

ID: CIP 306

Name: Derry Dell Creek East Stream & Culvert Improvements

Study Area: Bull Mountain

Location: Between SW Gaarde Street and SW Genesis Loop

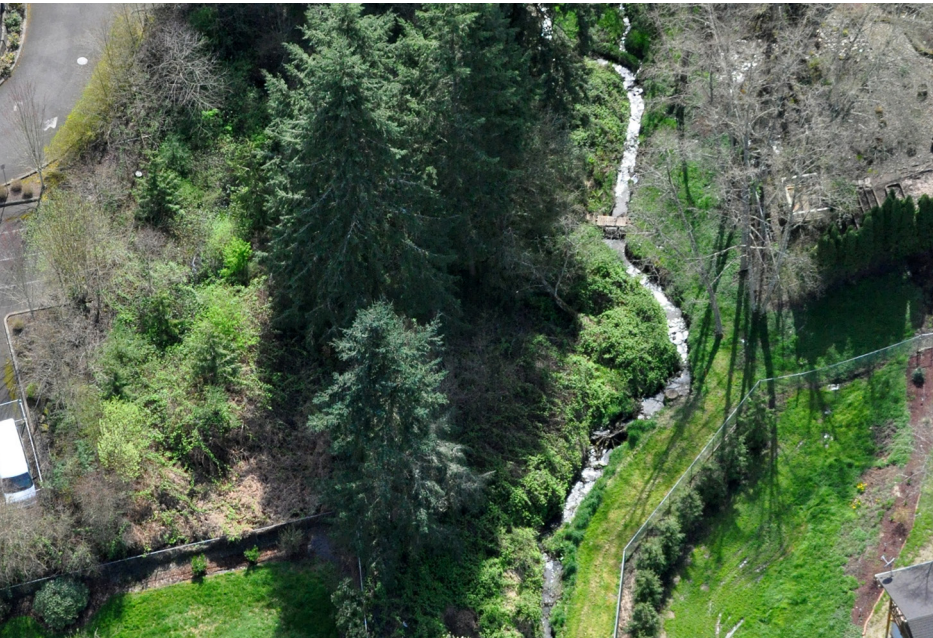
Problem Summary

The eastern headwaters of Derry Dell Creek begin just south of SW Gaarde Street at SW 112th Avenue. The creek flows north through private property until it enters the Pathfinder Genesis Greenway at SW Fairhaven. Flooding is frequent through this reach, and erosion has exposed a sanitary sewer main.

The culvert under SW Gaarde Street is frequently clogged with debris and silt. The City has placed metal rods in front

of the culvert as a temporary solution to preventing debris and silt from entering. Build-up behind the rods has created an 8" drop into the culvert. The pipe has rusted and needs replacement. Lack of energy dissipation below the culvert has resulted in channel erosion downstream.

Many acres of dense residential development drain to Derry Dell Creek without any water quality treatment, resulting in poor water quality.



Project Description

The project includes the East Fork Derry Dell Creek project in the Sanitary Sewer Capital Improvement Program (CIP).

The project will improve water quality and help prevent upstream flooding resulting from blocked culverts. It will protect nearly 3,000 feet of channel from erosion.

Scour protection will be added at eight outfalls to protect the bank and channel from erosion caused by fast-moving water discharging from the pipes. Pre-settling basins will also be constructed at the SW Viewmount Court and Genesis Loop outfalls. These will reduce sediment from polluted urban runoff as well as

slow down the runoff discharging from the outfalls.

North of SW Gaarde Street and north of SW Fairhaven Street, the project will add structural grade controls to slow down flows and protect the channel and banks from erosion and landslides. The structures will also protect the sewer main and the Pathfinder Genesis Trail from being exposed or undermined.

Benefits of this project include:

- Improve water quality
- Reduce flooding
- Protect private property, a sewer main, and a public trail from erosion



Cost Estimate

Design & Permitting

Design (@ 20% of Construction)	\$295,000
Permitting, Basic + Enhanced	\$65,000
Project Administration (@ 12% Construction)	\$175,000
Total Design & Permitting	\$535,000

Construction

Tool Kit	Qty	Unit	Unit Price	Amount
Outfall Scour Protection	8	EA	\$5,100	\$41,000
Pre-settling Basin	2	EA	\$6,000	\$12,000
Storm Sewer Pipe, 24-in to 30-in	167	FT	\$120	\$21,000
Structural Grade Control	2,124	FT	\$270	\$574,000
Subtotal				\$648,000

Construction Administration

Mobilization (@ 10% of Construction)	\$150,000
Erosion & Sediment Control (@ 2% of Construction)	\$30,000
Temporary Water Management, Large	\$50,000
Construction Contingency (@ 40% of Construction)	\$585,000
Subtotal	\$815,000

Total Construction \$1,463,000

Other Implementation

Easement or Property Acquisition	\$70,000
Environmental Mitigation	\$200,000
Total Other Implementation	\$270,000

Total Project Cost (Rounded) \$2,275,000

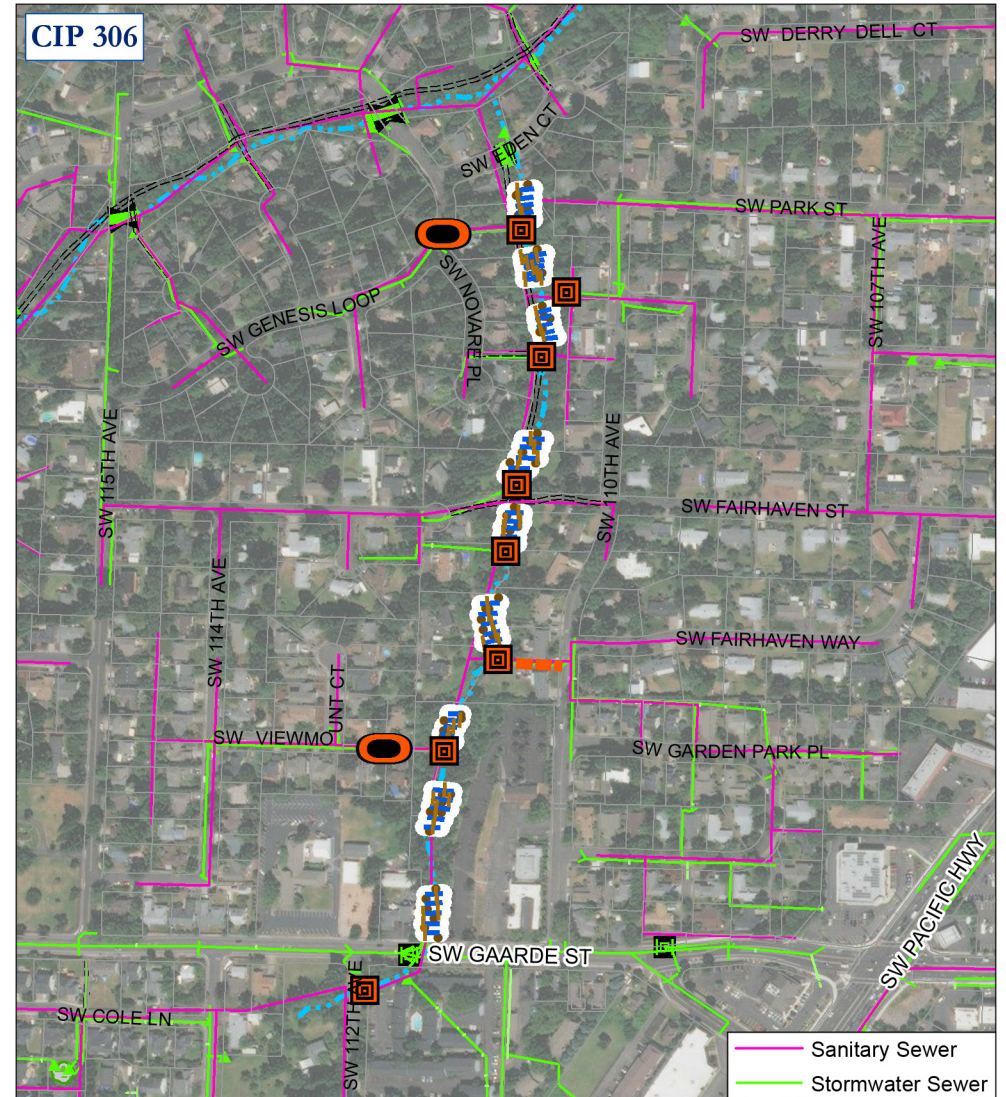
Funding Source





The majority of the upstream portion of this project to SW Fairhaven St is currently funded as project 17CIP-06 in the Sanitary Sewer CIP. Costs will be divided between the Stormwater Fund and the Sanitary Sewer Fund.

Annual Operation & Maintenance

Operation and maintenance costs will be budgeted within the following programs:

- Ongoing routine stormwater facility maintenance program
- Proposed culvert assessment and maintenance program
- Proposed greenway O&M program



-  8, Outfall Scour Protection
-  12, Settling Basin
-  13, Storm Sewer Pipe
-  15, Structural Grade Control

