

CITY OF GAINESVILLE STAFF ANALYSIS

Legistar No: 160287

Title: Alachua County's Proposed Stormwater Treatment Manual

Sponsor: Public Works Department

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Summary of Issue

Alachua County directed their staff to draft a Stormwater Treatment Manual (Manual) that they indicate may be applied county-wide. The initial draft manual has been published with an estimated timeline to adopt the Manual as follows:

- August 2, 2016 – Manual presentation to the Alachua County Environmental Protection Advisory Committee
- September 7, 2016 – Manual presentation and discussion at the Joint City / County Water Policy Meeting
- August and September, 2016 – Draft Revision based on comments received
- September and October, 2016 – Case Study analysis by ACEPD
- November, 2016 – Alachua County BoCC Public Hearings

History/Background Information

Basis for Alachua County's Proposed Stormwater Treatment Performance Standards

Studies conducted in Florida have concluded that current stormwater treatment requirements are not providing sufficient treatment to protect groundwater as evidenced by the increased nitrates in springs, groundwater and some surface waters. Two studies cited by the County as the basis for their proposed standards are:

- 2007 Florida Department of Environmental Protection (FDEP) study entitled “*Evaluation of Current Stormwater Design Criteria within the State of Florida*” (conducted by Harvey H. Harper, Ph.D., P.E. and David M. Baker, P.E.)
- 2011 Report entitled “*Nitrogen Transport and Transportation Beneath Stormwater Retention Basins in Karst Areas and Effectiveness of Stormwater BMPs for Reducing Nitrate Leaching to Ground Water*” Marion County, FL (conducted by Wanielista et.al)

The County's proposed stormwater treatment performance standards are intended to specifically address nitrogen and phosphorus loadings. The standards are intended to apply to both new

development and redevelopment projects and apply to stormwater runoff leaving the site either through direct discharge or through infiltration into the ground water.

Clean Water has been the goal of much legislative action on the federal, state and local levels since 1972 with the adoption of the Clean Water Act. In 1988 the City Of Gainesville adopted a Stormwater Management Utility (SMU) with the express purpose of managing both the quantity and quality of stormwater runoff. Since that time the City has spent millions of dollars in an effort to treat stormwater runoff with a priority within those watersheds where development occurred long before the enactment of the Clean Water Act – namely within the Duval, Sweetwater and Tumblin Creek watersheds.

Opportunities for redevelopment within these particular watersheds have been of utmost importance to the revitalization of the older parts of Gainesville. The SMU has worked in conjunction with those opportunities to provide master stormwater treatment facilities in a manner that will encourage and promote redevelopment. These stormwater treatment facilities have been vital to the treatment of water quality entering both Sweetwater Branch and Tumblin Creek which discharge to Paynes Prairie and the Floridan Aquifer.

The City has constructed Duval Regional Stormwater Park, Springhill Stormwater Park, SW 5 Avenue Stormwater Park, Depot Stormwater Park, Sweetwater Wetlands Stormwater Park. The Tumblin Creek Stormwater Treatment Facility is under construction. (Attachment A) Each of these regional systems has been designed to target specific water quality requirements as outlined by the St John's River Water Management District (District). The constituents are based on land uses contributing to the system. The systems track oxygen demand and sediment, nutrients and/or heavy metal loadings. (Attachments B, C and D)

In addition to stormwater treatment the City has provided the Connect Free program to encourage home owners to convert from septic tanks to sanitary sewer. This is important for the reduction in nitrogen into the groundwater and surface waters.

Another active program in the City is the Clean Water Partnership through which the City contracts with Alachua County Environmental Protection to identify and eliminate illicit discharges into the surface waters in and around Gainesville. The program also provides public education to the community about the impact of animal waste and fertilizers on the water quality and water life in the surface waters.

Staff Concerns regarding the County's Draft Manual:

The proposed standards and intended application have no regard for the efforts the City Of Gainesville has put towards improving quality of groundwater and surface waters in our community. There is also a lack of recognition for complimentary goals the City has for revitalizing older sections of the community through redevelopment and other economic development incentives.

Redevelopment vs New Development

The Draft Manual does not include any considerations for redevelopment. It is very difficult to redevelop a site particularly within the older developed sections of the City and meet current stormwater management requirements on-site much less the requirements outlined in the Draft Manual. The City's stormwater credit program, that was developed to assist redevelopment efforts, would not be permitted as a means of meeting the requirements of the Draft Manual. More importantly, from a water quality standpoint, providing regional treatment systems provides a much greater opportunity to effectively treat stormwater over the typical new development patterns of providing separate, smaller on-site retention/detention facilities per site.

Wet Detention Systems

Reclaimed Water – Additional loading requirements are required if reclaimed water is discharged to the facility. If this includes runoff from irrigation provided by reclaimed water, then this provides a disincentive to utilize reclaimed water.

Impaired Water Bodies with Total Maximum Daily Loads (TMDL's)

There is no consideration for the specific TMDL's associated with a particular watershed. So, whether nitrogen has been identified as a constituent of concern or not there is a requirement to provide treatment for nitrogen on top of the treatment required for the TMDL. There needs to be consideration for the specific constituents of the stream and not just blanket regulations.

Sensitive Karst Areas

There is only one method for treating stormwater in Sensitive Karst Areas; which is to provide two feet of Biosorption Activated Media (BAM). There are significant cost ramifications associated with this requirement for both initial installation and long term maintenance for little additional treatment capabilities. Currently, there only appears to be one vendor of the material covered in the ordinance.

Attached is a presentation and document provided by Rory Causseaux, P.E. with CHW, Inc. regarding specific concerns and background information that may be helpful for this discussion. (Attachment D and E)

Options

Annually, the City spends significant funding and resources to provide water quality treatment through best management practices and implementation of capital improvements. We believe that we have established a significant track record of efforts to date and will continue to invest in efforts to meet water quality goals in a cost effective manner that also allows us to meet other goals of the City such as economic development, revitalization of central city core and environmental stewardship.

A. In whatever format the County finalizes the Stormwater Manual they should do so as an Opt-in for municipalities.

Pros – allows the municipalities to consider the standards of the Manual after conducting further analysis and involvement with stakeholders before deciding whether to Opt-in.

Cons - none

B. The County should conduct further stakeholder involvement by establishing a task force including representation from county, municipalities, private sector, and water management districts.

Pros – allows broader discussion and evaluation of the impacts including conducting cost analysis and opportunity to revised standards based on input.

Cons – only con would be if the County chooses not to consider the input of the task force findings.

C. City staff continues to work with the County staff to recommend modifications to the standards to ensure redevelopment strategies are incorporated and treatment options consider staff's concerns noted above.

Pros – if County agrees to modifications the City's concerns could be addressed.

Cons – if the County fails to address the City's concerns redevelopment opportunities will be especially negatively impacted.

Staff Recommended Option

Staff recommends that the City Commission support Option A & B.