

# STORMWATER MANAGEMENT



*When rain falls on lawns, forests and fields, the water not absorbed by plants filters through the soil before reaching and replenishing Florida's groundwater supply. Ninety percent of the state's drinking water is supplied by groundwater.*

When stormwater falls on pavement, buildings and other impermeable surfaces, the runoff flows quickly and can pick up trash, chemicals, silt and other pollutants. Historically, storm sewer systems were designed solely to allow runoff to drain quickly from developed areas and prevent flooding.

Modern stormwater management systems are designed not only to prevent flooding, but also to remove pollutants, protect waterbodies, capture rainfall to replenish groundwater, and prevent damage to property and wildlife habitat.

Stormwater management systems come in a variety of shapes, sizes and forms, but there are two basic types:

- » **Retention systems** are designed to capture runoff and allow it to seep through the soil. Swales, a commonly used feature, resemble shallow ditches. The grassy slopes filter sediments as stormwater percolates into the ground.
- » **Detention systems** – or ponds – are designed to allow material to settle and absorb before the stormwater is gradually released. Shoreline vegetation around the detention system helps filter sediments from the runoff.

## Permits

The Florida Department of Environmental Protection (DEP) regulates activities that generate stormwater runoff. Projects that alter the natural flow of water or increase the amount of stormwater runoff are regulated by the department's Environmental Resource Permit (ERP) program. DEP also regulates activities that have the potential to increase pollutant loads to water bodies or to municipal separate storm sewer systems (MS4s) as covered by the National Pollutant Discharge Elimination System (NPDES).



## ERP stormwater permits:

- » Are required for projects that alter land topography to the extent that there is a significant increase in the site's stormwater runoff;
- » Authorize the construction of a stormwater management system; and
- » Require the owner of the management system to maintain it in perpetuity.

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## NPDES stormwater permits:

- » Are required to treat stormwater runoff associated with construction activities, industrial activities and MS4s;
- » Require permittees to develop and implement a stormwater pollution prevention plan or stormwater management plan;
- » Require permittees to minimize and control pollution;
- » Require the implementation of structural and nonstructural best management practices; and
- » Require periodic audits, inspections and monitoring to ensure compliance with the permit.

## Funding for Stormwater Improvement Projects

DEP also works to protect and improve water resources with programs that provide grants and loans to local governments for projects that address stormwater treatment improvements and reduce stormwater nutrient pollution. Local governments can qualify to receive low-interest loans for stormwater infrastructure through the **Clean Water State Revolving Fund (CWSRF)**. Stormwater treatment projects also may be eligible for funding through the **Clean Water Act Section 319(h) Grant** and the state's **Total Maximum Daily Load Water Quality Restoration Grant**.

- » The CWSRF provides low-interest loans to local governments to plan, design and build or upgrade wastewater, stormwater and nonpoint source pollution prevention projects, as well as drinking water systems. The CWSRF has awarded approximately \$1.1 billion in funding for about 120 wastewater and stormwater improvement projects during the past five years and awarded a total of \$4 billion in loan funds since its inception in 1989.
- » Total Maximum Daily Load Water Quality Restoration grants fund projects that reduce pollution from nonpoint sources and urban stormwater. Eligible projects include stormwater treatment, erosion and sediment control, and septic tank pollution abatement. Since 2002, the department has awarded more than \$110 million in TMDL grants, including \$4.6 million awarded in fiscal year 2014-15.
- » The U.S. Environmental Protection Agency annually provides grants to each state to protect and restore watersheds affected by nonpoint source pollution. Florida receives about \$6 million annually to help local governments with water quality restoration projects. The department selects high-priority, local restoration projects to fund with these dollars targeted to restore verified impaired springs, rivers, lakes, and estuaries - those waterbodies that are known to not currently meet Florida's water quality standards. Since 2004, the department has contracted over \$51 million from the 319 grant to local governments, nonprofits, and water management districts.

## Help Prevent Stormwater Runoff

You can help prevent the damaging effects of stormwater runoff by following these guidelines:

- Never dump anything down storm drains.
- Clean up trash and yard waste in your yard and gutters, and around storm drains.
- Do not blow leaf litter and grass clippings into the road or stormwater systems.
- Direct rain gutters and downspouts away from paved surfaces.
- Use mulch, bricks, gravel or other porous materials for walkways, patios and driveways.
- Control soil erosion by planting over bare spots in the landscape.
- Sweep debris off driveways and sidewalks instead of using a hose. Clean up oil spills and leaks on driveways.
- Keep drainage systems such as ditches, swales and ponds clear of debris and trash, including grass clippings and branches. Report clogged or damaged systems or eroded slopes to your city or county.
- Do not fill stormwater ponds, swales and retention systems. Any reduction in treatment volume will interfere with the pond's ability to hold stormwater runoff.
- Plant trees around the perimeter of a pond on your property. Trees filter the water and lower the water table.

For more information, visit <https://live-depweb.pantheonsite.io/wra>