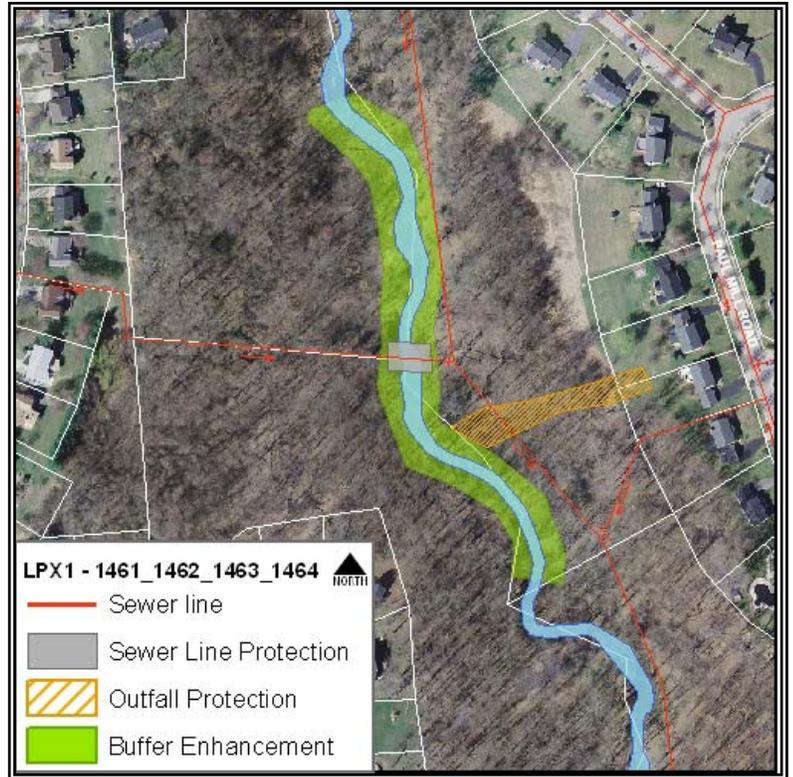


# Proposed Project

**Project Number:** 1461\_1462\_1463\_1464  
**Subwatershed:** Little Patuxent 1

**Project Type:** Utility/Outfall Repair  
**Project Size:** Approx. 1000 linear feet

**Project Location:** Located between Grosvenor Drive and Paul Mill Road



**Project Description:** This project contains areas of localized erosion; although it is likely the channel is naturally adjusting and has a high potential of natural recovery. As a result, it is recommended that this project include stabilization of localized high concern areas paired with riparian buffer enhancement in order to provide natural stabilization to the banks. This project should then be monitored in order to better understand the degree of erosion and establish if a need for restoration exists. This would prevent unnecessary impacts to the riparian buffer and residential properties. The monitoring would include a geomorphic assessment and bank stabilization assessment. The areas that are necessary to address at the current time include an exposed sewer crossing and a highly eroding outfall channel. The outfall should be stabilized with grading that would connect the channel with the floodplain. The eroding bank at the sewer crossing should be stabilized by regrading and placing stone toe protection.

### Project Benefits:

- |               |   |
|---------------|---|
| Stabilization | The banks at the sewer crossing and the outfall channel will be stabilized to prevent further scour. Overall, the banks will be stabilized through riparian buffer plantings. |
| Water Quality | Implementation of this project will provide a reduction in sediment supply and the associated water quality benefits.   |
| Education     | The project could provide educational benefits due to the proximity of the project to adjacent residential areas.   |

### Project Constraints:

- |               |  |
|---------------|--|
| Environmental | Stream/wetland permitting will be necessary and stream closure periods may affect timing of work. Some tree impacts may occur as a result of construction. No major environmental constraints are anticipated with this project. |
|---------------|--|

## Proposed Project

*Upper Little Patuxent*

Property Ownership	This project is located on County owned natural resource open space property (Little Patuxent Ridge and Gray Rock Farm natural resource open space). Private properties that may be impacted by this project include; 3866 and 3870 Paul Mill Road.
Facility Access	Access to this site is obtained from Paul Mill Road and may impact private property. Access would need to be investigated further before going to design.
Design / Construction	A sewer line closely parallels the left bank (facing downstream) prior to crossing the channel. No major design or construction constraints are present.

# Proposed Project

Upper Little Patuxent

**Project Number:** 1461\_1462\_1463\_1464  
**Subwatershed:** Little Patuxent 1

**Project Type:** Utility/Outfall Repair

**Cost Detail:**

ITEM	QTY	UNITS	UNIT COST	TOTAL
<b>Stream Restoration</b>				
Stream patchwork (sewer line protection)	1	EA	\$10,000.00	\$10,000
Buffer enhancement	1,000	LF	\$30.00	\$30,000
Outfall stabilization/protection	325	LF	\$100.00	\$32,500
			<b>Direct Construction Subtotal</b>	<b>\$62,500</b>
<b>Indirect Costs</b>				
E/SC, MOT, MOS (included above)				\$0
Construction Stakeout (2%)	1	LS	\$1,250.00	\$1,250
			Base Construction Cost	\$63,750
			Mobilization (10% of Directs or \$1,000)	\$6,250
			<b>Subtotal</b>	<b>\$70,000</b>
			Contingency (30%)	\$21,000
			<b>Construction Subtotal</b>	<b>\$91,000</b>
			Env't'l Studies / Permitting (5% of Construction or \$5,000)	\$5,000
			Engineering and Surveys	\$56,800
			Pre-Construction Monitoring (\$12/LF over 2 Years)	\$31,800
			Post-Construction Monitoring (\$40 / LF or \$4,000)	\$53,000
			<b>Total Capital Cost</b>	<b>\$237,600</b>
<b>Operations and Maintenance Costs</b>				
Annual Maintenance	5	Percent	\$3,125	
Discount Rate	5	Percent		
Expected Life	5	Years		
			<b>Net Present Value of Annual Costs</b>	<b>\$13,530</b>
			<b>Life Cycle Cost</b>	<b>\$251,200</b>