

Woodrock Pond

Stormwater Management Retrofit Project



November 13, 2014 Public Meeting

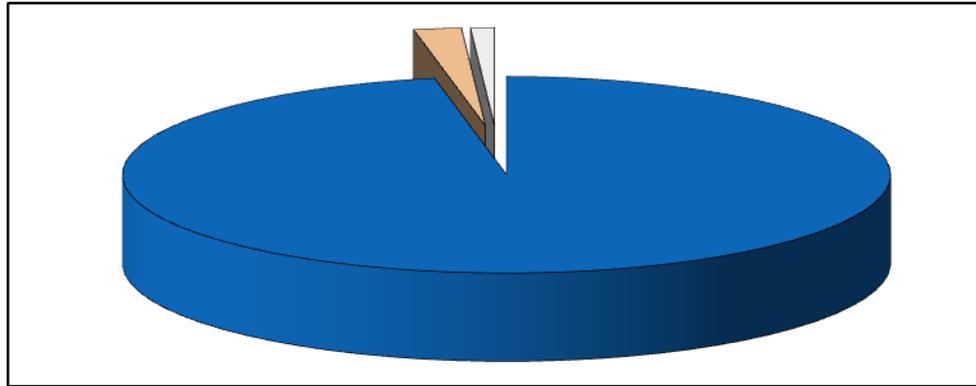
Montgomery County Department of Environmental Protection
Watershed Management Division



Today's Agenda

- Introductions
 - **Mike Lichty– Senior Engineer, Montgomery County DEP**
 - **Darian Copiz – Watershed Planner; Montgomery County DEP**
 - **Zainab Nejati– Project Manager; Montgomery County DEP/JV**
 - **Barton Lamond– Project Designer; A. Morton Thomas**
- Background Information – Why County is Doing This
- Woodrock Pond Stormwater Management Overview
- Project Objectives
- Project Costs and Benefits
- Design and Permitting Timeline
- What to Expect During Construction

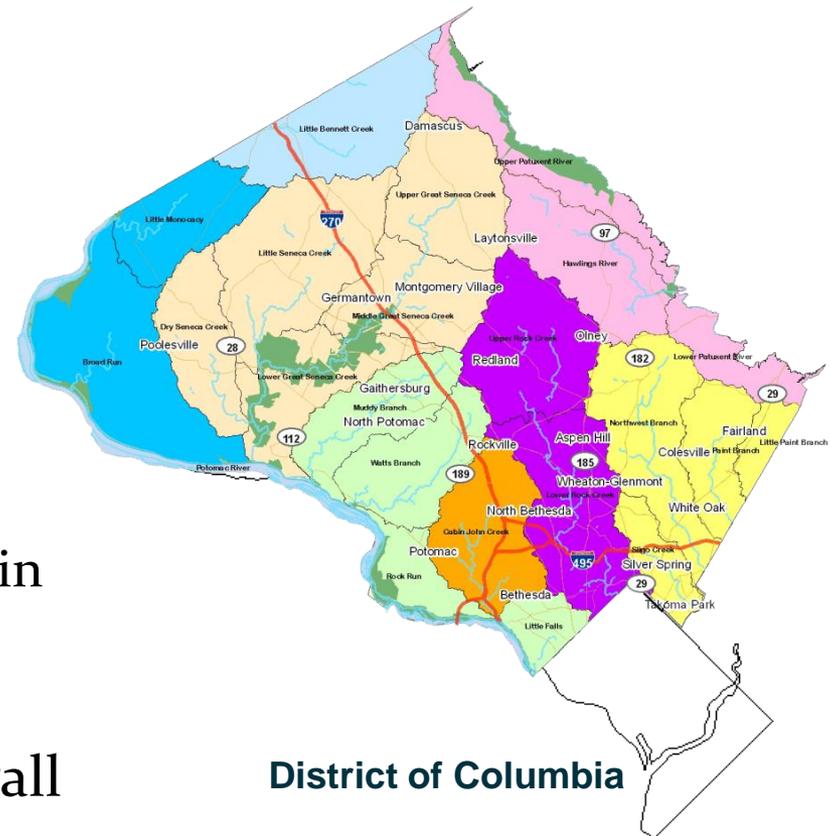
Sources of Water



- About 97% is salt water
- About 2% is frozen
- Only 1% is available for drinking water
 - 95% from groundwater across the Country
 - 32% from groundwater, 68% from surface water in Maryland
 - Potential for greater impacts from runoff in Maryland

Montgomery County, MD

- 500 sq. miles
- Over 1,500 miles of streams
- Two major river basins:
 - Potomac
 - Patuxent
- Eight local *watersheds*
- 1,000,000 people
 - Second only to Baltimore City within Maryland in average people per square mile
- About 12% impervious surface overall
 - About the size of Washington DC



Impervious: Not allowing water to soak through the ground.

What is a Watershed?

- A *watershed* is an area from which the water above and below ground drains to the same place.
- Different scales of watersheds:
 - Chesapeake Bay
 - Eight local watersheds
 - Neighborhood (to a storm drain)

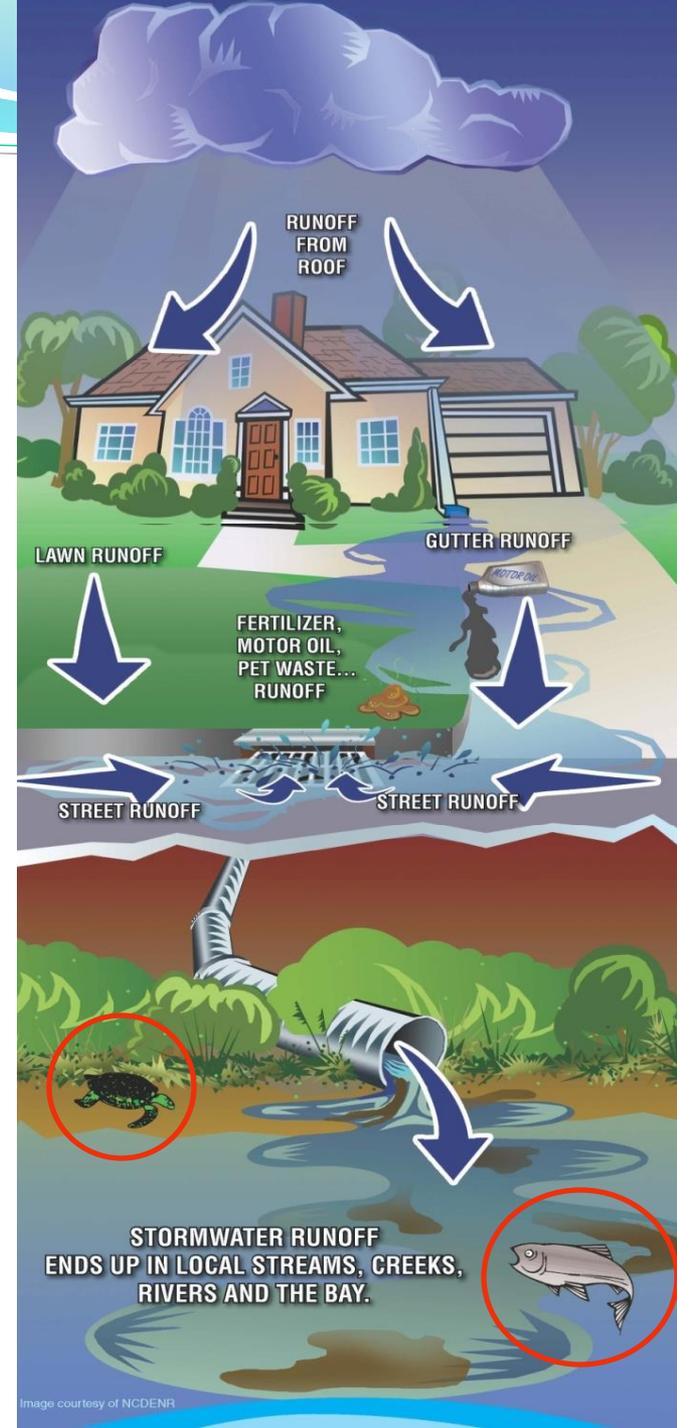


What is Runoff?

Water that does not soak into the ground becomes surface runoff. This runoff flows over hard surfaces like rooftops, driveways and parking lots collecting potential contaminants and flows:

- **Directly into streams**
- **Into storm drain pipes, eventually leading to streams**
- **Into stormwater management facilities, then streams**

Two Major Issues:
Volume/Timing of Runoff
Water Quality



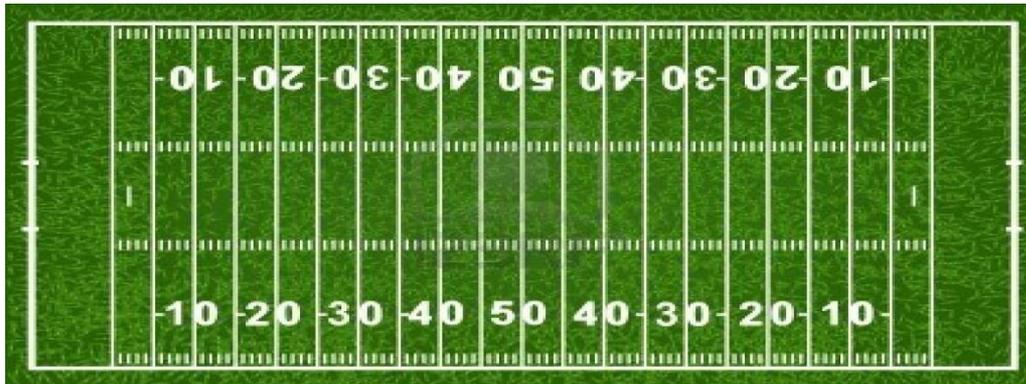
What is the County doing to protect our Streams?

- Must meet regulatory requirements
 - Federal Clean Water Act permit program
 - **MS4 = Municipal Separate Storm Sewer System**
- Applies to all large and medium Maryland jurisdictions

MS4 permit, what is it?

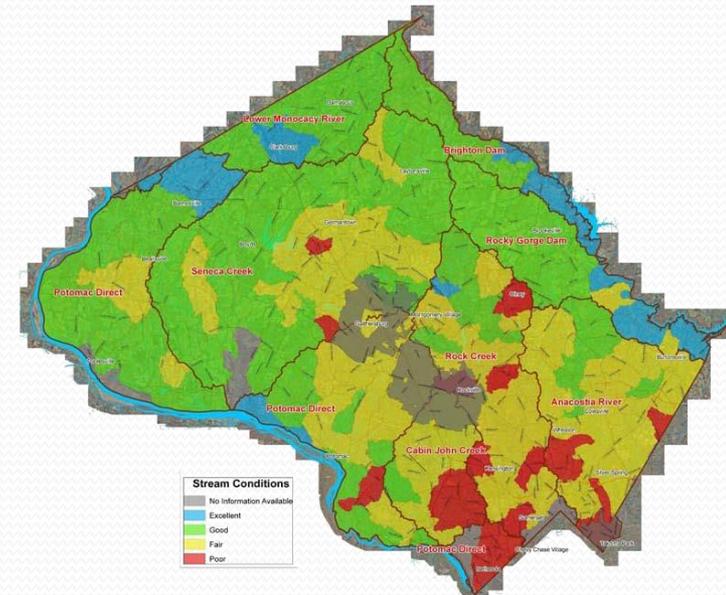
- Montgomery County is responsible for:
 - What goes into our storm drain pipes
 - What comes out of them
 - What flows into the streams
- Requires additional stormwater management for **20 percent** of impervious surfaces (4,292 acres = 6.7 square miles). That's about three times the size of Takoma Park.

That's equivalent to 3,307 football fields!



Meeting the MS4 Requirements

- County programs
 - Restore our streams and watersheds
 - Add runoff management
 - Meet water quality protection goals
 - Reduce pollutants getting into our streams
 - Educate and engage all stakeholders
 - Individual actions make a difference
 - Focus on watersheds showing greatest impacts



Project Selection

- Ponds constructed in early 1980s
- Located in a key watersheds for pond retrofits
- Ponds are at or near the end of service life
- Do not meet current safety and design standards
- Opportunity for water quality treatment and ecological benefits

Project Location

PROJECT LOCATION

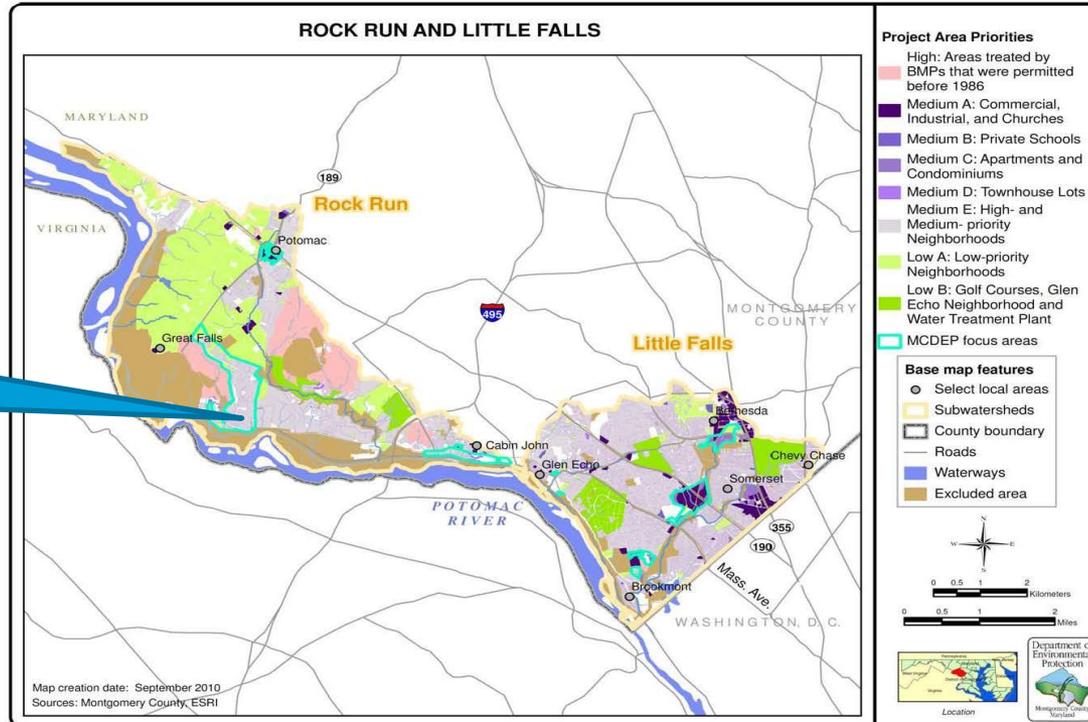
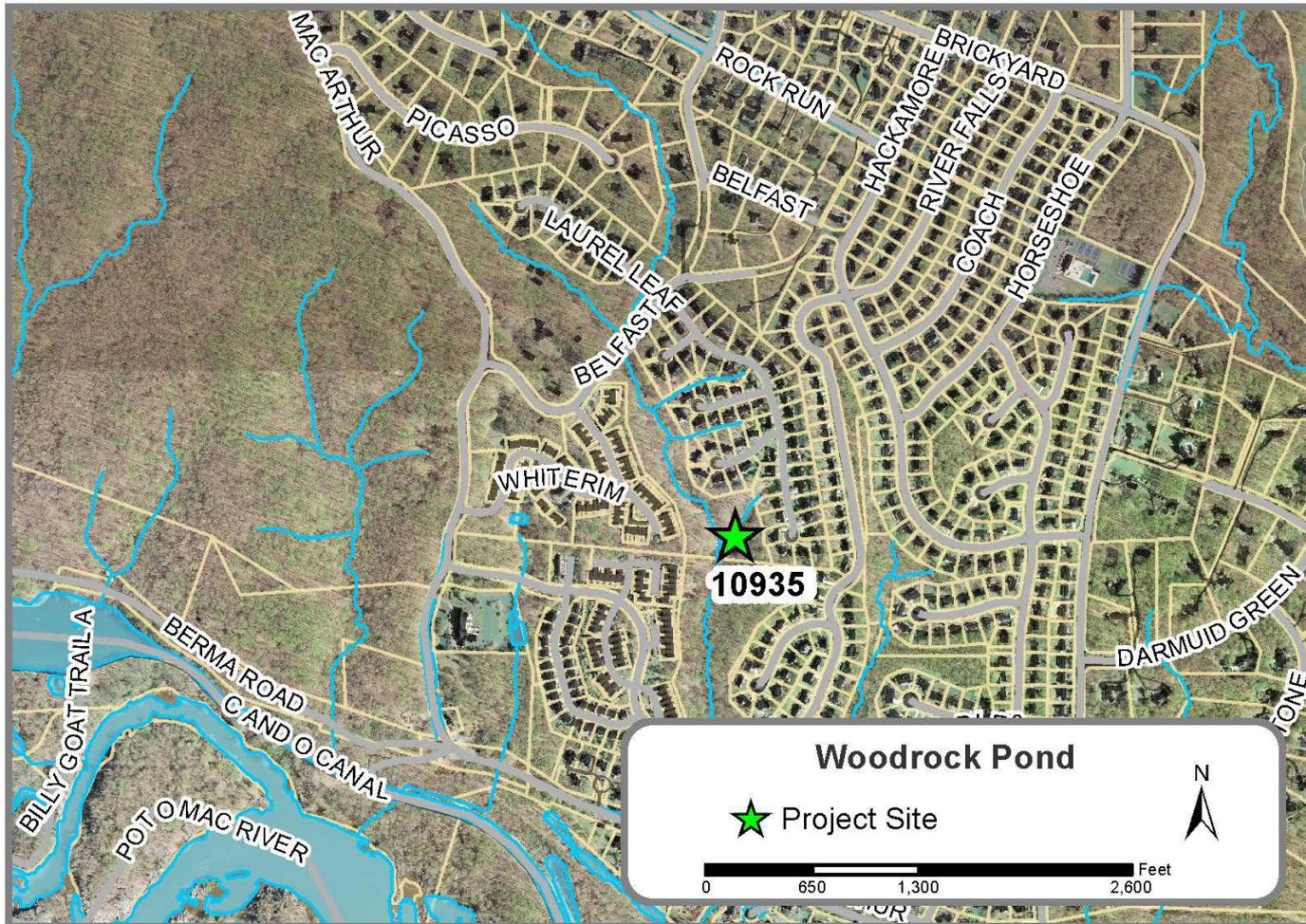


Figure 3-1. Project area priorities for candidate stormwater retrofit in Rock Run and Little Falls subwatersheds, Montgomery County, Maryland

Woodrock Pond



Project Objectives

- STORMWATER MANAGEMENT
 - Add permanent pool for water quality
 - Modify Emergency Spillway
- STREAM PROTECTION
 - Replace riser structure to better regulate pond discharge and protect Unnamed Tributary to Potomac River
- MAINTENANCE
 - Replace existing risers with water-tight structures
 - Install Gabion Walls to prevent sediment from entering pond and to protect new riser structure.
- AESTHETICS/ENVIRONMENT
 - Augment existing environmental features such as forest and wetlands where possible

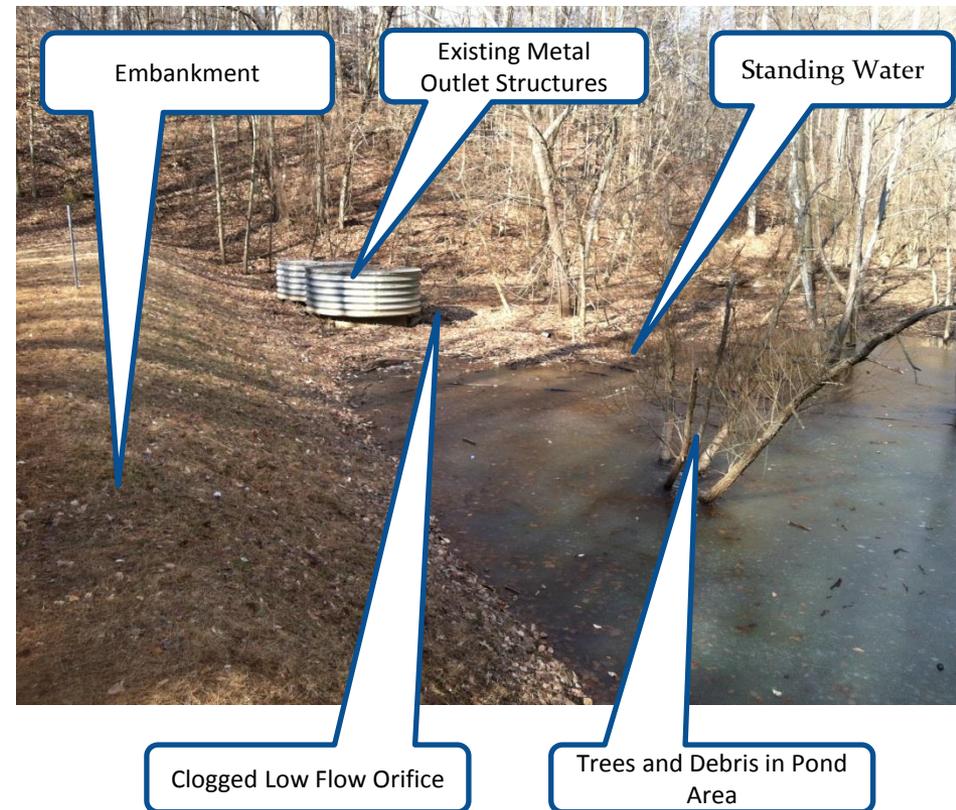
Stormwater Pond Drainage Areas

Asset #	Name	Drainage Area	% Impervious
10935	Woodrock	199.1 Ac	15%

Pond 10935 – Woodrock

- Stormwater Management Dry Pond

- 12' High Earth Embankment Dam
- Adjacent residential properties
- Does not meet current SWM requirements to achieve any MS4 credit.
- Existing Access to Facility



Pond 10935 – Woodrock



Project Objectives - SWM

- Woodrock (10935) –
 - Permanent wet pool for water quality
 - Decrease the intensity of water flowing downstream during higher frequency storms

Project Objectives - Maintenance

- Maintenance
 - Replace existing risers with water-tight structures
 - Install gabion wall to create an upstream forebay
 - Install gabion wall to protect low flow orifice from sediment accumulation



Project Objectives - Aesthetics

- Remove existing trees and debris from inside of the facility



Project Costs

- **Financial** – estimated cost of \$221,000 financed through MCDEP CIP Program using funds generated through the Water Quality Protection Charge.
- **Forest** – tree clearing inside facility to comply with safety laws. No forested areas outside of facility will be disturbed.
- **Traffic** – construction traffic enter and exit roadways Monday – Friday, 7AM to 4PM
- **Neighborhood** – construction traffic and noise will typically occur Monday – Friday, 7AM to 4PM

Project Benefits

- **Water** – improved water quality and stream water temperature through better management of runoff.
- **Environmental** – reduced downstream discharge allows for natural self-repair of stream channel.
- **Recreational** – increased aesthetic appeal of pond.
- **Maintenance** – safer operating structure that will require minimal structural maintenance in future.

Estimated Design and Permitting Timeline

- **Design** - November 2014 – May 2015
- **Approvals** - May/June 2015
- **Permits** - June 2015
- **Bidding** - July 2015
- **Construction** – Spring 2016

What to expect during construction

- **Duration**
 - Approximately 4-5 months
- **Construction Hours**
 - Monday through Friday, 7AM – 4PM
- **Safety**
 - Open sides of site will be fenced with orange construction safety fence to separate construction from residents.
- **Traffic**
 - Minor impacts to traffic from entering and exiting construction traffic and contractor parking during the day.
- **Noise**
 - Contractor is required to comply with Montgomery County Noise Ordinance – site elevation will help alleviate noise pollution.
- **Sediment**
 - Contractor will be required to comply with Montgomery County Sediment Control Permit and not track dirt onto roads



Questions?

For more information:

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