

# Piney Run Tributary @ Lamplighter Way

Stream Restoration Project

Department of Public Works and Environmental Services  
*Working for You!*



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# Agenda

- Introduction to design process
- Project Goals
- Existing Conditions
- Pre-concept Design
- Next Steps
- Contact Information



# Stormwater Program Drivers

- Clean Water Act, 1972
- Municipal Separate Storm Sewer System Permit (MS-4)
- Chesapeake Bay Total Maximum Daily Loads (TMDL)
  - Regulates amount of pollutants in waterways (Nitrogen, Phosphorus and Total Suspended Solids)
- Local TMDLs (sediment, bacteria and PCBs)
- Maintenance of Existing Facilities and public infrastructure
- Public Safety and Emergency Response



# Project Goals

Restore ~1,400 feet by returning the form and function of the channel to dynamic equilibrium and improve the ecological processes of the riparian corridor.

- Stabilize the eroding stream banks
- Water quality improvement
- Sustainability
- Infrastructure protection
- Habitat improvement

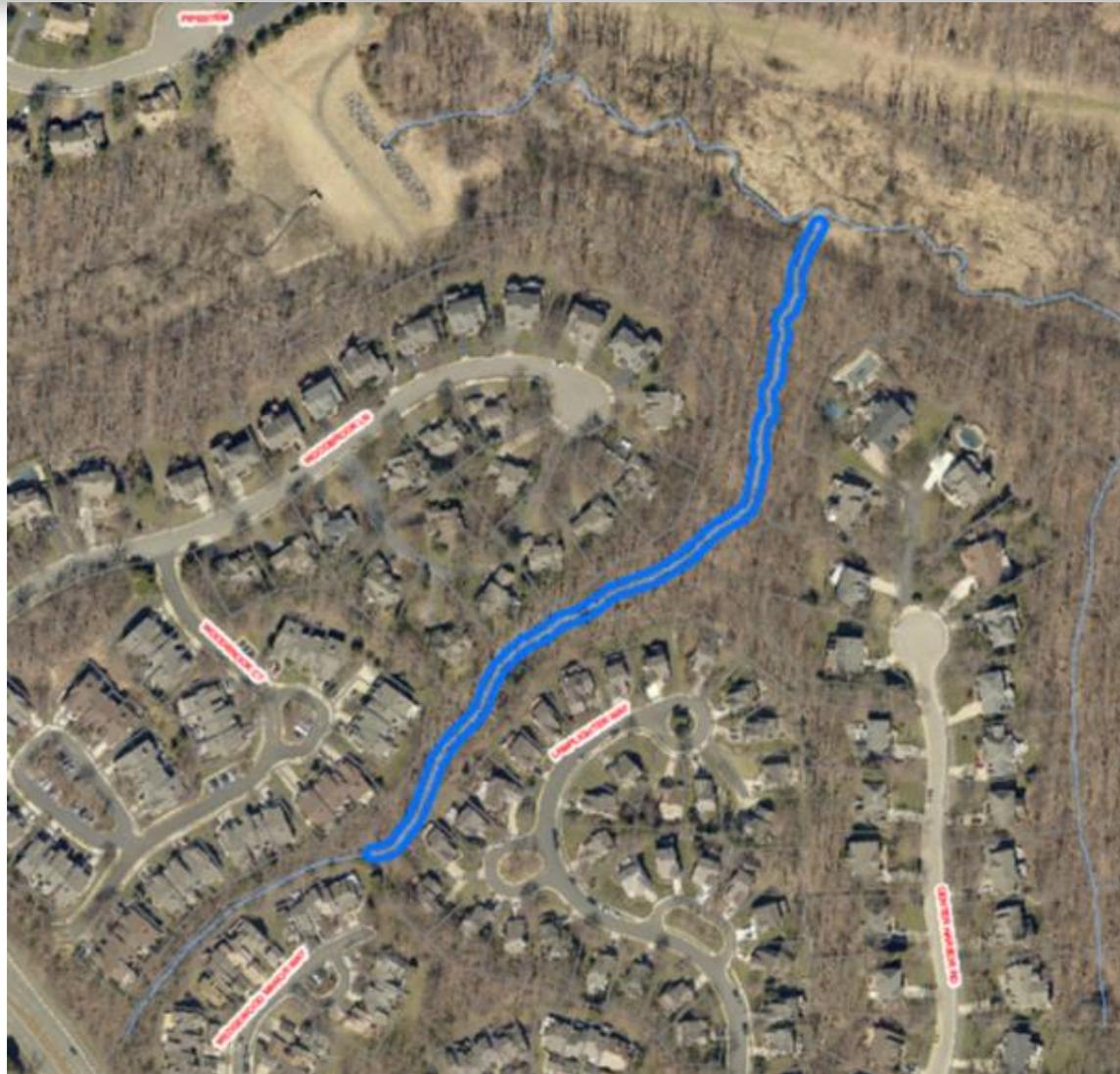


# Social Goals

1. Maintain open communication and share information
2. Coordinate design and construction with property owner, community and stakeholders
3. Build partnerships with local organizations such as HOAs and 'Friends of' groups.
4. Design Team:
  - Stormwater Planning Division
  - McCormick Taylor
  - Reston Association
  - Old Chatham
  - Heather Knoll
  - Wedgewood Manor Cluster
  - Center Harbor Road Residents
  - Urban Forest Management Division
  - Maintenance and Stormwater Management Division
  - Wastewater Collection Division
  - Utilities Design and Construction Division



# Existing Conditions



# Existing Conditions



Raw banks are susceptible to erosion and send sediment and nutrients downstream.

# Existing Conditions



Undercut banks and failing side slopes

# Existing Conditions



Fallen tree due to undercut stream banks

# Existing Conditions



Stream is changing direction causing the footprint to widen

# Existing Conditions



Vertical banks are also safety concerns

# Existing Conditions



Exposed sanitary sewer pipe

# Existing Conditions



Undercut banks and exposed roots

# Existing Conditions



Exposed Sanitary Sewer Line

# Restoration Strategies

- Floodplain reconnection
- Grade control
- Enhance stream habitats
- Stable vegetated banks



Before restoration



After restoration

# Natural Channel Design Features

Regenerative Cascade Pool Complex



Riffle Grade Control



Cascade Structure



Flow Diversity Run



# Natural Channel Design Features

Toe Boulder Protection



Wood Toe Protection



Pool Enhancement Feature



Outfall Stabilization



# Construction Example



# Construction Example

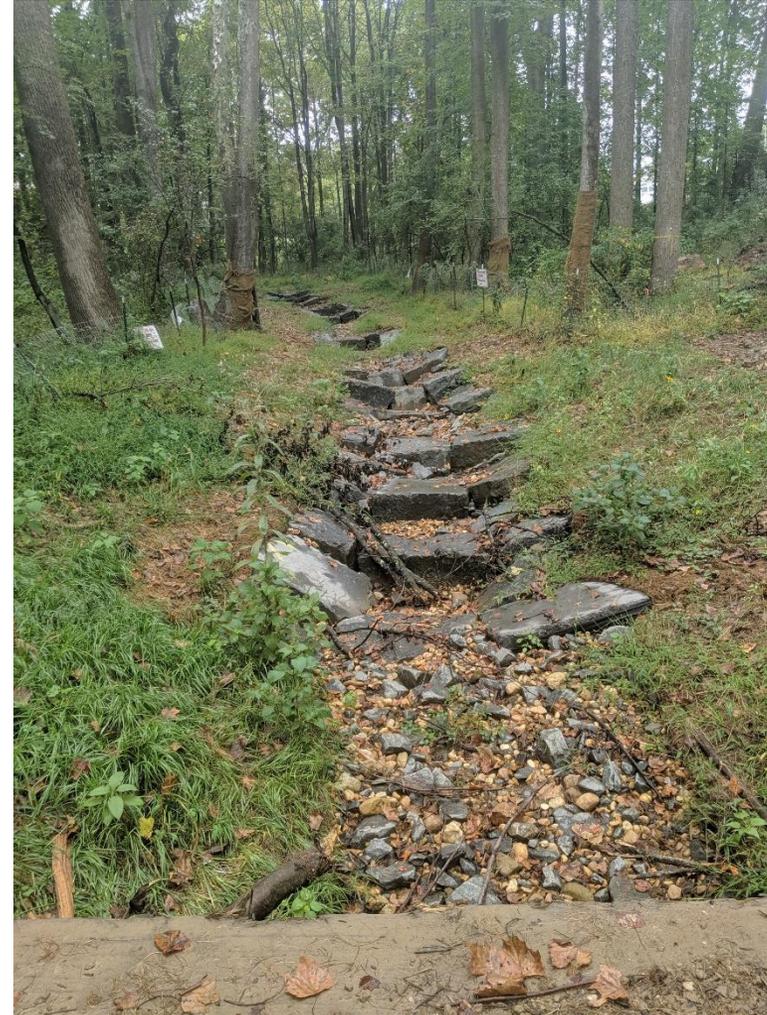


# Construction Example



# Minimizing Forest/Tree Impacts

Difficult Run Tributary @ Brittenford Drive  
Vienna, VA  
Difficult Run Drainage



# Construction Example



# Growing Season Following Construction Completion



# One Year After Construction Completion



# Three Years After Construction Completion



# Before and After Examples

## Big Rocky Run II



Before



After

# Before and After Examples

## Rabbit Branch



Before



After

# What's Next?

- Land Rights are secured: September 2022
- Preliminary Design: November 2022
- Final Design: Spring 2023
- Design Complete: Summer 2023
- Construction: Fall 2023 – Dependent upon future funding



# Contact Information

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[www.fairfaxcounty.gov/public\\_works/stormwater](http://www.fairfaxcounty.gov/public_works/stormwater)

To request this information in an alternate format call 703-324-5500, TTY 711



# Online Resources

## **Stormwater Planning Division Website**

<http://www.fairfaxcounty.gov/publicworks/stormwater/>

## **Fairfax County Watershed Planning**

<http://www.fairfaxcounty.gov/nvswcd/newsletter/planning.htm>

## **Difficult Run Watershed Plan**

<https://www.fairfaxcounty.gov/publicworks/stormwater/difficult-run-watershed>

## **EPA Water Quality Laws & Regulations**

<https://www.epa.gov/wqs-tech/federal-water-quality-standards-requirements>

