

# Comprehensive Stormwater Management Plan

# **Comprehensive Stormwater Management Plan**

9VAC25-870-92. Comprehensive Stormwater Management Plans.

A locality's VSMP authority may develop comprehensive stormwater management plans to be approved by the department that meet the water quality objectives, quantity objectives, or both

**Comprehensive Stormwater Management Program  
Plan for  
Spotsylvania County, Virginia**

**Prepared for:**

Spotsylvania County  
Office of Code Compliance  
9019 Old Battlefield Blvd.  
Suite 300  
Spotsylvania, VA 22553

**Prepared by:**

EEE Consulting, Inc.  
8525 Bell Creek Road  
Mechanicsville, Virginia 23116

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**EEE Consulting, Inc.**

Environmental, Engineering and Educational Solutions

# HISTORY

- 1990's Dr. Michael Bass with UMW noted Spotsylvania streams and creeks had a noticeably/significant reduction in active native mussels within our ecosystem.
- 2015/16 school year - VA Tech's Municipal engineering students performed a feasibility study for the use of freshwater mussels to provide better water quality

# Comprehensive Stormwater Management Plan

The supported findings of the reports by Dr. Bass and the Students from VA Tech's municipal Engineering class lead us to include the reintroduction of freshwater mussels in our Comprehensive Stormwater Management Plan

# IDENTIFIED POTENTIAL SITE

## Site & Background

- Loriella Park  
10901 Leavells Rd  
Spotsylvania, Virginia
- Size: 206 acres
- Includes a 5 acre pond and  
Massaponax Creek



# BENEFITS OF FRESHWATER MUSSELS

- A single mussel can filter 8 gallons of water a day.  
**POND**
- Each mussel can filter a gallon of water or more every day. **RIVER**
- If we look at the filtration capacity, we're potentially looking at **16 to 48 million gallons per mile per day** of water filtered by freshwater mussels. Add the introduction of pond mussels and you can increase it dramatically

# WHAT IS NEXT

## FIRST STEP

Should be 20-26 months

- Survey
- Initial design
- Value engineering for constructability
- Assess permits needed by Federal and State agencies
- Begin Construction

## NEXT FOCUS

Should be continual

- Establish pond mussels and live flow mussels
- Assess alternative forms of farming (mussel raft)
- Assess hazards to the mussels (storm/wildlife)

**CONTINUOUS** – Education and outreach for all levels of K-12, colligate academia, development community, state, federal and local governments. Coordinated with VA Tech and UMW.



# SUPPORTERS

- VA-TECH Land Development Design Institute VA-TECH Cooperative Extension UMW
- VDGIF
- VDCR
- USACoE
- TCCSWCD
- VASWCD
- VDACS
- CBF