



United States
Department of
Agriculture

Forest
Service

Wenatchee
National
Forest

215 Melody Lane
Wenatchee, WA 98801
TTY (509) 662-4396
Voice (509) 662-4335

File Code: 2560

READING

Date: March 12, 2010


Mr. Bob Steele
Washington State Department of Fish & Wildlife
3860 Chelan Hwy
Wenatchee, WA 98801

Dear Mr. Steele:

Enclosed is one report for the 2009-2010 erosion control work done on Lake Chelan at Prince Creek and Corral Creek under US Army Corps of Engineers (USACE) permit number NWS 2008 1401 CRC by the Forest Service. A certificate of compliance has been mailed to the USACE and copies of the report validating all required Large Woody Debris anchored and placed per WDFW agreement.

If you have any questions please contact Joe Kastenholz (509- 682-4960) for additional information on the project.

Thank you for your help and cooperation in this matter.


for ROBERT J. SHEEHAN
District Ranger

Enclosures:



Caring for the Land and Serving People

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Date: March 12, 2010

Ms. Deborah J. Knaub
Project Manager
Department of the Army, Corps of Engineers
P.O. Box 2829
Chelan, WA 98816

Dear Ms. Knaub:

Enclosed is the Certificate of Compliance for permit number "NWS 2008 1401 CRC" erosion control work done this winter at Prince and Corral Creeks and a report documenting the work.

Contact Joe Kastenzholz (509- 682-4960) or Mallory Lenz (509-682-4940) for additional information on the project, should you have any questions.

Thank you for your help and cooperation in this matter.

for 
ROBERT J. SHEEHAN
District Ranger

Enclosures:

cc: Mr Bob Steele, WDFW



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US Army Corps
of Engineers
Seattle District



CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: NWS 2008 1401 CRC

Name of Permittee: USDA Forest Service, Chelan Ranger District

Date of Issuance: 12/05/2008

Upon completion of the activity authorized by this permit, please check the applicable boxes below, sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98125-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your project is subject to suspension, modification, or revocation.

- The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.
- The mitigation required (not including monitoring) by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.

Joseph J. Kastenholz


Signature of Permittee

Erosion Control Report for Sites 11 Corral Creek and 55 Prince Creek

This report is what was accomplished during the 2009-2010 drawdown for Erosion Control Agreement number 09-CO-11061700-012 with Public Utility District No 1 of Chelan County. The initial bid for the total project was \$220,482.66; with \$77,350.00 bid for the work at the Corral Creek site and \$143,132.66 bid for the work at Prince Creek.

At Corral Creek site 11 approximately 253 lineal feet of shoreline were treated with 4 site specific treatments using 309 cubic yards of rock. Three large pieces of Large Woody Debris (LWD) were moved to the site and placed; totaling approximately 126 square feet were triple cabled to large rock and rocked into treatment A. Corral Creek work was accomplished during late February of 2010 with beach operations at an average lake elevation of 1089-1090 feet.

At Prince Creek site 55 approximately 600 lineal feet of shoreline were treated with 5 site specific treatments using 566 cubic yards of rock. Twelve large pieces of LWD were moved to the site and placed using triple cabling to large rock and rocked into place 5 additional natural pieces of LWD were pinned and rocked into the shoreline treatments approximately 729 square feet of LWD. Prince Creek operations were done entirely from the barge, a small bobcat type excavator operated on top of the gabion basket recreational access trail.

Corral Creek



Corral Creek Treatment A ~ 80 feet of double rock treatment with 3 large pieces of LWD triple cabled and rocked.



Treatment zone B ~ 70 feet (center of photo)

Treatment zone C1 ~ 56 feet (right of B, left of dock)



Side view of treatment C1



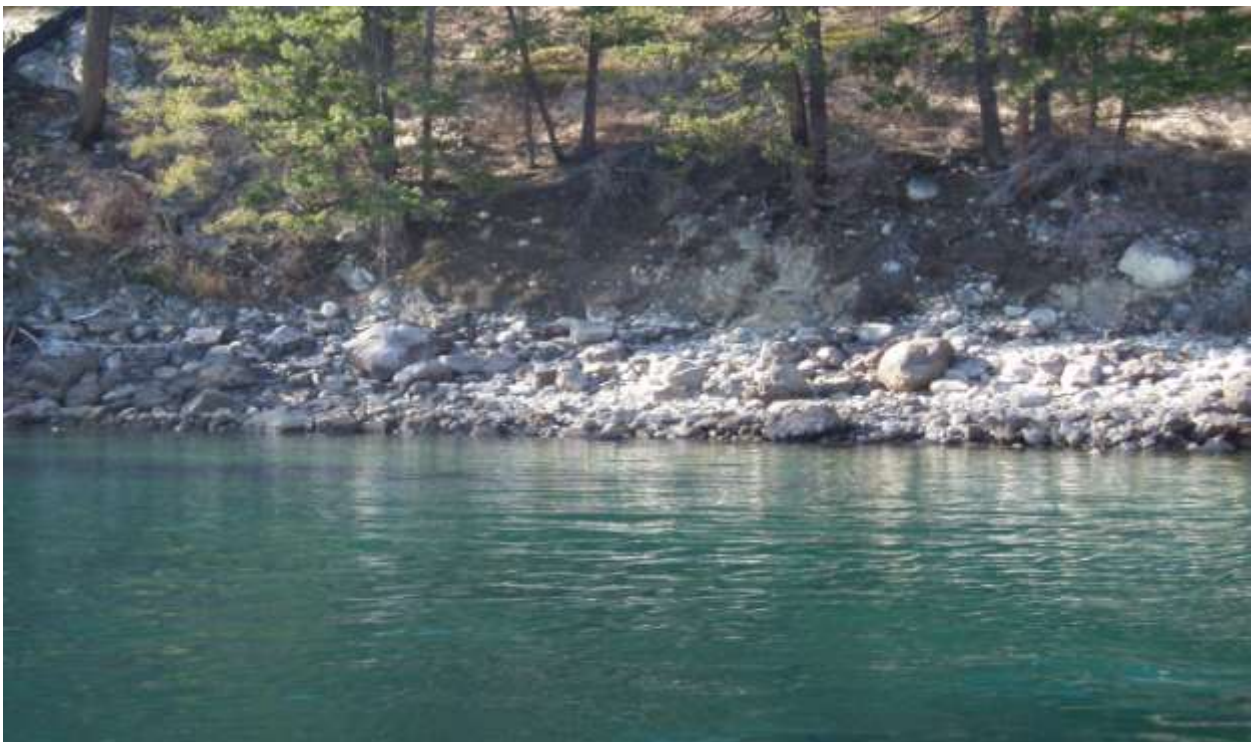
Corral C2 area before treatment



Corral C1 area before treatment



Corral area B before treatment



Corral area A before treatment



Distant view showing treatments B, C1, and C2

C2 is ~47 feet with a gravel top



Side and top view of C2 gravel top, (Note slope profile better than 1/1)

Prince Creek Site 55



Treatment zone A ~ 20 feet Single/Double rock treatment.



Treatment zone B ~90 feet old wood crib wall, no excavation just fabric cloth and protection of vertical crib wall with large rock amouring.



Prince Treatment zone B before treatment

Prince Creek side view of treatment area's B and C towards dock.





Treatment zone C1 ~90 feet recreational access trail on gabion wall, toe excavation occurred in this treatment to stabilize gabion basket placement.



Prince Creek work in progress showing treatment area B with fabric cloth and side/surface view of gabion access path.



Treatment zone C2 ~ 35 feet of T1 treatment



Treatment zone D1 ~ 20 feet single/Double rock



Treatment zone D2/D3 ~40 feet single/double rock with LWD #1 Natural rock anchored.



Treatment D3 LWD #1 Place, triple cable and rock (center), LWD #1 Natural back left



Treatment D3 LWD #2 Placed triple cabled and rocked



Treatment E1 beginning ~120 feet LWD #3 Placed double cabled and rocked, with
LWD #2 Natural upper left rocked



Treatment E1 Double rocked with LWD #2 Natural upper portion, lower LWD # 4
Placed cabled and rocked.



Prince Creek treatment E1 middle LWD #3 Natural top rocked, LWD #5 placed
with triple cables and rocked.



Prince Creek E1 treatment LWD #6 Placed, triple cable and rocked, double rocked shoreline with native wood moved behind rocks.



Prince Creek E2 double rock treatment with LWD # 7 placed triple cabled and rocked.



Prince Creek E3 ~30 feet double rock with LWD #8 Placed, triple cable and rockered.



Prince Creek E3-E4 treatment LWD # 9 Placed, triple cabled and rockered.



Prince Creek treatment E4~ 70 feet, with LWD # 4 Natural rocked (top left) and LWD #10 Placed, triple cabled and rocked (lower right).



Prince Creek E4 treatment full view of LWD #10 Placed, triple cabled and rocked.



Prince Creek D4 treatment with LWD #11 Placed, triple cabled and rocked.



Prince Creek treatment D5, with LWD # 12 Placed, double cabled and rocked.



Prince Creek LWD # 5 Natural with 2 large rock piles, this is the end of treatment.



Loading of LWD to be placed 15 of our largest stock piled logs were used in these treatments.



Mr. Jim Erion, key heavy equipment operator and co-owner of LKE Corporation, who place all of the rock to date in Forest Service erosion control contracts. This photograph is from work in 2009 at Mitchell Creek



Courtney Tug and Barge provided 5 loads of rock and equipment to the sites.

Large Woody Debris Latitude and Longitude Locations

Location	Waypoint	LWD #	Latitude	Longitude	
Prince Creek	1, 2	1	N 48° 08' 41.7"	W 120° 29' 39.2"	
	3	2	N 48° 08' 42.0"	W 120° 29' 38.1"	
	4,5	3	N 48° 08' 41.7"	W 120° 29' 38.1"	
	6	4	N48° 08' 41.4"	W 120° 29' 36.9"	
	7	5	N48° 08' 41.2"	W 120° 29' 36.4"	
	8	6	N48°08' 40.2"	W 120° 29' 36.0"	
	9	7	N48° 08' 40.2"	W 120° 29' 35.8"	
	10	8	N48° 08' 39.8"	W 120° 29' 35.1"	
	11	9	N48° 08' 39.4"	W 120° 29' 35.0"	
	12	10	N48° 08' 39.2"	W 120°29' 34.2"	
	13	11	N48° 08' 38.5"	W 120° 29' 34.2"	
	14	12	N48° 08' 38.4"	W 120° 29' 33.8"	
	Corral	18	1	N48° 02' 41.8"	W 120° 26' 21.0"
		19,20	2,3	N48° 02' 41.7"	W 120° 26' 21.1"