# Project Status Report – Final Construction Report

Project Name: Lower Nason RM 3.7-4.7 Restoration RCO project # 14-1238							
Project Action: Floodplain fill removal and oxbow enhancement							
Project Sponsor: Chelan County I	Natural Resour	ces De	epartment				
Project Design: ICF							
Landowner(s): US Forest Service	and Weyerhau	ser					
Funding Source(s): USBR and RCO Implementation Cost: Roughly \$175,000							
	State: WA	County: Cl		elan	Strea	am: Nason	
Project Location:	Latitude: 47.782	2556 N		Longitude:	120.7	725919	
	Township: 26N	Range: 17E		Section: 9		<sup>1</sup> ⁄ <sub>4</sub> Section:	
Project Status: Construction com	pleted 2014						
Project Phase: Monitoring and Ad	aptive Manage	ment					
	Funding: Secu	ured					
	Design: Completed						
Milestones	Permitting: Completed						
	Construction	Start	Date: July	14, 2014			
	Construction	Comp	letion Date	: October	31, 20	014	
Distantia di Demetit	Species: steelhead and spring Chinook						
Biological Benefit	Benefit Type: peripheral and transitional habitat and channel structure and form (instream complexity)						
Metrics: Removal of 0.75 acres of floodplain fill and placement of 28 logs to enhance ~0.7 acre							
or oxpow side channel habitat Project Objectives and Description:							
The following text describes the s	pecific habitat	functi	ons gainec	l by each c	of the	project	
elements:	emoval (Nasor	Cree	RM 4 7).	This action	remo	ves 1 325 cubic	
vards (0.14 acre) of fill as	sociated with a	relic a	butment of a	an historica	al brid	de. This action	
restores channel migration	on potential and	natura	l stream ch	annel proce	esses	. Removing the	
bridge abutment fill will e	nhance activatio	on of a	nearby side	e channel, r	estor	e the confluence	
of a tributary just upstrea	m of the abutme	ent fill, al (Nas	and allow g	reater river	migra	ation to river left.	
0.61 acre (1.825 cv) of fil	l in the Nason C	reek fl	oodplain an	d restores	flood	plain wetland	
conditions. The fill is surr	ounded by wetla	and an	d a small in	termittent c	reek t	that runs north	
along SR 207 and then a	round the existing	ng fill b	efore flowir	ng into Nas	on Cr	eek. Hydraulic	
modeling conducted by ICF indicates that once the fill is removed the area would be							
would function primarily as a stream and wetland complex. However, during high flows (5-							
year event and higher) this fill removal provides increased flood prone area and increased							
flood-storage capacity. In addition, the stream channel through this area would provide							
high-flow refuge habitat for spring Chinook and steelhead when it is backwatered by Nason							
3. Oxbow Enhancement (Nason Creek RM 3.9): The oxbow was hydrologically reconnected							
by the CCNRD via the in	stallation of two	12-foo	t- diameter	culverts ald	ong S	R 207 in 2007.	

When this feature was hydrologically reconnected to Nason Creek in 2007, there was a decision made to make the connection and see what happens without additional habitat enhancement work in the existing oxbow. Since 2007, monitoring efforts have shown that the oxbow is used by juvenile and adult salmonids as off-channel refuge, rearing, and spawning habitat. Given the abundant juvenile fish use, the proposed actions will improve habitat in the upstream area of the oxbow where wide, shallow habitats that lack cover have persisted since the 2007 reconnection. The installation of large wood in the upstream area will add structure and potentially alter sediment deposition patterns to make some wide shallow areas narrower and deeper. Sediment deposition adjacent to the large wood structures will create slightly higher areas on the edges that can be planted to increase vegetation structure at the water's edge adding edge complexity and overhanging vegetation as well as instream cover to improve fish rearing and refuge habitat.

## **Design, Permitting, and Construction Issues:**

<u>Design</u> – we should have staked the design in the field prior to construction staking. There were some design revisions made based upon construction staking. This resulted in a slightly steeper slope along the east bank of the floodplain fill removal area. This is not a problem and it did not change cost or function but the late changes were a little chaotic.

<u>Permitting</u> – there was discussion about whether or not to cofferdam for the bridge abutment removal. Without the cofferdam, there would not have been a Corps permit for the project (since the project was all fill removal and placement of organic material). Without a Corps permit, there was no Section 401 coverage for the project. So the NWP 33 for placement of a cofferdam provided the DOE statewide programmatic coverage for the Section 401 water quality certification. WDFW supported the need for a cofferdam because we requested a later in-water work window and the project is near spring Chinook spawning. In the end, I was super glad we had a cofferdam because we would have made a muddy mess without it. There was minimal sediment release with the cofferdam in place. Construction –

CCNRD advertised for bids, held a pre-construction walkthrough with potential bidders and opened bids on July 7<sup>th</sup>. EcoGrind Site Solutions submitted the low bid. After a pre-construction conference with WDFW, CCNRD and EcoGrind work began on the parking lot fill removal area on July 14<sup>th</sup>. The Chiwaukum Creek Fire started soon after construction began and the contractor was subject to Forest Service fire hazard restrictions. Work hours and type of equipment as well as a complete ban on any helicopter activity were included. A waiver was granted allowing the contractor to deliver the logs on Monday morning July 28<sup>th</sup>. Log delivery and placement was completed within 3 hours. After meeting with the Weyerhaeuser Forester, work began on the bridge abutment removal portion of the project. The contractor installed a cofferdam and CCNRD staff removed fish on August 4<sup>th</sup>. EcoGrind mobilized additional equipment to allow simultaneous work on the parking lot removal and bridge abutment areas. Construction staking, de-fishing, and turbidity monitoring was provided by CCNRD staff. All earthwork and log placement work was completed on August 15<sup>th</sup>. Site re-vegetation was completed in October.

## Photo Gallery:

See attached pdf file

# 7-28-14 Flying logs into the oxbow







7-31-14 Building the cofferdam for in-water work to remove an historic bridge abutment consisting of rip-rap, cable, and embedded pressure treated logs





8-11-14 Floodplain fill removal; note the former ground elevation at the base of the cottonwood

8-21-14 Floodplain fill removal area. At this date, the brush had been lopped and scattered and hay placed for temporary erosion control, but plants had not been installed yet. This photo looks upstream at a little swale that was installed through the floodplain fill removal area.





October 15, 2014 Plants are hard to see but they have been installed amongst the scattered brush

November 2014 Snow on the ground so this is a little hard to see but here is the first watering of the swale during a ~ 2 year event in Nason Creek









## October 15, 2014

Top photos = Brush Trench with buried wattles Bottom left photo taken from the hillside above the bridge abutment removal area during plant installation. Plants were installed on a grid to facilitate maintenance. Note the ground elevation at the base of the cottonwood for a reference elevation for the floodplain fill removal.



November 2014 The first watering of the bridge abutment removal area during a ~ 2 year event in Nason Creek. So far it looks like the brush trench is still in place!





### <u>NOTES</u>

- 1. SEE SHEET 2 FOR LOCATION OF CROSS-SECTIONS SHOWN ON THIS SHEET.
- VERTICAL DIMENSIONS ARE EXAGGERATED BY A FACTOR OF 10 ON SECTIONS A, B AND C. REFERENCE THE Y-AXIS FOR DEPTHS AND ELEVATIONS.









<u>SECTION</u>	<u>C</u>

Designed By: S. SEVILLE/D. STRATTEN	REVISIONS				Chalan County
	Date:	Description:	Made by:		Cheiun County
Drawn by: D. STRATTEN					Natural Resource Department
Project Inspector:					316 Washington Street, Suite 401
Survey Crew:					Wenatchee, Washington, 98801
				INTERNATIONAL	Phone: (509) 667-6567
SEPTEMBER 2014	As-Built	Date: September 26, 2014 by: N. TRUS	СОТТ		Website: www.co.chelan.wa.us



PARKING LOT
REMOVAL SECTIONS

Nason Creek
RM 4.7 - RM 3.3
<b>Restoration Project</b>

Sheet 3 of 7

CCNRD-2014-02



Designed By:	REVISIONS			
S. SEVILLE/D. STRATTEN	Date:	Description:	Made by:	
Drawn by: D. STRATTEN				
Project Inspector:				
Survey Crew:				
				INTERNATIONAL
SEPTEMBER 2014	As-Built	I Date: September 26, 2014 by: N. TRUS	COTT	





### <u>NOTES</u>

- 1. SEE SHEET 4 FOR LOCATION OF CROSS-SECTIONS SHOWN ON THIS SHEET.
- VERTICAL DIMENSIONS ARE EXAGGERATED BY A FACTOR OF 10 ON SECTIONS A, B AND C. REFERENCE THE Y-AXIS FOR DEPTHS AND ELEVATIONS.

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		REVISIONS		
S. SEVILLE/D. STRATTEN	Date:	Description:	Made by:	
Drawn by: D. STRATTEN	1			
Project Inspector:				
Survey Crew:				
				INTERNATIONAL
SEPTEMBER 2014	As-Built	Date: September 26, 2014 by: N. TRUS	сотт	

Natural Resource Department 316 Washington Street, Suite 401 Wenatchee, Washington, 98801 Phone: (509) 667-6567 Website: www.co.chelan.wa.us



# ABUTMENT REMOVAL **SECTIONS**

# Nason Creek RM 4.7 - RM 3.3 **Restoration Project**

Sheet 5 of 7

CCNRD-2014-02



A

<u>NOTES</u>

 AS-BUILT LOG LOCATIONS ARE BASED ON A TOTAL STATION SURVEY CONDUCTED BY ICF ON SEPTEMBER 17, 2014.
THE LOCATIONS OF EXPOSED GRAVEL BARS HAVE BEEN APPROXIMATED BASED ON AERIAL PHOTOGRAPHS; THEY WERE NOT SURVEYED.

## HABITAT STRUCTURE AS-BUILT OVERVIEW

## Nason Creek RM 4.7 - RM 3.3 Restoration Project

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