



Environmental Training to FTE

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8/28/2020



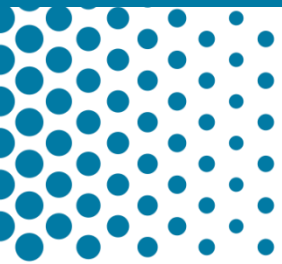
The environmental review, consultation, and other actions required by applicable federal environmental laws described in this training are carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 executed by FHWA and FDOT.



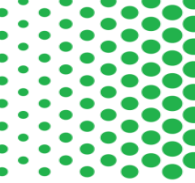
Outline

- Topic 1: Water Resources
- Topic 2: Floodplains
- Topic 3: Aesthetics
- Topic 4: Air
- Topic 5: Contamination
- Topic 6: Utilities

Water Resources



Overview of Water Resources



Water resources are protected by:

- National Environmental Policy Act (NEPA)
- Clean Water Act (CWA)
- Section 373.4596 Florida Statutes (F.S.)

FDOT PD&E Manual Part 2, Chapter 11 provides procedures for compliance with applicable federal, and state laws and regulation regarding water resources.

Overview of Water Resources (Stormwater Related)

- **Surface Water**

Rivers, lakes, streams, oceans, special designations (such as Outstanding Florida Waters, aquatic preserves)



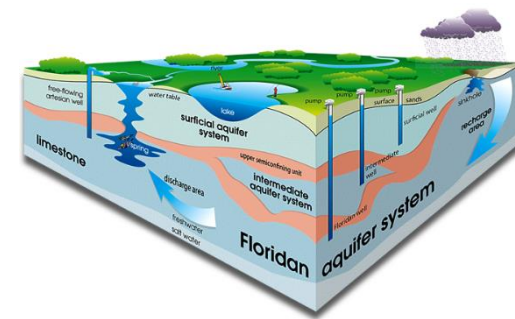
Example: surface water

- **Groundwater**

Aquifers, sole source aquifers, springsheds

- **Wetlands and Other Surface Waters**

The chapter does not cover impacts to wetlands and other surface water impacts not related to stormwater.



Example: Floridan aquifer

Procedure Overview

Project impacts to water resources must be evaluated regardless of whether the project is required to meet federal or state environmental review requirements.

Water quality impact evaluation is done through completing a *Water Quality Impact Evaluation Checklist*. The evaluation is required only for projects which qualify for screening through the FDOT Efficient Transportation Decision Making (ETDM) process.

Level of water quality impact evaluation depends on:

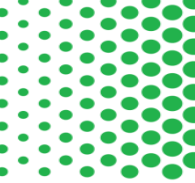
- involvement with water resources,
- quality of the water resources,
- potential impacts,
- the potential for implementing non-traditional water quality improvements,
or
- impacts to Sole Source Aquifers (SSAs).

Regulatory Agencies and Stakeholder Coordination

- State and Federal agencies and local and regional stakeholders
- If applicable, coordinate with Basin Management Action Plan (BMAP) and Reasonable Assurance Plan (RAP) stakeholders such as FDEP.
- Early coordination through the Planning Phase and Efficient Transportation Decision Making (ETDM) process
 - ◆ The goal is to identify potential water resources issues and to explore opportunities for joint stormwater projects that can address those issues with stakeholders.
 - ◆ Environmental Technical Advisory Team (ETAT)



Environmental Look Around (ELA)



- The Environmental Look Around (ELA) is a process to obtain current water resource information by proactively looking for opportunities for joint stormwater management projects with agencies and stakeholders.
- Anticipated actions of the ELA process include:
 - Explore watershed-wide stormwater needs, and
 - Explore innovative approaches to meeting permit requirements.
- Project Manager should convene ELA meetings after the stormwater management requirements are estimated and before stormwater design decisions are established.
- For additional information: FDOT Drainage Manual, Topic No. 625-040-002.

Projects Not Qualifying for ETDM

Documentation must demonstrate the proposed project has no significant effect on water quality.

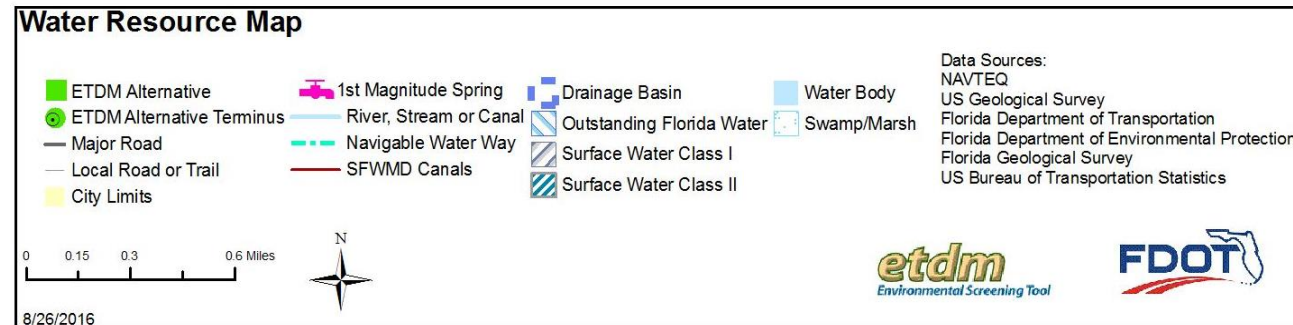
- **Non-Major State Action**

- Verify that there are no water quality resources affected by the project. See Part 1, Chapter 10, State, Local, or Privately Funded Project Delivery for more guidance.

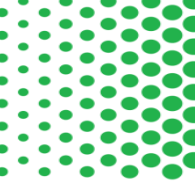
Projects Qualifying for ETDM Screening

Qualifying projects must complete the ETDM screening.

- **Planning Screen** – Preliminary Environmental Discussion identifies potential resources.
- **Programming Screen** – Include District Drainage Engineer and permit coordinator to explore opportunities for stormwater treatment, and use ETDM screening results to scope the water quality evaluation effort in the PD&E Study.



Information Identified During ETDM



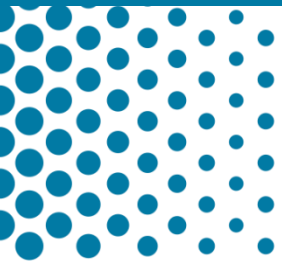
Surface Water

- Identification of surface waterbody to which the stormwater ultimately discharges.
- Any special designations of receiving water bodies (OFW, Aquatic Preserve).
- Whether the project is within a permitted MS4.
- WBIDs in which the project is located, and associated DEP Group Number and Name.
- WMD in which the project is located.
- Water Control District.
- Waterbody Classification.
- Listing status - whether the WBID is identified as impaired, has a TMDL and/or BMAP or RAP.
- The appropriate numeric nutrient standard for the waterbody, if applicable.
- If project discharges to a waterbody identified as impaired, identify the pollutant(s) of concern, numeric criteria or TMDL (whichever applies).

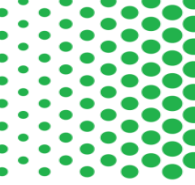
Ground Water

- Groundwater recharge mechanism.
- Identification of the aquifer where the project is located.
- Identification of sole source aquifers (SSA).
- Potentially affected springsheds.
- Whether the potentially affected spring has a BMAP or RAP plan.

Water Quality Impact Evaluation



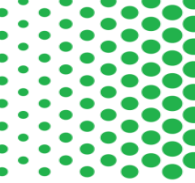
Water Quality Impact Evaluation Checklist



Purpose

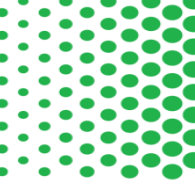
- Identify and characterize existing water resources in project area,
- Assess project's potential impacts to water resources,
- Identify and evaluate mitigation measures,
- Document coordination.

Water Quality Impact Evaluation Checklist



- Process
 - Convene Environmental Look Around (ELA) meeting prior to completing Checklist.
 - Complete Checklist based on outcome of ELA meeting.
 - Use Checklist to guide drainage design
 - Complete Checklist prior to finalizing pond siting analysis.
- Checklist is required for each Alternative (if more than one Alternative is analyzed in detail), unless the Alternatives are in the same drainage basin.
- Summarize results in environmental document and Preliminary Engineering Report.

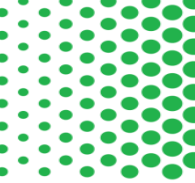
Water Quality Impact Evaluation Checklist



The Checklist has five parts:

- 1: Project Information
- 2: Scope
- 3: Basin / Receiving Water Characteristics
- 4: Water Quality Criteria
- 5: Documentation

Part 1 – Project Information



- Provide general project identification
 - Name
 - County
 - Project Numbers
 - Description

PART 1: PROJECT INFORMATION	
Project Name:	
County:	
FM Number:	
Federal Aid Project No:	
Brief Project Description:	

Part 2 - Scope

- Determine if the project...
 - Discharges to surface or ground water
 - Alters the drainage system
 - Is located in a Municipal Separate Storm Sewer System (MS4)

PART 2: DETERMINATION OF WQIE SCOPE

Does project discharge to surface or ground water? Yes No

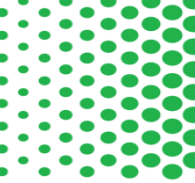
Does project alter the drainage system? Yes No

Is the project located within a permitted MS4? Yes No

Name:

If the answers to the questions above are no, complete the applicable sections of Part 3 and 4, and then complete the WQIE by checking Box A in Part 5.

Part 3 – Basin and Receiving Water Characteristics



- Receiving waters
- Water Management District
- ELA meeting and notes
- Water Control District
- Springshed / recharge area
- Sole Source Aquifer (SSA)
- Other aquifers
- Spring vents
- Wellhead Protection Area
- Groundwater recharge areas
- Karst conditions / District Drainage Engineer coordination

PART 3: PROJECT BASIN AND RECEIVING WATER CHARACTERISTICS

Surface Water
Receiving water(s) names: _____

Water Management District: _____

Environmental Look Around meeting date: ____/____/____
Attach meeting minutes/notes to the checklist.

Water Control District Name (list all that apply): _____

Is the project located within a springshed or recharge area? Yes No

Ground Water
Sole Source Aquifer (SSA)? Yes No Name _____
If yes, complete Part 5, D and complete SSA Checklist from EPA website (**Figure 11-2**)

Other Aquifer? Yes No Name _____

Springs vents? Yes No Name _____

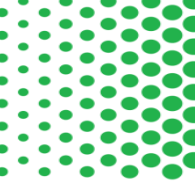
Well head protection area? Yes No Name _____

Groundwater recharge? Yes No Name _____

Notify District Drainage Engineer if karst conditions are expected or if a higher level of treatment may be needed due to a project being located within a WBID verified as Impaired in accordance with Chapter 62-303, F.A.C.

Date of notification: ____/____/____

Part 4 – Water Quality Criteria



- List all Water Body IDs
- Complete Tables 1 and 2 (further explained on next slide)
- Identify ETDM recommendations and Environmental Screening Tool (EST) analysis
- Identify if stakeholders contacted
- Attach documentation from Environmental Look Around (ELA) process
- Describe effects (turbidity, sedimentation, runoff increase, water quality change)
- Identify if more stringent criteria exist for Outstanding Florida Water (OFW) designation.

PART 4: WATER QUALITY CRITERIA

List all WBIDs and all parameters for which a WBID has been verified impaired, or has a TMDL in [Table 1](#). This information must be updated during each Reevaluation.

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed.

EST recommendations confirmed with agencies? Yes No

BMAP Stakeholders contacted: Yes No

TMDL program contacted: Yes No

RAP Stakeholders contacted: Yes No

Regional water quality projects identified in the ELA Yes No

If yes, describe:

Potential effects associated with project construction and/or operation identified? Yes No

If yes, describe:

Discuss any other relevant information related to water quality.

Attach notes or minutes from all coordination meetings identified in [Table 2](#).

Part 4 – Table 1

- Water Body names, numbers
- Classification, and Special Designations
- Numeric Nutrient Criteria (NNC)
- Impaired status
- Total Maximum Daily Load (TMDL) status
- Pollutants of concern
- Basin Management Action Plan (BMAP) / Reasonable Assurance Plan (RAP) / Site Specific Alternative Criteria (SSAC)

TABLE 1: WATER QUALITY CRITERIA

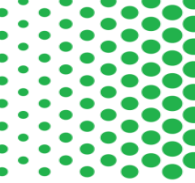
Receiving Waterbody Name (list all that apply)	FDEP Group Number / Name	WBID(s) Numbers	Classification (I,II,III,IIIL,IV,V)	Special Designations*	NNC limits**	Verified Impaired (Y/N)	TMDL (Y/N)	Pollutants of concern	BMAP, RA Plan or SSAC

* ONRW, OFW, Aquatic Preserve, Wild and Scenic River, Special Water, SWIM Area, Local Comp Plan, MS4 Area, Other

** Lakes, Spring vents, Streams, Estuaries

Note: If BMAP or RAP has been identified in [Table 1](#), [Table 2](#) must also be completed.

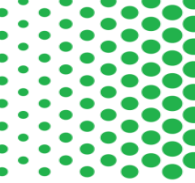
Part 4 – Table 2



- Summarize coordination efforts with stakeholders
- Indicate if FDOT is a stakeholder
- Identify if additional coordination is needed after PD&E phase

Receiving Water Name (list all that apply)	Contact and Title	Date Contacted	Follow-up Required (Y/N)	Comments

Part 5 - Documentation



- Identify water quality involvement (check box).
- Document EPA coordination
- Attach supporting documentation.
- Sign and date form.

PART 5: WQIE DOCUMENTATION

- A. No involvement with water quality
- B. No water quality regulatory requirements apply.
- C. Water quality regulatory requirements apply to this project (provide Evaluator's information below). Water quality and quantity issues will be mitigated through compliance with the design requirements of authorized regulatory agencies.
- D. EPA Ground/Drinking Water Branch review required. Yes No
Concurrence received? Yes No
If Yes, Date of EPA Concurrence: ___/___/___ (Attach the concurrence letter)

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

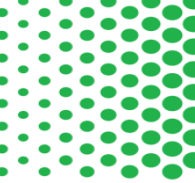
Evaluator Name (print):

Title:

Signature:

Date:

Environmental Document



- In the environmental document, summarize
 - water resources involvement,
 - water resources impacts
- Summarize stormwater features, such as ponds, needed to address water resource impacts
- State whether project will meet criteria and requirements for:
 - stormwater quantity
 - Stormwater quality
- Maintain Water Quality Impact Evaluation Checklist in project file

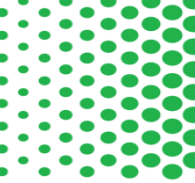
Commitments

- Refer to Part 2, Chapter 22, 11.2.3.3.3 for guidance
- Permit conditions
- Basin Management Action Plan (BMAP) / Reasonable Assurance Plan (RAP) commitments
- Environmental Look Around (ELA) commitments
- Other actions required to advance the project
 - Contractor actions
 - Retrofitting structures to increase water quality treatment
 - Building water quality improvement features
 - Actions to increase or improve water quality treatment
 - Hydrologic enhancement
 - Recharge or reuse projects
- Continued coordination with water resource agencies
- Commitments must be coordinated with other FDOT offices

Permits

- Refer to PD&E Manual, Part 1, Chapter 12 procedures for obtaining permits.
- National Pollutant Discharge Elimination System (NPDES)
 - Statewide Stormwater Management Plan (SSWMP)
- Total Maximum Daily Load (TMDL)
 - Basin Management Action Plan (BMAP)
 - Reasonable Assurance Plan (RAP)
- Environmental Resource Permit (ERP)

National Pollutant Discharge Elimination System (NPDES)



- Established by the federal Clean Water Act (CWA).
- Regulates water pollution caused by Municipal Separate Storm Sewer Systems (MS4s) and small construction activity disturbing between 1 and 5 acres.
- NPDES permit program is administered by Florida Department of Environmental Protection (FDEP).
 - Different from Environmental Resource Permit (ERP) program
- FDOT is a regulated MS4 operator and has a **Statewide Stormwater Management Plan (SSWMP)** which defines actions / methods / procedures to reduce pollutant discharge.

Statewide Stormwater Management Plan (SSWMP)

- FDOT is a regulated MS4 operator under Chapter 62-624 F.A.C.
- Regulated MS4 operators must obtain an NPDES stormwater permit and implement a Statewide Stormwater Management Plan (SSWMP) that describes the activities to be conducted, methods to be used, and procedures to be followed to reduce the discharge of pollutants from its MS4s to the maximum extent practicable.
- Techniques include management practices, control techniques, system design, engineering methods [40 CFR 122.26(d)(2)(vi)].



Total Maximum Daily Load (TMDL) requirements

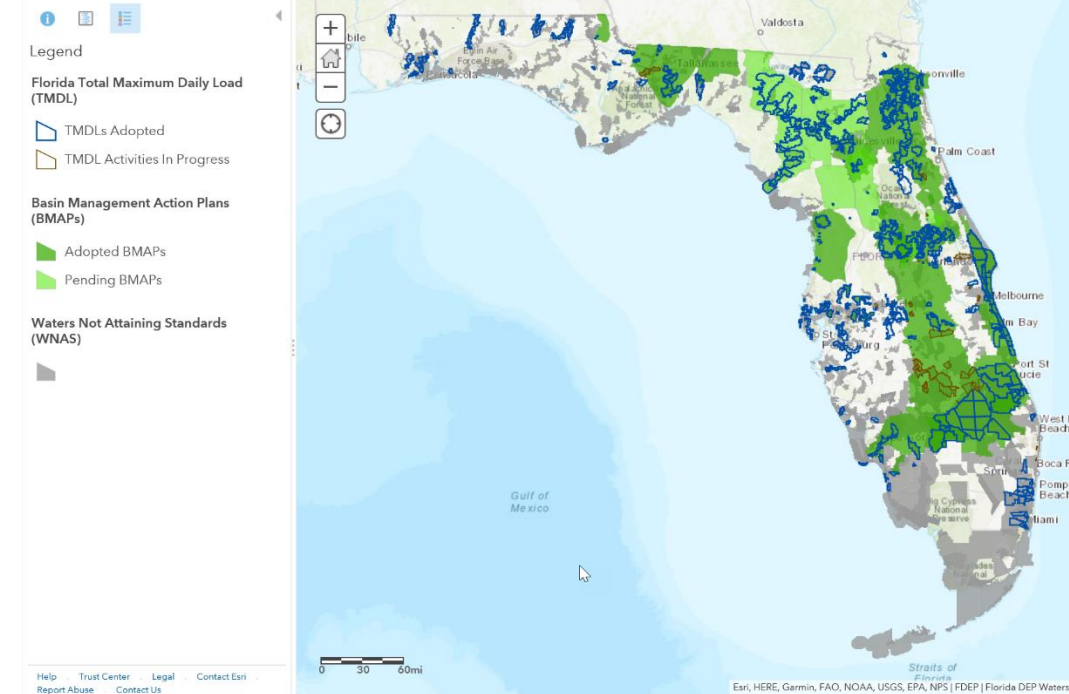
- Established by FL Watershed Restoration Act as required by federal Clean Water Act.
- Promotes improvements in water quality by controlling both point and non-point sources.
- Adopted for waters identified as *impaired* by FDEP.
- May be implemented through
 - Basin Management Action Plans (BMAPs),
 - NPDES permits,
 - Other pollution reduction strategies such as Reasonable Assurance Plans (RAPs).

<https://fdep.maps.arcgis.com/home/webmap/viewer.html?webmap=1b4f1bf4c9c3481fb2864a415fbeca77>

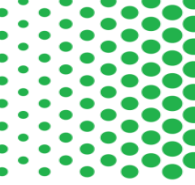
Home ▾ Water Quality Assessments, TMDLs, and BMAPs

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Environmental Resource Permit (ERP)



- Administered by Water Management District
- ERP regulates alteration of surface water flows and protects functions of wetlands and other surface waters.
- ERP prescribes stormwater pond sizes and types.
- ERP regulates stormwater discharge restrictions leaving FDOT right-of-way.
- ERP typically requires post-development discharge not to exceed pre-development discharge.
- May require post-development discharge to be less than pre-development discharge in areas of flooding or with limited stormwater conveyance infrastructure.
- ERP obtain prior to construction (after Phase II design plans).

Drainage and Pond Siting

- Water quantity impacts associated with transportation projects are usually addressed through permitting of stormwater management systems.
- General permit requirements prohibit FDOT stormwater projects from
 - causing adverse water quantity impacts to receiving waters and adjacent lands;
 - causing adverse flooding to on-site or off-site property;
 - adversely impacting existing surface water storage and conveyance capabilities;
 - adversely affecting the quality of receiving waters such that state water quality standards will be violated;
 - causing adverse secondary impacts to water resources;
 - adversely impacting the maintenance of surface or ground water levels or surface water flows;
 - adversely impacting a Work of the District; and
- General permit requires stormwater systems to be capable of performing and functioning as proposed and to comply with any applicable special basin or geographic area criteria.

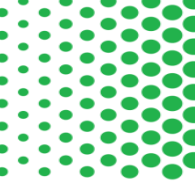
Drainage and Pond Analysis

Drainage concepts and stormwater pond locations are established during PD&E to evaluate potential impacts to environmental resources.

- For each Alternative, the PD&E Study should identify:
 - drainage issues
 - overall stormwater management approach
 - possible stormwater design concepts to mitigate runoff
 - general size and potential locations of stormwater management facilities
- Documentation:
 - Concept Drainage Design Report, or Pond Siting Report
 - Summarize in Preliminary Engineering Report, and Environmental document

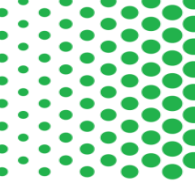


Concept Drainage Design Report



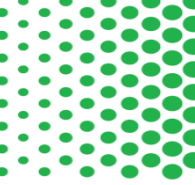
- Projects in urban core areas where adjacent land is fully built out may not need a Pond Siting Analysis.
- For these areas, a conceptual drainage design and analysis is prepared to analyze the water quality requirements.
- The details of conceptual drainage design analysis are typically expanded in the project's design phase.
- *Refer to PD&E Manual Part 2, Ch. 11 for documentation requirements.*

Pond Siting Analysis



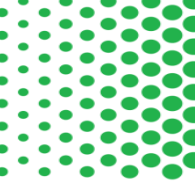
- For all stormwater ponds requiring right of way acquisition, a pond siting evaluation is required during PD&E Study.
- Location of ponds for the preferred alternative must be evaluated for potential impacts to the human, natural, cultural and/or physical environment.
- Exploration of innovative opportunities such as regional facilities, joint-use facilities, and stormwater re-use systems, through the ELA process should be exercised.

Pond Siting Analysis



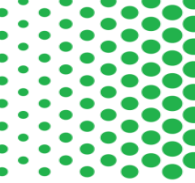
- Identify drainage issues and requirements
- Present overall stormwater management approach
- Size ponds to mitigate stormwater issues and satisfy design requirements
- Evaluate alternative stormwater management options
- Identify stormwater pond locations for the preferred alternative (include ELA meeting)
- Analyze impacts to other resources at each pond site
- Recommend preferred pond sites
- Consider aesthetic qualities on ponds on all projects.

Opportunities for Joint Stormwater Projects



- When developing stormwater treatment and storage needs, identify
 - Regulatory and regional issues
 - Opportunities for cooperative solutions
- Benefits of joint/regional projects:
 - Long-term
 - Cost-effective
 - Allows FDOT to be good stewards of water resources

Documentation



- Drainage analysis is documented in the PER, Pond Siting Report, and summarized in the Water Quality and Quantity Section of the Environmental Document.
- The stormwater management facility type, size, location and costs are documented in the Pond Siting Report.
- Concept Drainage Design and analysis is documented in the Conceptual Design Drainage Report.