

VEGETATION RESTORATION PLAN

I-90 Yakima River Bridges Project Kittitas County, Washington

Bridge 90/140 (MP 86.04 to 86.52) East of Cle Elum
Bridge 90/154 (MP 102.24 to 102.84), West of Ellensburg

Washington State Department of Transportation
South Central Region

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Executive Summary

The Washington State Department of Transportation (WSDOT), South Central Region, proposes to rehabilitate the pavement of Interstate 90 (I-90) from milepost (MP) 86.04 to 86.52 (including the eastbound and westbound decks of Bridge 90/140 near Cle Elum) and MP 102.24 to 102.84 (including the eastbound and westbound decks of Bridge 90/154 near Ellensburg). Both bridges cross the Yakima River.

Construction requires riparian vegetation to be cut, but not grubbed, within the WSDOT right of way. This vegetation, located within the WSDOT right of way (ROW) is managed in order to maintain a clear zone near the bridges. As such, baseline tree density and tree size within the ROW is less than riparian stands outside the ROW.

Although it is anticipated that plants will resprout once construction is complete, woody plantings will be added to the disturbed areas to ensure rapid recovery of those baseline riparian functions present within the ROW.

An estimated 0.47 acres of riparian habitat will be restored by installing native tree pole clusters to groundwater level at 20-foot centers. Plantings will be subsequently monitored, and adaptively managed, for five years by WSDOT.

Need new acreage

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Introduction

This report describes restoration of riparian vegetation impacted within the Washington State Department of Transportation (WSDOT) right of way (ROW) by construction activities associated with the I-90 Yakima River Bridges Project, hereinafter referred to as “project.”

Proposed Project

The project proposes to rehabilitate the pavement of Interstate 90 (I-90) from milepost (MP) 86.04 to 86.52 (including the eastbound and westbound decks of Bridge 90/140 east of Cle Elum) and MP 102.24 to 102.84 (including the eastbound and westbound decks of Bridge 90/154 west of Ellensburg). Both bridges cross the Yakima River (river).

Since bridge decks must be closed to traffic during work, a temporary work platform and temporary detour bridge must be constructed within the median, requiring riparian vegetation removal¹. Installation of bridge joint supports near the abutments may also require vegetation removal in the outer ROW of the Ellensburg bridge. Construction is scheduled for three seasons, with equipment access below the ordinary high water mark (OHWM) required. Work will be potentially phased as follows:

2018

- build temporary bridge approaches in the I-90 median on both sides of the river, and construct a temporary work platform, temporary detour bridge between the EB and WB bridge decks, and bridge joint supports. These structures will include no more than 40 in-water piles.

2019

- route WB traffic onto the detour bridge,
- grind and repave the WB bridge deck,
- open the WB bridge to traffic,
- route EB traffic onto the detour bridge,
- grind and repave the EB bridge deck, and
- open the EB bridge to traffic.

¹ Trees within the right of way are managed in order to maintain a clear zone near the bridges. As such, the tree density and size within the ROW is less than riparian stands outside the right of way.

2020

- remove the work platform, detour bridge, and median bridge approaches, and
- restore disturbed areas.

The existing banks, armored with rip rap, are too steep for equipment access, so temporary access ramps must be built. Riparian vegetation will be cut (not grubbed) to clear the work area footprint, which includes the access ramps (imported fill) and construction footprint below the OHWM, but outside the wetted width of the river.

Before fill material is placed, hog fuel (wood chips) will first be spread to provide a barrier between import fill material and native riverine substrate. When import fill is removed, any residual hog fuel can remain in place, since it is an environmentally clean and will break down, adding organic material to the river system.

A precise estimate on vegetation acreage to be removed will be known once the project design is finalized by the contractor. For this reason, the vegetation impact footprint (0.47 ac) presented in this restoration plan is a worst-case estimate, likely be reduced in the final design, because the contractor will be required to minimize vegetation removal to the greatest extent practicable.

Woody vegetation may resprout after fill material is removed. However, given the lack of certainty that the site will fully recover on its own, plantings will be added to accelerate recovery of riparian baseline functions within the ROW.

Proposed Restoration

According to recent geotechnical data, the groundwater elevation below the OHWM closely mirrors river elevation. Given the shallow depth to groundwater, WSDOT proposes to install clusters of native trees to groundwater depth within the disturbed areas, at an average density of 20 feet on center.

Goal 1: Restore disturbed riparian areas along the Yakima River.

Objective 1: Establish Native Woody Vegetation

Install native, woody, palustrine scrub-shrub (PSS) and/or palustrine forest (PFO) species² within disturbed areas of the WSDOT right of way, totaling approximately 0.47 acres (refer to Attachments 1 and 2).

² Most likely willow and/or cottonwood.

Performance Standards

Year 1: Native, woody plant survival, planted and/or volunteer, shall equate to an average of at least two plants and/or stems per 315 square feet³. If dead plants are replaced to meet this average, the performance measure will be met for year one.

Year 3: Native, woody plant survival, planted and/or volunteer, shall equate to an average of at least three plants and/or stems per 315 square feet. If dead plants are replaced to meet this average, the performance measure will be met for year three.

Final Year 5: Native, woody plant survival, planted and/or volunteer, shall equate to an average of at least four plants and/or stems per 315 square feet. If dead plants are replaced to meet this average, the performance measure will be met for final year five.

Objective 2: Weed Control

Years 1-5: County-listed Class-A noxious weeds shall be removed from the site, when observed. All other non-native plant species will be managed, as applicable, and in a manner, so that they do not inhibit establishment and growth of desirable plants.

Monitoring, Management, and Reporting

An as-built planting plan shall be submitted within 30 days of initial planting, after which WSDOT will monitor, and adaptively manage, the site for five years.

Monitoring reports shall be submitted to the Corps by December 31 of monitoring years one, three, and five. The monitoring report shall include the status of the site per Objectives #1 and #2.

If, at any time, establishment of woody vegetation fails due to natural river processes (e.g., high flows, scour), or other unforeseen circumstances (e.g., vandalism, fire), WSDOT will notify the Corps to discuss.

³ Cluster plantings will be installed 20-feet on center, with offset radii of 10 feet, equal to a circular area of 315 square feet around each planting.

Attachment 1. Bridge 90/140 East of Cle Elum



Attachment 2. Bridge 90/154 West of Ellensburg

