

Presentation for:  
**Stormwater Working Group**  
**Initial Meeting**

October 16, 2008

Baker

WATERFORD CH2MHILL

## Presentation Outline

- **SWG Framework**
  - Welcome & introductions
  - Challenge
  - SWG role, responsibilities, and goal
- **Stormwater Program Overview**
  - Stormwater briefing
  - Current services
  - Environmental and regulatory drivers
- **Current Funding**
- **SWG Meeting Schedule**

## The City's Stormwater Challenge is to Determine How to Effectively:

1. Prioritize maintenance of aging stormwater infrastructure in ways that address pressing environmental needs;
2. Assure the necessary funding to address capital and operating stormwater needs; and
3. Structure the funding to support meeting the need in as fair and equitable a manner as possible.

## SWG Role

1. Provide input on the City's stormwater program, including capital improvement projects and operations and maintenance programs
2. Provide input on various funding options
3. Serve in a representative capacity for the organizations that each SWG member represents, ensuring stakeholder interests and needs are adequately conveyed in the SWG
4. Serve as a co-convenor with the City of Alexandria for community or stakeholder meetings and facilitate two-way communication as needed.

## SWG Goal

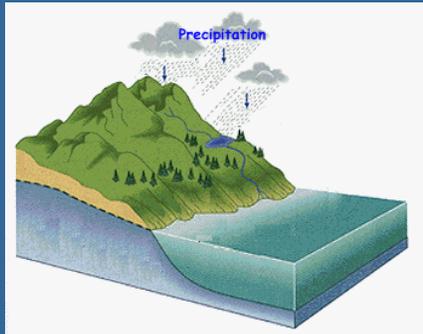
- Assist staff and City Manager in making a recommendation to City Council on prioritizing stormwater functions and evaluating funding options

## Presentation Outline

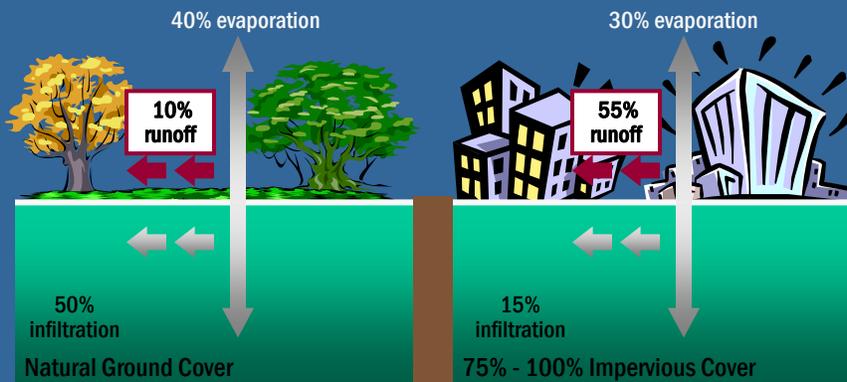
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## What is Stormwater?

- **Stormwater:** The flow of water that results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.
- Impervious surfaces like driveways, sidewalks, and streets can prevent stormwater from naturally soaking into the ground. Consequently, the water “runs off” into a catch basin, a side ditch, or some other stormwater collection system that transports the water directly to a river or lake.



## Impervious Cover Impacts on Stormwater Runoff



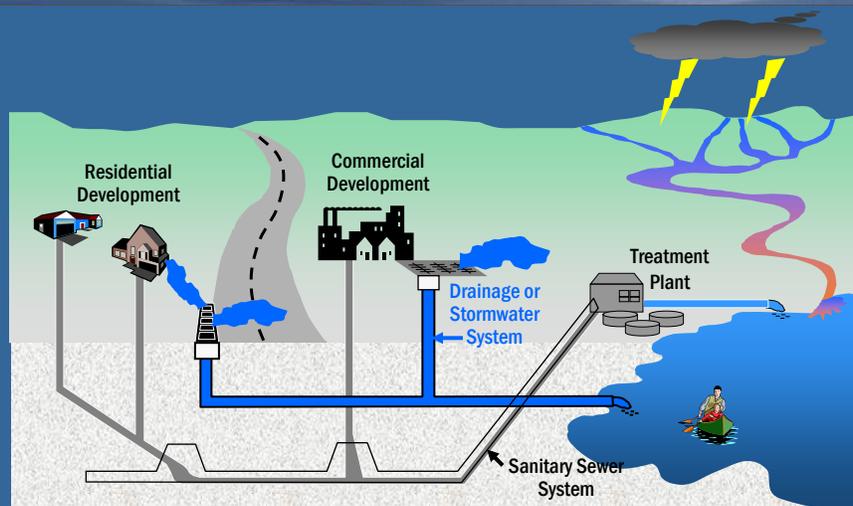
## Impervious Cover in Commercial and Residential Areas



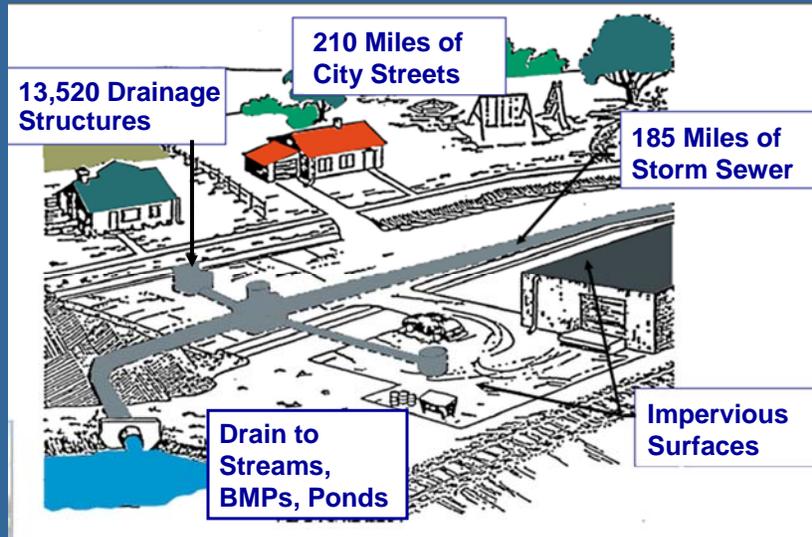
City's average  
imperviousness:  
42%



## Where Does Stormwater Runoff Go?

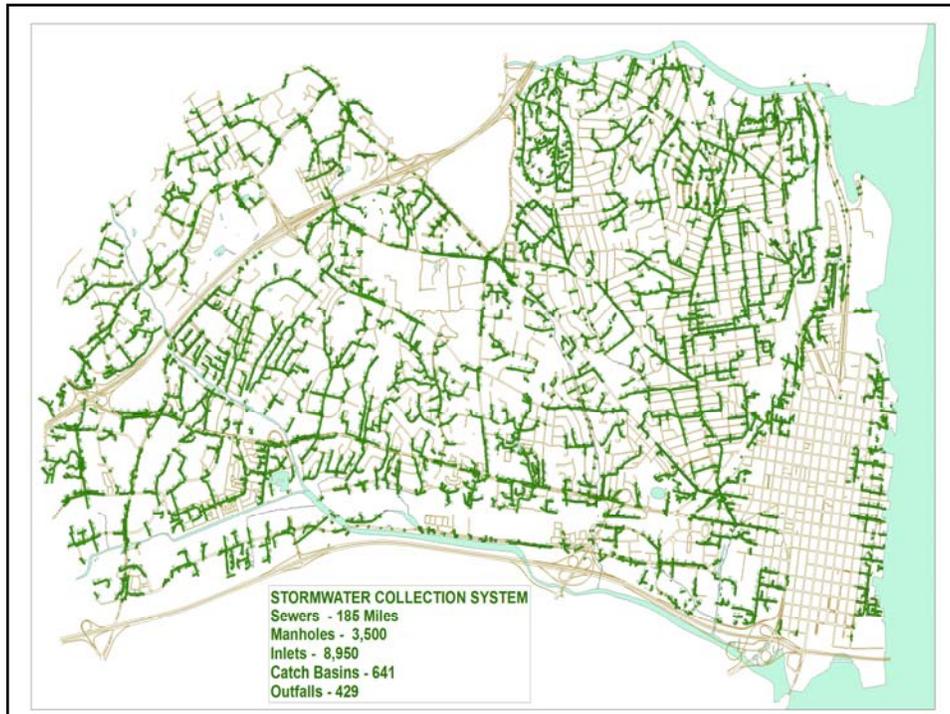


## Where Does Stormwater Runoff Go?



## How Does Stormwater Move Through Our City?





## Where Does the Water From the Stormwater Collection System Go?

- Streams and wetlands



- Quantity controls



- Quality controls



## City Streams – The Good



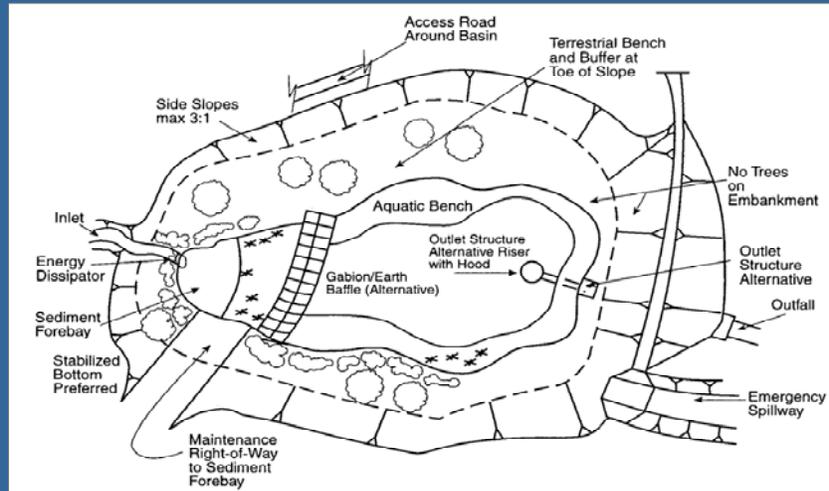
## City Streams – The Bad



## City Streams – The Ugly



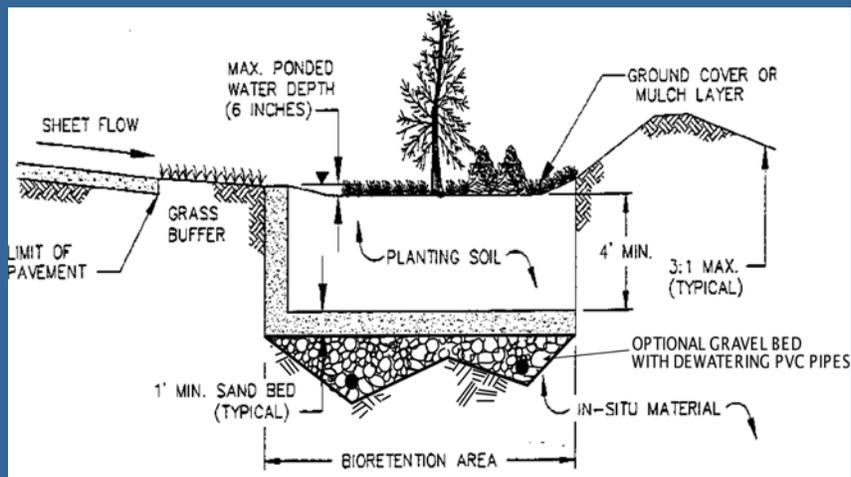
## Quantity Controls Example: Ponds – Function



## Quantity Controls Examples: Ponds, Lakes



## Quality Controls (BMPs) Examples: Bioretention Facilities - Function



## Quality Controls Examples: Stormwater is “Treated” in BMPs



## BMPs Can Be Incorporated Anywhere

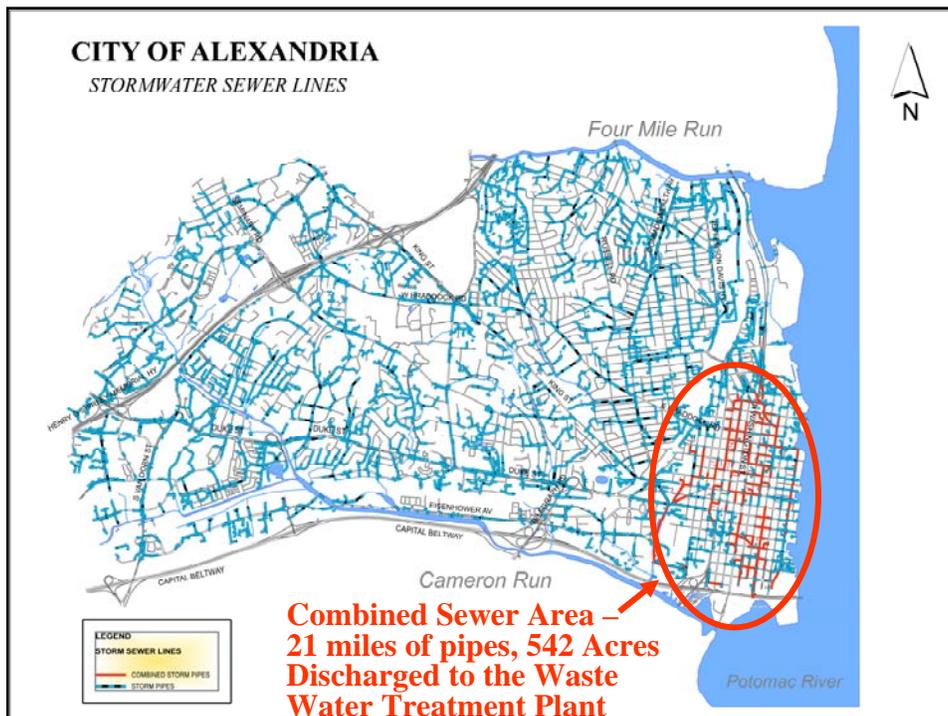


Bioretention in a turning circle in front of St. Stephens School, Alexandria (1994)

# BMPs Can Be Incorporated Anywhere



Bioretention in a turning circle in front of St. Stephens School, Alexandria (1999)



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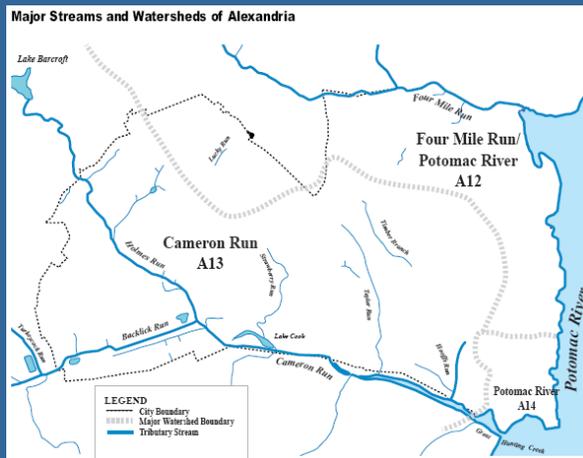
## Stormwater Services Provided by the City

- **Operating**
  - Storm sewer maintenance
  - Water quality
  - Floodplain Management
  - Development review and inspection services
- **Capital**
  - Stormwater capital projects
  - Stream / channel maintenance

## Operating: storm sewer maintenance



## Operating: water quality



## Operating: development review and inspection services



## Capital: stormwater improvement projects

- Capacity improvements and repairs to aging infrastructure (August 2004 storm)



## Capital: stormwater improvement projects



## Capital: stream / channel maintenance



Cameron Run Dredging

## Capital: stream / channel maintenance



Dredging on upstream face of CSX 7 Culvert Bridge

## Stormwater Regulatory Requirements and Environmental Stewardship Drive Program Needs

- **State & Federal government requirements:**
  - Virginia Stormwater Management Act and Regulations
  - Erosion & Sediment Control Law and Regulations
  - Chesapeake Bay Preservation Act and Regulations
  - Virginia Pollutant Discharge Elimination System stormwater (MS4) permit
  - Combined sewer requirements and permit
  - Total Maximum Daily Loads requirements
  - Virginia and Federal wetlands laws and regulations
  - National Flood Insurance Program requirements
- **Health and safety requirements**

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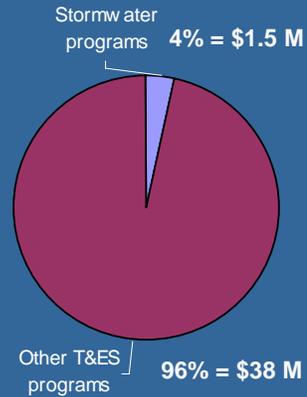
## Stormwater Related Budget Items

- **Operating budgets**
- **Capital Improvement Program (CIP) budgets**

## FY 2009 City Operating Budget and T&ES Operating Budget

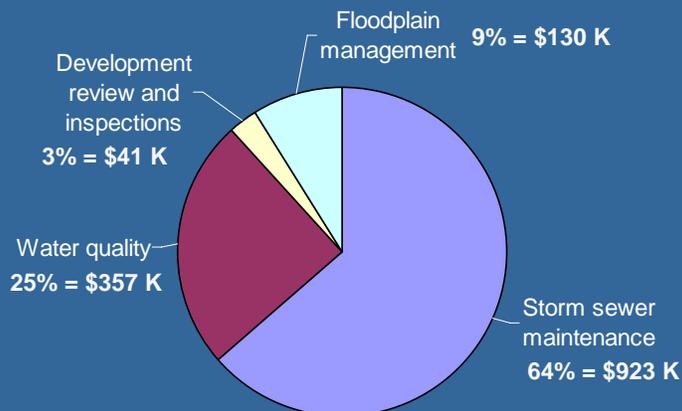


**City Budget: \$542 M**



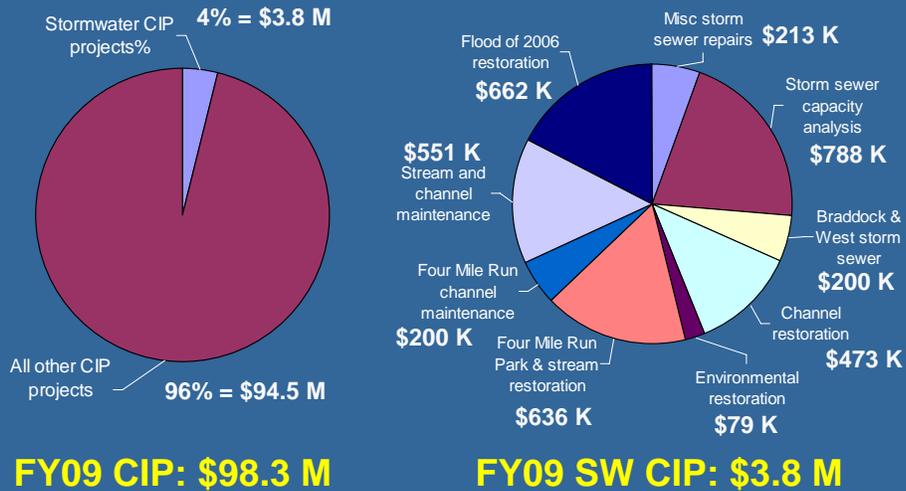
**T&ES Budget: \$39.5 M**

## FY 2009 T&ES Stormwater Program Operating Budgets



**Stormwater Program Operating Budget: \$1.5 M**

## FY 2009 CIP and CIP Stormwater Project Budgets



## How Does the City Fund the Stormwater Program?

- **Current**
  - General fund
  - Permit and plan review fees
  - Bonds
  - Grants
- **Possible future options**
  - Direct taxation
  - Pro rata share
  - Storm water utilities
  - Watershed improvement districts

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## SWG Meeting Topics

- Mtg. 1**
  - SWG framework and meeting schedule
  - Stormwater program overview
  - Current funding

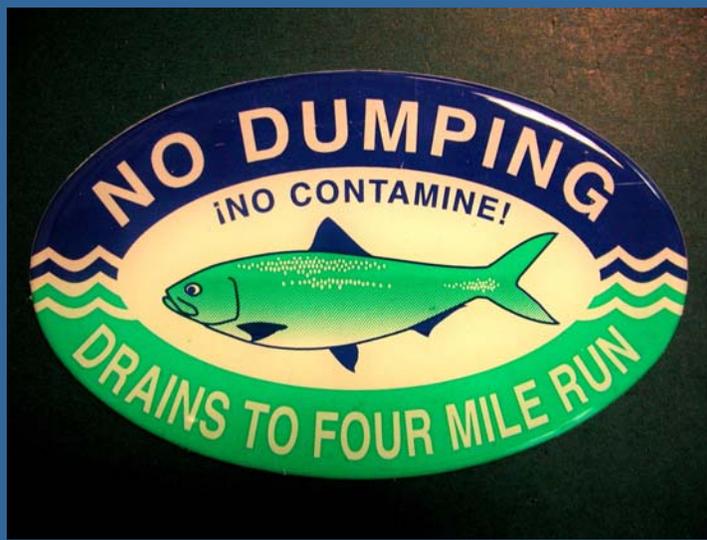
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- Mtg. 2**
  - Stormwater infrastructure and maintenance needs
  - Funding gap between needs and budget
  - Initial discussion of funding options

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- Mtgs. 3 - 5**
  - Optional SWG tour of stormwater projects and infrastructure
  - Discussion of funding options (detailed)
  - Prioritization process
  - Discuss plan for community meetings
  - Findings & recommendations

## SWG Future Meetings

- **Schedule**
  - October 16 and 30
  - November 13
  - December 11
  - January 8 (Tentative)
  - Additional SWG and community meetings (TBD)
- **Future meeting time and location**

## Questions & Answers



## Web Links

- **City budgets**
  - <http://alexandriava.gov/budget/>
- **Eco-city**
  - <http://alexandriava.gov/tes/info/default.aspx?id=12532>
- **City Environmental Quality Department including the Water Quality Management Supplement**
  - <http://alexandriava.gov/tes/oeg/info/default.aspx?id=3844>