



TO: John McDonough, City Manager

FROM: Garrin M. Coleman, P.E., Public Works Director

DATE: September 22, 2016 for Submission onto the Work Session Agenda of the October 4, 2016, City Council Meeting

ITEM: Marsh Creek Regional Detention Pond Policy

Recommendation:

Staff recommends that the Mayor and City Council approve the Marsh Creek Regional Detention Pond Policy.

Background:

The Marsh Creek BMP is a valuable stormwater infrastructure asset that can help facilitate redevelopment of the drainage basin which includes the City Springs development project. The Detention Pond Policy would provide redevelopment options and also provisions to protect the facility during the redevelopment process.

Discussion:

The presentation provides a summary of the proposed Detention Pond policy. It outlines the options an applicant would have when they propose to redevelop property within the Marsh Creek BMP drainage basin. The presentation also provides a breakdown of how the costs per acre were calculated along with an overview about policies some other municipalities have for regional detention facilities.

Alternatives:

Do not have a Regional Detention Pond Policy. Standard Stormwater requirements would apply for redevelopment that occurs within the drainage basin.

Financial Impact:

The City has made a significant investment to construct the Marsh Creek regional detention facility. The proposed Detention Pond Policy provides a mechanism for reimbursement of a portion of those costs along with future maintenance costs.

Attachments:

- I. Marsh Creek Draft Regional Detention Pond Policy
- II. Presentation

PUBLIC WORKS

DRAFT Policy Statement

TITLE: Marsh Creek Regional Detention Pond Policy

DATE: September 20, 2016

Overview

The Marsh Creek Watershed Improvement Project has been designed and built by the City of Sandy Springs with support and Grant assistance from the Georgia Department of Natural Resources Environmental Protection Division to help improve water quality and reduce the impacts of flood flow discharges on Marsh Creek. Accordingly, the stormwater Best Management Practice (BMP) built as part of the project will provide water quality benefits as well as flood storage capacity in compliance with applicable requirements for the upstream 32.2 acre drainage basin.

Purpose

Recognizing that the Marsh Creek BMP is a valuable stormwater infrastructure asset that can help facilitate redevelopment of the drainage basin which includes the City Springs development project; and also understanding that the facility must also be protected from such redevelopment, the following procedures are adopted as policy for the City of Sandy Springs.

Applicability

This policy will be applicable to the existing properties and land that lie within the drainage basin of the Marsh Creek BMP. The drainage basin and properties are identified on the attached "Marsh Creek BMP Drainage Basin Map".

Procedures

When a site is proposed for redevelopment or development within the drainage area boundaries of the Marsh Creek BMP and that site is required to have a development permit, the applicant will be required to contact the Community Development Department to determine the availability of stormwater detention capacity for the project within the Marsh Creek BMP. The availability will be determined based on the proposed impervious area of the site draining to the facility, as well as the capacity of the existing conveyance system to carry the proposed stormwater discharges to the facility. If capacity within the facility is available, the applicant will have the option to either participate in the utilization of the facility for stormwater detention requirements and to pay an additional fee for stormwater to the City of Sandy Springs for cost and maintenance of the Marsh Creek BMP or be required to provide onsite detention through the use of underground storage facilities. Should capacity within the Marsh Creek BMP be exhausted, the applicant will be required to provide full stormwater requirements onsite utilizing underground storage facilities.

The applicant will be required to:

- Provide a certified topographic map of existing conditions to the Community Development Department that delineates the drainage area boundaries of the site, including the area within the Marsh Creek BMP drainage basin and identifying the existing impervious area within the basin.
- Provide a site plan of the proposed improvements, including a delineation of new or redeveloped impervious areas within the basin.
- Provide a hydraulic analysis of the downstream public stormwater conveyance system to verify the capacity of the system to carry the proposed stormwater flows in compliance with development regulations.
- Provide onsite erosion and sediment control during the course of the construction process and to protect the Marsh Creek BMP from any construction related damages.
- Enter into a letter of agreement with the City of Sandy Springs to utilize the Marsh Creek BMP for stormwater control of the site within the drainage area of the Marsh Creek BMP and pay a stormwater fee in the amount of \$180,000 per proposed impervious acre (measured to the nearest one hundredth of an acre) of site draining to the facility.
- Comply with water quality requirements onsite through the use of Green Infrastructure or Low Impact Development (LID) practices or other approved structural practices.
- Otherwise comply with all City and State stormwater and development regulations.

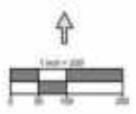
Should the existing conveyance system be found inadequate to carry the design flows, then the applicant may choose to provide onsite detention through the use of underground storage facilities or participate in the Marsh Creek BMP by performing the following actions as necessary and subject to the approval of the City of Sandy Springs.

- Upgrade or improve the existing stormwater system to facilitate the proposed stormwater discharges.
- Provide limited onsite underground detention to reduce peak flows to meet the capacity limitations of the downstream stormwater system.
- Provide or obtain stormwater easements for any offsite portions of the conveyance system that are on private property.



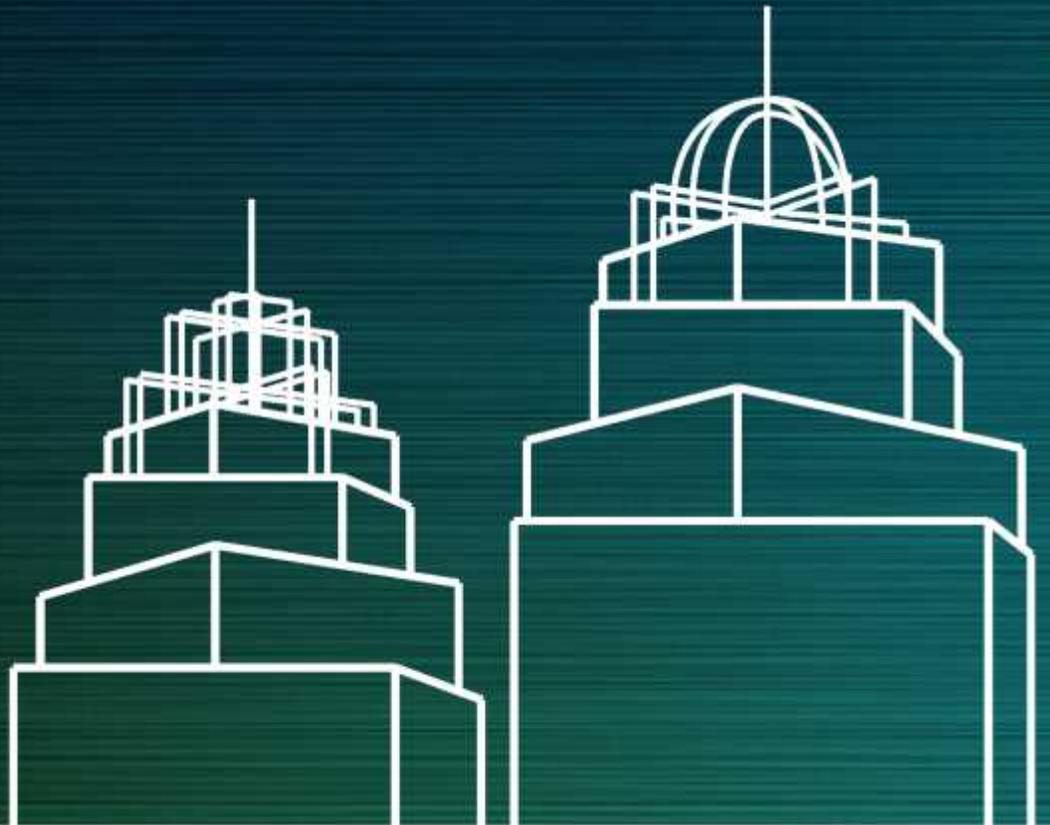
- LEGEND
- PARCEL NUMBER
 - MARSH CREEK BMP DRAINAGE BASIN

MARSH CREEK BMP DRAINAGE BASIN MAP



Marsh Creek Watershed Improvement Project (WIP) Regional Detention Pond Policy Recommendation

October 4, 2016



SANDY SPRINGS

Marsh Creek WIP

Note: Area in yellow is approximately 32.1 acres of which 21.9 acres are impervious



LEGEND
PARCEL NUMBER
MARSH CREEK BMP DRAINAGE BASIN
MARSH CREEK BMP DRAINAGE BASIN MAP



Policy Assumptions:

- Voluntary participation for properties
 - While capacity remains
 - If property does not participate, staff recommends underground detention be required for site
- First come, first serve
- Sites without direct access would be subject to easement acquisition and/or improved conveyance construction
- Variance would be considered for properties which only partially drain to Marsh Creek
- Letter of Agreement required (protecting facility from damage during construction)
- \$180,000 fee includes both Construction (\$150,000) and Maintenance (\$30,000)
Costs for each impervious acre of a development

Construction Costs for Facility:

- Land \$1,888,037
- Engineering \$ 259,770
- Construction \$1,066,106
- Off site storm sewer \$ 301,394
- Sub Total = \$3,515,307
- Grant Funds <\$222,104>
- Total Net Cost = \$3,293,203

(Note: Costs exclude site amenities, educational elements, etc.)

- **Cost per Impervious Acre = \$3,293,203/21.91 acres = \$150,300**



Maintenance Costs for Facility:

- Staff recommends upfront payment method
- Calculated as a percent of project cost (construction and off site sewer cost ~ \$1,367,500)
- Assumptions for present worth calculation:
 - 30 year life of project
 - Average inflation over last 10 years @ 1.7%
 - Average interest over last 10 years @ 3%
- Maintenance cost per impervious acre = \$30,000


 PROJECT NO. _____
 SHEET NO. _____ OF _____
 NO. NAME: LAUREN C. BEMP DATE: _____
 C. DATE: _____ CHECKED BY: _____ DATE: _____

MAINTENANCE

PROJECT COST = \$1,367,500

Assume 3% per year for Maintenance

$$F = A \left[\frac{(1+i)^n - 1}{i} \right]$$

$$A = 0.03 (1,367,500)$$

n = 30 years

i = 1.7% Avg Inflation rate last 10 yrs

$$F = 1,508,215$$

Present Worth

$$P = F (1+i)^{-n}$$

n = 30 years

i = 3% Bond Int.

$$P = 654,365$$

Maintenance Cost per Imp. Ac = \$29,866

Proposed Infrastructure Requirements for Sites:

- If property does not flow directly to the facility, owner would be responsible to obtain property rights/easements
- Demonstrate downstream piping adequate to handle design flow
 - If not, property owner would be responsible for improving existing storm sewer capacity
 - Or, property owner provide level of detention needed to pass runoff from development
- Sites required to provide erosion and sediment control
- Sites required to provide water quality treatment on site (encourages including green infrastructure)

Benchmarked/Referenced Policies

- Cobb County
 - By development agreement
 - Voluntary
 - Sites provide channel protection and water quality on site
 - Fee = \$5,000/impervious acre or avoided cost of construction whichever is greater
- City of Roswell
 - By memorandum of agreement
 - Voluntary
 - Fee based on fair market value of avoided cost
 - Shared based on impervious area
- City of Charlotte, NC
 - By mitigation fee with development
 - Voluntary
 - Fee = \$60,000/impervious acre (Built-up area (BUA)) up to 1 acre then \$90,000 per acre for full coverage (Water Quality, Channel and Design Storms)

SANDY SPRINGS

Questions?

