



Bowers Rock Floodplain Restoration

July - October 2020





PROJECT OVERVIEW

Location: West of Albany on Willamette River

Goal: Increase connection between Willamette River and its historic floodplain to benefit Threatened salmonids

Strategy: Modify existing gravel pit along WR to act as analog for lost off-channel habitat and remove floodplain barriers

Official Start Date: August 31st, 2020 **Contractor Selected:** BCI Contracting Inc.



0 500 1,000 2,000 Feet

Map created by T Davis, Calapooia Watershed Council, August 2012
Data Sources: DOGAMI LIDAR, Linn County, River Design Group
2012 Floodplain inundation Imagery from Eagle Digital



2012 Flooding- Eagle Digital Aerials
Willamette-Calapooia Landowner Recruitment

Public Lands
Streams
Roads
Citylimits

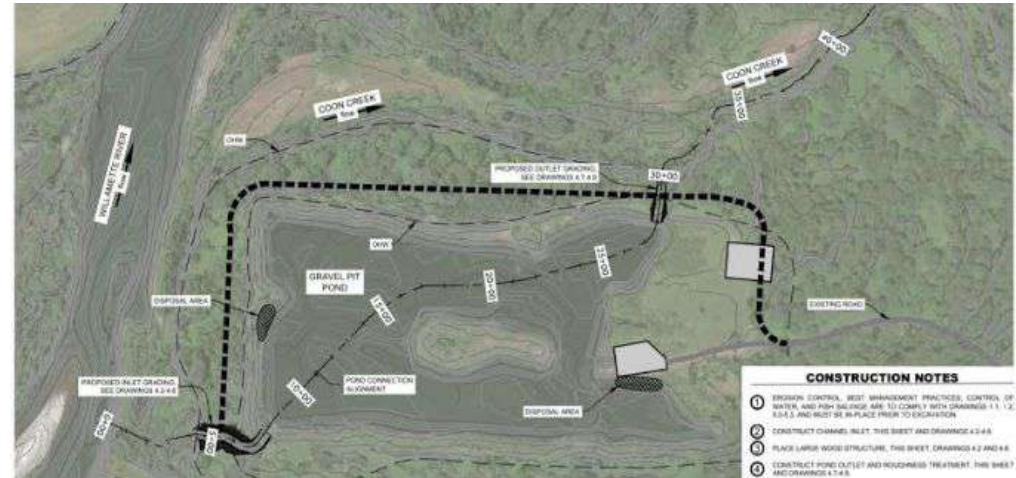


Materials staged for channel construction



Bowers Implementation: Initial Steps

1. Complete modifications to entrance road / SW Bryant Way
2. Stage materials
3. Construct temporary crossing
4. Build access road around pond to inlet and outlet channels



New Gravel on
SW Bryant Way



Temporary Crossing
over
Little Willamette



Construction of Access Road

Bowers Implementation: Excavation of Inlet Channel

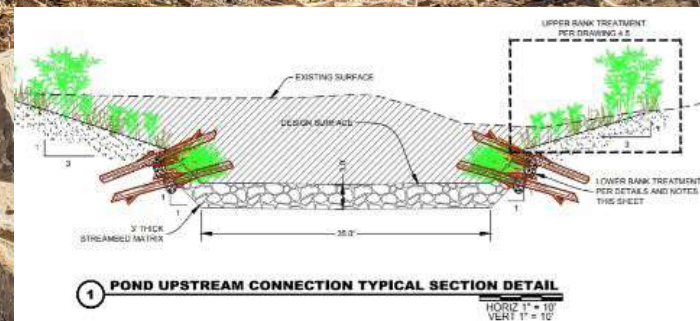


Bowers Implementation: Adding Roughness Elements to Inlet Channel (boulders, logs, and willows)

Burying **230 willow clumps** in bank

Installing **295 boulders** and **176 piles** into bank

Placement of **150 logs** with root wads at toe of slope

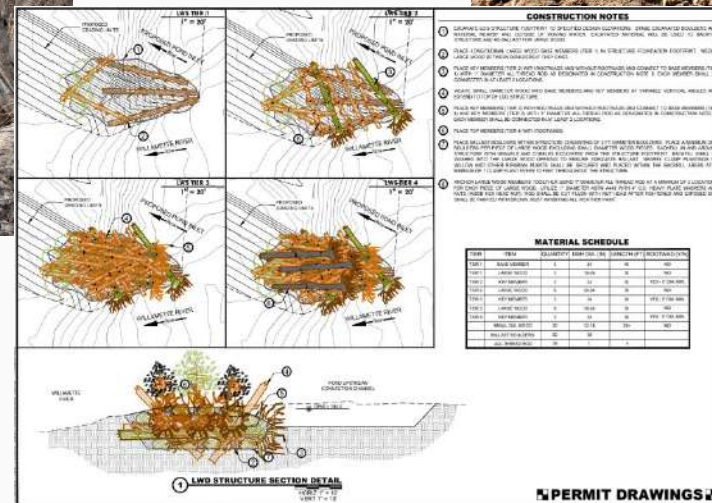




Bowers Implementation: Construction of Engineered Log Jam (ELJ) in Inlet Channel



25 ballast boulders
placed on logs



All thread rods installed
between each tier of logs



24 logs laced into
existing cluster of
mature alders; prior to
back-filling

Bowers
Implementation:
Construction of
Engineered Log Jam (ELJ)
in Inlet Channel - cont.



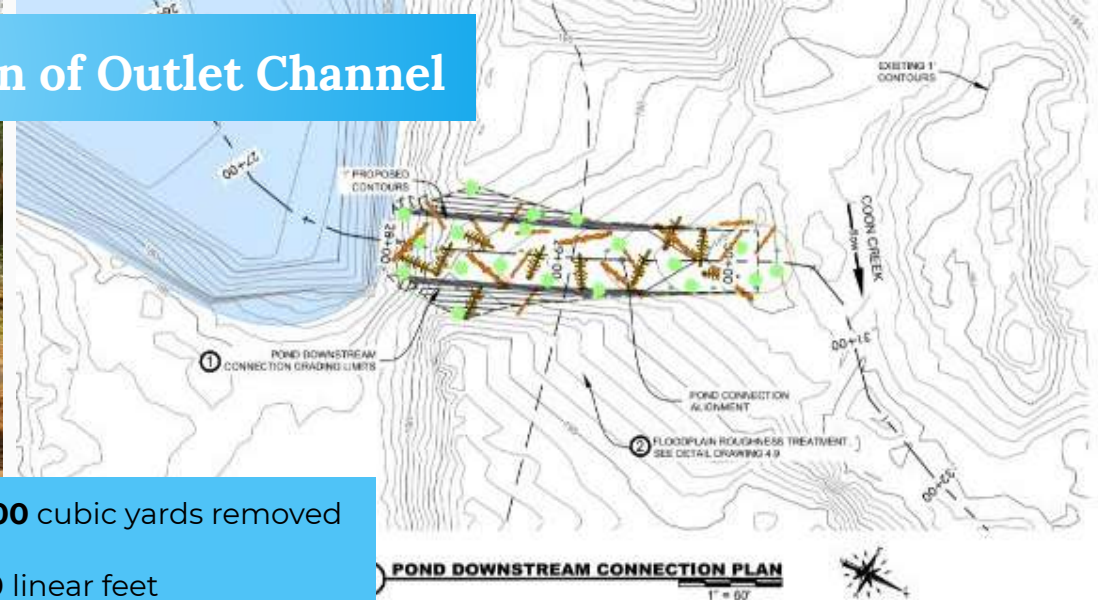
Completed ELJ protecting the
mouth of the newly created inlet
channel

Bowers Implementation: Excavation of Outlet Channel



RDG Engineer, Chris Smith directing BCI operator, Noah

- **3,500** cubic yards removed
- **240** linear feet



Willamette RCA Archaeologist, Mike Shimel monitoring for cultural resources during excavation

Bowers Implementation: Floodplain Barrier (Culvert) Removal and Modifications



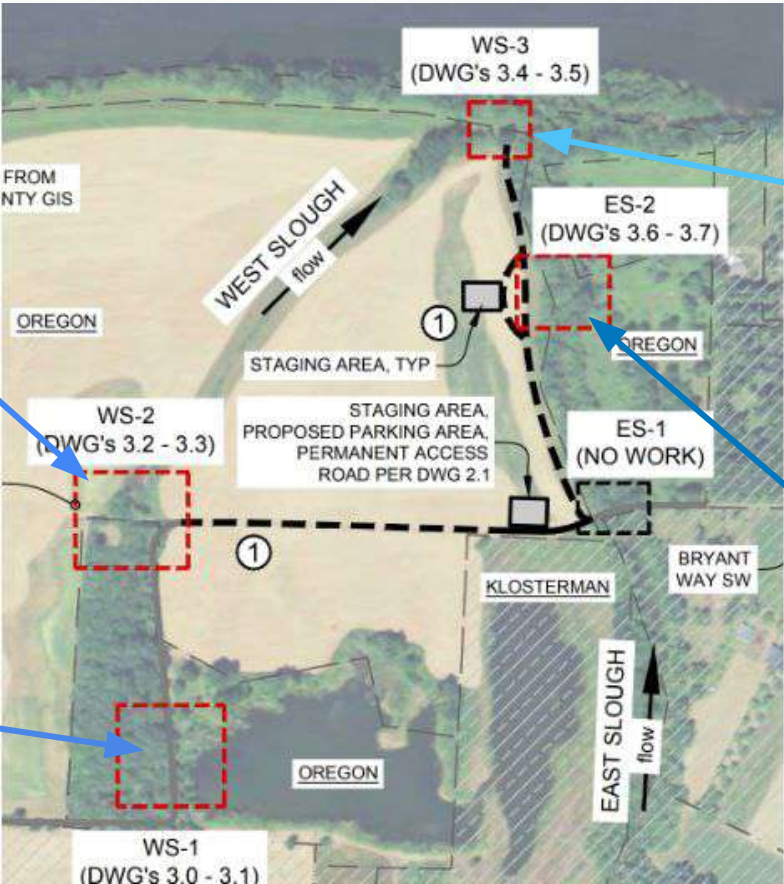
WS-2 CROSSING

Replacement (before)



WS-1 CROSSING

Lower and protect low-water ford (before)



WS-3 CROSSING

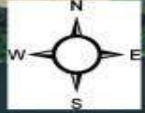
Replacement (before)



ES-2 CROSSING

Removal (before)

Bowers Rock Phase II - Implementation



Remaining Work:

- Complete culvert replacements
- Add roughness elements to outlet channel
- Removal of Temporary Crossing and Demobilization of Equipment
- Ludwigia Treatments in sloughs (2021-2023)
- Revegetation (2020-2024)
 - Fall Seeding; 2020/2021
 - Bare-root planting (26,000 stems); 2022

**End of Construction Phase:
Oct 23th 2020**

Replace Culvert

2 Remove Crossing

Bowers Rock Restoration Overview

- Connection Locations
- Culvert Replacements/Removals/Crossing Enhancement
- Access_Road
- Temporary_Crossing
- Ludwigia Treatment 10.5 acres
- Pond Margin/Riparian Planting 14 acres
- Emergent Wetland/Riparian 6 acres





