

ID: CIP 506

Name: Red Rock Channel Stabilization and Sanitary Sewer Protection

Study Area: Red Rock Creek

Location: North of SW Dartmouth Between Winco and Babies "R" Us

Problem Summary

Red Rock Creek is highly developed and has few stormwater detention facilities. Urban runoff is delivered very quickly to the creek and causes erosion.

In this location, fast-moving water has eroded the channel on an outside curve near a sanitary sewer main. The sewer pipe is at risk of exposure. Eroded soils from this location flow downstream and block the culvert under SW Dartmouth Street.

A wall of Envirolok soil bags, which the City used to temporarily stabilize the bank next to the sewer line, is being undermined.

A beaver dam has temporarily slowed flows in this reach, and it is likely slowing the rate of damage. However, an increase in the number of beaver dams in this location could easily cause flooding of business parking lots and is not a good long-term solution.



Project Description

This project is one of a series of projects proposed to mitigate for existing residential and commercial development in the Red Rock Creek watershed that has caused channel erosion, downstream sedimentation and siltation, poor water quality, and localized flooding.

The project will add structural grade controls along 500 feet of the creek upstream of SW Dartmouth between the Winco and Babies "R" Us retail stores.

The grade controls will slow runoff through the reach during storms, decreasing erosion of the channel and banks and alleviating downstream sedimentation.

The area is part of a mitigation area created when the adjacent development was constructed. The project design will need to restore the previous functions of the mitigation site, and the project may be required to provide additional mitigation. The area also contains a vegetated corridor regulated by Clean Water Services, and the relatively healthy riparian area will be protected and enhanced by the project.

Opportunities to coordinate with local businesses to support the stormwater management needs of redevelopment projects may be considered as part of the Tigard Triangle Plan.



Cost Estimate

Design & Permitting

Design (@ 20% of Construction)	\$130,000
Permitting, Basic + Enhanced	\$45,000
Project Administration (@ 12% Construction)	\$75,000
Total Design & Permitting	\$250,000

Construction

Tool Kit	Qty	Unit	Unit Price	Amount
Structural Grade Control	1091	FT	\$270	295,000
Subtotal				\$295,000

Construction Administration	
Mobilization (@ 10% of Construction)	\$65,000
Erosion & Sediment Control (@ 2% of Construction)	\$13,000
Temporary Water Management, Small	\$10,000
Construction Contingency (@ 40% of Construction)	\$260,000
Subtotal	\$348,000
Total Construction	\$643,000

Other Implementation

Easement or Property Acquisition	\$20,000
Environmental Mitigation	\$135,000
Total Other Implementation	\$155,000

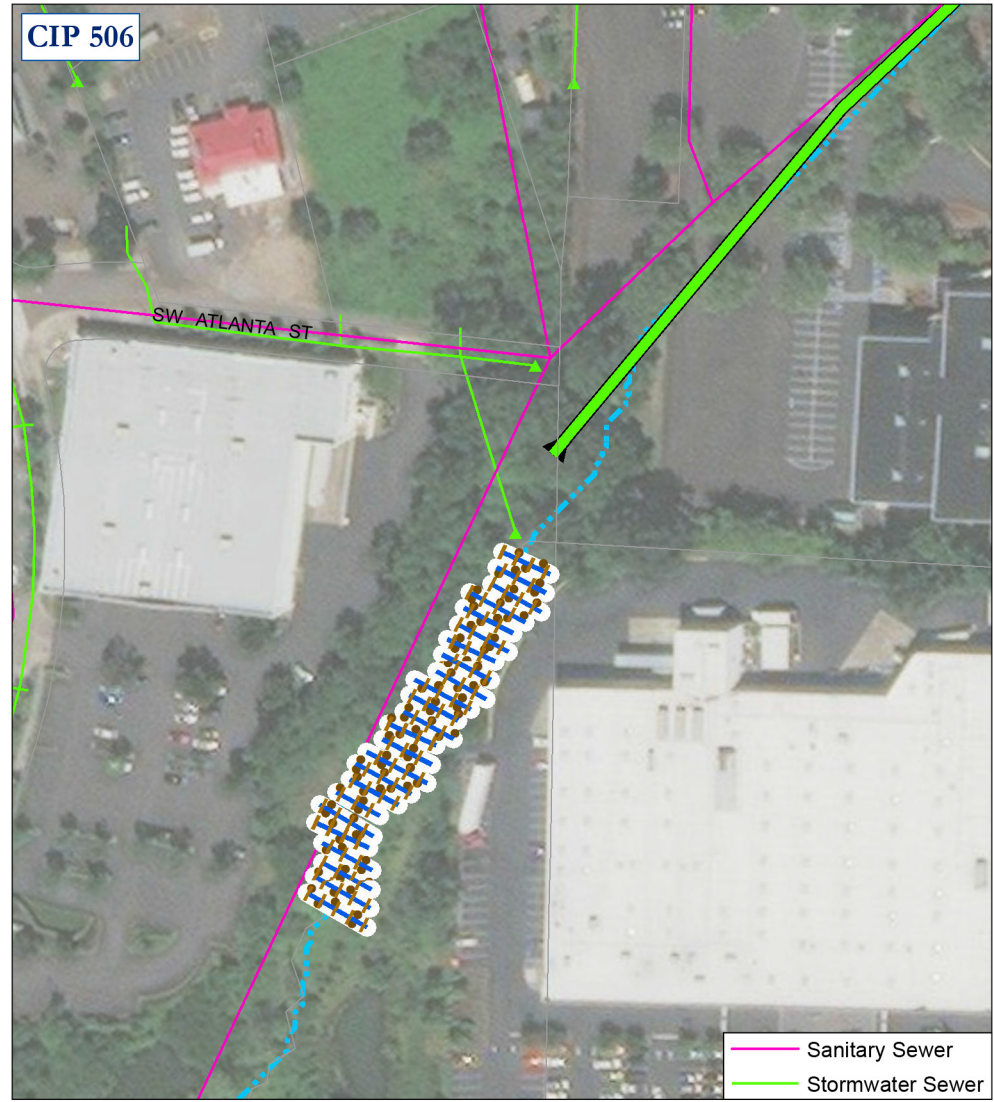
Total Project Cost (Rounded) \$1,050,000

Funding Source

50% Stormwater Fund
50% Sanitary Sewer Fund

Annual Operation & Maintenance

Operation and maintenance costs will be budgeted within the proposed greenway O&M program.



15, Structural Grade Control

