

**Erosion Prevention and Sediment Control (EPSC)  
Inspection Services  
Scope of Services  
November 11, 2004**

**SCOPE OF SERVICES**

This scope requires the provision of a qualified Erosion Prevention and Sediment Control (EPSC) Inspector. This scope is primarily for EPSC inspection services consultants, but in-house construction personnel are encouraged to use the procedures contained within this scope as it follows the NPDES General Permit and the TDOT/TDEC consent order (signed March 10, 2004) requirements.

The EPSC inspection services consultant will be responsible for inspecting and reporting all EPSC activities and features within the project limits and affected areas during each site visit (the contractor is to obtain all permits and perform inspection on off-site waste and borrow areas and should not be included in the affected area). All EPSC activities and features that occur between site visits shall be documented at the next site visit through information from the TDOT project supervisor. The activities outlined below will be performed throughout the life of the specified roadway contract. The EPSC inspection services consultant will serve as an agent of the Department (TDOT) and will report directly to the TDOT project supervisor. All communications to the contractor will be through the TDOT project supervisor, unless otherwise specified by the TDOT project supervisor. If the TDOT project supervisor specifies a designee, please provide the delegation of authority document, to the NPDES coordinator via email and posted on the ftp site. Please see the attached signature form of all parties involved for transfer of authority for your use.

1. The EPSC inspection services consultant shall submit a written summary of qualifications for each inspector associated with the specific project assigned (Please see the format on the following page for the accepted summary format). Each inspector will be stated at the submittal of the estimate for services and no substitution shall be made unless approved by the NPDES coordinator in writing via email. No substitutions or additions to the original specified inspectors are acceptable without written approval from the NPDES coordinator. The request to substitute and/or add inspectors must be made in writing to the NPDES coordinator, including no more than a one page summary of qualifications. Written approval must be received from the NPDES coordinator before these individuals are allowed to participate in the inspection services. If the inspector holds a CPESC, please submit that documentation, as well.
2. Copies of the water quality and storm water permits and a half-size set of construction plans shall be made available at the project trailer or requested via email from the NPDES coordinator.
3. The EPSC inspection services consultant shall participate in project meetings relative to EPSC, including pre-construction meeting, on-site meetings with TDOT and contractor, progress meetings, additional meetings required by the regulatory agencies and others as required. The TDOT project supervisor may request participation, by the EPSC inspection services consultant, in biweekly, or similar, meetings conducted by the TDOT project supervisor to discuss progress, problems, (general, as well as specific), erosion control issues and their resolution.

4. The EPSC inspection services consultant shall review and make recommendations on the EPSC plans prepared by others:
  - EPSC measures shall be modified as necessary so that they are effective at all times throughout the course of the project.
  - The EPSC plan shall show all boundaries of right-of-way and/or easements, as well as, the cut and fill slopes and the watercourse and wetland boundaries contained within the ecology report provided by the TDOT technical studies office.
  - The timing of implementation of EPSC measures in relation to construction of the road project
  - Initial EPSC measures which should be in place before clearing, grubbing, excavation, grading, cutting or filling occurs.
  - EPSC measures which should be in place for and provide protection for any relocation of utilities before clearing activities occur if these activities are included as part of the TDOT roadway contract.
  - Phasing of the EPSC measures and devices. EPSC plans and notes shall address phasing issues required to construct the project.
  - Stage construction of the EPSC may be necessary on certain projects. If this staging is not provided within the SWPPP, suggestions are to be provided to the TDOT project supervisor. A consensus must be drawn between the EPSC inspection services consultant, the project supervisor and the contractor on the most effective staging methods.
5. The EPSC inspection services consultant shall review the Storm Water Pollution Prevention Plan (SWPPP), possibly prepared by others. Anything that changes the EPSC plans as shown in the field SWPPP is a revision and must be documented in the field SWPPP by the EPSC inspection services consultant at their next field visit.
6. The contractor shall make all necessary maintenance and repair on EPSC measures within twenty-four hours after all inspections, unless conditions make a particular activity impossible, then the EPSC inspection services consultant shall document (any such conditions). The EPSC inspection services consultant shall maintain records of inspections and corrective measures, including documenting photographs (photo journal) of representative items requiring correction and the corrective action taken for it. Since the contractor and TDOT are co-owners of the project in the NPDES permit, the EPSC inspection services consultant, the TDOT project supervisor, and the contractor shall sign these records.
7. The EPSC inspection services consultant shall provide TDOT with comments, including a photo journal of areas, relative to the corrective actions for the EPSC plans contained within the SWPPP. This information shall be made available by the EPSC inspection services consultant by placing it on the TDOT ftp site for viewing by

others. Upon request, this information shall be provided in paper copy form or emailed to the construction office.

8. The EPSC inspection services consultant will provide comments, suggestions, and correspondence to the TDOT project supervisor. The EPSC inspection services consultant will follow-up verbal communications given at the site visit with the TDOT project supervisor with written documentation within 24 hours of the inspection, including a photo journal of areas. It shall be the responsibility of the TDOT project supervisor to forward the appropriate information to the contractor, to coordinate with the contractor, and to provide guidance and instructions to the contractor. All parties realize that the contractor is under contract with the TDOT and thus contractor's instructions and guidance must come from the TDOT project supervisor. In some cases the TDOT project supervisor will request that the EPSC inspection services consultant clarify any comments directly to the contractor. If this is the case, the EPSC inspection services consultant shall provide this service in the presence of the TDOT project supervisor.
9. The EPSC inspection services consultant shall make site visits to the construction site to:
  - Conduct a baseline evaluation at each outfall to identify and document the current conditions prior to road construction activities, inspect for changes related to siltation, and to notify the TDOT project supervisor if conditions arise that might negatively impact waters of the State through siltation. This evaluation shall be conducted at each outfall to identify and document the potential for erosion problems (i.e. stability of the bank, sediment deposition, and source impacts).
  - Review and verify the proper installation, maintenance and effectiveness of EPSC devices/measures per project plans and the SWPPP, or as directed by the TDOT project supervisor.
  - Review the completed installation of EPSC devices.
  - Review the effectiveness of EPSC devices.
  - Recommend needed repairs, maintenance and additions to EPSC system. Any time that the EPSC inspection services consultant becomes aware that sedimentation is occurring or has occurred in streams impacted by an on-going project, the EPSC inspection services consultant shall evaluate the EPSC measures employed, make recommendations to the TDOT project supervisor to repair or replace defective EPSC measures, and recommendations to install, as applicable, additional or other EPSC measures with the goal of eliminating future sedimentation. If a consensus is not reached between the TDOT, the contractor and the EPSC inspection services consultant on appropriate recommendations within 24 hours, the EPSC inspection services consultant shall start the elevation process as stated by the Environmental Planning and Permits Division Director.
  - Provide weekly review of the contractor's repairs, maintenance and additions to the erosion and sediment control system. It shall be the responsibility of the

TDOT project supervisor to provide review of this work if reviews are required prior to the EPSC inspection services consultant's weekly inspection, except in emergency situations as deemed necessary by the TDOT project supervisor.

- Review areas that have been seeded, mulched or otherwise stabilized for effectiveness and make recommendations for any deficient areas.
- Review stabilization efforts which are to be completed within 15 days after final grading or earth moving activities have ceased.
- Review removal of vegetative ground cover occurring not more than 20 calendar days prior to grading or earth moving unless said area is seeded and/or mulched.
- Review requirement that construction must be phased if over 50 acres of soil will be disturbed.
- Review compliance with the current National Pollutant Discharge Elimination System (NPDES) Permit, the TDEC/TDOT consent order (dated March 10, 2004), and any future individual MS4 TDOT NPDES permit requirements.
- The frequency of the site visits shall be as follows:
  - Before anticipated storm events (or series of storm events such as intermittent showers over one or more days). Inspections and associated, necessary repairs done 60 hours before a rain event constitute compliance with "before anticipated storm events," and inspections and repairs on a Friday meet the requirement for anticipated rain events over the weekend. An anticipated storm event is a forecast of 50% or greater chance of rain.
  - During or within 24 hours after the end of a storm event of 0.5 inches or greater. Please note this would include weekends and state holidays. A TDOT representative must be available on weekends and state holidays to accompany the EPSC inspection services consultants on these site visits. The EPSC inspections services consultant will be required to call the TDOT project supervisor every Friday morning to designate the TDOT employee, and obtain the contact information, who will be available to accompany this EPSC inspection services consultant in case the above mentioned rain event occurs. Inspections on a Friday do not meet the requirement for actual rain events over the weekend. \*\*\* For your estimates, use three additional visits on average per month for rainfall events
  - At least once per week
  - Quality Assurance/Quality Control (QA/QC) Team inspections will occur once per month. At sites that TDEC determines to be high quality waters, streams impaired by siltation or that have recurring problems, (QA/QC) Team inspections will occur at least twice each month. The EPSC

inspection services consultant will work in conjunction with or act as a part of the QA/QC Teams (if assigned) for the specific project.

The contractor along with the TDOT project supervisor shall sign all inspection forms prepared by the EPSC inspection services consultants for these site visits when an inspection is completed. Please see the attached signature form.

10. The EPSC inspection services consultant shall prepare and submit reports to the TDOT project supervisor, required by the NPDES permit and the SWPPP, including:
  - Reports on deficiencies in the EPSC system and corrective actions undertaken. Information must be specific and recommendations for improvement must be made in the report. The report shall address specifically any items that are reoccurring from past reports. Avoid general comments.
  - Inspection reports.
  - Summary of all site visits.
  - Other documentation required by SWPPP.
  - All documentation is to be placed on the TDOT ftp site for viewing by others. A folder on this site will be set up for each of the EPSC inspection services consultant's use. This folder must contain the name of the project including contract number for clarity. The file information and password, if needed, shall be supplied to the TDOT project supervisor by email. All documentation shall be placed in a chronological series within these folders. Upon request, these reports shall be provided to the TDOT construction office in paper form or via email.
  - Verbal reports shall be presented to the TDOT project supervisor at each site visit and written reports within 48 hours, so that the contractor can install the necessary recommendations before the next anticipated rainfall event. An email notification shall be sent to the construction office within 48 hours after the inspection for their use. The TDEC consent order requires that all necessary maintenance and repair on EPSC measures shall be made within twenty-four hours after all inspections, unless conditions make a particular activity impossible (any such conditions shall be documented).

Since the contractor and TDOT are co-owners of the project in the NPDES permit, the TDOT project supervisor shall provide all reports prepared by the EPSC inspection services consultants to the contractor. The contractor and the TDOT project supervisor are encouraged to sign the attached sheet when a report is completed. Please see the attached signature form. Please post this signature sheet with each report on the ftp site.

11. TDOT shall install rain gauges at all sites where clearing, grubbing, excavation, grading, cutting or filling is being actively performed, or exposed soil has not yet been permanently stabilized. On specific projects, rain gauges may need to be installed at every mile within the project limits per the Environmental Permits Office.

The rainfall monitoring plan dated March 31, 2004 shall be followed and supersedes the rainfall monitoring under the NPDES permit. 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. These records shall be reviewed by the EPSC inspection services consultant at each site visit. The EPSC inspection services consultant shall watch closely rainfall and forecasted rainfall activities and shall keep in contact with the TDOT project supervisor (or their designee) in order to meet the inspection requirements listed in this scope (i.e. 0.5 inch rainfall events)

12. The EPSC inspection services consultant shall prepare and submit any proposals for revision to the erosion control plan to TDOT's project supervisor for review and approval, which shall include, but not limited to:
  - Proposed revisions will be submitted to TDOT's project supervisor in time to allow review prior to implementation, except for recommendations for emergency repairs will be submitted to TDOT's project supervisor immediately.
  - Maintain, within the SWPPP, a running index of revisions, dates, what occurred, and on what page of the EC sheets. The EPSC inspection services consultant shall make copies of this index available to the TDOT project supervisor each time a change is made.
  - All implemented revisions shall be marked by the EPSC inspection services consultant in red within the field SWPPP, initialed, and dated for revision as soon as the TDOT project supervisor, the contractor, and the EPSC inspection services consultant agree on changes as they are implemented in the field.
  - If any revisions will interfere with any of the other water quality permits, please contact the Manager of the Environmental Permits Office for guidance before implementing.

Since the contractor and TDOT are co-owners of the project in the NPDES permit, the contractor shall sign all revisions prepared by the EPSC inspection services consultants along with the TDOT project supervisor when an agreement is reached and the field SWPPP is changed. Please see the attached signature form.

13. Be available, on call, to the TDOT project supervisor in the event of an erosion control emergency.
14. Administrative tasks including invoicing, progress reports, and other administrative tasks. The EPSC inspection services consultant must keep a chronological log in sheet anytime a site visit, inspection and/or attendance at meetings occurs. Please see the attached log in sheet for your use. This log in sheet must include the name of the individuals representing TDOT on behalf of the EPSC inspection services consultant, the date and time of inspection and be signed by the TDOT project supervisor. This log in sheet must be submitted quarterly to the NPDES coordinator, via email and posted to the ftp site, for inclusion in the files.

15. The EPSC inspection services consultant shall comply with the elevation process established by the Environmental Planning and Permits Division whenever reasonable reporting information is consistently ignored or reoccurring problems exist on the project.
16. The EPSC inspection services consultant is not responsible for the following;
  - Means, methods, materials or safety procedures used by the contractor.
  - Failure of the TDOT project supervisor to issue proper instructions / guidance to the contractor.
  - Contractor's or the TDOT project supervisor's failure to implement recommendations of the EPSC inspection services consultant.
  - Communicating the written and verbal recommendations, plans, specifications, suggestions or other communications with the contractor, given by the EPSC inspection services consultant, unless specifically requested by the TDOT project supervisor.
17. This service can be reviewed at any time during the length of the work order to determine that the appropriate service is provided to the TDOT. If a review is necessary, a process will be set up on a case-by-case basis.

**Delegation of Authority**

I \_\_\_\_\_ (print name of TDOT project supervisor),  
delegate the reporting responsibility of coordination with the EPSC inspection  
services consultant to \_\_\_\_\_ (print name of  
TDOT delegate) for contract # \_\_\_\_\_.

I am providing delegation of authority as stated above and confirm that the TDOT  
delegate stated above has direct knowledge of the subject project and the ability to  
discuss the reports and recommendations from the EPSC inspection services  
consultant on the subject project directly to the contractor.

\_\_\_\_\_ (signature of TDOT Project Supervisor)

\_\_\_\_\_ (date)

**EXAMPLE OF SUMMARY OF QUALIFICATIONS**

**Name of Individual (Firm Name)**

**Education**

Mr/Ms.            obtained a B.S. degree in Civil Engineering, in 1991. He/She is a Professional Engineer (TN#            ) and is a member of ASCE, IECA, and ITE. He has taken TDEC Level One and TDEC Level Two Classes. Mr.            is a project manager with            . Mr.            has submitted his application to sit for the Certified Professional in Erosion and Sediment Control (CPESC) exam.

**Experience**

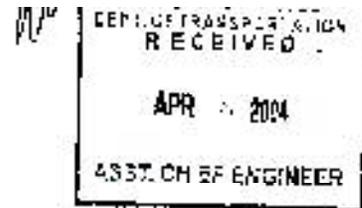
Mr/Ms.            has            years of professional experience including            years of erosion prevention and sediment control experience. In 2002, Mr/Ms. coordinated the contract for            with TDOT to perform erosion and sediment control services. While working with            , Mr/Ms.            has been continually involved in over 35 TDOT projects concerning the design and review of erosion prevention and sediment control plans, production of storm water pollution prevention plans (SWPPP) and performing erosion prevention and sediment control inspections in the field.

A sampling of specific experience in erosion prevention and sediment control review, design, and/or inspection follows (note: Mr/Ms.            has developed erosion and sedimentation control plans for several projects in addition to those listed below):

- **County, SR-            , Widen from S of SR-            to S of SR-**
- **County, SR-            , From S of SR- to N of            Rd**
- **County, SR-            , From SR-            to SR-**
- **County, SR-            , From COL to near St**
- **County, SR-            , Reconstruct from near            Rd to near Branch**



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
SUITE 700, JAMES K. POLK BUILDING  
NASHVILLE, TENNESSEE 37243-0049  
(615) 744-2841



GERALD F. NICELY  
200302000

PHIL BREWSTER  
00000000

**Memorandum**

To: Mr. Fred Cozart, Director Region 1  
Mr. Bob Brown, Director Region 2  
Mr. Mark Hullozan, Director Region 3  
Mr. Greg Duncan, Director Region 4

From: Mr. Paul D. Degges, P.E.  
Transportation Administrator

Date: March 31, 2004

Subject: TDEC/TDOT Consent Order  
Erosion Measures  
Rainfall Monitoring Plan

The department in implementing the subject consent order is required to monitor rainfall on construction projects requiring an NPDES permit.

Section XXXIV C.7. (f) of the consent order states the following:

*IDOT 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, curbing or filling is being actively performed, or exposed soil has not yet been permanently stabilized. IDOT 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 EPCS 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.*

The attached plan has been approved by TDEC and the department will be implementing this provision on all active contracts with NPDES permits where stabilization of soils has not yet occurred (i.e. the Notice of Termination has not been filed and accepted).

The department already requires rainfall monitoring for construction projects under part IV.D.2.iii. (a) of the NPDES permit. This plan supersedes these requirements, as it is more restrictive.



**TDEC/TDOT Amended Consent Order**  
**Rainfall Monitoring Plan for Interim Projects**  
(Section XXXIV.C.7. (f))

Purpose

Erosion prevention and sediment control (EPSC) measures and devices are utilized to minimize sediment movement and siltation of down slope areas. Storm water runoff is directly proportional to the intensity and duration of a given rainfall event. Rainfall monitoring is necessary in order to estimate the effectiveness of EPSC measures and devices at the construction site. The intent of the plan is to provide a means to record the volume of rainfall and the time period in which it fell in order to estimate the intensity and duration of the rainfall event.

Equipment

At a minimum, a Fence Post type rain gage will be used to measure rainfall. A typical Fence Post Rain Gage is a wedge-shaped gage that measures up to 6 inches (150 mm) of rainfall.

An English scale is provided on one face, with a metric scale on the other face. Graduations are permanently molded in durable, weather-resistant plastic. The minimum gradations are 0.01 inch (or 0.1 mm). An aluminum bracket with screws may be included for mounting the gage on a wooden support.



Location

The rain gage will be located at or along the project site, as defined in the NOI of the NPDES permit, in an open area such that the measurement will not be influenced by outside factors (i.e., overhangs, gutters, trees, etc.). At least one rain gage will be located within each linear mile (as measured along the center line of the primary alignment) of the project where clearing, grubbing, excavation, grading, cutting or filling is being actively performed, or exposed soil has not yet been permanently stabilized.

The approximate location of rain gages and the starting and ending dates of their installation at a given location on a project site will be noted in the master set of the erosion control plans.

### Monitoring Procedures

Rainfall monitoring will be initiated prior to clearing, grubbing, excavation, grading, cutting, or filling, except as such minimal clearing may be necessary to install a rain gage in an open area. The rain gage will be checked for operational soundness daily during periods of rainfall and weekly during dry periods. Gages will be repaired or replaced on the same day if found to be non-operational. Inspections of the rain gages for operational soundness shall also be performed before anticipated rainfall events.

Each gage will be read and emptied after every rainfall event occurring on the project site at the approximate same time of day. During periods of dry conditions it will not be necessary to read the rain gage everyday.

Detailed records of rainfall events including dates, amounts of rainfall, and the approximate duration or starting and ending times will be recorded.

In the event that the storm event is still in progress, the gage will be emptied and the record will indicate that the storm event is still in progress.

Rain gage information (amount, approximate start and end times, and duration) will be recorded on the Storm Water Inspection forms for the NPDES permit, (see attached example), at the time of measurement. The approximate station of the rain gage being recorded (nearest to outfall) should also be noted on the inspection form.





