

CHAPTER 9
DRAINAGE ELEMENT

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A. OVERVIEW

Volusia County Council has determined that the management of stormwater runoff and the preservation of the water resources are critical to the health, safety and welfare of the citizens of Volusia County. Stormwater is the flow of water during and immediately after a rainfall. As stormwater flows, it picks up particles and pollutants from roads, yards, parking lots and roofs, which results in stormwater runoff. Stormwater runoff is a concern for both water quantity and water quality. Pollutants can include nutrients, fertilizers, metals, oils and greases, and animal waste.

The county's stormwater management program is designed to reduce flooding and improve water quality from stormwater runoff. Capital projects and improved maintenance of drainage facilities have reduced erosion and sedimentation in canals and ditches and have reduced building and street flooding. Other projects have improved the quality of water in our canals, lakes and rivers. Volusia County continues to identify stormwater management projects for implementation. Funding for these projects comes from stormwater fees and through grants.

Stormwater is regulated through Chapter 72, Article III, Division 8 of the Land Development Regulations. It is intended to allow landowners reasonable use of their property, provided stormwater runoff peak rates and volumes and the quality of stormwater retained after development shall approximate existing predevelopment conditions.

B. GOALS, OBJECTIVES AND POLICIES

GOAL:

- 9.1 Ensure the protection of the surface waters and groundwater for the residents of Volusia County.

OBJECTIVE:

- 9.1.1 Volusia County shall fund and complete comprehensive watershed studies for all areas currently developed, or developing with essentially urban land uses, and areas where the Future Land Use Map has designated essentially urban land uses within the unincorporated County, as part of an overall Stormwater Master Plan. The County shall continue to assess other watersheds for flooding and pollution problems and for changes in land use. Future studies should take into account anticipated future flood conditions based on sea level rise.

POLICIES:

- 9.1.1.1 Volusia County shall develop a comprehensive surface and groundwater watershed management plan within six months after completion and adoption of the comprehensive drainage watershed studies.
- 9.1.1.2 All land use and development approval decisions which impact water resources in Volusia County shall conform to the comprehensive surface and groundwater watershed management plan. As each watershed study is completed and adopted by Volusia County, its recommendations will be used for all land use and development approval decisions which impact water resources until the comprehensive watershed management plan is implemented. Volusia County shall adopt the following minimum service level standards for Class A facilities (concurrency) for storm drainage in the unincorporated county.

Level of Service for Storm Water Quantity and Quality:

- a. Volusia County shall require that lesser developments meet the minimum volume of retention equivalent to one-half inch of depth over the entire project area, ~~and~~ the discharge hydrograph produced for the developed or redeveloped site shall not exceed, in terms of peak flow and total volume, the hydrograph produced by conditions existing before development or redevelopment for the 24-hour, 25-year frequency storm.
- 9.1.1.3 The County shall maintain, in conjunction with other local governments within and adjacent to Volusia County, a permit tracking system. This system requires that each jurisdiction provide on a timely basis, information that will be used to determine whether an area-wide level of service is being maintained for the County Drainage System.
- 9.1.1.4 Volusia County shall use the watershed studies to determine level of service, capacity analysis, demand level, anticipated capacity impacts resulting from rising sea level, and geographic service area for stormwater management areas and shall include mosquito control facilities which function as stormwater facilities.
- 9.1.1.5 Volusia County shall establish joint working groups composed of the County and its municipalities for the purposes of coordinating stormwater management programs County-wide. The committee should be charged with avoiding duplication and overlap of drainage facilities and participate in the implementation of a county-wide stormwater master plan, cross-jurisdictional projects, and individual drainage basin studies. Adjacent municipalities in other counties and other county governments may be represented on the committee to address problems that cross political boundaries or where siting of regional drainage facilities may be cost-effective.
- 9.1.1.6 Volusia County will establish a Level of Service design standard in closed drainage basins as follows: The discharge hydrograph produced for the developed or redeveloped site shall not exceed, in terms of peak flow and total volume, the

hydrograph produced by conditions existing before development or redevelopment for 24-hour, 100-year frequency storm.

The purpose of these higher LOS design standards is to ensure greater protection of the public from flooding and pollution from stormwater runoff. This policy is to be interpreted as permitting stricter stormwater LOS standards than the minimum standards of the Comprehensive Plan based on the characteristics of the stormwater basin. This is consistent with Policy 9.1.1.4, which allows stricter stormwater standards in areas where watershed or drainage basin studies have been completed.

- 9.1.1.7 Volusia County will study the increase in groundwater elevation caused by predicted sea level rise and then use that information to develop new standards for stormwater infrastructure.

OBJECTIVE:

- 9.1.2 Volusia County shall at a minimum maintain current standards regulating the design, construction, and management of drainage systems used for stormwater management to the extent financially and environmentally feasible when considering future flood conditions.

POLICIES:

- 9.1.2.1 Volusia County shall identify and prioritize urban drainage systems in need of retrofitting and upgrade these systems as funding becomes available. Watershed studies will be used to identify and prioritize systems in need of retrofitting. Volusia County will apply for any grants available from the Florida Department of Environmental Protection and St. Johns River Water Management District or other identified funding sources.
- 9.1.2.2 Volusia County shall continue to implement a stormwater utility to fund stormwater improvements.
- 9.1.2.3 Volusia County shall coordinate with its municipalities and the East Volusia Mosquito Control District in determining jurisdictional responsibilities of mosquito control facilities used for stormwater management.
- 9.1.2.4 Volusia County shall encourage proper maintenance of stormwater management systems.
- 9.1.2.5 Best Management Practices (BMPs) for control of erosion and sedimentation shall be employed for all construction, urban development, and agricultural activities in order to protect natural waterbodies, water courses and wetlands from siltation. BMPs that are acceptable for erosion and sediment control include those published by the United States Environmental Protection Agency (USEPA), Natural Resources Conservation Service (NRCS), Florida Department of Transportation (FDOT), Florida Department of Environmental Protection (FDEP), Florida Department of Agriculture and Consumer Services (FDACS), and the Institute of Food and Agricultural Sciences

(IFAS). Other BMPs may be accepted provided that they control erosion and sedimentation and protect the function of stormwater management systems as well as any of the BMP's published by the above referenced agencies.

- 9.1.2.6 Volusia County will encourage the use of low-impact development/green infrastructure as a method of stormwater management.

OBJECTIVE:

- 9.1.3 Volusia County shall develop minimum standards to regulate stormwater discharge into surface waters and primary sinkholes in karst (areas prone to sinkholes) terrain through the use of percolation ponds and other appropriate methods.

POLICIES:

- 9.1.3.1 Volusia County shall maintain an effluent reuse and disposal program to recharge wetlands and groundwater supplies and providing irrigation water thereby conserving potable water resource and improving surface water quality of the County.
- 9.1.3.2 Volusia County shall develop standards to preserve native vegetation to aid water conservation. Native plants include but are not limited to those in Florida Native Plant Society's publication, "Native Plants for Landscaping in Florida", or comparable guides prepared by the Florida Department of Agriculture and Conservation Services (FDACS), Florida Department of Environmental Protection (FDEP), the Institute of Food and Agricultural Sciences (IFAS), and the St. Johns River Water Management District.