



**Statewide Environmental Resource
Permitting Rules for
Stormwater Design and
Operation Regulations
Rule Development Workshop No. 1**

May 18, 2022



Stakeholder Input

- **This is the first of several rule development workshops related to Environmental Resource Permitting (ERP) stormwater rule amendments.**
- **We encourage input from all stakeholders including making recommendations for rule edits and/or providing comments.**
- **Please submit all comments and recommendations to Stormwater2020@FloridaDEP.gov.**



Agenda

- **Legislative Direction.**
- **Stormwater Rule Background.**
- **Where We Are Now – ERP Program and New Evolving Technologies.**
- **New Rule Development.**
- **Draft Rule Language.**
 - **Section 2 of ERP Applicant's Handbook (AH) Volume I: Terms and Definitions.**
 - **Section 8 of ERP AH Volume I: Performance Criteria.**
 - **Dam Safety.**
- **Future Workshop Topics.**



Legislative Direction

- **Section 5, Senate Bill 712 (Chapter 2020-150, Laws of Florida).**
- **These rule development workshops will be addressing the updates to the stormwater design and operation regulations required for Chapter 62-330, Florida Administrative Code (F.A.C.) and the associated ERP AH.**



Stormwater Rule Background

- **The Florida Department of Environmental Protection (DEP), is responsible for coordinating the statewide stormwater management program by establishing goals, objectives and guidance for the development and implementation of stormwater management rules and programs by DEP, the water management districts (WMDs) and delegated local governments.**



Stormwater Rule Background - 2

- **Individual WMDs developed specific design criteria for stormwater best management practices (BMPs) that provide slightly different sets of standards.**
- **Design criteria vary throughout the state.**
- **Performance efficiencies also vary.**
- **Presumption that the discharge from such systems would comply with state water quality standards.**



Where Are We Now

ERP Program and New Evolving Technologies



Purpose of ERP Program

- **To protect Florida's water and wetland resources:**
 - **Water Quality.**
 - **Ensure compliance with water quality standards.**
 - **Water Quantity.**
 - **Prevent adverse flooding and drainage.**
 - **Minimum Flows and Minimum Water Levels.**
 - **Environmental Functions.**
 - **Preserve fish and wildlife habitat functions.**
 - **Protect threatened and endangered species.**



ERP Stormwater Key Elements

- **Systems are designed based on performance and constructed in accordance with rules that have been presumed to be in compliance with water quality standards.**
- **Each WMD established treatment and attenuation criteria (including special basins) within its boundaries (ERP AH Volume IIs).**
- **Many system designs are “dry” retention or “wet” detention, with differing criteria for each.**
- **Less-common designs include rapid infiltration basins, exfiltration, swales, etc.**
- **Novel designs may be reviewed, if they provide reasonable assurance.**



Outstanding Florida Waters (OFWs)

Additional source controls, BMPs and other protective measures:

- **In addition to the extra 50% treatment volume for discharges to OFWs, impaired waters or other waterbodies that do not meet water quality standards, the applicant is encouraged to incorporate:**
 - **Stormwater Pollution Prevention Plan.**
 - **Post-Construction Pollution Prevention Plan.**
 - **Increased average wet season hydraulic residence time of wet detention pond to a minimum of 21 days with a maximum pond depth of 12 feet.**
 - **Source Controls.**
 - **Stormwater Conveyance and Pre-Treatment BMPs.**



Removal Efficiencies

State of Florida Research Project Examples:

- **Evaluation of current stormwater design criteria within the state of Florida.**
 - **2007 report contracted by DEP and prepared by the Environmental Research & Design, Inc., “Harper Methodology.”**
 - **The report did not include evaluation of alternative stormwater management techniques:**
 - **Low Impact Development (LID).**
 - **Gross Pollutant Separators.**
 - **Pervious Pavement.**
 - **Wetland Loadings.**

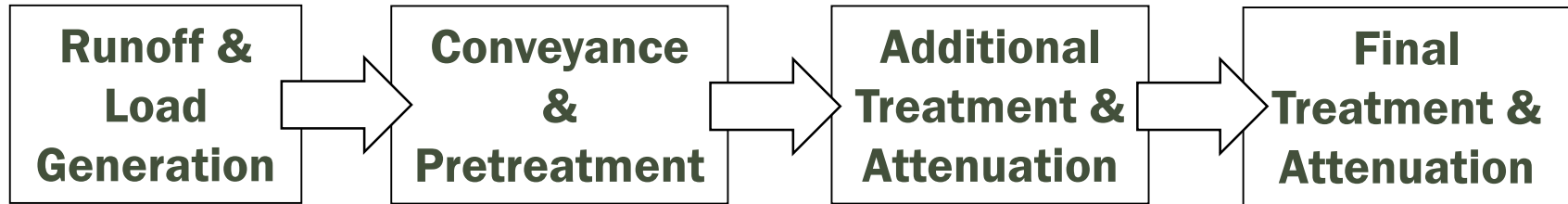


Removal Efficiencies - 2

- **University of Florida Sustainable Human and Ecological Development Research:**
 - Based upon protecting water resources from increases in stormwater runoff and pollutant exports.
 - Research informs policy and engineering design implementation of LID and Green Stormwater Infrastructure (GSI).
- **University of Central Florida Stormwater Academy:**
 - BMP trains.
 - Program utilized to assess the average annual effectiveness of stormwater BMPs.
 - Innovative and integrative BMPs for surface and groundwater projects.
 - Research based upon the development of new BMPs for varying geological conditions and landscapes.



BMP Treatment Analysis



- Erosion control.
 - Source controls.
 - Public education.
 - Roof runoff.
 - LID & GSI.
 - Vegetated natural buffers.
- Swales.
 - Catch basins.
 - Pervious pavement.
 - Gross pollutant separators.
 - Filter inlets.
 - Island bio filters.
- Green roofs.
 - Cisterns.
 - Sediment traps.
 - Alum/polymer injection.
 - Oil/water separators.
 - Biosorption activated media.
- Retention.
 - Wet detention.
 - Floating islands.
 - Constructed wetlands.
 - Harvesting.
 - Baffle systems.
 - Horizontal bio filters,



New Rule Development

DEP with the state's five WMDs, have begun rule development on a statewide stormwater rule that will focus on providing increased protection of the state's water resources.



Rule Development Goals

- **Currently, excess nutrients represent one of the leading causes of impairment in our surface waterbodies.**
- **Therefore, it is critically important that stormwater design criteria and operation requirements provide for effective nutrient removal.**
 - **Statewide regulations will provide consistent and updated BMP design criteria throughout the state.**



Rule Development Goals - 2

- **Provide:**
 - Increased consistency throughout the state.
 - Greater protections from nutrients in stormwater.
- **Achieved through:**
 - Refinement to ERP AH Volume I and Volume IIs.
 - Edits to Chapter 62-330, F.A.C.
- **Create a new resource listing of Stormwater Technologies (BMPs).**



Accomplishments

- **Stormwater Technical Advisory Committee.**
 - **13 meetings were held in 2020-2021 to receive recommendations and discussion from key stakeholder groups.**
- **Coordination with the WMDs.**
 - **Actively coordinating with WMDs to develop draft rule language.**



ERP AH Volume I Section 2

Terms and definitions in Volume I are proposed to be updated to create more consistency within the WMDs and to better reflect the direction in Section 5, Chapter 2020-150, Laws of Florida.



Definitions

- **Terms added or modified.**
 - **“Aquitarde” or “Confining Layer.”**
 - New definition taken from the ERP AH Volume IIs.
 - **“As-Built Drawings” or “Record Drawings.”**
 - Expanded to include “Record Drawings.”
 - **“Average annual nutrient load or loading.”**
 - New definition, now used in new performance criteria calculations.
 - **“Best Management Practice (BMP).”**
 - New definition, describes both stormwater and erosion and sediment control BMPs.



Definitions - 2

- **“Control Elevation.”**
 - New definition.
- **“Detention.”**
 - New definition.
- **“Detention with Filtration.”**
 - New definition added from the St. Johns River WMD ERP AH Volume II.
- **“Directly Connected Impervious Area (DCIA).”**
 - Definition added, now used in new pollutant loading calculations.



Definitions - 3

- **BMP detail definition added.**
 - “Littoral zone.”
 - “Permanent pool.”
- **“Seasonal high ground water table (SHGWT).”**
 - Site criteria used in designing BMPs.
- **“Soil Survey.”**
- **“Swale.”**
 - Definition modified to not include a note referencing the standards and criteria in ERP AH Volume IIs.



Definitions - 4

- **“Stormwater treatment system.”**
 - **Stormwater system used to reduce discharge of pollutants. Differentiated from a “Stormwater management system” which may not be required to treat the stormwater.**
- **“Net improvement performance standard.”**
 - **General definition drafted, to be expanded upon within Section 8 of ERP AH Volume I.**



Definitions - 5

- **“Post-development Nutrient Loading.”**
 - The land use of the site in accordance with the permitted project design.
- **“Pre-development Nutrient Loading.”**
 - The lawful land use of the site at the time of this rule’s implementation. This is only used in reference to the new performance criteria outlined in Section 8 of ERP AH Volume I.
- **“Redevelopment.”**
 - Does not include agriculture or silviculture.



ERP AH Volume I Section 8

Performance standards for stormwater treatment systems in Volume I updated to reflect the abilities of new technologies with the latest scientific information to better protect Florida waters.



Performance Standards

- **Updated performance criteria for stormwater management systems.**
- **Set percent reductions for all stormwater treatment systems requiring an ERP.**
 - **All sites required to have treatment systems designed to achieve an 80% reduction of Total Nitrogen (TN) and Total Phosphorus (TP) from the post-development condition.**
 - **Sites contributing to OFWs are required to have their treatment systems achieve an 95% reduction of TN and TP from the post-development condition.**
 - **Sites contributing to waterbodies on the Verified list of impaired waters or with Total Maximum Daily Loads (TMDLs) would be required to meet 80% reduction of TN and TP from the post-development condition as well as any other applicable pollutant reduction required.**
 - **Net improvement is only required on impaired waters but might be achieved for the project based on the above requirements.**



Performance Standard Example

In a watershed that is not an OFW or impaired:

- **Predevelopment loading: based on the land use of the project site at time of rule implementation.**
- **Predevelopment land use loading: 5 kilograms/year (kg/yr) of TP.**
- **Post-development land use “runoff” loading: 10 kg/yr of TP.**
- **Required treatment level for a non OFW site: 80% of the post-development loading.**
- **Required loading for required design criteria: 2 kg/yr of TP.**



Performance Standard Example - 2

Predevelopment loading	5 kg/yr
Post development loading	10 kg/yr
Needed loading if pre=post	5 kg/yr
Percent reduction from pre=post	50%
Percent reduction required	80%
Load required	2 kg/yr

ERP AH Volume I Section 8.3.2:

- (a) an 80% reduction of the average annual loading of TP and TN from the post-development project land use; or
- (b) a reduction from the post-development project land use loading such that the post-development average annual loading of nutrients does not exceed the average annual loading of nutrients from the predevelopment land use.



Performance Standards - 2

- **Considerations for redevelopment sites less than 5 acres:**
 - **Redevelopment sites that are unable to meet the proposed state standards would be able to use an alternative lower standard of treatment.**
 - **Redevelopment sites are required to achieve an 80% reduction of TP and 45% reduction of TN, or when contributing to an OFW they would be required to achieve an 95% reduction in TP and a 50% reduction in TN.**
 - **These alternative standards would not be available to systems contributing to a waterbody that does not meet state standards.**



Performance Standards - 3

- **Determination of what is a contributing system:**
 - **Based on the hydrologic unit code (HUC) 12 watersheds.**
 - **Any stormwater system that is within a HUC 12 that also contains an OFW would be required to meet the standards for OFWs.**
 - **Any stormwater system that is within a HUC 12 that also contains a waterbody that does not meet state standards or has a TMDL would also be required to meet the performance standards for those waterbodies.**



Performance Standards - 4

- **Applicant must demonstrate, through modeling or calculations, that the proposed system is designed to meet applicable minimum performance standards for nutrients.**
 - **The presumption would not apply to the individual BMP designs, but it would still apply based on the system design and the permitting demonstration for the minimum performance standards (using most recent scientific information available).**
 - **Systems that are, “constructed, operated, and maintained,” in accordance with applicable requirements would also still be presumed to not cause or contribute to violations of water quality standards.**
 - **New inspection and maintenance requirements to be discussed at a later workshop.**
- **No routine monitoring would be required.**



Dam Safety

Dams are a critical part of Florida's infrastructure for stormwater management, including stormwater treatment facilities. However, flooding from dam failure or mis-operation can also result in loss of human life, damage to offsite properties, infrastructure and the environment, and water quality impacts for nutrients and other parameters (turbidity, associated pollutants, etc.).



Dam Safety

Request for Public Comment

- **DEP and the WMDs are considering the following related changes:**
 - Rule enhancements to ERP AH Volume I.
 - New rule sections in Chapter 62-330, F.A.C.
- **ERP AH Volume I – add subsection Dam Safety Resilience, requiring three permitting criteria, to Section 8.2, Criteria for Evaluation, for new projects or modifications to existing dams:**
 - Downstream Hazard Potential (evaluation to classify the dam as low, significant, or high hazard potential).
 - Emergency Action Plan (for potentially hazardous dams).
 - Condition Assessment (for applications to modify an existing dams not under an active permit).



Dam Safety - 2

Request for Public Comment

- **Chapter 62-330, F.A.C. – add two new rule sections that could apply to all dams (pre-rule and permitted dams).**
 - **Dam Registration.**
 - For potentially hazardous dams.
 - For dams that meet height and storage capacity thresholds.
 - **Critical Condition Notification for Dams.**
 - Reporting for discovery of certain conditions (e.g., concentrated seepage or piping).
- **Please let us know if you have any thoughts about seeing draft dam safety provisions in upcoming workshops:**
DamSafety2022@FloridaDEP.gov



Future Workshop Topics

DEP and the WMDs will continue to accept comments throughout the entire rulemaking process and we are requesting input on future topics.



Potential Topics

Input for future workshops

- **Updating stormwater performance criteria.**
- **Removing approved BMP technologies from ERP AH Volume IIs.**
- **Creating a centralized BMP reference library that will not be incorporated into rule.**
 - **Library would update as new technological advances occur.**



Potential Topics - 2

Input for future workshops

- **Inspection frequencies.**
- **Operation and maintenance requirements.**
- **Offsite compensatory treatment considerations.**
- **Dam safety considerations.**
- **Other proposed topics?**



Request for Comments

Please submit any comments, suggested edits and recommendations to Stormwater2020@FloridaDEP.gov.

We will continue to accept comments throughout the entire rulemaking process.

The next workshop will be noticed in the Florida Administrative Register and will be posted at:

<https://floridadep.gov/water/water/content/water-resource-management-rules-development#erp-sw>.



Contact Information

Emma Rivers Baird

Division of Water Resource Management

(850) 245-7655

Stormwater2020@FloridaDEP.gov

