

**Tennessee Department of Transportation
Statewide Storm Water Management Program**

**TDOT Environmental Division
Environmental Procedures Manual**



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1 Introduction

TDOT currently has a draft Environmental Procedures Manual (EPM) outlining processes and procedures for the Environmental Division's project planning, development, and construction activities. The manual is comprehensive and meets many of the Consent Order requirements. We recommend including the sections outlined below and adopting the manual for use by the Environmental Department.

Note that the numbering of sections below corresponds to the existing EPM sections. Text recommended for inclusion in the EPM is italicized and underlined.



2 Development and Consideration of Alternatives

2.1 Preliminary Alternatives Development

During the early phases of project development, a set of initial or preliminary alternatives is identified or may be confirmed from earlier studies. The number of preliminary alternatives considered depends on the type, size, and complexity of a project. For example, an intersection improvement is expected to have few alternatives, while a new roadway on a new location is expected to have a large number of possible alignments that ultimately will be screened for an appropriate corridor. During the development of the preliminary alternatives and throughout the project planning process, some of the alternatives may be revised and modified, while others may be dropped from further consideration, because they are determined impracticable or infeasible, may have severe adverse impacts, or do not meet the project's purpose and need. New alternatives may be introduced as the process moves forward. Affected agencies and stakeholders should be given opportunities to provide input about the development of all considered alternatives.

Note: the National Environmental Policy Act (NEPA) process requires consideration of the "no-build" alternative for every federally funded project. As this manual discusses project alternatives, the no-build option is included in the reference.

As stated in 40 CFR 1505.1 (e), the Council on Environmental Quality (CEQ) specifically requires that when an Environmental Impact Statement (EIS) is being prepared, "all reasonable alternatives" must be explored. CEQ also requires that those alternatives that were initially considered but eliminated from a more detailed study be discussed in the EIS with the reasons for removing these alternatives from further consideration explained. CEQ regulations and the Federal Highway Administration (FHWA) regulations and Technical Advisory provide no guidance regarding the consideration of all reasonable alternatives for projects where the documentation is an Environmental Assessment (EA) or a Categorical Exclusion (CE). Although not specified in the Technical Advisory, Tennessee Department of Transportation (TDOT) generally discusses in the EA the alternatives that were initially considered but dropped from further study after they were determined unreasonable.

Beyond the CEQ requirements of evaluating alternatives for avoiding or minimizing impacts to the environment, there are other regulations that require consideration of "avoidance" alternatives. Specifically, Section 4(f) of the Department of Transportation Act of 1966, the Executive Orders on Wetlands (E.O. 11990), Floodplains (E.O. 11988), Environmental Justice (E.O. 12898), and the U.S. Army Corps of Engineers (USACE) Section 404 (b)(1) guidelines require agencies to develop alternatives that would avoid or minimize impacts. These regulations are summarized in Appendix C and discussed in the appropriate sections of Chapter 6, Impact Analysis.



3 Early Project Planning Coordination

[Note that adding this section changes the numbering of the Environmental Procedures Manual (EPM). The numbering in this document before and after this section aligns with the existing EPM numbering so that the manual section can easily be referenced.]

Early coordination on project alternatives results in an effective project development process. Coordination within the Environmental Division (ED) and between TDOT divisions is necessary to prevent costly project revisions and potential conflicts in design and construction.

TDOT supports early coordination between the Divisions. In an effort to ensure that this coordination is happening effectively and efficiently, an Interdisciplinary Project Planning Team (IPPT) should be established. TDOT also strongly supports interagency coordination.

3.1 Interdisciplinary Project Planning Team

Within the ED, staff from the Natural Resources Office, Social and Cultural Resources Office, and the Planning Office, should all be active members of the IPPT. The goals of this team are to:

- ✓ To ensure that stream and wetland impact avoidance and mitigation are given a priority throughout all phases of project planning and design;
- ✓ Identify potential environmental items that need to be addressed in design, ecology, permits, and construction;
- ✓ Communicate environmental commitments for the project, such as stream and wetland mitigation; and
- ✓ Review other project commitments as they relate to environmental concerns, such as storm water detention requirements or roadway cross-sections that may impact more environmental resources than originally identified.

Input from the IPPT is expected during each step of the project planning and development process:

- a. **Project Commitments.** Each commitment (environmental or otherwise) should be reviewed by the IPPT to evaluate how it could impact other aspects of the project. For example, agreeing to a boulevard roadway layout with a wider corridor may significantly impact environmental permits and mitigation if stream segments or wetlands are impacted. Project commitments will be followed during the project through all planning and design phases, reviewed by all IPPT members, and incorporated into the Environmental Pre-Construction Meeting on the project site. Project commitments may be added at different stages of project development; however, the IPPT should review each commitment and evaluate how it may affect permits, environmental resources, and other commitments.
- b. **Corridor Evaluation.** Each team member should understand the alternatives evaluated for each project and know the rationale for choosing the final option.



Each IPPT member should review the NEPA document to fully understand the project goals, limitations, and stakeholders needed.

- c. **Environmental Boundaries.** Since environmental boundaries determine mitigation, permit requirements, design, and right-of-way needs, the team should review environmental boundaries, once they are developed.

IPPT members will be required to sign off on each of these steps in the Program, Project, and Resource Management (PPRM) tracking database. Failure to sign off on these key steps may delay the project development process. Failure to review each step and provide input could cause significant project re-designs at a later date or even non-compliance with environmental regulations.

3.2 Interagency Coordination

Early identification of environmental resources that may be affected by the project is important to facilitate efficient project planning and design. In an effort to make coordination with agencies outside of TDOT more efficient, TDOT has initiated an interagency agreement with the U.S. Fish and Wildlife Service (USFWS), USACE, the Tennessee Department of Environment and Conservation (TDEC), and other environmental organizations with potential regulatory authority over TDOT construction projects. In addition, TDOT is developing a Statewide Environmental Management System (SEMS) to gather environmental data into one Geographic Information System (GIS). TDOT will work with these other agencies for concurrence on the environmental data as a valid base of data for developing project permits. In particular, TDOT is working with TDEC on the stream and wetland determination protocols and plans to develop a stream layer based on these protocols.

In addition, TDEC and the USACE should be consulted during the development of environmental boundaries to make determinations on streams, wet weather conveyances, and wetlands.

3.2.1.1 Natural Resources (Modified)

A natural resources check can be completed during environmental screening or it can be conducted as part of the technical studies done for the NEPA document, which is discussed later in this chapter. TDOT or consultant biologists initially review the TDOT GIS data sets maintained on the TDOT Intranet to note any potential encroachments on major streams or on identified wetlands, springs, caves, sinkholes or depressions. Records provided by TDEC are consulted for federally listed, state listed, or proposed listed plant and animal species. TDOT staff accesses a copy of TDEC's natural heritage database in a GIS format for these records. If appropriate, TDOT may send the consultant a map and accompanying information derived from data supplied to TDOT by the TDEC Division of Natural Areas. Alternatively, TDOT may require that the consultant request the information directly from the Division of Natural Areas. In the latter case, the Division of Natural Areas will charge the consultant a fee per project for this information.

U.S. Department of Agriculture (USDA) soil surveys for the project area are checked. Soils with a high potential for wetland formation are identified by reading the soil survey



narrative and comparing the soil units to the USDA's list of hydric soils. Soil survey maps are also used to help identify springs and streams not shown on topographic maps. Additional wetland information is obtained by consulting the National Wetland Inventory (NWI) maps at <http://www.nwi.fws.gov>. The NWI maps must be used with caution as they do not show all wetlands; many sites no longer exist and newly developed sites are not shown on the maps. In addition, much of the information depicted on the maps has not been verified in the field.

Known cave locations are identified by examining cave references available from the TDEC Division of Geology. These books include *Caves of Tennessee* by Thomas Barr, and *Descriptions of Tennessee Caves* by Larry Matthews. Local cavers are sometimes consulted for information on lesser-known caves. *Often, local governments maintain a database or set of maps indicating the locations of known sinkholes. In addition, those sinkholes with limited storage capacity and/or historic flooding issues are often known by local governments. Coordination with local governments should include the location and limitations of sinkholes.*

The TDEC website is used to obtain information on known high quality streams (Tier 2), outstanding national resource waters, (Tier 3), impaired waters (303(d) list), and streams impaired by siltation and/or habitat. All impaired streams appear on the 303(d) list, but they may be listed for other pollutants. *Some watersheds also have approved Total Maximum Daily Loads (TMDLs). TMDLs must be approved by the U.S. Environmental Protection Agency (EPA) before they are finalized. Proposed TMDLs are those that have been developed by TDEC and in the draft stage. All proposed TMDLs are placed on public notice for comments. Until the proposed TMDLs are approved by EPA, they are not regulatory documents.* Ecology section staff, a consultant, or the ED planner also checks:

1. Tennessee Scenic Rivers designated under the Tennessee Scenic Rivers Act of 1968. The TDEC website for Tennessee scenic rivers is <http://www.state.tn.us/environment/na/scenicrivers>; and the
2. Tennessee Wildlife Resources Agency website for Wildlife Management Areas at <http://www.state.tn.us/twra/gis/gisindex.html>.
3. National Wild and Scenic Rivers website at <http://www.nps.gov/rivers/wildriverslist.html#tn>

3.3 Other Impact Analyses (Modified)

3.3.1 Impacts of Increased Runoff

3.3.1.1 During Construction

Standard measures incorporated into typical roadway designs address discharging runoff in a non-erosive manner during and after construction. These measures include:



- Energy dissipators at pipe outlets. The function of this control is to decrease erosive velocities from pipe outlets to non-erosive velocities.
- Stabilized (non-stream) channels. The industry standards for channel design are the 2- and 10-year storm events. These design storms produce the most erosion. Channels are designed to be stable for the 2- and 10-year storm events. Therefore, installing and stabilizing channels early in construction activities and then protecting them from runoff occurring on active construction areas with sediment controls constitute protection for the receiving system.

As a member of the IPPT, ED staff reviews how pipe outlets and channels are being stabilized. It is not the intent of the IPPT to redesign these system components, but rather to ensure that ditches and pipe outlets are being properly addressed with respect to erosion potential.

Once the project moves to the construction phase, the Construction Division and Storm Water Coordinator should ensure that all perimeter EPSC measures are installed before land disturbing begins and that additional EPSC measures are installed as appropriate for each phase of grading, so runoff discharges onto adjacent properties or into streams in a non-erosive manner.

3.3.1.2 After Construction

In January of this year, TDOT adopted Chapter 8 of the TDOT Design Division Drainage Manual. Chapter 8 is entitled “Stormwater Storage Facilities” and covers detention design. However, this chapter does not currently address when to include storm water mitigation measures, such as detention, on a TDOT project, only how to design detention facilities.

We recommend that TDOT consider adding the following criteria to Chapter 8 to evaluate the need for detention or other storm water mitigation:

Projects that affect 1 acre or more should have hydraulic evaluations prepared for each outfall collecting runoff from the TDOT project. (Note that the 1-acre threshold aligns with the current TN CGP requirements for coverage and the upcoming threshold for the post-construction storm water quality treatment requirements in TDOT’s MS4 permit. Keeping the thresholds for hydraulic evaluation, CGP coverage and post-construction storm water quality treatment the same will identify these projects as needing a higher level of storm water design.) Each hydraulic evaluation should consider the following factors that influence the receiving drainage system’s ability to handle increased flows:

- The receiving drainage system immediately downstream from the project does not have the capacity to carry the required design storm events (as defined in Chapter 10 of the Drainage Manual).
- Significant portions of the receiving channel are degraded or unstable, based upon field investigation (in the Ecology report).
- The project impacts a sinkhole drainage basin with limited capacity for increases in peak flow or volume.



- The project impacts an existing detention facility.
- The project discharges to environmentally sensitive areas, such as wetlands or critical habitat.

Furthermore, numerous communities in TN are instituting detention and storm water quality treatment standards in response to the NPDES MS4 Phase I and II requirements. Most TDOT projects are linear and have the potential to cross numerous watersheds and several different municipal jurisdictions. If TDOT followed each jurisdiction's storm water design requirements, each project could have numerous design goals, causing confusion and inconsistent design throughout the project. Instead, **TDOT should follow their own guidance on storm water design and communicate these design standards and goals to each jurisdiction crossed by the project.**

The hydraulic evaluation should be prepared (or reviewed) by a Civil Engineer. The evaluation should consider drainage areas, imperviousness and other factors that can influence site hydraulics. At the discretion of the Engineer, the evaluation may be either cursory, or detailed. The detailed evaluation should address the following topics:

- Existing and proposed land use, including a description of the existing and proposed drainage system
- Change in peak discharge and volume in the before and after project conditions; with an emphasis placed on maintaining or mimicking the pre-development post construction discharge.
- Description of the downstream receiving channel to a location where project impacts would no longer be significant
- An evaluation of the ability of the receiving channel to discharge the increase in peak flow or volume without significant general scour, including mitigation proposed (such as detention or infiltration) to ensure the down stream receiving channel remains stable.

3.3.2 Natural Resources (Modified)

3.3.2.1 Study Process for Natural Resources

Ecological evaluations are conducted by consultants or by ED's Natural Resources Office – Ecology Section biologists or by consultants. Both terrestrial and aquatic surveys must be conducted by qualified biologists. Biologists must be familiar with the regulations listed above and with the ED's Scope of Work for Ecological Studies (2004).

The initial step in assessing natural resources is a records check (described in Section 6, Records Check for Environmental Screening).

The next step is a field review performed by a qualified biologist where all alternative alignments are considered. The field survey includes an area of 250 feet on either side of the centerline of each proposed alignment; however, for a bridge and approach projects, the field study must include an area 150 feet on either side of the centerline of each



proposed alignment, to include any area needed for temporary detours. Biologists identify the presence or absence of:

- Wetlands;
- Types of plant and animal species that occur in the area;
- State and federally listed species;
- Critical habitats for federal listed species;
- Waterfowl refuges;
- Wildlife management areas;
- Caves;
- Springs or seeps;
- Sink holes; and
- Streams that may be affected by construction, including those:
 - That may be crossed;
 - Parallel to the alignment and may be relocated; and
 - Potentially affected only by sediment in runoff;
- Potential mitigation sites.

3.3.2.2 Channels

Biologists examine all defined channels within the direct project impact area and will use the TDEC-approved stream determination protocols, once developed, for making any watercourse determinations. For all channels that show as "blue-lines" on United States Geological Survey (USGS) topographic maps and other discernible channels encountered during field surveys, the biologist determines and documents whether the channel is a stream or a wet-weather conveyance and clearly identifies the channel as such in the Ecological Boundaries and Mitigation Memorandum.

The substrate at each stream crossing and the canopy shading percentage and tree species composition are described. Aquatic fauna and flora are described at each stream crossing

3.3.2.3 Wetlands

Biologists describe the location, type, size, and characteristics of wetlands within the project impact area, including:

- Soils;
- Hydrology;
- Vegetation; and
- Functions and value



The total area of wetlands present and the area likely to be filled are estimated, and the impacts that will result from project construction are discussed. Possible wetland mitigation sites are included in the memorandum, as well as the type of water quality permits that may be required (Section 404, Section 401 Individual or General Aquatic Resource Alteration Permits (ARAP); see Chapter 10, Permits). Wetland determinations are made using the Level 2 routine determination method described in the 1987 USACE *Wetlands Delineation Manual*.

3.3.2.4 State and Federally Listed Species

The first step in the process of investigating state and federally listed species is to send a coordination letter requesting a species list to the FWS. Next, a TDOT biologist will conduct a database review of the occurrence records maintained by the TDEC Division of Natural Areas (DNA), as well as other applicable sources (such as Tennessee Valley Authority, TVA) to determine if there are known occurrences of state or federally listed species near a proposed project. When a species review indicates there are known occurrences for state listed animals near a project, the TDOT biologist shall coordinate with TWRA to address these species. TDOT biologists will provide TWRA with the list of species that were noted during the database review as well as a brief project description; TWRA personnel review this information and provide comments regarding the potential project impacts to the listed species. The TWRA may also provide direction and notes that will protect the species of concern.

When the species review indicates state listed plants are near a project, the TDOT biologist shall determine if coordination with the DNA is required and only coordinate with DNA if it is believed a listed plant may be impacted by the proposed project or if additional information is needed regarding a state listed plant. If coordination is warranted, TDOT biologists will provide DNA with the list of plant species that were noted during the database review as well as a brief project description; DNA personnel review this information and provide comments regarding the potential project impacts to the listed species. The DNA may also provide direction and notes that will protect the species of concern.

Information regarding the species review and coordination is then incorporated into the Ecological Boundaries and Mitigation Memorandum. An 8.5 x 11 inch topographical map showing the recorded locations of state or federally listed species should be included in the memorandum.

To determine the presence or absence of listed species, both terrestrial and aquatic, field reviews of the project area shall be conducted. Sufficient time should be taken at each site to reasonably determine the presence or absence of listed species and any suitable habitats.

Descriptions of any state or federally listed species or federally designated critical habitats observed during the field survey are included in the memorandum. The



memorandum also documents the presence or absence of suitable habitats for state or federally listed species appearing in FWS correspondence or identified during the DNA database review. It addresses all listed species (terrestrial and aquatic) recorded within a four mile radius of the project, stating whether suitable habitat for each identified species occurs within the project impact zone and the likely project impacts on each, differentiating whether the project is likely to physically harm the identified species, whether the identified species are likely to be affected by sedimentation only, or whether the identified species are unlikely to be affected by the project. It is intended that the species review sufficiently address downstream aquatic impacts so as to meet the requirements of the TN Construction General Permit for Storm Water Discharges.

If the FWS provides a list of federally protected species in response to the request for information, or if federally protected species are located within the project impact area, a separate Biological Assessment (BA) is prepared following the guidelines issued pursuant to Section 7(c) of the Endangered Species Act. If suitable habitat for a federally listed species is present, either simple or complex field studies will be required to determine impacts. Complex studies include scuba surveys or mist netting and are usually conducted by consultants with specialized expertise and the appropriate FWS license. Occasionally, complex studies are conducted by other agencies, and the results provided for inclusion in the BA.

The completed BA shall be transmitted by ED to the FWS via the FHWA. The BA contains a reference to the date of the species list provided by the FWS, as well as the complete project route, termini, county, and log mile description. A conclusion is made in the BA as to whether a project will have no effect on each federally listed species, or whether it may affect each species. If it is determined that the project may affect the species, a further determination is made whether the effect is likely to be adverse or not. If the effect is likely to be adverse, TDOT immediately requests the initiation of formal consultation with FWS via the federal action agency.

3.3.2.5 Reports

The Ecology Report, required by NEPA, is a summary of the conditions in the field. It is prepared initially as part of the planning process and is an overview of the potential alignment ecological impacts. The Ecology Report is a preliminary report that may cover several alignments and provides insight into the potential impacts a specific alignment may have on ecological resources.

The Environmental Boundaries Study and Mitigation Memorandum is developed once a single alignment is determined and is prepared prior to going to permits. This memorandum identifies species impacts and mitigation needs for the field survey are addressed and sent to all appropriate parties within TDOT for roadway development and permit assessment and/or permit application. It describes the project setting, terrain, land use, vegetation, and terrestrial and aquatic habitats and discusses the impacts the proposed construction may have on plants, animals, streams, and wetlands. It describes



the substrate at each stream crossing and the canopy along the stream banks, as well as impacts proposed construction may have on water quality.

The memorandum highlights sensitive areas (wetlands, glades, critical habitat, natural areas, wildlife refuges, and management areas), and includes a color topographic map and labeled color photographs. Tabular formats for project data are encouraged. Sensitive areas, as well as streams and wet-weather conveyances are labeled on the topographic map *in a manner consistent with the labeling protocols defined in the Mitigation Chapter*. Photos include upstream and downstream views, as well as views of the surrounding land use. For bridge and approach projects and widening and drain projects, photos should include views of the existing highway and its surroundings. Copies of correspondence with other agencies are included in the memorandum. If a USDA Soil Survey is available for the area, a soil map with the hydric soils and soils with hydric inclusions highlighted shall be placed in the report.

The ED staff member or consultant should identify potential onsite mitigation areas for stream and/or wetland mitigation during the field survey, and mitigation areas should be documented in the Ecological Boundaries and Mitigation Memorandum. A primary focus of the field survey should be to identify impacts and mitigation opportunities on a project well before design is completed and right-of-way obtained.

The results of the technical investigations must be summarized in an Ecology Boundaries and Mitigation Memorandum, for which the format is prescribed in Scope A of the 2004 Scope of Work for Ecological Studies. *The memorandum should be made available to the IPPT. The results of the memorandum needs should be incorporated into the project commitments.*

Once the final alternative is selected and design plans are received, studies are repeated in more detail to ensure that nothing has been missed and to prepare detailed minimization and mitigation strategies and documents.

3.3.2.6 Impact, Avoidance and Minimization

If the Ecology Study is prepared as part of a TPR study, the biologist provides advice and assistance to enable the TPR consultant to avoid and minimize ecological impacts, specifically those to streams, wetlands, springs, and protected species. In all other project phases, the TDOT ecology staff coordinates impact avoidance and minimization with the staff of the Environmental Design and Structures Divisions. *Ecology section staff coordinates stream mitigation design with the Environmental Division's Environmental Design Group to ensure that natural channel design is considered to avoid in-lieu fees, where possible and practicable.* Projects requiring complex mitigation or minimization activities require close coordination with construction staff during planning and design as well as during construction.

3.3.2.7 Deliverables

The consultant should submit two copies of the Draft Ecological Report and Ecological Boundaries and Mitigation Memorandum with color copies of the maps and photographs. After ED Ecology Section staff reviews the draft report and memorandum and the consultant shall make any needed changes to these documents. The consultant, on written



approval of the draft reports, will prepare and submit the original photographs, two hard copies, one disk copy of the final documents with color copies of the maps and photographs. If a BA is required, the consultant should submit four copies with color copies of maps, photographs, and the USFWS letter containing the species list. The Final Ecological Report is to be used by the planner for insertion into the NEPA document ecology section(s). The final Ecological Boundaries and Mitigation Memorandum is to be used to transmit more detailed ecology information internally within TDOT.



4 Permits (Modified)

4.1 Responsibilities

4.1.1 Parties Responsible for Post-NEPA Phase Permits

At TDOT, the ED Natural Resources Permits Section is responsible for securing most of the required pre-construction permits. The Permits Office staff shall:

1. Assess permit regulatory needs for each project and identify other regulatory approvals needed.
2. Review each project plans and ecology reports and advise the Design Division on any plan revisions, permit sketches, and any additional information needed to minimize environmental harm to a level that will allow TDOT to obtain regulatory approval. This information is requested in the Permit Assessment to the TDOT Roadway Design Division. The TDOT roadway guidelines assist the roadway designers in providing this information initially with the project plans for permit acquisition.
3. Coordinate with federal and state regulatory agencies, such as federal agencies, such as the USACE, U.S. Coast Guard (USCG), TVA, TDEC, and the Tennessee Wildlife Resources Agency (TWRA).
4. Apply for and acquire project permits from appropriate agencies.
5. Distribute *final permit application and permits* to TDOT staff involved in *project design*, project construction, project tracking and scheduling, and others as needed.

4.1.2 Post NEPA Phase Permits in Project Development Process

Once the Ecology Report has been completed and incorporated into the NEPA document, the Design Division coordinates with the ED Natural Resources Office Ecology Section and Environmental Design Group to prepare the mitigation plan, including EPSC measures and SWPPP specific measures for the mitigation project, for the entire project. The Ecology Section ensures that stream and wetland information transfers from the Ecological Boundaries and Mitigation Memorandum to the design plans through the IPPT coordination and the PPRM tracking system.

The Natural Resources Permits Section staff begins permit applications after the mitigation design, EPSC plan, and SWPPP have been prepared. The process commonly begins after the final NEPA document is approved and within six or seven months of the scheduled letting with plans to the level required for permit review by regulatory agencies. The goal of the Permits Section is to obtain the permits required for TDOT projects before the advertisement of construction contracts. This ensures that the permit requirements are included in the contract book, construction plans and specifications, and onsite at projects. The Storm Water Notice of Coverage (NOC) is not a permit, but an



approved coverage under the NPDES Construction General Permit (CGP) and does not follow the same schedule as water quality permit acquisition.

First, the Permits Office assesses the permits needs, which includes obtaining completed technical studies, agency letters, and copies of the project plans. If the permit sketches are insufficient for the permit application to be made, or if the sketches would present problems in securing a permit, then they are sent back to the Design Office for revision. Once the permit sketches are sufficient, the staff prepares an application for the needed permits. Permits should be applied for six to seven months before contract letting.

Generally, the permitting task fits into the time frame of a project as follows:

1. 12 to 24 months before contract letting. This period generally applies only to projects with assigned TDOT project managers. At this phase, the Permits Office staff prepares a Permit Assessment and, if necessary, a memorandum to the roadway designer and/or the applicable Environmental Technical Studies staff to obtain any additional information or corrections needed to enable a complete and accurate permit application to be prepared at the appropriate time.
2. 8 to 12 months before contract letting. During this period, the Permits Office staff prepares a permit assessment for non-project management projects and, if necessary, prepares a memo to the roadway designer and/or the applicable Environmental Technical Studies staff to obtain any additional information or corrections needed.
3. Up to 7 months before contract letting. If a Permit Assessment is still necessary, the same process as above is used. If all appropriate information is received, the Permits Section staff submits the permit application to regulatory agencies. This ensures that all required permits are acquired by TDOT to start construction immediately after the construction letting.

Documentation needed for the permit application from the Environmental Impact, the Natural Resources and Social and Cultural Resources Offices, as well as the Design Division includes, but is not limited to:

1. Ecological Boundaries and Mitigation Memorandum with information and impacts on Waters of the State and U.S. in the project area and state and/or federally listed threatened and endangered species within a specified distance from the project area;
2. *Mitigation design from the Design Division Environmental Design Group, if applicable;*
3. USFWS approval letter and BA, if required;
4. State Historic Preservation Office (SHPO) approval letter; and
5. If the project is federally funded, the CE letter, or EA / Finding of No Significant Impact or Final Environmental Impact Statement (for Section 404 or 26a permits described below).

A copy of the ARAP permit application, once completed by ED Natural Resources Office, is forwarded to the Design Division for incorporation into the design plans.



The status of the permit process is regularly updated in the Permits Section database, which is available to all TDOT project managers and design and construction staff. Once the needed permits have been obtained, the Permits Section notifies, by letter or other method of distribution, the following TDOT staff:

- Director of Construction Division
- Regional Construction Supervisor and Environmental Coordinator
- Scheduling Supervisor
- SWPPP developer (in-house or consultant) and the Regional Storm Water Coordinator if NPDES coverage is required.

4.2 Environmental Commitments and Coordination with Design and Construction Activities (Modified)

Project commitments are identified and made throughout the project planning and design process. Commitments can be design-related (e.g. storm water detention basins or sidewalks) or environmental (e.g., stream mitigation or realignment, wetland mitigation, or cemetery protection measures). Each commitment should be reviewed by the IPPT to evaluate its impact on other planning, design and construction functions and tracked through TDOT's PPRM tracking database.

During the NEPA process, environmental commitments are often made to avoid, minimize, or mitigate project impacts. It is important that these commitments be reviewed by the IPPT, tracked through the PPRM process, and carried forward to project design, construction, maintenance, and operation. Other commitments that result from public comment or through the requirements of, or agreements with, resource agencies should be tracked in the same way.

4.2.1 Tracking Commitments through Project Development and into Construction (New)

The PPRM process tracks project commitments throughout the project planning and development process. The goals of the commitment tracking through PPRM are to carry all project commitments through the lifecycle of the project development and to inform other divisions of commitments made for a project. The commitments continue into the field through oversight by the Storm Water Coordinators. For each project, the Storm Water Coordinator holds an environmental pre-construction meeting with the Construction Office and contractor to go through project commitment identify permit boundaries or sensitive features, review permit requirements, review SWPPP requirements, practical staging of construction affecting EPSC measures, any changes in traffic control affecting EPSC measures and any construction measures in question.



Glossary

ARAP. Aquatic Resource Alteration Permit.

BA. Biological Assessment.

CE. Categorical Exclusion.

CEQ. Council on Environmental Quality.

CFR. (U.S.) Code of Federal Regulations.

CGP. Construction General Permit.

Code of Federal Regulations (CFR). Document containing all rules of the executive departments and agencies of the federal government and divided into fifty title volumes. Title 40 of the CFR (40 CFR) lists environmental regulations and is available from bookstores operated by the Government Printing Office and on the CFR website at <http://www.epa.gov/epahome/cfr40.htm>.

EA. Environmental Assessment.

ED. Environmental Division.

EIS. Environmental Impact Statement.

Environmental Protection Agency (EPA). The federal agency with primary or oversight responsibility for implementing the federal environmental statutes, including the CWA, Clean Air Act, Safe Drinking Water Act and Resource Conservation and Recovery Act. Tennessee is included within EPA Region IV, headquartered in Atlanta.

EPA. (U.S.) Environmental Protection Agency.

EPM. Environmental Procedures Manual.

EPSC. Erosion Prevention and Sediment Control.

FHWA. (U.S.) Federal Highway Administration.

USFWS. (U.S.) Fish and Wildlife Service.

Geographic Information System (GIS). Computerized data management system with tools designed to gather, store, retrieve, analyze, transform, and manipulate large amounts of geographic and demographic information to produce color-coded maps, three-dimensional virtual models, tables, and lists.

GIS. Geographic Information System.

ICM. Impervious Cover Model.

IPPT. Interdisciplinary Project Planning Team.

NEPA. National Environmental Policy Act.

NOC. Notice of Coverage.

NWI. National Wetland Inventory.



Glossary

PPRM. Program, Project, and Resource Management.

SHPO. State Historic Preservation Office.

SEMS. Statewide Environmental Management System.

TDEC. Tennessee Department of Environment and Conservation.

TDOT. Tennessee Department of Transportation.

TMDL. Total Maximum Daily Load.

TPR. Transportation Planning Report.

TVA. Tennessee Valley Authority.

TWRA. Tennessee Wildlife Resources Agency.

USACE. U.S. Army Corps of Engineers.

USDA. U.S. Department of Agriculture.

USGS. U.S. Geological Survey.