



Tigard Triangle Stormwater Implementation Plan



Problem Statement

The City is focused on redevelopment activity in the Tigard Triangle, an area bound by Interstate 5, Hwy 99 and Hwy 217. New development code aims to simplify the process for parcels to develop and re-develop in this area and to support a desire for a transit-oriented, pedestrian and bike friendly environment. The City's vision for this area includes an enhanced greenway and trail along Red Rock Creek.

Most of Tigard Triangle is situated in the Red Rock Creek basin. Large areas of pavement from commercial, industrial, box store, and large office development generates large volumes of stormwater runoff delivered very quickly to Red Rock Creek. Three major transportation facilities drain into the area including I-5, Hwy 99, and Hwy 217. The result is a very flashy and erosive stream network.

The creek has incised, disconnecting it from the floodplain. The floodplain is squeezed by development and altered in many sections. Upper reaches flow through

moderately steep terrain while lower reaches are quite flat. Water levels in the creek can increase by 8 to 10 feet within 10 or 15 minutes during heavier rainfall events.

A sanitary sewer trunk line runs parallel to Red Rock Creek for most of its length. Channel incision has resulted in tall, unstable stream banks and stream bed elevations that are below the sewer line in several locations. When the stream bank fails it can result in a broken sewer line. There have been six line breaks or severe exposures in the last eight years.

The map on the back shows the Tigard Triangle Plan Area, the primary drainage routes through the area, the drainage divide between each drainage route, and the area inside and outside the Tigard Triangle that contributes stormwater runoff to the different streams.

Recommendation

The recommendation is to develop a Tigard Triangle Stormwater Implementation Plan to support redevelopment and transportation improvements while also supporting improvements to water quality and stream condition. In a recent Tigard Triangle Development Survey of 300 Tigard residents, restoring the creek in the Tigard Triangle was seen as the most important potential benefit, closely followed by building new streets and sidewalks and replacing a major sewer line in the Triangle.

Strategy A – This strategy applies to areas north of SW Dartmouth Street. Low Impact Development Approaches (LIDA) are to be utilized on individual redevelopment sites to meet water quality standards. Water quantity would be achieved through stream and floodplain restoration actions in Red Rock Creek. It is recommended that a minimum greenway width be established. The greenway can be expanded in areas for other purposes, such as water quality facilities, recreation, etc.

Strategy B – This strategy applies to areas south of SW Dartmouth Street that drain to Red Rock Creek. LIDA are to be utilized on individual redevelopment sites to meet water quality standards. Water quantity would be achieved through enhancement of a regional storage solution where stormwater is already collecting in a wetland area on the east side of Hwy 217.

Strategy C – This strategy applies to the area that drains to Ball Creek. LIDA are to be utilized on individual redevelopment sites to meet water quality standards. Water quantity would be through on-site stormwater detention.

A more detailed stormwater implementation plan should be prepared for the Tigard Triangle. The Implementation Plan would include the following:

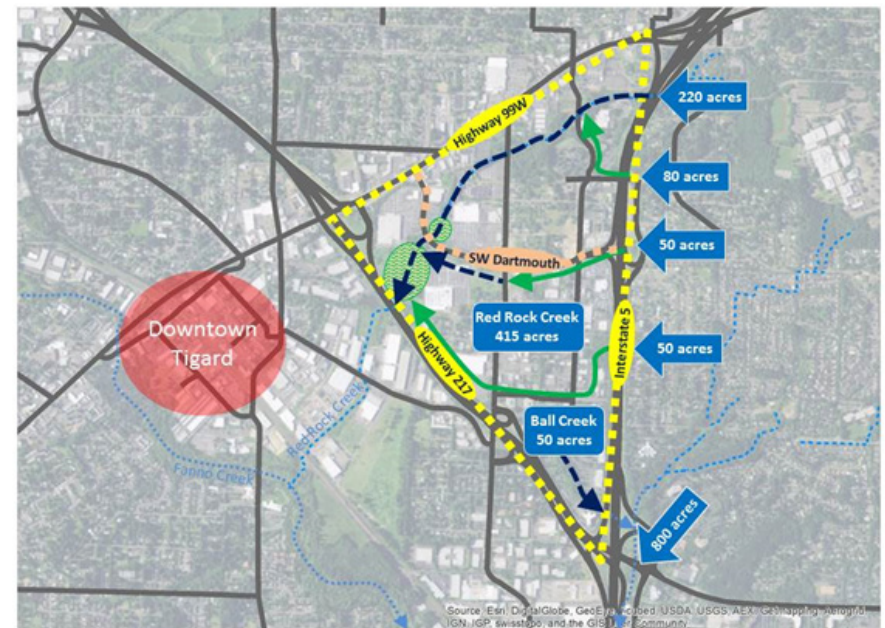
- Detailed data collection (channel profile, cross-section, outfalls)
- Delineation of jurisdictional wetlands and waters in project limits
- Hydrologic modeling and hydraulic modeling to define the 100-year floodplain
- Conceptual facility sizing and design (Strategy Area A & B)
- Preliminary Cost Estimates
- Phasing and sequencing recommendations tied to redevelopment actions
- Refinement of costs in the CIP for the projects tied to Red Rock Creek and to serve the Tigard Triangle area
- Recommendations for revisions to standards or city code specific to Tigard Triangle

Additional recommendations regarding strategy and recommended capital improvements for the Tigard Triangle can be found in the Red Rock Creek Study Area Fact Sheet.

Cost Estimate

One-Time Costs

Items	Qty	Unit	Unit Price	Total
Professional Services	1	CONTRACT	\$130,000	\$130,000
Project Administration, 15% of services				\$20,000
One-Time Total				\$150,000



Tigard Triangle Map

