threatened or endangered aquatic



species, or their critical habitat, under the Endangered Species Act (ESA), or other applicable state law or rule.

Discharges or conducting discharge-related activities that will cause a prohibited "take" of federally listed aquatic species (as defined under Section 3 of the ESA and 50 CFR §17.3) unless such take is authorized under Sections 7 or 10 of the ESA.

Discharges or conducting discharge-related activities that will cause a prohibited "take" of state listed aquatic species¹, unless such take is authorized under the provisions of T.C.A. § 70-8-106(e).

- 1.5.5.** Stormwater Discharges that would cause or contribute to in-stream exceedances of water quality standards including but not limited to:
- a. Discharges for which the division requires a different individual permit or alternative general permit.;
 - b. Discharges of any pollutant into any water for which a Total Maximum Daily Load (**TMDL**) has been approved by EPA pursuant to 40 C.F.R. § 130.7, unless the discharge is consistent with the assumptions and requirements of any available wasteload allocation (WLA). This eligibility condition applies at permit effective date. If a condition changes after permit effective date, permit coverage will continue provided that the permittee complies with the applicable requirements of this permit. If the Director determines that more stringent requirements are necessary to support compliance with any future TMDLs, the Director will impose such requirements through a modification of this permit or by their inclusion in this permit upon reissuance.; and
 - c. Discharges that do not comply with the division's anti-degradation policy for water quality standards, pursuant to the Rules of the Tennessee Department of Environment and Conservation (TDEC), Chapter 0400-40-3-.06, titled "Antidegradation Statement."

¹ As defined in the Tennessee Wildlife Resources Commission Proclamation, Endangered or Threatened Aquatic Species, and in the Tennessee Wildlife Resources Commission Proclamation, Wildlife in Need of Management.

2. STORMWATER MANAGEMENT PROGRAM

2.1. REQUIREMENT TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

- a. Discharges under this permit are subject to the condition that TDOT develop, implement and enforce a TS4 Stormwater Management Program (TS4 SWMP). The TS4 SWMP shall minimize the discharge of pollutants to the maximum extent practicable (MEP) and shall not cause or contribute to violations of State water quality criteria of the receiving streams in stormwater runoff from TDOT highways and related facilities. The stormwater management program must contain the following minimum control measures:
 - (1) Public Education and Outreach on Stormwater Impacts (subpart 2.2.1),
 - (2) Public Involvement/Participation (subpart 2.2.2),
 - (3) Illicit Discharge Detection and Elimination (subpart 2.2.3),
 - (4) Construction Site Stormwater Runoff Control (subpart 2.2.4),
 - (5) Post-Construction/Permanent Stormwater Management in New Development and Redevelopment (subpart 2.2.5), and
 - (6) Pollution Prevention/Good Housekeeping for TDOT Covered Facilities (subpart 2.2.6).
- b. These permit conditions apply to TDOT throughout the state, except for subpart 2.2.3 Illicit Discharge Detection and Elimination (IDDE), which will apply only within urbanized area as defined by having either an Individual MS4 permit or General MS4 coverage issued by TDEC.

2.2. MINIMUM CONTROL MEASURES

2.2.1. Public Education and Outreach on Stormwater Impacts

TDOT shall continue to implement an education program that includes public education and outreach on transportation stormwater impacts as a component of the stormwater management program. The objective of this program is to reduce or eliminate behaviors and practices that cause or contribute to the impacts of stormwater discharges on water bodies and the steps that the audiences can take to reduce pollutants in stormwater runoff to the maximum extent practicable. This program will be designed to reach three major audiences, (1) the public (2.2.1.1), (2) TDOT contractors (2.2.1.2), and (3) TDOT employees (2.2.1.3). The program shall include the following at a minimum:

2.2.1.1. Public

TDOT must continue to implement, and maintain a public education program to educate the public about the impacts of pollutants in transportation related stormwater discharges on adjacent streams and lakes and the steps that the public can take to reduce pollutants in transportation related stormwater runoff. Where possible, TDOT should participate and coordinate with Tennessee Cities and County governments.

Management Measure	Measurable Goals	Annual Report Requirement
Educate the public through TDOT's website. Enhance, update, and maintain website to inform the public about TDOT's TS4 SWMP and its activities.	Monitor website traffic through website counters.	- Count of website traffic - The difference in the website traffic count from the previous reporting period
Educate the public in accordance with TCA § 67-4-402 and TCA § 57-5-201. (note: TDOT is provided with a revenue source that will continue to be dedicated to the specific purpose of highway litter prevention, roadside dumping abatement, and public education. This will include support for waterway cleanups, support for local recycling programs, and funding for statewide programs, for example: Keep Tennessee Beautiful, Litter Hotline, Adopt-A-Highway, and Litter Grants for all 95 counties. Additionally, TCA § 54-1-401 requires TDOT to establish a system for citizens to report acts of littering from motor vehicles.)	Implement and/or Fund local and statewide education campaigns	Brief description of activity, subject/objective, target audience

2.2.1.2. Contractors

TDOT shall continue to implement and maintain the education and training program for contractors conducting construction, repairs, or maintenance of TDOT highways, rights-of-ways, and other facilities.

Project supervisor(s) for contractors (as defined in §101.03 TERMS of TDOT's Standards of Construction for Road and Bridge Construction) shall successfully

complete TDEC's Fundamentals of Erosion and Sediment Control, or the successor or equivalent course from other sources subject to TDEC approval

Management Measure	Measurable Goals	Annual Report Requirement
Ensure contractors are aware of the requirements for stormwater control measures (SCM) and best management practices (BMPs) and are implementing appropriate SCM or BMP the project implementation. Continue to verify compliance with EPSC measures during the construction phase via QA/QC inspections	- All projects with SCMs & BMPs reviewed during preconstruction or construction phase - Inspect projects that meet QA/QC criteria	Percentage of projects that are inspected that meet QA/QC criteria
Continue the requirement for TDOT contractors to obtain TDEC EPSC Level 1 Certification prior to preconstruction meeting.	Provide evidence of contractor certification process	Include a copy of requirement in the first year annual report, note any changes to the requirement in subsequent annual reports.

2.2.1.3. TDOT Employees

TDOT shall continue to implement and maintain an education and training program for employees that conduct activities that may have impacts on stormwater runoff. The program shall include employees involved in the design of highways (i.e., those that design drainage systems), employees involved in maintenance of highways and right-of-ways, employees involved with the preparation of contracts, selection of contractors, and review of contractor work, and employees working at TDOT garages, regional maintenance facilities, or other appropriate locations.



Management Measure	Measurable Goals	Annual Report Requirement
Continue TDOT Fundamentals of Erosion Prevention and Sediment Control Training Program course tailored to fit TDOT construction project needs (see 2.2.1.4 for specific requirements)	Develop and implement a training schedule for ongoing training.	- Report the total number of training opportunities provided for employees and the total number of employees attending. - provide an electronic spreadsheet with attendance and exam scores
Continue stormwater management-training for Covered Facilities tailored to fit TDOT highway and other maintenance and facilities personnel. Training for Standard Environmental Procedures (SEP) for various maintenance activities. (See 2.2.6.1)	- Maintain list of position titles requiring training - The date that training was conducted	Total number employees that are fully trained to all appropriate SEP

2.2.1.4. TDOT Fundamentals of Erosion Prevention and Sediment Control Training Program

The TDOT Fundamentals of Erosion Prevention and Sediment Control Training Program (Program) is a class which provides information for individuals involved in construction/ land- disturbing activities on TDOT projects. The objective of the class is to build a working knowledge of regulations, erosion, and sedimentation processes, EPSC measures, and practices related to TDOT specific processes and requirements. Topics discussed in the class include:

- CGP and related Stormwater Pollution Prevention Plan (SWPPP) requirements;
- The function, installation, limitations, inspection, and maintenance of EPSC measures; - roles of agencies involved in the permitting and regulatory process;
- Role and Responsibilities of the Inspector;
- Basic information regarding hydrologic and erosion processes; and
- TDOT specific processes and requirements in regards to the EPSC implementation and inspection on projects

The Program can only certify that participants successfully complete the class. TDOT will issue a certificate of completion to attendees that attended the full training and successfully passed the examination. This certificate will include an expiration date. This certification will allow the individual to perform EPSC inspections on TDOT projects only. An employee's certification will become invalid upon their separation of service with the Department.

Each certification will be valid for a period of three (3) years. Prior to expiration of this certification, each individual will be required to successfully complete the Program training class to remain certified to conduct EPSC inspections.

Instructors for the Program will be composed of senior staff from the Environmental Division, Environmental Compliance Office. These instructors will have a strong working knowledge regarding the principles of EPSC, field experience, and an understanding of applicable regulations.

The permittee will either develop and implement the TDOT EPSC Training program or utilize the TDEC Level 1 class.

Management Measure	Measurable Goals	Annual Report Requirement
All instructors will be required to attend one (1) session with the Program Manager regarding class format and rationale regarding the material selected for presentation. All new instructors will be required to participate in the organization and presentation of one (1) class prior to instruction. All TDOT training instructors will be required to maintain their TDEC Level 1 and TDEC Level 2 or CPESC Certifications while participating in this Program.	Maintain a list of instructors with appropriate training	Provide the list of instructor's names and TDEC certification number
TDOT instructors will meet each year to determine annual training needs. This meeting should be conducted in advance of the Annual Report due by this permit.	Schedule and locations of classes.	Provide the schedule and locations of classes.

2.2.2. Public Involvement/Participation

TDOT must continue to implement a program for public involvement and participation as a component of the stormwater management program. The objective is to promote, publicize and facilitate citizen's participation in the development and implementation of the stormwater management program in order to reduce the discharge of pollutants to the maximum extent practicable. This program must include the following at a minimum

Management Measure	Measurable Goals	Annual Report Requirement
Provide access to the public to the SWMP records, including a written description of the stormwater management program, available to the public at reasonable times during regular business hours	- Make SWMP and other documentation available on the TDOT webpage	- Provide the web address for the SWMP
Develop and implement a formal public involvement process including: - documenting and responding to public comments - mechanism to identify major modification to the SWMP that require a formal public notice process (see 2.6.2)	- Prior to the first annual report due date complete the formal public involvement process for the entire SWMP including response to comments. For subsequent years, formal public notice is required only when major changes (see 2.6.2) are made to the SWMP	- For years when the program <u>is</u> required to be formally placed on public notice, a copy of the public notice and response to comments shall be submitted with the annual report - For years when the program <u>is not</u> formally placed on public notice, indicate as such in the annual report - Detail applicable changes as directed in 2.6.2
Encourage and promote citizen reporting of illegal spillage, dumping, or	- Continue to implement a public reporting system e.g. hotline to facilitate and track	- The number of reports received from the public

Management Measure	Measurable Goals	Annual Report Requirement
otherwise disposal of materials onto TDOT highways and right-of-way (see 2.2.3)	public reports of spills, discharges, and dumping to its storm sewer system.	
Engage the public through volunteer opportunities including supporting Adopt-a-Highway, Keep America Beautiful, anti-litter programs and the TN Great American Cleanup programs.	Document the dates of events, number of volunteers, the lane miles cleaned annually or amount of trash removed.	- Number of events - Number of volunteers - Number the lane miles cleaned - Amount of trash removed.

2.2.3. Illicit Discharge Detection and Elimination

TDOT must continue to implement and enforce as allowable by law a program to detect and eliminate illicit discharges into TDOT rights-of-ways and into TDOT storm sewer systems within urbanized areas (UA) as a component of the stormwater management program. Stormwater discharges listed in subpart 1.3, above, are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the state. The objective is to detect and eliminate illicit discharges to the maximum extent practicable. This program must include the following at a minimum

- Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters that receive discharges from those outfalls;
- To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism², non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions

- Continue to implement TDOT IDDE Plan to detect and address non-stormwater discharges, including illegal dumping, to the system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Address the following categories of non-stormwater discharges or flows (*i.e.*, illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the TS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(b\)\(20\)](#)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water(including tunnel cleaning) (discharges or flows from firefighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters).

Management Measure	Measurable Goals	Annual Report Requirement
Storm sewer map that contains the latitude and longitude of all known outfalls within the UA and the names and location of waters receiving those discharges ³	Continue to update mapping within the UA.	Provide location for Spatial Rest Service Outfall Map Layer

³ The TDEC-DWR GIS layer maybe used in lieu of permittee developing their own receiving stream layer. TDEC rest services can be found at https://tdeconline.tn.gov/arcgis/rest/services/DWR_Public/MapServer



Management Measure	Measurable Goals	Annual Report Requirement
Continue to document and implement policies and procedures for the Illicit discharge detection and elimination (IDDE) program for public, TDOT employees and contractors . This includes - Reporting the discharge to the appropriate jurisdiction - Informing public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste and how to identify and report these discharges (see 2.2.2) - Intentional/Non-intentional disposal of materials from vehicles	Document and report on the effectiveness of the citizen reporting of illicit discharges (see 2.2.2)	- The number of investigations of illicit discharge reported by the public that have been closed - The number of illicit discharges reported by the public referred to other agencies - The number of investigations of illicit discharge reported by internal personnel - The number of illicit discharges reported by internal personnel referred to other agencies



Management Measure	Measurable Goals	Annual Report Requirement
Continue interagency coordination of hazardous waste or material spills response and cleanup. Work with the TEMA (Tennessee Emergency Management Agency) through a Memorandum of Understanding (MOU), local fire departments and other agencies that respond to accidents and spill incidents on TDOT's roadways regarding potential stream impacts. Continue to coordinate with these agencies to develop a program that minimizes the potential for their response to spills of chemicals or hazardous materials to cause pollutants to enter waters.	- Annually review procedures for spill response and cleanup - Modify procedures as necessary to protect streams from contaminated runoff.	- Report on any modifications made to the MOU that may affect streams.
Notify an adjacent MS4 of any spills that may have an impact on their ability to comply with their municipal stormwater permit	- Maintain a record of notifications made to adjacent MS4	- Report the number of notifications made to adjacent MS4

Management Measure	Measurable Goals	Annual Report Requirement
Report Dry Weather flows from TDOT Construction, Operations and Maintenance that could be a threat to human health or the environment to the local EFO as soon as possible, but no later than 24 hours of becoming aware of the flow Note: This notification requirement is not intended to be an additional requirement for Incidents that are responded to by TEMA and reported under those processes.	- Maintain a record of dry weather flows identified	- Report the percentage of dry weather flows that could be a threat to human health or the environment reported to the EFO within 24 hours of becoming aware of the flow
Intentional/Non-intentional disposal of materials from vehicles.	Continue to recommend actions to reduce litter and illegal dumping along TDOT's ROWs.	- Provide listing of programs addressing litter
	Implement recommended action items.	

2.2.4. Construction Site Stormwater Runoff Control

TDOT must continue to implement and enforce as allowable by law a program to reduce pollutants in any stormwater runoff to the TS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The objective is to reduce pollutants in any stormwater runoff to the TS4 from construction activities to the maximum extent practicable. This program must include the following, at a minimum:



- An ordinance, contract, or other regulatory mechanism⁴ to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
- Requirements for construction site operators to implement appropriate erosion and sediment control best management practices utilizing appropriate TDOT Design Standards and Specifications, TDOT EPSC Manual ⁵ as well as buffer requirements as required by the construction permit.;
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- Procedures for receipt and consideration of information submitted by the public;
- Procedures for site inspection and enforcement (see 2.4) of control measures;
- Procedures to notify other parties conducting work on TDOT rights-of-ways, businesses seeking roadway access, or others seeking storm drainage access of the requirements to obtain coverage under the General NPDES Permit for Discharges of Stormwater Associated with Construction activity or other applicable NPDES discharge permit and of the prohibitions regarding discharge of non-stormwater into TDOT's storm sewer system;
- Procedures to notify highway access permit applicants to obtain NPDES or ARAP coverage where required;
- Procedures to detect and remedy where significant amounts of soils are being tracked, washed, or otherwise deposited onto TDOT rights-of-way or highways from construction activity (including disincentives for tracking soils onto the right-of-way);
- Requirement to obtain coverage and comply with the requirements under the Tennessee General Permit No. TNR100000, Stormwater Discharges from Construction Activities (CGP) An individual NPDES construction permit for TDOT sites greater than one acre or less than one acre if that construction activity is part

⁵TDOT's standard design drawings library can be found online at <https://www.tn.gov/content/tn/tdot/roadway-design/standard-drawings-library/standard-roadway-drawings/erosion-prevention-and-sediment-control.html>



of a larger common plan of development or sale that would disturb one acre or more;

- Evaluation of compliance requirements for contractors relating to stormwater management, including incentives and disincentives;

- Quality Assurance/Quality Control Teams (QA/QC Teams), which shall operate independently of TDOT's project supervisors. The QA/QC team should consist of a staff position that has expertise in the review of EPSC plans. Minimum qualifications for this position shall include a bachelor's level degree in engineering, soil science, or geology or a related field, and professional experience with prevention of soil erosion and sediment control. These people shall have successfully completed the TDEC EPSC level 1 (or TDOT equivalent) and level 2 course or CPESC. These teams shall inspect all areas on which clearing, grubbing, excavation, grading, cutting or filling has occurred on projects, including the potentially impacted streams, at least once a month until such areas are permanently stabilized;

- TDOT Inspectors shall have successfully completed the EPSC level 1 course or the TDOT Fundamentals of EPSC Training Class;

- TDOT Project Supervisors shall have successfully completed the EPSC level 1 or the TDOT Fundamentals of EPSC Training Class;

- TDOT shall attend all public hearings held by TDEC on permit applications submitted by TDOT under the Act and be available to respond to questions related to the application,

- Contracts for projects in which a general or individual NPDES permit or an ARAP is required

1. Shall mandate that the contractor cease work on part or all of a project when directed to do so by a TDOT project inspector or project supervisor due to identified permit deficiencies.

2. Shall include disincentives for environmental violations.

- Requirement to obtain coverage under an Aquatic Resource Alteration Permit (ARAP) for all impacts to jurisdictional streams and wetlands subject to permitting requirements.



Management Measure	Measurable Goals	Annual Report Requirement
Obtain CGP or individual permit coverage for TDOT sites	- 100% of all sites greater than 1 acre (or less than one acre if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more) will have CGP coverage (note: a site having coverage under an individual construction permit issued by TDEC meets this requirement)	- Percentage of sites requiring CGP coverage that have CGP coverage
Obtain ARAP coverage for TDOT sites	- 100% of all sites that have impacts to jurisdictional streams and wetlands subject to permitting requirements will have ARAP coverage	- Percentage of sites requiring ARAP coverage that have ARAP coverage
Maintain up to date Standard design drawings and specifications for erosion prevention and sediment control BMPs	- Standard design drawings and specifications for erosion prevention and sediment control BMPs.	- Provide access to all EPSC BMP standard design drawings and specifications and the revision dates
TDOT and/or its contractor(s) shall conduct inspections of EPSC measures and potentially impacted streams, at the frequency specified in the Individual or General NPDES Construction Permit until the site is permanently stabilized.	100% of all projects requiring Individual or General NPDES Construction Permit coverage shall be inspected at the frequency specified in the individual construction permit or CGP until final stabilization is reached	Percentage of sites inspected in accordance with the measurable goal
Implement procedures to Notify highway access permit applicants to have appropriate EPSC devices designed according to TDOT Standards according to Tennessee Rule 1680-10-01	- Ensure all application forms for highway access permits includes the notification for appropriate EPSC devices.	- Have the forms changed? (yes/no) Does application form notification for appropriate EPSC devices (yes/no)

2.2.5. Post-Construction/Permanent Stormwater Management in New Development and Redevelopment

Permits issued to entities that operate a municipal separate storm sewer system (MS4) shall include the following effluent limitations to manage post-construction stormwater at all new development and redevelopment projects that disturb one or more acres of land, or less than one acre if part of a larger common plan of development, and discharge into the permittee's MS4:

2.2.5.1. Permanent Stormwater Management Program.

(a) The permittee shall develop and implement a permanent stormwater management program to reduce pollutants in stormwater discharges through management practices, control techniques, and systems, design, and engineering practices implemented to the maximum extent practicable (MEP), as set forth herein.

(b) The permanent stormwater management program shall include plans review, site inspections, and a means to ensure that permanent stormwater control measures (SCMs) are adequately operated and maintained.

(c) The permittee must develop and implement, and modify as necessary, an ordinance or other regulatory mechanism⁶ to address permanent stormwater management at new development and redevelopment projects.

(d) The permittee must submit an implementation plan for its permanent stormwater management program not later than 90 days after the effective date of the first new or revised permit issued after the effective date of Tennessee Rule 0400-40-05-.15. The implementation plan shall include a brief description of the main components of the permittee's permanent stormwater management program, which should include: codes, ordinance, or other legal authority development and implementation; procedures for plans review and criteria for approval; procedures for conducting and tracking site inspections; and SCM operation and maintenance policies. The implementation plan shall also include a timeline to develop and implement the program. If the permittee has implemented a permanent stormwater management program that complies with all requirements of the new or revised permit, the permittee may submit an

⁶ Other legal authority or regulatory mechanism may include: statute, law, rule, ordinance, permit, contract, order, or similar means including but not limited to design guidelines.



implementation plan explaining how its program complies and identifying any new or modified elements of its program. The schedule must indicate completion as soon as feasible but no later than 24 months from the effective date of the first permit issued after the effective date of Tennessee Rule 0400-40-05-.15. Further, if implementation will take longer than 12 months, the plan must include interim milestones. Implementation plans must be submitted to the Division.

2.2.5.2. Permanent Stormwater Standards.

(a) The permanent stormwater management program must require new development and redevelopment projects to be designed to reduce pollutants to the MEP, as set forth herein. Compliance with permanent stormwater standards for new development and redevelopment projects is determined by designing and installing SCMs as established by Tennessee Rule 0400-40-05-.15 and complying with other requirements of Tennessee Rule 0400-40-05-.15. For design purposes, total suspended solids (TSS) may be used as the indicator for the reduction of pollutants.

(b) SCMs must be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project. The permittee shall identify a suite of SCMs to be used in various situations. Information relevant to identified SCMs should be made readily available. Application of innovative SCMs is encouraged. If the permittee decides to significantly limit the number of SCM options, it must be documented as part of the stormwater management program how the performance standards of Tennessee Rule 0400-40-05-.15 can be met with the limited set of control measures that are allowed.

(c) For the purposes of this paragraph, the water quality treatment design storm is a 1-year, 24-hour storm event as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent. The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm, as set forth below. SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV. The quantity of the WQTV depends on the type of treatment provided, as established in the following table:

Water Quality Treatment Volume and the Corresponding SCM
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Treatment Type for the 1-year 24-hour design storm		
SCM Treatment Type	WQTV	Notes
infiltration, evaporation, transpiration, and/or reuse	runoff generated from the first 1 inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems.
biologically active filtration, with an underdrain	runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage
sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm, whichever is less	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction. Refer to subparagraph (2)(d) of Tennessee Rule 0400-40-05-.15.
Alternative permanent stormwater standards that provide equal or equivalent reduction of pollutants to the above may be submitted to the Division for approval.		

(d) Treatment Train Calculations

1. Treatment trains using MTDs.

Treatment trains using MTDs must provide an overall treatment efficiency of at least 80% TSS reduction utilizing the following formula:

The calculation:

$$R = A + B - (A \times B)/100$$

Where:

R = total TSS percent removal from application of both SCMs,



A = the TSS percent removal rate applicable to the first SCM, and

B = the TSS percent removal rate applicable to the second SCM

TSS removal rates for MTDs must be evaluated using industry-wide standard.

TSS removal rates for other SCMs must be from published reference literature.

2. Treatment trains not using MTDs.

Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds, or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.

(e) The permittee may also develop a mitigation program and/or system of payment into a public stormwater fund as described in paragraph (3) of Tennessee Rule 0400-40-05-.15.

(f) The permanent stormwater management program may allow for a reduction of the WQTV for a new development or redevelopment project up to 20% for any one of the following conditions, and up to a total maximum of 50% for a combination of the following conditions:

1. Redevelopment projects (including, but not limited to, brownfield redevelopment);

2. Vertical density (floor to area ratio of at least 2, or at least 18 units per acre); and

3. Incentives as identified by the permittee, submitted to the Division and approved by the Division in writing, and documented as part of the stormwater management program.

2.2.5.3. Stormwater Mitigation and Public Stormwater Fund.

(a) A permittee may choose to develop an offsite mitigation program or payment in lieu into a public stormwater fund to offset the portion of the WQTV that cannot be treated on site to the MEP. The program must ensure that off-site stormwater mitigation will be accomplished within the same USGS 12-digit hydrologic unit code watershed as the new development or redevelopment project, if practicable, and will treat a minimum of 1.5 times the portion of the WQTV not treated on site. The permittee may identify priority areas within the watershed in which

stormwater mitigation projects are to be completed. The program must have a mitigation project approval procedure, and all projects must meet all requirements in this permit. Procedures and requirements in the offsite mitigation and payment in lieu programs should be documented as part of the stormwater management program and available for review.

(b) If the permittee allows payment into a public stormwater fund, the permittee assumes responsibility to provide the required mitigation projects. The public stormwater fund should be used to fund public mitigation projects. The payment amount into a public stormwater fund must be sufficient to design, install, and maintain the stormwater mitigation measures.

2.2.5.4. Water Quality Riparian Buffers.

Permittees shall develop and implement a set of requirements to establish, protect, and maintain permanent water quality riparian buffers to provide additional water quality treatment in riparian areas of new development and redevelopment projects that contain streams, including wetlands, ponds, and lakes. Riparian buffers must meet the following minimum standards:

(a) Stormwater discharges should enter the water quality riparian buffer as sheet flow, not as concentrated flow, where site conditions allow.

(b) Water quality riparian buffers must have the following minimum widths, unless site-specific conditions necessitate alternative widths, as described later in this paragraph:

	Average buffer width (feet)	Minimum buffer width (feet)	Notes
Waters with available parameters for siltation or habitat alteration or unassessed waters	30	15	The criteria for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than the required minimum width at any measured location. If the new development or redevelopment site
Exceptional Tennessee Waters or waters with unavailable parameters for siltation or habitat alteration	60	30	

			encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently.
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The predominant vegetation within the minimum buffer area should be trees. The remaining riparian buffers may be composed of herbaceous cover or infiltration-based SCMs.

(c) Permittees may establish permissible land uses or activities within the buffer, such as biking and walking trails, infiltration-based SCMs, selective landscaping, habitat improvement, road and utility crossings or other limited uses as determined by the permittee. The permittee must have a process to review proposed activities within buffers to ensure the pollutant removal function of the buffer will be retained. Trails constructed within the buffer should prevent or minimize the generation of pollutants. If trails are constructed from impervious materials, runoff must either be directed to infiltration-based SCMs or the buffer width must be increased by the width of the trail.

(d) Permittees may authorize alternative buffer widths for new development and redevelopment projects where averaged water quality riparian buffers cannot be fully implemented on-site. In order to allow alternative widths, the permittee must develop and apply criteria for determining the circumstances under which required buffer widths cannot be achieved based on the type of project, existing land use, and physical conditions that restrict the use of water quality riparian buffers. Any such procedures and criteria for alternative buffer widths must ensure that implementing full buffer widths would be impracticable and that the maximum practicable buffer widths are required. Procedures and criteria for alternative buffer widths must be submitted to the Division, approved by the Division in writing, and documented as part of the stormwater management program.

(e) Water quality riparian buffer widths are measured from the top of bank also referred to as the "ordinary high-water mark."

(f) Ordinances and local requirements adopted prior to November 13, 2018, and that mandate a minimum 30-foot water quality riparian buffers for drainage areas less than one square mile, and a minimum 60-foot water quality riparian buffers for drainage areas of greater than one square mile (with provisions for buffer

averaging down to a minimum 30-foot width), are deemed to satisfy the conditions of this paragraph.

2.2.5.5. Codes and Ordinances Review and Update.

(a) Reserved

(b) Current permittees shall continue to implement the existing permanent stormwater management program and update legal instruments according to the compliance schedule in subparagraph (1)(d) of Tennessee Rule 0400-40-05-.15.

2.2.5.6. Development Project Plan Review, Approval, and Enforcement.

The permittee shall develop and implement project plan review, approval, and enforcement procedures applicable, at a minimum, to all new development and redevelopment projects, which shall include:

(a) Procedures for review and approval of development site plans, including inter-departmental consultations and a re-submittal process when modifications to the project require changes to an approved site development design plan;

(b) A plans review process that requires SCMs to be properly designed, installed, and maintained to meet the performance standards established in Tennessee Rule 0400-40-05-.15. The process must also include incentives adopted by the permittee as authorized by paragraph (2) of Tennessee Rule 0400-40-05-.15, along with water quality buffers as required by paragraph (4) of Tennessee Rule 0400-40-05-.15 ; and

(c) A verification process to document that SCMs have been installed per design specifications within 90 days of installation. Verification shall include submission of as-built plans to the permittee, permittee inspection, or inspection by a qualified design professional. The verification process shall include enforcement procedures to bring noncompliant projects into compliance, which shall be detailed in the enforcement response plan. (see 2.4)

2.2.5.7. Maintenance of Permanent Stormwater Control Measure Assets.

(a) Permanent SCMs, including SCMs used at mitigation projects, must be installed, implemented, and maintained to meet the performance standards of



paragraph (2) of Tennessee Rule 0400-40-05-.15, and provide full treatment capacity within 72 hours following the end of the preceding rain event.

(b) The permittee must develop and implement a program to require implementation of appropriate SCM maintenance procedures to sustain pollutant reduction-efficiency for the life of the new development or redevelopment project. All procedures, reports, and documented as part of the stormwater management program. The program must include at a minimum:

1. The development and documentation of maintenance and inspection procedures and frequencies for approved SCMs which shall require all SCMs to be inspected at least once every five years by the permittee, a licensed professional engineer, a licensed landscape architect, or other qualified professional familiar with applicable SCM design and maintenance requirements or submit an alternative schedule to the Division for approval;
2. The development and documentation of the procedure the permittee will use to verify that SCMs are being inspected and maintained including any written reports from the responsible party;
3. A clear, documented, legally binding agreement assigning SCM maintenance responsibility to the owner/operator, a third party, or the permittee as appropriate. For SCMs designed to manage stormwater from multiple properties, appropriate deed restrictions shall be recorded; and
4. An allowance or agreement for permittee personnel to access the SCMs for inspections and provide for enforcement action for failure to maintain SCMs according to agreement.

2.2.5.8. Inventory and Tracking of Permanent Stormwater Control Measure Assets.

(a) Existing permittees must continue to implement and maintain a system to inventory and track the status of all public and private SCMs installed on new development and redevelopment projects. New permittees must implement the system within 24 months of permit effective date.

(b) The inventory and tracking system must be a searchable database, either paper or electronic, that retrieves SCM information by location or other similar identification. The system must be made available to the Division or to members of the public upon request. Other than the basic information of location and

project identification, the system should include information and records the permittee will use to demonstrate that SCMs are properly maintained, including but not limited to:

1. A brief description of the type of SCM and basic design characteristics;
2. The responsible party contact information;
3. Inspection schedules (both permittee and responsible party);
4. A brief description of or reference to maintenance procedures and frequency;
5. Photographs of the installed SCMs; and
6. Maintenance and inspection records.

2.2.5.9. Management Measures, Goals and Annual Report Requirements

Management Measure	Measurable Goals	Annual Report Requirement⁷
Stormwater Mitigation and Public Stormwater Fund as outlined in 2.2.5.3 (note this management measure is only required if the permittee has developed such a program or fund)	100% of all mitigation projects must be completed	- Details of Stormwater Mitigation and TDOT Stormwater Fund - # of uncompleted mitigation projects at the end of the previous reporting period - # of mitigation projects completed during the reporting period -# of uncompleted Projects at the end of the current reporting period - # of uncompleted projects at the end of the reporting period that began more than 24 months prior to the end of the reporting period
	100% of all mitigation projects funded by the Stormwater Mitigation and TDOT Stormwater Fund	- \$ in TDOT Stormwater Fund

⁷ Annual reporting identified in this section will begin with the first annual report due after completion of the implementation plan in 2.2.5.2 but no later than 24 months from the effective date of the permit.

Management Measure	Measurable Goals	Annual Report Requirement⁷
Develop and implement a set of requirements to establish, protect, and maintain permanent water quality riparian buffers	-100% of projects must have the buffer as required by the CGP, ARAP and TS4 permit	This measurable goal reporting is met by the reporting requirement in section 2.2.4 (ARAP, CGP or individual permit coverage for TDOT sites)
Develop, implement, and enforce policies and procedures for the submittal and review of plans for projects as required by 2.2.5.6	Establish policies and procedures for review of all plans and review 100% of all projects accordingly	- Total number of projects reviewed in accordance with established policies and procedures - % of projects reviewed in accordance with the established policy and procedure
Review and Update legal instruments in accordance with 2.2.5.5	Update legal instruments upon completion of the compliance schedule in 2.2.5.1	Confirm legal instruments are updated appropriately .
Develop, implement, and enforce policies and procedures for SCM Installation verification as required by 2.2.5.6	Verify installation of SCMs per design specifications in accordance with approved plan within 90 days Verify 100% of all installations within 90 days	- Total number of projects verified - Percentage of projects verified within the established timeframe
Develop and implement enforcement procedures to bring non-compliant projects into compliance as required by 2.2.5.6	Establish escalating enforcement actions in the Enforcement Response Plan (ERP) (see 2.4) Implement the ERP at 100% of all non-compliant projects	- Number of Projects granted Concurrence for submittal of NOT in accordance with the established procedures



Management Measure	Measurable Goals	Annual Report Requirement⁷
Develop and implement maintenance and inspection procedures and frequencies for approved structural SCMs (Existing Installations) as required by 2.2.5.7	- All structural SCMs must be inspected once every 5 years - Or - All structural SCMs must be inspected in accordance with the alternative schedule approved by the Division	- Total number of structural SCM inspected - Percentage of structural SCM inspected within the established timeframe
Continue to Implement and maintain a system to inventory and track the status of all structural SCMs as required by 2.2.5.8	The system must be made available to the Division or members of the public upon request.	Total number of requests made
	100% of all structural SCMs must be included in the database/tracking mechanism with complete information as described in subpart 2.2.5.8.b.	- % of structural SCMs in the database - % of structural SCMs with incomplete information

2.2.6. Pollution Prevention/Good Housekeeping for TDOT Covered Facilities

TDOT must continue to implement an operation and maintenance program for pollution prevention/good housekeeping for TDOT covered facilities as a component of the stormwater management program. This minimum control measure is designated to address TDOT covered facilities across Tennessee. All operations at these facilities with the potential for causing pollutants to enter stormwater runoff are to be addressed, including, but not limited to, anti-icing, deicing and other chemical/oil storage, equipment maintenance and repair, equipment washing, material storage (e.g., soils, sand, aggregate, asphalt, construction debris, clearing and grubbing debris), waste disposal practices, and use of floor drains. The objective is to prevent or reduce pollutant runoff from TDOT operations to the maximum extent practicable. This program must include the following at a minimum:

- Continue to implement the policy that requires all TDOT vehicles and equipment to be either washed off-site at a commercial facility, or on a covered, dedicated wash pad that collects all wastewater and transfers it to a sanitary



sewer system or a wastewater collection system. TDOT will implement this policy to assure that no wastewater from the washing of vehicles and equipment at TDOT facilities enters stormwater runoff or stormwater runoff control systems.

- Continue to inspect all buildings where equipment maintenance is performed in accordance with the facility SWPPP. Continue to ensure floor drains at covered facilities are connected to the appropriate treatment.
- Submit No exposure certifications electronically via MyTDEC Forms at <https://forms.tdec.tn.gov/>
- Continue to implement policy or procedures to inspect and inventory all TDOT covered facilities (as defined in section 1.2) to determine whether activities and materials at these facilities may be contributing pollutants to stormwater runoff. TDOT shall continue to prepare and maintain a stormwater pollution prevention plan (SWPPP) for each TDOT owned, or operated, facility which does not receive approval of the No Exposure Certification. Such SWPPPs shall be prepared in accordance with good engineering practices and meet the content requirements set forth in Attachment a.g.A and reviewed annually. General SWPPPs are permissible.

Management Measure	Measurable Goals	Annual Report Requirement
Vehicle and Equipment Washing	No wastewater from the washing of vehicles and equipment at TDOT facilities enters stormwater runoff or stormwater runoff control systems.	- Provide a list of facilities with vehicle washing activities - Number of instances of wastewater from the washing of vehicles and equipment at TDOT facilities that discharge to receiving waters.
TDOT covered facilities SWPPP	100% all facilities subject to SWPPP shall have an current SWPPP	- Provide a list of facilities and the latest revision/review date of the SWPPP



and No Exposure Certification	100% of all of facilities that are eligible for exclusion from stormwater regulations shall have a certification of no exposure forms submitted electronically through the online reporting portal https://forms.tdec.tn.gov/ (Existing facilities shall have the form submitted prior to the first annual report)	- Provide a list of all facilities with No exposure certification and the date the certification was acknowledged by the division
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2.2.6.1. Standard Environmental Procedures (SEPs)

TDOT shall continue to implement written Standard Environmental Procedures addressing the prevention of and response to spills in areas where potential spills, which could contribute pollutants to stormwater discharges, may occur. TDOT shall also ensure that TDOT personnel have appropriate resources available (i.e., equipment, materials, and/or contractors), and are trained in their use, to effectively respond to and promptly clean up any such spills that might occur. Descriptions of these procedures, resources, and training programs shall be incorporated in each facility's SWPPP.

TDOT shall continue to review, at least annually, and revise as necessary, the standard environmental procedures (SEP) for its Region, District, and County maintenance facilities to assure that they do not conflict with SWPPP provisions and that they address environmental concerns. Procedures to be addressed include washing, fueling, fluid changing, painting, and proper handling, storage, recycling, disposal and accountability of fuels, lubricants, chemicals, hazardous materials, deicing materials, and wastes.

Management Measure	Measurable Goals	Annual Report Requirement
Continue to implement Standard Environmental Procedures (SEPs) (see 2.2.1.3)	Annually review and update 100% of the SEPs for TDOT facilities to address <i>stormwater</i> pollution prevention	Provide a list of SEPs and the date of review/revision

2.3. VIOLATIONS OF WATER QUALITY STANDARDS

This TS4 SWMP shall reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) and shall not cause or contribute to violations of State water quality criteria of the receiving streams. A violation of state water quality criteria is considered a potential threat to human health or the environment and shall be reported in accordance with section 3.12.1a of the permit.

Management Measure	Measurable Goals	Annual Report Requirement
Report all violations of water quality standards to TDEC in accordance with 3.12.1a	100% of all violations of water quality standards are reported within 24 hours	Percentage of violations of water quality standards reported within 24 hours
	For 100% of all violations of water quality standards, a follow up report is submitted within 5 days	Percentage of violations of water quality standards that have had a follow up report submitted within 5 days

2.4. COMPLIANCE RESPONSE PLAN

Maintain and implement, the compliance response plan (CRP) as defined below. The plan must set out the permittee's potential responses to violations and address repeat violations through progressive enforcement as needed to achieve compliance. The plan must include the following at a minimum:

- Mechanisms to receive reports of possible illicit discharges (including dumping, or deposition of stormwater contamination) from both internal or external sources;
- Mechanisms to evaluate illicit discharges for prioritization
- Notification to TDEC of any non-compliance that could be a threat to human health or the environment in accordance with subpart 3.12.1a;
- Maintain a tracking system; and
- Process for referring matters to the appropriate agency for enforcement.

The permittee must have the legal ability to employ progressive enforcement actions such as those below (or their functional equivalent) and to escalate enforcement responses where necessary to address persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm. Where TDOT lacks direct legal authority to prohibit illicit discharges, require compliance, receive, and collect information, inspect, respond to violations, levy monetary

penalties or impose civil/ criminal penalties, TDOT shall establish agreements or procedures with other agencies, to the extent allowable by state law.

- a. Verbal Warnings – At a minimum, verbal warnings should be as specific as possible to the nature of the violation and be documented.
- b. Written Notices – Written notices stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.
- c. Citations with Administrative Penalties – These actions indicate when the permittee will assess monetary penalties, which may include civil and administrative penalties.
- d. Stop Work Orders – These actions have the authority to require activities at a facility to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.
- e. Withholding of Plan Approvals or Other Authorizations – Where a facility is in non-compliance, the ERP may address how the permittee's approval process affecting the facility's ability to discharge to the TS4 can be used to abate the violation.
- f. Additional Measures – The permittee may also use other escalated measures provided under local legal authorities. The permittee may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond or directly billing the responsible party to pay for work and materials.

2.5. LEGAL AUTHORITY

To the extent allowed by law, each permittee shall ensure legal authority to control discharges to and from those portions of the TS4 over which it has jurisdiction. This legal authority may be a combination of statute, law, rule, ordinance, permit, contract, order, or interjurisdictional agreements between permittees with adequate existing legal authority to accomplish items 2.5.1-2.5.6 below:

2.5.1. Illicit Discharges

Prohibit non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures (see 2.4) and actions;



2.5.2. Spills, Dumping or Disposal of Materials

Prohibit through statute, law, rule, ordinance, permit, contract, order, or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than stormwater;

2.5.3. Interagency/Interjurisdictional Agreements

Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

2.5.4. Duty to Comply

Require compliance with conditions in statute, law, rule, ordinance, permit, contract, order, or similar means; and

2.5.5. Inspection and Monitoring

Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the transportation separate storm sewer.

2.5.6. Permanent Stormwater Management

Implement the requirements established by Section 2.2.5.

Management Measure	Measurable Goals	Annual Report Requirement
The permittee has the legal authority to adequately implement and enforce the Stormwater Management Program	The legal authority described in 2.5.1 - 2.5.6 is identified	Provide the description of the legal authority for each of the required elements described in 2.5.1 - 2.5.6 (Note 1: documents may be referenced in whole or in part Note 2: the reporting for 2.5.6 will begin in the first annual report after completion of the implementation plan described in 2.2.5)

2.6. STORMWATER MANAGEMENT PROGRAM REVIEW AND MODIFICATION

2.6.1. Stormwater Management Program Evaluation

TDOT shall conduct an annual evaluation of the current TS4 SWMP to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its stormwater management program, and

the status of achieving the measurable requirements in the permit. The results shall be reported in the Annual Report.

The SWMP evaluation for each TS4 SWMP element shall include the following:

- a. Objective of each element;
- b. General discussion of evaluation results of the element. Explanation will include reason for deficiencies (e.g.: activities described in the program that have not been fully implemented or completed). Results of activities shall be summarized and discussed (e.g.: maintenance caused by inspection, pollutants detected by monitoring, investigations as a result of dry and wet weather screening, education activities participation);
- c. Status of TS4 SWMP element with compliance, implementation, and augmentation schedules in the permit;
- d. Assessment of controls; including assessment of accuracy in recording and following up on investigations, in recording results of follow-up;
- e. TS4 SWMP Element strengths and weaknesses;
- f. Corrective actions for deficiencies or weaknesses; and
- g. Discussion of revisions.

Management Measure	Measurable Goals	Annual Report Requirement
SWMP Evaluation Report	Conduct an annual evaluation of the current TS4 SWMP and include in the annual report	- Include SWMP Evaluation report as described above in the annual report

2.6.2. Program Modification

TDOT may modify the SWMP during the life of the permit in accordance with the following:

2.6.2.1. Minor Modifications

Minor Modification are required to be reported in accordance with 2.2.2. These changes **do not require** a formal public notice.



- a. Modifications that add, but neither subtract nor replace, components, controls, or requirements to the approved TS4 SWMP may be made by the permittee at any time. A description of the modification shall be included in the subsequent Annual Report.
- b. Correct typographical errors
- c. Increase in Monitoring
- d. Remove an outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.
- e. Modifications that replace an ineffective or infeasible BMP, which is specifically identified in the TS4 SWMP along with an alternate BMP, may be made by the permittee at any time. A description of the replacement BMP shall be included in the subsequent Annual Report along with the following information:
 - 1. An analysis of why the former BMP was ineffective or infeasible;
 - 2. Expectations on the effectiveness of the replacement BMP; and
 - 3. An analysis, if applicable, of why the replacement BMP will ensure the optimization of equipment use.
- h. Addition of Facilities covered under this permit.

2.6.2.2. Major Modifications

Major Modification are required to be reported in accordance with 2.2.2. These changes **do require** a formal public notice. TDEC-DWR shall be notified at water.permits@tn.gov 30 days prior to the public of the proposed modifications.

- a. Modifications that subtract components, controls, or requirements of the TS4 SWMP may not be made by the permittee unless it can be clearly demonstrated that with the elimination of this component, the TS4 SWMP will continue to achieve a reduction in pollutants to the MEP and shall not cause or contribute to violations of State water quality standards in the receiving stream. In the case where this type of modification is appropriate, the permittee may make the required modification and shall include in the subsequent Annual Report a description of the component which has been eliminated along with the following information:
 - 1. An analysis of why the component was ineffective or infeasible; and

2. A detailed explanation of why, with the elimination of this component, the TS4 SWMP will continue to achieve a reduction in pollutants to the MEP and shall not cause or contribute to violations of State water quality standards in the receiving stream.

Management Measure	Measurable Goals	Annual Report Requirement
Identify Modifications as Minor or Major in accordance with the permit and report as required.	Report all Minor and Major Modifications to SWMP as required	- Include a description of the modification(s) made under 2.6.2.1a - Include a description of the modification(s) made under 2.6.2.1e - Include a description of the modification(s) made under 2.6.2.1h - Include a description of the modification(s) made under 2.6.2.2a

2.6.3. Transfer of Ownership, Operational Authority, or Responsibility for Stormwater Management Program Implementation

The permittee shall implement the TS4 SWMP on all new areas added to their portion of the municipal separate storm sewer system (or for which they become responsible for implementation of stormwater quality controls) as expeditiously as practicable. Implementation of the program in any new area shall consider the plans in the TS4 SWMP of the previous TS4 ownership.

2.7. FIELD MONITORING

TDOT shall continue to develop and implement a Stormwater Field Monitoring Program (SFMP). The objective of this program is to reduce pollutants in stormwater runoff to the maximum extent practicable. This program will be designed around two major areas, (1) Covered Facilities (2.7.1), (2) Effluent Characterization and BMP or SCM Efficiencies (2.7.1). The program shall include the following at a minimum:

2.7.1. Stormwater Monitoring - Covered Facilities

TDOT is required to conduct analytical monitoring per 2.7.1.1 and visual examinations per 2.7.1.2 at TDOT Owned/Operated Facilities.

2.7.1.1. Analytical Monitoring

- Define parameters and define the benchmark concentrations to be utilized.
Note: exceedances of benchmark values are not considered an effluent limit violation.

Parameter	Benchmark
pH	6-9 s.u. (TWQC)
Chemical Oxygen Demand	120 mg/l (TMSP)
Total Suspended Solids	150 mg/l(TMSP)
Oil & Grease	15 mg/l(TMSP)
Chloride	1200 mg/l
e. Coli at Regional Facilities only	941 #/100ml (TWQC)

- TDOT performs stormwater sampling and analysis annually at a minimum of 10% of Covered Facilities that do not receive the No Exposure Certification.
- TDOT will perform follow-up stormwater sampling and analysis within one year at any Covered Facilities where previous analysis exceeded benchmark concentration(s).

2.7.1.2. Visual Examination

TDOT shall perform and document quarterly visual examinations of stormwater quality at outfalls located at all Covered Facilities that does not receive approval of the No Exposure Certification. Such visual examinations shall be performed in accordance with the requirements set forth below. The examination(s) must be made at least once in each quarter during facility operation in the daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

A. Site Inspections

Operators of active facilities are required to conduct quarterly visual inspections of all SCMs. Temporarily and permanently inactive operations are required to perform annual inspections. The inspections shall include: 1) an assessment of the integrity of stormwater discharge diversions, conveyance systems, sediment



control and collection systems, and containment structures; 2) visual inspections of vegetative SCMs, serrated slopes, and benched slopes to determine if soil erosion has occurred; and 3) visual inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated stormwater.

B. Procedures

Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.01 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.01 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

C. Reports

Visual examination reports must be maintained onsite in the pollution prevention plan or with other compliance records. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the stormwater discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), and probable sources of any observed stormwater contamination.

D. Outfalls

When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the stormwater pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

E. Adverse Climate Conditions

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.

Management Measure	Measurable Goals	Annual Report Requirement
Conduct stormwater sampling and analysis annually at a limited number of Covered Facilities which do not receive approval of the No Exposure Certification.)	10% of all of Covered Facilities which do not receive approval of the No Exposure Certification	Identify all facilities subject to analytical sampling and note date of sampling event and any follow up sampling events.
		% of facilities sampled in the reporting period (do not include follow up sampling events for benchmark exceedances.)
		- Summary of the data from any monitoring completed ⁸ -Discussion of any results or conclusions derived from the monitoring completed

⁸ Laboratory reports do not need to be submitted, a narrative summary or table of facilities, parameters and results will suffice.



For all Covered Facilities, which do not receive approval of the No Exposure Certification either - Quarterly visual examinations of stormwater quality at outfalls or - Annual examinations for unmanned or permanently inactive sites	100% of all of Covered Facilities which do not receive approval of the No Exposure Certification	Identify all facilities and date of quarterly or annual visual site inspections
- outfall visual screening schedule for UAs and monitoring protocols for illicit discharge detection see 2.2.3	Conduct visual screening of illicit discharges on # of known outfalls in the UA	- Report the number of outfalls screened - Report the % of outfalls screened to the goal - Report the number of illicit discharges found during screening and the steps taken to eliminate the illicit discharge

2.7.1. Stormwater Monitoring - Effluent Characterization and BMP/SCM Effectiveness

Develop, implement, and conduct effluent characterization and BMP/SCM Effectiveness monitoring in the Stormwater Field Monitoring Program. The intent of this section of the SWFP is to measure stormwater runoff quality at a stormwater outfall before and after BMP/SCM implementation and determine effectiveness. This monitoring will be conducted on at least one of type BMPs across the state. This program shall include the following:

- o A description of the BMP/SCM evaluated, (BMP/SCMs selected may be either construction or permanent stormwater measures)
- o A description of the site including the drainage area, portion impervious, portion pervious, type surface cover, and slopes, (sites chosen shall be representative of the geographic regions of Tennessee),
- o List of pollutants for which analysis is to be made,
- o Sampling and Analysis must be conducted for a period of at least 12 months and representative of the seasonal variation
- o Description of equipment and methods used for sampling and analysis.

Management Measure	Measurable Goals	Annual Report Requirement
effluent characterization and BMP/SCM Effectiveness monitoring	Complete BMP/SCM monitoring plan prior to the first annual report and provide updates on the implementation of the study prior to submitting the final report. The final report shall include comparing the before and after analytical data and evaluating the effectiveness of the BMPs and the feasibility of implementation of this BMP at applicable highway sites	- Submit a copy of the BMP/SCM monitoring plan in the first annual report. - A update shall be included in the annual report in years 2-4 of the permit term - Final report shall be submitted in the 5th year annual report

2.8. MONITORING PROCEDURES

2.8.1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge and shall be taken at the nearest accessible point after treatment and prior to mixing with uncontaminated stormwater runoff or the receiving stream. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed and calibrated by a qualified source at least once every 12 months⁹, and maintained to ensure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

⁹ The Division expects for permittees to meet EPA's guidance on proper operation and maintenance of flow measurement devices, as stated in the [NPDES Compliance Inspection Manual](#).

2.8.2. Test Procedures

- a) Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.
- b) Unless otherwise noted in the permit, all pollutant parameters shall be determined using sufficiently sensitive methods in Title 40 CFR § 136, as amended, and promulgated pursuant to Section 304 (h) of the Act. The chosen methods must be sufficiently sensitive as required in state rule 0400-40-03-.05(8).
- c) If the ML for all methods available in accordance with 40 CFR § 136 are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest ML shall be used.
- d) Where the analytical results are below the method detection limit (MDL), the permittee shall report the actual laboratory MDL and ML values.
- e) When there is no analytical method that has been approved under 40 CFR §136 or required under 40 CFR chapter I, subchapter N or O, and a specific method is not otherwise required by the Director, the permittee may use any suitable method but shall provide a description of the method. When selecting a suitable method, factors such as a method's precision, accuracy, or resolution must be considered when assessing the performance of the method.

2.8.3. Recording of Results

For each measurement, visual observation, or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a) The date, exact place, and time of sampling or measurements;
- b) The individual(s) who performed the sampling or measurements;
- c) The date analyses were performed;
- d) The individual(s) who performed the analyses;
- e) The laboratory where the analyses were performed;

- f) The analytical techniques or methods used; and
- g) The results of such analyses.

3. STANDARD PERMIT REQUIREMENTS

3.1. DUTY TO COMPLY

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

3.2. DUTY TO REAPPLY

The permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Division Director no later than 180 days prior to the expiration date. Such forms shall be properly signed and certified.

3.3. PROPER OPERATION AND MAINTENANCE

The permittee shall, at all times, properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

3.4. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

3.5. RIGHT OF ENTRY

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by the Director.

3.6. MONITORING, RECORDS AND REPORTING.

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all records, reports and documents required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

1. Records of monitoring information shall include:

- (i) The date, exact place, and time of sampling or measurements;
- (ii) The individual(s) who performed the sampling or measurements;
- (iii) The date analyses were performed;
- (iv) The individual(s) who performed the analyses;
- (v) The laboratory where the analyses were performed;
- (vi) The analytical techniques or methods used; and
- (vii) The results of such analyses.

2. Monitoring results shall be conducted according to test procedures approved under 40 CFR part 136.

3. Regular reporting (at a frequency of not less than once per year) to assure that compliance is being achieved will normally be required of the discharger in any permit as indicated below:

(i) Monitoring results shall be reported on forms provided or specified by the Director. Monitoring may also be reported via electronic reporting methods established by the Director.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or other reporting form specified by the Director.

(iii) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in the permit.

3.7. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

3.8. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit due to any circumstance is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

3.9. OTHER INFORMATION

If the permittee becomes aware of failure to submit any relevant facts in a permit application, or of submission of incorrect information in a permit application or in any report to the Director, then the permittee shall promptly submit such facts or information.

3.10. SIGNATORY REQUIREMENT

All reports or information submitted to the Director shall be signed and certified by

- a. A principal executive officer (i.e., the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency); or
- b. Ranking elected official, or

- c. by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1. The authorization is made in writing by a person identified 3.10 (a or b) (above)
 - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or an individual or position having overall responsibility for environmental matters; and
 - 3. The written authorization is submitted to the Director.

3.11. CHANGES AFFECTING THE PERMIT

3.11.1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in Rule [0400-40-05-.02](#);
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under 40 CFR § 122.42(a)(1); or
- c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

3.11.2. Permit Modification, Revocation, or Termination

- a. This permit may be modified, revoked, and reissued, or terminated for cause as described in 40 CFR § 122.62 and § 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended. Causes for such permit action include but are not limited to the following:
 - i. Violation of any terms or conditions of the permit;



- ii. Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.
- b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating this permit, or to determine compliance with this permit.
- c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit for the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.
- d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3.11.3. Change of Ownership

Except as provided in Tennessee Rule Chapter [0400-40-05-.06\(5\)](#)(a) or (b), this permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect permit limits and conditions contained in the permit) by the permittee if:

- a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;
- b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and
- c. The permittee shall provide the following information to the Director in their formal notice of intent to transfer ownership:

- i. The permit number of the subject permit;
- ii. The effective date of the proposed transfer;
- iii. The name, address, and contact information of the transferor;
- iv. The name, address, and contact information of the transferee;
- v. The names of the responsible parties for both the transferor and transferee;
- vi. A statement that the transferee assumes responsibility for the subject permit;
- vii. A statement that the transferor relinquishes responsibility for the subject permit;
- viii. The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of subparagraph (i) of Rule [0400-40-05-.07\(2\)](#); and
- ix. A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

3.11.4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice, the original address of the permittee will be assumed to be correct.

3.12. NONCOMPLIANCE

3.12.1. Reporting of Noncompliance

a. 24-hour Reporting:

In the case of any noncompliance which could cause a threat to public drinking supplies or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate EFO within 24 hours from the time the permittee becomes aware of the circumstances. The EFO should be contacted for names and phone numbers of the environmental response team.

A written submission must be provided within five days of the time the permittee becomes aware of the circumstances unless the Director on a case-by-case basis waives this requirement. The permittee shall provide the Director with the following information:

- i. A description of the discharge and cause of noncompliance;

- ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
- iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting:

For instances of noncompliance which do not cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the permittee shall report the noncompliance on the next annual report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

Management Measure	Measurable Goals	Annual Report Requirement
Report all instances of Non compliances that do not cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment	100% of all instances of Non compliances that are not reported under 3.12.1a	Provide a brief narrative description of the non-compliance including location.

3.12.2. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3.12.3. Bypass

- a. *"Bypass"* means the intentional diversion of waste streams from any portion of a treatment facility. *"Severe property damage"* means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a



bypass. Severe property damage does not mean economic loss caused by delays in production.

- b. Bypasses are prohibited unless all the following conditions are met:
 - i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - iii. For anticipated bypass, the permittee submits prior notice, if possible at least ten days before the date of the bypass, or for unanticipated bypass, the permittee submits notice of an unanticipated bypass within 24 hours from the time that the permittee becomes aware of the bypass.
- c. Bypasses that do not cause effluent limitations to be exceeded may be allowed only if the bypass is necessary for essential maintenance to assure efficient operation and are not subject to the reporting requirements of part b) iii. above.

3.13. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR § 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly operating report or other reporting form specified by the Commissioner. Such increased frequency shall also be indicated.

3.14. FALSIFYING RESULTS AND/OR REPORTS

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in § 69-3-115 of the Tennessee Water Quality Control Act.



3.15. LIABILITIES

3.15.1. Civil and Criminal Liability

Except as provided in permit conditions for "*Bypass*" (**Section 2.3.4**), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including, but not limited to, fish kills and losses of aquatic life and/or wildlife as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

3.15.2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the Federal Water Pollution Control Act, as amended.

3.16. REOPENER CLAUSE

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 307(a)(2), and 405(d)(2)(D) of the Clean Water Act, as amended, if the effluent standard, limitation, or sludge disposal requirement so issued or approved:

- a. Contains different conditions or is otherwise more stringent than any condition in the permit; or
- b. Controls any pollutant or disposal method not addressed in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

4. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit with the exception of the Post-Construction/ Permanent Stormwater Requirements found in 2.2.5 which provides specific compliance timeframe.

5. ANNUAL REPORT

5.1. ANNUAL REPORTING PERIOD, DUE DATE AND SIGNATORY REQUIREMENT

- a. The Annual Report shall cover the period beginning on July 1st and ending on June 30th.
- b. The Annual Report shall be due on 180 days after the end of the reporting period.
- c. The permittee shall sign and certify the Annual Report in accordance with subpart 3.10.
- d. The annual report shall be submitted to water.permits@tn.gov until such time as the annual report form for TDOT has been made available electronically through MyTDEC Forms. Upon being made available electronically, submittal through MyTDEC Forms will be required per section 6.

5.2. ANNUAL REPORT REQUIREMENTS

- a. All requirements that are indicated to be reported in the annual report including:
 - information noted in the **"Annual Report Requirement"** column of the tables in Part 2 of the permit and
 - information noted in narrative format
- b. List and discuss any changes that the permittee(s) is expected to make to the stormwater management program for the year following the report year.
- c. The annual report must also include:
 - The status of compliance with permit terms and conditions;
 - Summary of results of information collected and analyzed, including monitoring data summary, if any, during the reporting period;
 - A summary of the stormwater activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;
 - Any changes made during the reporting period to the permittee's stormwater management program;
 - Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable); and
 - Any other data specifically requested by the division to substantiate statements and conclusions reached in the Annual Reports.

6. ELECTRONIC REPORTING

This permit requires the submission of forms developed by the Director in order for a permittee to comply with certain requirements, including, but not limited to, making reports, submitting monitoring results, and applying for permits. The Director may make these forms available electronically and, if submitted electronically, then that electronic submission shall comply with the requirements of Chapter [0400-01-40](#).

In the event of large-scale emergencies and/or prolonged electronic reporting system outages, an episodic electronic reporting waiver may be granted by the Commissioner in accordance with 40 CFR § 127.15. A request for a deadline extension or episodic electronic reporting waiver should be submitted to DWRWater.Compliance@tn.gov, in compliance with the Federal NPDES Electronic Reporting Rule.

If an episodic electronic reporting waiver is granted, reports with wet-ink original signatures shall be mailed to the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT UNIT
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

For purposes of determining compliance with this permit, data provided to the Division electronically is legally equivalent to data submitted on signed and certified forms. A copy must be retained for the permittee's files.

7. APPLICATION

The application required by 3.2 shall include the following:

7.1. EPA APPLICATION FORM 1

EPA Application Form 1 (<https://www.epa.gov/npdes/npdes-application-forms>) which contains:

- a. The activities conducted by the applicant which require it to obtain an NPDES permit.



- b. Name, mailing address, and location of the facility for which the application is submitted.
- c. Up to four SIC and up to four NAICS codes that best reflect the principal products or services provided by the facility.
- d. The operator's name, address, telephone number, electronic mail address, ownership status, and status as Federal, State, private, public, or other entity.
- e. Whether the facility is located on Indian lands.
- f. A listing of all permits or construction approvals received or applied for under any of the following programs:
 - 1. Hazardous Waste Management program under RCRA.
 - 2. UIC program under SDWA.
 - 3. NPDES program under CWA.
 - 4. Prevention of Significant Deterioration (PSD) program under the Clean Air Act.
 - 5. Nonattainment program under the Clean Air Act.
 - 6. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.
 - 7. Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.
 - 8. Dredge or fill permits under section 404 of CWA.
 - 9. Other relevant environmental permits, including State permits.
- g. A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.
- h. A brief description of the nature of the business.
- i. An indication of whether the facility uses cooling water and the source of the cooling water.
- j. An indication of whether the facility is requesting any of the variances at [40 CFR 122.21\(m\)](#), if known at the time of application.

7.2. PROGRAM SPECIFIC APPLICATION REQUIREMENTS

- a. The best management practices (BMPs) that the small TS4 operator or another entity proposes to implement for each of the stormwater minimum control measures described in Section 2.2;
- b. The proposed measurable goals for each of the BMPs including, as appropriate, the months and years in which the small TS4 operator proposes



to undertake required actions, including interim milestones and the frequency of the action;

- c. The person or persons responsible for implementing or coordinating the stormwater management program;
- d. An estimate of square mileage served by the TS4;
- e. Proposed Field Monitoring Program (see Section 2.7);
- f. List of facilities, owners, and operators
- g. A storm sewer map showing the location of all known urban outfalls and the names and location of all waters of the State that receive discharges from those outfalls; satisfies the map requirement in 2.2.3.

7.3. SIGNATORY

7.3.1. EPA Form 1

Section 11 of EPA Form 1 (7.1) must be certified and signed in accordance with report must be signed and certified by a ranking elected official or responsible corporate officer as defined in Tennessee Rules, Chapter [0400-40-05-.07\(2\)\(i\)](#)

7.3.2. Program Specific Application Requirements

The Program Specific Application Requirements documentation (7.2) must be certified and signed in accordance with report must be signed and certified by a ranking elected official or responsible corporate officer as defined in Tennessee Rules, Chapter [0400-40-05-.07\(2\)\(i\)](#) and must include the following certification statement

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

7.4. APPLICATION SUBMITTAL

7.4.1. EPA Form 1 and Program Specific Application Requirements (except Maps)

With the exception of the maps required in 7.1g and 7.2g, the application shall be submitted electronically via email to Water.Permits@tn.gov until such time as the annual report form for TDOT has been made available electronically through



MyTDEC Forms. Upon being made available electronically, submittal through MyTDEC Forms will be required per section 6.

7.4.2. TOPO Map & Storm Sewer Map

The maps required by 7.1g and 7.2g shall be submitted electronically preferably via a spatial REST service. If critical infrastructure as identified under T.C.A. 10-7-504(a)(21)(A)(i) is included as part of the storm sewer system, those elements shall be submitted separately with the need for confidentiality clearly noted.

8. PERMIT MODIFICATION

8.1. MODIFICATION OF THE PERMIT

The permit may be reopened and modified during the life of the permit to:

- a. Address impacts on receiving water quality caused, or contributed to, by discharges from the TS4;
- b. Address changes in State or Federal statutory or regulatory requirements;
- c. Include the addition of a new permittee who is the owner or operator of a portion of the Transportation Separate Storm Sewer System; or
- d. Include other modifications deemed necessary by the Director to comply with the goals and requirements of the Clean Water Act. All modifications to the permit will be made in accordance with 40 CFR 122.62, 122.63, and 124.5 and applicable State regulations.

8.2. TERMINATION OF COVERAGE FOR A SINGLE PERMITEE

Permit coverage may be terminated, in accordance with the provisions of 40 CFR 122.64 and 124.5, for a single permittee without terminating coverage for other permittees.

8.3. MODIFICATION OF THE TS4 STORMWATER MANAGEMENT PROGRAM (TS4 SWMP)

Only those portions of the TS4 Stormwater Management Program specifically required as permit conditions shall be subject to the modification requirements of 40 CFR 124.5. Replacement of an ineffective or infeasible BMP implementing a required component of the TS4 Stormwater Management Program with an alternate BMP expected to achieve the goals of the ineffective or infeasible BMP shall be considered minor modifications to the TS4 Stormwater Management Program and not modifications to the permit. (See also Section 2.6)

8.4. CHANGES IN MODIFIED OUTFALLS

This permit is issued on a system-wide basis in accordance with CWA §402(p)(3)(B)(i) and authorizes discharges from all portions of the transportation separate storm sewer system. Since all outfalls are authorized, changes in monitoring outfalls, if any, shall be considered minor modifications to the monitoring program and not modifications to the permit.

9. DEFINITIONS AND ACRONYMS

9.1. DEFINITIONS

2-year 24-hour 5-year 24-hour	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 data available at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. Other data sources may be acceptable with prior written approval by TDEC Division of Water Resources.
ARAP	Aquatic Resource Alteration Permit Persons who wish to make an alteration to a <u>stream</u>, river, lake or wetland must first obtain a water quality permit. Physical alterations to properties of waters of the state require an ARAP or a §401 Water Quality Certification (§401 certification). Examples of <u>stream</u> alterations that require a permit from the division include: • Dredging, excavation, channel widening, or straightening • Bank sloping; stabilization • Channel relocation • Water diversions or withdrawals • Dams, weirs, dikes, levees or other similar structures • Flooding, excavating, draining and/or filling a wetland • Road and utility crossings • Structural fill General ARAPs are developed and maintained by the division to provide a streamlined, expedited means of authorizing projects that singularly or cumulatively propose minor impacts to water resources.

BMP	Best Management Practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants to <u>waters</u> of the state. BMPs also include treatment requirements, operating procedures; and practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage. BMPs include source control practices (non-structural BMPs) and engineered structures designed to treat runoff. <u>Structural BMPs</u> are facilities that help prevent pollutants in stormwater runoff from leaving the site. <u>Non-structural BMPs</u> are techniques, activities and processes that reduce pollutants at the source.
borrow pit	Borrow Pit is an excavation from which erodible material (typically <u>soil</u>) is removed to be fill for another site. There is no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity for the purpose of this permit.
buffer zone	Buffer Zone or Water Quality Riparian Buffer is a permanent strip of natural perennial vegetation, adjacent to a <u>stream</u>, river, wetland, pond, or lake that contains dense vegetation made up of grass, shrubs, and/or trees. The purpose of a water quality riparian buffer is to maintain existing water quality by minimizing risk of any potential <u>sediments</u>, nutrients or other pollutants reaching adjacent surface waters and to further prevent negative water quality impacts by providing canopy over adjacent waters
bypass	A bypass is defined as the intentional diversion of waste streams from any portion of a treatment facility.
Calendar day	A calendar day is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.
clearing	Clearing refers to removal of vegetation and disturbance of <u>soil</u> prior to grading or excavation in anticipation of

	construction activities. Clearing may also refer to wide area land disturbance in anticipation of non-construction activities. Clearing, grading and excavation do not refer to clearing of vegetation along existing or new roadways, highways, dams or power lines for sight distance or other maintenance and/or safety concerns, or cold planning, milling, and/or removal of concrete and/or bituminous asphalt roadway pavement surfaces. The clearing of land for agricultural purposes is exempt from federal stormwater NPDES permitting in accordance with Section 401(1)(1) of the 1987 Water Quality Act and state stormwater NPDES permitting in accordance with the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.).
commencement	Commencement of construction: the initial disturbance of soils associated with clearing, grading, excavating or other construction activities.
common plan	Common plan of development or sale is broadly defined as any announcement or documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design) or physical demarcation (including boundary signs, lot stakes, surveyor markings) indicating construction activities may occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring on contiguous areas. This applies because the activities may take place at different times, on different schedules, by different operators.
Composite sample	A composite sample means a combination of not less than eight influent or effluent portions (aliquots), collected over a 24-hour period. Under certain circumstances a lesser time period may be allowed, but in no case less than eight hours. A sufficient volume of sample to perform all required analyses plus any additional amount for quality control must be obtained. For automatic samplers that use a peristaltic pump, a minimum 100 ml aliquot must be obtained.
control measure	Control measure refers to any Best Management Practice (BMP) or other method used to prevent or reduce the discharge of pollutants to waters of the state.

construction stormwater	Stormwater associated with industrial activity is defined in 40 CFR 122.26(b)(14) and incorporated here by reference. Most relevant to this permit is 40 CFR 122.26(b)(14)(x), which relates to construction activity including clearing, grading, filling and excavation activities, including borrow pits containing erodible material. Disturbance of soil for the purpose of crop production is exempt from permit requirements, but stormwater discharges from agriculture related activities that involve construction of structures (e.g., barn construction, road construction, pond construction) are considered associated with industrial activity. Maintenance to the original line and grade, hydraulic capacity; or to the original purpose of the facility (e.g., re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair and repaving of an existing road) is not considered a construction activity for the purpose of this permit.
CWA	CWA means the Clean Water Act of 1977 or the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.)
director	Director means the director, or authorized representative, of the Division of Water Resources of the State of Tennessee, Department of Environment and Conservation.
degradation	Degradation means the alteration of the properties of waters by the addition of pollutants, withdrawal of water, or removal of habitat, except those alterations of a short duration.
de minimis	De Minimis is degradation of a small magnitude, as provided in this paragraph: (a) <u>Discharges and withdrawals</u> : 1. Subject to the limitation in part 3 of this subparagraph, a single discharge other than those from new domestic wastewater sources will be considered de minimis if it uses less than five percent of the available assimilative capacity for the substance being discharged. 2. Subject to the limitation in part 3 of this subparagraph, a single water withdrawal will be considered de minimis if it removes less than five percent of the 7Q10 flow of the <u>stream</u> . 3. If more than one activity described in part 1 or 2 of this subparagraph has been authorized in a segment

	and the total of the authorized and proposed impacts uses no more than 10% of the assimilative capacity, or 7Q10 low flow, they are presumed to be de minimis. Where the total of the authorized and proposed impacts uses 10% of the assimilative capacity, or 7Q10 low flow, additional degradation may only be treated as de minimis if the Division finds on a scientific basis that the additional degradation has an insignificant effect on the resource. (b) Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively, are offset by impact minimization and/or in-system mitigation, provided however, in Outstanding National Resource Waters (ONRWs) the mitigation must occur within the ONRW.
discharge of a pollutant	Discharge or discharge of a pollutant refers to the addition of pollutants to waters from a source.
disturbed area	Disturbed area means the total area presented as part of the development (and/or of a larger common plan of development) subject to being cleared, graded, grubbed, filled or excavated during the life of the development. The area cannot be limited to only the portion of the total area that the site-wide owner/developer initially disturbs through the process of various land clearing activities or in the construction of roadways, sewers, drainfields, and water utilities, <u>stormwater</u> drainage structures, etc., to make the property marketable.
division	Division means the Division of Water Resources of the State of Tennessee, Department of Environment and Conservation
exceptional waters	Exceptional Tennessee Waters are surface waters designated by the division as having the characteristics set forth at Tennessee Rules, Chapter 0400-40-03-.06(4). Characteristics include waters within parks or refuges; scenic rivers; waters with threatened or endangered species; waters that provide specialized recreational opportunities; waters within areas designated as lands unsuitable for mining; waters with naturally reproducing

	trout; waters with exceptional biological diversity and other waters with outstanding ecological or recreational value.
grab sample	A <i>grab sample</i> is a single instream, influent or effluent sample collected at a particular time.
permanent stabilization	Permanent Stabilization means that all <u>soil</u> disturbing activities at the site have been completed and one of the three following criteria is met: (1) A perennial, preferably native, vegetative cover with a uniform (i.e., evenly distributed, without large bare areas) density of at least 70 percent 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. (2) 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. (3) For construction projects on land used for agricultural or silvicultural purposes, <u>permanent stabilization</u> may be accomplished by returning the disturbed land to its preconstruction agricultural or silvicultural use.
improved sinkhole	Improved sinkhole is a natural surface depression that has been altered in order to direct fluids into the hole opening. Improved sinkhole is a type of injection well regulated under the Underground Injection Control (UIC) program. Underground injection constitutes an intentional disposal of waste waters in natural depressions, open fractures and crevices, such as those commonly associated with weathering of limestone.
Level 1	Level 1 - Fundamentals of Erosion Prevention and Sediment Control training and certification program administered by University of Tennessee Water Resources Research Center (https://tnepsc.org/index.asp). The Fundamentals course is a foundation-building course intended for individuals involved in land-disturbing activities covered by the Construction General Permit. The course aims to build a working knowledge of erosion and <u>sedimentation</u> processes and practices and is intended for: site inspectors, inspection and enforcement personnel from all levels of government, plan preparers and

	reviewers, and designers and engineers. Topics include: Construction General Permit and related SWPPP requirements; function, installation, limitations, inspection and maintenance of Best Management Practices; roles of local officials and state government agencies involved in the permitting process; and basic hydrologic and erosion processes. Upon successful completion of a Course Certification Exam, the participant receives a Level 1 TNEPSC certificate. The Level 1 certificate is valid for three full years following the year that the certificate was issued. To meet the requirement for Level 1 certified staff, TDOT may develop and administer an approved equivalent Level 1 training and certification program as provided in the TDOT individual MS4 Permit. The equivalent TDOT Level 1 certification is valid only for TDOT staff and for projects where TDOT is the primary site operator.
Level 2	Level 2 - Design Principles for Erosion Prevention and Sediment Control for Construction Sites training and certification program administered by University of Tennessee Water Resources Research Center (https://tnepsc.org/index.asp). It is an advanced 2-day workshop designed for engineers and other professionals who have completed the prerequisite Level 1 course. The Level 2 Design workshop provides the general tools needed for developing an acceptable, working SWPPP. Topics discussed in the course include: hydrologic methods for determining peak flows; principles of soil erosion, scouring and sediment transport processes, including practice examples for preventing erosion; and open channel principles and practices for designing a stable channel, including use and examples of riprap, blankets and matting, and vegetation; stormwater control requirements and design; sedimentation principles; and temporary sediment basin design requirements, and detailed examples. The Level 2 Design workshop provides a Certificate of Completion after attending both days and successfully completing the take-home exam.
linear project	Linear Project is a land disturbing activity as conducted by an underground/overhead utility or highway department, including, but not limited to, any cable line or wire for the transmission of electrical energy; any



	conveyance pipeline for transportation of gaseous or liquid substance; any cable line or wire for communications; or any other energy resource transmission ROW or utility infrastructure, e.g., roads and highways. Activities include the construction and installation of these utilities within a corridor. Linear project activities also include the construction of access roads, staging areas and borrow/spoil sites associated with the linear project. Land disturbance specific to the development of residential and commercial subdivisions or high-rise structures is not considered a linear project.
measurable degradation	Measurable Degradation , as used in the context of <u>discharges</u> or withdrawals, means changes in parameters of waters that are of sufficient magnitude to be detectable by the best available instrumentation or laboratory analyses.
month	Month or Monthly refers to calendar months.
MS4	"Municipal Separate Storm Sewer System" or "MS4" is defined in 40 CFR §122.26(b)(8) to mean a conveyance or system of conveyances (e.g., roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that are: a) owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, <u>stormwater</u>, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that <u>discharges</u> to waters of the United States; b) designed or used for collecting or conveying <u>stormwater</u>; c) not a combined sewer; and d) not part of a Publicly Owned Treatment Works (POTW) as defined in 40 CFR §122.2.
National Pollutant	National Pollutant Discharge Elimination System or "NPDES" means the national program for issuing, modifying,

Discharge Elimination System	revoking, and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the federal CWA. The term includes an "approved program."
new or increased discharge	<i>New or increased discharge</i> is a new discharge of pollutants to waters of the state or an increase in the authorized loading of a pollutant above either (1) numeric effluent limitations established in a National Pollutant Discharge Elimination System permit for that discharge, or (2) if no such limitations exist, the actual discharges of that pollutant.
new source	<i>New source</i> means any building, structure, facility, area, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced after the publication of state or federal regulations prescribing a standard of performance.
<i>one-week period (or calendar-week)</i>	means the period from Sunday through Saturday. For weekly average reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.
operator	Operator for the purpose of this permit and in the context of <u>stormwater</u> associated with construction activity, means any person (typically considered the primary permittee) associated with a construction project that meets either of the following two criteria: a) This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project (e.g., subsequent builder) or the person who is the current owner of the construction site. b) This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a <u>SWPPP</u> for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee and is considered a secondary permittee. It is anticipated that at different phases of a construction project, different types of parties may satisfy the definition



	of “operator” (see Part 2 Error! Reference source not found. of TNR100000).
point source (or outfall)	Point source means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include introduction of pollutants from non-point source agricultural and silvicultural activities, including <u>stormwater</u> runoff from orchards, cultivated crops, pastures, range lands, forest lands or return flows from irrigated agriculture or agricultural <u>stormwater</u> runoff. In short, outfall is a point where runoff leaves the site as a concentrated flow in a discrete conveyance. Phrase “point source” and term “outfall” are used interchangeably in this general permit, and can be considered synonyms.
pollutant	Pollutant means sewage, industrial wastes, or other wastes.
<i>quarter</i>	A quarter is defined as any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.
rainfall event	A rainfall event means any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event. For purposes of Rule 0400-40-05-.14, “rainfall event” also includes, a 10-year, 24-hour rainfall event, 25-year, 24-hour rainfall event, and 100-year, 24-hour rainfall event are mean precipitation events with a probable recurrence interval of once in 10 years, or 25 years, or 100 years, respectively, as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland, or its digital product equivalent.
registered engineer	Registered Engineer and Registered Landscape Architect An engineer or landscape architect certified and



	registered by the State Board of Architectural and Engineer Examiners pursuant to Section 62-202, Tennessee Code Annotated, to practice in Tennessee.
runoff coefficient	Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff. Runoff coefficient is also defined as the ratio of the amount of water that is not absorbed by the surface to the total amount of water that falls during a rainstorm.
sediment	Sediment means solid material, both inorganic (mineral) and organic, that is in suspension, is being transported; or has been moved from the site of origin by wind, water, gravity or ice as a product of erosion.
sediment basin	Sediment basin A temporary basin consisting of an embankment constructed across a wet weather conveyance, 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, <u>soil</u> type and particle size, land cover, and receiving <u>stream</u> classification (i.e., waters with unavailable parameters, Exceptional TN Waters, or waters with available parameters).
sedimentation	Sedimentation means the action or process of forming or depositing sediment.
sewage	Sewage means water-carried waste or discharges from human beings or animals, from residences, public or private buildings, or industrial establishments, or boats, together with such other wastes and ground, surface, storm, or other water as may be present.
severe property damage,	Severe property damage , when used to consider the allowance of a bypass, means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.



Small Municipal Separate Storm Sewer System	<i>Small municipal Separate Storm Sewer System</i> means all separate storm sewers that are: (i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States. (ii) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to 40 C.F.R. Part 122.26 (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.
soil	Soil or Topsoil means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.
steep slope	Steep Slope or Steep Grade means a natural or created slope of 35% grade or greater. Designers of sites with steep slopes must pay attention to <u>stormwater</u> management in the <u>SWPPP</u> to engineer runoff around or over a steep slope so as not to erode the slope. In addition, site managers should focus on erosion prevention on the slopes and stabilize the slopes as soon as practicable to prevent slope failure or sediment discharges from the project.
stormwater	Stormwater means rainfall runoff, snow melt runoff, and surface runoff and drainage.
Stormwater control measure (SCM)	Stormwater control measure or SCM means permanent practices and measures designed to reduce the discharge of pollutants from new development projects or redevelopment projects.
stream	A Stream is a surface water that is not a wet weather conveyance. Therefore, as used in this permit, “stream”

	includes lakes, wetlands and other non-linear surface waters.
construction stormwater	Stormwater associated with industrial activity is defined in 40 CFR 122.26(b)(14) and incorporated here by reference. Most relevant to this permit is 40 CFR 122.26(b)(14)(x), which relates to construction activity including clearing, grading, filling and excavation activities, including borrow pits containing erodible material. Disturbance of soil for the purpose of crop production is exempt from permit requirements, but stormwater discharges from agriculture-related activities that involve construction of structures (e.g., barn construction, road construction, pond construction) are considered associated with industrial activity. Maintenance to the original line and grade, hydraulic capacity; or to the original purpose of the facility (e.g., re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair and repaving of an existing road) is not considered a construction activity for the purpose of this permit.
discharge-related activities	Stormwater discharge-related activities means activities that cause, contribute to or result in point source stormwater pollutant discharges. These activities may include excavation, site development, grading and other surface disturbance activities; and activities to control stormwater including the siting, construction and operation of best management practices (BMPs).
SWPPP	Stormwater Pollution Prevention Plan is a written site-specific plan required by this permit that includes a narrative pollution prevention plan and graphical erosion and sediment control plan. In its basic form, the plan contains a site map, a description of construction activities that could introduce pollutants to stormwater runoff, a description of measures or practices to control these pollutants, and erosion and sediment control plans and specifications. It must be prepared and submitted before construction begins. In order to effectively reduce erosion and <u>sedimentation</u> impacts, Best Management Practices (BMPs) must be designed, installed and maintained during land disturbing activities. The <u>SWPPP</u> should be prepared in accordance with the <u>Tennessee Erosion and Sediment Control Handbook</u> .



take	Take of an endangered species means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct.
the handbook	<u>Tennessee Erosion and Sediment Control Handbook</u> is a guidance issued by the Division of Water Resources for the purpose of developing Stormwater Pollution Prevention Plans and Erosion and Sediment Control Plans required by the TNCGP. The handbook is designed to provide information to planners, developers, engineers and contractors on the proper selection, installation and maintenance of BMPs. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect waters of the state.
temporary stabilization	Temporary stabilization is achieved when vegetation or non-erodible surface has been established on the area of disturbance and construction activity has temporarily ceased. Under certain conditions, temporary stabilization is required when construction activities temporarily cease. However, if future construction activity is planned, permit coverage continues.
TMDL	Total maximum daily load (TMDL) means the sum of the individual wasteload allocations for <u>point sources</u> and load allocations for nonpoint sources and natural background (40 CFR 130.2(I)). TMDL is a study that quantifies the amount of a pollutant in a <u>stream</u> , identifies the sources of the pollutant and recommends regulatory or other actions that may need to be taken in order for the <u>stream</u> to cease being polluted. TMDLs can also be described by the following equation: TMDL = sum of nonpoint sources (LA)+ sum of <u>point sources</u> (WLA)+ margin of safety A list of completed TMDLs that have been approved by EPA can be found at our web site: https://www.tn.gov/environment/program-areas/wr-water-resources/watershed-stewardship/tennessee-s-total-maximum-daily-load--tmdl--program.html
Transportation Separate Storm	Transportation Separate Storm Sewer System TS4 is defined in Part 1 of this permit.



Sewer System (TS4)	
treatment chemicals	Treatment chemicals are polymers, flocculants or other chemicals used to reduce turbidity in stormwater discharges by chemically bonding to suspended silts and other soil materials and causing them to bind together and settle out. Common examples of anionic treatment chemicals are chitosan and anionic PAM.
turbidity	Turbidity is the cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, similar to smoke in air.
Urbanized Area (UA)	Urbanize Areas represent densely developed territory, and encompass residential, commercial, and other non-residential urban land uses that meet the minimum population density requirements as determined by the 2010 Decennial Census by the Bureau of the Census.
waste site	Waste site is an area where material from a construction site is disposed of. When the material is erodible, such as soil, the site must be treated as a construction site.
waters or waters of the state	Waters (or waters of the state) means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.
unavailable parameters	Waters with unavailable parameters means any segment of surface waters that has been identified by the division as failing to support one or more classified uses. For the purpose of this permit, pollutant of concern is siltation. Based on the most recent assessment information available to staff, the division will notify applicants and permittees if their discharge is into, or is affecting, waters with unavailable parameters. Resources to be used in making this determination include biennial compilations of impaired waters, databases of assessment information, updated GIS coverages (https://tdeconline.tn.gov/dwr/), and the results of recent field surveys. GIS coverages of the <u>streams</u> and lakes not meeting water quality standards, plus the biennial list of

	waters with unavailable parameters, can be found at https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports---publications.html .
week	A one-week period is a synonym of a calendar-week ; typically, a period from Sunday through Saturday.
wet weather conveyance	Wet weather conveyances are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that meet the following: a) The conveyance carries flow only in direct response to precipitation runoff in its immediate locality. b) The conveyance's channels are at all times above the ground water table. c) The flow carried by the conveyance is not suitable for drinking water supplies. d) Hydrological and biological analyses indicate that, due to naturally occurring ephemeral or low flow under normal weather conditions, there is not sufficient water to support fish or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months. (Tennessee Rules, Chapter 0400-40-3-.04(3)).

9.2. ACRONYMS AND ABBREVIATIONS

1Q10	1-day minimum, 10-year recurrence interval
30Q5	30-day minimum, 5-year recurrence interval
7Q10	7-day minimum, 10-year recurrence interval
ARAP	Aquatic Resource Alteration Permit
BMP	Best Management Practice
BPT	Best Practicable Control Technology Currently Available
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit (this NPDES permit)
<u>CWA</u>	Clean Water Act
<u>EFO</u>	Environmental Field Office
D.O.	dissolved oxygen
<i>E. coli</i>	<i>Escherichia coli</i>
EPA	Environmental Protection Agency
EFO	Environmental Field Office
EPSC	Erosion Prevention and Sediment Control
<u>MS4</u>	Municipal Separate Storm Sewer System



NPDES	National Pollutant Discharge Elimination System
ONRW	Outstanding National Resource Waters
SCM	Stormwater Control Measure
<u>SWPPP</u>	Stormwater Pollution Prevention Plan
TCA	Tennessee code annotated
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
<u>TMDL</u>	Total Maximum Daily Load
TMSP	Tennessee Multi-Sector General Permit for the Discharge of Stormwater from an Industrial Activity
TS4	transportation separate storm sewer system
TVA	Tennessee Valley Authority
TWQCA	Tennessee Water Quality Control Act
UIC	Underground Injection Control
USGS	United States Geological Survey



9.3. RESOURCES, HYPERLINKS, AND WEB PAGES

Electronic Code of Federal Regulations (eCFR), Title 40 (40 CFR § 1 through § 1099)

<https://www.ecfr.gov/cgi-bin/text-idx?SID=75202eb5d09974cab585afeea981220b&mc=true&tpl=/ecfrbrowse/Title40/40chapter1.tpl>

Electronic Reporting (NetDMR) Waiver Request

https://www.tn.gov/content/dam/tn/environment/water/documents/wr_ereporting_waiver.pdf

NetDMR Login

<https://cdxnodengn.epa.gov/net-netdmr/>

NetDMR, MyTDEC Forms, & Electronic Reporting Information

<https://www.tn.gov/environment/program-areas/wr-water-resources/netdmr-and-electronic-reporting.html>

NPDES Compliance Inspection Manual (EPA)

<https://www.epa.gov/sites/production/files/2017-01/documents/npdesinspect.pdf>

NPDES Electronic Reporting Rule

<https://www.federalregister.gov/documents/2015/10/22/2015-24954/national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule>

Rules of the TN Department of Environment and Conservation, Chapter 0400-40

<https://publications.tnsosfiles.com/rules/0400/0400-40/0400-40.htm>

TDEC Water Quality Rules, Reports, and Publications

<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports---publications.html>

Technical Support Document for Water Quality-based Toxics Control (EPA)

<https://www3.epa.gov/npdes/pubs/owm0264.pdf>

Tennessee Water Resources Data and Map Viewers

<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-resources-data-map-viewers.html>

USGS StreamStats

https://www.usgs.gov/mission-areas/water-resources/science/streamstats-streamflow-statistics-and-spatial-analysis-tools?qt-science_center_objects=0#qt-science_center_objects

USGS SWToolbox

<https://www.usgs.gov/software/swtoolbox-software-information>

ATTACHMENT A

STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

A. General Contents of Plan

Each Stormwater Pollution Control Plan (SWPPP) shall include, at a minimum, the following items:

- 1.1. Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a Stormwater Pollution Prevention Team that are responsible for developing the stormwater pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's stormwater pollution prevention plan.
- 1.2. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to stormwater discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all industrial activities and significant materials, which may potentially be significant pollutant sources. Each plan shall specifically identify the physical features of the facility that may contribute to stormwater runoff. Each plan shall include at a minimum:
 - a. *Drainage* -- A site map indicating the outfall locations and types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each stormwater outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in stormwater runoff, surface water bodies, locations where significant materials are exposed to precipitation, and locations where major spills or leaks identified under item 5 below have occurred.

For each area of the facility that generates stormwater discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in stormwater discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharge; the likelihood of contact with stormwater; and history of significant leaks or spills of toxic or hazardous pollutants. In addition, flows with a

significant potential for causing erosion shall be identified such as heavy equipment use areas, drainage from roofs, parking lots, etc.

- b. *Inventory of Exposed Materials* -- An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to stormwater between the time of 3 years prior to the effective date of this permit and the present; the method(s) and location(s) of onsite storage or disposal; the materials management practices employed to minimize contact of materials with stormwater runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff; and a description of any treatment the stormwater receives.
 - c. *Spills and Leaks* -- A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a stormwater conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.
 - d. *Sampling Data* -- A summary of existing discharge sampling data describing pollutants in stormwater discharges from the facility, including a summary of sampling data collected during the term of this permit.
 - e. *Risk Identification and Summary of Potential Pollutant Sources* -- A narrative description of the potential pollutant sources from the following activities: loading and unloading operations, chemicals, and raw materials; outdoor storage activities for raw materials; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical, or chemical oxygen demand, chromium, total suspended solids, oil, and grease, etc.) of concern shall be identified.
- 1.3. Measures and Controls. Each facility covered by this permit shall develop a description of stormwater management controls appropriate for the facility and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description



of stormwater management controls shall address the following minimum components, including a schedule for implementing such controls:

- 1.3.1. *Good Housekeeping* -- Good housekeeping requires the maintenance of areas which may contribute pollutants to stormwater discharges in a clean, orderly manner.
- 1.3.2. *Preventive Maintenance* -- Preventive maintenance measures shall include timely inspection and maintenance of stormwater management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.
- 1.3.3. *Spill Prevention and Response Procedures* -- Areas where potential spills which could contribute pollutants to stormwater discharges may occur, and their accompanying drainage points shall be identified clearly in the stormwater pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup should be available to personnel.
- 1.3.4. *Inspections* -- Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

At a minimum, vehicles, storage tanks, chemical or deicing material storage containers, piping, pumps, oil/water separators, and any equipment located at the facility will be inspected once per quarter for malfunctions, fluid leaks, or improper operation. Completed forms documenting these inspections will be maintained as attachments to the SWPPP.

- 1.3.5. *Employee Training* -- Employee training programs shall inform personnel responsible for implementing activities identified in the stormwater pollution prevention plan or otherwise responsible for stormwater management at all levels of responsibility of the components and goals of the stormwater pollution prevention plan. Training should address topics such as



spill response (including reporting), good housekeeping, and material management practices. The pollution prevention plan shall identify periodic dates for such training. At a minimum, the training for TDOT employees shall be conducted annually.

- 1.3.6. *Recordkeeping and Internal Reporting Procedures* -- A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of stormwater discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. *Non-Stormwater Discharges*

- i. *Certification* -- The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-stormwater discharges. The certification shall include the identification of potential significant sources of non-stormwater at the site, a description of the results of any test and/or evaluation for the presence of non-stormwater discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with paragraph 4.11 of this permit. Such certification may not be feasible if the facility operating the stormwater discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit, which receives the discharge. In such cases, the source identification section of the stormwater pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-stormwater at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Division of Water Pollution Control in accordance with paragraph "Failure to Certify" (item iii below).
- ii. *Combined Discharges* -- Sources of non-stormwater that are combined with stormwater discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Any non-stormwater discharges that are not permitted under an individual NPDES permit should be brought to the attention of the Division's local Environmental Field Office.

- iii. **Failure to Certify** -- Any facility that is unable to provide the certification required (testing for non-stormwater discharges), must notify the Division of Water Pollution Control by not later than 180 days after to the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-stormwater discharges; the results of such test or other relevant observations; potential sources on non-stormwater discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-stormwater discharges to waters of the State, which are not authorized by an NPDES permit are unlawful and must be terminated.
 - h. ***Sediment and Erosion Control*** -- The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall identify structural, vegetative, and/or stabilization measures to be used to limit erosion. These shall include but not be limited to grass swales, filter strips, treatment works, or other equivalent measures.
 - i. ***Management of Runoff*** -- The plan shall contain a narrative consideration of the appropriateness of traditional stormwater management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage stormwater runoff in a manner that reduces pollutants in stormwater discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to stormwater discharges associated with industrial activities shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected stormwater (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.
- 1.4. **Comprehensive Site Compliance Evaluation.** Qualified personnel shall conduct site compliance evaluations at least once a year. Such evaluations shall include:
- 1.4.1. ***Visual Inspections*** -- Visual inspection of areas contributing to a stormwater discharge for evidence of, or the potential for, pollutants entering the drainage system. Inspection shall address areas associated with the storage of raw metals, storage of spent solvents and chemicals, drainage from roof, unloading and loading areas, equipment storage areas, recycling areas,

and retention ponds (sludge). Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural stormwater management measures, such as detention basins and channels, gutters or drains to direct discharge flow, oil/water separators in storm drains, containment structures, concrete pads, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment and containment drums, shall be made to determine if the equipment is functioning properly and that drums are not in a corrosive or deteriorating state.

- 1.4.2. *Revisions to Plan* -- Based on the results of the evaluation, the descriptions of potential pollutant sources identified in the plan in accordance with paragraph A.2 above and pollution prevention measures and controls identified in the plan in accordance with paragraph A.3 above shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.
- c. *Report of Evaluation* -- A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the stormwater pollution prevention plan, and actions taken in accordance with paragraph A.4.b above shall be made and retained as a part of the stormwater pollution prevention plan for at least 3 years from the date of the inspection. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and this permit. The report shall be signed in accordance with Paragraph 4.11 of this permit.
- d. *Schedule Overlap* -- Where compliance evaluation schedules overlap with inspections required under paragraph A.3.d above, the compliance evaluation may be conducted in place of one such inspection.

B. Specific Plan Content Requirements

As applicable, based on the activities performed at the facility and the features and condition of the site, the SWPPP must also meet the following requirements:



1. Construction Compliance Schedule -- In cases where construction of a preventive or control measure is necessary, the SWPPP shall contain a schedule that provides compliance with the plan as expeditiously as practicable, but no later than 2 years following the date the SWPPP is signed. Where a construction compliance schedule is included in the plan, the schedule shall include appropriate non-structural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure.
2. Incorporation of SPCC Plan Requirements -- At those TDOT facilities subject to the requirement under 40 CFR Part 112 to have an oil Spill Prevention, Control and Countermeasures (SPCC) Plan, the SWPPP will incorporate – either by reference or by integrating the two plans into a single plan – the SPCC Plan requirements.
3. Consideration of Other Wastewater Discharge Authorizations
 - a. *Other NPDES Permits* – If a TDOT facility has received a NPDES permit for discharge of sanitary or industrial wastewater or vehicle and equipment washwater, then a copy of that permit must be attached to or referenced in the plan. If a TDOT facility has applied for such a permit but the permit has not yet been issued, then a copy of the pending application must be attached to or referenced in the plan.
 - b. *Discharges to Sanitary Sewers* – For TDOT facilities that discharge vehicle and equipment washwaters or other industrial process wastewaters to the sanitary sewer system, the operator of the sanitary system and associated treatment plant must be notified. In such cases, a copy of the notification letter must be attached to the plan.
 - c. *Other Permit Conditions* – In all cases identified in paragraphs B.3.a and B.3.b above, any permit conditions or pretreatment requirements must be considered in the plan.
 - d. *Other Management of Washwaters* – If vehicle and equipment washwaters are handled in a manner other than discharge to waters of the state via another NPDES permit or to a sanitary sewer (e.g., hauled offsite), then the disposal method must be described and all pertinent documentation (e.g., frequency, volume, destination, etc.) must be attached to the plan.
4. Vehicle and Equipment Storage Areas -- The storage of vehicles (including aircraft) and equipment awaiting maintenance with actual or potential fluid leaks must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the stormwater runoff from



- these areas. The facility shall consider the use of drip pans under vehicles and equipment, indoor storage of the vehicles and equipment, installation of berming and diking of this area, use of absorbents, roofing or covering storage areas, cleaning pavement surface to remove oil and grease, or other equivalent methods.
5. Fueling Areas -- The plan must describe measures that prevent or minimize contamination of the stormwater runoff from fueling areas. The facility shall consider covering the fueling area, using spill and overflow protection and cleanup equipment, minimizing runoff of stormwater to the fueling area, using dry cleanup methods, collecting the stormwater runoff, and providing treatment or recycling, or other equivalent measures.
 6. Material Storage Areas -- Storage units of all liquid materials associated with vehicle (including aircraft) maintenance and equipment cleaning (e.g., used oil, used oil filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids) must be maintained in good condition, so as to prevent contamination of stormwater, and plainly labeled (e.g., "used oil," "spent solvents," etc.). The plan must describe measures that prevent or minimize contamination of the stormwater runoff from such storage areas. The facility shall consider indoor storage of the materials, installation of berming and diking of the area, minimizing runoff of stormwater to the areas, using dry cleanup methods, collecting the stormwater runoff, and providing treatment, or other equivalent methods.
 7. Vehicle and Equipment Cleaning Areas -- The plan must describe measures that prevent or minimize contamination of the stormwater runoff from all areas used for vehicle (including aircraft) and equipment cleaning. The facility shall consider performing all cleaning operations indoors, covering the cleaning operation, ensuring that all washwaters drain to the intended collection system (i.e., not the stormwater drainage system unless NPDES permitted), collecting the stormwater runoff from the cleaning area and providing treatment or recycling, or other equivalent measures. The discharge of vehicle and equipment wash waters, including tank cleaning operations, are not authorized by this permit, and must be covered under a separate NPDES permit or discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.
 8. Vehicle and Equipment Maintenance Areas -- The plan must describe measures that prevent or minimize contamination of the stormwater runoff from all areas used for vehicle (including aircraft) and equipment maintenance. The facility shall consider performing all maintenance activities indoors, using drip pans, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting wet clean up practices where the practices would result in the discharge of pollutants to stormwater drainage systems, using



dry cleanup methods, collecting the stormwater runoff from the maintenance area and providing treatment or recycling, minimizing runoff of stormwater areas or other equivalent measures.

9. Management of Salt and Brine – The plan must specifically identify the tanks, bins, and areas used for the storage and handling of salt and brine (including calcium chloride) and salt/brine handling equipment. Measures that minimize contamination of stormwater runoff from all such areas must be included and described. All salt storage piles must be placed on impervious surfaces (e.g., asphalt or concrete surfaces in good condition) and must be covered to prevent contact by precipitation (e.g., roofed bins). Consideration should be given to providing secondary containment for brine (including calcium chloride) mixing and storage tanks that are located such that a tank failure could result in brine draining into a stream or beyond the site boundaries.
10. High Traffic Volume Areas – At interstate Welcome Centers, Rest Areas, truck Weigh Stations, and other facilities, which similarly receive high volumes of vehicular traffic, the plan must specifically address the control and management of stormwater from the paved vehicle roadways and parking areas. To the extent feasible, such runoff should be controlled and directed to a minimum number of discharge points. Consideration should be given to the installation and maintenance of control devices (e.g., screens, oil-water separators) to remove litter, oil, and grease from stormwater prior to discharge. Consideration should also be given to designing and sizing such devices so as to provide for the capture of likely fuel spills and leaks.

C. Maintaining and Amending the Plan

Each SWPPP will be maintained and amended as follows:

1. The current SWPPP shall be maintained on-site, including unstaffed facilities, at all times. The current SWPPP shall also be maintained at the TDOT Region or District facility within the geographic jurisdiction.
2. Each SWPPP shall be reviewed and updated at a minimum of annually.
3. TDOT shall amend a SWPPP:
 - a. Whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the State;



- b. If the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the plan or other sources identified subsequent to preparation of the plan;
- c. If the SWPPP proves to be ineffective in otherwise achieving the general objectives of controlling pollutants in stormwater discharges associated with facility operations; or
- d. Upon being notified by the Division of Water Pollution Control of a deficiency in the SWPPP. Such notification shall identify those provisions of this permit that are not being met by the plan and identify which provisions of the plan require modification in order to meet the permit requirements. Within 60 days of receipt of such notification, or as otherwise provided by the Division of Water Pollution Control, TDOT shall make the required changes to the plan and shall submit to the Division a written certification that the requested changes have been made.

ADDENDUM TO RATIONALE

**Tennessee Department of Transportation (TDOT)
Statewide TS4
NPDES Permit No. TNS077585
Date: 9/7/22
Permit Writer: Ariel Wessel-Fuss**

Both the Tennessee Department of Transportation and Contech Engineered Solutions submitted comments on the draft permit during the public comment period. The response to these comments are summarized below.

Comment 1:

Numerous comments were made requesting the terms *Best Management Practices* or *BMPs* be changed to *Stormwater Control Measures* or *SCMs*.

Response 1:

With the adoption of rules on permanent stormwater management the term *Stormwater Control Measures* or *SCMs* was defined in Rule 0400-40-05-.02(84)

“Stormwater control measure” or “SCM” means permanent practices and measures designed to reduce the discharge of pollutants from new development projects or redevelopment projects.

An SCM is a type of BMP. The permit has been reviewed and the term was clarified where appropriate.

Comment 2:

Page 21: In 2.2.5.2.c The process and/or standards for determining equivalency with water quality rules should be publicly established as part of this permit.

Response 2:

Per the advice of the Department’s Office of General Council, an additional public notice is not required.

Comment 3:

Various “reference source not found” errors were noted.

Response 3:

Cross referencing errors were corrected.

Comment 4:

age 53: “Bypass” is defined as “means the intentional diversion of waste streams from any portion of a treatment facility.” The use of waste stream is odd for a stormwater permit. Bypass in a stormwater context is commonly referred to as “peak conveyance flow for site exceeds treatment capacity.”

Response 4:

This is a definition from Rule 0400-40-05-.02. It is related to a standard condition of NPDES permits for bypasses found in subpart 3.12.3. A bypass of treatment is not typically expected of treatment of stormwater. However, due to the wide variation of control measures that could be used, there is still the potential that this provision could be needed. As such, it was included in the permit.

Comment 5:

Page 69: definition of Operator is carried over from previous page and contains a reference code error that needs to be corrected.

Response 5:

The citation has been updated to the correct location in the CGP.

The following comments are from TDOT

Comment 6:

TDOT provided comments in the form of a tracked changes version of the permit. Many of the suggested changes were related to ensuring consistent terminology, formatting, and correcting typographical errors and were incorporated into the final permit.

Comment 7:

Limitations on Coverage subpart 1.5.5.

TDOT requests to see TDEC data that verifies TDOT is a point source for contamination. What scientific data supports the rational for including this section? What are the benchmarks for the pollutants?

TDOT requests this section be removed until verification can be provided. If in the future it is found that TDOT is a point source for exceedance, propose discussions be held to modify the permit.

Response 7:

Subpart 1.5 is listing the discharges that are NOT authorized under this permit. If a discharge as described in subpart 1.5.5. is identified, TDOT would be required to submit an application or a notice of intent as appropriate for that discharge. Removing this section would cause

confusion regarding applicable permitting requirements and not be protective of water quality.

Comment 8:

Subpart 2.1. a.(5) TDOT recommend the addition of “projects that are in the preliminary phase of project development by permit issuance date”. This will allow a reasonable transition period to adjust to the new permit requirements.

Response 8:

Subpart 2.1 a (1-6) is a list of the different MCMs required. This list has been updated to provide a cross reference to the appropriate section of the permit for each MCM and to ensure the MCM titles are used consistently. However, the suggested language was not included in the final permit. The inclusion of the suggested language would be counter productive to the intent of allowing a “reasonable transition period.” For example, the rules provide 24 months from the effective date of the permit to implement the permanent stormwater requirements. The addition of the suggested language would effectively take away that implementation period. The Division strongly encourages the permittee to establish a clear demarcation for projects as part of their stormwater management program documentation.

Comment 9:

Subpart 2.2.3

- To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions

TDOT request this be removed. TDOT does not have the capability to enact ordinances or other regulatory mechanisms which include enforcement actions. TDEC is the mandated state government enforcement entity for environmental regulatory enforcement.

Response 9:

This is a requirement from 40 CFR 122.34(b)(3)(i)(B) and cannot be removed. The Division acknowledges that TDOT cannot enact ordinances, however, it does have other regulatory mechanisms available. For example, the contracts can prohibit the contract operations from disposing of waste materials from the site into the storm sewer system. For appropriate enforcement procedures and action, TDOT would provide available documentation and refer it issue to the appropriate agency. The Stormwater Management Program IDDE plan should describe how TDOT will meet the permit requirement with the mechanisms that are available under state law.

Comment 10:

- An ordinance, contract, or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

TDOT requests this paragraph be removed. TDOT does not have the capability to enact ordinances or other regulatory mechanisms.

All TDOT construction work is performed under the direct supervision of TDOT. No third parties are involved so there is no need for any capability for external authority.

Response 10:

This is a requirement from 40 CFR 122.34(b)(4)(i)(A) and cannot be removed. The Division acknowledges that TDOT cannot enact ordinances, however, it does have other regulatory mechanisms available. Even though all work is performed under the direct supervision of TDOT, the language of the contracts utilized for the different aspects of construction need to ensure proper use of EPSCs and remedies for non-compliance. The Division acknowledges that TDOT's legal authority is fundamentally different than that of a traditional MS4. The Construction Site Stormwater Runoff Control plan documentation should be used to describe how the various elements such as contract language, standard specification, or other design guides are used to implement this minimum control measure.

Comment 11:

TDOT recommends the Level 2 course requirement be removed. The TDOT Project Supervisors should not need the Level 2 course.

Response 11:

The recommended change has been made.

Comment 12:

TDOT requests that "including but not limited to design guidelines" be added to Notation 6.

Response 12:

The clarification has been added.

Comment 13:

TDOT requested extensions of the various due dates in subpart 2.2.5. due to the complexity and expansiveness of the TDOT service area.

Response 13:

The requirements (including due dates) found in subpart 2.2.5. are established by Rule 0400-40-10-.04(1)(d) and cannot be changed by the permit.

Comment 14:

Subpart 2.2.5.2.

TDOT recommends the addition of the selected wording. TDOT is a statewide linear transportation program that functions differently than traditional MS4s.

Development of permanent stormwater standards for TDOT must consider that TDOT's project design and construction processes are much different than the processes of traditional MS4s (e.g., cities and towns). Some of the differences include:

- Safety of motorists is the primary concern for design, operation, and maintenance of highways;
- Most of the TDOT design and construction processes are mandated by federal standards and state statutes;
- Linear transportation systems often stretch for many miles, and cross numerous waterways, watersheds, and MS4 jurisdictions;
- Over 67% of the TDOT MS4CS is located outside the urbanized areas where the MS4 rules and regulations do not apply to any other government entity or jurisdictions and those other government entities or jurisdictions are not required to incorporate the permanent stormwater requirements;
- The area of the transportation ROW is usually a very small percentage of the watersheds (typically less than 3%) and the resulting quantity of stormwater runoff is also proportionally very small compared to a traditional MS4;
- Transportation ROWs often have limited space to install stormwater management structures and limited stormwater discharge options due to surrounding urbanization;
- Transportation stormwater conveyance systems often convey and discharge stormwater that originates outside of the transportation ROW;
- Transportation systems often serve a literally transient population;
- TDOT has no enforcement authority to implement actions outside of the transportation ROW;
- The planning, design, ROW acquisition, and construction process for highway projects typically extend over a significant period of time, which can be as long as 10-12 years; and

- Stormwater management costs incurred by TDOT directly reduce the overall highway construction and maintenance budgets. TDOT cannot pass on these costs on to commercial entities or impose a stormwater utility fee on residents or users, as can a traditional MS4.

The TDOT TS4 post-construction stormwater management strategies focus on and emphasize achieving water quality goals on a state-wide scale not just specific project locations.

Response 14:

The Division fully acknowledges that TDOT is fundamentally different from other traditional small MS4s. It is reasonable for the list of facts presented to be taken into consideration by TDOT in developing its Stormwater Management Program and developing its BMPs for all management control measures. However, the bulleted list are not permit conditions or BMPs in themselves. It would be problematic to include that list in the permit.

Additionally, the last statement *“The TDOT TS4 post-construction stormwater management strategies focus on and emphasize achieving water quality goals on a state-wide scale not just specific project locations”* will not be included in the permit since it contradicts the federal and state requirements. Rule 0400-40-05-.15 and 40 CFR 122.34(b)(5)(i) both require the management of post construction/permanent stormwater on new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4.

Comment 15:

Subpart 2.2.5.2.(b-d)

TDOT recommends significant modifications of the language of subpart 2.2.5.2.(b-d)

Response 15:

The language in this section of the permit is directly from Rule. With the exception of removing optional language that the permittee does not wish to include, the Division must implement the Rule in the permit as written.

Comment 16:

TDOT requests clarification. If a 10-hour dry period between events is the standard defining separate events (per definition of rainfall event in Section 9.1), does the 72-hour infiltration period begin after the completion of the 10 hour dry period, or retroactively from the last measured rainfall when the original rainfall event is eventually determined to have ended?

Response 16:

The Rule states “SCMs must be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project.”

The 72 hour period begins at the end of the rain event. If there is a less than 10 hour dry period, it is considered the same rain event. As such, the end of the rain event would be at the conclusion of the subsequent rainfall.

Comment 17:

The water quality benefits from the riparian buffers can be considered as part of the overall compliance with the Permanent Stormwater Standards. For example, recent TDOT sponsored research by Tennessee Technological University has found that roadside vegetated swales, which in many cases will be similar in configuration to riparian buffers, may provide run-off reduction of as much 70%, thus effectively achieving much of the prescribed runoff reduction and/or 80% TSS removal requirement for many storm events effectively complying with the WQTV reduction requirements.

Response 17:

TDEC agrees that water quality provide runoff reduction and pollutant removal. To maximize stormwater treatment, buffers are required in riparian areas in addition to SCMs as part of the MEP standard.

Comment 18:

The WQTV for manufactured treatment devices specifies “*maximum runoff generated from the entire design storm*” with the design storm apparently being the 1-year 24-hour

precipitation depth. However, the calculation of peak treated flowrate in the design of a manufactured stormwater treatment device must be based on precipitation intensity and not precipitation depth.

TDOT requests that TDEC specify a design storm precipitation intensity. The intensity is meaningful for designing the proper treated flow rate for manufactured stormwater treatment devices.

Response 18:

The design storm provides distribution of depth and intensity values as they vary across the state. The 1-year, 24-hour storm is the smallest design storm readily available in engineering reference literature in general and in the NOAA Atlas 14 in particular. However, only a portion of the design storm is used in the calculation of the WQTV. Hydrodynamic separators and other Manufactured Treatment Devices are designed for flowrate that is a function of rainfall intensity. The smallest design storm that NOAA Atlas 14 provides intensity values for is the 1-year, 24-hour storm.

Comment 19:

TDOT requests that TDEC provide explanation on how to determine the baseline TSS concentration from which this 80% reduction would be calculated and the range of particle size for which the removal rate applies.

For example, if the level of TSS in a MS4's post-construction stormwater discharge can be demonstrated to be less than 50 mg/l, very few SCMs (or treatment trains of multiple SCMs) would be able to achieve 80% TSS removal (i.e. reduction of TSS to achieve a TSS level of 10 mg/l), however, a TSS level of no more than 50 mg/l in stormwater discharges would clearly be considered protective of water quality and achieve the goals of this permit.

TDOT requests that the permit specify a lower bound on TSS levels in MS4 post-construction stormwater levels that would be exempt from the 80% reduction requirement.

Alternately, TDEC should consider that the 80% TSS removal level could be specified as only required for post-construction stormwater discharges in which the subject stormwater discharge TSS levels have not been quantified or which have been demonstrated to exceed a TSS level of 150 mg/l, which is the TSS benchmark level for most sectors specified in the Tennessee Stormwater Multi-Sector General Permit for Industrial Activities, and thus presumed to be protective of water quality in Tennessee.

Additionally, since TSS concentrations in stormwater have been demonstrated to correlate with precipitation intensity, the 80% TSS removal requirement should not be applicable for

rainfall events which exceed the 10-year 1-hour precipitation intensity for the subject location.

Response 19:

The rule reflects federal standards in which the types of pollutants are not limited. Therefore, all pollutants are to be reduced through implementation of these post-construction stormwater control measures. 80% TSS removal is not the standard; the standard is to implement the entirety of the narrative and numeric effluent limitations established in this rule.

Comment 20:

TDOT recommends the significant modifications of the language for Subpart 2.2.5.2.(f).

Response 20:

As mentioned previously, the language in this section of the permit must be consistent with the rule and cannot be changed as suggested. The proposed criteria for implementing this provision should be included in the stormwater management program documentation. However, the Division cautions that some of the provisions listed above are less stringent than the rule and therefore not allowed. E.g. including new development projects with a greater than 20% reduction of the WQTV, allowing 100% reduction of the WQTV etc.

Comment 21:

TDOT recommends significant modifications of the language for Subpart 2.2.5.3.

Response 21:

As mentioned previously, the language in this section of the permit must be consistent with the rule and cannot be changed as suggested. It is important to note the rule states “The program must ensure that off-site stormwater mitigation will be accomplished within the same USGS 12-digit hydrologic unit code watershed as the new development or redevelopment project, **if practicable**, and will treat a minimum of 1.5 times the portion of the WQTV not treated on site.’

Emphasis is added to if practicable. When it comes to implementation of this provision, the permittee is allowed to complete off-site stormwater mitigation projects outside of the USGS 12-digit HUC code watershed when it is deemed impracticable to conduct those activities inside of the intended watershed. The reasoning that it was deemed impracticable must be documented and maintained in accordance with the record keeping requirements of the permit.

Comment 22:

Subpart 2.2.5.4. TDOT recommends referring to the current version of the Tennessee Construction General Permit which has been referenced in the proposed language at the beginning of the section 2.2.5.4. Including the buffer widths in the permit could cause a conflict between an updated version of the CGP and the TS4 permit.

TDOT recommends the following modifications of the language

All TDOT new development and redevelopment projects must incorporate into the design process permanent riparian buffers that are consistent with the water quality riparian buffer zone requirements in the current version of the Tennessee Construction General Permit. The water quality benefits from the riparian buffers can be considered as part of the overall compliance with the Permanent Stormwater Standards. TDOT projects are exempt from this requirement when all of the project's stormwater discharges to a river which drains a 100 sq. mile area, or larger. Additionally, the following portions of TDOT projects will be exempt from the riparian buffer requirements:

- → the areas immediately adjacent to bridge structures, abutments, and access ramps;
- → reaches of streams that pass through, or immediately parallel, a pre-existing transportation corridor and/or are within the existing TDOT ROW or facility;
- → the areas immediately adjacent to stormwater outfall easements;
- → the areas immediately adjacent to stormwater treatment installations;
- → the areas immediately adjacent to access roads necessary for TDOT maintenance activities;
- → the areas immediately adjacent to lighting structures and other devices necessary for highway safety;
- → the areas immediately adjacent to ferry structures, abutments and access ramps, or other boat ramps;
- → implementation of the permanent buffer standards would require unavoidable significant damage to a cultural resource;
- → implementation of the permanent buffer standards would require significant damage to a community resource, or invoke environmental justice concerns;
- → implementation of the permanent buffer standards would result in the unavoidable displacement of a residence or business;
- → projects where the proposed buffer site has shallow bedrock;
- → projects where the proposed buffer site has pre-existing soil contamination.

Response 22:

As mentioned previously, the language in this section of the permit must be consistent with the rule and cannot be changed as suggested.

The buffers related to the MS4 program cannot be changed without going through the rulemaking process which allows for public comment. While Division does not anticipate modifying the buffer requirements of the construction general permit (CGP) at this time, the public comment period of future draft CGPs is the best means to communicate conflicts and request resolution or additional clarification.

Comment 23:

TDOT recommends removing 2.2.5.4 (f) and 2.2.5.5. in its entirety.

Response 23:

By leaving it in the permit, TDOT can utilize the flexibility provided by this provision if needed. If it is not needed, the provision would functionally be dormant. Since removing 2.2.5.4 (f) could be problematic for TDOT, it was retained.

The draft permit removed the provisions of subpart 2.2.5.5. that were not applicable to TDOT as an existing permittee. While the title could be confusing for TDOT which does not have the authority to implement codes or ordinance, the provision itself is a requirement to update “legal instruments” which TDOT does utilize typically in the form of contracts.

Comment 24:

TDOT recommends the following modifications of the language

~~(a) Permanent SCMs, must be installed, implemented, and maintained to meet the performance standards of paragraph (2) of Tennessee Rule 0400-40-05-.15, and provide full treatment capacity within 72 hours following the end of the preceding rain event (per the definition of rainfall event in Section 9.1).~~

Response 24:

The definitions found in subpart 9.1 are applicable to the entirety of the permit unless stated otherwise for a particular subpart. As such, it is unnecessary to reference the definition section.

Comment 25:

TDOT recommends removing 2.2.5.5. (b) 3. & 4.

TDOT recommends these sections be removed. Any SCMs installed on the TDOT TS4 will be operated and maintained under the direct supervision of TDOT. No third-party owner/operators will be involved. Items 3 and 4 under this section do not apply to TDOT and should be deleted.

Response 25:

Since this comment was submitted, the State has passed what is called the Transportation Modernization Act which may lead to 3rd parties becoming responsible for operating and maintain SCMs. While TDOT is the only entity that provides operation and maintenance of SCMs currently, the stormwater management program documentation may simply state that fact to show compliance with the permit/rules.

Comment 26:

2.2.5.6.

Clarification for the responsible party contact information was requested.

Response 26:

Since TDOT maintains its own SCMs, it may choose to use a general department number/email or this field could identify a region office contact or personnel responsible for the SCM.

Comment 27:

2.2.5.6.

For linear transportation projects it is not feasible to inspect all grassy ditches and buffers statewide. TDOT recommends maintenance and inspection records be limited to large SCMs such as basins.

Response 27:

TDEC agrees since Buffers are not considered SCMs. It is at TDOTs discretion how they want include grassy ditches in their SCM inventory since they do provide significant pollutant removal. Inspections may be conducted from areal images or other desktop methods.

Comment 28:

TDOT recommends all marked out wording in this table be deleted. All construction performed within the TDOT TS4 is designed by TDOT and implemented under the direct contractual supervision of TDOT. There are no third-party developers independently designing or implementing projects on the TDOT TS4. This section is not applicable to the TDOT TS4 and should be deleted.

Review and Update legal instruments in accordance with 2.2.5.5	Update legal instruments upon completion of the compliance schedule in 2.2.5.1	Confirm legal instruments are updated appropriately.
Develop, implement, and enforce policies and procedures for the submittal and review of plans for projects as required by 2.2.5.6	Establish policies and procedures for review of all plans and review 100% of all projects accordingly.	Total number of projects reviewed in accordance with established policies and procedures % of projects reviewed in accordance with the established policy and procedure
Develop, implement, and enforce policies and procedures for SCM Installation verification as required by 2.2.5.6	Verify installation of SCMs per design specifications in accordance with approved plan within 90 days Verify 100% of all installations within 90 days	Total number of projects verified Percentage of projects verified within the established timeframe
Develop and implement enforcement procedures to bring non-compliant projects into compliance as required by 2.2.5.6	Establish escalating enforcement actions in the Enforcement Response Plan (ERP) (see 2.4) Implement the ERP at 100% of all non-compliant projects	→ Number of Projects granted Concurrence for submittal of NOT in accordance with the established procedures

Response 28:

The rule does not state that these requirements only exist when SCM is designed, owned, or operated by a 3rd party. These requirements are applicable for all SCMs. The permit allows TDOT the flexibility to implement its program based on the specific considerations unique to TDOT. The policies, procedures, contractual language for SCMs “implemented under the direct contractual supervision of TDOT” may be different than for those SCMs where TDOT is the only entity involved in the entire process.

Comment 29:

TDOT recommended the following:

Management Measure	Measurable Goals	Annual Report Requirement ⁷
Develop and implement maintenance and inspection procedures and frequencies for approved structural SCMs (Existing Installations) as required by 2.2.5.5.	- All structural SCMs must be inspected once every 5 years. or Establish a time frame for SCM site inspections based on observed required maintenance interval. - Inspect 100% of all sites within that timeframe	- Total number of structural SCM inspected - Percentage of structural SCM inspected within the established timeframe
Continue to implement and maintain a system to inventory and track the status of all public and private structural SCMs as required by 2.2.5.8.	The system must be made available to the Division or members of the public upon request. 100% of all structural SCMs must be included in the database/tracking mechanism with complete information including.....?	Total number of requests made - % of structural SCMs in the database - % of structural SCMs with incomplete information

Response 29:

Upon review of this comment, the measurable goal was modified to better reflect the flexibility provided in the rule for permittees under an individual permit develop an alternative schedule for SCM inspections. See below

Management Measure	Measurable Goals	Annual Report Requirement ⁷
Develop and implement maintenance and inspection procedures and frequencies for approved structural SCMs (Existing Installations) as required by 2.2.5.7	- All structural SCMs must be inspected once every 5 years Or - All structural SCMs must be inspected in accordance with the alternative schedule approved by the Division	- Total number of structural SCM inspected - Percentage of structural SCM inspected within the established timeframe
Continue to Implement and maintain a system to inventory and track the status of all structural SCMs as required by 2.2.5.8	The system must be made available to the Division or members of the public upon request. 100% of all structural SCMs must be included in the database/tracking mechanism with complete information as described in subpart 2.2.5.8.b.	Total number of requests made - % of structural SCMs in the database - % of structural SCMs with incomplete information

Comment 30:

Development of a TDOT Implementation Plan will be much more involved than for a typical small municipality. Multiple TDOT Divisions will be involved, as well as input from the four regional offices. TDOT requests that the schedule for submission of the Implementation Plan be extended to 270 days from the effective date of this permit.

Additionally, TDOT requested 48 months for implementation of the permanent stormwater/post construction program.

Response 30:

The rule does not allow for extensions of the timeframe for the implementation plan or implementation of the permanent stormwater/post construction program.

It is important to note that the implementation plan required by the rules/permit is not a highly detailed comprehensive plan. For reference, most implementation plans are expected to be between 2-4 pages long.

Comment 31:

Subpart 2.2.6

TDOT recommends this (*requirements associated with floor drains*) be removed. Floor drains are an injection well issue and not a stormwater issue. This requirement was included in the original TDOT MS4 permit only as a vestige of the original TDOT Facilities Consent Order.

Response 31:

Subpart 2.2.6

Floor drains are not permitted as an underground injection well. Any wastes disposed of in a floor drain must be

1. Treated prior to discharge to a POTW in accordance with local regulations,
2. Treated and discharged in accordance with an NPDES permit, or
3. Contained and removed from the premises for disposal as hazardous or non-hazardous waste (as applicable,)

Comment 32:

Subpart 2.2.6

TDOT Recommends removing "Number of instances of wastewater from the washing of vehicles and equipment at TDOT facilities that discharge to receiving waters." TDOT has wash pads located at various locations which filter into an oil-water separator system prior to discharge into a holding tank or the local municipal system.

Response 32:

The annual report must include the status of compliance with the permit terms and conditions. This annual report requirement is establishing if TDOT is in compliance with the measurable goal of “No wastewater from the washing of vehicles and equipment at TDOT facilities enters storm water runoff or storm water runoff control systems.” Removing the reporting requirement is contrary to the intent of the annual report.

Revision 33:

Subpart 2.2.6 was clarified to state that general SWPPPs are permissible.

Comment 34:

Subpart 2.2.6.2.

The elements of this new minimum control measure are already regulated under a separate NPDES permit: General NPDES Permit for Discharges from the Application of Pesticides (Permit No. TNP000011). TDOT has had statewide coverage under this permit since May17, 2013. The “Roadside Vegetation Management” minimum control measure is redundant to the coverage of the Pesticide Permit and this section should be deleted from the TS4 Permit.

Response 34:

Since NPDES permit: General NPDES Permit for Discharges from the Application of Pesticides (Permit No. TNP000011) regulates pesticide application on waters as such this subpart has been removed.

Comment 35:

2.4

TDOT provided in great detail suggested additions to subpart 2.4.

Response 35:

The suggested language belongs in the TS4 program documentation. The division strongly suggests NOT using the term “immediately” when establishing timeframes. Additionally, the division recognizes that TDOT relies on other agencies (e.g. TDEC, Department of Safety & Homeland Security, TBI or local jurisdictions) for some aspects of enforcement. It is important that the enforcement response plan (ERP) and staff training clearly outline when to contact other agencies. It is acceptable for the ERP to outline different enforcement responses depending on the respective Minimum Control Measure in non-compliance.

Comment 36:

TDOT requested removal of “statute, law, rule, ordinance” in various places of the permit.

Response 36:

The legal authority of TDOT can be established through various legal mechanisms. It is not uncommon for DOTs in other states to implement the MS4 program utilizing legal

mechanisms such as laws or rules. The permit language does not require these legal mechanisms be implemented. Removal of this language would reduce the flexibility of TDOT to implement its program in the future.

Comment 37:

2.7.1.1 TDOT Requested a Chlorides benchmark value of 1200 mg/l, for e. coli to only be sampled at the four regional facilities and to require sampling at 10% of the facilities.

Response 37:

The requested changes have been made which is consistent with the current sampling plan. Please note, the 1200 mg/l benchmark for chlorides is greater than the proposed water quality criteria. The 1200 mg/l benchmark is sufficient for determining BMP effectiveness, but may result in violating water quality criteria and not meet TMDL waste load allocation assumptions.

Comment 38:

2.7.1.2.B TDOT requested the language state (greater than 0.1 inch rainfall) storm event.

Response 38:

This change cannot be included since it conflicts with the definition of rainfall event from 0400-40-05-.02(73).

Comment 39:

TDOT requested clarification of Urbanized Area.

Response 39:

The definition utilized in the draft permit (which uses the 2010 census) will implemented in the final permit. States are still awaiting clarification of definition of Urbanized area as it applies to the 2020 census.

Comment 40:

2.7.1. TDOT recommends the removal. Industry standard approved BMPs should not require verification and monitoring.

Response 40:

The comment indicates a misunderstanding of the requirement. This requirement is a continuation of the BMP established under the previous permit. In the previous permit it was included as part of the Post Construction (subpart 2.1.5. E & F).It has been moved to the monitoring section of this permit and modified to allow TDOT greater flexibility to conduct the activity to provide meaningful data to TDOT.

Comment 41:

2.9 TDOT Requested the section be retitled Monitoring Procedures at TDOT Covered Facilities

Response 41:

This change was not incorporated. This subpart is from the standard conditions in Rule 0400-40—05.07 and is applicable to all sampling required by the permit.

Comment 42:

3.5 TDOT recommends rewording "at reasonable times" to "during normal business hours" for clarity.

Response 42:

This change was not incorporated as the language is from Rule 0400-40-05-.07(2)(g)

Comment 43:

3.11.3. TDOT requested removal of the change of ownership subpart.

Response 43:

The language on transfer of ownership is a standard condition required by Rule 0400-40-05-.07 and applicable to all NPDES permits.

Comment 44:

5.1 TDOT recommends a transition period on the Annual Report to account for the permit issuance date in regard to the end of the fiscal year and the previous Annual Report submittal date.

Response 44:

At the time the comment was made, the likely issuance date of the final permit would have split the reporting year almost in ½. Since there was a delay in issuance, it will align closely with the fiscal year. So, this change is no longer necessary.

Comment 45:

7.3.1 Since TDOT has submitted this information for the current permit, TDOT proposes the EPA resubmittal requirement has been fulfilled. The application process would be a significant effort.

Response 45:

Applications are required for individual permit. See T.C.A. §69-3-108, 40 C.F.R. §122.33(b)(2)(i) and 40 C.F.R. §122.21(f).

Due to memos being issued by EPA that caused confusion to the specific application requirements, the requirements have been itemized in the permit. While EPA Form 1 does look tedious when listed out, it is actually a relatively simple form. The items in 7.2 are required by 40 C.F.R. §122.33(b)(2)(i)

Comment 46:

7.2 g. Due to budgetary constraints it is not feasible for TDOT to map all outfalls within the statewide TS4 coverage area.

Response 46:

The development of this map is a requirement of the rules 40 CFR 122.34(b)(3)(i)(A) and 40 CFR 122.21(f)(7). As such, the requirement cannot be removed. The development of this map was included in the previous permit with 5 years provided to complete. The map should already exist with additions being made as TDOT adds new outfalls. It is important to note, this map is restricted to the Urbanized areas, not statewide.

Comment 47:

9.1 TDOT proposed a definition of Maximum Extent Practicable (MEP).

Response 47:

This change was not made. The permit and rules constitute MEP.

Comment 48:

9.1 TDOT requested the definition of QLP be removed.

Response 48:

This change was made along with removal of the acronym.

Comment 49:

9.1 TDOT proposed adding a definition for Re-development Project to the permit. "TDOT construction projects that add at least 25,000 square feet of impervious surface to an existing TDOT Right-of-Way installation or covered facility. Re-development does not include maintenance and safety improvement activities, such as re-paving, landslide repair, ditch cleaning, driveway access paving, shoulder paving and re-building, or roadway striping/painting. Also not included, unless part of a larger project, are highway sign addition or replacement; guardrail installation, repair, or replacement; sound barrier installation, repair, or replacement; and projects that involve installation or maintenance of the TDOT Intelligent Transportation Systems."

Response 49:

This change was not implemented. Neither the state or federal rules define development or redevelopment projects. The permit did include a definition for construction stormwater from the construction general permit which somewhat addresses concerns. Additionally, Rule 0400-40-05-.15 has an introductory paragraph that direct the inclusion of the permanent stormwater language. This paragraph has been added to the permit to clarify that this MCM is applicable to new development and redevelopment projects that disturb one or more acres of land, or less than one acre if part of a larger common plan of development, and discharge into the permittee's MS4.

Comment 50:

Attachment A section B 10

TDOT Requested the removal of the section "High Traffic Volume Areas – At interstate Welcome Centers, Rest Areas, truck Weigh Stations, and other facilities, which similarly receive high volumes of vehicular traffic, the plan must specifically address the control and management of stormwater from the paved vehicle roadways and parking areas. To the extent feasible, such runoff should be controlled and directed to a minimum number of discharge points. Consideration should be given to the installation and maintenance of control devices (e.g., screens, oil-water separators) to remove litter, oil, and grease from stormwater prior to discharge. Consideration should also be given to designing and sizing such devices so as to provide for the capture of likely fuel spills and leaks."

Response 50:

This section is in the current permit and is already being implemented. It does not require the various devices be installed, only considered as a potential controls. TDOT did not provide any reasoning for the suggested removal.

Change 51: The sentence "Uncontaminated roof runoff may be excluded from the WQTV." Has been removed from subpart 2.2.5. This language is in the process of being removed through Rulemaking as a result of the permit appeal for the small MS4 general permit. This provision was unlikely to be utilized by TDOT due to the nature of the work TDOT performs.

Change 52: Attachment A was modified to remove references which tied requirements to submittal of an NOI, since an individual permit does not require an NOI submittal. Any timeframes were maintained for the same length of time, but now begin with the effective date of this permit. Additionally, the acronyms for NOI and NOT were removed from subpart 9.2.

RATIONALE

Tennessee Department of Transportation (TDOT)
Statewide TS4
NPDES Permit No. TNS077585
Date: 8/2/22
Permit Writer: Ariel Wessel-Fuss

1. DISCHARGER INFORMATION

Permittee Name:	Tennessee Department of Transportation (TDOT)
Project Name:	Statewide TS4
Location:	Statewide
Contact:	Ms. Susannah Kniazewycz - Assistant Director (615) 532-3265 Susannah.Kniazewycz@tn.gov

2. PREVIOUS PERMIT

Permit Type:	Stormwater
Issuance Date:	28-Apr-06
Expiration Date:	27-Apr-11
Effective Date:	1-Oct-06

During the previous permit term, Division personnel from the Nashville Central Office performed a Compliance Evaluation Inspection (CEI) of the permittee's facility. The CEI of the Public Education and Outreach Program – Public Involvement/Participation Program was performed by Ann Morbitt on March 10, 2020, and the permittee was found to be in compliance. The inspection report described each permit condition, the measurable goal, and the inspection findings.

3. COVERAGE

3.1. LIMITATIONS ON COVERAGE

Approved TMDLs have corresponding language to Subpart 1.5.5 of this permit. This language is typically in section 9.2.2 of the TMDL. Generally, the TMDL states (in part) *These [MS4] permits typically require the development and implementation of a Stormwater Management Plan (SWMP) that will reduce the discharge of pollutants to the "maximum extent practicable" and not cause or contribute to violations of state*



water quality standards. A monitoring component to assess the effectiveness of BMPs is also typically included in the SWMP. Regulated MS4s that maintain compliance with the provisions of their NPDES permits are considered to be consistent with the assumptions and requirements of the WLAs of this TMDL.

In practice, the language of subpart 1.5(h) of this permit and the corresponding language of the TMDL means that if the permittee is in compliance with the NPDES MS4 permit the permittee is meeting its obligations under the TMDL. It is important to note that the term TS4 meant to provide clarity that TDOT is operating a non-traditional MS4 since it is a statewide transportation system. However, both traditional and non-traditional permittees are regulated under the same rules commonly referred to as the MS4 program or MS4.

Section 1.5.3 states “Discharges of materials resulting from a spill, except emergency discharges required to prevent imminent threat to human health or to prevent severe property damage, provided reasonable and prudent measures have been taken to minimize the impact of the discharges.” This section is intended to clarify that discharges resulting from spills are most likely be classified as an “unpermitted discharge.” For example, a discharge from a vehicle accident involving a tractor trailer that releases material into a waterway would not be covered under this permit. In this same scenario, the individuals (or private companies) involved in the vehicle accident would be the responsible parties for the discharge, not TDOT. The exception in this section is a reflection of the standard bypass provision. However, it is rarely expected to be triggered.

3.2. PERMIT TERM

The permit will be issued for a 5 year term.

4. STORMWATER MANAGEMENT PROGRAM (SWMP)

4.1. TERMINOLOGY

In general conversation as well as previous permits, the terms Stormwater Management Program and Stormwater Management Plan with both using the acronym SWMP have been used almost interchangeably. While in conversations this interchanging of words is not typically an issue, it has caused some confusion with the permit. Therefore, this permit will use SWMP to mean Stormwater Management Program.

The Stormwater Management Program is a set of related measures, projects, plans, activities, and documentation that is managed in a coordinated manner under a structure that allows for the delivery of outcomes/goals. It may be helpful



to think of the SWMP documentation as a 3 ring binder. The table of contents for this binder would be very similar to the headings of this permit. Each minimum control measure (MCM) would constitute its own section developed by the permittee to meet the permit requirements. This section could include a plan(document) that describes in detail how the permittee intends to comply with the permit requirements for that MCM. It could also include items like a tracking mechanism, standard operating procedures, policies, or standardized forms such as an inspection form. This 3-ring binder isn't a program unless it is implemented. The SWMP must also include the legal authority to implement and enforce the activities described in the documentation. Additionally, the permittee must also be able to implement the SWMP but show evidence of implementation as well. So next, let's assume that 3 ring binder is on top of a filing cabinet. A staff member makes a copy of the inspection form from the binder and reviews the inspection procedure. Upon returning, the staff member logs the inspection in a tracking mechanism then sends a notice of violation (NOV) in accordance with the enforcement response plan. The completed inspection form and a copy of the NOV are stored in the filing cabinet as records. The documents in the 3 ring binder and the filing cabinet along with the inspection and enforcement activities collectively exemplifies how the term SWMP is used in this permit. The above is for example purposes. The permittee has enormous flexibility to incorporate various technologies into its SWMP such as GIS, databases, or electronic data management systems. It is important to clarify that the broader SWMP may include subprograms like the IDDE program etc.

Urbanized Area

On July 20, 2022, EPA published an interim guidance on Census Elimination of "Urbanized Area" definition. This guidance states:

On March 24, 2022, the Census Bureau finalized revisions to its criteria for defining urban areas based on the results of the 2020 Decennial Census. As part of that action, the Census Bureau ceased distinguishing between different types of urban areas, including "urbanized areas." This means that the Decennial Census, starting in 2020 and into the future, will not identify "urbanized areas." Because the Phase II regulations are written to cover MS4s located in "urbanized area[s] as determined by the latest Decennial Census," questions have arisen about what effects the Census Bureaus' new change has on which systems are considered regulated small MS4s moving forward.

EPA is currently evaluating next steps to provide clarity on this issue, including whether revisions to the Phase II stormwater regulations may be appropriate."



Due to the specific nature of the TDOT TS4 system, the proposed permit is based on the 2010 urbanized area maps as developed by the census bureau as recommended by the interim guidance document. Any changes to the regulatory definition in federal rules will be implemented either through a permit modification or at the next permit reissuance.

The interim guidance document can be found at EPA's website <https://www.epa.gov/npdes/interim-guidance-census-elimination-urbanized-area-definition>

4.2. AREA SPECIFIC MS4 SWMP REQUIREMENTS

The previous permit had a section titled "Area Specific MS4 SWMP Requirements". This section identified additional requirements for receiving streams that were designated as impaired (currently referred to as unavailable conditions) or those with a TMDL. This section has been removed from the proposed permit. Tennessee Rule 0400-40-05-.15 established MEP for all receiving stream classifications related to permanent stormwater management. Likewise MEP is established in this permit for construction stormwater, by section 2.2.4 of the permit which incorporates the requirements of the construction general permit (CGP). The CGP already takes into account the stream classification such as ETW or unavailable conditions. The CGP then requires additional BMPs for those classifications as appropriate. Therefore, it is unnecessary to add additional requirements for construction or permanent stormwater since it is already included elsewhere in the permit.

This section had additional requirements for streams with a TMDL. As discussed in the Rationale section 3.1, language in this permit (and TMDLs) clarifies that if the permittee is in compliance with this permit, it is considered to be in compliance with the TMDL. This clarification (along with the establishment of MEP as discussed above, makes it unnecessary for the inclusion of this section in the purposed permit. If in the future TMDLs establish a required numerical reduction in pollutant loading specifically for TDOT discharges, this permit would need to be modified to incorporate that new methodology. At this time, the Division has no plans to adopt a new methodology during the proposed permit term.

TDOT has an expansive foot print across the state. As such, they have roadways and storm sewers in almost every county and in every watershed. In some instances, TDOT may be the only entity operating an MS4/TS4 program in a particular watershed. However, due to the linear nature of these roadways, the actual drainage area of the TS4 discharge is minimal especially compared to a typical MS4 of an Urbanize area. Therefore, the question has arisen, "Why is MS4



discharges even listed as a source on the stream assessment or the TMDL?”. The answer lies in the federal rules. In a November 22, 2002 (Wayland and Hanlon), EPA memo clarifies that:

NPDES-regulated stormwater discharges must be addressed by the wasteload allocation component of a TMDL. See 40 C.F.R. § 130.2(h).

NPDES-regulated stormwater discharges may not be addressed by the load allocation (LA) component of a TMDL. See 40 C.F.R. § 130.2 (g) & (h).

It may be reasonable to express allocations for NPDES-regulated stormwater discharges from multiple point sources as a single categorical wasteload allocation when data and information are insufficient to assign each source or outfall individual WLAs. See 40 C.F.R. § 130.2(i). In cases where wasteload allocations are developed for categories of discharges, these categories should be defined as narrowly as available information allows.

WQBELs for NPDES-regulated stormwater discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs) under specified circumstances. See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3). If BMPs alone adequately implement the WLAs, then additional controls are not necessary.

EPA expects that most WQBELs for NPDES-regulated municipal and small construction stormwater discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances.

When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL. See 40 C.F.R. §§ 124.8, 124.9 & 124.18.

The NPDES permit must also specify the monitoring necessary to determine compliance with effluent limitations. See 40 C.F.R. § 122.44(i). Where effluent limits are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data).

The permit should also provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.



While there have been additional revisions to clarify the original memo, the rationale for including MS4/TS4s as a source of the wasteload allocation remain the same. Furthermore, this memo helps illustrate that the permit aligns with EPA's intent by including BMPs necessary to meet the TMDL requirements established. It also provides a means to ensure adequate performance (see the monitoring section 2.7) as well as a means make adjustments (see section 2.6.2).

4.3. VIOLATIONS OF WATER QUALITY STANDARDS

This section was titled Receiving Water Limitations in the previous permit. Section 2.1 has been clarified to include the requirement that the permittee shall not cause or contribute to violations of state water quality criteria of the receiving streams. Receiving Water Limitations in the previous permit went into details on what the permittee should do when a violation of water quality standards occurs. These details have been removed and the proposed permit clarifies that violations of water quality standards constitutes a potential threat to human health and the environment. This triggers the 24 hour reporting requirement of 3.12.1a and a 5 day follow up report. This change better clarifies the reporting requirements and allows both the division and the permittee to respond in a timelier manner. It also reduces the paperwork burden by removing the need for a comprehensive report, approval, and implementation process.

4.4. ROLES AND RESPONSIBILITIES OF PERMITTEES

The previous permit had a section titled "Roles And Responsibilities of Permittees" which was removed from this permit. The requirements in this section were a duplication of the authorization in 1.4 and reporting requirements in 2.2.2.

4.5. LEGAL AUTHORITY

40 CFR 122.34(b)(3)(i)(B)
40 CFR 122.26(d)(2)(i)

The requirements of this section is substantially similar to the previous permit with language aligning more closely with 40 CFR 122.26(d)(2)(i) which was used as a basis. Section 2.5.1 language was modified to align specifically with the requirements of 40 CFR 122.34(b)(3)(i)(B). This section now includes specific reporting requirements for the annual report.

4.6. TS4 SWMP REVIEW AND MODIFICATION

40 CFR 122.63
40 CFR 122.34(d)



Clarified this section to better delineated between Minor and Major modifications. This section clarified the requirements of modification as it relates to the public involvement/participation MCM.

The permittee is encouraged to request a determination from the division of a modification if it is unclear as to the classification of a minor or major modification. Generally speaking, the best practice will be to public notice changes if there is any doubt as to if it is minor or major modification.

4.7. MONITORING

40 CFR 122.34(b)(6)

Monitoring was moved from the Good Housekeeping MCM into its own section of the permit. Furthermore appendix c of the previous permit was incorporated into this section as well. The requirements to 1. review the results and implement changes to the SWPPP and 2. Allowance for modification was also removed. These two provisions are now required by section 2.6 of the permit.

In the previous permit term, TDOT conducted an excellent study into BMP effectiveness. The intent of the monitoring identified in this section is to continue that work. The monitoring should be conducted to gain a better understanding of the operation of the BMPs in a real world scenario. This information can in turn be utilized in the design and construction of TDOT projects to maximize pollutant removal with a better understanding of the practicability of the respective measures.

4.8. HISTORICAL CONSENT ORDER

On March 10, 2004, the commissioners of TDEC and TDOT signed a consent order WPC02-0720 related to compliance issues during the construction of State Route 840. This order included requirements that were designed to be incorporated broadly into TDOT operations primarily as part of the MS4 program. The Department approved the proposed Statewide Stormwater Management Plan in a letter dated August 2, 2007, and the implementation plan in a letter dated December 8, 2008. Both of these letters are available on the Divisions Dataviewer for this permit. The relevant section of the order is attached in Appendix A for reference. A summary of those requirements and the current implementation is described below:

XXXIV. C. Development of a Statewide Stormwater Management Plan



1. TDOT shall develop a Statewide Stormwater Management Plan (referred to in the order as the "Plan"). The Plan will be comprehensive and will incorporate all appropriate phases of project development, including environmental planning, design, and construction.

XXXIV. C.6. (a),(b),(c),(d),(l) &(m) and XXXIV. C.7.(b),(f),(g) are implemented through the SWMP as a whole, the requirement for all applicable site be permitted directly under the appropriate NPDES construction or ARAP permit.

XXXIV. C.6. (e) is implemented through Sections 2.2.1.3 and 2.2.1.4

XXXIV. C.6. (f) is implemented through Sections 2.2.4 and 2.2.5.

XXXIV. C.6.(g) & (h) regarding independent review of EPSC plans was an optional provision for long term inclusion,

XXXIV. C.6. (i) & (k) are implemented through Sections 2.2.1 and 2.2.4.

XXXIV. C.6. (j) is implemented through Section 2.7

XXXIV. C.6. (n) is implemented through Sections 2.6 and 8

XXXIV. C.7.(c), (i) are implemented through Sections 2.2.4 Note: weekly inspection (C.7.(c)) is required as management measure

XXXIV. C.7 (i)-states "TDOT shall attend all public hearings held by TDEC on permit applications submitted by TDOT under the Act and be available to respond to questions related to the application, if any"

XXXIV. E. 1. is implemented through Section 2.2.1.2

XXXIV. E. 2. 3. and XXXIV. F. 2 are implemented through Section 2.2.4

XXXIV. F. 1. is implemented through Section 2.2.4

5. MINIMUM CONTROL MEASURES

40 CFR 122.34(b)

The Measurable Goals Table format used in the previous permit has been modified in the proposed permit to better delineate the measure, goals, and



Annual Report Requirements. This layout is intended to provide clarity to the reporting requirements. It is important to note, that the permittee is expected to maintain documentation supporting the implementation of the goals.

5.1. PUBLIC EDUCATION AND OUTREACH

40 CFR 122.34(b)(1)

Management measures in this section have been clarified from the previous permit to better implement the requirements of 40 C.F.R. §122.34(b)(1).

The proposed permit includes detailed requirements of The TDOT Fundamentals of Erosion Prevention and Sediment Control Training Program that were previously implement under a 2019 memorandum of agreement between TDEC and TDOT. The Program certifies TDOT personnel to perform Erosion Prevention and Sediment Control (EPSC) inspections as specified in the General NPDES Permit for Discharges of Stormwater Associated with Construction Activities (CGP). The training materials presented in the Program are an adaptation of the TDEC Level 1 Tennessee Erosion Prevention and Sediment Control Training Program for Construction Sites (TDEC Level 1) class materials. Because of this, the Program is considered an approved extension of the TDEC Level class. As such TDEC may audit the TDOT class in order to determine compliance with this permit as well as consistency with the TDEC Level 1 class.

Any certification issued through this Program will validate that TDOT employees meet the requirements to conduct EPSC inspections as specified in the CGP and serve as a pre-requisite for the TDEC Level 2 Design Principles of Erosion and Sediment Control for Construction Sites as specified in the CGP.

The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest, or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce stormwater pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting, and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples



of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

5.2. PUBLIC INVOLVEMENT/PARTICIPATION

40 CFR 122.34(b)(2)

40 CFR 122.34(d)(2)

It is recognized that the Public Education and Public Involvement MCMs may have overlapping elements. The proposed permit moves some management measures between the Public Education and Public Involvement MCMs in order to provide additional clarity. Additional requirements have been added regarding public access of the SWMP in order to better meet the requirements of 40 C.F.R. §122.34(b)(2). This permit requires that the SWMP be placed on public notice prior to the first annual report. This is not intended to be an annual requirement as the section also requires a formal public notice process to be developed which identifies what modifications to the SWMP require public notice. Additional direction on Minor and Major modifications is found in 2.6.2.

EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the stormwater management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)



There is an additional Recordkeeping requirement in 40 CFR 122.34(d)(2) related to public involvement which has been incorporated into the MCM rather than a standalone permit condition. "The permit must require the permittee to make records, including a written description of the stormwater management program, available to the public at reasonable times during regular business hours (see § 122.7 for confidentiality provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)" It is important to note that since TDOT is a state agency additional public records and "sunshine" laws may also apply.

5.3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

40 CFR 122.34(b)(3)

40 C.F.R. §122.34(b)(3) (i) states "The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at §122.26(b)(2)) into the small MS4." It is recognized that as an operator of a TS4, TDOT does not have the same enforcement mechanisms available as a traditional MS4 program. The term "enforcement" is intended to include the legal remedies available to TDOT. For example, these remedies may take the form of enacting contract conditions or requesting enforcement assistance from other agencies.

EPA recommends that the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA also recommends that the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

5.4. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

40 CFR 122.34(b)(4)

It is recognized that as an operator of a TS4, TDOT does not have the same legal authority mechanisms and enforcement mechanisms available as a traditional MS4 program. When the rule refers to "ordinance or other regulatory mechanism", TDOT is expected to utilize the legal authority it has under a wide variety of mechanism such as contracts, policies, memorandums of agreements



etc. The term “enforcement” is intended to include the legal remedies available to TDOT some of which may include contract contingencies or a claim against a bond.

EPA recommends Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators and require stormwater pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See [§ 122.44\(s\)](#)

5.5. POST-CONSTRUCTION/PERMANENT STORMWATER MANAGMENT

40 CFR 122.34(b)(5)
0400-40-05-.15

This permit incorporate the newly adopted rules for post-construction/permanent stormwater management. As such, this control measure if formatted slightly differently than the others. Sections 2.2.5.1 through 2.2.5.8 are copied from Tennessee Rule 0400-40-05.15 with slight editing to clarify references. Tennessee Rule 0400-40-05.15 establishes what constitutes Maximum Extent Practicable (MEP) for this control measure.

Subpart 2.2.5.5a has been deleted from the permit since it is only applicable to new permittees. It has been marked “reserved” to maintain the numbering system.

Subpart 2.2.5.5b has had the first sentence removed as it is only applicable to newly permitted programs.

Section 2.2.5.9 establishes how the elements of MEP will be measured and reported in the annual report. It is important to note some reporting elements won't be required in the annual report until the implementation plan is completed.



The rule requires updated legal instruments for post-construction/permanent stormwater management. The primary legal mechanism for TDOT in this instance is the contracts for projects. Unlike a municipality which has to update, public notice, and pass multiple readings by a council, TDOT simply has to update their template language for this contracts. As such a simple affirmative statement from TDOT is all that is necessary for this measure.

Additionally, the rule requires verification of correct installation of post-construction/permanent SCMs. TDOT's internal process requires that concurrence with EPSC installation or removal and final stabilization by the Environmental Division. If concurrence is not granted by the Environmental Division, the contract is not released to fiscal for payment. Therefore, a non-compliant site does not need traditional enforcement measures such as a NOV to be brought into compliance.

The requirement to establish and maintain adequate legal authority assigning SCM maintenance responsibility and personnel access to the SCM and provide for enforcement action as required by 2.2.5.7 is not being incorporated into the annual report requirements as a management goal. All sites are owned by the State of Tennessee. This inherently establishes the legal authority.

5.6. POLLUTION PREVENTION/GOOD HOUSEKEEPING

40 CFR 122.34(b)(6)

The monitoring that was included in this section in the previous permit has been moved to the Monitoring section so that all analytical and monitoring activities are more clearly communicated. Additionally, this section has been formatted to be more consistent with the other MCMs in this permit where the initial portion outlines the requirements and the management measures/reporting table is located at the end of the section. The term Standard Operating Procedures (SOP) has been changed to Standard Operating Procedures (SEP) to better align with the internal terminology that the permittee uses.

5.6.1. Roadside Vegetation Management

40 CFR 122.34(c)(2)

This section has been updated primarily to shift from the "development" aspect to the "implementation and maintenance" aspect of the program.



6. ANNUAL REPORT

40 CFR 122.34(d)(3)
40 CFR 122.41

This permit requires a submittal of an annual report as described by Part 5. It is important to note that the individual elements of the report are identified throughout the permit typically in a table or narrative format.

7. APPLICATION

The application section has been added to the proposed permit to reflect the requirements of more clearly 40 C.F.R. §122.33(b)(2)(i) and 40 C.F.R. §122.21(f).

7.4.2 requires submittal of the required maps in the application electronically. The current preferred method is through a geo spatial REST service. However, since technology advances rapidly an alternative submittal mechanism may be approved by the division at the time of the application.

8. ELECTRONIC REPORTING

40 CFR 122.34(d)(3)
40 CFR 127

The [NPDES Electronic Reporting Rule \(eRule\)](#), which became effective on December 21, 2016, replaces most paper-based reporting requirements with electronic reporting requirements.

At the time of drafting this proposed permit, the division has not made a stormwater application or annual report electronically available for this individual permit. However, since 40 CFR 122.34(d)(3) requires submittal of annual reports electronically by December 21, 2025, that capability may be developed and implemented during the permit term. Upon notification that these forms are available, the permittee will be required to submit the applicable forms electronically.

9. ANTIDEGRADATION STATEMENT / WATER QUALITY STATUS

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter [0400-40-03-.06](#). It is the



purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Streams across Tennessee may be identified as:

Outstanding Natural Resource Water (ORNL)

No new discharge or expansion will be allowed unless 1) existing ONRW water quality conditions will continue to be met or exceeded; or 2) no permanent degradation of water quality above the level of *de minimis* will be allowed.

These streams can be identified on our dataviewer at

https://dataviewers.tdec.tn.gov/pls/enf_reports/f?p=9034:34304:::

Exceptional Tennessee Water

No permanent degradation of water quality above the level of *de minimis* will be allowed unless the applicant demonstrates to the Division that the degradation is for necessary economic or social development and will not interfere with or become injurious to any existing uses. The specific requirements for this demonstration are described in the Rules of the Tennessee Department of Environment and Conservation, Chapter 0400-40-03-.06(4).

These streams can be identified on our dataviewer at

https://dataviewers.tdec.tn.gov/pls/enf_reports/f?p=9034:34304:::

Available Conditions Waters (meeting designated uses)

These waters are fully supporting of its designated uses. The Division has maintained, and shall continue to assess, the water quality of the stream to assure that the water quality is adequate to protect the existing uses of the stream fully, and to assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

These streams can be identified on our mapviewer at

<https://tdeconline.tn.gov/dwr/>

Unavailable Conditions Waters (assessed as needing additional pollution controls)

These waters partially/does not support(s) designated uses due to various causes from various sources.

These streams can be identified on our mapviewer at

<https://tdeconline.tn.gov/dwr/>



Total Maximum Daily Loads (TMDLs) have been developed and approved can be found on our website at

<https://tdec.tn.gov/document-viewer/#/search/tmdl>

The proposed terms and conditions of this permit comply with the wasteload allocations of these TMDLs.



APPENDIX 1

C. Development of a Statewide Storm Water Management Plan

1. Within 18 months of the effective date of this Order, or such additional time as TDEC may approve for good cause, TDOT shall develop a

Statewide Storm Water Management Plan (hereinafter referred to as the “Plan”). The Plan will be comprehensive and will incorporate all appropriate phases of project development, including environmental planning, design and construction.

2. TDOT will immediately form a working group to initiate formulation of the Plan. At a minimum, the group will include representatives with substantial experience in the following disciplines: environmental protection, design, construction, hydraulics, maintenance, and material testing.
3. In addition, TDOT will initiate the steps necessary to select an outside expert to guide and assist in the development of the Plan. TDOT’s selection will be subject to TDEC’s approval.
4. TDOT will implement a process, subject to the approval of TDEC, providing for public review and comment during the development of the Plan. At a minimum, TDEC and TDOT shall hold at least three (3) public meetings, at least one in each grand division of the state, to receive comment from the public.
5. The completed Plan shall be subject to TDEC approval. With TDEC’s concurrence, parts of the Plan may be approved and implemented prior to final approval of the completed Plan.
6. At a minimum the completed Plan shall include the following elements:
 - (a) Procedures describing TDOT’s project planning activities, including the development of project alternatives, environmental

analysis and selection of final alignment, and these procedures will incorporate the consideration of analyzing the potential impact of increased flows of storm water runoff events, and consideration of a no-build option and of project alternatives or designs that avoid or minimize impacts to the waters of the state;

- (b) Investigation, evaluation and development of state-of-the-art erosion prevention and sediment control BMPs;
- (c) Consideration of the use of specific erosion prevention controls that, through published comparative test data, have been shown to result in a 90 to 100 percent erosion reduction from bare soil;
- (d) Development of BMP guidelines that describe appropriate usage and proper implementation;
- (e) Continuing training of TDOT personnel within all TDOT Divisions having responsibility for any aspect of storm water management, including without limitation Environmental Planning and Permits, Design and Construction, and consideration of higher-level training course(s) to be developed in concert with TDEC;
- (f) Review of TDOT construction contract provisions related to erosion prevention and sediment control, including consideration of limits on the length of time that soils are left exposed, the total area of exposed soil during construction, and periods of the year during which clearing, grubbing, excavation, grading, cutting or filling will not occur;

- (g) Independent review of erosion prevention and sediment control plans;
- (h) Consideration of the continued use of independent erosion prevention and sediment control supervisors for construction projects requiring ARAP or NPDES permits;
- (i) Development of Quality Assurance/Quality Control teams to conduct an appropriate level of review of construction projects requiring ARAP or NPDES permits, provide recommendations for improved practices, and provide training for construction personnel;
- (j) Evaluation of water quality monitoring protocols to assist in evaluating the effectiveness of erosion prevention and sediment control practices;
- (k) Evaluation of compliance requirements for contractors relating to storm water management, including incentives and disincentives;
- (l) Identification of all potentially impacted waters of the state in the erosion prevention and sediment control plans;
- (m) Consideration of incorporating erosion prevention and sediment control requirements for contractor-provided waste and borrow areas; and
- (n) Provision for periodic review of the Plan, including the opportunity for public input.

7. Interim measures pending approval of the Plan.

- (a) Except as this Order may otherwise specifically provide with respect to SR 840 and SR 26, the provisions of this section of the Order (XXXIV.C.7.) shall apply as indicated to each of TDOT's ongoing or future road projects requiring an NPDES permit until such time as the Plan, or any part of the Plan, has been approved by TDEC for implementation. To the extent that activity on any road project has already progressed to a stage that it is not practical to implement any of the interim measures identified below, these provisions shall not apply to that stage of work unless TDEC disagrees, in writing, to the contrary; however, these provisions shall apply to the remaining stages of work. Upon final approval, the Plan shall supersede the interim provisions of this section. To the extent that any part of the Plan has been approved for implementation prior to final approval of the completed Plan, that part of the Plan shall supersede the interim provisions of this section dealing with the same subject matter.
- (b) All ongoing and future projects requiring an NPDES permit shall have erosion prevention and sediment control (EPSC) plans. Each EPSC plan shall specify the timing of implementation of the measures vis-à-vis construction of the road project. At a minimum, each EPSC plan shall require (i) that erosion prevention and sediment control measures be in place before clearing,



grubbing, excavation, grading, cutting or filling occurs, except as such work may be necessary to install EPSC measures; and (ii) that the EPSC measures and/or plan shall be modified as necessary so that they are effective at all times throughout the course of the project. In addition, each EPSC plan shall address periods of the year during which clearing, grubbing, excavation, grading, cutting or filling will not occur and limitations on the total area of exposed soil (areas that do not have temporary or permanent stabilization) at any time during construction. These EPSC plans shall be designed or reviewed by an independent consultant (who has CPESC certification or has substantial professional experience in soil erosion and sediment control and has been approved, in writing, by TDEC) who finds that the BMPs therein, if properly implemented, installed and maintained, are designed to manage erosion and prevent sediment accumulation in the waters of the state and comply with the terms of the General Permit. This finding shall be documented as provided in Exhibit A. These EPSC plans and the Exhibit A documentation shall be provided to TDEC with the NPDES permit application or notice of intent.

- (c) Each EPSC plan shall be fully and timely implemented and maintained.
- (d) TDOT and/or its contractor(s) shall conduct inspections of EPSC measures and potentially impacted streams, at least once per week,

during any construction, and thereafter until the site is permanently stabilized.

- (e) Prior to final approval of the Plan, but in any event not more than 180 days after the effective date of this Order, TDOT shall establish additional Quality Assurance/Quality Control Teams, which shall operate independently of TDOT's project supervisors. These teams shall include individuals with environmental protection training or experience and who are approved by TDEC. These teams shall inspect all areas on which clearing, grubbing, excavation, grading, cutting or filling has occurred on projects, including the potentially impacted streams, at least once a month until such areas are permanently stabilized, or as provided in approved interim provisions of the Plan. At sites that TDEC determines to be high quality waters or that have recurring problems, inspections will occur at least twice each month, or as provided in approved interim provisions of the Plan. All inspection reports shall be provided simultaneously to both TDEC and TDOT, or as provided in approved interim provisions of the Plan.
- (f) TDOT and/or its contractor(s) shall install rain gauges in accordance with a plan approved by TDEC at all sites where clearing, grubbing, excavation, grading, cutting or filling is being actively performed, or exposed soil has not yet been permanently

stabilized. TDOT and/or its contractor(s) shall check each gauge after every rainfall event occurring on these sites and maintain detailed records of rainfall events including dates, amounts of rainfall, and the approximate duration or starting and ending times. Inspections of EPSC measures shall also be performed before anticipated rainfall events and during or within twenty-four hours after any rainfall event that exceeds 0.5 inches.

- (g) TDOT and/or its contractor(s) shall make necessary maintenance and repair on EPSC measures within twenty-four hours after all inspections, unless conditions make a particular activity impracticable (any such conditions shall be documented). TDOT and/or its contractor(s) shall maintain records of inspections and corrective measures, including documenting photographs of representative items requiring correction and the corrective action taken for it.
- (h) Any time that TDOT becomes aware that sedimentation is occurring or has occurred in streams impacted by an on-going project, TDOT shall evaluate the EPSC measures employed, repair or replace defective EPSC measures, and install, as applicable, additional or other EPSC measures with the goal of eliminating future sedimentation.

- (i) TDOT shall attend all public hearings held by TDEC on permit applications submitted by TDOT under the Act, and be available to respond to questions related to the application, if any.

E. Construction Contract Management

- 1. After 90 days from the effective date of this Order, each TDOT contract entered into for a project in which a general or individual NPDES permit or an ARAP is required shall include a requirement that the Contractor's (Contractor is defined in §101.17 of TDOT's *Standards of Construction for Road and Bridge Construction*) project supervisor(s) successfully complete TDEC's *Fundamentals of Erosion and Sediment Control*, or the successor or equivalent course from other sources subject to TDEC approval, and such approval is not to be unreasonably withheld.
- 2. After 90 days from the effective date of this Order, each TDOT contract entered into for a project in which a general or individual NPDES permit or an ARAP is required shall provide that the contractor shall cease work

on part or all of a project when directed to do so by a TDOT project inspector or project supervisor because of inadequate EPSC measures.

3. TDOT shall, within ninety (90) days of the effective date of this Order, file a Notice of Rulemaking Hearing with the Secretary of State, commencing a rulemaking proceeding that will establish a system for contractor certification and contractor suspension relating to the ability of a contractor to bid on highway construction projects involving certain waters of the state (e.g., high quality waters, impaired waters). TDOT shall file the final rules with the Secretary of State, pursuant to T.C.A. § 4-5-206, no later than three hundred sixty-five (365) days after the filing of the Notice of Rulemaking Hearing, except with the consent of TDEC for good cause.
4. After 90 days from the effective date of this Order, each TDOT contract entered into for a project in which a general or individual NPDES permit or an ARAP is required shall include disincentives for environmental violations similar to the current ones for late completion. If TDEC issues a Notice of Violation to a TDOT Contractor for work on or related to a TDOT road project, TDOT shall be sent a copy by TDEC.

F. Education and Certification

1. Within one year of the effective date of this Consent Order, TDOT shall have two or more staff positions filled in its office that have expertise in, and are involved in the design or review of EPSC plans. Minimum qualifications for these positions shall include a Bachelors level degree in engineering, soil science, or geology or a related field, and four years

professional experience with prevention of soil erosion and sediment control. These people shall have also successfully completed TDEC's *Design of Vegetative and Structural Measures for Erosion and Sediment Control* course, or its successor or equivalent course from other sources subject to TDEC approval. These people shall also obtain the CPESC certification as soon as possible after they have the required experience. The documentation of all such experience and certification shall be submitted to TDEC.

2. TDOT project inspectors and project supervisors who are responsible for implementation and maintenance of EPSC plans shall successfully complete TDEC's *Fundamentals of Erosion Prevention and Sediment Control* course, and TDOT's project supervisors shall also successfully complete TDEC's *Design of Vegetative and Structural Measures for Erosion and Sediment Control* course, or their successors or equivalent courses from other sources subject to TDEC approval, within eighteen (18) months of the effective date of this Consent Order.

Appendix B

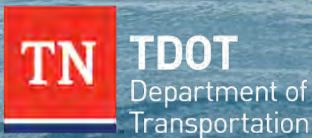
ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

TENNESSEE DEPARTMENT OF TRANSPORTATION

TENNESSEE DEPARTMENT OF TRANSPORTATION ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT NO. TNS077585

Prepared for:



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APPENDICES

Appendix A	Illicit Discharge Report Form
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ACRONYMS

CFR	Code of Federal Regulations
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
IDDEP	Illicit Discharge Detection and Elimination Plan
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
ROW	right-of-way
SFMP	Stormwater Field Monitoring Program
SWPPP	Stormwater Pollution Prevention Plan
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TS4	Transportation Separate Storm Sewer System
UA	urbanized area

1.0 INTRODUCTION

The Tennessee Department of Transportation (TDOT) Transportation Separate Storm Sewer System (TS4) Permit No. TNS077585 (TS4 Permit) requires TDOT to implement an illicit discharge detection and elimination (IDDE) program for all roadways and facilities in the urbanized areas of Tennessee under its control. This IDDE Plan will define the purpose, scope, objectives, and methodologies to be implemented by TDOT to fulfill those permit requirements.

1.1 Purpose of the Tennessee Department of Transportation Illicit Discharge Detection and Elimination

The purpose of this document is to respond directly to the TDOT TS4 Permit requirements and establish the organization, logistical plan, and technical procedures that will be implemented by TDOT to achieve full compliance. Section 1.3 of the TDOT TS4 Permit authorizes TDOT to discharge stormwater from its facilities and right-of-ways (ROWS), as well as the following non-stormwater discharges:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising groundwaters
- Uncontaminated groundwater infiltration (Infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water

- Springs
- Water from crawl space pumps, foundation drains
- Footing drains
- Individual residential car washing
- Flows from Riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Sidewalk, driveway, and street wash water (including tunnel cleaning)
- Discharges or flows from firefighting activities

These non-stormwater discharges are allowed provided that the Tennessee Department of Environment and Conservation (TDEC) has not determined these sources to be substantial contributors of pollutants to the TDOT stormwater conveyance system. Thus, any discharge to the TDOT stormwater conveyance system besides stormwater and those items listed above would be considered a possible illicit discharge.

Section 2.2.3 of the TS4 Permit specifically requires TDOT to perform the following activities to address all possible illicit discharges on its properties and ROWs:

- Continue to implement and enforce, as allowable, a program to detect and eliminate illicit discharges onto TDOT ROWs and into TDOT storm sewer systems or other Municipal Separate Storm Sewer Systems (MS4s) within urbanized areas (UA)
- Continue to implement a storm sewer system map and outfall visual screening schedule for UAs showing the location of all outfalls and the names and location of all waters that receive discharges from those outfalls.
- Continue to implement a written Illicit Discharge Detection and Elimination Plan (IDDEP) addressing policies and procedures for detecting and eliminating illicit stormwater discharges onto TDOT's ROW.

- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Continue to implement monitoring protocols and review annually spill response procedures.
- Continue to document the number of outfalls screened, the number of illicit discharges reported, verified, and reported to other agencies, and measures taken to eliminate the illicit discharge.

1.2 Scope Of the Tennessee Department of Transportation Illicit Discharge Detection and Elimination Plan

This IDDEP will identify all data requirements necessary to comply with the TS4 Permit and describe the methods and procedures for acquiring that data for TDOT's ROWs in UAs. The program described in the IDDEP for identification, classification, evaluation, field detection, and elimination of illicit discharges will include methodologies for the following activities:

- **Training TDOT employees:** TDOT employees in various organizations and functional roles will contribute to the detection of possible illicit discharges. They will be trained in the procedures for recognizing, reporting, and investigating the nature and source of the discharge, as appropriate to their job.
- **Training TDOT contractors:** TDOT contractors will contribute to the detection of possible illicit discharges. They will be trained in the procedures for recognizing, reporting, and investigating the nature and source of the discharge, as appropriate to their job.
- **Perform office research and preliminary data collection:** Upon identification and evaluation of the report of a possible illicit discharge within TDOT-controlled property or ROW, implementation of the IDDEP will be initiated with a review of the TS4-regulated areas and contact with municipal MS4 sources to determine what Illicit Discharge Detection and Elimination (IDDE) information and procedures may have already been collected for TDOT ROWs.
- **Procedure for physical dry weather inspection of outfalls and other structures for continuous and intermittent non-stormwater discharges:** A visit to identified outfall locations may be necessary to confirm continuous non-stormwater discharges and/or signs of intermittent non-stormwater discharges (e.g., staining, accumulated debris). A checklist including all information required for each outfall will be included in the IDDEP discussed later in this plan.

- **Procedure for upstream visual investigations:** For outfalls where a non-stormwater discharge is observed, a survey of the drainage area of the outfall to identify specific source(s) may be necessary. The IDDE will provide a procedure, checklists, and a documentation process for this activity.
- **Data Management:** The IDDEP will describe the organization of a data management process to keep track of reports of non-stormwater discharges, ensure that the reports are evaluated and confirmed or dismissed, maintain any data acquired from the evaluation, and document the resulting TDOT action, as appropriate.

TDOT operates, or is responsible for, over 180 facilities statewide, including county, district, and regional maintenance garages and salt storage sites under the direct control of TDOT, and rest areas, welcome centers, weigh stations, and other facilities operated by other state government agencies. This plan does not explicitly cover possible illicit discharges from those facilities because a separate Stormwater Pollution Prevention Plan (SWPPP) has been prepared for each facility that covers all stormwater management at these locations. Additionally, a separate Stormwater Field Monitoring Program (SFMP) has been prepared that details the methods and procedures that will be used to monitor the stormwater outfalls at each facility. However, if an illicit discharge is observed at any facility whose source or composition is beyond the scope of its SWPPP or the SFMP, the methods and procedures included in this plan may be applied, as appropriate.

This IDDEP does not include the specific plans or schedules for mapping outfalls within TDOT ROW and controlled areas. TDOT completed initial mapping requirements under the original MS4 Permit and will continue to monitor and map new MS4s and changes to ROW, as necessary.

This IDDEP does not include a specific plan to educate the public regarding illicit discharges within TDOT ROWs. The nature and scope of this activity will be addressed through TDOT Public Outreach efforts via the Litter Grant Program. This program will serve to inform the public employees, businesses, and the general public of the hazards associated with illegal discharges and improper disposal of waste, and how to identify and report these discharges. IDDE's may be reported through Litter Hotline (1-877-8-LITTER).

1.3 Definitions

Illicit Discharge

Illicit Discharge is defined at 40 Code of Federal Regulations (CFR) §122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an National Pollutant Discharge Elimination System (NPDES) permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.

Illicit Connection

An illicit connection, is any physical or non-physical connection that discharges domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater) into TDOT TS4, unless that discharge is authorized under a NPDES permit other than this TS4 Stormwater Permit (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system). An illicit connection is also any category of non-stormwater discharges that TDOT identifies as a source or significant contributor of pollutants pursuant to 40 CFR. 122.34(b)(3)(iii).

Waters of the State

Waters of the state are defined in the Tennessee Water Quality Control Act as:

“Waters” means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

Wet weather conveyances

Wet weather conveyances are conveyances that flow in direct response to precipitation. Wet weather conveyances are not protected under the Tennessee Water Quality Control Act to the same extent as other Waters of the state. The definition of a wet weather conveyance as taken from the Tennessee Water Quality Board Rule 400-40-3-.04(36) is given as follows: “Wet weather conveyances” are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that flow only in direct response to precipitation runoff in their immediate locality and whose channels are above the groundwater table, that are not suitable for drinking water supplies, and In which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least 2 months.

Regulated Municipal Separate Storm Sewers

Municipal Separate Storm Sewer is defined by the United States Environmental Protection Agency as a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, and storm drains):

- a. Owned or operated by a State, city, town, borough, county, parish, district, or association or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as sewer district, flood control district or drainage district, or similar entity, or an Indian Tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges to waters of the United States
- b. Designed or used for collecting or conveying stormwater
- c. Which is not a combined sewer
- d. Which is not a part of a Publicly Owned Treatment Works as defined at 40 CFR 122.2

Where a TDOT culvert, pipe, or bridge is used solely to transfer waters of the state (i.e., streams as defined above) under TDOT highways, these specific structures are not considered municipal separate storm sewers under the above definition. Also, the downstream outlet of these structures is not considered an outfall. Because TDOT does not have jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes in waters of the state, TDOT cannot be responsible for the management of stormwater quality above and below these structures (the exception being that TDOT is responsible for the contribution of stormwater from their roadway and ROW to the drainage structure). For “Wet Weather Conveyances” (see above definition), it is recognized that TDOT provides culverts, pipes, and bridges to direct these flows under the roadway. These structures may constitute a part of the municipal storm sewers under the TDOT TS4 Permit, and the downstream end of these structures may be considered to be an outfall. One of the goals of the separate outfall mapping program is to develop a clearer definition of what types of structures and conveyances that occur within TDOT ROWs should be considered outfalls.

2.0 ILLICIT DISCHARGE DETECTION

TDOT-operated roads include interstates, state routes, and functional routes. The total of state-maintained roads is approximately 14,000 miles. There are approximately 1,200 miles of interstate highways. Due to this relatively large area, the significant number of possible outfalls, and potential contact with all other regulated MS4s in the state, the TDOT illicit discharge detection program will have to be systematic and well-organized to be a practical and manageable operation.

The basic process by which TDOT will identify and respond to possible illicit discharges will include the following steps:

1. Receive reports of possible illicit discharges from internal or external sources
2. Evaluate the report to classify and prioritize
3. Enter report information into the database tracking system
4. Refer the report to the appropriate internal or external organization
5. If TDOT is responsible, conduct field reconnaissance
6. If warranted, conduct further investigation
7. Take necessary action to resolve or close out the illicit discharge report

All actions and decisions at each step of the process will be documented and recorded in a tracking system. The following sections describe how TDOT will detect and respond to possible illicit discharges within its property boundaries and ROW.

2.1 Identification of Possible Illicit Discharges in Tennessee Department of Transportation Right-Of-Ways

Illicit discharges in TDOT ROWs can occur both in the form of materials deposited directly on to the highways and materials discharged into the stormwater drainage system within or draining into the ROW. Examples of possible illicit discharges include:

- Soils and solid materials tracked on to the roadway
- Chemical pollutants and fuel discharged onto the highways from vehicles due to leaks, spills, and intentional discharges
- Bacterial contamination due to discharge from animal transport vehicles, leaking storage tanks, and run- on from adjacent properties
- Non-stormwater discharges from adjacent commercial and industrial operation

TDOT does not intend to conduct field surveys intended specifically to identify possible illicit discharges along its ROWs. Rather, existing on-going TDOT activities and other sources will be used to identify possible problem areas, including:

- TDOT's outfall mapping program
- Reports from county and district maintenance supervisors who routinely perform visual checks of conditions along roadways, including ditch and culvert observations
- Reports from routine ditch and culvert maintenance by TDOT personnel
- Reports from TDOT employees performing catch basin cleaning operations
- Reports from TDOT employees performing litter removal and mowing
- Reports from TDOT HELP Truck drivers
- Reports from other MS4s and other state and local government agencies
- Reports from the general public

All TDOT employees who will function in any of the above activities will receive training in the recognition and reporting of possible illicit discharges.

2.1.1 Employee Training

Knowledgeable TDOT employees will be the first line of recognition and response to possible illicit discharges on TDOT-controlled properties. Currently, TDOT provides annual training for TDOT personnel for waste handling, stormwater regulations, Spill Prevention, Control, and Countermeasure requirements, conducting facility inspections, hazard recognition, and other topics. The training sessions facilitate regular reinforcement of key environmental concepts, reviews of important program documents and guidance materials, distribution of new materials, etc., along with providing the opportunity for roundtable discussions and the sharing of lessons learned. Specific training on illicit discharge observation and reporting will be included in these training sessions. As a minimum, this training will include:

- What is an illicit discharge
- Sources of illicit discharges on TDOT facilities and ROWs

- Identifying possible illicit discharges in TDOT ROWs
- Hazardous substance awareness
- Reporting procedure for possible illicit discharges

More detailed and job-specific training on illicit discharges/disposals will be conducted for inspectors, maintenance, field staff, and other appropriate employees who may be expected to encounter illicit discharges/disposals during their regular job activities.

2.1.2 Standard Environmental Procedures

TDOT has developed Standard Environmental Procedure 001 Spill Prevention and Response at TDOT Facilities to address illicit discharges and the process by which the TDOT Environmental Compliance Unit will receive suspected illicit discharge information from internal and external sources and route it to a centralized database and filing system for cataloging and evaluation for further action (see Section 4). The procedure includes a mechanism for contact with the Tennessee Emergency Management Agency existing hotline for the reporting of hazardous spills within the state. This procedure also identifies points of contact in each TDOT region that should be notified if a possible illicit discharge is observed and a checklist of information to be filled out by the Environmental Compliance Unit personnel making or receiving the report to document the observation. The database records and tracks all reports of possible illicit discharges, and the actions taken to respond to and/or mitigate the situation. This procedure also includes a mechanism to notify adjacent MS4s of any reported spills or possible discharges that would have an impact on that MS4s ability to comply with its permit.

2.1.3 Classifying Discharges

To properly evaluate a reported possible illicit discharge, the nature of the discharge must be understood. The frequency of dry weather discharges in storm drains is important, and can be classified as *continuous*, *intermittent*, or *transitory*. These three categories provide a good basis for defining illicit discharges:

1. **Transitory illicit discharges** are typically one-time events resulting from spills, breaks, dumping, or accidents. Because they are not recurring, they are the most difficult to identify, trace, and remove. The best method to reduce transitory discharges is through general public education, education of response personnel, and tracking of discharge locations.
2. **Intermittent illicit discharges** occur occasionally over a period of time (several hours per day, or a few days per year). Intermittent discharges can result from legal connections to the storm drain system, such as a legal sump pump connection that is illegally discharging

anything other than groundwater. Intermittent discharges can also result from activities such as vehicle washing in exterior areas. These types of discharges are more likely to be discovered, and are less difficult to trace and remove, but can still present significant challenges. These discharges can have large or small impacts on waterbodies depending on pollutant content and the size of the receiving water body.

3. **Continuous illicit discharges** are typically the result of a direct connection from a sanitary sewer, overflow from a malfunctioning septic system, inflow from a nearby subsurface sanitary sewer that is malfunctioning, or an illegal connection from a commercial or industrial facility. Continuous illicit discharges are usually easiest to trace and can have the greatest pollutant load.

Dry weather discharges that may or may not be illicit discharges are most often composed of one or more possible flow types:

- *Sewage and septage* flows are produced from sewer pipes and septic systems.
- *Washwater* flows are generated from a wide variety of activities and operations.
- *Liquid wastes* refers to a wide variety of flows, such as oil, paint, and process water (radiator flushing water, plating bath wastewater, etc.) that enter the storm drain system.
- *Tap water* flows are derived from leaks and losses that occur during the distribution of drinking water in the water supply system.
- *Landscape irrigation* flows occur when excess potable water used for residential or commercial irrigation ends up in the storm drain system.
- *Groundwater and spring water* flows occur when the local water table rises above the bottom elevation of the storm drain and enters the storm drain either through cracks and joints, or where open channels or pipes may intercept seeps and springs.

Illicit discharges can be further classified based on how they enter the storm drain system. The mode of entry can either be direct or indirect. Direct entry means that the discharge is directly connected to the storm drain pipe through a sewage pipe, shop drain, or other kind of pipe. Direct entry usually produces discharges that are continuous or intermittent. Direct entry usually occurs when two different kinds of “plumbing” are improperly connected. The three main situations where this occurs are:

- Sewage cross-connections: A sewer pipe that is improperly connected to the storm drain system produces a continuous discharge of raw sewage to the pipe.
- Straight pipe: This term refers to relatively small diameter pipes that intentionally bypass the sanitary connection or septic drain fields, producing a direct discharge into open channels or streams.
- Industrial and commercial cross-connections: These occur when a drain pipe is improperly connected to the storm drain system producing a discharge of wash water, process water, or other inappropriate flows into the storm drain pipe.

Indirect entry means that flows generated outside the storm drain system enter through storm drain inlets or by infiltrating through the joints of the pipe. Generally, indirect modes of entry produce intermittent or transitory discharges, with the exception of groundwater seepage. The five main modes of indirect entry for discharges include:

- Groundwater seepage into the storm drain pipe: Seepage frequently occurs in storm drains after long periods of above average rainfall. Seepage discharges can be either continuous or intermittent, depending on the depth of the water table and the season.
- Spills that enter the storm drain system at an inlet: These transitory discharges occur when a spill travels across an impervious surface and enters a storm drain inlet.
- Dumping a liquid into a storm drain inlet: This type of transitory discharge is created when liquid wastes such as oil, grease, paint, solvents, and various automotive fluids are dumped into the storm drain.
- Outdoor washing activities that create flow to a storm drain inlet: Outdoor washing may or may not be an illicit discharge, depending on the nature of the generating site that produces the wash water.
- Non-target irrigation from landscaping or lawns that reaches the storm drain system: Irrigation can produce intermittent discharges from over-watering or is directed sprinklers that send tap water over impervious areas.

2.1.4 Illicit Discharge Evaluation

When a reported possible illicit discharge report has been identified, it will be reviewed to determine whether it should be:

- Flagged for immediate action
- Identified for follow up action
- Identified for dry weather inspection
- Reviewed for additional information
- Referred to another MS4

The criteria by which the reports will be addressed include:

- Reliability of report source
- Quality and completeness of information received
- Nature and quantity of the suspected contaminant
- History of illicit discharges at that location
- Potential for release to waters of the state

Credible, complete reports that indicate the occurrence of a discharge that is continuous, and/or of a large volume, and/or a known hazardous substance, and/or is in close proximity to waters of the state will be flagged for immediate action. Reports of less significant illicit discharges will be prioritized for action as soon as staff is available. Possible illicit discharges that are intermittent in nature will be tracked for inspection at the next possible dry weather period (i.e., at least 72 hours without a rainfall event greater than 0.01 inch). Reports that are lacking important information will be tracked as requiring further investigation through contact with the reporting party or from TDOT personnel working near the location. Reports of possible illicit discharges that do not appear to be related to TDOT property or ROW will be referred to the proper jurisdiction.

2.2 Preliminary Data Collection

Reports of possible illicit discharges that have been identified for action will first be located on available Geographic Information System (GIS) or highway maps to ensure that the conditions can be completely investigated and documented. Since the TDOT outfall mapping was performed in the TS4 UAs, data may be available from this program and from the respective municipalities regarding roadways and stormwater conveyances within their respective jurisdictions. United States Geological Survey topographic maps are another resource for the identification of small and large drainage features. At a minimum, this resource shall be reviewed for all regulated areas to identify potential locations of surface waters of the state and outfalls to be inventoried. The review of water resources mapping should be done in combination with any available TDOT TS4 area base maps since these

maps may identify bridges over waterways that are surface waters of the State. Any available construction plans can provide essential details for a potential outfall location that often cannot be determined in the field, including underground drainage features that may end at an outfall. The limits of TDOT ROW will be determined from construction plans, if possible.

Streams, wetlands, and roadside ditches are often indicated on construction plans. Information collected from plan reviews can include:

- Location of potential outfalls
- Type of potential outfalls
- TDOT ROW limits
- Direction of local drainage
- Any other information that may assist field staff in data collection

Other existing information that may be evaluated includes water resource mapping and Natural Resources Conservation Service soil surveys. Maps of the drainage area and groundwater conditions around the source area may be useful as a means to determine the nature of surface and groundwater flow in the vicinity.

2.3 Outfall Reconnaissance and Inspection

The first step for those reports prioritized for action will be to conduct a reconnaissance and inspection at the reported location. For those reports prioritized for immediate action, the reconnaissance will occur as soon as possible. For most other reports, especially those identified as intermittent, waiting for a dry weather period is preferable to exclude any natural stormwater drainage from masking or diluting the possible illicit discharge.

TS4 outfall pipes, for the most part, should not be discharging during substantial dry periods (72 hours after a rain event). Such flow is frequently referred to as “dry weather flow,” which may be the result of an illicit connection. All dry weather flows are generally non-stormwater discharges; however, not all dry weather flows are illicit connections. Some non-stormwater flows result from the improper disposal of waste (e.g., radiator flushing, engine degreasing, improper disposal of oil) and some may be the result of allowable discharges such as, irrigation runoff, permitted (NPDES) discharges and natural waters (e.g., spring water and groundwater infiltration). By making physical observations, TDOT will compile information that will help determine if the dry weather flow is an illicit connection and the most likely source of the illicit connection.

The first physical observation is to observe if there is a dry weather flow. Some dry weather discharges are continuously flowing and some are intermittent. Appendix A provides an example of the type of checklist that may be used for outfall inspection. A unique identifier will be assigned to each outfall inspection form to aid in tracking. Regardless of whether the example form included within this plan is used in the conducting of outfall inspections the required information found in the example shall be collected.

Observations will allow TDOT to establish with reasonable certainty if there is an intermittent flow. If there are indications of intermittent flows (staining, odors, deterioration of outfall structure) follow-up investigations may be needed. An estimate of the flow rate of the discharge will be noted. When possible photographs of the area will be included as part of the report. Additional physical observations and measurements will be made as needed for odor, color, turbidity, floatable matter, temperature, deposits and stains, vegetation and algal growth, and condition of outfall.

Information compiled from physical observations will be used to help identify potential sources. These observations are very important since they are the simplest method of identifying grossly contaminated dry weather flows. If physical observations alone are sufficient to warrant further investigation, then further inspection will not be necessary. However, if the visual outfall inspection cannot determine the nature and source of the discharge further investigations upstream from the discharge point will be necessary. The results of the inspection and the rationale for further action will be documented and maintained in the file/database system.

2.4 Upstream Visual Investigation

Physical observations can help narrow the identification of potential sources of a non-stormwater discharge. However, often observation alone will not pinpoint the exact source. Therefore, when necessary, TDOT will perform investigations “upstream” to the limits of the TDOT ROW to identify illicit connections to systems at identified problem outfalls. Any storm sewer outfall pipe or drain found during the initial inspection or on any subsequent inspection to have a non-stormwater discharge or indications of an intermittent non-stormwater discharge may require further investigation to identify and locate the specific source. Non-stormwater discharges suspected of being sanitary sewage and/or significantly contaminated will be investigated first.

Investigations of non-stormwater discharges suspected of being cooling water, wash water, or natural flows may be delayed until after all suspected sanitary sewage and/or significantly contaminated discharges have been investigated, eliminated, and/or resolved. Dry weather flows believed to be an immediate threat to human health or the environment shall be reported immediately to the Division of Water Pollution Control.

If the source is found to be a non-stormwater discharge authorized under this TS4 Permit (see Section 1.1), no further action will be taken. If a non-stormwater discharge (intermittent or continuous discharge) is found, but no source can be located within 6 months of beginning the investigation, then TDOT will prepare an investigation report to close out the investigation. If the observed discharge is intermittent, TDOT will document that a minimum of three separate investigations were made to observe the discharge when it is flowing. If these attempts are unsuccessful, TDOT will prepare an investigation report documenting these actions. All non-stormwater discharges, whether continuous or intermittent, investigated by TDOT should be referred to the local TDEC's Environmental Field Unit when TDOT personnel do not have access to upstream property.

2.5 Sampling And Analysis

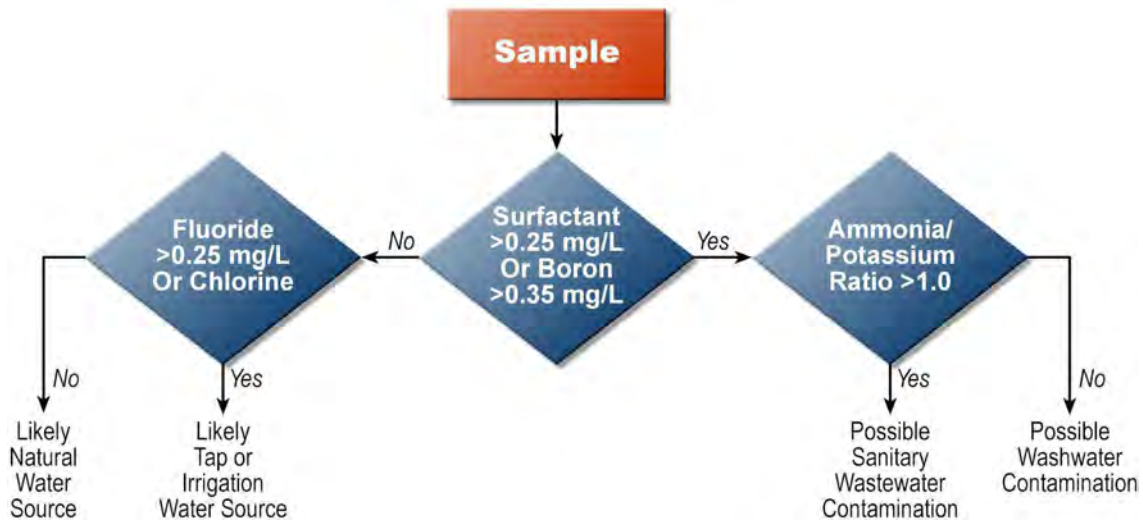
If a dry weather flow exists and, after making all physical observations, the nature and source of the flow cannot be definitively determined, TDOT will conduct field tests for indicator parameters that may help identify the source of the discharge. All person(s) responsible for calibrating, maintaining, and taking field samples will be trained in the use of the equipment and appropriate field-testing protocol. Details of the procedures and methods for sampling and analysis will be recorded. Conductivity, hardness, temperature, and pH will be used as an indication of water character. This approach may not be definitive and often will not indicate the source. For this reason, TDOT, when necessary, will perform field analyses in a preplanned order for the following indicator contaminants: boron, detergents/surfactants, ammonia, potassium, chlorine, and fluoride. Table 1 lists the uses of each parameter in evaluating possible sources. Figure 1 describes the decision-making process that will be used to evaluate the results of this field analysis.

Table 1 Indicator Parameters Used to Detect Illicit Discharges					
Parameter	Discharge Types it can Detect				Comments
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Ammonia	●	☑	○	☑	Can change into other nitrogen forms as the flow travels to the outfall.
Boron	☑	☑	○	*	
Chlorine	○	○	○	☑	High chlorine demand in natural waters limits utility to flow with very high Chlorine concentrations.
Conductivity	☑	☑	○	☑	Ineffective in saline waters, generally, highly variable.
Detergents - Surfactants	●	●	○	☑	

Table 1 Indicator Parameters Used to Detect Illicit Discharges					
Parameter	Discharge Types it can Detect				Comments
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Fluoride**	○	○	●	■	Exception for communities that do not fluoridate their tap water.
Hardness	■	■	■	■	
pH	○	■	○	■	
Potassium	■	○	○	●	May need to use two separate analytical techniques, depending on the concentration.
● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, it can distinguish from natural water. ■ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics or can be helpful in combination with another parameter. ○ Poor indicator. Cannot reliably detect illicit discharges or cannot detect tap water. * Data is not available to assess the utility as a single parameter, but when combined with additional parameters (such as detergents, ammonia, and potassium), it can almost always distinguish between sewage and washwater. ** Fluoride is a poor indicator when used alone but can distinguish between washwater and sewage when combined with analysis for detergents, ammonia, and potassium.					

SOURCE: Modified from *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, 2004, p. 122, Table 39.

Figure 1. Use of Field Analytical Testing to Determine Illicit Discharge Source



SOURCE: Modified from *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, 2004, p. 131, Figure 47.

3.0 ILLICIT DISCHARGE ELIMINATION

TDOT anticipates that the majority of illicit discharges found on its property or ROW will not originate on TDOT property or will not be from sources over which TDOT can exercise any significant control. Possible illicit discharges that may originate on TDOT property will most likely be the result of discrete spill events or poor housekeeping at the facility. Resolution of these problems can be handled through the existing SWPPP and Spill Prevention, Control, and Countermeasure Plans for the facilities.

3.1 Coordination with Other Municipal Separate Storm Sewer Systems and Agencies

Illicit discharges found to occur in TDOT-controlled areas may have their source in other MS4s, and their resolution will be the responsibility of the MS4, local utilities, or other state and local government agencies. Coordination with these other entities will be crucial to eliminating illicit discharges. TDOT will contact state MS4s, local utilities, local and state government agencies, and any other organizations whose property or responsibility may overlap or intersect TDOT property or ROW.

If the source of a discharge or an illicit connection cannot be located or is found to emanate from an entity other than TDOT, then TDOT will submit to TDEC a written explanation detailing the results of the investigation, including, if applicable, reasons why TDOT cannot eliminate the discharge.

3.2 Illicit Discharge Removal and Remediation

Non-stormwater discharges traced to their source and found to be due to TDOT's own illicit connections or other sources will be eliminated within 6 months of their discovery. TDOT will verify that the illicit discharge was eliminated within the specified timeframe and ensure that measures taken to eliminate the discharge are permanent and are not implemented in such a manner that would allow easy reconnection to the TS4.

4.0 ILLICIT DISCHARGE DATA MANAGEMENT AND TRACKING

Reports of possible illicit discharges, visual outfall inspections, upstream surveys, sampling and analysis, and other activities will potentially generate large quantities of data that must be validated, organized, and maintained in an accessible and secure form for inclusion in the TS4 Annual Report and other documents, as needed.

4.1 Data Management

Appendix A provides an example of a form to be used to record and track reports of possible illicit discharges on TDOT-controlled property. This form, whether in a hard copy version or an electronic format, will be used to track the initial report and the process used to resolve the situation to final closeout. An electronic database will be utilized to collect and maintain information collected and reported from IDDEs. The advantage of this type of electronic tracking program is that the database can be easily linked to GIS. Linking to a GIS allows mapping of illicit discharge locations, citizen complaint locations, and many other IDDE issues, which can greatly assist in the overall program.

TDOT will retain records of all illicit discharge reports, inspection forms, photographs, field logs, sampling, and analysis information, including all calibration and maintenance records, and all recordings for continuous monitoring instrumentation, for a period of at least 3 years from the date of the sample, measurement, report, or application.

4.2 Outfall Visual Screening Schedule for Urbanized Areas

Use of the outfall mapping program as a principal source for initial identification of possible illicit discharges within the TDOT ROWs will ensure that a portion of the areas for which TDOT is responsible will be inspected each of the subsequent years of the TDOT TS4 Permit. Additionally, the other sources discussed in Section 2.1 will provide ongoing, extensive coverage of much of the rest of the TDOT ROWs throughout the state.

5.0 REFERENCES

Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, 2004.

Appendix A
Illicit Discharge Report Form

Report / Incident ID: _____	Date Report Received: _____	Time Report Received: _____
---------------------------------------	---------------------------------------	---------------------------------------

Completion instructions

- Complete Sections 1–4 for every incident.
- Complete Sections 5–10 if a known responsible party or known source is identified.
- Complete Sections 11–19 when no known responsible party is identified, when dry weather flow is observed, or when ECU investigation is needed.

Definitions / terms

- **Known responsible party:** Person, company, vehicle, contractor, utility, or other source identified with reasonable certainty.
- **No known responsible party:** Source not identified or not yet confirmed.
- **Transitory:** One-time spill, accident, dumping event, or break.
- **Intermittent:** Occurs occasionally or under certain conditions.
- **Continuous:** Ongoing or repeatedly present flow.
- **Dry weather flow:** Observed after at least 72 hours since the last rainfall event, unless otherwise documented.

Section 1 - Initial Report Information *Complete for every incident*

Date Incident Observed: _____ Approx. Time: _____	Reported By (Name): _____
Organization / Agency: _____	Phone / Email: _____
Name of Individual Completing Form: _____	Organization of Individual Completing Form: _____
Report Received From: _____	Report Received By: _____

Section 2 - Location Information *Complete for every incident*

TDOT Region: _____ County: _____	Municipality / City (if applicable): _____
Highway / Route: _____ Mile Marker: _____	Latitude / Longitude: _____
Is the incident within TDOT ROW? ☐ Yes ☐ No ☐ Unknown	Distance to nearest receiving water (if known): _____
Street Address / Nearest Landmark: _____	
Receiving Conveyance: _____	Receiving Waterbody / Water Feature (if known): _____

Section 3 - Initial Notification and Description *Complete for every incident*

Was the TDOT Regional Environmental Section contacted? ☐ Yes ☐ No	Name of individual contacted (if yes): _____
Immediate threat to human health or the environment? ☐ Yes ☐ No ☐ Unknown	Report source: ☐ TDOT staff ☐ Public ☐ Agency ☐ Third-party ☐ Other
Initial incident / discharge description: _____ _____ _____	

Section 4 - Incident Classification and Screening *Complete for every incident*

Incident Type: ☐ Traffic accident spill ☐ Vehicle leak / mechanical release ☐ Dumping / illegal disposal ☐ Dry weather flow ☐ Staining / residue / evidence only ☐ Suspected illicit connection ☐ Adjacent property discharge suspected ☐ Utility / infrastructure failure Other: _____
Responsible Party Status: ☐ Known ☐ None known ☐ Unknown at time of report Frequency / Pattern: ☐ Transitory ☐ Intermittent ☐ Continuous
Material / Flow Type: ☐ Diesel ☐ Gasoline ☐ Motor oil ☐ Automotive fluids ☐ Hazardous waste ☐ Solid waste ☐ Sewage / septage ☐ Wash Water ☐ Sediment / soil ☐ Unknown Other: _____
Estimated quantity released (spill): _____ gallons Estimated flow rate (if flowing discharge): _____ gpm
Affected Media / Locations: ☐ Roadway ☐ Shoulder ☐ Soil ☐ Storm drain / inlet ☐ Ditch / swale ☐ Culvert / pipe ☐ Water feature / waterbody ☐ Wetland Other: _____
If water feature / waterbody selected, identify if known: _____
Date / time first observed (if different): _____ Material / flow present? ☐ Yes ☐ No Precipitation in previous 72 hours: _____ 72 hours since last rainfall? ☐ Yes ☐ No ☐ Unknown
Evaluation Status: ☐ Immediate action needed ☐ Follow-up action needed ☐ Dry weather inspection needed ☐ Additional information needed ☐ Refer to another MS4 / agency

Known Responsible Party / Known Source Information

Complete if source is known. Use this section when a person, company, vehicle, contractor, utility, adjacent property, or other source has been identified with reasonable certainty as the source of the release or discharge.

Section 5 - Responsible Party Information *Complete if source is known*

Responsible Party / Driver / Operator Name: _____	Company / Organization: _____
Contact Phone: _____	DOT Number (if applicable): _____
Vehicle / Unit Number (if applicable): _____	License Plate / State: _____
Police Report / Case Number: _____	First Agency on Scene: _____ Source container / system damaged? ☐ Yes ☐ No ☐ Unknown

Source Type (if known): ☐ Motor vehicle accident ☐ Commercial vehicle release ☐ TDOT operation ☐ Contractor activity
☐ Adjacent business / property ☐ Utility / infrastructure failure ☐ Facility-related release
 Other: _____

Section 6 - Material Released *Check all that apply and include estimated quantity if known*

☐ Diesel - Quantity: _____	☐ Gasoline - Quantity: _____
☐ Motor oil - Quantity: _____	☐ Automotive fluids - Quantity: _____
☐ Hazardous waste - Quantity: _____	☐ Solid waste - Quantity: _____
☐ Sewage / septage - Quantity: _____	☐ Unknown / Other - Quantity: _____ Describe: _____

Section 7 - Where the Release Went *Complete if source is known*

☐ Roadway ☐ Shoulder ☐ Soil ☐ Storm drain / inlet ☐ Ditch / swale
☐ Culvert / pipe ☐ Water feature / waterbody ☐ Wetland
 Other: _____

Name of water feature/waterbody (if applicable): _____

Section 8 - Response and Cleanup *Complete if source is known*

Was a response / cleanup company called to the scene? ☐ Yes ☐ No

Cleanup company name: _____ **Phone:** _____

Other responders involved: ☐ TDOT forces ☐ Local fire department ☐ Law enforcement ☐ Wrecker service

☐ Hazmat team ☐ EMS ☐ TEMA

Other: _____

Cleanup measures used: ☐ Dry absorbents ☐ Booms ☐ Pads ☐ Excavation ☐ Vacuum truck

☐ Flushing / washing ☐ Traffic control only ☐ Source shutoff / isolation

Other: _____

Additional response steps needed? ☐ Yes ☐ No ☐ Unknown If yes, describe: _____

Incident Narrative - Describe how the incident occurred, vehicles / equipment involved, where the material migrated, actions taken at the scene, and any remaining concerns:

No Known Responsible Party / Suspected Illicit Discharge Evaluation

For TDOT ECU use only unless otherwise directed. Use this section when there is no known responsible party, when dry weather flow is observed, or when the incident requires outfall inspection, upstream investigation, or referral.

Section 9 - Unknown-Source / Dry Weather Incident Summary *Complete when no known responsible party is identified or ECU investigation is needed*

Prior incidents at this location? ☐ Yes ☐ No ☐ Unknown **Prior incident no. (if known):** _____

Relationship to TDOT ROW / TS4: ☐ On TDOT ROW ☐ Entering from offsite ☐ Not TDOT-related ☐ Unknown

Report source reliability: ☐ TDOT staff ☐ Public report ☐ Law enforcement / agency ☐ Third-party ☐ Unknown

Quality / completeness of information received: ☐ Credible / complete ☐ Partial ☐ Limited ☐ Unknown

General description of unknown-source discharge / condition:

Section 10 - Outfall / Conveyance Inspection *Complete when outfall or conveyance inspection is performed*

Checklist Number: _____	Inspection Time: _____
Date of Outfall Inspection: _____	Inspector(s): _____
Outfall / Conveyance Location: _____	County / Highway / Route: _____
Latitude / Longitude: _____	Time / date of last rainfall event: _____
Weather at inspection: _____	Conveyance type: ☐ Sinkhole ☐ Unlined channel ☐ Concrete pipe ☐ Metal pipe ☐ Catch basin / inlet ☐ Ditch / swale Other: _____
Approx. area drained: _____	Percent drainage area - Paved ____% Gravel ____% Grass ____% Other ____%

Section 11 - Flow Observations *Complete when outfall or conveyance inspection is performed*

Flow present? ☐ Yes ☐ No Flow rate: _____ gpm	Standing water (depth / quantity): _____
Odor: ☐ None ☐ Sewage ☐ Sulfide ☐ Oil ☐ Gas ☐ Sour	Color: ☐ None ☐ Yellow ☐ Brown ☐ Green ☐ Red ☐ Gray

Other: _____	Other: _____
Temperature: _____ pH: _____ Turbidity: ☐ None ☐ Cloudy ☐ Opaque	Floating material: ☐ None ☐ Foam ☐ Sheen ☐ Sewage ☐ Trash / debris Other: _____

Section 12 - Outfall / Site Condition *Complete when outfall or conveyance inspection is performed*

Damage to outfall structure: ☐ None ☐ Concrete cracked ☐ Concrete spalling ☐ Paint peeling Other: _____	Condition of discharge point: ☐ Clear ☐ Silt buildup ☐ Debris buildup ☐ Excessive erosion Other: _____
Vegetation condition: ☐ Normal ☐ Excessive growth ☐ Stressed vegetation ☐ Algal growth Other: _____	Photos taken? ☐ Yes ☐ No Photo numbers / filenames: _____
Staining / discoloration on pipe or outfall area: _____	Evidence of illegal dumping in drainage channel / area: _____

Section 13 - Upstream Visual Investigation *Complete when further investigation is needed*

Upstream inspection date: _____ Inspector(s): _____
Structures / areas inspected upstream: _____ _____
Potential source identified? ☐ Yes ☐ No If yes, describe: _____
Suspected source type: ☐ Sewage ☐ Washwater ☐ Industrial / commercial ☐ Vehicle-related ☐ Groundwater / spring ☐ Irrigation / tap water ☐ Utility failure ☐ Unknown Other: _____
Repeat inspection attempts for intermittent flow: Attempt 1 - Date: _____ Flow observed? ☐ Yes ☐ No Notes: _____ Attempt 2 - Date: _____ Flow observed? ☐ Yes ☐ No Notes: _____ Attempt 3 - Date: _____ Flow observed? ☐ Yes ☐ No Notes: _____ Recommendation: _____

Referral / ECU Review / Sampling / Closeout

Use this section to document referrals, ECU review, sampling / analytical follow-up, corrective action, final disposition, and attachments.

Section 14 - Referral / Jurisdiction Determination *Complete when referral is needed*

Referred to another MS4? ☐ Yes ☐ No	Referred to TDEC? ☐ Yes ☐ No Referred to TEMA? ☐ Yes ☐ No
Referred to local utility / municipality / other agency? ☐ Yes ☐ No	Agency / contact name: _____
Reason for referral / jurisdiction determination: _____ _____	

Section 15 - ECU Review and Follow-Up *for TDOT ECU use only*

ECU Reviewer: _____	Date Assigned: _____ Priority: ☐ Emergency ☐ High ☐ Routine ☐ Monitor only
Dry weather inspection status: ☐ Scheduled ☐ Completed ☐ Not needed	Upstream investigation status: ☐ Scheduled ☐ Completed ☐ Not needed
Immediate action taken:	Follow-up action required:
Additional information needed: _____ _____	

Section 16 - Sampling / Analytical Follow-Up *Complete when sampling is performed or considered*

Sampling required? ☐ Yes ☐ No Date sampled: _____	Sample ID(s): _____
Field parameters recorded: _____	Laboratory analysis required? ☐ Yes ☐ No
Results of sampling and analysis: _____ _____	

Interpretation / source determination:

Section 17 - Corrective Action and Final Disposition *for TDOT ECU use only*

Corrective / remedial action performed and performed by:

Date remedial action completed: _____

Source eliminated? ☐ Yes ☐ No ☐ Pending

Permanent fix confirmed? ☐ Yes ☐ No ☐ N/A

Date report closed out: _____

Closed by: _____

Final determination: ☐ Spill resolved ☐ Allowable non-stormwater discharge ☐ No illicit discharge confirmed

☐ Referred outside jurisdiction ☐ Unable to determine source ☐ Intermittent discharge under investigation

☐ Continuous discharge confirmed

Other: _____

Final comments:

Attachments Checklist

☐ Photographs ☐ Site map / GIS map ☐ Police report ☐ Contractor cleanup documentation

☐ Sampling field sheet ☐ Laboratory report ☐ Additional narrative

Other: _____

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Appendix C
STORMWATER FIELD MONITORING PROGRAM

TENNESSEE DEPARTMENT OF TRANSPORTATION

STORM WATER FIELD MONITORING PROGRAM

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT NO. TNS077585

Prepared for:



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April 2026

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ACRONYMS

COC	chain-of-custody
COD	chemical oxygen demand
in.	inch
QA	quality assurance
QC	quality control
SFMP	Storm Water Field Monitoring Program
SWPPP	Storm Water Pollution Prevention Plan
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TS4	Transportation Separate Storm Sewer System
TSS	total suspended solids

EXECUTIVE SUMMARY

The Tennessee Department of Transportation (TDOT) was issued a renewed National Pollutant Discharge Elimination System Permit Number TNS077585 on August 1, 2023. As part of Section 2.7 of the National Pollutant Discharge Elimination System Permit, TDOT is to continue developing and implementing a Storm Water Field Monitoring Program (SFMP) to reduce pollutants in storm water runoff to the greatest extent possible. The purpose of the SFMP, herein, is to define the purpose, scope, objective, and general methodologies to be implemented by TDOT to fulfill the permit requirements of Section 2.7. TDOT is responsible for 189 facilities, comprised of garages, remote facilities, and high traffic areas. Recognizing the logistical and financial challenges of sampling all 189 facilities, this program sets forth the process for identifying the facilities with the greatest potential for pollutant release and then determining a subset of locations to sample that is representative of the greater total. This SFMP continues to outline the sampling protocols, equipment, and details as required by the permit.

1.0 INTRODUCTION

The Tennessee Department of Transportation (TDOT) Transportation Separate Storm Sewer System (TS4) Permit No. TNS077585 requires TDOT to implement a storm water discharge monitoring program for all the facilities in Tennessee under its control. This Storm Water Field Monitoring Program (SFMP) will define the purpose, scope, objective, and methodologies to be implemented by TDOT to fulfill those permit requirements. TDOT is required to sample representative facilities except for those sites with No Exposure Certifications, which consist of approximately 54 facilities state-wide.

1.1 Purpose of Tennessee Department of Transportation Storm Water Facilities Monitoring Plan

The purpose of this document is to respond directly to the TS4 Permit requirements and establish the organization, logistical plan, and technical procedures that will be implemented by TDOT to achieve full compliance. The TS4 Permit (Sections 2.7 and 2.8) specifically requires TDOT to perform the following activities to monitor the storm water discharges from its facilities:

- TDOT shall perform and document quarterly visual examinations of storm water quality at TDOT-owned/-operated facilities.
- TDOT shall prepare and implement a state-wide SFMP that meets the requirements of items (1) through (4) below.
 1. TDOT will, each year, perform storm water sampling and analysis at 10% of TDOT-owned/-operated facilities that do not receive approval of the no exposure. Facilities are selected to represent each type of TDOT facility. The facilities targeted for sampling in any year will be selected from among those with the greatest perceived potential for releases to storm water based on the types and levels of activities performed, design and topographic features, location relative to sensitive receiving waters, past testing results, historical problems, or other pertinent factors.
 2. This SFMP specifies the storm water sampling and analysis procedures to be utilized. It will identify, with justification, the monitoring parameters to be utilized at each type of TDOT facility and the cut-off concentrations to be utilized to fulfill the specific permit requirements found in Sections 2.7 and 2.8 of the TS4 Permit.

3. The results of the analysis will be provided to the individual TDOT facilities for inclusion within the facility Storm Water Pollution Prevention Plan (SWPPP).
 4. TDOT will evaluate the results of the monitoring program to identify where SWPPPs or standard environmental procedures may need to be improved and to identify TDOT facilities where continued periodic monitoring may be necessary or desirable. TDOT will perform follow-up storm water sampling and analysis within 1 year at any covered facility where previous analysis exceeded benchmark concentrations. The SFMP may be modified to include such additional monitoring as deemed necessary by TDOT to comply with the TS4 permit requirements.
- Certification — The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test.
 - Facilities shall perform and document a quarterly visual examination of storm water quality at outfalls located at covered facilities that do not receive approval of the no-exposure certification. The examination(s) must be made at least once in each quarter during facility operation in the daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event. Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melting: January through March, April through June, July through September, and October through December. Examinations shall be made of samples collected within the first 30 minutes [or as soon thereafter as practical, but not to exceed 1 hour] of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.01-inch (in.) in magnitude, and that occurs at least 72 hours from the previously measurable (greater than 0.01 in. rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

- Visual examination reports must be maintained onsite in the SWPPP. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.
- When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also apply to the substantially identical outfalls, provided that the permittee includes in the SWPPP a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40%), medium (40 to 65%), or high (above 65%)] shall be provided in the plan.
- Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity and shall be taken at the nearest accessible point after treatment and prior to mixing with uncontaminated storm water runoff or the receiving stream. The permittee shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director of the Tennessee Department of Environment and Conservation (TDEC) at any time. Records of monitoring information shall include:
 1. The date, exact place, and time of sampling or measurements
 2. The individual(s) who performed the sampling or measurements
 3. The date(s) analyses were performed
 4. The individual(s) who performed the analyses
 5. The laboratory where the analysis was performed
 6. The analytical techniques or methods used
 7. The results of such analyses

- Monitoring results must be conducted according to test procedures approved under 40 *Code of Federal Regulations* Part 136, unless other test procedures have been specified in the permit.

1.2 Scope and Objectives of Tennessee Department of Transportation Facilities Monitoring Plan

1.3 Tennessee Department of Transportation Facilities

There are a total of 135 TDOT facilities (see Table 1) that are subject to monitoring and inspection requirements; sites with No Exposure Certification are exempt and will not be subject to the monitoring and inspection requirements. This plan will apply to the sampling and visual inspections to be performed at 135 TDOT-owned/-operated facilities throughout the state. These facilities include county, district, and regional TDOT maintenance garages and salt storage sites under the direct control of TDOT. Table 1 includes the number of each type of facility.

Table 1 Summary of Tennessee Department of Transportation Facility Types	
Facility Type	Number of Sites
Regional Garages	4
District Garages	18
County Garages	81
Remote Floating Maintenance	4
Remote Salt Storage Sites	27
Ferry Landings	1
TOTAL	135

The Maintenance and Salt Storage locations designated as “remote” are those that exist as unmanned facilities. Most (but not all) Regional, District, and County Garage facilities include a salt storage structure. At least one of the facilities is located in every county in Tennessee, with several counties having multiple facilities.

1.3.1 Specific Objectives

The objective of this sampling effort is to meet the TS4 National Pollutant Discharge Elimination System Storm Water Permit requirements in a manner that will provide sufficient quality data to demonstrate that the TDOT-owned/-operated facilities are not sources of environmental degradation through their storm water runoff. Sampling all 135 facilities would be impractical and highly cost prohibitive. Thus, this plan creates a program that will monitor a subset of each facility groupings that is reasonably representative of all the facilities in that group and can be implemented in a cost-efficient manner.

This sampling plan describes the following:

- Identification and justification for the parameters to be sampled
- Criteria for sampling locations selection
- Sampling strategy and methodology
- Identification and justification of analysis methods
- Sample shipment and documentation procedures
- Action levels and response process for results which exceed benchmark levels

This work shall be accomplished in an environmentally acceptable manner conforming to the applicable federal and state regulations.

2.0 POTENTIALLY POLLUTING MATERIALS AT TENNESSEE DEPARTMENT OF TRANSPORTATION FACILITIES

2.1 Facility Descriptions

Within each facility type, the size, structures, equipment, and functional activities are generally very similar. Table 2 summarizes the principal relevant characteristics of the facility types to be covered under this document.

Table 2 Tennessee Department of Transportation Facility Characteristics			
Facility Type	Number of Facilities	Typical Activities	Potentially Polluting Materials Typically Handled Onsite
Regional Garage	4	- Vehicle and equipment maintenance - Vehicle and equipment fueling - Vehicle washing - Roadway painting - Salt and brine storage and handling - Construction material testing - Vehicle and equipment storage	- Vehicle fuel - Used oil - Other vehicle fluids - Sodium/calcium chloride - Tires - Scrap metal - Paint - Asphalt cuttings - Sand and gravel stockpiles
District Garage	18	- Vehicle and equipment maintenance - Vehicle and equipment fueling - Vehicle washing - Salt and brine storage and handling - Vehicle and equipment storage	- Vehicle fuel - Used oil - Other vehicle fluids - Sodium/calcium chloride - Tires - Scrap metal - Asphalt cuttings - Sand and gravel stockpiles
County Garage	81	- Vehicle and equipment fueling - Vehicle washing - Salt and brine storage and handling - Vehicle and equipment storage	- Vehicle fuel - Used oil - Other vehicle fluids - Sodium/calcium chloride - Tires - Scrap metal - Asphalt cuttings - Herbicides - Sand and gravel stockpiles
Remote Floating Maintenance	4	- Vehicle and equipment fueling - Vehicle washing - Salt and brine storage and handling - Vehicle and equipment storage	- Vehicle fuel - Used oil - Other vehicle fluids - Sodium/calcium chloride - Tires - Scrap metal - Asphalt cuttings - Herbicides - Sand and gravel stockpiles
Remote Salt Storage Sites	27	- Salt and brine storage and handling - Vehicle and equipment storage	- Vehicle fuel - Other vehicle fluids - Sodium/calcium chloride
Ferry Landing	1	- Vehicle traffic and parking - Equipment maintenance	- Vehicle fluids - Used oil

2.2 Parameters To Be Monitored at Each Facility Type

For the purpose of developing a sampling strategy based on the potentially polluting materials that may be found at each of the various facility types, three general groups of facilities have been delineated:

1. Maintenance Garages, including Regional, District, and County Garages, Floating Maintenance (107 facilities or 79% of total);
2. Remote Salt Storage Sites, including salt storage and Help Facilities locations that are not part of a maintenance garage (27 facilities or 20% of total); and
3. High-traffic Vehicle Areas, including Airports, Rest Areas, Welcome Centers, Weigh Stations, and Ferry Landings (1 facilities or 1% of total) that do not have a “no exposure certification” determination.

Parameters that are tested for include those identified in Section 2.7.1 of the TDOT TS4 permit as shown in Table 3.

Table 3 Parameters to be Monitored	
Facility Type	Parameters to be Monitored
Maintenance Garages and Ancillary Facilities*	pH
	Oil and grease
	Chemical oxygen demand
	Total suspended solids
	Chloride
Remote Salt Storage Sites	pH
	Chloride
	Total suspended solids
High-traffic Vehicle Areas	pH
	Oil and grease
	Total suspended solids

Note:

*-In addition to the parameters listed e. Coli shall be analyzed for samples taken at Regional Facilities.

Total suspended solids (TSS) is a principal parameter to be evaluated from all facility types because it will not only directly detect the level of sediment being transported from the site but will also serve as an indicator for the presence of hydrocarbons and metals. From 81 to 96% of the hydrocarbon load in storm water runoff is attached to particles, indicating that adsorption to particles is the primary method of pollutant transport (Stenstrom et. al. 1984). Similarly, metals are minimally soluble at typical storm water pH levels and their concentration in storm water is

often directly proportional to the TSS level. Chemical oxygen demand (COD) was included because this test readily indicates the presence of spilled oils and fuels, from vehicles and equipment, and also of organic matter. Investigators have found that COD is an accurate surrogate for characterizing levels of oil and grease from storm water runoff (Stenstrom and Kayhanian 2005). Chloride will directly indicate the presence of contamination from sodium chloride or calcium chloride.

3.0 FACILITY MONITORING STRATEGY

3.1 Criteria for Facilities to be Monitored

The facilities targeted for sampling will be selected from among those with the greatest perceived potential for releases to storm water based on the types and levels of activities performed, design and topographic features, location relative to sensitive receiving waters, past testing results, historical problems, or other pertinent factors. All facilities will be evaluated based on the following criteria:

- Facility type and activities
- Facility size and impervious area
- Potentially polluting materials
- Geographic location
- Topography
- Elevation
- Potential polluting materials
- Rainfall total and intensity
- Receiving water regulatory status [HQ, 303(d), Total Maximum Daily Load]
- Distance to receiving water
- Spill history

Generally, there is little difference between most facilities of the same grouping with regard to the criteria elements. The two criteria that will provide a clear discriminator includes the distance to the receiving waters and the regulatory status of those waters.

The goals of the monitoring program, beyond investigating those sites that are perceived to potentially pose the greatest threat to the waters of the state, also include the need to ensure that the facilities monitored are reasonably representative of all 135 facilities, and to conduct the program in a practical and cost-efficient manner. To ensure that a sufficient number of each type of the TDOT-owned/operated facilities is monitored, sampled, and inspected each year, the following criteria have been adopted:

- One Regional Facility will be inspected each year
- Representative District (approximately four), County/Floating Maintenance Facilities (approximately seven), and Unmanned (i.e., Salt Storage Sites/Ferry — approximately two) will be selected across the state.

- The number of facilities sampled will be 10% of the facilities listed in Table 1 (total of 14 facilities state-wide).
- Facilities with a No Exposure Certification will not be sampled.

In this way, approximately 14 of 135 TDOT facilities will be monitored, sampled, and inspected each year.

In accordance with the TS4 Permit (Section 2.7.1), TDOT shall identify 10% (approximately 14) of covered facilities across the state to conduct annual facility monitoring. TDOT will then acquire and analyze samples from outfalls at these facilities for the parameters identified in Section 2.7.1.1 during a qualifying rain event. The results shall be compared to the values found in Section 4 of this plan. Where necessary, corrective actions to address site contaminants will be developed or the facility will be re-sampled to confirm the contaminant presence. Data packages shall be provided to facility personnel and be maintained as an appendix to the facility SWPPP.

3.2 Sampling and Inspection Schedule

3.2.1 Storm Event Criteria

Storm water grab samples from facility outfalls will be collected only during a qualified storm event. This storm event must meet the following criteria:

- a. Storm event must be >0.01 in. in magnitude
- b. The storm event must occur more than 72 hours from the previously measured storm event of >0.01in.
- c. Sampling should not be performed for storm events greater in magnitude than the 10-year, 24-hour storm.

The grab sample will be collected during the first 30 min of the storm event.

3.2.2 Sources of Rainfall Data

Rainfall for each of the sampling locations will be acquired from existing National Weather Service or other recognized sources within the proximity of the facility. Where applicable, onsite rain gauges will also be utilized. Rainfall data shall be recorded and kept within the facility SWPPP.

3.2.3 Logistical Considerations

The specific implementation of the sampling program will be performed according to a sequence of activities defined in Table 4.

3.2.4 General Sampling Process

The general process for the acquisition of all samples collected during the storm water monitoring project will involve the following series of steps:

1. Determination if there has been a valid rainfall event at the facility.
2. Collection and placement of the sample into laboratory sample containers.
3. Field measurements.
4. Completion of sample container label information.
5. Placement of sample containers into an ice-filled cooler.
6. Completion of sample documentation information in the field notes.
7. Completion of project and sampling information sections of the chain-of-custody (COC) form(s).
8. Completion of the airbill for the cooler to be shipped or schedule courier for shipment.
9. Performance of a completeness and accuracy check of the COC form(s).
10. Completion of the sample relinquishment section of the COC form(s), and placement of the form(s) into the cooler.
11. Placement of COC seals on the exterior of the cooler.
12. Packaging and shipment of the cooler to the laboratory.
13. Transmittal of original or a copy of COC form(s) with final analytical results from laboratory.

3.2.5 Field Measurements

During the acquisition of the samples for laboratory analysis, field measurements at the sampling site will also be taken for the following parameters:

- Temperature
- pH
- Estimated flow (utilizing Q peak [cubic feet per second] = $C \times i$ (in/hour) $\times A$ [acres])

The results of these field measurements will be recorded in the sampler's field notes and reported on the visual inspection checklist form (A) that will be filled out for each sampling event. The field measurement devices to be used for a sampling event will be calibrated and maintained at their proper functional status according to the manufacturer's specifications. Calibrations will be performed within 48 hours prior to the sampling event and recalibrated within 24 hours after use. Calibrations will be accepted if the meter reads within $\pm 10\%$ of the value of the calibration standard or other standard source. The results of both calibrations and any maintenance performed on the devices will be recorded on the inspection checklist or the sampling logbook, as appropriate.

Table 4 Storm Water Sampling Process		
Process Step	Time Sequence	Storm Water Sampling Activity
1	Daily	Check rainfall monitoring report for each facility to determine if rainfall has been recorded within past 72 hours
2	Daily when no rainfall has been observed for the previous 72 hours	Check weather forecasts from multiple sources (NWS, Weather Channel, etc.) to determine if rainfall is predicted for the area of interest within the next 24 to 48 hours. If the probability of precipitation is greater than 60 to 70%, then the sampling team is put on alert.
3	24 hours prior to the predicted rainfall event	a. Field parameter meters are calibrated according to their manufacturer's requirements and the results recorded in the sampling log. Note that, in some cases, this calibration may be performed the day of the sampling event. b. Automatic grab samplers are installed at the sampling locations (or emptied and cleaned if in place from a previous sampling event). Samplers are cleaned by scrubbing with a brush (as necessary) and then are thoroughly triple-rinsed with distilled water. c. Sample bottles and coolers are acquired from the laboratory (as needed) and all other sampling supplies are collected and checked.
4	Day of the predicted rainfall event	Weather radar sites are checked at least hourly via the Internet to determine the time of day that the storm is likely to hit the area of interest. Weather reports from locations where the storm has already arrived are monitored to determine if the storm is of sufficient intensity to generate a qualifying rainfall event.
5	Beginning of the rainfall event	The time of concentration for storm water flows at the various sampling points may be as little as 5 minutes to as great as 45 minutes depending on the intensity of the rainfall and the location of the sampling point. Grab samples will be collected by hand for the Regional facility due to the short hold time for E.coli all other facilities will employ samplers. The

Table 4 Storm Water Sampling Process		
Process Step	Time Sequence	Storm Water Sampling Activity
		automatic grab samplers are installed and set up so that they will begin collecting runoff as soon as it begins to flow at the sampling location. The samplers immediately acquire all available flow to the sampling location (i.e., the first flush) and continue to acquire the flow until the sampler is full. The sampler capacity is 3 L, which is approximately the quantity of water required by the laboratory to conduct the required analyses. When the sampler is full, its inlet is automatically closed and sealed, isolating the sample and ensuring that no additional water or air can enter the sampler.
6	During the rainfall event	The NWS station for the area of interest is continually monitored to determine if the rainfall event is sufficient to provide a qualifying rainfall event. Regulations require a minimum of 0.01 in. in 24 hours for a qualifying rainfall event. However, experience has demonstrated that a rainfall intensity of at least 0.25 in./hour is typically necessary for sufficient storm water flow from most industrial units. As soon as a sufficient rainfall event is verified, the sampling team proceeds to the sampling locations to collect the samples. This step is used to reduce the number of “false alarms” when the rainfall is not sufficient for a qualifying sampling event.
7	As soon as possible after a sufficient rainfall event is verified	a. The sampling team proceeds to the sampling locations as soon as possible after a sufficient rainfall event is verified. Safety and security are the principal considerations. Access to the sampling sites is not considered safe during hours of darkness or during intense thunderstorms. Security at some locations also restricts the hours during which those sampling sites can be accessed. b. After arriving at the sampling site, the automatic grab sampler is checked to verify that it has acquired a sample, that the sampler is completely full, and that the inlet closing mechanism has worked properly to seal the acquired sample from any further intrusion of water or air. If the sampler did acquire enough volume, or otherwise does not appear to have operated correctly, the sample is discarded and not used. c. The sampler is then opened and a sufficient quantity of water is transferred to a clean glass container to allow the field measurements. This measurement is performed immediately after the sampler is opened. Field measurements are recorded on the outfall inspection checklist and the sampling logbook. The remainder of the acquired storm water sample is then transferred to the various pre-cleaned sample bottles received from the laboratory. The sample bottles are labeled, sealed, and placed in a cooler to be chilled to 4°C d. Photographs are taken of the automatic grab sampler, all samples, and contributing surface area at installation and sample acquisition. e. The chain-of-custody form, sampling field notes and outfall inspection checklist are filled out, as appropriate. f. The sampling team proceeds to the next sample point and repeats this step.
8	After acquisition of all samples from all sampling points	a. The coolers containing the samples are sent by overnight delivery service, via courier, or iced and delivered to the laboratory within holding times. b. The electronic pH meters are calibrated and the results recorded in the sampling field notes. c. Automatic grab samplers are cleaned and placed in storage until they are re-installed in anticipation of the next sampling event. d. All sampling-related documentation is incorporated into the storm water database.
9	30 days after the sampling event	Laboratory results are received from the laboratory. Results are reviewed and incorporated into the storm water database. Any results that do not appear to be valid or indicate a non-compliance situation are brought to the attention of the Storm Water Program Manager

Notes:

NWS = National Weather Service
 In. = inch
 °C = degrees Celsius

3.2.6 Safety Considerations

A general Health and Safety Plan governs stormwater monitoring and inspection activities at TDOT facilities, supplemented by the subcontractor's Programmatic Health and Safety Plan. These facilities conduct routine vehicle and equipment maintenance, chemical storage, and roadway support operations, which present generally low risk but include hazards such as moving vehicles, slips and falls, sharp debris, airborne dust, and biological exposures (e.g., insects and snakes). Sampling activities are limited to non-intrusive tasks and will only be conducted during daylight hours and under safe weather conditions, avoiding lightning, high winds, hail, flooding, or other adverse environmental factors that could increase risk to personnel.

Safety controls rely on trained personnel following site-specific procedures, coordinating with TDOT staff, and adhering to Activity Hazard Analyses. Standard Level D personal protective equipment is typically sufficient, and personnel are prohibited from confined space entry or operating TDOT equipment. Work areas are visually assessed prior to sampling, and activities are stopped if unsafe conditions arise. Additional precautions include proper handling of materials, avoiding unknown or hazardous substances, and ensuring compliance with Department of Transportation (DOT) requirements for sample transport, all supported by clear communication, training, and emergency planning measures.

3.2.7 Waivers for Adverse Weather Conditions

When the sampling team is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation on-site with the records of the visual examinations. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

3.2.8 Facility Sampling Schedule

Storm water sampling and analysis will be performed at the selected TDOT-owned/operated facilities each calendar year. One Regional facility will be selected each year, with representative district, county, and unmanned (i.e., salt shed) facilities selected. In accordance with the TS4 permit, the total number of facilities sampled will amount to approximately 10% of the total number of facilities exposed to storm water. Facilities with No Exposure Certification will not be sampled. The list of facilities to be monitored will be reviewed at the beginning of

each calendar year. Those facilities that showed no indications of contaminated runoff in the previous years' sampling will be considered for removal from the sampling schedule and may be replaced by other facilities that have not been sampled in the previous years. TDOT will conduct follow-up sampling and analysis during the following permit year for facilities that exceed benchmarks, unless sufficient evidence demonstrates that conditions have been corrected. Facilities selected for resampling will be in addition to the 14 facilities sampled annually.

3.3 Outfall Nomenclature

To facilitate organization and management of the sampling data and the visual inspection reports, a unique alpha-numeric identifier will be assigned to each outfall at the facilities. This identifier will incorporate the county of the facility, the facility type, and the number of the outfall. Counties will be identified numerically, as assigned in Table 5.

Table 5 County Identifiers									
No.	County	No.	County	No.	County	No.	County	No.	County
01	Anderson	20	Decatur	39	Henderson	58	Marion	77	Sequatchie
02	Bedford	21	Dekalb	40	Henry	59	Marshall	78	Sevier
03	Benton	22	Dickson	41	Hickman	60	Maury	79	Shelby
04	Bledsoe	23	Dyer	42	Houston	61	Meigs	80	Smith
05	Blount	24	Fayette	43	Humphreys	62	Monroe	81	Stewart
06	Bradley	25	Fentress	44	Jackson	63	Montgomery	82	Sullivan
07	Campbell	26	Franklin	45	Jefferson	64	Moore	83	Sumner
08	Cannon	27	Gibson	46	Johnson	65	Morgan	84	Tipton
09	Carroll	28	Giles	47	Knox	66	Obion	85	Trousdale
10	Carter	29	Grainger	48	Lake	67	Overton	86	Unicoi
11	Cheatham	30	Greene	49	Lauderdale	68	Perry	87	Union
12	Chester	31	Grundy	50	Lawrence	69	Pickett	88	Van Buren
13	Claiborne	32	Hamblen	51	Lewis	70	Polk	89	Warren
14	Clay	33	Hamilton	52	Lincoln	71	Putnam	90	Washington
15	Cocke	34	Hancock	53	Loudon	72	Rhea	91	Wayne
16	Coffee	35	Hardeman	54	McMinn	73	Roane	92	Weakley
17	Crockett	36	Hardin	55	McNairy	74	Robertson	93	White
18	Cumberland	37	Hawkins	56	Macon	75	Rutherford	94	Williamson
19	Davidson	38	Haywood	57	Madison	76	Scott	95	Wilson

Facilities will be assigned the following designations listed in Table 6.

Table 6 Facility Type Identifiers	
Facility Type	Designation
Regional Garages	R
District Garages	D
County Garages	C
Remote Floating Maintenance	M
Remote Salt Storage Sites	S
Weigh Stations	W
Welcome Centers	L
Rest Areas	A
Remote Help Facility	H
Ferry Landing	F
Airport	P

Thus, the first outfall for a County Garage in Anderson County would be designated 01-C-01. Additional outfalls would then be numbered sequentially. If there are two facilities of the same facility type in a single county, then the outfalls from each one would be numbered sequentially. For example, there are two Remote Salt Storage Sites in Campbell County. The two outfalls from one Salt Storage Site would be 07-S-01 and 07-S-02, while the outfalls from the second location would be 07-S-03 and 07-S-04, or however many outfalls might be at each location.

4.0 SAMPLING DATA RESULTS EVALUATION

The results from the sampling will be evaluated against action levels specifically developed for the TDOT facilities. The contaminant action levels, if found in the storm water samples, will require TDOT to investigate the source of the contamination and take appropriate steps to mitigate the problem. Table 7 summarizes the specific action levels to be observed for the TDOT SFMP.

Table 7 Action Levels for Monitoring Data	
Parameters to be Monitored	Action Level
pH	6.0 — 9.0 su
Oil and grease	15 mg/L
Chemical Oxygen Demand	120 mg/L
Total Suspended Solid	150 mg/L
Chloride	1,200 mg/L
E.coli (for Regional Facilities)	941 #/100mL

Notes:

su = Standard unit
 mg/L = milligrams per liter

No specific benchmark values will be established for the field measurements due to the potential difficulty in determining the precise source of an anomalous reading for these water quality parameters. However, the results from the field measurements will be used to evaluate the overall quality of the discharge from the facility and, in the evaluation of the analytical data, as appropriate. All field data will be recorded and reported with the analytical results.

If analytical data from a sampling event indicate an exceedance of the applicable action level concentration, the sampling project leader will take the following actions:

- Review the data to verify that the results are valid.
- Notify the TDOT Facilities Compliance Contact.
- Conduct a thorough inspection of the facility from which the action level concentration exceedance was observed to determine the source of the problem. If no clear source of the exceedance is found, a second round of sampling will be conducted. Every attempt will be made to resample within the permit year, but if that is not possible, the facility will be resampled the following year and added as an additional data point. The list of parameters to be evaluated may be expanded, as appropriate, to better delineate the source.

- Develop a written plan of action describing the modifications to facility activities and/or storm water best management practices that will be necessary to correct the identified problem.
- Submit the plan of action, along with a cost and schedule estimate for the recommended actions, to the TDOT Facilities Compliance Contact
- Revise the SWPPP to incorporate the recommended changes.
- Work with the TDOT facility staff to implement the recommended actions.

If analytical data from a sampling event indicate a second exceedance of the applicable action level concentration, the sampling project leader will take the following actions:

- Review the data to verify that the results are valid.
- Notify the TDOT Facilities Compliance Contact.
- Review the plan of action developed after the initial exceedance and determine if it has been properly implemented in a timely manner.
- Conduct an inspection of the facility to determine why the recommended actions have failed to resolve the problem.
- Develop a revised plan of action describing the additional modifications to facility activities and/or storm water best management practices that will be necessary to correct the identified problem. If deemed necessary, another round of sampling with an expanded parameter list may be used to help delineate the source of the problem.
- Submit the plan of action, along with a cost and schedule estimate for the recommended actions, to the TDOT Facilities Compliance Contact.
- Revise the SWPPP to incorporate the recommended changes.
- Work with the TDOT facility staff to implement the recommended actions.

5.0 SAMPLING PROCEDURE AND QUALITY ASSURANCE

5.1 Sample Acquisition Procedure

Depending on the time of day of the event, the captured storm water will be transferred to the bottles (and the field measurements performed) within minutes to hours of the beginning of the storm event. Depending on the intensity of the qualifying storm event, the travel time (referred to as the Time of Concentration) for sufficient storm water from the facility to reach the sample location may vary from 5 to 10 minutes to as much as 30 to 45 minutes after the beginning of the rainfall event. Thus, except for very high-intensity storm events, there is typically not a sufficient volume of storm water to acquire a sample until some time into the storm event, again ranging from several minutes to close to 1 hour, depending on the rainfall intensity and the flow conditions to the outfall.

Sample containers and preservation techniques to be used for samples collected during the SFMP are described in Table 8. All sample containers will be provided by the subcontracted laboratory and will be pre-preserved using the required types and quantities of preservatives prior to shipment to the samplers.

Table 8 Sample Containers and Preservation Requirements				
Parameter	Laboratory Detection Limit	Container	Preservative	Holding Time
COD	5 mg/L	250-mL poly bottle	1 mL H ₂ SO ₄ Cool 4°C	28 days
Chloride	1 mg/L	125 mL poly bottle	Cool 4°C	28 days
TSS	4 mg/L	1-L poly bottle (1)	Cool 4°C	7 days
Oil and Grease	5 mg/L	1-L Clear glass with Teflon®-lined lid	2mL HCl Cool 4°C	28 days
E.coli	1# /100mL	2- 100-mL plastic	NA ₂ S ₂ O ₃ Cool <10°C	6 hours

Notes:

Source: Tennessee Department of Environment and Conservation *Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water*, January 2022.

COD = Chemical oxygen demand
 TSS = Total suspended solids.
 Mg/L = milligrams per Liter
 Poly = polyethylene
 mL = milliliter
 L = liter
 H₂SO₄ = sulfuric acid
 °C = degree Celsius
 HCl = hydrochloric acid
 NA₂S₂O₃ = sodium thiosulfate

A unique sample numbering scheme will be used to identify each sample designated for laboratory analysis. The purpose of this numbering scheme is to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers will be used on all sample

labels or tags, field data sheets, and/or logbooks, COC records, and all other applicable documentation used during the project. A listing of all sample identification numbers will be maintained in the field logbook. The sample numbering scheme is presented in Table 9.

Examples: The sample identifier number for a sample taken from the first outfall at the Crossville District Garage (Cumberland County) in 2007 would be 18-D-01-07-01; if a second sample was taken at the location (e.g., a duplicate), that sample identification number would be 18-D-01-07-02. The dashes would not be included, but are used here for illustrative purposes. The sample identification number for a sample taken at a second outfall at the Crossville District Garage would be 18-D-02-07-01.

Table 9 Sample Numbering Scheme for Storm Water Samples	
Character	Parameter to be Entered
First	County Identifier
Second	Facility Type Identifier
Third	Outfall Number
Fourth	Year of Sample Acquisition
Fifth	Unique sample identifier

5.2 Use Of Automatic Samplers

Due to the diverse locations of facilities that will be monitored, consideration will be given to the use of automatic samplers at some facilities to improve the consistency and quality of the sampling and to reduce overall manpower requirements.

Samplers to be used will be mechanically operated (no electrical power) and are placed at the outfall to acquire the first discharge of water and will close and seal when the sample has been taken. Use of this kind of sampler gives the sampling team some flexibility in arriving at the sampling site some time after the initiation of the rainfall event. The samplers are epoxy-lined so that oil and grease in the sample is not retained on the sampler walls. One prospective sampler design is shown in the photographs in Figure 1.

The nature of the automatic samplers protects the integrity of the sample by completely closing the inlet after the sample is acquired, thus leaving no head space or other means by which the water sample could be exposed to the air. If an automatic sampler is not completely full (i.e., there is head space because the inlet has not been closed off), the sampling event is not considered valid and measurements are not taken. As soon as a qualifying event is known to have occurred, a sampling technician goes to each location and acquires the storm water captured by the automatic samplers and transfers them to the appropriate bottles for transport to the laboratory.



Figure 1. Automatic Samplers

5.3 Sampling Documentation

5.3.1 Field Checklist

A Visual Inspection Checklist (Appendix A) shall be completed to collect all information pertinent to sampling activities. Additional information such as preservation methods, sample identification, and parameters to be analyzed for will be captured in the COC used to transfer samples to the laboratory. With the exception of samples taken at the Regional facilities for E. coli, all samples will be shipped to the selected laboratory via an overnight shipping service or a dedicated courier provided as a service by the laboratory.

In addition, field notes will be taken during sample events which may include, but not be limited to, the following information:

- Name and title of author, date, and times of arrival at and departure from the work site
- Purpose of the sampling activity
- Names and responsibilities of field crew members
- Sample collection method
- Number and volume of sample(s) collected
- Date and time of sample collection and name of collector
- Field observations
- Sample identification number(s)
- Sample preservation methods
- Sample distribution and transportation (e.g., name and address of the laboratory and courier)
- Sample documentation information including:
 - COC record numbers
 - Description of the number of shipping containers packaged (including contained COC records) and the shipping method employed (noting applicable tracking numbers)
- Signature and date entered by personnel responsible for observations recorded.

All information included in sampling documentation shall be maintained electronically by TDOT.

5.3.2 Photographs

Photographs will be taken of the sampled water and the outfall at the time of installation and sample collection. For each photograph taken, the following information will be recorded in the field notes:

- Date and time
- Photographer (name and signature)
- Name of the site
- General description of the subject taken
- Photograph log and/or photograph number

A photograph template log is provided in Appendix A.

5.3.3 Chain of Custody

COC procedures provide documentation of the handling of each sample from the time of collection until completion of laboratory analysis. The COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met:

1. The sample is in the sampler's possession.
2. The sample is in the sampler's view after being in possession.
3. The sample was in the sampler's possession and then was placed into a locked area to prevent tampering.
4. The sample is in a designated secure area.

Custody will be documented throughout the storm water monitoring activities by the COC form initiated each day during which samples are collected. This record will accompany the samples from the site to the laboratory, and a copy will be returned to the sampling project leader with the final analytical report. All personnel with sample custody responsibilities will be required to sign, date, and note the time on the COC form when relinquishing samples from their immediate custody (except in the case where samples are placed into designated secure areas for temporary storage prior to shipment). Bills of lading will be used as custody documentation during times when the samples are being shipped from the site to the laboratory and will be retained as part of the permanent sample custody documentation.

COC forms will be used to document the integrity of all samples collected. To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, COC forms will be filled out for sample sets as determined appropriate during the course of fieldwork. The following information will be recorded on all COC forms:

- Sample number (for each sample in shipment)
- Collection date and time (for each sample in shipment)
- Number of containers for each sample
- Sample description (i.e., environmental medium)
- Analyses required for each sample
- Sample preservation technique(s)
- COC or shipment number
- Shipping name and address of the laboratory
- Date, time, method of shipment, courier, and airbill number
- Signature of custodian as custody is transferred between individuals

The individual responsible for shipping the samples from the field to the laboratory will be responsible for completing the COC form and noting the date and time of shipment. This individual will also inspect the form for completeness and accuracy. After the COC form has been completed, the field copy will be removed, and the laboratory copy will be sealed inside a plastic bag inside the sample cooler. The field copy of the form will remain at the site during the entire sampling event.

In addition to the COC form, COC seals also will be placed on each cooler used to ship samples. The seals will be placed across the lid and body of the coolers in such a manner that if the cooler is opened, the seals will be broken. The COC seals will be used to ensure that no sample tampering occurs between the time the samples are placed into the coolers and the time the coolers are opened for analysis at the laboratory. Cooler COC seals will be signed and dated by the individual responsible for completing the COC form contained within the cooler.

5.4 Sample Packing and Shipping

Sample containers will be packaged in thermally insulated coolers that will be sealed. Sample packaging and shipping will be conducted in accordance with applicable United States Department of Transportation specifications. Packaging and shipping procedures to be utilized for environmental samples collected during the storm water monitoring program will include the following:

- Sample containers will be adequately identified with sample labels placed onto each container.
- All bottles will be taped shut with electrical tape, if being shipped.
- Each sample bottle will be placed into a separate plastic bag, which will then be sealed.
- All of the sample containers will be placed upright in the coolers, along with wet ice in plastic bags, which will be placed around, among, and on top of the sample containers.
- Additional inert packing material will be placed into the cooler, if required, to prevent shifting of the sample containers during transport.

If samples are being shipped, the following procedures also apply:

- All required laboratory paperwork, including the COC form(s), will be placed inside a plastic bag and taped to the inside of the cooler lid.
- After all samples are packed inside the cooler, the cooler lid will be closed and signed/dated custody seals will be placed on the cooler.
- The airbill for the shipment will be completed and attached to the top of the shipping box, which will then be transferred to the courier for delivery to the laboratory.

All environmental samples collected during the project will be shipped within hold times after the time of collection. During the time period between collection and shipment, all samples will be stored in ice-filled coolers and maintained in a secure area. All coolers containing environmental samples will be shipped to the laboratory by overnight courier or transported directly to the laboratory by the sampling team.

5.5 Quality Assurance/Quality Control Sampling

Quality assurance/quality control (QA/QC) samples, in the form of filed duplicates, will be collected in conjunction with the prescribed storm water sampling. Field duplicates will be collected at one of the selected locations in each calendar year sampling program. The QA/QC samples will be analyzed for the same parameters as the primary sampling.

6.0 VISUAL INSPECTION PROCEDURE

Visual examinations of all facility outfalls will be conducted in each of the following periods:

- January through March
- April through June
- July through September
- October through December

The four quarterly inspections will be conducted within 1 hour of a qualifying rainfall event. A fifth inspection will be conducted under dry weather conditions (i.e., no qualifying rainfall event in the preceding 72 hours) to verify the lack of non-storm water discharge flow at the outfalls. Visual inspections will be performed as part of the sampling events for those outfalls where samples are acquired for laboratory analysis.

The visual inspection program results will be incorporated into every facility's SWPPP recordkeeping and internal reporting structure. Outfall inspections will not begin at a facility until it has a SWPPP in place. Outfall flow rates and the presence of oil sheens, floatables, coarse solids, color, and odors will probably be the most useful indicators of potential problems. Specific parameters to look for in completing a visual inspection include the following:

- **Odor:** Discharge odors can vary widely. Some may indicate the source of contamination. Industrial discharges may smell like a particular spoiled product, oil, gasoline, a specific chemical, or a solvent. For example, the decomposition of organic wastes in a discharge will release sulfide compounds, creating an intense smell of rotten eggs. Significant sanitary wastewater contributions also will cause pronounced and distinctive odors.
- **Color:** Color may indicate inappropriate discharges, especially from industrial sources. Industrial discharges may be any color. Dark colors, such as brown, gray, or black, are most common. For instance, flow contaminated by meat processing industries is usually a deep reddish-brown. Paper mill wastes (plating-mill wastes) are often yellow. Wash water from cement and stone working plants can cause cloudy discharges. Contamination from industrial areas may come from process waters (slug or continuous discharges), from equipment and work area wash water discharged to floor drains, or from spills washed into storm drains.

- **Turbidity:** Turbidity is often affected by the degree of gross contamination. Industrial flows can be cloudy (moderately turbid) or opaque (highly turbid). Undiluted industrial discharges, such as those coming from continual flow sources or intermittent spills, are often highly turbid. Sanitary wastewater also is often cloudy in nature.
- **Floatable Matter:** A contaminated flow may also contain floatable solids or liquids. Identifying floatables can aid in finding the source of the contamination because these substances are usually direct products or byproducts of the manufacturing process or the sanitary system. Examples of floatables of industrial origin are animal fats, spoiled food products, oils, plant parts, solvents, sawdust, foams, packing materials, and fuel.
- **Deposits and Stains:** Deposits and stains (residues) are any type of coating that remains after a non-storm water discharge has ceased. Deposits or stains usually are of a dark color and usually cover the area surrounding the storm water discharge. They often contain fragments of floatable substances, and, at times, take the form of a crystalline or amorphous powder. For example, contamination from leather tanneries often produces grayish-black deposits containing fragments of animal flesh and hair. Another characteristic example is the coating of white crystalline powder formed on sewer outfalls by nitrogenous fertilizer wastes.
- **Vegetation:** Storm water discharges often affect surrounding vegetation. Industrial pollutants often cause a substantial alteration in the chemical composition and pH of the discharge water, which can affect plant growth even when the source of contamination is intermittent. For example, nutrients from various food product wastes increase plant growth. In contrast, the discharge of chemical dyes and inorganic pigments from textile mills may decrease vegetation, as these discharges are often very acidic. In either case, even when the pollution source is gone, the vegetation surrounding the discharge will continue to show the effects of the contamination. To accurately judge if the vegetation surrounding a discharge is normal, the observer must take into account recent weather conditions, as well as the time of year. Increased or inhibited plant growth near storm water discharges, as well as dead and decaying plants, is often a sign of pollution. However, it is important to distinguish whether plant damage is caused by contamination or by the physical effects of increased flows, such as scour. This can be done by chemically analyzing the flow or by confirming its source through additional visual inspections.

- Structural Damage:** Structural damage also is a sign of industrial discharge contamination . Cracked or deteriorated concrete or peeling surface paint at an outfall usually indicates the presence of severely contaminated discharges. Contaminants causing this type of damage are usually very acidic or basic and are usually of industrial origin. For instance, discharges from primary metal industries may cause structural damage because their batch dumps are highly acidic.

The effectiveness of visual inspections can be highly variable and dependent upon site-specific parameters. These factors include inspectors' motivation level, the types of industrial activity occurring at the facility, and the facility's maintenance procedures. Because familiarity with facility operations is essential in performing effective visual inspections, the inspections should be assigned to qualified staff. All outfall inspectors will undergo training in the process and requirements of the inspection prior to performing any inspections. An example of the Visual Inspection Checklist to be used is included in A. Table 10 provides an example of the guidance that should be provided to all inspectors as part of their training.

Table 10 Guidance for Oil Sheen Thickness		
Description of Sheen	Approximate Thickness of Oil Layer (in.)	Approximate Volume of Oil per Area (gal/1,000 yd²)
Barely visible	0.000002	0.011
Silver sheen	0.000003	0.022
First color trace	0.000004	0.044
Iridescent rainbow colors	0.00001	0.088
Dull colors	0.00004	0.27
Dark colors	0.0001	0.80
Brown oil	0.004-0.04	-

Notes:

Source: NOAA 1996.

In. = inch

Gal = gallon

Yd2 = square yard

7.0 SUMMARY OF FACILITY INSPECTION AND SAMPLING PROGRAM

This SFMP responds directly to the TS4 Permit requirements and establishes the organization, logistical plan, and technical procedures that will be implemented by TDOT to achieve full compliance. One Regional facility will be selected each year, with representative district, county, and unmanned (i.e., salt shed) facilities selected. In accordance with the TS4 permit, the total number of facilities sampled will amount to approximately 10% of the total number of facilities exposed to storm water. Storm water grab samples from facility outfalls will be collected only during a qualified storm event. This storm event must meet the following criteria:

- a. Storm event must be >0.01 in. in magnitude
- b. Storm event must occur more than 72 hours from the previously measured storm event of >0.01 in.
- c. Sampling should not be performed for storm events greater in magnitude than the 10-year, 24-hour storm.

The grab sample will be collected during the first 30 minutes of the storm event. The samples will be transported to a laboratory where they will be evaluated. The results from the sampling will be evaluated against action levels detailed in the TS4 permit. The contaminant action levels, if found in the storm water samples, will require TDOT to investigate the source of the contamination and take appropriate steps to mitigate the problem. Procedures are specified in the document for the acquisition of the samples, documentation of the samples, sample packing and shipping, and the acquisition of QA/QC samples.

Visual examinations of all facility outfalls will also be performed. The four quarterly inspections will be conducted within 1 hour of a qualifying rainfall event. A fifth inspection will be conducted under dry weather conditions (i.e., no qualifying rainfall event in the preceding 72 hours) to verify the lack of non-storm water discharge flow at the outfalls.

8.0 REFERENCES

- NOAA (National Oceanic and Atmospheric Association) 1996. *Aerial Observations of Oil at Sea*, HAZMAT Report 96-7.
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- Stenstrom, M.K., and Kayhanian, M., 2005. *First Flush Phenomenon Characterization*, California Department of Transportation, Division of Environmental Analysis, August.
- TDEC (Tennessee Department of Environment and Conservation) 2025. "Tennessee Storm Water Multi-Sector General Permit for Industrial Activities," Permit No. TNR050000, June.
- TDEC 2022. *Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water*, Revision VI, January.

Appendix A

Field Documentation Templates

Stormwater Outfall Visual Inspection Checklist

TDOT Stormwater Sampling and Outfall Inspection Form

1. Inspection Details

Facility Name		Outfall ID	
Inspector(s)		Inspection Date / Time	___/___/___ :___
Arrival Time	___:___	Departure Time	___:___
Weather Conditions		Time/Date of Last Rain Event	
Outfall Description	Unlined Channel ☐ Riprap Channel ☐ Concrete Pipe ☐ Metal Pipe ☐ Sinkhole ☐ Other: _____		

Percent Area Paved/Gravel/Grass		Rainfall Intensity (sampling event)	
Approximate Area Drained		Flow Rate Estimate (gpm)	

2. Sample / COC Information

Collection Date / Time	___/___/___ :___	Sample ID	
Sample Collection Method	Vortex pot ☐ Manual collection ☐	Vortex Installation Date/Time (if applicable)	___/___/___ :___
Field pH		Sample Type	Grab
pH Meter Calibrated?	Yes ☐ No ☐	Calibration Date	___/___/___
Lab Name		Calibration Date	
Number of Bottles and Coolers to Lab	Bottles _____ Coolers _____	Shipment Method	Courier ☐ Shipped ☐ Drop Off ☐

Parameters to be Analyzed / Preservative Requirements

Parameter	Select	Preservative / Note
Oil & Grease	☐	Hydrochloric acid (1L glass)
TSS	☐	No preservative (1L HDPE)
COD	☐	Sulfuric acid (250ml HDPE)
Chloride	☐	No preservative (125ml HDPE)
pH	☐	No preservative
E. Coli	☐	Sodium thiosulfate (2 -100ml plastic)

Notes:

County & District Garage = O&G, TSS, COD, Chloride, pH
Regional Garage = O&G, TSS, COD, Chloride, pH, E. Coli
Salt Shed = TSS, Chloride, pH

3. Observations

Observation Item	Condition / Response
Standing water present?	Yes ☐ No ☐ Depth & Estimated Quantity: _____
Odor	None ☐ Sewage ☐ Sulfide ☐ Gas ☐ Sour ☐ Other: _____
Water Color	None ☐ Yellow ☐ Brown ☐ Green ☐ Red ☐ Gray ☐ Other ☐
Turbidity	Clear ☐ Cloudy ☐ Opaque ☐ Other: _____
Floating Material	None ☐ Foam ☐ Sheen ☐ Other: _____
Damage to outfall structure	None ☐ Present ☐ Describe: _____
Condition of discharge point	Clear ☐ Silt Buildup ☐ Debris Buildup ☐ Excessive Erosion ☐ Other: _____
Vegetation condition	Normal ☐ Excessive Growth ☐ Stressed ☐ Other: _____
Evidence of illegal dumping in drainage channel	No ☐ Yes ☐ Describe: _____

4. Other Notes / Observations

Inspector Signature: _____ Date: _____

PHOTO NO. 1 DESCRIPTION:	

PHOTO NO. 2 DESCRIPTION:	

PHOTO NO. 3 DESCRIPTION:	
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PHOTO NO. 4 DESCRIPTION:	
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PHOTO NO. 5 DESCRIPTION:	
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PHOTO NO. 6 DESCRIPTION:	
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PHOTO NO. 8 DESCRIPTION:	
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PHOTO NO. 18 DESCRIPTION:	

PHOTO NO. 19 DESCRIPTION:	

PHOTO NO. 20 DESCRIPTION:	