



PROJECT OF THE YEAR: ENVIRONMENT LESS THAN \$5 MILLION

Squalicum Creek Reroute

Managing Agency: City of Bellingham, Washington

Primary Contractor: Trimaxx Construction, Inc.

Primary Consultant: Interfluve, Inc.

Nominated By: City of Bellingham, Washington

The Squalicum Creek Reroute project implements high-priority restoration actions that will directly improve temperature, dissolved oxygen, sediment transport, salmon habitat, and public health in Squalicum Creek by working collaboratively to prevent water pollution at its source. The project addresses the highest thermal loading issues in Squalicum Creek and exceeds the recommended implementation plan in the Squalicum Creek Temperature TMDL, as well as supporting implementation of Channel Migration Zone (CMZ) regulatory protection.

The reroute project is the most cost-effective way to address the highest thermal loading issues in Squalicum Creek. The Squalicum Creek Temperature TMDL allocated shade based on current stream width with the goal of attainable effective shade. The project dramatically decreased stream width from an average width of 375 feet through Sunset Pond to 20

feet across in the new channel. This goes beyond meeting the target of 0-20% effective shade from a very wide water body to meeting full riparian conditions providing 45% effective shade over a 20-foot stream channel.

This decreased residence time of the water in the ponds and thus decreases thermal loading, which, in turn, improves dissolved oxygen. Creation and enhancement of riverine wetlands adjacent to the channel provide filtering. The project will establish mature vegetation over time and the warm and low-oxygen-content waters of Bug Lake and Sunset Pond are effectively circumvented.

Rerouting the water flow simultaneously improves Endangered Species Act fish habitat because it bypasses and decommissions deleterious areas such as passage barriers, degraded channels, and toxic point sources. The project opens over 22 miles of upstream spawning and

rearing habitat by circumventing two fish passage barriers.

The Reroute project is a prime example of sustainable restoration design. The new creek winds through a wet forest and is designed to dynamically interact with its floodplain and evolve as unconstrained streams always do. The placement of large woody debris, scour pools and remnant channels are designed to mimic a stream that is cutting into the bank. Hydraulic capacity for the new channel is the 1.5-year storm event and assumes that the creek will regularly overtop its banks and will maintain the connectivity with the surrounding wetlands and wet forest.

All restoration plantings of disturbed areas are trees and shrubs that are native to this region. When mature, they will provide shade to the stream, habitat, and bank stabilization. When they die they will naturally replenish the large woody debris within the creek while still providing habitat.

