

PUBLIC UTILITY DISTRICT NO. 1 *of* CHELAN COUNTY
P.O. Box 1231, Wenatchee, WA 98807-1231 • 327 N. Wenatchee Ave., Wenatchee, WA 98801
(509) 663-8121 • Toll free 1-888-663-8121 • www.chelanpud.org

November 18, 2009

Honorable Kimberly D. Bose, Secretary, and
Nathaniel J. Davis, Sr., Deputy Secretary
FEDERAL ENERGY REGULATORY COMMISSION
888 First Street, NE
Washington, DC 20426

Re: **Lake Chelan Hydroelectric Project No. 637-041**
Article 401 – Final USDA Forest Service Site-Specific Erosion Control Plan
USDA-FS Erosion Sites 24, 25, 26 and 27 dated November 18, 2009

Dear Secretary Bose and Deputy Secretary Davis:

The Federal Energy Regulatory Commission (Commission) issued the "Order on Offer of Settlement and Issuing New License"[1] (License) and "Order on Rehearing"[2] for the Lake Chelan Hydroelectric Project (Project) on November 6, 2006, and April 19, 2007, respectively. On December 14, 2007, the Commission approved the first Site-Specific Erosion Control Plan for USDA-FS Erosion Sites 11, 55, 58 and 59.[3]

License Article 401 and Appendix A, Article 1(a)(2) requested the Public Utility District No. 1 of Chelan County, Washington (Chelan PUD or Licensee), to file the subsequent plan for Commission approval.

- Article 401(a): Requirement to File Plans for Commission Approval and Requirement to Consult *(paraphrased)*

Various conditions of this license required by Ordering Paragraph D and found in Appendix A, Article 1(a)(2), require the licensee to prepare the Site-Specific Erosion Control Plans at least one year before ground-disturbing activity occurs for approval by some or all of the signatories of the Lake Chelan Settlement Agreement.

[1] 117 FERC ¶ 62,129
[2] 119 FERC ¶ 61,055
[3] 121 FERC ¶ 62,196

In accordance with the above License requirements, Chelan PUD, in collaboration with the USDA Forest Service (see attached letter), hereby files the second Final USDA Forest Service Site-Specific Erosion Control Plan dated November 18, 2009, for habitat and ground-disturbing activities on National Forest Service Lands necessary to implement the erosion control implementation plan.

The plan describes the erosion control work anticipated to be conducted on Erosion Sites 24, 25, 26 and 27. Chelan PUD and the USDA Forest Service plan to begin implementation of the erosion control work in September 2010. Ground disturbance under this plan is expected to occur early 2011. To help meet this schedule, Chelan PUD respectfully requests review and approval of this plan by March 31, 2010.

Please do not hesitate to contact me or Gene Yow (509-661-4305) regarding any questions or comments regarding this plan.

Sincerely,

Michelle Smith
Licensing and Compliance Manager
michelle.smith@chelanpud.org
(509) 661-4180

Enclosures: USDA Forest Service letter dated November 9, 2009
USDA Forest Service Site-Specific Erosion Control Plan, November 18, 2009

cc: Division of Hydropower Administration and Compliance
Federal Energy Regulatory Commission
Mail Code DHAC, PJ-12
888 First Street NE
Washington, DC 20426

Erich Gaedeke, FERC-PRO

USDA United States Department of Agriculture | Forest Service | Okanogan and Wenatchee National Forests Chelan Ranger District | 428 West Woodin Avenue Chelan, WA 98816 (509) 682-2576

File Code: 2770
Date: November 9, 2009

Public Utility District No. 1 of Chelan County
Ms Michelle Smith
Licensing and Compliance Manager
P.O. Box 1231
Wenatchee, WA 98807

Dear Ms. Smith:

Enclosed is the USDA Forest Service Site-Specific Erosion Control Plan for site 24abc, 25, 26, and 27, which we drafted at the PUD's request. It is ready for submission to FERC for approval.

Please submit the attachment to satisfy License Article 401(a). The work in these plans occurs entirely on National Forest System lands. We plan for construction to begin in the fall of 2010 and be completed by the end of 2012.

Gene Yow of your staff has reviewed earlier versions and also concurs that this is ready to move to the next step.

If you have any questions please call Joe Kastenholz on the Chelan Ranger District at 509-682-4960.

SINCERELY,

ROBERT J. SHEEHAN
DISTRICT RANGER

Enclosures:
Cc: Gene Yow, Chelan PUD

USDA FOREST SERVICE SITE SPECIFIC EROSION CONTROL PLAN

USDA-FS EROSION SITES 24, 25, 26 AND 27

Final

LAKE CHELAN HYDROELECTRIC PROJECT
FERC Project No. 637

November 18, 2009

Public Utility District No. 1 of Chelan County
Wenatchee, Washington

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EXECUTIVE SUMMARY

The Federal Energy Regulatory Commission (FERC) Order on Offer of Settlement and Issuing New License (License) for the Lake Chelan Hydroelectric Project No. 637 (Project) was issued November 6, 2006 to the Public Utility District No. 1 of Chelan County (Chelan PUD). License Article 401(a) and Appendix A, Article 1(a)(2) of the new Project License requires Chelan PUD to submit to FERC site-specific erosion control plans for habitat and ground-disturbing activities on National Forest Service Lands necessary to implement the erosion control implementation plan. The first site-specific erosion control plan for sites 11, 55, 58 and 59 was approved by FERC on December 14, 2007.[1] This second plan describes the USDA Forest Service (Forest Service or USDA-FS) site-specific erosion control work anticipated to be conducted between 2010 and 2012, including sites 24abc, 25, 26, and 27, as required by the new License, as specified in the License Articles, and the Lake Chelan Comprehensive Settlement Agreement, October 8, 2003 (Settlement Agreement). Included in this plan is a map of proposed activities, a description of the land management area designation for the location of the proposed activity and the applicable standards and guidelines, a description of the designs by location, designs and mitigation measures considered, data collected from surveys, biological evaluations or consultation as required, noxious weed control measures, and an environmental analysis or other appropriate National Environmental Policy Act (NEPA) analysis of the proposed action that meets USDA-FS requirements for implementing NEPA.

[1] 121 FERC ¶ 62,196

SECTION 1: INTRODUCTION

The Federal Energy Regulatory Commission (FERC) Order on Offer of Settlement and Issuing New License (License) for the Lake Chelan Hydroelectric Project No. 637 (Project) was issued on November 6, 2006 to the Public Utility District No. 1 of Chelan County (Chelan PUD). The Project License requires the treatment and monitoring of non-easement erosion sites located on USDA Forest Service (Forest Service or USDA-FS) Lands on the shores of Lake Chelan, as described in the Lake Chelan Comprehensive Settlement Agreement (Settlement Agreement), October 8, 2003, and its attachments, which is Appendix A of the Project License.

Project License Article 401(a) and Appendix A, Article 1(a)(2) requires Chelan PUD, at least one year before ground-disturbing activity occurs, to file with FERC Site-Specific Erosion Control Plans for the USDA Forest Service sites (site-specific plans). The components of the site-specific plan relate to the planning of erosion control work that are specified in the Appendix A of the License, and in Section 2.2.1 of Chapter 1 of the Lake Chelan Comprehensive Plan, which is Attachment B of the Settlement Agreement, as stated below.

> *2.2.1 Site-Specific Implementation Plans*
> Site-specific plans will be prepared by Chelan PUD and approved by USDA Forest Service for habitat and ground disturbing activities on National Forest System Lands required by the New License, including activities contained within resource management plans required by the New License that will be prepared subsequent to issuance of the New License. Site-specific plans for activities will be prepared two years in advance of required implementation dates.
>
> Site-specific plans shall include:
>
> 1. A map depicting the location of the proposed activity.
> 2. A description of the USDA Forest Service land management area designation within the Forest Plan for the location of the proposed activity and the applicable standards and guidelines.
> 3. A description of locations, designs and mitigation measures considered, including implementation and effectiveness monitoring.
> 4. Data collected from surveys, biological evaluations or consultation as required by regulations applicable to ground or habitat disturbing activities on National Forest System lands in existence at the time the plan is prepared.
> 5. Noxious weed control measures included as part of mitigation.
> 6. An environmental analysis or other appropriate National Environmental Policy Act (NEPA) analysis of the proposed action that meets the USDA Forest Service requirements for implementing NEPA.
>
> General concepts of large woody debris (LWD) are discussed in Chapter 3 of the Comprehensive Plan, which describes beneficial uses, LWD characteristics, and general standards and placement concepts.

This site-specific plan has been developed to provide the necessary information to conduct erosion control work at Site 24abc (Domke Falls Campground), Site 25 (Refrigerator Harbor Campground), Site 26 (Lucerne Campground), and Site 27 (Lucerne Guard Station). All of these sites are located in the upper portion of the upper lake (See Figure 1). It is anticipated that work on these sites will be conducted during drawdown in the following order:

1. Site 24abc Domke Falls Campground – Winter 2010 to Spring 2011
2. Site 25 Refrigerator Harbor Campground – Winter 2010 to Spring 2011
3. Site 26 Lucerne Campground – Winter 2011 to Spring 2012
4. Site 27 Lucerne Guard Station– Winter 2011 to Spring 2012

The erosion contract will be to complete work at these sites 24abc through 27 during the drawdown of years 2010 to 2012. The contract(s) will include a contingency year for construction if needed due to weather or lake level issues.

The organization of the remainder of this plan is in sections that relate to specific clauses in Section 2.2.1 of Chapter 1 of the Comprehensive Plan. Each section begins with the relevant requirements of the License, followed by a description of the methods that will be used to monitor and report compliance with the License.

SECTION 2: SITE LAND MANAGEMENT AREA DESIGNATION

All four of the erosion sites proposed in this plan are classified as Developed Recreation (RE-1). Forest-wide standards and guidelines for soil improvement apply to RE-1 sites, which will allow the soil improvement actions proposed in this plan to occur. In addition to generic Forest Plan direction, all of the Lake Chelan watershed assessments including the Middle Chelan Watershed Assessment (USDA-FS, 1999); North Shore of Lake Chelan Watershed Assessment (USDA-FS, 1998); and Upper Chelan Watershed Assessment (USDA-FS, 2003) call for varying forms of treatment or remedial actions for shoreline erosion.

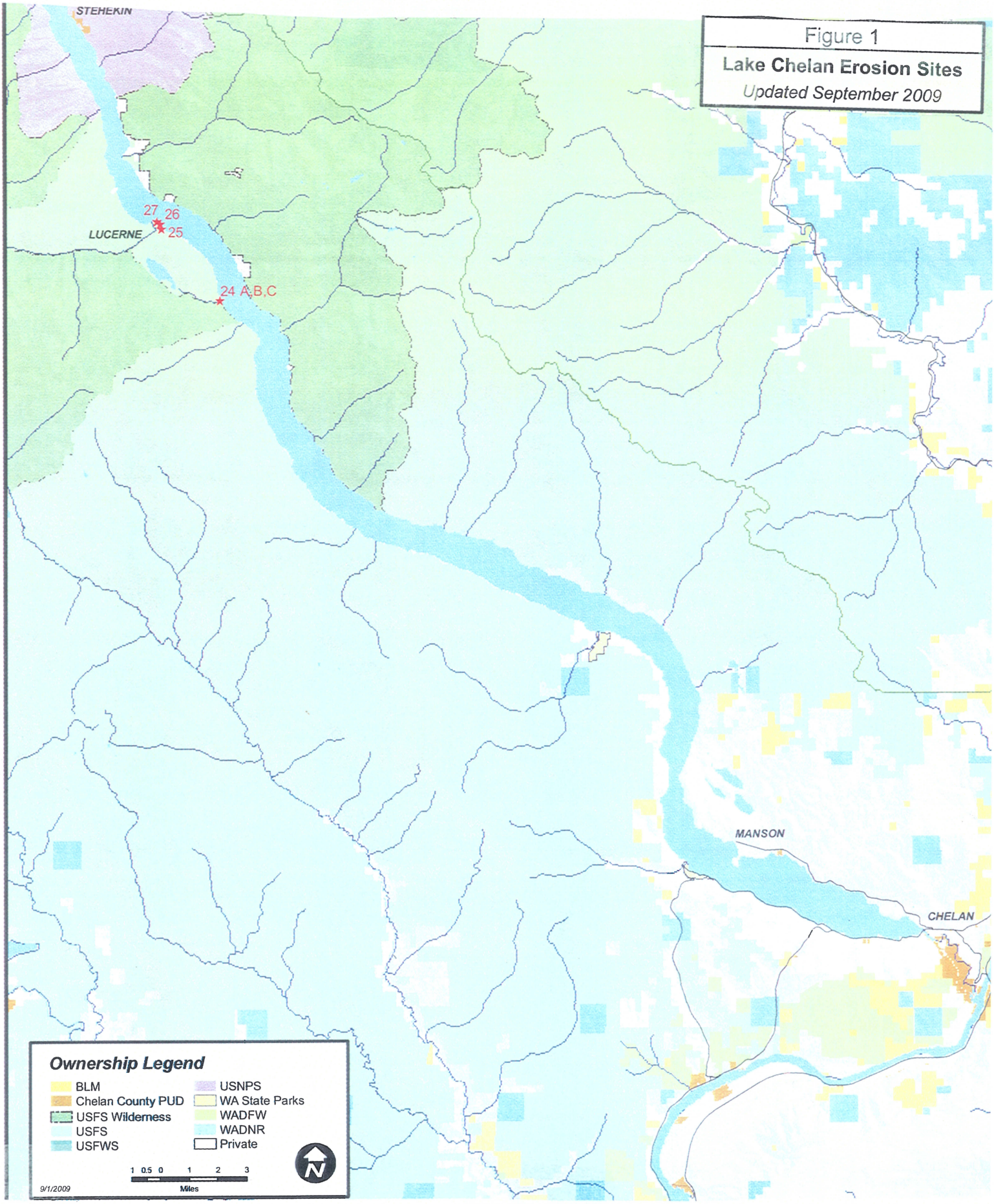


Figure 1
Lake Chelan Erosion Sites
Updated September 2009
STEHEKIN
LUCERNE
27
26
25
24 A,B,C
MANSON
CHELAN
Ownership Legend
BLM
Chelan County PUD
USFS Wilderness
USFS
USFWS
USNPS
WA State Parks
WADFW
WADNR
Private
1 0.5 0 1 2 3
Miles
9/1/2009

SECTION 3: LOCATION, DESIGN, MONITORING

3.1 Location of Sites

Domke Falls Campground (Site 24abc) is a popular site due to the beauty of the waterfalls at the accessible boat in campground. It is located on the south shore in the upper fourth of Lake Chelan. It is approximately 37 miles up lake from the City of Chelan. The Lucerne Bar has sites 25 through 27 located on it. It is approximately 3.0 miles farther up lake on the north shore. These are two of the upper basins more popular mid-size campgrounds. Refer to Figure 1 for locations.

3.2 Design – Baseline Data and Treatments

Each site will be repaired with a variety of treatments. As work progresses in the implementation process and knowledge is gained, it is anticipated that new types or combinations of treatment will be developed. Please refer to Appendix A for current treatment designs.

Treatment designs will start with the basic site sketches and original survey soil information, site observations and slope profiles contained in the Inventory of Shoreline Erosion Lake Chelan and Bypass Reach Study Report, Final (Chelan PUD, 2000). These original sketches were further modified with proposed treatment areas identified on the sketches in the Erosion Control Treatments and Concepts for Lake Chelan, Okanogan and Wenatchee National Forests, Final (Chelan PUD, 2001). This body of information is the base from which each set of site-specific Forest Service erosion control plans will be developed from over the implementation time period.

The anticipated treatment for the sites covered in this plan (sites 24abc, 25, 26, and 27) are presented below.

3.2.1 Erosion Control Treatments for Site 24abc – Domke Falls Campground

At Domke Falls Campground approximately 126 lineal feet will be treated with single rock or double rock treatment, and 107 lineal feet will be treated with slight various of the enhanced placed rock treatments with or without LWD. The specifics of the treatment anticipated by treatment zone are presented in Table 1and shown on original sketches and photographs. Special factors at this site include a moderate site profile, gentle beach slope at lower elevations, and small treatment zones. Portions of the site have a nice gravelly beach. Most of the site has high natural vegetation. No plantings will be required on any of these treatments.

Table 1: Treatment's for Site 24abc – Domke Falls Campground

Treatment Zone	Length (feet)	Treatment Type (See Drawings)	Treatment Description
A	24	T1	Enhanced placed rock with horizontal LWD, no plantings
A1	44	T3	Double rock placement with horizontal LWD
B	53	T5	Enhanced placed rock with replaced gravels no LWD or plantings
C	30	T1	Enhanced placed rock with no LWD or plantings
C1	62	T3	Double large rock with no LWD or plantings
C2	20	T3S	Single Row Rock Placement around and under bulkhead

Original 1999 site data:

Site 24a, 04/14/99. MGY
0'-10' undercut to bedrock
10'-55 very rocky, undercut toe
Healed, difficult to spot erosion

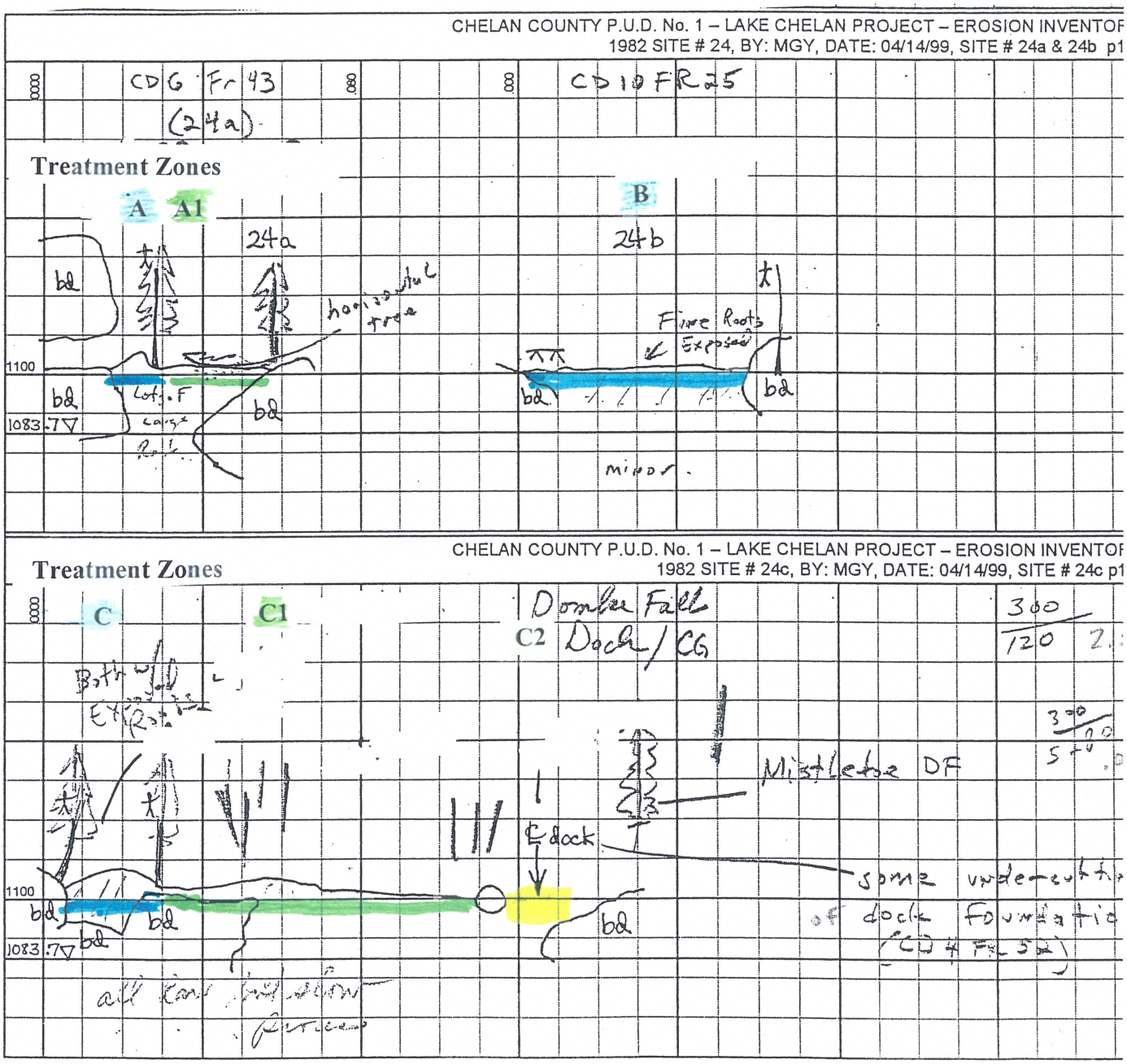
Site 24b, 04/14/99, MGY
0'-end at 59'
Erosion caused by foot traffic (=)
Only indirectly related to shoreline
Bedrock limits ends

Site 24c, 04/14/99, MGY
Bedrock limits ends
0'-end at 120'
Mostly healed or healing
Face, some bare spots with undercut toe

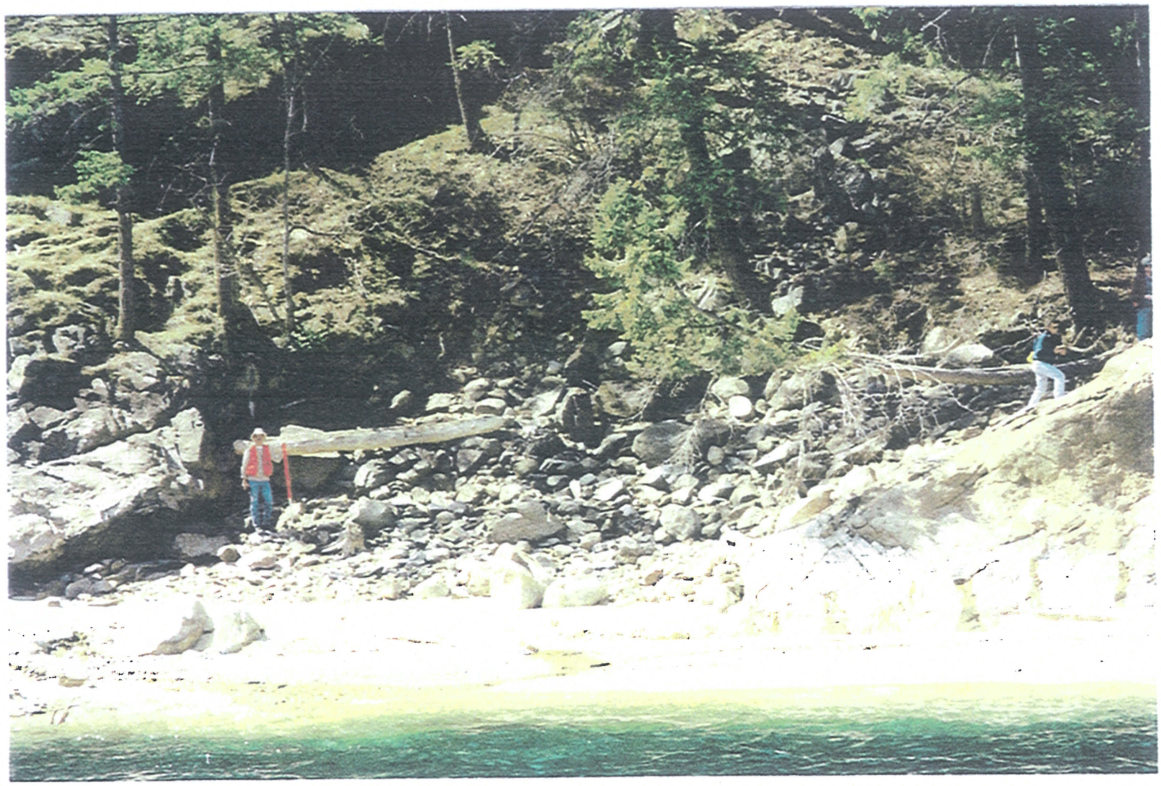
Bedrock at or near surface (+)
Repair, hand placed rock on each side of dock, effective
Not screened, but not outstanding visually.
One corner of dock's concrete anchor point is sl undercut

Erosion Control Work for Site 24abc – Domke Falls Campground

Location of treatment zones on updated sketches:



Site 24a Domke Falls Treatment area A (Enhanced placed rock, no plantings) T1 contract spec. Photo CD 10 FR 24



Site 24a Domke Falls Treatment area A1 (Double rock treatment with LWD) T3 contract spec. Photo CD 6 FR 43

Site 24b Domke Falls Treatment area B (Enhanced placed rock no LWD, no plantings) T1 modified contract spec. Photo CD 6 FR 45

Site 24b Domke Falls Treatment area B close-up, side view

Site 24c Domke Falls Treatment area C (Enhanced placed rock, no LWD or plantings) T1 contract spec. Photo CD 6 FR 47.

Site 24c Domke Falls Treatment area C1 (Double rock treatment without LWD) T3 contract spec. Photo CD 6 FR 48.

Site 24c Domke Falls Close-up of C1 treatment area. Photo CD 4 FR 53

Site 24c Domke Falls Treatment area C2 (Single rock treatment) T3S contract spec. Photo CD 4 FR 52

3.2.2 Erosion Control Treatments for Site 25 Refrigerator Harbor Campground

The Refrigerator Harbor Campground is located in the southeast corner of the Railroad Creek alluvial fan. The sites on this alluvial fan (25, 26, and 27) are approximately 40 miles from the city of Chelan. While some of the shoreline slopes are 1/1, the shoreline profile is fairly gentle at low water. Approximately 570 feet will be fully treated shoreline, and 227 feet will be treated with double rock placement some with LWD and plantings. The specifics of the treatment anticipated by treatment zone are presented in Table 2.

Special factors at this site include a high steep shoreline slope profile in scattered spots, a gentle beach slope during drawdown periods with pockets of medium to large rock below 1,100 foot rock for anchoring LWD. Most of the drawdown area is accessible by tracked type equipment. Most of the site slopes have poor natural vegetation. Approximately 90 percent of this site was previously treated with rounded medium to small size rock. The proposed plan will transport in significantly larger angular rock.

Table 2: Treatment Zones for Site 25– Refrigerator Harbor Campground

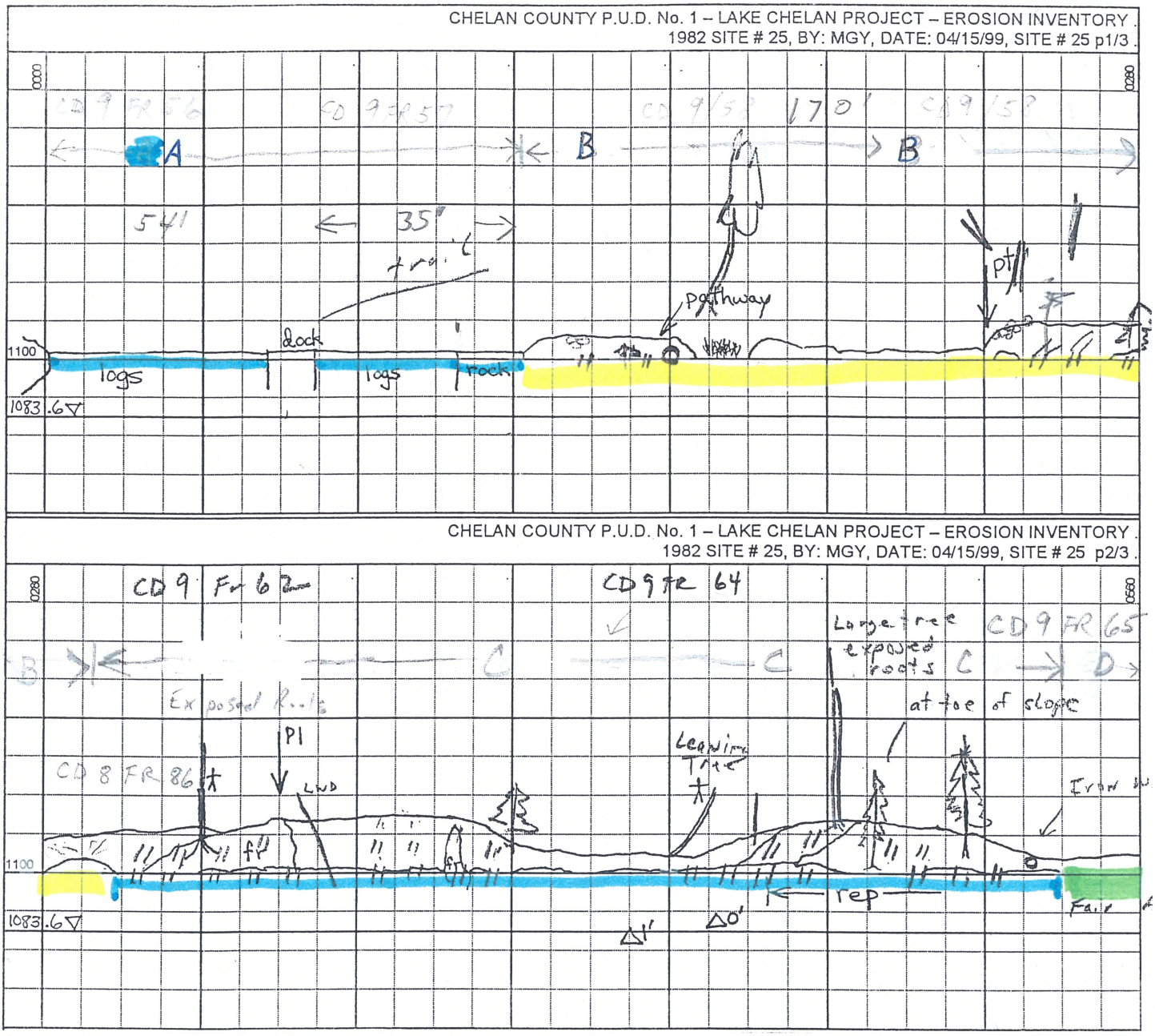
Treatment Zone	Length (feet)	Treatment Type (See Drawings)	Treatment Description
A	90	TW	Enhanced placed rock, with wood crib wall, TW treatment
B	170	T3	Double rock placement, no LWD, T3 treatment
C	250	T1	Enhanced placed rock, with scattered LWD and plantings
D	57	T3	Double rock placement with LWD and plantings
E	235	T1	Enhanced placed rock, with scattered LWD and plantings

Original 1999 site data:

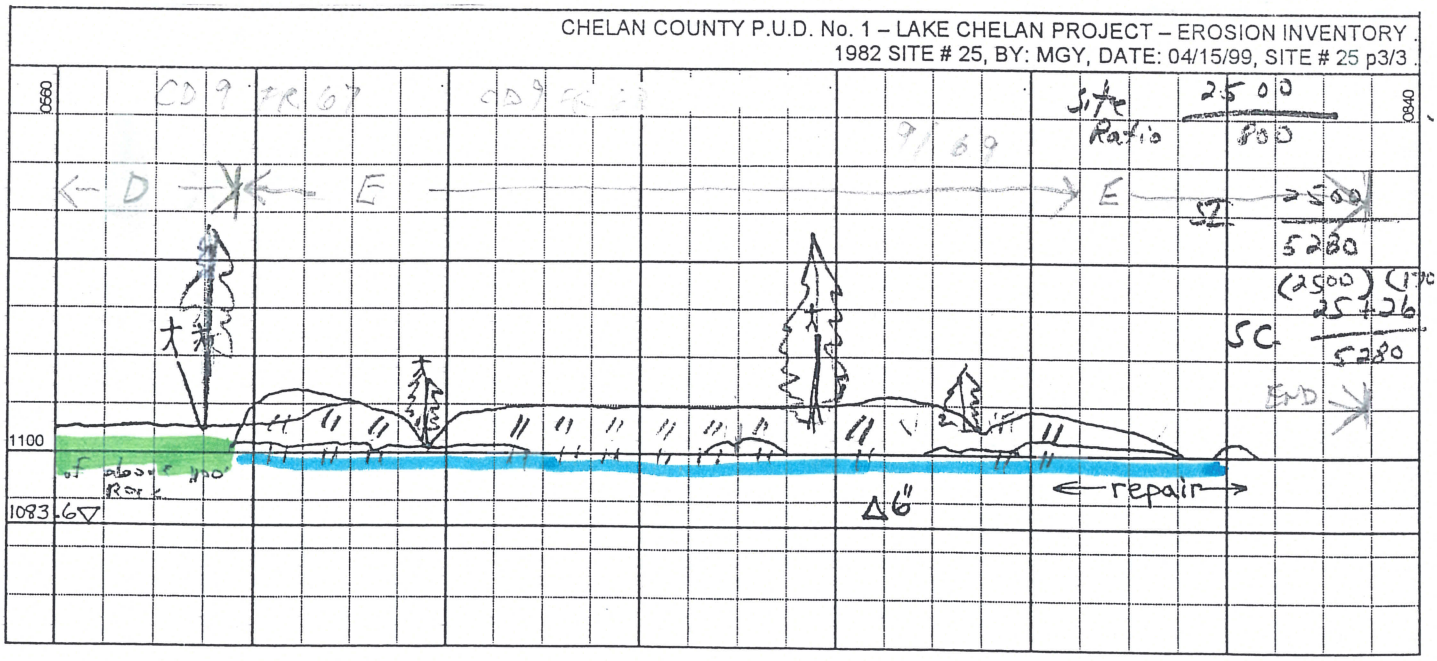
Site 25, 04/15/99
Refrigerator Harbor U/S
Well protected U/S at start, less well protected as site progresses
0'-105'
Starts at bedrock
Bulkheads end in hand-placed rock, 6"-2' rounded
105'-280'
Alluvial fan deposit, rocks rounded
Some spots sl eroded near toe
Some spots eroded from foot traffic
Face with some bare areas, but mostly healed or healing, with moss, grass
280'-800'
Recent repair, filter fabric and rocks near toe
Repair stops toe undercutting where high enough

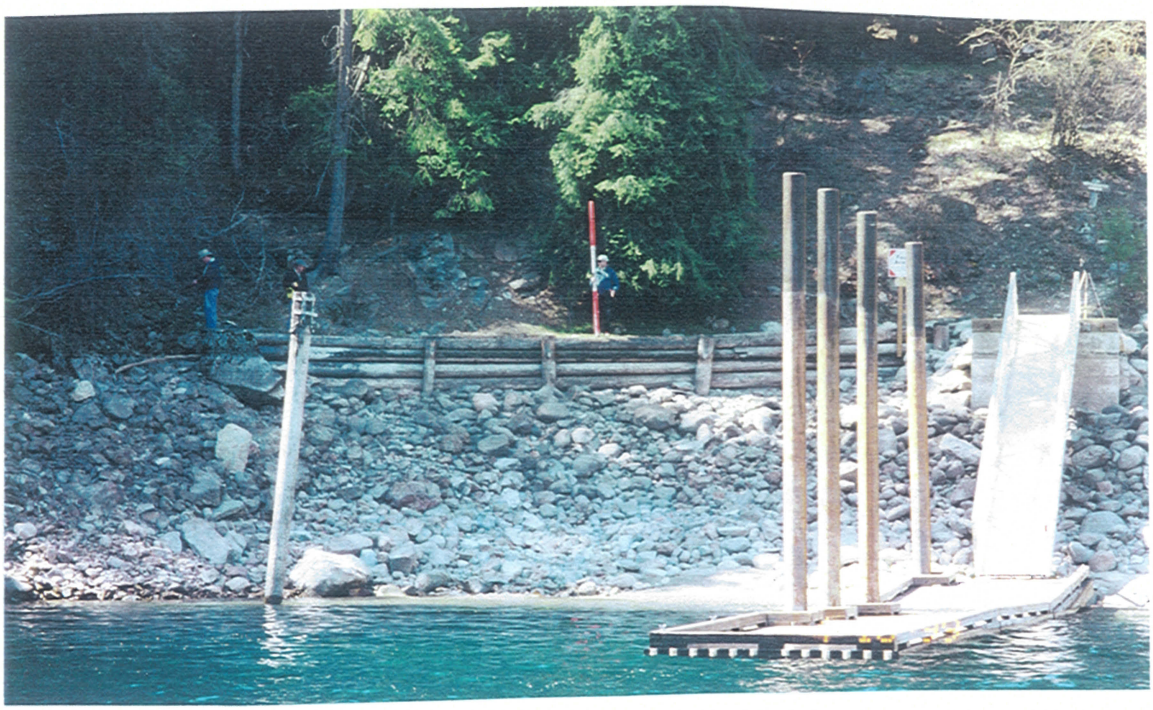
Face with some active areas, but mostly little activity, healing duff, grass
Undercutting and sloughing in areas where repair is not high enough,
Foot paths to high water level impact slope.
Little screening of most of site.
Compare to 1982 photos, Site 25 all/6: New log bulkhead walls each way from dock..
Lost one tree from mid-face (1982, 3/6 and 1999, CD9 Fr 62 just D/S from scale rod).
Most area of face as before or with more duff, shrubs (+),

Sketches of site 25



Sketches of Site 25 Continued





Site 25 Refrigerator Harbor Campground Treatment area A (Enhanced placed rock with wood crib wall) TW contract spec. Photo CD 9 FR 56

Site 25 Refrigerator Harbor Campground Treatment area A (Enhanced placed rock with wood crib wall) TW contract spec. Photo CD 9 FR 57

Site 25 Refrigerator Harbor Campground Treatment area B (Double Rock treatment, no LWD, no plantings) T3 modified contract spec. Photo CD 9 FR 58. Treatment covers 170 feet.

Site 25 Refrigerator Harbor Campground Treatment area B (Double Rock treatment, no LWD, no plantings) T3 modified contract spec. Photo CD 9 FR 59

Site 25 Refrigerator Harbor Campground Treatment area B (Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photo CD 9 FR 60 and 61

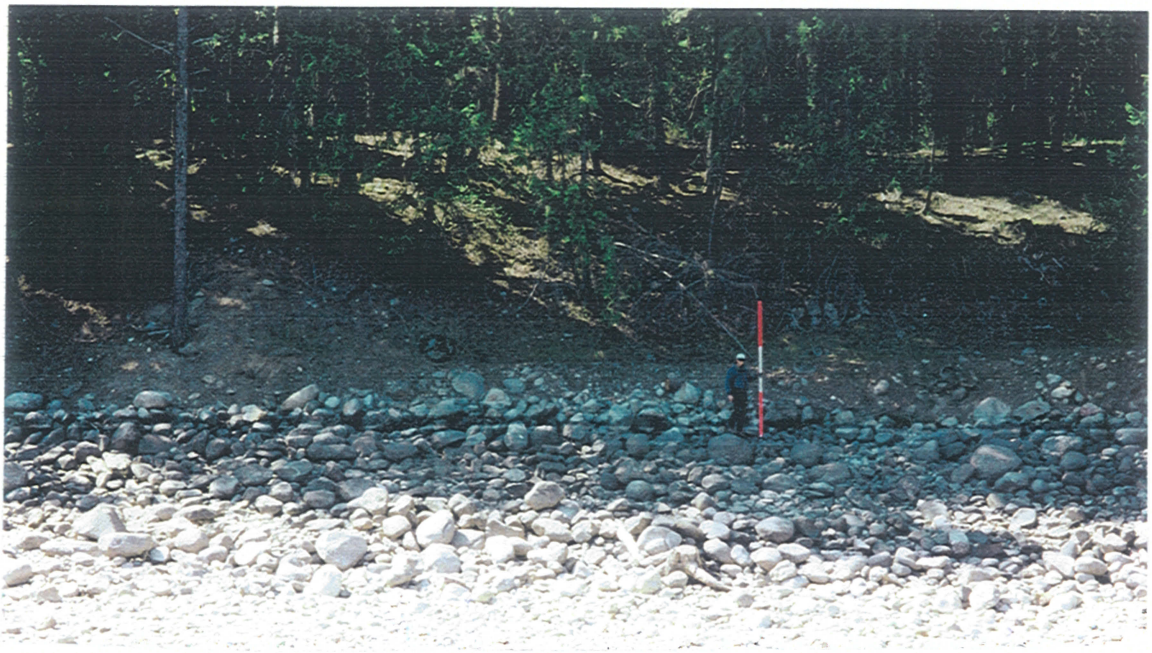
Site 25 Refrigerator Harbor Campground Treatment area C (Enhanced placed rock treatment, LWD, plantings) T1 contract spec) Photo CD 9 FR 62. (Tree next to rod fell over ~ 2006)

Site 25 Refrigerator Harbor Campground Treatment area C Current 2009 side view of treatment C, note tree fallen from gradual undercutting or winds. Spotty active toe erosion.

Site 25 Refrigerator Harbor Campground Treatment area C (Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photo CD 9 FR 63.

Site 25 Refrigerator Harbor Campground Treatment area C (Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photo CD 9 FR 64. Treatment C covers 250 feet.

Site 25 Refrigerator Harbor Campground Treatment area C (Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photo CD 9 FR 65.



Site 25 Refrigerator Harbor Campground Treatment area's C/D (C=Enhanced placed rock treatment, LWD, plantings) T1 contract spec (D= Double rock treatment, LWD, plantings) T3 contract spec Photo CD 9 FR 66. Treatment D covers 57 feet.

Site 25 Refrigerator Harbor Campground Treatment area D/E (E =Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photos CD 9 FR 67

Site 25 Refrigerator Harbor Campground Treatment area E continued (Enhanced placed rock treatment, LWD, plantings) T1 contract spec. Photos CD 9 FR 68

Site 25 Refrigerator Harbor Campground Treatment area E continued (Enhanced placed rock treatment, LWD, plantings) T1 contract spec Photos CD 9 FR 69

Site 25 Refrigerator Harbor Campground Treatment area E Ends. (Enhanced placed rock treatment, LWD, plantings) T1 contract spec. Photos CD 9 FR 71

3.2.3 Erosion Control Work for Site 26 – Lucerne Campground Guard Station

A total of 803 lineal feet will be treated at the Lucerne Campground/ Guard Station. Of the 803 feet, 339 feet will receive full treatment, 53 feet will be treated with double rock placement, and 401 feet of decaying wood cribbing will be treated with a ¾ rock re-armoring placement. This is likely the largest recreation site in terms of linear feet of treatments.

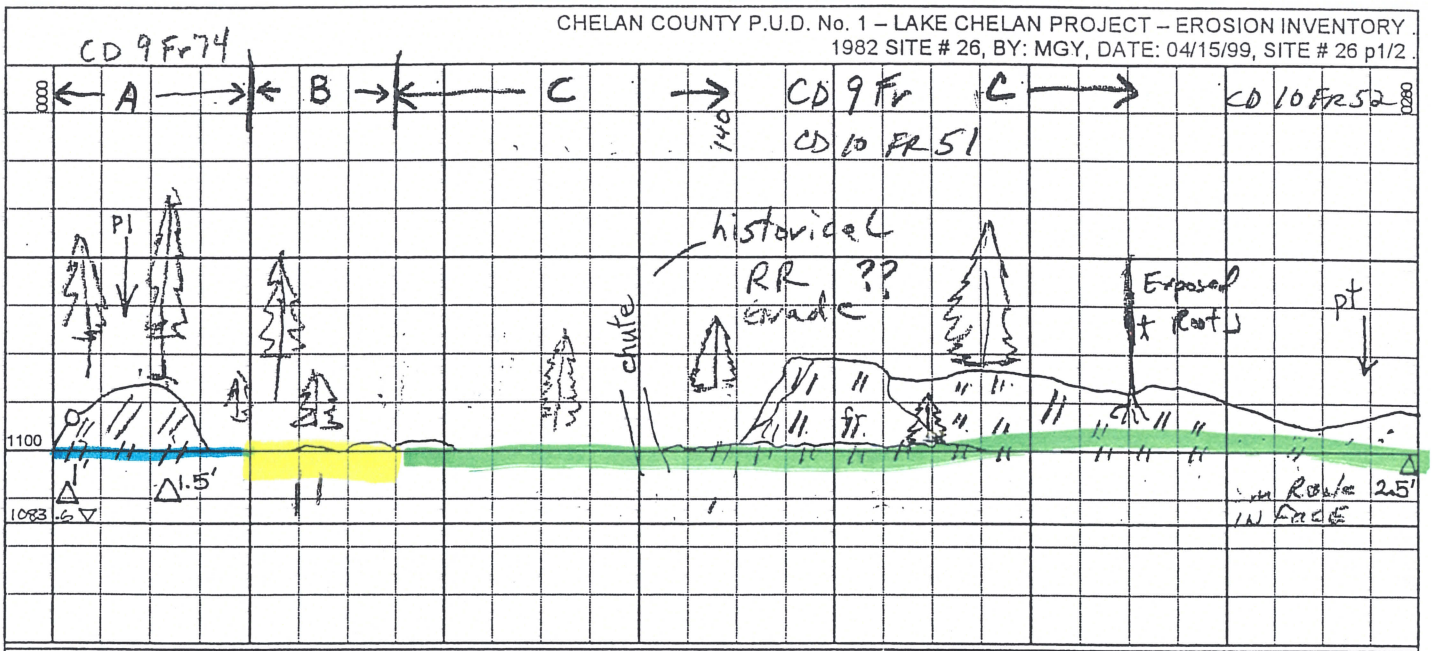
The special factors at this site include a gentle site profile in most locations that, depending on lake level, will allow work to be conducted in the dry. This site has a fair amount of old wood cribbing some sections of which are treated wood. Other sections are not treated wood and are in various stages of decay. Approximately 90 percent or more of this site was previously treated with either wood or small to medium rounded rock. All of these treatments will be using larger angular rock that is significantly more stable even under severe wave action. The boat basin (the vertical walled area originally designed for boat moorage) had significant effort put into creating it in the early 1980s. For the most part this facility has served the public well, and is structurally sound. However, some areas of decay and disrepair are becoming evident, largely due to use of non-treated woods or recycled materials.

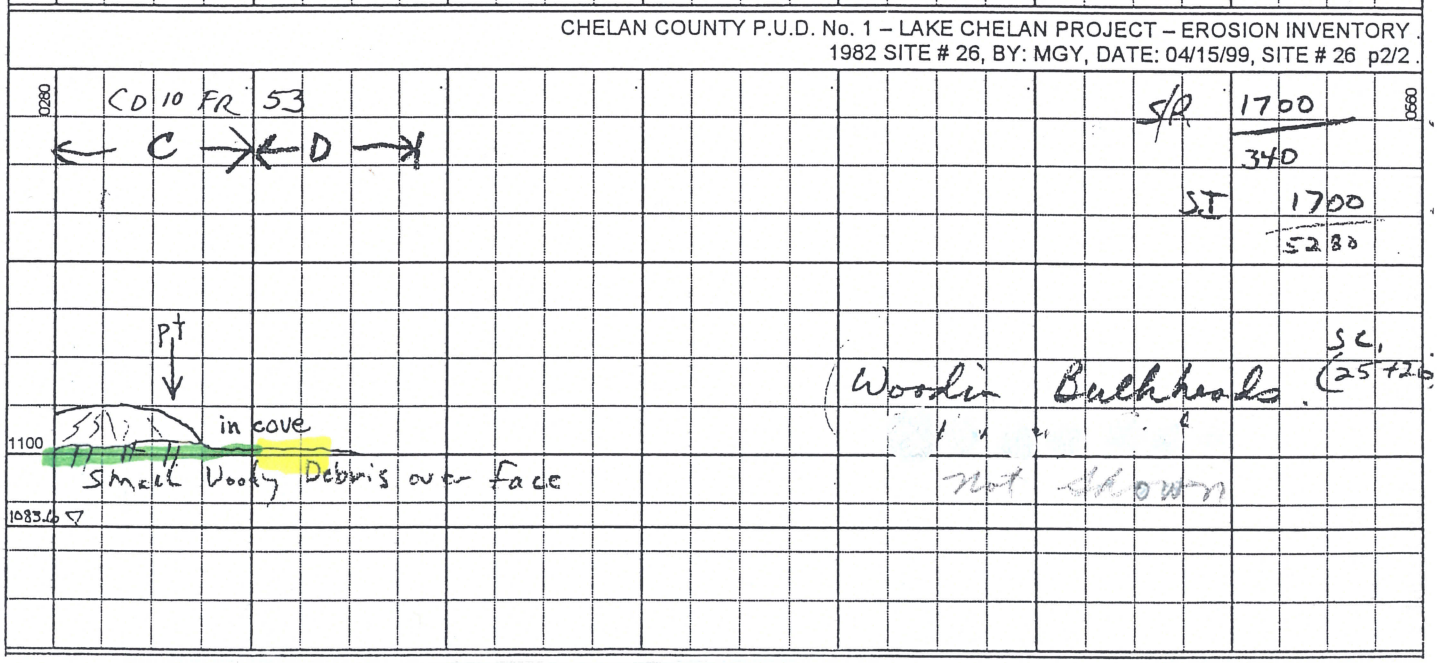
The boat basin decking and a few individual support timbers need some spot work and maintenance. This will be addressed under a separate contract or arrangement. Wave action within the boat basin has been a serious issue with large damaging waves bouncing off of the wood wall in treatment zone E. It is anticipated that by creating a gradual rock-armored protection of this area that wave energies will be dissipated. Breakwater walls or floats to further address this concern will not be included with the erosion control work.

Table 3: Treatment Zones for Site 26 – Lucerne Campground

Treatment Zone	Length (feet)	Treatment Type (See Drawings)	Treatment Description
A	54	T1	Enhanced placed rock, with vegetation and LWD
B	33	T3	Double rock placement with vegetation and LWD
C	285	T1	Enhanced placed rock, with vegetation, and some LWD
D	20	T3	Scattered double and single rock placement, no vegetation or LWD
E	248	TW modified	Enhanced placed rock ¾ re-armoring old crib wall, no plantings, no wattles, no LWD. 121 feet of the inside wall will have a slightly extended toe to better absorb wave energies coming into the boat basin.
F	153	TW modified	Enhanced placed rock ¾ re-armoring old crib wall, no plantings, no wattles, no LWD
G	10	T6	Retro fitting of wood crib dock for moorage

Location of treatment zones on updated sketches for Site 26:





Original 1999 site data:

Site 26, 04/15/99
Lucerne,D/S
0'-340'
Alluvial fan deposit, sand matrix, course gravel to 12" cobbles, rounded
Downslope, coarse gravel to 1.5' cobbles, rounded few to 3'
Face, one fresh area most older with duff, shrubs
Toe sl undercut in a few places where rock berm placed too low, ravels easily
31' 140' little activity
280'+ Wider bench
Tapers to end behind breakwater
Compared to 1982 photos, Site 26, all/4: Little change.
Lip at top of face less pronounced in a few places. (=)

Site 26 Lucerne Campground Treatment area A
(A=Enhanced placed rock treatment, LWD, plantings) T1 contract spec
Photo CD 9 FR 74. Treatment length 54 feet

Site 26 Lucerne Campground Treatment area B
(B = Double placed rock treatment, LWD, plantings) T3 contract spec.
Photo CD 10 FR 50. Treatment length 33 feet

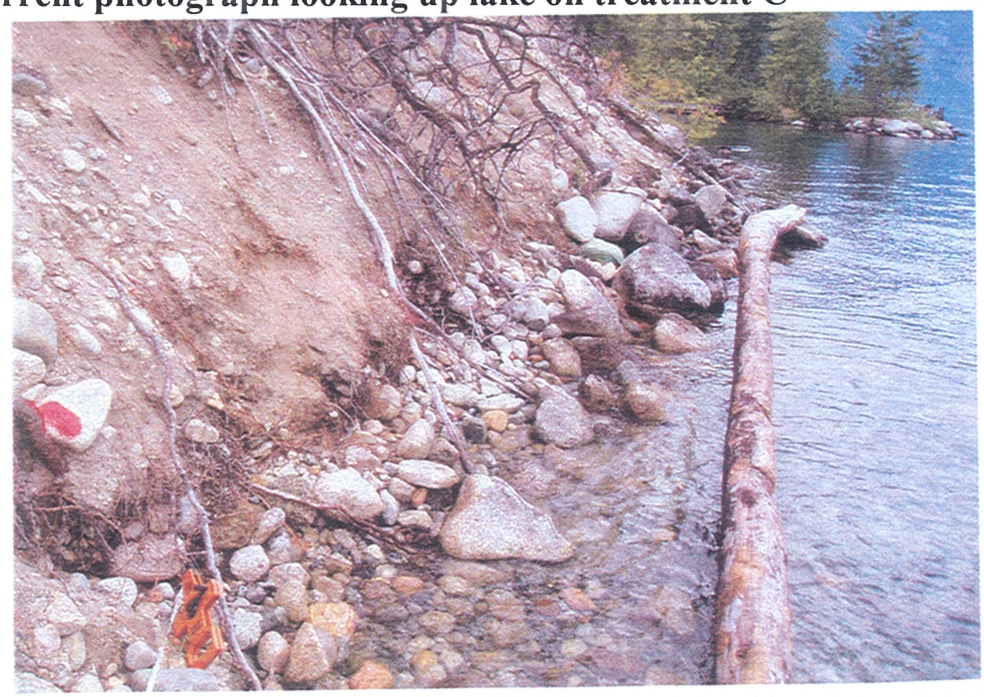
Site 26 Lucerne Campground Treatment area C
(A=Enhanced placed rock treatment, LWD, plantings) T1 contract spec
Photo CD 10 FR 52.

Site 26 Lucerne Campground Treatment area C
(A =Enhanced placed rock treatment, LWD, plantings)T1 contract spec.
Photo CD 10 FR 53.

Site 26 Lucerne Campground Treatment area C
(A=Enhanced placed rock treatment, LWD, plantings) T1 contract spec
Current photograph start of C

Site 26 Lucerne Campground Treatment area C
(A =Enhanced placed rock treatment, LWD, plantings)T1 contract spec.
Photo CD 10 FR 51. Treatment length 250 feet

Site 26 Lucerne Campground Treatment area C
(A=Enhanced placed rock treatment, LWD, plantings) T1 contract spec
Current photograph looking up lake on treatment C



Site 26 Lucerne Campground Treatment area C
(A =Enhanced placed rock treatment, LWD, plantings)T1 contract spec.
Current photograph looking at exposed root on treatment C

Site 26 Lucerne Campground Treatment area D
(D= Scattered single and double rocks) T3 contract spec.
Photo CD 10 FR 55.

Site 26 Lucerne Campground Treatment area E
(E=Enhanced placed rock treatment, no LWD or plantings,
No wattles) TW contract spec
CD10 Fr 56

Site 26 Lucerne Campground Treatment area F
Current photograph shows base log only, upper layers deteriorated and washed away. (Inside corner right of person in photo below)

Site 26 Lucerne Campground Treatment area F Area between floating dock and fixed crib dock TW contract spec
(E=Enhanced placed rock treatment, no LWD, plantings, or wattles)
Photo CD10 FR 59.

3.2.4 Erosion Control Work for Site 27

Site 27 is up lake from the fixed crib dock at the Lucerne Guard Station. It is a small site with a total of 478 lineal feet to be treated. The specifics of the treatment anticipated by treatment zone are presented in Table 4. Like site 26, the primary special factor at this site is that 90 percent of it appears to have been treated at one time. Attached are two historic photos from January 1984. These show little difference from a distance, but active erosion continues to occur at a slow and consistent pace, as evident by the fresh sloped soils and lack of vegetation. In 1980s, the repair pushed up existing rounded alluvial rock over fabric cloth. It is now apparent that the smaller rounded rock can not withstand normal wave actions over time. The pushed up slopes were pulled back out by wave action re-exposing the toes of the slopes to undercutting, leading to slope instability. The site has a shallow profile with a large amount of small to medium size rounded rock out to approximately 1,090 feet elevation. Treatments of zones C, D, and E (358 feet) of this site are modified to utilize past actions, but will use much larger imported angular rock.

Table 4: Treatment Zones for Site 27 –

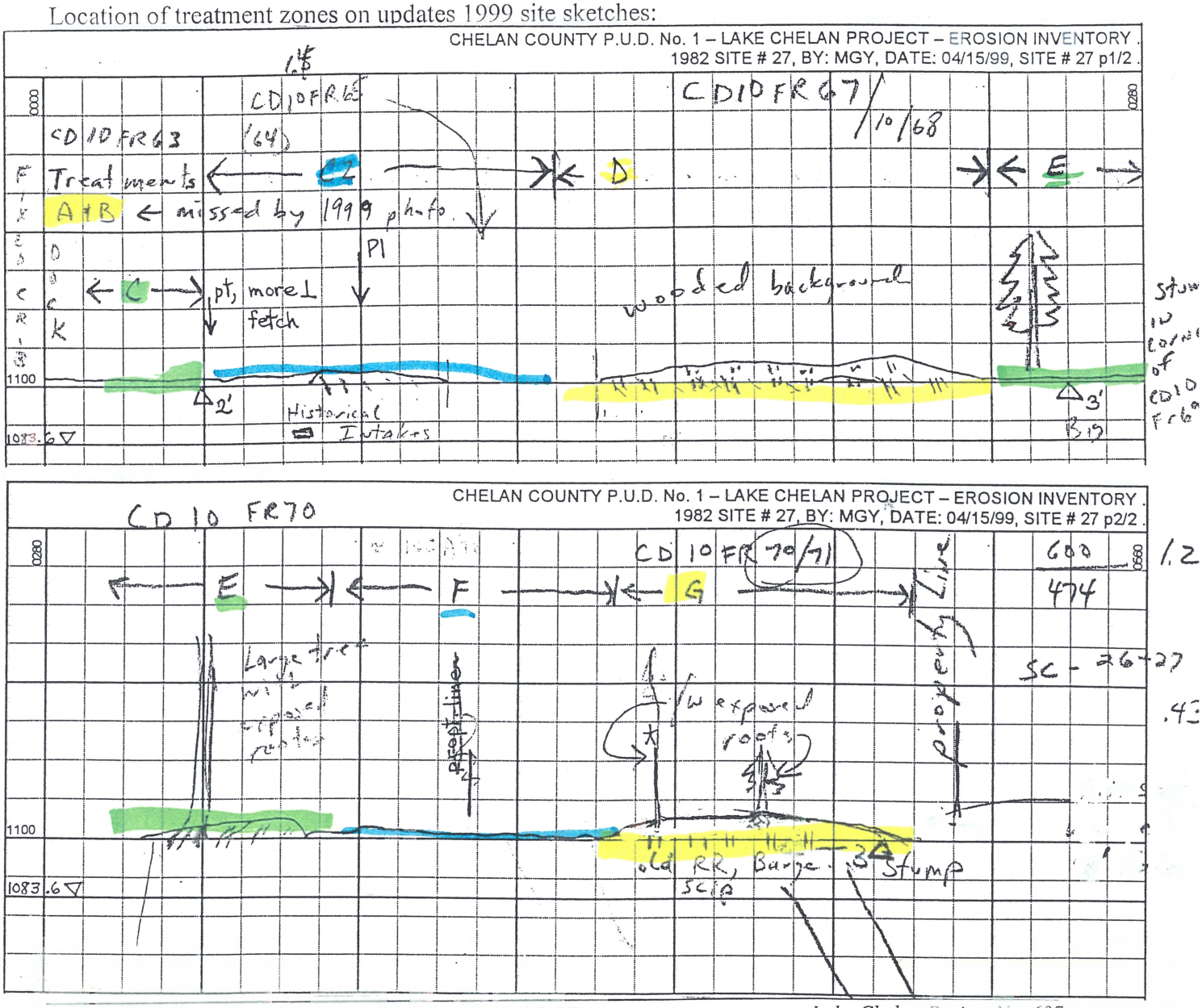
Treatment Zone	Length (feet)	Treatment Type (See Drawings)	Treatment Description
A	20	T3S	Single / scattered rock placement, along up lake side of fixed dock No plantings or LWD
B	12	T3	Scattered Double rock placement, No wattle, LWD, or planting
C	70	T3	Solid Double rock placement (elevation to 1102.5), no excavation just placement, just clean out base layer debris (small rock and misc. wood) No LWD, spot plant where needed.
C2	86	T1	3/4 enhanced placed rock with only fabric (elevation to 1102.5), no excavation just placement, just clean out base layer debris (small rock and misc. wood). No wattles or LWD, spot plant
D	102	T1	Enhanced placed rock w/ LWD, no excavation, no vegetation
E	100	T1	Enhanced placed rock w/ LWD, no excavation, no vegetation
F	73		Scattered LWD placement only
G	88	T1	Enhanced placed rock w/ LWD, no excavation, no vegetation

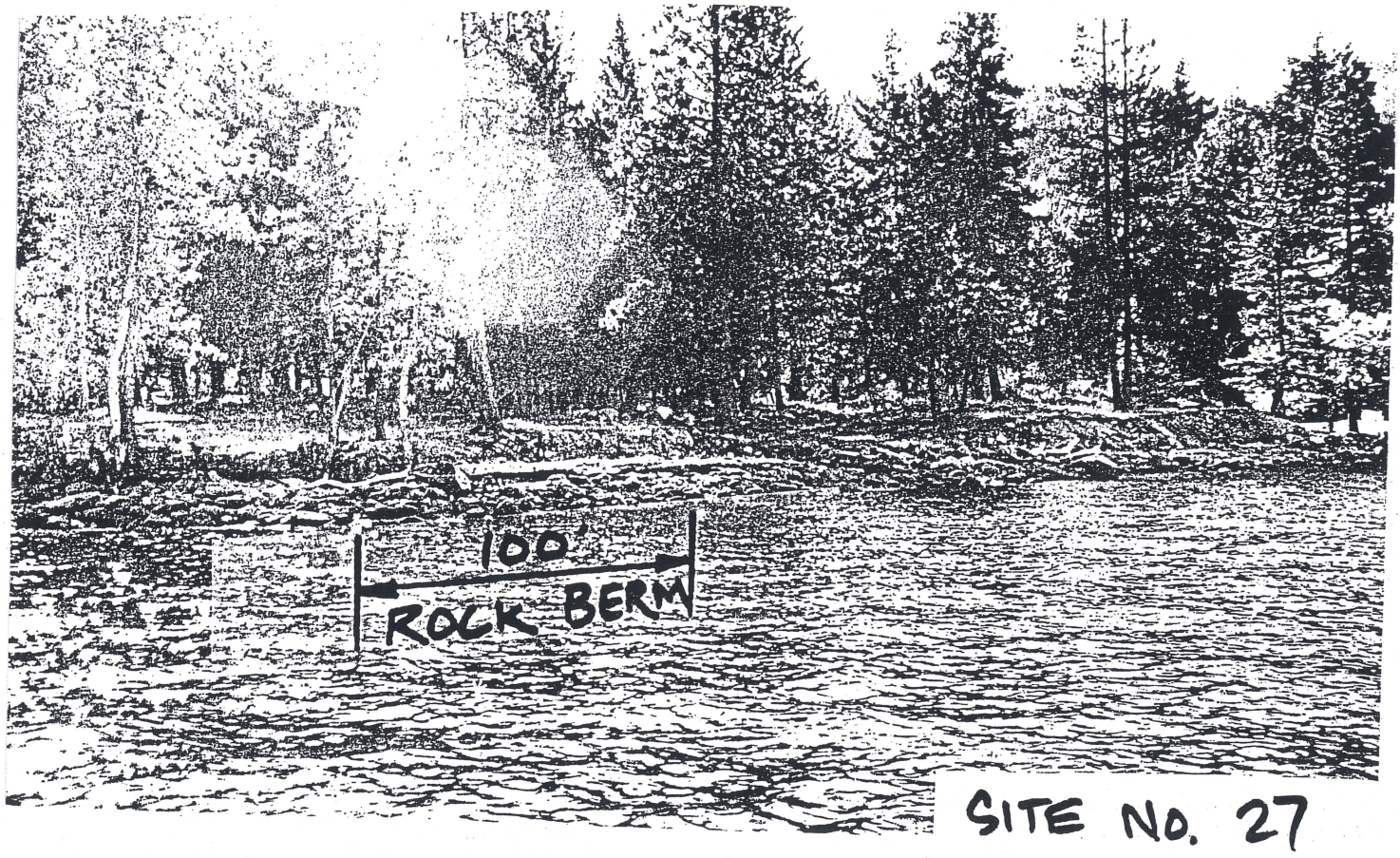
Original 1999 site data:

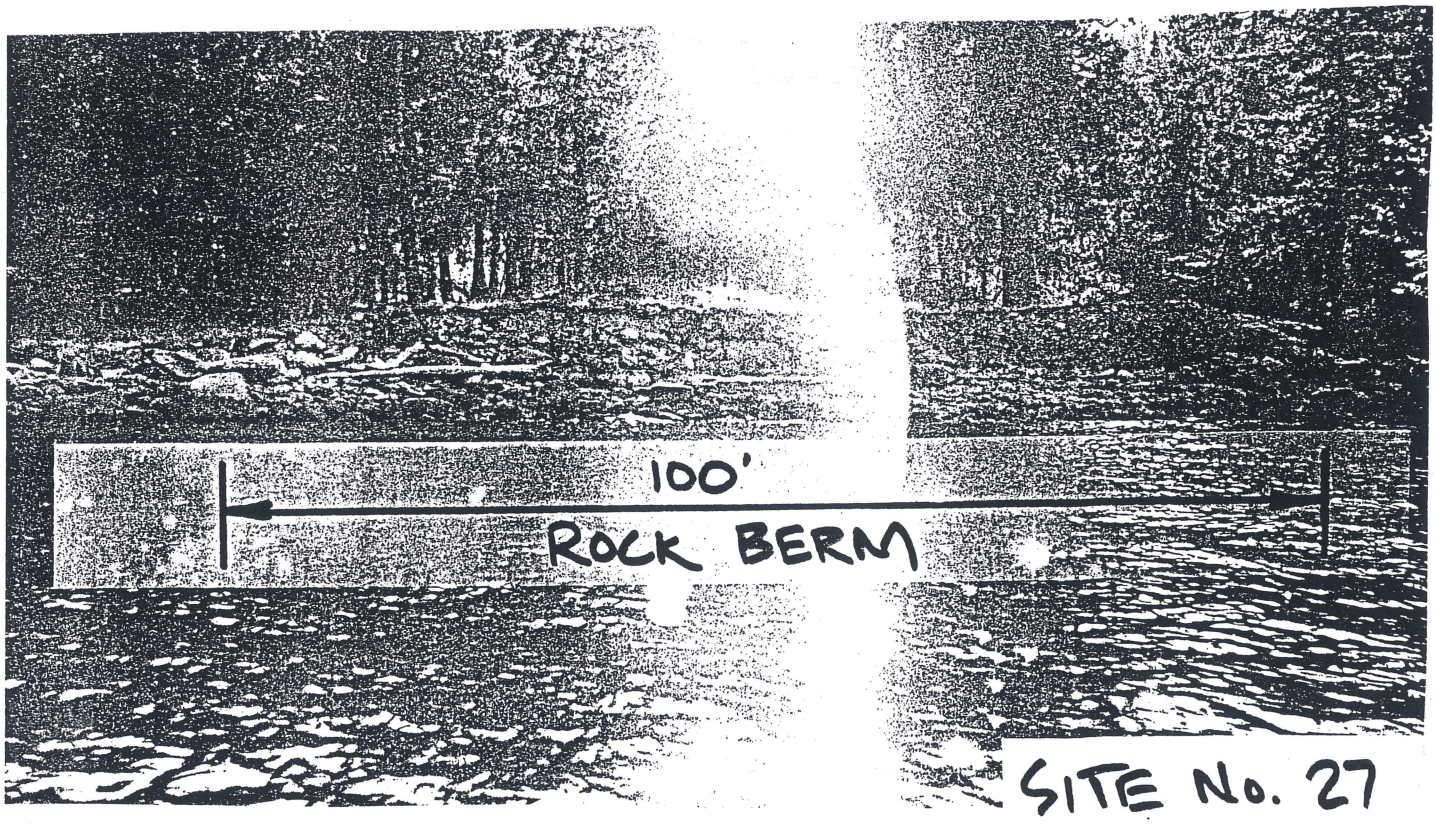
0-70'
Moderately protected U/S
Alluvial fan deposit, sand matrix with coarse gravel to 3' rock rounded
Upslope almost level, 1'-2' above high water
Top and mid-face mossy, v rocky, inactive
Toe sl undercut
Bench 10'-15' wide
40'+

Very exposed U/S, nearly 90° to fetch
70'-102'
Alluvial, silty sand matrix (SM) with gravel to 10" cobbles, rounded
Top and mi-face healing, bare soil ,but little activity
Toe stable
102' 140' No activity
140'-235' As at 70'-102'
235'-305' Little or no activity
Toe sl undercut, Face mossy, very rocky
Log bulkhead just U/S of site, deteriorating
Site not well screened, but not large face
Compared to 1982 photos, Site 27, 1&2:
Little apparent change. Face shape unchanged. (=)

Location of treatment zones on updates 1999 site sketches:







Historic 1984 photographs showing earlier treatment areas.

Site 27 Lucerne Treatment areas A, B, and C
2009 photograph Treatments are single scattered rock to solid double rock placement.

Site 27 Lucerne Treatment area C 70 feet of double rock with fabric cloth no excavation or plantings, LWD, or wattles)
2009 Photograph

Site 27 Lucerne Treatment area C2
C2 is a ¾ Enhanced placed rock going to 1102.5+, with only fabric clothe 86 feet.
Photo CD10 FR 63

Site 27 Lucerne Treatment area D 102 feet of Enhanced placed rock with fabric but no excavation or plantings, LWD, or wattles.
Photographs CD10 FR 64

Site 27 Lucerne Treatment area E 100 feet
Enhanced placed rock, with fabric clothe, LWD, and planting by others.
Photo CD10 FR 67 and 68

Site 27 Lucerne Treatment area E
Current 2009 photograph

Site 27 Lucerne Treatment area F 73 feet Only LWD and anchor rock for LWD, 3-4 pieces depending on size Current photograph

Site 27 Lucerne Treatment area G 88 feet Enhanced placed rock with Fabric clothe and LWD no plantings Current 2009

3.3 Mitigation Measures Included

Sites 24, 25, 26 and 27 were all defined as group 1 sites in the Settlement Agreement, indicating they are all located in high-use recreation areas (campgrounds). Work on site 24 reclaims some lost recreational space. Boat basin needs at site 26 will be looked at during a recreational or dock review. Currently, the sea walls are in good shape, but some of the upper decking needs to be replaced.

Noxious weed control will be addressed by 1) limiting foreign soils being brought into the sites; 2) noxious weed control will be incorporated into the design and level of actual ground disturbance in that only below l,100 should we have actual ground disturbance; and, 3) rock will be coming from a weed-free certified pit. Every effort will be made to keep existing slopes and vegetation as stable as possible during treatment.

The biologs will not have any seed materials imbedded within them. Specific north shore and south shore seed supplies are being collected and germinated for future plantings. We currently have local native Big Leaf Maple, Cedar and Dogwood seeds being germinated that will be ready for future spot plantings in these sites. These sites all have fairly good natural vegetation that will fill in once toe erosion is stabilized. Spot shoreline plantings will be done by USDA-FS personnel at select sites that allow for this.

Large Woody Debris (LWD) will be used to benefit fish and address wave actions where possible and to the agreed upon ratio (1/1) of disturbed shoreline. This set of treatment allows for LWD placement to be incorporated into approximately 1,345 linear feet of shoreline treatments. It will not be a continuous treatment, but a selected piece anchored occasionally until we reach the appropriate amount. It will be done so that it does not interfere with dock access or other recreational shoreline to water access at the campgrounds. T1 treatments trigger excavation that is used in the LWD calculation. We have calculated 931 lineal feet of these treatments with excavation disturbances of approximately 1.5 feet. So, we have a square footage of required LWD (approximately 1,400 square feet). With "average" pieces of LWD being a 20-foot log 14 to 16 inches in diameter, each log would represent about 25 square feet of mitigation. Thus we are planning to place approximately 56 "average" logs within the treatments that allow for them.

3.4 Implementation & Effectiveness Monitoring

The effectiveness monitoring schedule is based on when each site will be treated. The timelines for site treatment are outlined in Chapter 1 of the Lake Chelan Comprehensive Management Plan. The monitoring will be focused on the evaluation of four distinct focus areas:

1. Slope stabilization with an objective of reaching a 90% success rate in the treated areas.
2. Presence of native vegetation with an objective of reaching ratio of native to non-native vegetation similar to that found on nearby on undisturbed slopes on 90% of treated area. This will take into account the percentage of rock, and bare spots as this is a very dry hostile natural environment.
3. Presence of noxious weeds with an objective of not introducing any new noxious weeds through the course of treatment. Implementation methodologies are designed to exclude the introduction of noxious weeds. Treated areas will be

monitored on an ongoing basis to determine if the methodologies employed are sufficient to meet the project objectives.

4. Stability of LWD with an objective of minimizing movement. Large loose objects could become hazardous to the site users.

All four focus areas will be monitored 1, 3 and 5 years following treatment at the sites. For efficiency, some sites monitoring may be conducted when additional vegetation is being planted following the initial stabilization. LWD inspections and slope stability inspections will be conducted during drawdown times to allow inspection of anchoring devices. Noxious weed and vegetation inspections will occur after leaf-out, typically in the May to June time period. These inspections will be coordinated with other erosion control implementation steps to provide travel and time efficiencies when possible.

SECTION 4: NEPA

After review and consultation the Forest Service accepted the Final Environmental Assessment (FEA) for Hydropower for Lake Chelan Hydroelectric Project, FERC Project No. 637, FERC, October 2003, for erosion control treatments. Materials included in the FEA detailed all previously conducted survey work, and proposed site-specific treatment areas that were measured and mapped at 10-foot increments. The proposed specific treatments have not materially changed since the date of issuance of the FEA. To ensure that site-specific permitting requirements are met, Project Files, including biological evaluation data, cultural resources, and consultation, will be created or updated, and included in each site-specific plan to provide additional site-specific information in a timely manner over the life of the License. Project Files include the Biological Evaluation (BE) data and USFWS concurrence, (see Appendix B) and the Cultural Resources information (see Appendix C).

4.1 Permitting

The programmatic Biological Evaluation and site-specific consistency forms, completed by Mallory Lenz, District Wildlife Biologist, sent to U.S. Fish & Wildlife Service, September14, 2009, are provide as Appendix B. The Forest Service has received concurrence on the first two. "Based on information provide in the Project Consistency Form, the U.S. Fish and Wildlife Service (Service) agrees that this Project is consistent with the design criteria and conservation measures described in the Programmatic and therefore may be tiered to our August 14, 2007 concurrence with the Programmatic. The Service concurs with your determination of "may affect, not likely to adversely affect" for the northern spotted owl (*Strix occidntalis caurina*), gray wolf (*Canis lupus*), and grizzly bear (*Ursus arctos*)."

Consultation with the Army Corps of Engineers will occur through the permitting process, Tribal entities will be consulted Nation to Nation and within the cultural forum. The U.S. Fish and Wildlife Service will review annual site-specific program consistency analysis forms (PCF), which is tiered to a larger programmatic analysis of the entire project over the 25 years of erosion control treatment. The Joint Aquatic Resources Permit Application Form (JARPA) was mailed to the Washington Department of Fish and Wildlife, Washington Department of Ecology, U. S. Fish and Wildlife Service, and the Army Corps of Engineers on October 30, 2009. The JARPA is the formal request for Nationwide Permit 13 Bank Stabilization from the Army Corps of Engineers, addresses the Washington Department of Ecology's 401 Water Quality Certification permit, and the Washington Department of Fish and Wildlife's Hydraulic Project Application (HPA) addressed under the 2005 HPA Memorandum of Understanding (see Appendix B).

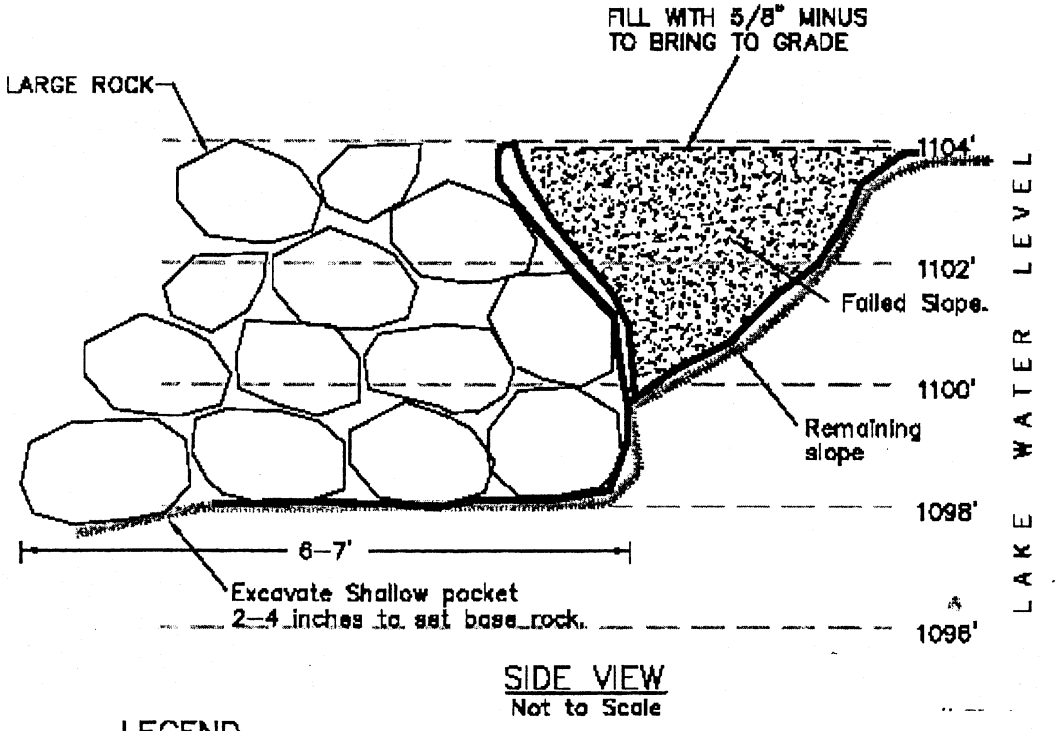
4.2 Cultural Resources

Completion of the cultural documentation required for this work under the *Forest Service Programmatic Agreement with the Washington State Historic and Preservation Officer, Appendix B*, is the responsibility of the Forest Service archaeologist. Reports are confidential and will be kept on file at the Forest Service. Nation-to-Nation letters to the Confederated Tribes of the Colville Reservation and the Confederated Tribes and Bands of the Yakama Indian Nation were sent October 19, 2009, and are included as Appendix C.

Appendix A: CONSTRUCTION DRAWINGS OF PROPOSED TREATMENTS

ENHANCED PLACED ROCK WITH FAILED SLOPE AT REC SITE T5

NOTES:
UNDER WATER DOCK SUPPORT ARM WILL NEED TO BE REMOVED PRIOR TO WORKING IN THIS AREA.



SIDE VIEW
Not to Scale

LEGEND

1100' Waterline/Soil – Excavate for base rock 6-7' waterward

Permanent Erosion Control Geotextile, FP-03 TABLE 714.4 TYPE IV.A

Approximate Natural Profile

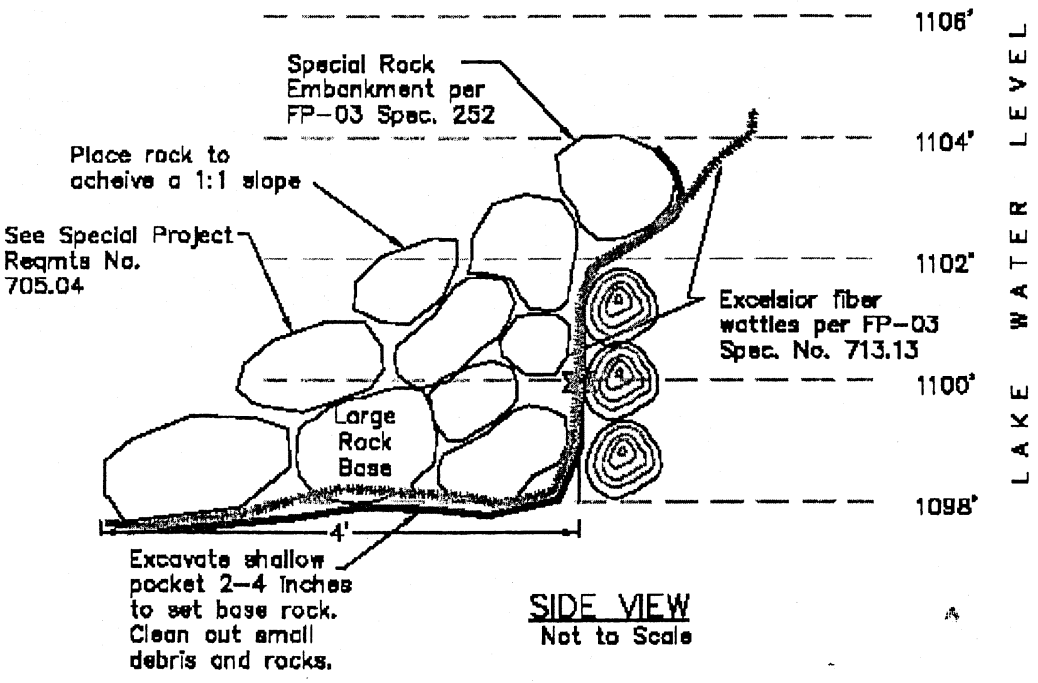
T5 – ENHANCED PLACED ROCK WITH FAILED SLOPE

LAKE CHELAN SHORELINE EROSION CONTROL PHASE II

Sheet 1

ENHANCED PLACED ROCK WITH WOOD CRIB WALL

TW



SIDE VIEW
Not to Scale

LEGEND

1100' Waterline/Soil – Excavate for base rock 3.5–4' waterward

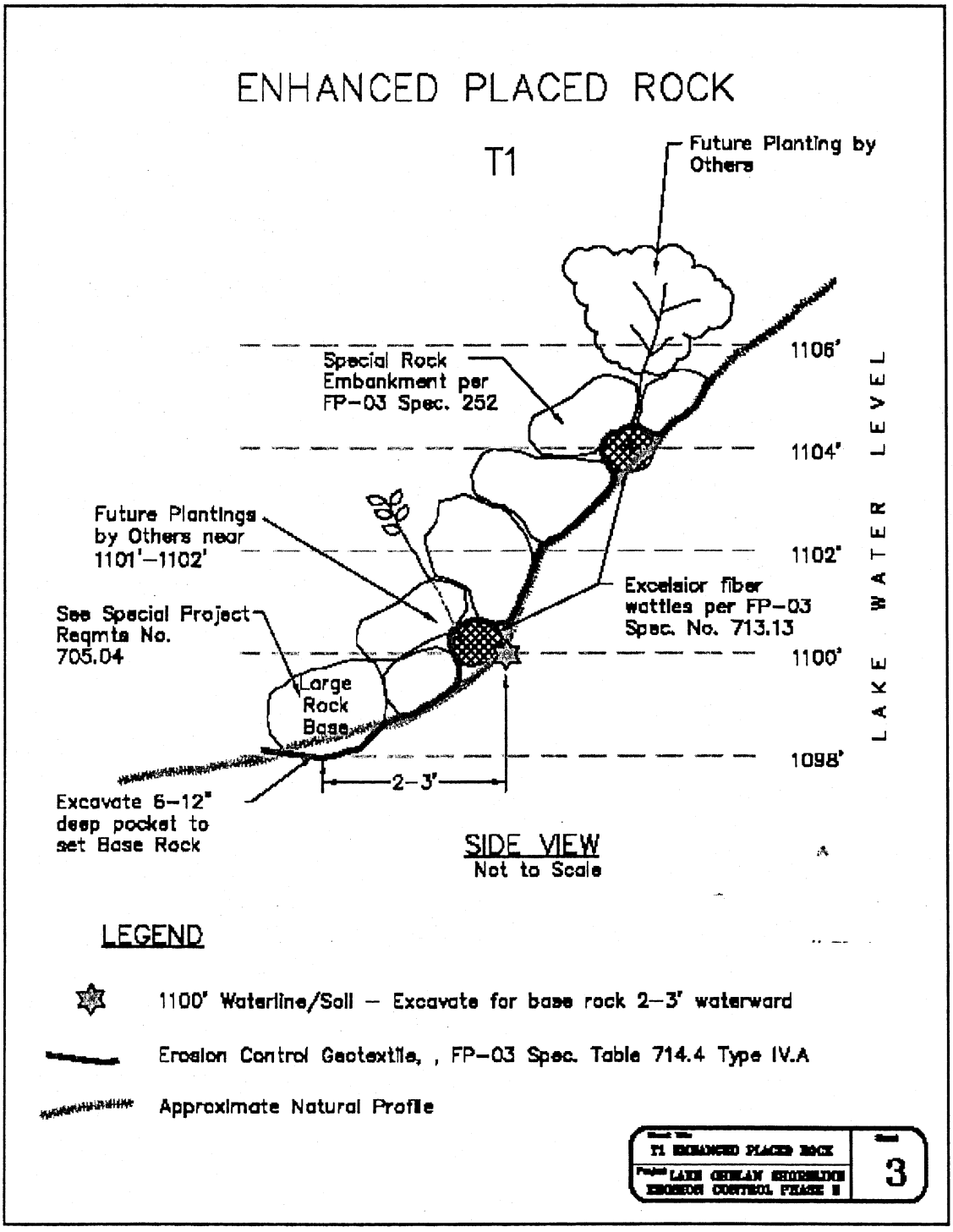
Permanent Erosion Control Geotextile, FP-03 Spec. TABLE 714.4 TYPE IV.A

Approximate Natural Profile

TW ENHANCED PLACED ROCK

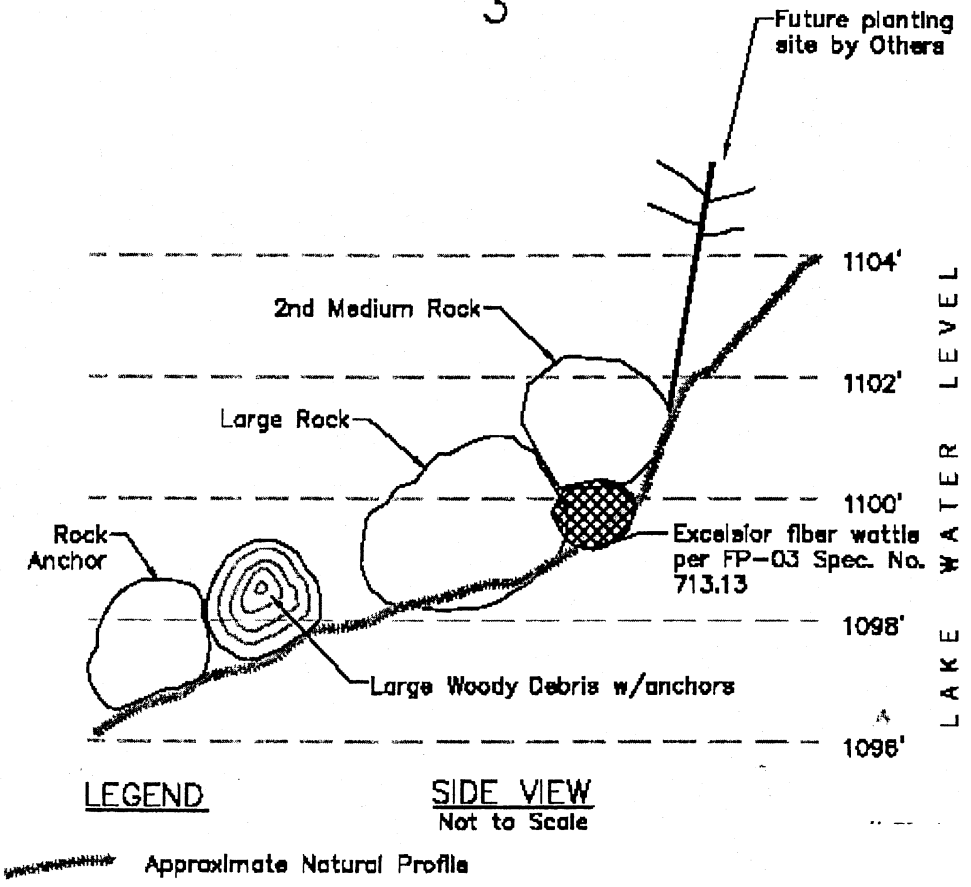
LAKE ERIE BLUFF EROSION EROSION CONTROL PHASE II

2


ENHANCED PLACED ROCK
T1
Future Planting by Others
Special Rock Embankment per FP-03 Spec. 252
Future Plantings by Others near 1101'-1102'
See Special Project Reqmts No. 705.04
Large Rock Base
Excelsior fiber wattles per FP-03 Spec. No. 713.13
Excavate 6-12" deep pocket to set Base Rock
2-3'
1106'
1104'
1102'
1100'
1098'
LAKE WATER LEVEL
SIDE VIEW
Not to Scale
LEGEND
1100' Waterline/Soil - Excavate for base rock 2-3' waterward
Erosion Control Geotextile, , FP-03 Spec. Table 714.4 Type IV.A
Approximate Natural Profile
T1 ENHANCED PLACED ROCK
LAKE CHELAN SHORELINE EROSION CONTROL PHASE II
3

DOUBLE ROW ROCK PLACEMENT WITH HORIZONTAL LARGE WOODY DEBRIS

T_3



LEGEND

SIDE VIEW
Not to Scale

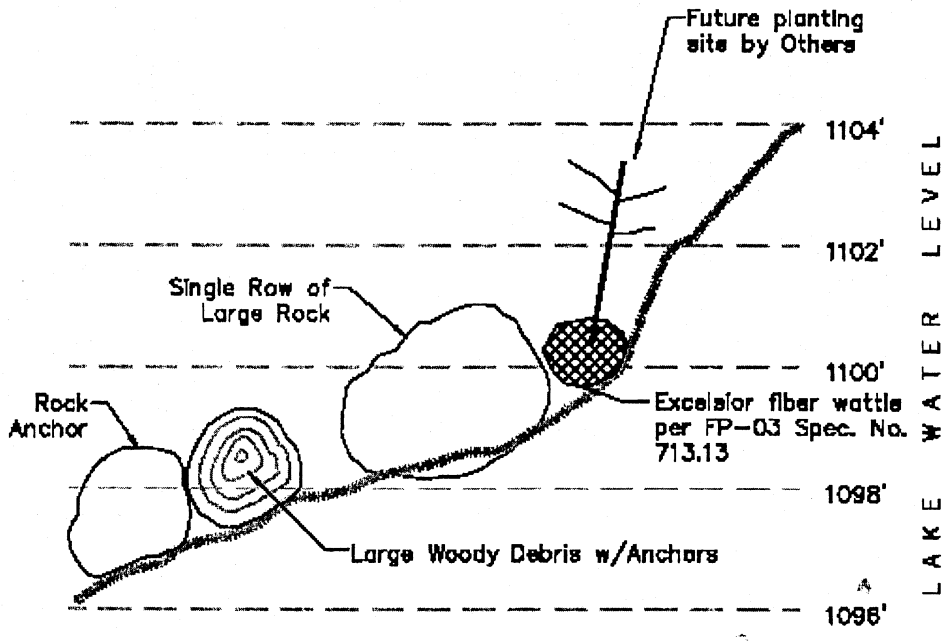
Approximate Natural Profile

SHEET NOTES:
Turf Reinforcement Mat Not Required
LWD=Large Woody Debris – Sound Logs 14"–24"dia., 20'–30' long at Prince Creek (Government–Furnished Materials)
Large Rock = 700–900 lb. rock
Medium Rock = 300–500 lb. rock
Rock Anchor = 700 – 1250 lb. rock

T-3 DOUBLE ROW ROCK PLACEMENT	4
LAKE CHELAN SHORELINE EROSION CONTROL PHASE II	

SINGLE ROW ROCK PLACEMENT WITH HORIZONTAL LARGE WOODY DEBRIS

T3S



LEGEND

SIDE VIEW
Not to Scale

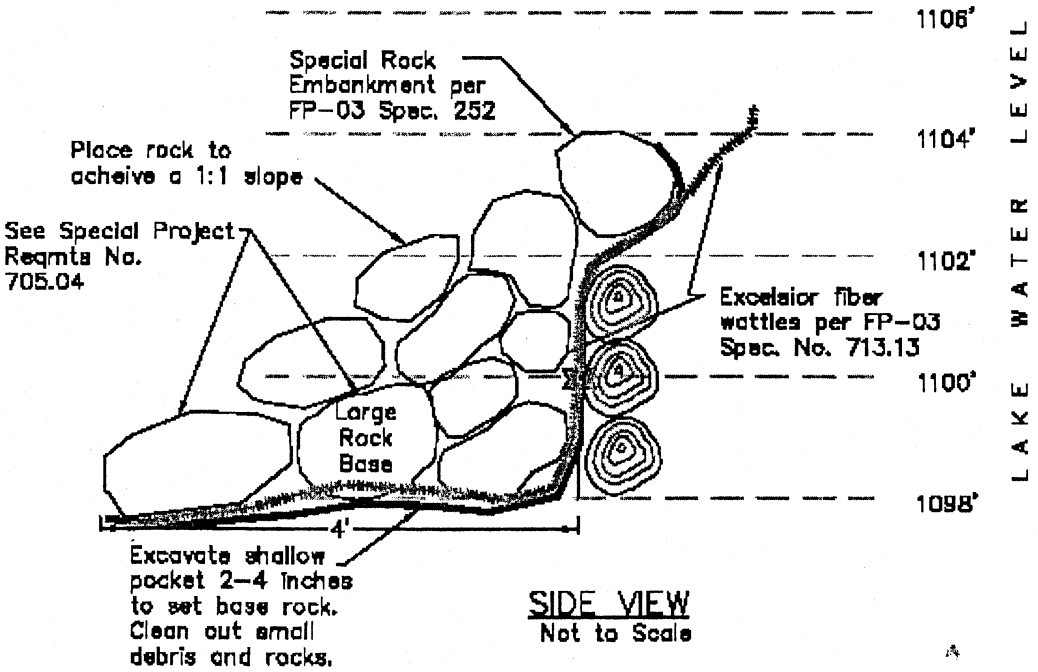
Approximate Natural Profile

SHEET NOTES:
Turf Reinforcement Mat Not Required
LWD=Large Woody Debris – Sound Logs 14"–24"dia., 20'–30' long at Prince Creek (Government–Furnished Materials)
Large Rock = 700–900 lb. rock
Medium Rock = 300–500 lb. rock
Rock Anchor = 700 – 1250 lb. rock

T3S – SINGLE ROW ROCK PLACEMENT W/POCKET
LAKE CHELAN SHORELINE EROSION CONTROL PHASE 2
Sheet 5

ENHANCED PLACED ROCK WITH WOOD CRIB WALL

TW



SIDE VIEW
Not to Scale

LEGEND

1100' Waterline/Soil – Excavate for base rock 3.5–4' waterward

Permanent Erosion Control Geotextile, FP-03 Spec. TABLE 714.4 TYPE IV.A

Approximate Natural Profile

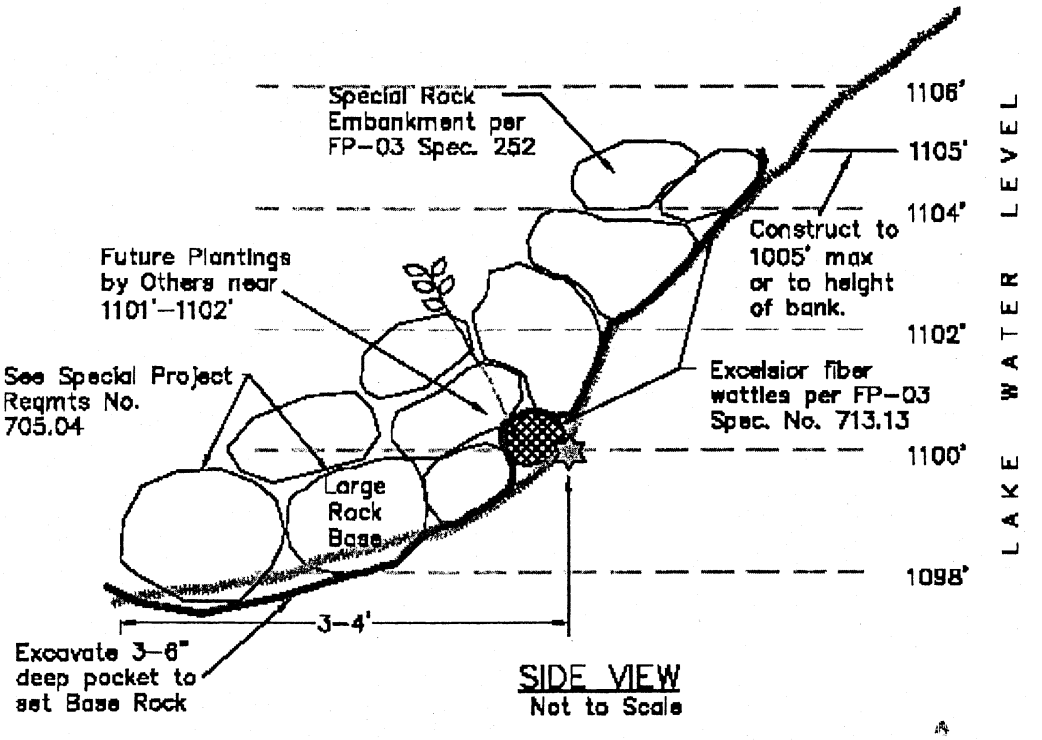
TW ENHANCED PLACED ROCK

LAKE ERIE EROSION CONTROL PHASE II

6

ENHANCED PLACED ROCK AT PREVIOUS REPAIRED SITES

T1–P



LEGEND

1100' Waterline/Soil – Excavate for base rock 3–4' waterward

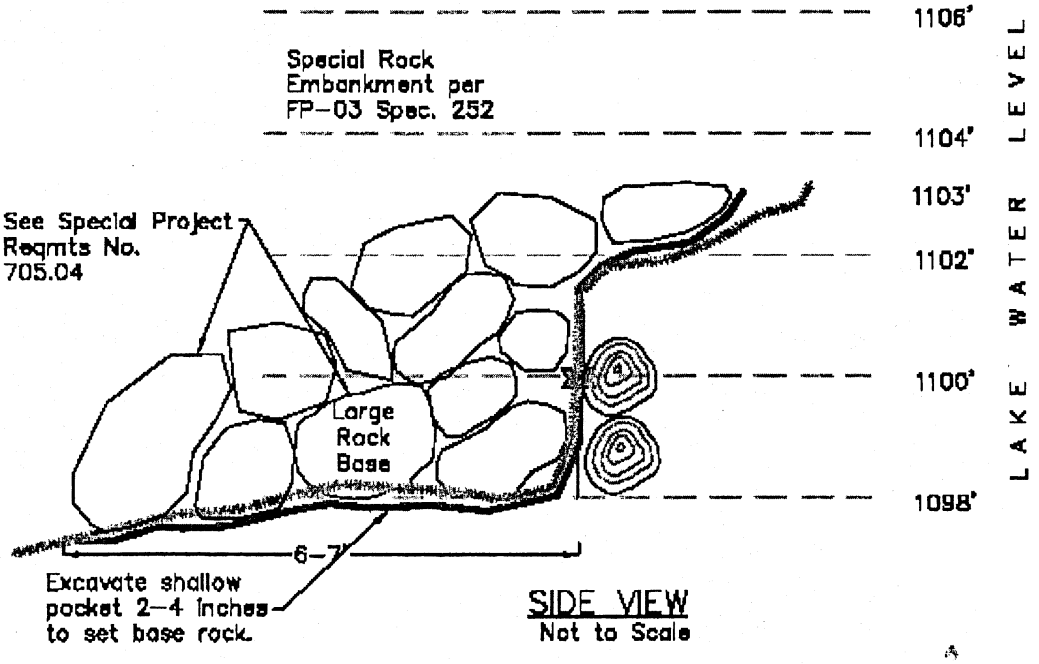
Erosion Control Geotextile, (6' wide acceptable), FP-03 Spec. Table 714.4 Type IV.A

Approximate Natural Profile

T1-P ENHANCED PLACED ROCK	Sheet 7
Project LAKE ONEAN SHORELINE EROSION CONTROL PHASE 3	

ENHANCED PLACED ROCK WITH WOOD CRIB WALL INSIDE BOAT BASIN TREATMENT E

TW–(W)



LEGEND

1100' Waterline/Soil – Excavate for base rock 2–3' waterward

Permanent Erosion Control Geotextile, 12' wide for inside wave action. FP–03 Spec. TABLE 714.4 TYPE IV.A

Approximate Natural Profile

TW(W) ENHANCED PLACED ROCK	Sheet 8
Project LAKE ONEAN SHORELINE EROSION CONTROL PHASE II	

Appendix B: Permitting

Biological Evaluation
U. S. Fish and Wildlife Service Responses
Joint Aquatic Resources Permit Application Form (JARPA)

Biological Evaluation
For the

Lake Chelan Shoreline Erosion Repair Project

On the
Chelan Ranger District
8/1/2007

This Biological Evaluation (BE) describes the Lake Chelan Shoreline Erosion Control Project in general programmatic terms. Site specific details for each project area will be presented through Programmatic Consistency Forms that will tier to this analysis and offer current site specific information regarding habitat and occupancy of the sites at the time the work is implemented. This BE documents the broad scope of potential project effects on federally listed, proposed, and candidate species, Northwest Forest Plan Survey and Manage species, Designated Critical Habitat, and complies with Forest Service direction regarding listed and sensitive species (FSM 2670). The BE is intended to ensure that the proposed management activities are not likely to jeopardize the continued existence of the aforementioned species, nor adversely modify Critical Habitat. It is also intended to display the scope of the entire project and relationship of its individual components in time and space, and allow for future programmatic evaluation of consistency as site specific projects are developed.

Project Description: This project involves the Lake Chelan shoreline erosion control work that will be undertaken over the next 10 to 25 years as a result of the dam re-licensing agreement with the Chelan County PUD. A 1999 inventory conducted by the Chelan PUD and Forest Service identified 112 sites comprising 40,780 linear feet of National Forest shoreline undergoing erosion. 35-36 of those sites were identified as high priority sites that would require treatment and monitoring by the PUD through the re-licensing settlement agreement (See highlighted sites on attached map). Total length of the shoreline proposed for treatment is approximately 9,325', though active measures will only be applied to approximately 7635' of this length. Approximately 40% of this length (and over half of the sites) is located in and around existing high use recreation sites. Sites range in size from as small as 20' at Elephant Rock to as large as 2490' in the Twin Harbor vicinity.

Anticipated erosion control measures include hand placed rock walls, mortared placed rock walls (very limited application at FS docks), rock steps, "Enhanced placed rock" (large rock riprap, fitted into place rather than dumped, with vegetation and Large Woody Debris incorporated to provide additional protection for the slope toe and to provide habitat), log crib walls, beach fill (limited application at recreation sites), vegetation planting, and Large Woody Debris (LWD) Placement (see enclosed generalized treatment sketches). Bioengineering techniques and fish enhancement measures will be incorporated to the extent feasible, with details of such work developed with each site specific plan. LWD placement would be done only at locations that do not create hazards for boaters and swimmers. Other treatments may be identified in site-specific plans or as work progresses. These techniques may all be modified to some degree to include such features as joint plantings, rock piles for fish habitat, LWD structures, and upslope revegetation. Work would be accomplished with conventional excavators and rock drills working from barges or off loaded and working within the draw down zone.

Actual ground disturbance at each site will vary with the treatment type but active excavation with the most aggressive treatments would involve anchoring rocks or logs into about 2-3 horizontal feet of shoreline (approximately 3' slope distance of potential ground disturbance) with another 6-8 feet of minor surface disturbance as materials are laid over the slope. The actual area of disturbance (surface disturbance or excavation) will depend on the slope of the lakeshore at the site, with potentially larger areas of disturbance at the sites with a low profile. Sites with steeper shorelines will have less of the surface disturbed, but may require more excavation to stabilize the treatment. Over the entire project area, given the length of shoreline directly impacted (approximately 7,635') and an average of 10' slope distance, the project represents less than 2 acres of total ground disturbance.

In most cases, work would need to occur during the period when the draw down zone is accessible, typically December through mid-April. Generally, pre-positioning of rock would occur in December. Placement of rock and anchoring of

woody debris would occur from mid-January through mid-April. Work at each site is expected to take up to one week for rock pre-positioning, up to 2 weeks for rock and log placement, and up to one week to secure large woody debris to rock anchors (3 to 4 work periods total at each site). Work is, however, likely to be frequently interrupted by rough lake conditions, potentially lengthening the period of work at each site. All work would occur during daylight hours. Contractors will likely camp at the site during the work week, with 4-6 people present at one time. Due to the limited local availability of project critical equipment (e.g. barges), it is likely that work will be performed one site at a time, through it may be possible (though unlikely) to acquire and stage enough equipment to work at as many as 3-4 sites at a time.
As mitigation to potential disturbance of unsurveyed suitable spotted owl habitat, only one group of sites in the area between Bear Creek and Elephant Rock will be rehabilitated at any one time.

General Site Information

- Elevation range: _1092'-1106'.
- Acres treated: __approximately 87,120 square feet (2 acres) total excavation over 35-36 sites. At any one site, ground disturbance would occur in spots along the edge of an average of about 1 acre (average linear distance of 218' per site). Surface rock would also be laid over portions of the project area within each site (little to no ground disturbance).
- Miles of road: __0_____ Motorized trail: ___0_____ Non-motorized trail: ____0_____
- Project will result in noise _____equal to ambient, or ___x_____ above ambient conditions.
- Number of structures created: 0 (Not including rock steps, rock walls, and rock/log shoreline protection features).
- Number of hazard trees felled: 0 (No hazard trees have been identified at any of the sites. Any hazard trees that are identified will be incorporated into large wood structures for shoreline stabilization – all will remain on site).
- Implementation dates and duration of project activity: December through April of each year projects are undertaken.

Project Location

- District: Chelan
- Watershed: Lake Chelan
- Legal: Various along lake shore (see map)

Land Allocation

- *NW Forest Plan Land Allocation(s) and %: 100% Riparian Reserve (all sites), surrounded by Matrix (1 site), administratively Withdrawn (9 sites), Late Successional Reserve (20 sites), and Congressionally Withdrawn (5 sites).*
- LRMP Land Allocations(s) and %: EW-2 (Riparian Aquatic Habitat Protection Zone – all sites), RE-1 (developed recreation) at 13 campsites, RE-3 (Dispersed Recreation, unroaded, Non-motorized - 24 sites), EW-1 (Key winter range - 1 site), EW-3 (Roadless Key Winter Range – 1 site), Wilderness (5 sites, though sites themselves are outside wilderness in draw down zone), and ST-1 (Scenic Travel – Retention – 4 sites).

Project Effects:

Effects common to all wildlife, fish, and plant species:

The project is consistent with the Wenatchee National Forest Land and Resource Management Plan as amended by the Northwest Forest Plan, all pertinent district level watershed analyses, the Aquatic Conservation Strategy (see attachment), and the Shady Pass, Lucerne, and Sawtooth Late-Successional Reserve Assessments as no aquatic or late-successional habitats are adversely impacted, and planned activities are consistent with land allocations. Though some short term

disturbance may occur in highly localized areas, the overall objective of the project is to improve both terrestrial and aquatic habitat along the shore of Lake Chelan in areas that presently provide little or no habitat. Existing habitat will not be removed.

Cumulative Effects common to all species:

Over the course of the project, approximately 1.5 % of the shore of Lake Chelan will be physically impacted by proposed Forest Service rehabilitation activities. Some activities will also take place on National Park lands at the head of the lake at 16 sites with a total of 3535' of shoreline (less than ½ of one percent of the total shoreline of Lake Chelan). At any one time, due to the limited availability of suitable equipment on Lake Chelan, it is unlikely that work will occur at more than two or three sites or over a total length of more than 1000' of shoreline, impacting only about 1.25% of the shoreline habitat of Lake Chelan at any one time (assuming 3 sites maximum of approximately ½ mile each including disturbance buffers). The combination of this small amount of potentially impacted habitat with activities elsewhere along the shores of Lake Chelan (maximum geographic extent for any species), would not create an adverse cumulative effect for any species. No other activities are likely to be occurring in these places at this particular time of year, and therefore there is little potential for a cumulative effect with existing activities. The rehabilitation effort is specifically aimed at mitigating effects of past activities that have impacted these sites (the combination of shoreline clearing for dam operation, actual operation of the dam, and on-going recreational use).

Gray Wolf: Currently, no active or historic den or rendezvous sites are located near any of the proposed work. Sites on the North Shore of Lake Chelan, particularly those sites between Safety Harbor Creek and Antilon Creek, are located in either Wenatchee National Forest Plan key winter range allocations, or adjacent to wilderness that offers functional winter range. Potential project effects are limited to disturbance at the edge of winter range foraging areas. Wolves are not known to use these areas, though occasional unconfirmed sightings have been reported, and there appear to be a growing number of sightings in the adjacent Sawtooth Wilderness summer range. Some disturbance to potential winter and early spring foraging opportunities may occur as a result of the project, though impacts will be limited to a maximum of 1-2 small areas of lakeshore at any one time (only 7 of the 35 sites are in designated or functional winter range). Due to the potential disturbance from the use of heavy machinery at designated or functional winter range during the critical wintering period, the project may affect, but is unlikely to adversely affect gray wolves for the project as a whole. Current sightings and any newly discovered dens or rendezvous sites, and specific project locations in relation to sightings will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Grizzly Bear: Project sites are located in both the Upper and Lower Chelan Grizzly Bear Management Units (BMUs). Currently, there have been no confirmed grizzly bear sightings near any of the proposed shoreline erosion work, though one confirmed sighting of a cub and sow was reported near Hunt's Bluff in 1991 (per Lee Stream WDFW). In general, the proposed work will occur during the denning and early spring emergence periods. It will also occur in habitats that could be used as spring emergence habitat, as all sites are riparian (lakeshore) and several occur on designated or functional winter range, shrub steppe or grassland habitats, particularly on the North Shore. However, even though sites are technically within riparian areas and spring emergence habitat, the actual sites currently provide no habitat, and project activities may improve conditions. Because the work is localized in scope at any one time, relatively short in duration at any one site, does not impact any potential or known denning sites, involves disturbance to relatively little key foraging habitat, and occurs outside of, or at the edge of, core habitat rather than within it, the project may affect, but is not likely to adversely affect the grizzly bear. Current sightings, and specific project locations in relation to core, winter range, and/or spring emergence habitat will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Spotted Owl: Due to the effects of the largely stand replacement fires of 1968, 1970, 1994, 1998, 2001, 2002, 2004, and 2006, there is relatively little suitable spotted owl habitat remaining in the lower Chelan Basin or along the shores of Lake Chelan. A notable exception is the south shore of the lake from Bear Creek (includes portions of the Lucerne LSR) uplake to the Forest boundary. Approximately 350 feet of shore line at 9 different sites in this vicinity will be impacted by noise from heavy machinery operations adjacent to late-successional habitat. Within ¼ mile of these sites, there are approximately 163 acres of dry late-successional habitat that would be disturbed by machinery noise during the nesting season. In any one location, however, the maximum amount of habitat disturbed would be 41 acres at the back of the Lucerne Bar, an area already impacted by noise from busses, boats, floatplanes, and operation of 2 campgrounds and a small resort. Sites in the Elephant Rock vicinity would have the next largest area of disturbance at approximately 34 acres. Remaining sites range from 20 to 32 acres of habitat potentially disturbed by project activities. No spotted owl sites are known in any of these areas, but none of the areas have been surveyed. The area is unsurveyable due to a total lack of trails or travelable terrain, and the safety hazards involved with surveying from a boat at night. Barred owls have been

located at several nearby locations from the only roads in the vicinity of this area. Although the area in this vicinity is steep and rocky, there are sufficient large trees, canopy closure, canopy layering and downed woody debris to provide habitat for potential nesting, particularly in the vicinity of the confluence of the two branches of Lightning Creek. No habitat degradation or removal will occur as a result of the project, and the project will impact no known nest sites. Disturbance impacts to unsurveyed suitable habitat may occur in the area of the projects located between Bear Creek and Elephant Rock, but mitigation measures to work in only 1 group of locations at a time, and the small amount of habitat in each of these areas (34 acres maximum if the Lucerne area is discounted due to existing noise) would make the possibility of nest abandonment extremely unlikely.

Several suspected and confirmed owl sites were present on the North Shore between Hunt's Creek and Stehekin but the combined effects of the Rex Creek (2001) and Flick Creek (2006) fires have likely impacted habitat suitability in these areas (most of this area is located in the Lake Chelan National Recreation Area managed by the National Park Service). Only one site at Hunt's Bluff is within the National Forest portion of the project, and it is a site not known to have been active since 1999 (not located in 2000 or 2001 surveys, burned in August of 2001). The fire was low severity at the site but the surrounding area that supported suitable habitat burned again in the Flick Creek Fire of 2006, some of which was also low severity. Though both fires were of generally low severity in this area, the fires reduced canopy closure, canopy layering, and downed woody debris, greatly reducing habitat suitability in the area and nesting is unlikely. Additionally, the one owl site in the vicinity of the erosion work is located just beyond the ¼ mile disturbance buffer. Project activities are unlikely to disturb this owl site even if occupied.

The project as a whole may affect, but is unlikely to adversely affect the spotted owl due to the localized nature of disturbance, lack of physical impact to habitat, limited duration of noise impacts, lack of habitat over most of the project area, and mitigation measures to minimize impacts in the only portion of the project with any potential for occupancy. Current sightings or survey results if available, and specific project locations in relation to currently suitable habitat will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Designated Critical Habitat for the Spotted Owl: There is no designated critical habitat for the spotted owl near any of the proposed shoreline erosion work. The project will have no effect on critical components of spotted owl habitat.

Canada Lynx: All projects will occur at or very near the lake elevation of 1100'. No lynx habitat is present at these elevations, and no sightings have been reported in any of the proposed project area. The project will have no effect on the Canada Lynx.

Bald Eagle (threatened spp in transition to sensitive spp): Bald eagles are known to nest on the Stehekin River, but no other nests are known on Lake Chelan. There is however, some potentially suitable habitat in the lake basin and several Recovery Territories and Potential Recovery Territories have been identified in the Bald Eagle Atlas portion of the Wenatchee National Forest Bald Eagle Species Management Guide. Portions of all but the Stehekin River territory have burned in one or more large fire events in the past 13 years, though large trees and potential nesting opportunites do remain in all these territories.

Work will occur during wintering and early nesting period; however, nesting is not known in the vicinity of any of the erosion sites, and only 7 of the sites are within any of the identified recovery or potential recovery territories described in the Wenatchee National Forest Bald Eagle Species Management Guide (2 in the Safety Harbor Territory, and 5 in the Domke Lake Territory). Only one erosion site is within an identified potential nest stand in a territory, but this stand burned in the 2001 Rex Creek fire which reduced nesting potential. None of the sites are known for winter roosting, though lakeshore winter foraging for waterfowl could occur at any of the sites. Sites on the North Shore also offer winter/spring foraging opportunities for winterkill on designated and functional winter range. All erosion sites are located in the deep, clean Lucerne basin of Lake Chelan where bald eagle fishing opportunities are more limited than the shallower Wapato basin. However, there are some fishing opportunities along shallower portions of the lakeshore and alluvial fans in the uplake areas, and bald eagles do forage for suckers and trout in the spring in these areas.

It is not possible to implement timing restrictions as work needs to occur at low water. Foraging for winter kill, water fowl or fish may be interrupted by project activities during the wintering and early spring nesting periods, but would only occur in limited areas (600-700 feet of shoreline plus disturbance buffer at each site, but likely only one site at a time) for relatively short periods (up to 4 days at a time, 3-4 times per site). Project is intended to improve shoreline aquatic conditions at project completion, and may result in slight improvement in bald eagle fish foraging opportunities in the long run due to reduced erosion in shoreline feeding areas. In the short run, a small portion of bald eagle foraging habitat will be disturbed by noise from heavy equipment used during the critical winter period. No lakeshore perch trees would be impacted as no removals are anticipated. Because no active or potential nesting habitat, no foraging opportunities within potential nesting territories, no known winter roost sites, and no known bald eagle concentration areas would be disturbed, and because there could be some limited disturbance to lakeshore foraging opportunities, the project may affect, but is

unlikely to adversely affect the bald eagle. Current sightings, and specific project locations in relation to potential nesting habitat, winter range, and/or lakeshore feeding habitat will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Marbled Murrelet: Lake Chelan is not within the normal range of the species. Marbled murrelets will not be affected by the proposed project.

Bull Trout: Bull trout were native to Lake Chelan and appear to have been extirpated in the subbasin sometime in the 1950s. The USFWS determination of Threatened Status for the Columbia River DPS of Bull Trout final rule stated that bull trout are thought to have been extirpated in Lake Chelan. Comprehensive and systematic surveys for bull trout have not been performed for the entire Chelan subbasin; however, the OWNF asserts that numerous competent investigators have employed a variety of accepted methodologies over a period of the past 30 years in pursuit of the answer to the question of extirpation. Regarding the presence or absence of bull trout in Lake Chelan, OWNF Fishery Biologists have reviewed the following available documented evidence:

- Lake Chelan Fisheries Investigations (Brown 1984, DE&S 2001)
- Lake Chelan Creel Surveys (Brown 1984, Chelan PUD 1975-2000)
- Lake Chelan Spawning Ground Surveys (Chelan PUD 1981-2006)
- Chelan Dam Entrainment Studies and Fish Salvage Operations (Chelan PUD 1998-2003)
- OWNF Stream and Lake Surveys (1989-2003)
- Railroad Creek Surveys for the Holden Mine Reclamation Project (1966-1999)
- Stehekin River System Fish Surveys (National Park Service)
- Snorkel Surveys to determine bull trout presence in the Stehekin River, Park Creek, and Flat Creek (USFWS 2001) and Safety Harbor, Prince, Fish, and Railroad Creeks (USFWS 2003)
- Lake Chelan Bioenergetics/Food Web Investigations (Beauchamp and Schoen 2006)

None of the available literature referenced above has reported the presence or detection of bull trout. Beginning in 1998 when bull trout of the Columbia River Distinct Population Segment were listed as Threatened under the Endangered Species Act, Forest Service fishery biologists have been preparing and updating biological assessments for Chelan Ranger District management actions. These BAs have determined **NO EFFECT** on bull trout based on their apparent absence (extirpation) as concluded from the weight of the evidence presented in the above-reference documents. Not all agencies concerned with bull trout agree on the "assumption of extirpation" that the USFS has reached.

In most cases, shoreline erosion repair projects would occur in the "dry" during the period when the draw down zone is accessible to workers and equipment, typically December through mid-April so no detrimental direct effects to any fishes, including bull trout if they were present, are expected. The timing of bull trout spawning in Lake Chelan tributaries would be September and October, if they were present. Spawning would be initiated as photoperiod decreases and water temperatures decrease below 52°F as tributary streams approach base flow. The historic bull trout spawning grounds were in the Stehekin River system at the uppermost end of the lake. Most of the proposed project areas are not suited to bull trout if they were present in the lake; therefore, disturbance from the use of heavy machinery at project areas near alluvial fans along the lakeshore during the spring would have no effect on bull trout. However, accessible adfluvial zones are present at four creeks in the uplake area (Safety Harbor, Prince, Fish, and Railroad Creeks), but proposed worksites are either not present near these streams or are located several hundred feet from the creek mouths. Due to the distance between the potential habitat and the work sites, there would be no effect to spawning or pre-spawning migrants even if they were present. In the long term (>20 years), the project is expected to improve shoreline and littoral habitat (reduced sedimentation, increased cover and prey species) that may be important if bull trout recovery is ever attempted in Lake Chelan.

Westslope Cutthroat Trout: Westslope cutthroat trout are a species of concern because they are in decline in Lake Chelan and its tributaries and they are a Regional Forester's Sensitive Species. In most cases, work would occur in the "dry" during the period when the draw down zone is accessible, typically December through mid-April so no detrimental direct effects to any fishes are expected. The exact timing of cutthroat spawning in Lake Chelan tributaries is variable. Spawning is initiated as photoperiod increases and water temperatures increase to 46°F concurrent with the rising limb of

the hydrograph. This combination of environmental factors progresses on a longitudinal gradient with downlake tribs earliest (e.g., First Creek), then mid-Lake tribs (e.g., Safety Harbor Creek), followed by the Stehekin River at the uppermost end of the lake. Due to the potential disturbance from the use of heavy machinery at project areas near alluvial fans along the lakeshore during the spring spawning period, the project may indirectly affect, but is unlikely to adversely affect Westslope cutthroat trout for the project as a whole. In the long term (>20 years), the project is expected to improve shoreline and littoral habitat (reduced sedimentation, increased cover and terrestrial insects) that may be important to the recovery of the species.

T&E Plants: Two Federally listed species have potentially suitable habitat on the shore of Lake Chelan - Showy stickseed (*Hackelia venusta)* and Ute Ladies' Tresses (*Spiranthes diluvialis).* *Hackelia venusta* grows on loose, rocky, sandy slopes between 1000 and 7000 feet elevation but has never been found outside the Wenatchee River District (over 25 miles south of Lake Chelan). *Spiranthes diluvialis* grows in seasonally flooded moist meadows. It has been located along the Columbia River. In 1998 and 1999 the entire shoreline of Lake Chelan was surveyed for rare plants as part of the relicensing of the Lake Chelan Hydroelectric project. Neither of these species was located. Project areas are located in the non-vegetated drawdown zone of Lake Chelan. No known populations are known or likely within these areas. The project will have no effect on known, likely, or suspected populations of Ute Ladies' tresses or showy stickseed. Current sightings and specific project locations in relation to potential habitat will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Pacific Fisher (Candidate): Sites support little to no overhead cover or concentrations of downed woody debris and are unsuitable for fisher occupancy. There will be no project impacts to fishers or their habitat.

Yellow-billed cuckoo (Candidate): Yellow-billed cuckoos are considered extirpated as breeders in Washington (Smith et a. 1997). No incidental sightings have been reported in the area. Potentially important habitat to recovery of the species is riparian corridor habitat with dense cottonwood/willow stands. This type of habitat is only marginally present near the project areas, usually in limited portions of the alluvial fans along the lakeshore. None of this type of habitat will be impacted by the project. Project activities may help establish limited areas of preferred habitat. The project is not expected to impact habitat that may be important to the recovery of the species.

Compliance with Northwest Forest Plan:

Many of the sites proposed for rehabilitation are located within LSRs (20 of 35 sites), but none of the actual area to be disturbed currently includes late-successional habitat. No hazard trees have been identified to date and if such trees are identified as the project progresses, the trees will be incorporated into the stabilization features as large woody debris. Overall, project work is intended to stabilize eroding shoreline, allowing vegetation to establish and potentially reach late-successional stages in the long run. Other than small areas of disturbance associated with noise generated by use of heavy equipment (See spotted owl analysis), there will be no impacts to late-successional habitat or associated species.

Sensitive (ISSSSP) Plant Species: Three species on the USFS ISSSSP list occur on or near the shore of Lake Chelan: *Pellea brachyptera, Sprianthes porrifolia,* and *Silene seelyi.* None of theses species are known to occur on the erosion sites. The one population of *Silene seelyi* is on a gravel bar near Bridal Veil Falls, approximately 120 feet from the lake (July level). This population is on the north shore of the Lake, on NPS land, and not near any of the USFS erosion sites.

Two populations of *Pellea brachyptera* occur within 30 feet of the summer lake level. These sites are near Pioneer Creek and Rattlesnake Creek, both sites are at least ½ mile from an erosion site.

Six populations of *Spiranthes porrifolia* are known along the lake. None of these populations are with ½ mile of an erosion site. This species grows in vernally moist seeps – habitats not likely to be disturbed by the erosion project, which targets dry, mostly un-vegetated slopes.

Management Indicator Species, Landbirds, Interior Columbia Basin Ecosystem Management Plan Species, FWS and any other Species of Concern: See attached species checklist.

Programmatic Consistency for Deer Point and Mitchell Creek Project areas: See attached Programmatic Consistency Form.

Prepared by: Mallory Lenz, Phil Archibald, and Brigitte Ranne

Pre-Project Documentation of Consistency with the Programmatic Biological Evaluation for the Lake Chelan Shoreline Erosion Control Project on the Chelan Ranger District, Okanogan and Wenatchee National Forests

I. Project Description

Project Title: Domke Falls, Refrigerator Harbor, and Lucerne Erosion Control Projects_____

Project Description (**provide a detailed description**, using the space below or attach separately):

Project involves the Lake Chelan shoreline erosion control work that will take place in 2009-2012 as a result of the dam re-licensing agreement with the Chelan County PUD. Work for this phase will involve stabilization of approximately 2301 linear feet of shoreline at and around the Domke Falls, Refrigerator Harbor and Lucerne Campgrounds. Actual disturbed areas would average about 7 feet wide, including areas below the normal high water mark. Stabilization activities would include placement of large rock and anchoring of existing or locally acquired large woody debris. Landscaping fabric and "biologs" will be used in some locations to provide a growing medium and establish vegetation (willow cuttings, local native seedlings, etc.). Much of the locally acquired wood for the project would be salvaged from stockpiles of the Big Creek flood debris, presently stockpiled at Prince Creek. Conventional excavators and rock drills will be barged up to the sites for use during placement of large rock and anchoring of woody debris. Heavy equipment will work from the barge (in areas where the slope is too steep), or would be off-loaded and work only from the draw down zone approximately 1084 - 1100 feet. Work will be conducted in areas that are presently un-vegetated, either due to lake draw down or active erosion.

Work would occur during lake draw down to enable access to worksites below full-pool elevation (1100'). Pre-positioning of rock would occur in November-December. Placement of rock and anchoring of woody debris would occur from mid-January through mid-April. Work at each site is expected to take 2-4 days for rock pre-positioning, 6-8 days for rock and log placement, and 2-4 days to secure large woody debris to rock anchors (3 to 4 work periods total at each site). Work is, however, likely to be frequently interrupted by rough lake or poor weather conditions. All work would occur during daylight hours. Contractors will likely camp at the site during work week, with 3-5 people present at one time.

Project Information

- Elevation range: _1084'-1106'. Acres treated: __a little over 1/3 acre total, with approximately 1/8 acre each at Lucerne 26 and Refrigerator, and less than 1/10 acre each at Lucerne 27 and Domke Falls..
- Miles of road: __0_____ Motorized trail: ___0_____ Non-motorized trail: ____0_____
- Project will result in noise _____equal to ambient, or ___x_____ above ambient conditions.
- Number of structures created ____0_____ and number of hazard trees felled ____0_____
- Implementation dates (mm/dd/yy) and duration of project activity:

From: Late-November 2009_ to mid-April 2012. Duration: _It is estimated that the entire operation could take between 8 and 10 weeks, though work will only occur intermittently. Total duration will depend on contractor crew size, and timing of lake level rise in the spring.

Project Location (include vicinity map):

District: _Chelan_____

Watershed: Lake Chelan

Legal: T31N R18E S24-25 Domke Falls

T31N R18E S10 Refrigerator Harbor and Lucerne

NW Forest Plan Land Allocation(s) and %: 100% Riparian Reserve surrounded by Congressionally Withdrawn area and Late-Successional Reserve at Domke Falls, and by Late Successional Reserve at Refrigerator Harbor and Lucerne.

LRMP Land Allocations(s) and %: EW-2 (Riparian Aquatic Protection Zone), RE-1 (developed recreation) at campsites, W (Glacier Peak Wilderness) and RE-3 (Dispersed recreation Unroaded-non-motorized) around Domke Falls Campground, ST-1 (Scenic Travel Retention) and RE-3 (Dispersed Recreation, unroaded, non-motorized) around the Refrigerator Harbor Campground and ST-1 (Scenic Travel Retention) around the Lucerne Campground.

***II. CONSISTENCY**: INDICATE PROJECT CONSISTENCY WITH GENERAL FOREST PLAN REQUIREMENTS AND AMENDMENTS BY CIRCLING YES, NO, OR N/A.*

1) Are activities lawful?	**Yes** No N/A
2) Are actions consistent with the ONF LRMP or the WNF LRMP, as amended by the NWFP? a. Are activities consistent with the ACS? b. If suitable habitat is present in the project area, have surveys for proposed, endangered and threatened plants been conducted prior to the implementation of ground-disturbing activities? **Work is to take place in non-vegetated drawdown and active erosion areas**	**Yes** No N/A **Yes** No N/A Yes No **N/A**
3) Are activities in LSR and/or MLSA consistent with guidance from the ONF LSRA and the WNF LSRA? a. Will activities result in reductions of late-successional security habitat? b. For silvicultural activities, is the project "beneficial to the creation of late-successional forest conditions?" (ROD C-12) c. For non-silvicultural activities, is the project "neutral or beneficial to the creation and maintenance of late-successional habitat?" (ROD C-16)	**Yes** No N/A Yes **No** N/A Yes No **N/A** **Yes** No N/A
4) Are activities consistent with:	

a. PACFISH? b. INFISH? c. Eastside Screens?	Yes No **N/A** Yes No **N/A** Yes No **N/A**
5) Are activities consistent with findings/direction of the applicable watershed BA and environmental baseline?	**Yes** No N/A
6) Are activities consistent with all recovery plans and conservation strategies for listed species? a. Conservation Agreement for *Delphinium viridescens*? b. Recovery Plan for *Sidalcea oregana* var. *calva*? c. Habitat Management Guidelines for *Hackelia venusta* on the Wenatchee NF? d. Canada Lynx Conservation Assessment and Strategy, Conservation Agreement? e. Bald Eagle Management Plan – Draft? ***See Design Criteria discussion under #8*** f. North Cascades Ecosystem Grizzly Bear Recovery Plan, including: • Activities will maintain the interim management directive of "no net loss" of core habitat for grizzly bears? • Sanitation direction?	**Yes** No N/A Yes No **N/A** Yes No **N/A** Yes No **N/A** Yes No **N/A** **Yes** * No N/A **Yes** No N/A **Yes** No N/A
7) Will activities within critical habitat for spotted owl **degrade**[1] habitat? a. Will activities alter, remove, or reduce the constituent elements of critical habitat (either NRF or dispersal habitat) to the point where habitat will be **downgraded**[2] or lost? b. Will activities preclude future development of constituent elements in critical habitat?	Yes No **N/A** Yes **No** N/A Yes **No** N/A
8) Have necessary timing restrictions and conservation measures been incorporated into project design? **It is not possible to implement timing restrictions as work needs to occur at low water. Work will occur during wintering and early bald eagle nesting period; however, nesting is not known in the vicinity of any of the sites. The Domke Falls site is within the Domke Lake recovery territory described in the Wenatchee National Forest Bald Eagle Species Management Guide. The other two sites lie just outside this recovery territory. Occasional winter roosting occurs in the general vicinity of the sites. The sites are not located within winter and spring foraging areas as they are located along the south shore of Lake Chelan which tends to be too cold and shaded to provide adequate thermal conditions. Foraging for water fowl or fish may be interrupted by project activities during the wintering period, but would only occur in limited areas (perhaps a couple hundred feet of shoreline plus disturbance buffer at each site, but only one site at a time) for relatively short periods (up to 4 days at a time, 3-4 times per site).**	Yes **No** N/A

9) Will activities result in an increase of human capacity at the site, excluding the time necessary to complete the project?	Yes **No** N/A
10) Has a "Recreation Cumulative Effects Analysis" (Gaines et al. 2003, draft) been completed for the project area?	Yes No **N/A**
11) Do recreational activities authorized by special use permit, such as group events or outfitted and guided recreation, comply with all Forest Orders and Special Orders relating to recreational activity on the OWNFs?	Yes No **N/A**
12) Will activity result in public motorized use of existing closed roads that do not have a history of motorized use?	Yes **No** N/A
13) Will treatment sites along roads designated as permanently closed through the Forest Travel Plan or current EA's be accessed by either walking (if the closure prohibits motorized use), or as determined by current road use policy in the North Cascades Grizzly Bear Recovery Plan?	Yes **No** N/A
14) Will project activities result in a "May Affect, Likely to Adversely Affect" determination through direct, indirect, interrelated/interdependent, or cumulative effects? **Project is intended to improve shoreline aquatic conditions at project completion, and may result in slight improvement in bald eagle fish foraging opportunities in the long run. In the short run, a small portion of bald eagle foraging habitat will be disturbed by noise from heavy equipment used during the critical winter period. Because no active or potential nesting habitat, limited foraging opportunities within potential nesting territories, and no known bald eagle concentration areas would be disturbed, and there may be a slight improvement in foraging opportunities, no adverse impact is expected.**	Yes **No** N/A

[1] – A "degrade" of spotted owl habitat reduces habitat quality but retains its function (i.e., habitat classification is unchanged)

[2] – A "downgrade" of spotted owl habitat reduces quality and function (e.g., habitat previously classified as suitable is downgraded to dispersal)

III. Species Effects Summary

A. Fisheries

Aquatic Habitat Effects ***(check all that apply)***

Indicators	No Effect	Beneficial	Maintain	Temporary Degrade
Temperature	X			
Sediment/embeddedness		*X long-term*		X
Large woody debris		X		
Streambank condition		*X*		
Riparian conservation areas		X		

If any aquatic habitat effects occur, briefly describe (quantitatively, if possible) project activities and effects within:

Riparian reserves	Channel migration zones	Inner gorges	Wetted channels
Some sediment may be released at the project sites	NA	NA	NA

in the short term, but the project will result in a long term decrease in sedimentation to lakeshore habitat. No stream habitat will be impacted.			

List program- and project-specific conservation measures from the Forest Wide-Programmatic BA or the Lake Chelan Erosion Control Programmatic BE that were applied to this project to avoid and minimize effects: **__Winter range timing restrictions can not be implemented as described above; however, implementation of the project at only 1-2 sites at a time when in winter range will minimize the disturbance effect.**

Aquatic Environmental Baseline and Effects Determination

	U. Columbia River Steelhead	U. Columbia River Spring Chinook	Essential Fish Habitat	Bull trout Columbia River DPS	Bull trout Critical Habitat	Westslope Cutthroat Trout
Species, CH[1], or EFH potentially affected (check all that apply)	Not Present No Effect	Not Present No Effect	NA	*	No Effect **ND	Present in many tribs to Lake Chelan
Life stages (egg, fry, juvenile, adult) (list all stages that apply)	*NA*	NA	NA	Juvenile, adult	NA	All Stages
Baseline status – integrated subpopulation/habitat (FA, FAR, FAUR)[2]	NA	NA	NA	FAUR	NA	FAR
Habitat function (spawning, rearing, holding, migration, overwinter)	NA	NA	NA	FAR	NA	FAR
Effects Determination[3]	NA	NA	NA	NE	NA	MANLAA

[1] Proposed or designated critical habitat.

[2] FA = functioning appropriately; FAR = functioning at risk, FAUR = functioning at unacceptable risk.

[3] NE (No Effect), MANLAA (May Affect, Not Likely Adversely Affect), MANLAA-BE (May Affect, Not Likely Adversely Affect - Beneficial Effect).

***The proposed project areas** (~2300 linear feet of shoreline at and around the Domke Falls, Refrigerator Harbor and Lucerne Campgrounds**) are marginally suitable to adult and juvenile bull trout if they were present; therefore, disturbance from the use of heavy machinery at project areas along the lakeshore during winter and spring may affect but is not likely to adversely affect bull trout if they were still present in Lake Chelan**

**ND – In the Federal Register, Vol 70, #185, 9/26/2005 (70 FR 56211 56311, USFWS agreed with the comment that "the current Forest Service Land and Resource Management Plans (LRMP) as amended by the Northwest Forest Plan, PACFISH, and/or INFISH aquatic conservation strategies provide the necessary protection and special management that would eliminate the need to designate these areas as critical habitat. In addition, the designation would provide little additional benefit as described under Section 4(b)(2) of the Act" and accordingly excluded these areas from the final critical habitat designation. USFWS also excluded "those reservoirs, or pools impounded behind dams whose primary purpose is for flood control, energy production, or water supply for human consumption."

B. PLANTS

	Showy	Ute Ladies'	Water	Wenatchee Mountains	Designated Critical

	Stickseed (*Hackelia venusta*)	tresses (*Spiranthes diluvialis*)	howelia (*Howelia aquatilis*)	checker-mallow (*Sidalcea oregana* var. *calva*)	Habitat for *Sidalcea oregana* var. *calva*
Miles to nearest known occupied habitat (x.x miles)	>10	>10	>10	>10	>10
Potentially suitable habitat in project area? (Y/N)	N	N	N	N	N
Plant surveys conducted? (Y/N)	N*	N*	N*	N*	N*
Acres of potentially suitable habitat to be disturbed?	0	0	0	0	0
Effects Determination:	NE	NE	NE	NE	NE

*** both sites were visited to validate lack of suitable habitat**

III. Species Effects Summary, Continued

C. WILDLIFE

	Circle One or Answer
What is the distance between activity and nearest,	
a. nest, activity center or unsurveyed suitable habitat for spotted owl? **One patch of suitable habitat remains at the back of the Lucerne bar. Disturbance to this habitat from construction noise is likely limited due to the masking effects of noise from the creek, and the fact that machinery noise in the vicinity (busses, trucks, etc.) already occurs in the area. Other patches of formerly suitable habitat in the vicinity of the project areas have been burned and now provide primarily dispersal functions. No suitable habitat will be physically disturbed or removed. Nearby habitat has been surveyed and only barred owls have been located (none in FY09). The actual patch of habitat that could be impacted by machinery noise has too much noise from the creek to effectively survey.**	**≤400m** >400m
b. nest, activity center or unsurveyed suitable habitat for marbled murrelet?	<400m **≥400m**
c. wintering area for bald eagle?	**≤450m** >450m
d. Active nest or nest of unknown status for bald eagle?	<450m **≥450m**
What is the site number (SO-xxx)/CHU number (WA-xx) within 400m of activity?	**NA**
Project results in habitat degradation only, not a loss of habitat functions	Yes No **NA**
Will activity occur within ungulate winter range?	Yes **No**
Has an active den or rendezvous site been located?	Yes **No**
Will aircraft be used within,	
a. 1 km of active nest, activity center whose current status is unknown, or any unsurveyed suitable habitat for	
• spotted owl?	Yes **No**
• marbled murrelet?	Yes **No**
• bald eagle?	Yes **No**
b. ⅓ mile (500 m) and no line-of-sight, or located within ½ mile (800 m) and in line-of-sight, of a bald eagle wintering area where eagle activity is concentrated?	Yes **No**
Is project in Grizzly Bear Recovery Zone? **Projects occur within the Upper Chelan Grizzly Bear Management Unit, in areas that could be considered spring emergence habitat, during the spring emergence period. However, these areas are located at some distance from potential denning habitat. Additionally, the proposed work would not impact any existing foraging habitat, and would be easily avoided by any bears if present. There would be no effect on denning habitat or during the denning period.**	**Yes** No
Will project Increase/Decrease/Not Affect core habitat?	I D **NA**
Effects Determination:	
a. Bald eagle	NE **MINLAI** BE
b. Canada lynx	**NE** MANLAA BE
c. Gray wolf	NE **MANLAA** BE
d. Grizzly bear	NE **MANLAA** BE
e. Marbled murrelet	**NE** MANLAA BE
f. Spotted owl	NE **MANLAA** BE
g. Spotted owl – critical habitat	**NE** MANLAA BE

Enter the acres of spotted owl habitat degraded by land allocation and CHU:

Habitat Degraded (acres)		Land Allocations					
		Matrix	LSR	MLSA	AMA	AW	CW
Non-CHU	NRF	0	0	0	0	0	0
	Dispersal	0	0	0	0	0	0
CHU	NRF	0	0	0	0	0	0
	Dispersal	0	0	0	0	0	0

Iden tify whi ch CH

Us and LSR/MLSAs are affected ___Lucerne LSR – minimal noise disturbance only

Prepared by: _Mallory Lenz_____Title: District Biologist Date: 10/7/2009

Prepared by: _Philip Archibald_____ Title: Zone Fish Biologist__ Date: 10/14/2009

Prepared by: __Brigitte Ranne_____ Title: Zone Botanist _____ Date : 10/14/2009

AQUATIC CONSERVATION STRATEGY (ACS) CONSISTENCY:

The ACS was developed to restore and maintain the health of watersheds. The following is a summary of ACS objectives and the rationale for determining project consistency.

USDA Forest Service Site Specific Erosion Control Plan Sites 24abc, 25, 26, and 27
Appendix B

1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape scale features.

The Chelan lakeshore differs from the reference condition in that the level of the lake has been raised by the Chelan dam by 21 feet, and fluctuates annually to a greater degree than typical of spring flooding prior to construction of the dam. The project is specifically aimed at stabilizing erosion caused by the higher lake level and lake level fluctuation. Although the project will not fully restore habitat, sediment input to shoreline habitat will be reduced and native vegetation and woody debris will be increased at the highest priority sites along the lakeshore.

2. Maintain and restore spatial and temporal connectivity within and between watersheds.

The project occurs entirely within the Lake Chelan watershed along the shoreline, and affects only the Lake Chelan watershed. The project will not create or remove any spatial or temporal barriers within the watershed, though reduced sediment delivery to lacustrine habitat may improve continuity of shoreline feeding habitat, thereby slightly improving connectivity within the watershed.

3. Maintain and restore the physical integrity of the aquatic system.

The intent of the Project is to reduce sediment delivery to the watersheds by stabilizing eroding areas along the shoreline. Based on the project design and mitigation measures listed above, the Project will maintain or improve the physical integrity of the aquatic system.

4. Maintain and restore water quality to support healthy riparian, aquatic, and wetland resources.

For all of the project elements (rock, log, and vegetation placement as well as the use of barges and heavy equipment) the likelihood of a spill that would affect water quality is low, and a spill plan would be in place as a contract requirement. The project IS a mitigation measure to limit erosion and subsequent sediment delivery to Lake Chelan.

5. Maintain and restore the sediment regime under which aquatic ecosystems evolved.

Prior to dam construction, lake level fluctuation did occur during spring runoff, and severe rain-on-snow events, but the fluctuation occurred over a fewer vertical feet of the shoreline, and for shorter periods of time. Construction of the dam resulted in a higher level of fluctuation that occurred over the entire year, causing periods of repeated wave action on portions of shoreline that had not previously been subjected to such action. This is the reason that mitigation actions are required under the license. Stabilization of these high priority sites will move toward the sediment regime under which these aquatic ecosystems evolved, though it can not be entirely restored.

6. Maintain and restore instream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing.

The project will not affect instream flows as all actions are proposed along the lakeshore. Proposed actions will, however, increase stable woody debris along the lakeshore, increase riparian vegetation, and reduce sediment delivery. No wetland habitats will be affected.

7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

The project does not involve meadows and wetlands.

8. Maintain and restore the species composition and structural diversity of plant communities in riparian reserves to sustain physical complexity and stability.

Project activities are specifically designed to reestablish native riparian species in areas that currently do not support riparian vegetation. Additionally, stabilization of the eroding shoreline soils will create some soil pockets over time where native species can establish themselves, thus adding to structural diversity and stability of the riparian plant community.

9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.

Project actions are intended to restore riparian reserves. Addition of stable woody debris and rocks that will gather debris and vegetation at and near the high water level will create sites for establishment of native vegetation and thus habitat for invertebrate and vertebrate riparian dependent species.

Appendix B Letters

What follows are three United States Department of Interior, Fish and Wildlife Service letters that show concurrence for the "programmatic" document. The first two dated August 15, 2007 and the second dated April 8, 2008 address the initial programmatic document from 8/1/07 which addresses the Biological Evaluation (BE) describes the Lake Chelan Shoreline Erosion Control Project in general programmatic terms. The third letter addresses site specific concurrence presented through Programmatic Consistency Forms that will tier to this analysis and offer current site specific information regarding habitat and occupancy of the sites at the time the work is implemented. This BE documents the broad scope of potential project effects on federally listed, proposed, and candidate species, Northwest Forest Plan Survey and Manage species, Designated Critical Habitat, and complies with Forest Service direction regarding listed and sensitive species (FSM 2670). The BE is intended to ensure that the proposed management activities are not likely to jeopardize the continued existence of the aforementioned species, nor adversely modify Critical Habitat. It is also intended to display the scope of the entire project and relationship of its individual components in time and space, and allow for future programmatic evaluation of consistency as site specific projects are developed.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Central Washington Field Office
215 Melody Lane, Suite 119
Wenatchee, Washington 98801

August 15, 2007

In Reply Refer To:
USFWS Reference: 13260-2007-I-0170
13260-2007-B-0026
Hydrologic Unit Codes: 17-02-00-09
RE: Lake Chelan Erosion Repair Programmatic

Robert J. Sheehan
District Ranger
Chelan Ranger District
428 West Woodin Avenue
Chelan, Washington 98816

Dear Mr. Sheehan:

This responds to your request for informal programmatic consultation on the proposed Lake Chelan Shoreline Erosion Repair project (Project), located in Chelan County, Washington. Your cover letter, dated August 1, 2007, and Biological Assessment (BA), also dated August 1, 2007, was received in the U.S. Fish and Wildlife Service's (Service) Central Washington Field Office on August 6, 2007.

The U.S. Forest Service (USFS) has requested Service concurrence for the Project with the determination of "may affect, not likely to adversely affect" for northern spotted owl (*Strix occidentalis caurina*), gray wolf (*Canis lupus*), and grizzly bear (*Ursus arctos*) in accordance with section 7(a)(2) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Effects to other listed or proposed species, or their habitat, are not anticipated to occur.

The intent of this programmatic consultation is to expedite the section 7 consultation process for implementation of future erosion repair projects on Lake Chelan as these activities are similar in nature, will occur frequently, and likely result in either minor and/or predictable effects to the above listed species and their habitats. As described in the BA, all projects proposed to be implemented under this programmatic consultation must: (1) be consistent with the types of activities described in the BA and implement their specific conservation measures and (2) be evaluated using a project consistency form (PCF). The PCF will be prepared by a USFS biologist and submitted to the Level 1 Team for their review and approval prior to project implementation. Programmatic projects should not be implemented until either written concurrence has been provided by the Service or if no response is received from the Service after 5 working days of submitting the PCF. A copy of the PCF is attached.

USDA Forest Service Site Specific Erosion Control Plan Sites 24abc, 25, 26, and 27
Appendix B

Projects that do not meet the conditions of this programmatic consultation must undergo individual consultation.

The Project involves shoreline erosion control work that will be undertaken over the next 10 to 25 years as a result of the Lake Chelan Dam re-licensing agreement with Chelan County Public Utility District (PUD) No. 1. A 1999 inventory conducted by Chelan PUD and the USFS identified 112 sites comprising 40,780 linear feet of National Forest shoreline experiencing measurable erosion. Thirty-five high priority sites were identified as locations that would require treatment and monitoring by Chelan PUD through the re-licensing settlement agreement. The total length of the shoreline proposed for treatment is approximately 9,325', though active measures will only be applied to approximately 7,635' of this length. Approximately 40% of this length (over half of the sites) is located in and around existing high use recreation sites. Sites range in size from as small as 20' at Elephant Rock to as large as 2,490' in the Twin Harbor vicinity.

Anticipated erosion control measures include hand placed rock walls, mortared placed rock walls, rock steps, "enhanced placed rock" (large rock riprap, fitted into place rather than dumped, with vegetation and large woody debris (LWD) incorporated to provide additional protection for the slope toe and to provide habitat), log crib walls, beach fill, vegetation planting, and LWD placement. Bioengineering techniques and fish enhancement measures will be incorporated to the extent feasible, with details of such work developed for each site-specific plan. LWD placement would be done only at locations that do not create hazards for boaters and swimmers. Other treatments may be identified in site-specific plans or as work progresses. These techniques may all be modified to some degree to include such features as joint plantings, rock piles for fish habitat, LWD structures, and upslope revegetation. Work would be accomplished with conventional and "Spyder" excavators and rock drills working from barges or off loaded and working within the draw down zone.

Actual ground disturbance at each site is expected to vary with the treatment type but active excavation with the most aggressive treatments would involve anchoring rocks or logs into 2-3 horizontal feet of shoreline with another 6-8 feet of minor surface disturbance as materials are laid over the slope. The actual area of disturbance will depend on the slope of the lakeshore at the site, with potentially larger areas of disturbance at the sites with a low profile. Sites with steeper shorelines will have less of the surface disturbed, but may require more excavation to stabilize the treatment. Over the entire project area, given the length of shoreline directly impacted (approximately 7,635') and an average of 10' slope distance, the project represents less than 2 acres of total ground disturbance.

In most cases, work would occur during the period when the lake draw down zone is accessible, typically December through mid-April. Generally, pre-positioning of rock would occur in December. Placement of rock and anchoring of woody debris would occur from mid-January through mid-April. Work at each site is expected to take up to one week for rock pre-positioning, up to 2 weeks for rock and log placement, and up to one week to secure large woody debris to rock anchors (3 to 4 work periods total at each site). Work is, however, likely to be interrupted by rough lake conditions, potentially lengthening the period of work at each site. All work would occur during daylight hours. Contractors will likely camp at the site during the work week, with 4-6 people present at one time.

Over the course of the project, approximately 1.5% of the shore of Lake Chelan will be physically impacted by the proposed rehabilitation activities. Some activities will also take place on National Park Service lands at the head of the lake at 16 sites with a total of 3,535' of shoreline (less than ½ of one percent of the total shoreline of Lake Chelan). At any one time, due to the limited availability of suitable equipment on Lake Chelan, it is unlikely that work will occur at more than two or three sites or over a total length of more than 1000' of shoreline, impacting only about 0.19% of the shoreline habitat of Lake Chelan at any one time. In addition, as mitigation for potential disturbance of unsurveyed suitable spotted owl habitat, only one group of sites in the area between Bear Creek and Elephant Rock will be rehabilitated at any one time. No other activities are likely to be occurring in these places at this particular time of year, and therefore there is little potential for a cumulative effect with existing activities.

Currently, no active or historic gray wolf den or rendezvous sites are located near any of the proposed work. Sites on the North Shore of Lake Chelan, particularly those sites between Safety Harbor Creek and Antilon Creek, are located in either Wenatchee National Forest Plan key winter range allocations, or adjacent to wilderness that offers functional winter range. Potential Project effects are limited to disturbance at the edge of winter range foraging areas. Wolves are not known to use these areas, though occasional unconfirmed sightings have been reported, and there appear to be a growing number of sightings in the adjacent Sawtooth Wilderness summer range. Some disturbance to potential winter and early spring foraging opportunities may occur as a result of the Project, though impacts will be limited to a maximum of 1-2 small areas of lakeshore at any one time. Current sightings and any newly discovered dens or rendezvous sites, and specific project locations in relation to sightings will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Project sites are located in both the Upper and Lower Chelan Grizzly Bear Management Units (BMUs). Currently, there have been no confirmed grizzly bear sightings near any of the proposed shoreline erosion work, though one confirmed sighting of a cub and sow was reported near Hunt's Bluff in 1991. In general, the proposed work will occur during the denning and early spring emergence periods. It will also occur in habitats that could be used as spring emergence habitat, as all sites are riparian (lakeshore) and several occur on designated or functional winter range, shrub steppe or grassland habitats, particularly on the north shore of the lake. However, although sites are technically within riparian areas and spring emergence habitat, the actual sites currently provide no habitat value. The proposed work is localized in scope, relatively short in duration at any one site, does not impact any potential or known denning sites, involves disturbance to relatively little key foraging habitat, and occurs outside of, or at the edge of, core area. Current sightings, and specific project locations in relation to core, winter range, and/or spring emergence habitat will be reviewed in programmatic consistency evaluations prior to implementation of each project in future years.

Due to the effects of the large stand-replacement fires of 1968, 1970, 1994, 1998, 2001, 2002, 2004, and 2006, there is relatively little suitable spotted owl habitat remaining in the lower Chelan Basin or along the shores of Lake Chelan. A notable exception is the south shore of the lake from Bear Creek (includes portions of the Lucerne LSR) uplake to the Forest boundary. Approximately 350 feet of shore line at 9 different sites in this vicinity will be impacted by noise from heavy machinery operations adjacent to late-successional habitat. Within ¼ mile of these sites, there are approximately

163 acres of dry late-successional habitat that would be disturbed by machinery noise during the nesting season. In any one location, however, the maximum amount of habitat disturbed would be 41 acres at the back of the Lucerne Bar, an area already impacted by noise from busses, boats, floatplanes, and operation of 2 campgrounds and a small resort. Sites in the Elephant Rock vicinity would have the next largest area of disturbance at approximately 34 acres. Remaining sites range from 20 to 32 acres of habitat potentially disturbed by project activities. No spotted owl sites are known in any of these areas, but none of the areas have been surveyed. The area is unsurveyable due to a total lack of trails or travelable terrain, and the safety hazards involved with surveying from a boat at night. Barred owls have been located at several nearby locations from the only roads in the vicinity of this area. Although the area in this vicinity is steep and rocky, there are sufficient large trees, canopy closure, canopy layering and downed woody debris to provide habitat for potential nesting, particularly in the vicinity of the confluence of the two branches of Lightning Creek. No habitat degradation or removal will occur as a result of the Project, and the Project will impact no known nest sites. Disturbance impacts to unsurveyed suitable habitat may occur in the area of the restoration sites located between Bear Creek and Elephant Rock, but mitigation measures to work in only 1 group of locations at a time, and the small amount of habitat in each of these areas would make the possibility of nest abandonment extremely unlikely.

Several suspected and confirmed owl sites were present on the North Shore between Hunt's Creek and Stehekin but the combined effects of the Rex Creek (2001) and Flick Creek (2006) fires have likely impacted habitat suitability in these areas. Only one site at Hunt's Bluff is within the USFS portion of the Project, and it is a site not known to have been active since 1999 (not located in 2000 or 2001 surveys, burned in August of 2001). The fire was low severity at the site but the surrounding area that supported suitable habitat burned again in the Flick Creek Fire of 2006, some of which was also low severity. Though both fires were of generally low severity in this area, the fires reduced canopy closure, canopy layering, and downed woody debris, greatly reducing habitat suitability in the area and nesting is unlikely. Additionally, the one owl site in the vicinity of the erosion work is located beyond the ¼ mile disturbance buffer. There is no designated critical habitat for the spotted owl near any of the proposed shoreline erosion work.

The Project BA describes effects that are either extremely unlikely to occur and/or are very small in scale. The Service agrees that implementation of the Project will result in discountable and insignificant effects to individuals and the habitats of the species above. Therefore, the Service concurs with your determination of "may affect, not likely to adversely affect" for bull trout, bald eagle, northern spotted owl, gray wolf, and grizzly bear based on the information included in the BA. Our concurrence is conditioned on the Project being implemented as described in the BA. Each

This concludes informal consultation pursuant to the regulations implementing the Act, 50 C.F.R. § 402.13. This Project should be reanalyzed if new information reveals effects of the action may affect listed or proposed species or designated or proposed critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designated or proposed critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this Project.

Thank you for your assistance in the conservation of listed species. If you have any questions or comments regarding this letter, please contact Gregg Kurz at the Central Washington Field Office in Wenatchee at (509)665-3508, extension 22, or via e-mail at Gregg_Kurz@fws.gov.

Sincerely,

Jessica Gonzales, Division Manager
Central Washington Field Office

Attachment

United States Department of the Interior

FISH AND WILDLIFE SERVICE

USDA Forest Service Site Specific Erosion Control Plan Sites 24abc, 25, 26, and 27
Appendix B

Central Washington Field Office
215 Melody Lane, Suite 119
Wenatchee, Washington 98801

April 8, 2008

In Reply Refer To:
USFWS Reference: 13260-2007-I-0170
13260-2007-B-0026
Hydrologic Unit Codes: 17-02-00-09
RE: Lake Chelan Erosion Repair Programmatic

Robert J. Sheehan
District Ranger
Chelan Ranger District
428 West Woodin Avenue
Chelan, Washington 98816

Dear Mr. Sheehan:

This responds to your request for clarification regarding the informal programmatic consultation on the proposed Lake Chelan Shoreline Erosion Repair project (Project), located in Chelan County, Washington. Your letter, dated March 26,2008, was received in the U.S. Fish and Wildlife Service's (Service) Central Washington Field Office on March 28,2007.

On August 1, 2007, the U.S. Forest Service (USFS) requested Service concurrence for the Project with the determination of "may affect, not likely to adversely affect" for florthern spotted owl *(Strix occidentalis caurina),* gray wolf *(Canis lupus),* and grizzly bear *(Ursus arctos).* The USFS analysis also determined that effects to other listed or proposed species, or their habitat, are not anticipated to occur.

In our response to the USFS dated August 15,2007 (FWS Reference 13260-2007-1-0170), bull trout *(Salvelinus confluentus)* were erroneously included the Service's concurrence. Therefore, at this time the Service reaffirms its concurrence with the USFS determination of "may affect, not likely to adversely affect" for northern spotted owl, gray wolf, and grizzly bear based on the information included in the original Project biological assessment (BA). The Service also acknowledges the USFS determination that effects to other listed or proposed species, or their habitat, are not anticipated to occur.

Your letter stated that some Project activities may require authorization by the Corps of Engineers (COE) and that they have requested confirmation that this consultation covers actions conducted under a COE permit for the Project. For the purposes of the Project, the Service has recognized the USFS as the lead federal agency responsible for completing consultation in
Robert J. Sheehan 2

accordance with section 7(a)(2) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.).* The Service concurrence covers all Project activities, regardless of the

necessity of COE authorization, and is conditioned on the Project being implemented as described in the BA.

If you have any questions or comments regarding this letter, please contact Gregg Kurz at the Central Washington Field Office in Wenatchee at (509)665-3508, extension 22, or via e-mail at Gregg_Kurz@fws.gov. Thank you for your assistance in the conservation of listed species.

Sincerely,

Jessica L. Gonzales, Division Manager
Central Washington Field Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Central Washington Field Office
215 Melody Lane, Suite 119
Wenatchee, Washington 98801

October 21, 2009

In Reply Refer To:
USFWS Reference: 13260-2010-I-0001
13260-02-00-09-02
Hydrologic Unit Codes: 17-02-00-09
RE: Domke Falls, Refrigerator and Lucerne Erosion Projects

Robert J. Sheehan
District Ranger
Chelan Ranger District
428 West Woodin Avenue
Chelan, Washington 98816

Dear Mr. Sheehan:

This responds to your October 14, 2009, request for initiation of informal consultation on the Domke Falls, Refrigerator and Lucerne Erosion Projects (Project), located on the Chelan Ranger District, Okanogan and Wenatchee National Forests in Chelan County, Washington. In your Project Consistency Form, you described the anticipated effects to listed species and how the Project is consistent with the programs of work described in the Lake Chelan Shoreline Erosion Repair programmatic consultation (Programmatic) FWS Reference 13260-2007-B-006.

Based on the information provided in the Project Consistency Form, the U.S. Fish and Wildlife Service (Service) agrees that this Project is consistent with the design criteria and conservation measures described in the Programmatic. The Service concurs with your determination of "may affect, not likely to adversely affect" for the grizzly bear *(Ursus arctos),* gray wolf *(Canis lupus),* and northern spotted owl *(Strix occidentalis caurina).* The Service also acknowledges the USFS determination that effects to other listed or proposed species, or their habitat, are not anticipated to occur.

This concludes informal consultation pursuant to the implementing regulations of the Endangered Species Act, 50 C.F.R. § 402.13. This Project should be reanalyzed if new information revels effects of the action that may affect listed or proposed species or designated or proposed critical habitat in a manner or tot an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designation or proposed critical habitat that was not considered in this consultation; and/or, if anew species is listed or critical habitat is designated that may be affected by this Project.

Thank you for your assistance in the conservation of listed species. If you have any questions or comments regarding this letter, please contact Gregg Kurz at the Central Washington Field Office in Wenatchee at (509)665-3508, extension 22, or via e-mail at Gregg_Kurz@fws.gov. Thank you for your assistance in the conservation of listed species.

Sincerely,

Ken S. Berg, Manager
Washington Fish and Wildlife Office

AGENCY USE ONLY

Agency Reference #: Date Received:

Circulated by: (local govt. or agency)

JOINT AQUATIC RESOURCES PERMIT APPLICATION FORM (JARPA)

Forest Service Shoreline Erosion Treatment for Sites 24 (abc), 25, 26 and 27 from 2010-2012

☐ *I am applying for a Fish Habitat Enhancement Project per requirements of RCW 75.20.350. You must submit a copy of this completed JARPA application form, and the (Fish Habitat Enhancement JARPA Addition) to your local Government Planning Department and Washington Department of Fish & Wildlife Area Habitat Biologist on the same day.*

Based on the instructions provided, I am sending copies of this application to the following: *(check all that apply)*

Local Government for shoreline: ☐ Substantial Development ☐ Conditional Use ☐ Variance ☐ Exemption ☐ Revision ☐ Floodplain Management ☐ Critical Areas Ordinance

☒ Washington Department of Fish and Wildlife for HPA (Submit 3 copies to WDFW Region) **MOU Appendix B Hydraulic Projects not covered by Appendix A, see Attachment 2**

☒ Washington Department of Ecology for 401 Water Quality Certification Nationwide Permits (to Regional office-Federal Permit Unit)
Washington Department of Natural Resources for Aquatic Resources Use Authorization Notification

☒ Corps of Engineers for: ☒ Section 404 Section 10 permit **OR If qualified a 2 year Nationwide Permit 13, Bank Stabilization See attachment 1 for Forest Service addressing criteria for nationwide bank stabilization permit.**

☐ Coast Guard for Section 9 Bridge Permit

☒ US Fish & Wildlife Service or National Marine Fisheries Service for Endangered Species Act (ESA) Consultation **BE attached as Attachment 5**

1. APPLICANT
USDA Forest Service, Okanogan & Wenatchee National Forests

MAILING ADDRESS
428 West Woodin Avenue, Chelan, WA 98816

WORK PHONE	E-MAIL ADDRESS	HOME PHONE	FAX #
Joe Kastenholz (509) 682-4960 (@ Chelan Rgr. District) (509) 665-3598 or (509) 662-4335 (@ Forest HQ)	jkastenholz@fs.fed.us	(509) 664-1913	(509) 682-9004 (@ Chelan RD) or (509) 664-2745 (@ Forest HQ)

2. AUTHORIZED AGENT
N/A

MAILING ADDRESS

WORK PHONE	E-MAIL ADDRESS	HOME PHONE	FAX #

3. RELATIONSHIP OF APPLICANT TO PROPERTY: ☒ OWNER ☐ PURCHASER ☐ LESSEE ☐ OTHER:
National Forest System Lands (above 1,079'); State Owned Aquatic Lands (below 1,079') All activities to occur on NFS lands.

4. NAME, ADDRESS, AND PHONE NUMBER OF PROPERTY OWNER(S), IF OTHER THAN APPLICANT:
WA Department of Natural Resources, SE Region, 713 Bowers Road, Ellensburg, WA 98926 (509-925-8510)

5. LOCATION (STREET ADDRESS, INCLUDING CITY, COUNTY AND ZIP CODE, WHERE PROPOSED ACTIVITY EXISTS OR WILL OCCUR)
At Domke Falls Campground (Site 24 abc), Refrigerator Harbor Campground (Site 25) and Lucerne Campground and Guard Station (Sites 26 and 27) on Lake Chelan (see Map Attachment # 6)

LOCAL GOVERNMENT WITH JURISDICTION (CITY OR COUNTY) Chelan County

WATERBODY	TRIBUTARY OF	WRIA #
Lake Chelan	Chelan River	47

¼ SECTION	SECTION	TOWNSHIP	RANGE	GOVERNMENT LOT	SHORELINE DESIGNATION
NE	24	T31N	R18E	Domke Falls site	National Forest System Lands
	10	T31N	R18E	Refrigerator – Lucerne sites	

LATITUDE & LONGITUDE				
Domke Falls	Lat. 48.1642	Long. -120.544	ZONING DESIGNATION National Forest System Lands	
Refrigerator Harbor	Lat. 48.2003	Long. -120.588	ZONING DESIGNATION National Forest System Lands	

6. DESCRIBE THE CURRENT USE OF THE PROPERTY, AND STRUCTURES EXISTING ON THE PROPERTY. IF ANY PORTION OF THE PROPOSED ACTIVITY IS ALREADY COMPLETED ON THIS PROPERTY, INDICATE MONTH AND YEAR OF COMPLETION.

All sites are existing Forest Service Campgrounds, some log crib erosion control work was done about 25 years ago at each of the sites, each of the campgrounds has an existing dock. We propose to treat these sites Domke Falls (site 24abc) and Refrigerator Harbor (site 25) in 2010 -2011 and Lucerne Campground and Lucerne Guard Station Sites 26 and 27 in years 2011-2012.
Starting with some advance rock placement in October or December of 2010 (to minimize lake bed Impacts followed by shoreline treatment during the January – March, of each year (2011 and 2012). All work for this permit should end by 2012, however we would like to ask for a contingency year in case of contract delays or weather/ lake level delays.
Part of site 24 abc has a slightly steeper section of topography that treatment may be pursued with equipment on a barge during fall drawdown. Actual erosion treatments will be in the dry zone.

IS THE PROPERTY AGRICULTURAL LAND? ☐ YES ☒ NO ARE YOU A USDA PROGRAM PARTICIPANT? ☐ YES ☐ NO N/A

7a. DESCRIBE THE PROPOSED CONSTRUCTION AND/OR FILL WORK FOR THE PROJECT THAT YOU WANT TO BUILD THAT NEEDS AQUATIC PERMITS: COMPLETE PLANS AND SPECIFICATIONS SHOULD BE PROVIDED FOR ALL WORK WATERWARD OF THE ORDINARY HIGH WATER MARK OR LINE, INCLUDING TYPES OF EQUIPMENT TO BE USED. IF APPLYING FOR A SHORELINE PERMIT, DESCRIBE ALL WORK WITHIN AND BEYOND 200 FEET OF THE ORDINARY HIGH WATER MARK. ATTACH A SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED.

See Attachment 4: Treatment Diagrams of various site treatments and Attachment 3 Treatment Zones for the two sites.

7b. DESCRIBE THE PURPOSE OF THE PROPOSED WORK AND WHY YOU WANT OR NEED TO PERFORM IT AT THE SITE. PLEASE EXPLAIN ANY SPECIFIC NEEDS THAT HAVE INFLUENCED THE DESIGN.

Shoreline erosion has developed on Lake Chelan as a result of the Lake Chelan Hydroelectric license being granted in 1926. Much of the lake is naturally armored with rock or surface bedrock that previous glacier could not scrape down. Glacial tills and volcanic ash deposits form the base of Lake Chelan soils. The purpose of the project is to stabilize accelerated shoreline erosion, reduce fine sediments, and encourage re-vegetation at the toe of the slope. During recent re-licensing work we inventoried new and previously identified erosion sites. The original baseline erosion survey was done in 1984, with some prescribed treatments for high priority sites, some of the treatments were successful, some failed. One of the key findings is that "rock size" matters, loose medium to large boulders pushed up with a bulldozer, failed very soon. The sites that will be treated are the 35 highest priority out of the 112 Forest Service sites. These sites represent the 3rd and 4th highest priority sites of the 35 due to their recreation component.

7c. DESCRIBE THE POTENTIAL IMPACTS TO CHARACTERISTIC USES OF THE WATER BODY. THESE USES MAY INCLUDE FISH AND AQUATIC LIFE, WATER QUALITY, WATER SUPPLY, RECREATION, and AESTHETICS. IDENTIFY PROPOSED ACTIONS TO AVOID, MINIMIZE, AND MITIGATE DETRIMENTAL IMPACTS, AND PROVIDE PROPER PROTECTION OF FISH AND AQUATIC LIFE. ATTACH A SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED.

The project will enhance water quality, recreation use and aesthetics. Recreation features such as steps are designed into the erosion treatments. Re-vegetation with native shrubs, forbs, and grass will be spot planted. Large woody debris will be used for fish and shoreline enhancement where it can safety be anchored away from areas of high boat use or human flow paths. Pre-staging of rock in December is intended to minimize equipment travel in the drawdown area.

8. WILL THE PROJECT BE CONSTRUCTED IN STAGES? Yes. Two contracts each year (2010-11) and (2011-2012) with a fall and spring work period. XX☐ YES NO

PROPOSED STARTING DATE: October 2010, with some rock delivery to sites under a lake elevation of approximately 1095-1090 to allow for barge access before full drawdown and work in steeper areas.

ESTIMATED DURATION OF ACTIVITY: 6-8 weeks of activity scattered over 6 months, with October, February and March As the prime activity months. Some spring planting follow up and monitoring will also likely occur.

9. CHECK IF ANY STRUCTURES WILL BE PLACED:

☒ WATERWARD OF THE ORDINARY HIGH WATER MARK OR LINE FOR FRESH OR TIDAL WATERS; AND/OR

Yes, the project will incorporate large woody debris structures, both parallel and perpendicular placed along the shoreline. Currently we have calculated 931 linear feet of excavation type work triggering LWD, we have tried to minimize toe excavation to reduce our square footage impact to 1.5 feet. So we have a proposed mitigation of 1,400 square feet of LWD this will be accomplished with "average" pieces of LWD being a 20 foot log 15 inches in diameter would represent about 25 square feet of mitigation. Thus we are planning to place approximately 56 "average" logs within treatments that allow LWD placement along some 1,345 linear feet of shoreline. Final as-built diagrams will be provided after installation showing location, size, and method of anchoring. Please see Attachment 4: Treatment Diagrams.

☐ WATERWARD OF MEAN HIGH WATER LINE IN TIDAL WATERS

10. WILL FILL MATERIAL (ROCK, FILL, BULKHEAD, OR OTHER MATERIAL) BE PLACED:

Yes, large rock will be placed in an excavated shallow trench at 1098-1100 feet elevation (at full treatment Locations only, single and double rock treatments will place rock on existing substrate. This is to anchor the base course portion of the placed rock, geotextile style fabric cloth will be behind this rock and will extend up to approximately 1104 plus or minus depending on the specific site. Vegetation will be spot planted at two levels when needed at the 1101 and approximately 1103 elevation levels. Species to be spot planted are Big Leaf Maple, Cedar, and Dogwood.

On sites where the enhanced placed rock treatment is used the 1/1 mitigation ratio will be calculated for impacts. For more details please see block 9 and Attachment 4: Treatment Diagrams.

☐ WATERWARD OF THE ORDINARY HIGH WATER MARK OR LINE FOR FRESH WATERS? Yes IF YES, VOLUME (CUBIC YARDS): We estimate 1.5 square foot/ lineal foot, of LWD for excavated sites below 1100 feet on T1 treatments.

Some of the LWD may have one end buried, which will cause 1- 1.5 cubic yds of material blended back into the lakebed floor or be placed behind the placed rock. This is for the 1,400 square feet of LWD to be placed. We have estimated that for the 2,301 lineal feet of various treatments, with most of the rock just placed, not excavated in. We used 8 square feet for the "average" calculation. (8 x 2,301= 18,408) ÷ 27 would equal approximately 682 cubic yards.

☐ WATERWARD OF THE MEAN HIGHER HIGH WATER FOR TIDAL WATERS? IF YES, VOLUME (CUBIC YARDS)___AREA___(ACRES)

11. WILL MATERIAL BE PLACED IN WETLANDS? ☐ YES XXNO

IF YES: We do not consider the drawdown zone to be a wetland, we are placing rock and LWD in this area.

A. IMPACTED AREA IN ACRES: .2,301 lineal feet x 7 feet (1098 -1104 average*) =16,107 ÷ 43,593 = about 0.4 acres

B. HAS A DELINEATION BEEN COMPLETED? IF YES, PLEASE SUBMIT WITH APPLICATION. N/A ☐ YES NO

C. HAS A WETLAND REPORT BEEN PREPARED? IF YES, PLEASE SUBMIT WITH APPLICATION. ☐ YES NO

D. TYPE AND COMPOSITION OF FILL MATERIAL (E.G., SAND, ETC.): Rock and Wood

E. MATERIAL SOURCE: Local pit rock, collected LWD native to Lake Chelan

F. LIST ALL SOIL SERIES (TYPE OF SOIL) LOCATED AT THE PROJECT SITE, & INDICATE IF THEY ARE ON THE COUNTY'S LIST OF HYDRIC SOILS. SOILS INFORMATION CAN BE OBTAINED FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS): Soils are alluvial and colluvial depositions

12. WILL PROPOSED ACTIVITY CAUSE FLOODING OR DRAINING OF WETLANDS? ☐ YES ☒ NO
IF YES, IMPACTED AREA IS ___ ACRES.

13. WILL EXCAVATION OR DREDGING BE REQUIRED IN WATER OR WETLANDS? X☐ YES NO
IF YES:

Yes, for some locations about 1-3 cubic feet of material per lineal foot of enhanced placed rock treatment areas may be moved to allow for anchoring base course rock. Some LWD pieces may have one end anchored in substrate. Excavated material will be placed behind the geotextile fabric to minimize slope profile, or if suitable fines are present, it would be placed in fabric pocket for planting.

A. VOLUME: (CUBIC YARDS) /AREA (ACRES)

B. COMPOSITION OF MATERIAL TO BE REMOVED: Alluvial sands and gravels, some small coble.

C. DISPOSAL SITE FOR EXCAVATED MATERIAL: Immediately upslope, behind fabric cloth 1100 -1103 elevation

D. METHOD OF DREDGING: M Mid-size excavator with bucket thumb

14. HAS THE STATE ENVIRONMENTAL POLICY ACT (SEPA) BEEN COMPLETED? XX☐ YES ☐ NO

National Forest System Lands – NEPA compliance achieved through Final Environmental Assessment for Hydropower License, Lake Chelan Hydroelectric Project, FERC Project No. 637 Issued by FERC

SEPA LEAD AGENCY: SEPA DECISION: DNS, MDNS, EIS, ADOPTION, EXEMPTION DECISION DATE: 10/10/2003
SUBMIT A COPY OF YOUR SEPA DECISION LETTER TO WDFW AS REQUIRED FOR A COMPLETE APPLICATION

15. LIST OTHER APPLICATIONS, APPROVALS, OR CERTIFICATIONS FROM OTHER FEDERAL, STATE OR LOCAL AGENCIES FOR ANY STRUCTURES, CONSTRUCTION, DISCHARGES, OR OTHER ACTIVITIES DESCRIBED IN THE APPLICATION (I.E., PRELIMINARY PLAT APPROVAL, HEALTH DISTRICT APPROVAL, BUILDING PERMIT, SEPA REVIEW, FEDERAL ENERGY REGULATORY COMMISSION LICENSE (FERC), FOREST PRACTICES APPLICATION, ETC.) ALSO INDICATE WHETHER WORK HAS BEEN COMPLETED AND INDICATE ALL EXISTING WORK ON DRAWINGS.

TYPE OF APPROVAL	ISSUING AGENCY	IDENTIFICATION NO.	DATE OF APPLICATION	DATE APPROVED	COMPLETED?
Hydraulic Project Approval	WA DFW		10/2009		
Water Quality Certification	WA DOE		10/2009		
Section 404 and Section 10	US Army COE		10/2009		
ESA Consultation	US FWS			10/21/09	

16. HAS ANY AGENCY DENIED APPROVAL FOR THE ACTIVITY DESCRIBED HEREIN OR FOR ANY ACTIVITY DIRECTLY RELATED TO THE ACTIVITY DESCRIBED HEREIN? ☐ YES ☒ NO IF YES, EXPLAIN: Most agencies participated in the Lake Chelan Settlement Process and signed the Settlement agreement, that cover all the erosion sites with treatment concepts and locations of treatment. Project specific approval is now being requested.

SECTION B - Use for Shoreline and Corps of Engineers permits only:

17. TOTAL COST OF PROJECT. THIS MEANS THE FAIR MARKET VALUE OF THE PROJECT, INCLUDING MATERIALS, LABOR, MACHINE RENTALS, ETC.

Total project cost estimated at $650,000 for the four sites. Approximately $325,000 for each contract. The work will have Forest Service over sight to the degree necessary to comply with all permits and is funded from the Lake Chelan Settlement Agreement through the FERC license.

18. LOCAL GOVERNMENT WITH JURISDICTION:
Chelan County

19. FOR CORPS, COAST GUARD, AND DNR PERMITS, PROVIDE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF ADJOINING PROPERTY OWNERS, LESSEES, ETC..
PLEASE NOTE: SHORELINE MANAGEMENT COMPLIANCE MAY REQUIRE ADDITIONAL NOTICE — CONSULT YOUR LOCAL GOVERNMENT.

NAME	ADDRESS	PHONE NUMBER
	National Forest System Lands	

SECTION C - This section MUST be completed for any permit covered by this application

20. APPLICATION IS HEREBY MADE FOR A PERMIT OR PERMITS TO AUTHORIZE THE ACTIVITIES DESCRIBED HEREIN. I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS APPLICATION, AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, SUCH INFORMATION IS TRUE, COMPLETE, AND ACCURATE. I FURTHER CERTIFY THAT I POSSESS THE AUTHORITY TO UNDERTAKE THE PROPOSED ACTIVITIES. I HEREBY GRANT TO THE AGENCIES TO WHICH THIS APPLICATION IS MADE, THE RIGHT TO ENTER THE ABOVE-DESCRIBED LOCATION TO INSPECT THE PROPOSED, IN-PROGRESS OR COMPLETED WORK. I AGREE TO START WORK ONLY AFTER ALL NECESSARY PERMITS HAVE BEEN RECEIVED.

SIGNATURE OF APPLICANT OR AUTHORIZED AGENT	DATE
Robert J. Sheehan District Ranger Okanogan and Wenatchee National Forests	

I HEREBY DESIGNATE
TO ACT AS MY AGENT IN MATTERS RELATED TO THIS APPLICATION FOR PERMIT(S). I UNDERSTAND THAT IF A FEDERAL PERMIT IS ISSUED, I MUST SIGN THE PERMIT.

N/A

SIGNATURE OF APPLICANT	DATE
SIGNATURE OF LANDOWNER (EXCEPT PUBLIC ENTITY LANDOWNERS, E.G. DNR) Only National Forest Lands (No private landowners involved)	DATE

THIS APPLICATION MUST BE SIGNED BY THE APPLICANT AND THE AGENT, IF AN AUTHORIZED AGENT IS DESIGNATED.

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than 5 years or both.

COMPLETED BY LOCAL OFFICIAL

A. Nature of the existing shoreline. (Describe type of shoreline, such as marine, stream, lake, lagoon, marsh, bog, swamp, flood plain, floodway, delta; type of beach, such as accretion, erosion, high bank, low bank, or dike; material such as sand, gravel, mud, clay, rock, riprap; and extent and type of bulkheading, if any:)

B. In the event that any of the proposed buildings or structures will exceed a height of thirty-five feet above the average grade level, indicate the approximate location of and number of residential units, existing and potential, that will have an obstructed view:

C. If the application involves a conditional use or variance, set forth in full that portion of the master program which provides that the proposed use may be a conditional use, or, in the case of a variance, from which the variance is being sought:

These Agencies are Equal Opportunity and Affirmative Action employers.
For special accommodation needs, please contact the appropriate agency in the instructions.

Attachment 1: Forest Service Response to Criteria for Nationwide Permit 13 Bank Stabilization

Criterion a: No material is placed in excess of the minimum needed for erosion protection.

The locations of the erosion treatment, trucking, barge and pre-placement costs all contribute to high operational cost. Extra pre-staged rock will be used for maintenance of the site or for additional LWD anchoring at the original site.

Current plans place about 16 cubic feet per lineal foot treated with up to 4-6 cubic feet placed below the 1100 foot mark. In many treatments it will be less. We have modified the amount of toe excavation to be less than originally planned.

Criterion b: The activity is no more than 500 feet in length along the bank, unless this criterion is waived in writing by the district engineer.

We have identified various treatments that are not contiguous along the shore. We believe our proposal meets the intent of this criterion, however the specifics are as follows:

Proposed for 2010-2011
Domke Falls site 24 abc: 107 lineal feet of full treatment
126 lineal feet of single/ double rock treatment.

Refrigerator Harbor site 25: 575 lineal feet of full treatment
227 lineal feet of double rock
Treatments E and C are separated by lesser double rock treatment and 90 ft of the full treatment re-amours old wood crib walls.

Proposed for 20011-2012
Lucerne Site 26: 803 lineal feet of various treatments
Treatment zones a; 54 feet and c; 285 feet receive full treatment.

53 lineal feet of double rock and 401 lineal feet of decaying wood cribbing will be repair.

Lucerne Guard Station Site 27: 478 feet of various rock treatments with 73 feet of only LWD placement. 290 lineal feet of full treatment 102 lineal feet of single or double rock and 86 lineal feet of ¾ modified.

While sites 26 and 27 appear as a significant amount of repair, much or this is on previous treated sites in the 1980's that has failed to some degree.

Criterion c: The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or high tide line, unless criterion is waived in writing by the district engineer.

We do not anticipate exceeding this criterion, since our plan is to place 4-6 cubic feet per lineal foot of a fully treated area.

Criterion d: The activity does not involve discharges of dredged or fill material into special aquatic sites, unless this criterion is waived in writing by the district engineer.

Our proposal calls for excavated material to be placed above the high water mark for bank treatments and for LWD placement anchors to be blended at the site, this will occur in the dry zone during the drawdown period. We do not believe any of our sites have any special aquatic features.

Criterion e: No material is of the type , or is placed in any location, or in any manner, to impair surface water flow into any water of the United States.

This will not occur.

Criterion f: No material is placed in a manner that will be eroded by normal or expected high flows
(properly anchored trees and treedrops may be used in low energy areas).

The material placed with these treatments is designed to resist erosion forces. Lake Chelan shoreline during full pool (June – September) can be a high energy area, due to wind or boat generated waves. We have monitoring plans for some of the various treatments, and LWD will be monitored for safety during the life of the license.

Criterion g: The activity is not a stream channelization activity.

No it is not.

Attachment 2: Conditions of Appendix A HPA MOU with Washington Department of Fish and Wildlife specific project provisions.

We have reviewed the provisions and believe that we meet all the requirements for Appendix A projects.

Timing: We are operating in the dry with all machinery.
Fish Protection: Operating in the dry, fall/winter rock placement will not harm any fish species.
Erosion and Wastewater Control: Treatments are minimal impact treatments, shoreline protection is the goal, with minimizing any shoreline disturbance to existing vegetation, spot plantings will occur where needed, LWD will be used to the agreed upon ratio.
Heavy Equipment: will be operated in the dry with minimal disturbance, and standard spill protection preparations
Concrete and Treated Wood: None proposed for these sites.

Forest Service Erosion Control JARPA Attachment 3

The following text and sketches is taken from the USDA FS Site-Specific Erosion Plan developed for the Federal Energy Regulatory Commission (FERC) as a required license article.

1.1 Location of Sites

Domke Falls Campground (Site 24abc) is a popular site due to the beauty of the waterfalls at the accessible boat in campground, it is located on the south shore in the upper 1/4 of Lake Chelan; it is approximately 37 miles up lake from the City of Chelan. The Lucerne Bar has sites 25-27 located on it. It is approximately 3.0 miles farther up lake on the north shore. These are two of the upper basins more popular mid-size campgrounds. Location Maps are included as Figures 1-1.

1.2 Design – Baseline Data and Treatments

Each site will be repaired with a variety of treatments. As work progresses in the implementation process and knowledge is gained, it is anticipated that new types or combinations of treatment will be developed. Please refer to Appendix A for current treatment designs.

Treatment designs will start with the basic site sketches and original survey soil information, site observations and slope profiles contained in the Inventory of Shoreline Erosion Lake Chelan and Bypass Reach Study Report, Final (CPUD, 2000). These original sketches were further modified with proposed treatment areas identified on the sketches in the Erosion Control Treatments and Concepts for Lake Chelan, Okanogan and Wenatchee National Forests, Final (CPUD, 2001). This body of information is the base from which each set of site-specific Forest Service erosion control plans will be developed from over the implementation time period.

The anticipated treatment for the sites covered in this plan (sites 24abc, 25, 26, and 27) are presented below.

1.2.1 Erosion Control Treatments for Site 24abc – Domke Falls Campground

At Domke Falls Campground approximately 126 lineal feet will be treated with single rock or double rock treatment, and 107 lineal feet will be treated with slight various of the enhanced placed rock treatments with or without LWD. The specifics of the treatment anticipated by treatment zone are presented in Table 1and shown on original sketches and photographs.
Special factors at this site include an moderate site profile, gentle beach slope at lower elevations, and small treatment zones. Portions of the site have a nice gravelly beach; most of the site has high natural vegetation, no plantings will be required on any of these treatments.

Treatments of the plan are repeated here.

Forest Service Erosion Control "**JARPA Attachment 4"** shows treatment diagrams shown in Appendix A of this document.

Forest Service Erosion Control "**JARPA Attachment 5"** shows all Biological Evaluation information and concurrence of finds.

Forest Service Erosion Control **"JARPA Attachment 6"** shows the project locations from page 5 of this document.

Appendix C: Cultural Resources

Tribal Scoping Letters

File Code: 1950, 2360

Date: October 19, 2009

Mr. Michael O. Finley, Business Council Chair
Confederated Tribes of the Colville Reservation
P.O. Box 150
Nespelem, WA 99155

Dear Chairman Finley:

The purpose of this letter is to inform you of a proposed action by the Chelan Ranger District to address shoreline erosion along Lake Chelan. During the Lake Chelan FERC relicensing process many erosion sites where identified with proposed remedial action. We will be implementing the proposed actions at the following Forest Service Group One recreational sites: Domke Falls Campground (site 24abc) located in T31N, R 20E, Section 25; Refrigerator Harbor Campground, Lucerne Campground and Guard Station (sites 25-27) all located in T31N, R18 E, Section10 (see enclosed map).

I am proposing to treat active erosion with various forms of placed rock armoring, Large Woody Debris (LWD) structures, and vegetative plantings. The only type of excavation work will be at approximately 1098 feet elevation to anchor base rock, and for placing LWD anchors or burying one end of the log. Mechanized equipment will operate in the drawn down zone of 1100 feet to about 1085 feet of elevation. All activities above 1100 feet will be minimized to prevent ground disturbance. A complete description of the work proposed is enclosed.

In compliance with the National Environmental Policy Act (NEPA), the Chelan Ranger District is preparing site-specific project file reports for this action. We are tiering to the Final Environmental Assessment for Hydropower License, Lake Chelan Hydroelectric Project FERC Project No. 637, Federal Energy Regulatory Commission, Washington, D.C. October 2003. That document summarized the project purpose and need and analyzed the potential effects of the project on the natural environment.

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Included in these studies and in accordance with the National Historic Preservation Act as amended (NHPA) and its implementing regulation (36 CFR 800), and our 1997 PMOA regarding the management of cultural resources on National Forests in Washington State, a cultural resource literature review will be completed. No field inventory is planned because the proposed erosion treatment sites were recently inventoried for cultural resources associated with Lake Chelan FERC relicensing. No cultural resource sites are located at the Domke Falls Campground (erosion site 24abc) but there are four cultural resource sites located above Lake Chelan at or near the Refrigerator Harbor Campground, Lucerne Campground and Guard Station erosion sites (sites 25-27) on Lucerne Bar. The archaeological site nearest the Refrigerator Harbor Campground erosion site is a National Register eligible lithic scatter within the campground itself. The erosion treatments proposed there will occur well below the bench where the site is located. Just north of this site on the same bench above the lake is the historic Lucerne hotel foundation. That cultural resource site is more than 50 meters above the proposed erosion treatment site. Continuing north around Lucerne Bar is the National Register listed Lucerne Guard Station, located 30 to 50 meters outside the area of potential effect and a former helispot site with historic trash and lithic debitage. The helispot cultural resource site is already partially buffered from the lake by existing riprap.

No artifacts or features of the four cultural resource sites at Lucerne Bar were found when the lake drawdown area was inventoried during FERC relicensing but of the four sites, the Refrigerator Harbor lithic scatter and the helispot debris scatter warrant monitoring during erosion treatment should additional artifacts be exposed on the slope between the lake and the bench where the sites are located. Erosion treatments in the vicinity of those two sites will be monitored by a professional archaeologist.

The draft Lake Chelan traditional cultural property (TCP) report for the Colville Tribes has been consulted and no properties have been identified within any of the treatment areas. The TCP in the vicinity of Domke Falls can and will be avoided. Lucerne Bar TCPs can and will be avoided as well. If there's reason to believe that TCPs cannot be avoided or will be affected, please contact our Heritage Program Manager, Powys Gadd, at 509-664-9493.

I recognize that the Confederated Colville Tribes may have special interests or knowledge of important resources within the proposed project area. If you have any information or concerns regarding cultural properties in general, please contact Powys Gadd. If you would like to meet with me or with other Forest Service project personnel to discuss the project, please contact me at 509-682-2576.

If you wish to respond to this proposal, comments can be sent directly to:

Joe Kastenholz, Resource Assistant
Chelan Ranger District

428 West Woodin Avenue
Chelan, WA 98816

Comments should be received no later than November 30, 2009. Thank you for your interest in the management of the Okanogan-Wenatchee National Forest.

Sincerely,

ROBERT J. SHEEHAN
District Ranger

Enclosure: Project Map

cc: Brian Gunn, Drinker, Biddle & Reath, LLP
cc: Harvey Moses, Chair – Cultural Committee
cc: Camille Pleasants, THPO
cc: Virgil Seymour, Chair, Natural Resource Committee
cc: Powys Gadd, Okanogan-Wenatchee National Forest Archeologist

File Code: 1950; 2360

Date: October 19, 2009

Ralph Sampson, Chair
Yakama Nation
P.O. Box 151
Toppenish, WA 98948

Dear Chairman Sampson:

The purpose of this letter is to inform you of a proposed action by the Chelan Ranger District to address shoreline erosion along Lake Chelan. During the Lake Chelan FERC relicensing process many erosion sites where identified with proposed remedial action. We will be implementing the proposed actions at the following Forest Service Group One recreational sites: Domke Falls Campground (site 24abc) located in T31N, R 20E, Section 25; Refrigerator Harbor Campground, Lucerne Campground and Guard Station (sites 25-27) all located in T31N, R18 E, Section10 (see enclosed map).

I am proposing to treat active erosion with various forms of placed rock armoring, Large Woody Debris (LWD) structures, and vegetative plantings. The only type of excavation work will be at approximately 1098 feet elevation to anchor base rock, and for placing LWD anchors or burying one end of the log. Mechanized equipment will operate in the drawn down zone of 1100 feet to about 1085 feet of elevation. All activities above 1100 feet will be minimized to prevent ground disturbance. A complete description of the work proposed is enclosed.

In compliance with the National Environmental Policy Act (NEPA), the Chelan Ranger District is preparing site-specific project file reports for this action. We are tiering to the Final Environmental Assessment for Hydropower License, Lake Chelan Hydroelectric Project FERC Project No. 637, Federal Energy Regulatory Commission, Washington, D.C. October 2003. That document summarized the project purpose and need and analyzed the potential effects of the project on the natural environment.

Included in these studies and in accordance with the National Historic Preservation Act as amended (NHPA) and its implementing regulation (36 CFR 800), and our 1997 PMOA regarding the management of cultural resources on National Forests in Washington State, a cultural resource literature review will be completed. No field inventory is planned because the proposed erosion treatment sites were recently inventoried for cultural resources associated with Lake Chelan FERC relicensing. No cultural resource sites are located at the Domke Falls Campground (erosion site 24abc) but there are four cultural resource sites located on the bench above Lake Chelan at or near the Refrigerator Harbor

Campground, Lucerne Campground and Guard Station erosion sites (sites 25-27) on Lucerne Bar. The archaeological site nearest the Refrigerator Harbor Campground erosion site is a National Register eligible lithic scatter within the campground itself. The erosion treatments proposed there will occur well below the bench where the site is located. Just north of this site on the same bench above the lake is the historic Lucerne hotel foundation. That cultural resource site is more than 50 meters above the proposed erosion treatment site. Continuing north around Lucerne Bar is the National Register listed Lucerne Guard Station, located 30 to 50 meters outside the area of potential effect and a former helispot site with historic trash and lithic debitage. The helispot cultural resource site is already partially buffered from the lake by existing riprap.

No artifacts or features of the four cultural resource sites at Lucerne Bar were found when the lake drawdown area was inventoried during FERC relicensing but of the four sites, the Refrigerator Harbor lithic scatter and the helispot debris scatter warrant monitoring during erosion treatment should additional artifacts be exposed on the slope between the lake and the bench where the sites are located. Erosion treatments in the vicinity of those two sites will be monitored by a professional archaeologist.

The Lake Chelan traditional cultural property (TCP) report for the Yakama Nation has been consulted and no properties have been identified within any of the treatment areas. The TCP in proximity to the Domke Falls Campground can and will be easily avoided.

I recognize that the Yakama Nation may have special interests or knowledge of important resources within the proposed project area. If you have any information or concerns regarding cultural properties specifically, please contact Powys Gadd, Okanogan-Wenatchee National Forest Archaeologist at 509-664-9394. If you would like to meet with me or with other Forest Service project personnel to discuss the project, please contact me at 509-682-2576.

If you wish to respond to this proposal, comments can be sent directly to:

Joe Kastenholz, Resource Assistant
Chelan Ranger District
428 West Woodin Avenue
Chelan, WA 98816

Comments should be received no later than November 30, 2009. Thank you for your interest in the management of the Okanogan-Wenatchee National Forest.

Sincerely,

ROBERT J. SHEEHAN
District Ranger

Enclosure: Map and Treatment Descriptions

cc: Lavina Washines, Cultural Committee Chair
cc: Kate Valdez, THPO
cc: Johnson Meninick, Cultural Program
cc: Lee Carlson, Tribal/USFS Liaison
cc: Philip Rigdon, Dept of Natural Resources
cc: Powys Gadd, Okanogan-Wenatchee National Forest Archeologist