

ID: CIP 503

Name: Red Rock Floodplain Reconnection Upstream West

Study Area: Red Rock Creek

Location: South of Hwy 99 between SW 68th Pkwy and SW 72nd Ave

Problem Summary

South of Hwy 99, Red Rock Creek flows through eight acres of woodland in the Tigard Triangle.

The land drops steeply from SW 68th Parkway to SW 72nd Avenue, and the creek rises quickly and flows fast during storms. The banks are eroded and the creek is incised, showing vertical banks.

The creek has exposed the sanitary sewer line, and the City has had to implement

emergency repairs and temporary stabilization measures in past years.

Instead of frequently flooding the riparian floodplain, storm flows rush quickly down the narrow, deep channel.

Fast storm flows continue downstream, overwhelming the creek channel where the grade flattens. Eroded soils from this location also deposit downstream, blocking culverts and causing flooding.

Project Description

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

The large area of wooded floodplain provides an opportunity to slow and store storm flows to reduce problems downstream.

The project will reconnect the creek to its floodplain. A series of grade controls will slow flows and encourage the stream to flood the undeveloped valley during storms.

At the lower end of the reach, where the stream bed has dropped considerably, the project will also raise the bed using rocky fill material to bring the creek elevation closer to the surrounding floodplain.

The benefits of this project include:

- Protect the sanitary sewer line
- Reconnect floodplain
- Reduce flow velocities that lead to downcutting here and downstream
- Reduce downstream sedimentation, and improve water quality
- Support wildlife habitat



Cost Estimate

Design & Permitting

Design (@ 20% of Construction)	\$180,000
Permitting, Basic + Enhanced	\$45,000
Project Administration (@ 12% Construction)	\$110,000
Total Design & Permitting	\$335,000

Construction

Tool Kit	Qty	Unit	Unit Price	Amount
Streambed Fill	1,260	CY	\$85	\$108,000
Structural Grade Control	1,107	FT	\$270	\$299,000
Subtotal				\$407,000

Construction Administration

Mobilization (@ 10% of Construction)	\$90,000
Erosion & Sediment Control (@ 2% of Construction)	\$18,000
Temporary Water Management, Medium	\$25,000
Construction Contingency (@ 40% of Construction)	\$360,000
Subtotal	\$493,000
Total Construction	\$900,000

Other Implementation

Easement or Property Acquisition	\$40,000
Environmental Mitigation	\$90,000
Total Other Implementation	\$130,000

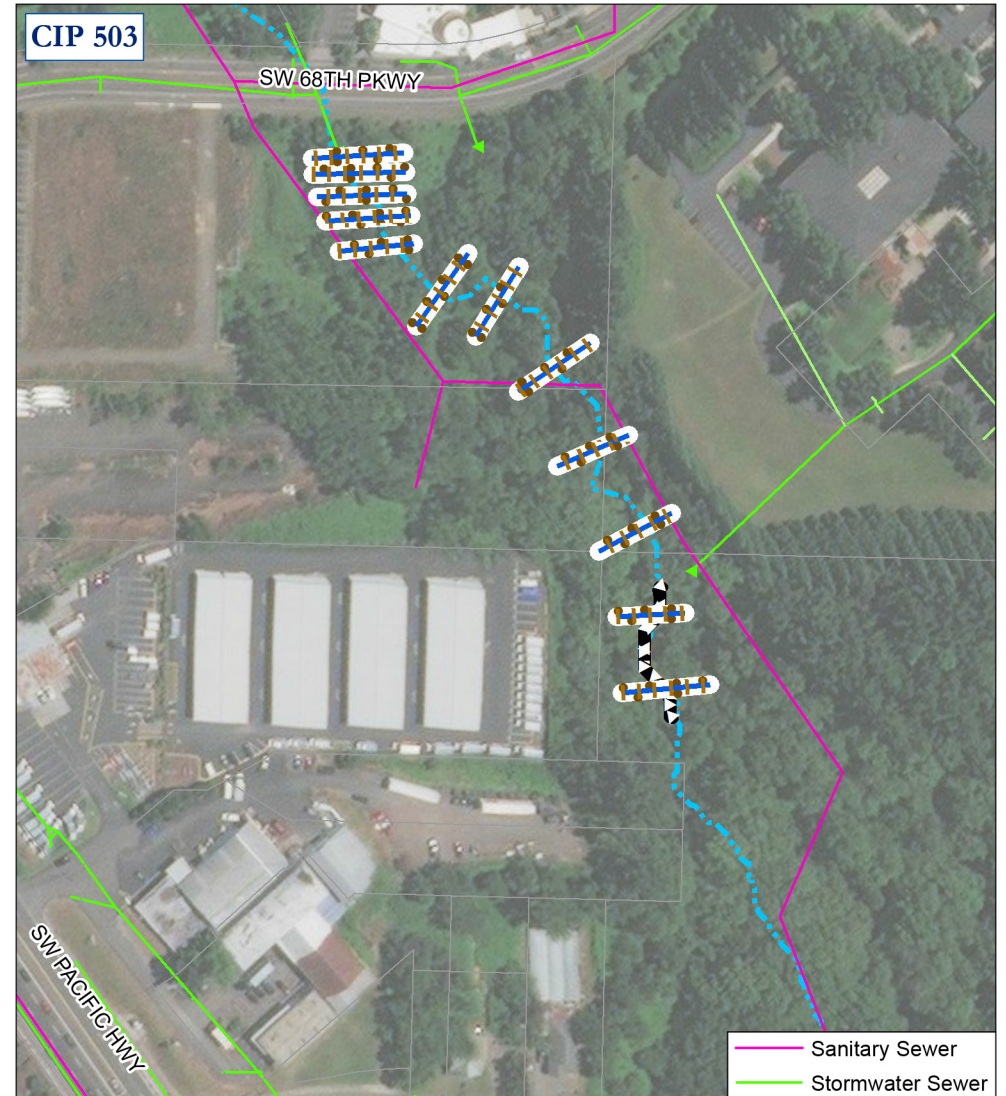
Total Project Cost (Rounded) \$1,375,000

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.



- 14, Streambed Fill
- 15, Structural Grade Control

