

Project Completion Report for OWEB Grant 217-6054-14306

Final Completion Summary

The Badger Creek #6 diversion replaced a channel spanning steel diversion with a concrete head gate and 36 inch flashboards to draw water, creating a complete barrier to all aquatic species. The diversion serves two separate landowners with a total of 1.73 cubic foot per second of water to flood irrigate 73 acres of pasture. Two buried pipelines, one for each landowner, replaced 3,460 feet of open ditch for a more efficient delivery system. On one pipeline, risers installed every 40-60 feet. A control box was installed with two weirs for flow monitoring of both pipelines.

A worn wooden bridge was replaced with a prefabricated steel bridge, measuring 25 feet long and 14 feet wide.

Seven similar stream riffles, as well as 60 pieces of large wood were installed to promote floodplain connectivity and increase habitat complexity. Three acres around the project were fenced and 200 rooted stock plants were installed within the CREP buffer, in addition to the willow cuttings installed as part of the riffles.

Background

The Wheeler SWCD had previously corrected the five barriers upstream of the project site by replacing the five steel diversions with four stream simulation diversions and one sheet piling diversion. This diversion and pipeline work is a key piece of the holistic restoration work being done on Badger Creek.

Work Done

Two buried pipelines replaced 3,460 feet of open ditch for a more efficient delivery system for two landowners to use for irrigation of pasture. On one pipeline, risers installed every 40-60 feet.

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A worn wooden bridge was replaced with a prefabricated steel bridge, measuring 25 feet long and 14 feet wide.

Changes from Proposed

No significant changes to the project were made.

Public Awareness or Education

The project was featured in displays presented at the District's Annual Meeting.

Lessons Learned

September is the best time of the year to install pipelines on these high meadow systems. The rougher (more stubs and branches) that the large wood contains, the better they interact with the stream and

provide improved habitat.

Recommendations

The stream simulation riffles need to be washed-in in lifts to reduce piping and simulate a well graded and consolidated stream bed. The appropriate materials mix is also important to have.

Aquatic Habitat

Wheeler SWCD has read, and the project elements comply with the Oregon Aquatic Habitat Restoration and Enhancement Guide.

Special Conditions

Exhibit B

3(e) Provide the total length and size of installed pipe and list the various installed Project components including pump, mainline, flow meter and drain pipe within the text of the PCR.

There was 3,500 feet of 10 inch PVC pipe installed for conveyance from the Badger #6 screen to the Hashknife Ranch. The Stafford Pipeline with the risers every 40-60 feet installed 500 feet of 10 inch, 1,400 feet of 8 inch, 1,100 feet of 6 inch and 360 feet of 4 inch PVC for irrigation. There was also 160 feet of 18 inch Hancor installed from the diversion to the fish screen.

3(f) Describe how the new irrigation system is functioning, the number of risers installed and any water quality data gathered for this Project. The description of the irrigation system will include whether or not it is functioning as predicted and installed, or whether there were any changes to the system that affect irrigation efficiency.

The 10 inch pipeline to the Hashknife functions as intended and provides the landowner with their legal right. It takes the water to an existing flood/riser system that the landowner uses to flood irrigate. That system is functioning as intended. The Stafford pipeline installed a total of 53 risers and three inline wafer valves. The wafer valves break the system up into four irrigation zones. The landowner sets the risers to a specific flow by adjusting the opening gap. The valves control which zone is being used. This method has been working very well for the landowner. Some adjustment is required each spring during the initial system start-up; but, the system performs very well. There was no water quality data gathered as part of this project.

Funding Sources

Source	Identifier	Cash	InKind Type	Inkind
Landowner	In-kind	\$0.00	Materials	\$6,300.00
ODFW	In-kind	\$0.00	Labor	\$32,593.00
OWEB	217-6054-14306	\$87,035.08		\$0.00
USDA Farm Services Agency (FSA)	CREP	\$5,000.00		\$0.00
USDA-NRCS	RCPD	\$62,587.37		\$0.00
Wheeler SWCD	In-kind	\$30.00		\$0.00

Totals

OWEB Amount	Non OWEB Cash	Inkind Total	Non OWEB Amount	OWEB Match	Total Project Cost
\$87,035.08	\$67,617.37	\$38,893.00	\$106,510.37	122.0%	\$193,545.45

Uploaded Files

Image Type	File Name	Description
Photo Point	1 before.JPG	Overview of Badger Creek and planned riparian restoration. From NW of project, facing SE.
Photo Point	2 before.JPG	Overview of Badger Creek, and planned riparian restoration. From NE end of project looking SW.
Photo Point	3 before.JPG	Up-stream from Bridge. Facing East.
Photo Point	3 after.JPG	Up-stream from Bridge. Facing East.
Photo Point	4 before.JPG	Down-stream from Bridge. Facing West.
Photo Point	4 after.JPG	Down-stream from Bridge. Facing West.
Photo Point	5 before.JPG	South of Bridge. Facing North.
Photo Point	5 after.JPG	South of Bridge. Facing North.

Photo Point	6 before.JPG	North of Bridge. Facing South.
Photo Point	6 after.JPG	North of Bridge. Facing South.
Photo Point	7 before.JPG	Existing diversion (up-stream) with flashboards in place. From North side of Badger Creek.
Photo Point	(7) after.JPG	Existing diversion (up-stream) with flashboards in place. From North side of Badger Creek.
Photo Point	(8) before.JPG	Existing diversion (up-stream) with flashboards in place. From North side of Badger Creek.
Photo Point	(8) after.JPG	Up-stream from new diversion location. Facing East.
Photo Point	(10) before.JPG	Looking at the bank where new diversion will be located. Facing North.
Photo Point	(10) after.JPG	Looking at the bank where new diversion was installed. Facing North.
Photo Point	(11) before.JPG	Looking down-stream on Badger Creek, and showing location of instream work. Facing NE.
Photo Point	11 after.JPG	Looking down-stream on Badger Creek, and showing location of instream work. Facing NE.
Photo Point	(12) before.JPG	Looking up-stream on Badger Creek, and showing location of instream work. Facing NW.
Photo Point	12 after.JPG	Looking up-stream on Badger Creek, and showing location of instream work. Facing NW.
Photo Point	(13) before.JPG	Looking down-stream on Badger Creek, and showing location of instream work. Facing E/NE.
Photo Point	13 after.JPG	Looking down-stream on Badger Creek, and showing location of instream work. Facing E/NE.
Photo Point	(14) before.JPG	From South side of Badger Creek, showing location of instream work. Facing North.

Photo Point	14 after.JPG	From South side of Badger Creek, showing location of instream work. Facing North.
Photo Point	(15) before.JPG	Looking up-stream on Badger Creek, and showing location of instream work. Facing West.
Photo Point	15 after.JPG	Looking up-stream on Badger Creek, and showing location of instream work. Facing West.
Photo Point	(9) before.JPG	Down-stream from diversion location. Facing West.
Photo Point	IMG_1632.JPG	Down-stream from new diversion . Facing West.
Photo Point	1 after.JPG	Overview of Badger Creek and planned riparian restoration. From NW of project, facing SE.
Photo Point	2 after.JPG	Overview of Badger Creek, fencing and planned riparian restoration. From NE end of project looking SW.
Supplemental Final Report	OWEB Final Project Reporting Form - Badger Creek Diversion #6.pdf	Project Completion Report
Map	Badger 6 Work Elements Location Map.pdf	Map of Final Project Elements
Photo (other)	Photo_Point_Map.pdf	Map showing photo point locations.
Project Designs	BADGER CREEK DIVERSION #6 FINAL SIGNED REDUCED.pdf	Final Project Designs
Federal Lobbying Certificate	Lobbying Cert 217-6054.pdf	Federal Lobbying Certificate
Exhibit B	217-6054 EXHIBIT B FINAL.pdf	