



User's Guide to the Programmatic Consultation for the Removal of Fish Passage Barriers

U.S. Army Corps of Engineers
Seattle District
Regulatory Branch

Version: 29 July 2002

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Introduction

On October 29, 2001, the National Marine Fisheries Service – NOAA Fisheries (NMFS) issued a Biological Opinion approving the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) “Programmatic Consultation for Habitat Restoration/Rehabilitation Activities in the State of Washington for Species Listed or Proposed by National Marine Fisheries Service/NOAA Fisheries and U.S. Fish and Wildlife Service under the Endangered Species Act”, dated April 13, 2001 (Revised May 19, 2002). U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion approving this programmatic consultation on May 29, 2002. Only the first chapter of restoration/rehabilitation activities – Removal of Fish Passage Barriers has been approved. The Corps is developing additional chapters to address other restoration/rehabilitation activities such as instream restoration and marine/estuarine restoration.

Benefits of meeting the requirements of the programmatic consultation are two-fold – (1) the programmatic provides best available information for avoiding and minimizing impacts to listed species, and (2) ESA consultation has been completed for those activities – thereby greatly decreasing the application review time for projects meeting the programmatic consultation. The intent of this User’s Guide is to assist applicants and reviewers at the Corps and Services in determining the requirements to meet the programmatic consultation and the process of receiving approval under the programmatic consultation.

The programmatic consultation applies to all species in Washington State, listed and proposed under the Endangered Species Act (ESA). The complete text for the Corps programmatic biological evaluation, the NMFS programmatic biological opinion and the USFWS programmatic biological opinion are available on the Corps website. Click on “regulatory/permits” at http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=Home_Page . If you are unable to access the website, please contact the Corps for a copy of the consultation.

For hard copies, please contact:

Programmatic Biological Evaluation	U.S. Army Corps of Engineers Seattle District, Regulatory Branch P.O. Box 3755 Seattle, Washington 98124-3755 (206) 764-3495
Programmatic Biological Opinion	National Marine Fisheries Service Habitat Branch 510 Desmond Drive SE, Suite 103 Lacey, Washington 98503-1263 (360) 753-9530
Programmatic Biological Opinion	U.S. Fish and Wildlife Service Ecological Services 510 Desmond Drive SE, Suite 102 Lacey, Washington 98503-1263 (360) 753-9440

Removal of Fish Passage Barrier Activities Authorized

Stream Crossings by Roads, Levees, Dikes, or Similar Features

Covered:

- ◆ Complete removal of barrier
- ◆ Replacement of culverts or bridges.
- ◆ Modification of impassible culverts.
- ◆ Construction of fish passage weirs, directly related to replacement, modification, or removal of stream crossings.
- ◆ Construction of bed control structures, keyed into the streambank, directly related to replacement, modification, or removal of stream crossings.
- ◆ Streambed grading directly related to replacement, modification, or removal of stream crossings.
- ◆ Placement of streambed substrate and woody debris directly related to removal, replacement, or modification of stream crossings.
- ◆ Installation of bank protection on the roadway fill prism directly related to replacement, modification, or removal of stream crossings.

Not Covered:

- ◆ Streambank hardening or channelization using rock, concrete, bulkheads, groins, J-vanes, bendway weirs, or other similar structures or techniques (this restriction does not apply to protection of the fill prism of a road or work required to key bed control structures into the streambank; see “covered” activities).
- ◆ Culvert or bridge replacement or modification activities that do not provide or facilitate fish passage.
- ◆ Construction of new stream crossings.
- ◆ Replacement of culverts or bridges that are part of larger development projects (i.e. the removal of the fish passage barrier does not have independent utility from other related work).
- ◆ Other activities at existing or new stream crossings not associated with restoration or rehabilitation of fish passage.

Tide Gates

Requires 30-day notification to NMFS

Covered:

- ◆ Replacement of tide gates or the connected culverts.
- ◆ Modification of tide gates or the connected culverts.
- ◆ Removal of tide gates or the connected culverts.

Not Covered:

- ◆ Streambank hardening or channelization using rock, concrete, bulkheads, groins, J-vanes, bendway weirs, or other similar structures or techniques.
- ◆ Tide gate replacement or modification activities that do not provide or facilitate fish passage.
- ◆ Installation of new tide gates.
- ◆ Other activities at existing tide gates that are not associated with restoration or rehabilitation of fish passage.

Certain Types of Debris Jams

Requires Affirmation from WDFW and/or Tribal Co-managers

Covered:

- ◆ Complete removal of garbage, landscape waste, construction waste and debris, or industrial debris from stream channels;
- ◆ Streambed grading within 50 feet of the debris jam removal site; and
- ◆ Streambank grading and riparian planting directly related to debris jam removal.

Not Covered:

- ◆ Removal of naturally occurring woody debris from any waterbody;
- ◆ Removal of beaver dams;
- ◆ Streambank hardening or channelization using rock, concrete, bulkheads, groins, J-vanes, bendway weirs, or other similar structures or techniques;
- ◆ Partial removal of garbage, landscape waste, construction waste, or industrial debris from stream channels; and
- ◆ Other activities at debris jams that are not associated with restoration or rehabilitation of fish passage.

Certain Types of Sediment Bars or Terraces

Requires Affirmation from WDFW and/or Tribal Co-managers

Covered:

- ◆ Removal of up to 25 cubic yards of sediment from within 25 feet of the mouth of a stream;
- ◆ Streambed grading within 50 feet of the mouth of a stream; and
- ◆ Streambank grading and riparian planting directly related to removal of sediment bars or terraces.

Not Covered:

- ◆ Removal of more than 25 cubic yards of sediment from the mouth of a stream;
- ◆ Removal of any sediment further than 50 feet of the mouth of a stream;
- ◆ Removal of naturally occurring woody debris from any waterbody;
- ◆ Removal of beaver dams;
- ◆ Streambank hardening or channelization using rock, concrete, bulkheads, groins, J-vanes, bendway weirs, or other similar structures or techniques;
- ◆ Other activities at sediment bars or terraces that are not associated with restoration or rehabilitation of fish passage.

List of Requirements

For ease of use, Corps Conservation Measures, NMFS Terms & Conditions and USFWS Terms & Conditions have been grouped together under “Requirements” and listed by a descriptive title. The full descriptions with detailed requirements of each “conservation measure” and “term and condition” are provided in Appendix A. Please see Appendix B for requirements for non-fish listed or proposed species.

A. Project Design and Description

1. Project design.

- a. Debris jam and sediment terrace removal require WDFW & Tribal Co-manager approval.
 - (1) Grade streambed only when needed for fish passage.
 - (2) All streambed grading completed with hand tools.
 - (3) Debris jam removal limited to human placed debris only.
- b. Tide Gate replacement requires NMFS approval.
- c. Steep gradients.
 - (1) Weirs.
- d. Alluvial fans

2. Supplemental information.

- a. Location and footprints of ingress/egress points.
- b. Describe bypass method.
- c. Additional documentation as pertinent.
 - Requirement 1(c) – *Steep Gradients*
 - Requirement 1(c)(1) – *Weirs*
 - Requirement 5 – *Discussion of Alternatives*
 - Requirement 14(a) – [*Integrated Streambank Protection Guidelines*](#)
 - Requirement 16 – *Timing Restrictions*
 - Requirement 19(c) – *Cross at riparian areas & streams at right angles.*
 - Requirement 19(h) – *Provide a description of ingress and egress locations.*
 - Requirement 22(b) – *Ramping Schedule*
 - Requirement 22(d) – *Documentation of Bypass Method*
 - Requirement 23(b)(3) – *Electroshocking*
 - Requirement 23 (e) – *Trained and Experienced Biologist Required.*
 - Requirement 37(b) – *Submit and implement a planting plan.*

3. Fish passage standard.

4. Minimize work area.

- a. Remove as much of existing structure as possible.
- b. Clean structure prior to removal.

5. Discussion of alternatives.

- a. Presumed practical alternatives.
- b. Alternatives documentation.
 - (1) Habitat functions.
 - (2) Cost estimates.
 - (3) Risk assessment

- (4) Habitat improvements.
- c. Demonstrate removal or replacement of culvert will not cause head cutting.
- d. Partial removal of a blockage - justification required.
- 6. Minimize streambank grading.**
- 7. Salvage natural debris.**
- 8. Tree and riparian vegetation removal will be strictly limited.**
 - a. Clearing and grubbing not to exceed 0.01 of an acre total.
 - (1) Restrictions on tree removal in 50' buffer for all perennial & intermittent streams.
 - (2) Restrictions on tree removal in 50-150' buffer for listed salmonid bearing streams.
 - b. Replant at 2:1 ratio.
 - c. Fall trees toward the stream and leave in place.
- 9. Use natural materials.**
 - a. Obtain natural materials 150 feet outside channel migration zone.
- 10. Salvage excavated material**
 - a. Stockpile material above bankfull elevation.
 - b. Stockpile excavated material 300 feet from streams and waterbodies.
- 11. Anchoring of large woody debris (LWD).**
- 12. Substrate enhancement material.**
- 13. Streambank revegetation.**
 - a. Reuse native material, soil, and vegetation.
- 14. Use of bank stabilization.**
 - a. *[Integrated Streambank Protection Guidelines](#)* (ISPG).
 - b. Wood bank protection only allowed with invert of replaced crossing structure.

B. General Construction

- 15. Flag riparian, wetlands and sensitive areas prior to construction.**
 - a. Flag all project clearing and access areas.
- 16. Timing restrictions.**
 - a. NMFS approval of work period extensions:
- 17. Permitting requirements.**
- 18. Heavy equipment standards & requirements.**
 - a. Low minimize size and impact of equipment
 - b. Location of staging & refueling areas.
 - (1) Clean equipment 300 feet away from any wetlands or waters before any instream work.
 - (2) Stay 300 feet away from wetlands and waters.
 - (3) Inspect for leaks daily.
 - (4) Store equipment in staging area 300 feet away from wetlands and waters.
 - c. Spill Prevention Plan in place.
 - d. Barges shall not ground out.
- 19. Temporary access roads.**
 - a. New roads require NMFS approval.
 - b. No unauthorized access allowed.

- c. Cross riparian areas & streams at right angles
- d. Avoid, minimize & mitigate soil disturbance.
- f. Stream crossing design criteria
 - (1) Spawning habitat mapping with 1000 feet.
 - (2) No crossing in or near (300 feet) spawning areas.
 - (3) Design to accommodate impacts of potential failure.
 - (4) Minimize number of crossings.
- g. Access restrictions for Debris Jam/Sediment Terrace Removal.
 - (1) No mid-slope or steep slope roads.
 - (2) No new roads allowed.
 - (3) Road Access for Sediment Terrace Removal allowed only once a year.

20. Restriction on heavy equipment in streams.

- a. No dynamite allowed in waters.
- b. Cross at right angles, use a temporary pad and don't cross within flowing water.

21. Fish screens.

22. Bypass requirements:

- a. Isolation of in-water work area.
- b. Ramping schedule.
- c. Bypass method options.
 - (1) Channel relocation.
 - (2) Piping stream flow.
 - (3) Temporary channel.
 - (4) Bypass pumping.
 - (5) Combined approaches.
- d. Documentation of bypass method.

23. Fish Removal Protocols & Standards.

- a. Isolate the area.
- b. Fish Removal requirements from the isolated area.
 - (1) Standard mesh sizes.
 - (2) Hand collection.
 - (3) Electroshocking.
 - (a) Electroshock timing restriction.
 - (b) Equipment maintenance
 - (c) Voltage standards.
 - (d) Direct current.
 - (e) Pulse width & rate.
 - (f) No fish contact with anode
 - (g) Minimize harm to fish.
 - (h) Signs of fish stress/injury.
 - (i) Fish holding requirements.
 - (4) Use of minnow traps
 - (5) Use of connecting rod snakes.
 - (6) Use of fish block nets.
- c. Screening of temporary bypass pumps.
- d. Fish release.

24. Use hand labor crews.

- 25. Containment of wash water.
- 26. No uncured concrete.
- 27. Cessation of work.

C. Pollution, Erosion & Sediment Control Plan (PECP)

- 28. **Pollution, Erosion and Sediment Control Protocols and Standards**
- 29. **Spill Containment and Control Plan.**
 - a. List hazardous materials used.
- 30. **Keep debris out of aquatic habitats.**
- 31. **Confining and removing excess concrete.**
- 32. **Erosion and Sedimentation Control (ESC) methods.**
 - a. Delineate construction limits
 - b. Extra pollution/erosion control materials available in case of emergency.
 - (1) Materials for sediment emergencies.
 - (2) Oil absorbing floating boom.
 - c. Place erosion control measures downslope of project.
 - d. Stabilize construction entrances
 - e. Isolate construction areas from high water events.
 - f. Minimize sediment transport outside construction area.
 - g. Prevent wind transport of sediment.
 - h. Surface runoff barriers.
- 33. **Erosion and Sediment Control (ESC) monitoring.**
 - a. Frequency of ESC monitoring.
 - b. Definition of ESC failure.
 - c. Repair ESC failures immediately.
 - d. Limit disturbance in areas of failure
 - e. Stabilize disturbed areas immediately.
 - (1) Timing requirements for coverage of disturbed Areas.
 - (2) Revegetation of disturbed areas.
 - f. Removal of sediment from sediment controls.
 - g. Treatment of sediment laden water.

D. Post-Construction Requirements

- 34. **Removal of waste material**
- 35. **Site inspection by biologist.**
- 36. **Stabilize all areas within 3 days of the end of construction.**
 - a. Placement of temporary covers.
 - b. Deadlines for placement temporary covers.
- 37. **Site restoration.**
 - a. Return to pre-work conditions.
 - b. Submit and implement a planting plan.
 - c. Seeding exposed soils.
 - d. Replant with native vegetation.
 - e. Random plantings.

- f. Replanting completed by March 1.
 - g. No herbicide use allowed.
 - h. No fertilizer within 50 feet of stream or water.
 - i. Fence revegetated areas.
 - j. Plant survival at 80% in 3 years.
 - (1) Contingency measures for planting failures.
 - (2) Monitoring until planting determined successful.
- 38. Monitoring for fish passage conditions.**
- a. Monitored by qualified personnel.
 - b. Monitor summer of first year.
 - c. Monitoring at high flow.
 - d. Document hydraulic conditions.
 - e. Contingency measures required.
- 39. Post-construction implementation reports.**
- a. Isolation of in-water work area.
 - (1) Supervisory fish biologist.
 - (2) Methods used to isolate.
 - (3) Pre- and post-construction stream conditions.
 - (4) Method of fish removal.
 - (5) Total fish removed.
 - (6) Location of fish release.
 - (7) Document fish injury/mortality.
 - (8) Dates of construction.
 - b. Pollution and erosion control.
 - c. Site restoration.
 - (1) Post-construction elevations.
 - (2) Elevations of natural debris.
 - (3) Post-construction planting conditions.
 - (4) Five (5) year inspection reports.
 - d. Post-construction impact assessment.
 - e. Photographic documentation.
 - (1) Pre- and post-construction photographs.
 - (2) Label all photographs.
 - (3) Document habitat conditions.

Programmatic Consultation Information Requirements

In order for a project to be approved under this programmatic consultation, the applicant is required to submit site-specific documentation to the Corps for review. A flow chart has been included to provide additional clarification to the approval process. (Figure 1)

Step 1: Complete the Specific Project Information Form (SPIF) and the Requirement checklist, submit to the Corps– See Table 1.

- Include drawings and photographs

- Include supporting documentation as necessary per Requirement 2. As appropriate, the supporting documentation may include:
 - Requirement 1(c)(1) - *Weirs*
 - Requirement 5 – *Discussion of Alternatives*
 - Requirement 14(a) – *Integrated Streambank Protection Guidelines*
 - Requirement 16 – *Timing Restrictions*
 - Requirement 22(b) - *Ramping Schedule*
 - Requirement 22(d) – *Documentation of Bypass Method*
 - Requirement 23(b)(3) – *Electroshocking*
 - Requirement 37(b) – *Submit and implement a planting plan.*
- Clearly state any requirements that will not be met and why.

NOTE – Projects that don’t meet Programmatic Requirements: If a project is unable to meet the requirements of the programmatic consultation – an addendum may be provided to the SPIF stating which requirements are not met, why the requirements are not met, what compensatory measures are proposed – if any, and what potential impacts may occur from not meeting those requirements. The Corps will conduct individual Section 7 consultation with NMFS and/or USFWS based on the SPIF and addendum.

For projects that meet the programmatic consultation to the best of their ability and provide a SPIF and addendum, individual consultation time has been drastically reduced and concurrences from NMFS and/or USFWS have been received in record time.

Step 2: Corps Review SPIF for completeness and determines if application of the programmatic consultation is appropriate.

USFWS Coordination: The Corps will request that USFWS confirms every action proposing to be authorized under the programmatic consultation. Notification package includes the SPIF, supporting documentation, and the ESA Programmatic Notification to the Services (Table 2). This entire package is referred to as the “Individual Programmatic Biological Evaluation” (IPBE). This notification may occur either by fax or by mail.

USFWS Response: If approved, USFWS will respond in writing with an “Individual Programmatic Biological Opinion” (IPBO). The IPBO will confirm application of the programmatic consultation and will issue an individual incidental take statement, if necessary.

If USFWS disagrees with the application of the programmatic consultation. USFWS will respond in writing with either recommendations to revise the project to meet the programmatic consultation or a request to initiate individual Section 7 consultation and including a request for any additional information necessary for the individual consultation.

NMFS Review: The Corps does not notify NMFS with every action as with USFWS. The Corps may notify NMFS to determine if application the programmatic consultation is appropriate. Notification package includes the same information as submitted to USFWS above.

Notification occurs:

- As appropriate per the following requirements:
 - Requirement 1(a) – *Debris Jams and Sediment Terraces.*
 - Requirement 1(b) – *Tide Gates.*
 - Requirement 1 (c)(1) – *Weirs.*
 - Requirement 16(a) – *Changes to Timing Restrictions.*
 - Requirement 19(a) – *New Temporary Road Access.*
- If the Corps requests confirmation from NMFS that a specific project meets the requirements of the programmatic consultation.

NMFS Response: If notified, NMFS will respond with a letter determining if the application of the programmatic consultation is appropriate. The determination letter or Individual Programmatic Biological Opinion (IPBO), may state one of the following:

- Approval of the application of the programmatic consultation to the project under review.
- Approval of the application of the programmatic consultation with recommended project revisions and/or additional requirements.
- Determination that application of the programmatic consultation is not appropriate for the project under review. The project will then be reviewed through individual consultation procedures under Section 7 of the ESA.

Step 3: If the Corps determines application of the programmatic consultation is appropriate and completes all necessary notifications with the Services, ESA consultation is complete for the project. The Corps will place the following conditions on the Department of the Army permit authorization (if issued):

For those projects that met all the requirements with no alterations, revisions, or exclusions:

All pertinent requirements of the Programmatic Consultation submitted 13 April 2001 and approved by NMFS on 29 October 2001 (WSB-01-197) must be implemented in their entirety. (See enclosure 1)¹

For those projects where NMFS and/or USFWS approved alterations, revisions or exclusions of programmatic consultation requirements:

¹ Enclosure 1 will be Appendix A – Detailed Descriptions of Requirements.

All pertinent requirements of the Programmatic Consultation submitted 19 May 2001 and approved by NMFS on 29 October 2001 (WSB-01-197) and USFWS on 29 May 2002 (I-3-01-F-1753 and 1-3-01-C-1753) must be implemented in their entirety, with the exception of the alterations, revisions, or exclusions approved by NMFS on *** and/or USFWS on *****. (See enclosure 1 and 2)²

Based on site specific review by the Corps, the following conditions may also be included as special conditions of the Department of the Army permit authorization (if issued):

As-built Condition (always required): A status report on the restoration/rehabilitation construction, including as-built drawings, must be submitted to the Regulatory Branch, Seattle District Corps of Engineers, 13 months from the date of permit issuance. Annual status reports are required until project construction is completed. When submitting reports, always submit 3 copies of the status reports and/or as-built drawings and prominently display the appropriate Corps Reference Number.

Post-Construction Implementation Reports (per Requirement 39): A post-construction implementation reports as required by the programmatic consultation must be submitted to the Regulatory Branch, Seattle District, Corps of Engineers, with the as-built drawings 13 months from the date of permit issuance. The post-construction implementation reports include: (1) Monitoring of fish passage conditions (requirement 38), (2) Report on Isolation of in-water work areas, (3) Implementation of Pollution and Erosion Control measures, (4) Site Restoration, (5) Post-construction impact assessments, and (6) Photographic documentation. When submitting reports, always submit 3 copies of all reports and prominently display the appropriate Corps Reference Number.

Monitoring Plan Condition: The revegetation and monitoring plan, prepared by ****, dated ***, must be implemented in its entirety. Monitoring reports will be submitted annually for a period of *** years. The first year monitoring report will be due one year from the date of Corps written approval of the as-built drawings. All report must be submitted to Regulatory Branch, Seattle District Corps of Engineers. When submitting reports, always submit 3 copies of all monitoring reports.

Site protection: Site protection conditions will be placed only on those projects where restoration of riparian areas is extensive and the Corps determines these restoration areas are in threat of significant disturbance or destruction in the future. The majority of projects removing fish passage barriers will not be subject to this condition:

² Enclosure 1 will be Appendix A – Detailed Descriptions of Requirements. Enclosure 2 will be the NMFS IPBO.

Special Condition: A description of the restoration/rehabilitation areas authorized under this permit, and any subsequent revisions, will be recorded with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records to or interest in real property. The following statement and Exhibit will be placed on the deed: “The areas represented in Exhibit ** (*map of restoration/rehabilitation area*) are restoration/rehabilitation areas. Any alteration to wetlands or waters within these areas will require authorization from the Corps of Engineers, Seattle District, Regulatory Branch. Proposed alterations will be reviewed in light of the restored state of these areas.” Proof of this documentation must be provided to the Corps of Engineers, Seattle District within 30 days of final permit issuance.



Table 1 – Specific Project Information Form (SPIF)

Version: 29 July 2002

U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
P.O. Box 3755
Seattle, Washington 98124

Specific Project Information Form (SPIF) Restoration Programmatic Consultation – Removal of Fish Passage Barriers

USFWS Programmatic Reference: 1-3-01-F-1752 and 1-3-01-C-1753

NMFS Programmatic Reference: WSB-01-197

1. Applicant: _____ **Corps Reference:** *****

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

2. Agent:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

3. Project Location (include Vicinity map):

Section: _____ Township: _____ Range: _____

Latitude: _____ Longitude: _____

Waterbody: _____ County: _____

River Mile: _____ Tributary to: _____

4. Project Description (include drawings and photographs): Include all phases of the proposed project including construction, access (existing or new), staging areas, and maintenance and operation of the project. _____

a. Project Purpose: _____

b. Action Area Identified: *(If unknown, contact the Corps Project Manager for assistance)*

c. Programmatically approved activity(ies) proposed (Check all that apply):
(For descriptions of the activities, see the programmatic consultation)

Removal of Fish Passage Barriers

Removal or Replacement of Stream Crossings (describe type in project description)

Removal or Replacement of Tide Gates

Removal of Certain Types of Debris Jams

Removal or Modification of Certain Types of Sediment Bars & Flood Terraces

Other Activities: _____

d. Description of construction access and sequencing: _____

e. How long will it take to construct each project element (including number of construction seasons)? _____

f. Proposed work windows (specify by month and date): _____

g. Habitat function proposed for restoration or rehabilitation (i.e. spawning areas, refuge areas):

h. How was the targeted habitat function identified as a restoration/rehabilitation issue for the system (i.e. watershed analysis)? What is the pre-project level of the targeted habitat function within the action area?

i. How will project restore or rehabilitate the targeted habitat function?

5. **Environmental Baseline of Action Area:** Supplemental information on specific issues related to proposed activity not addressed under “Affected Environment” in the Programmatic Consultation. Information may include site-specific concerns or constraints and upstream and downstream conditions.

6. **Species Present and Determination of Effect:** What federally listed or proposed species and critical habitat occur in the action area? Include Species List from USFWS and NMFS.

Species Name	Habitat	Determination of Effect
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7. **Supplemental Information:** Provide additional documentation as defined under Requirement 2 – Supplemental Information. As necessary, specific discussions of potential effects not addressed within the Programmatic Consultation may also be included.

8. **Avoidance and Minimization Measures:** Define what avoidance and minimization measures will be implemented to protect listed or proposed species and their critical habitat.

9. **Monitoring Plan:** Attach a monitoring plan following the outline in the Programmatic Consultation



Restoration Programmatic Consultation - Removal of Fish Passage Barriers Requirement Checklist

Corps Reference Number: ****_*_*****

Applicant Name: _____

Project Name: _____

List of Requirements

For ease of use, Corps Conservation Measures, NMFS and USFWS Terms & Conditions have been grouped together under “Requirements” and listed by a descriptive title. The full descriptions with detailed requirements of each “conservation measure” and “term and condition” are provided in Appendix A of the “User’s Guide.”

Note: For non-fish species, requirement checklists by species are available in Appendix B of the “User’s Guide”.

A. Project Design and Description	Applicant’s Comments
	Project doesn’t include the activity/topic- <i>n/a</i>
	Project does include activity – <i>provide brief description, attach documentation</i> ³ .
1. Project design.	
a. Debris jam and sediment terrace removal require WDFW & Tribal Co-manager approval.	
(1) Grade steamed only when needed for fish passage.	
b. Tide Gate replacement requires NMFS approval.	
c. Steep gradients.	
(1) Weirs.	
d. Alluvial fans	
2. Supplemental information.	
a. Location and footprints of ingress/egress points.	
b. Describe bypass method.	
c. Additional documentation as pertinent.	
3. Fish passage standard.	
4. Minimize work area.	

³ If a BE was prepared for other purposes or prior to final approval of the programmatic consultation, the relevant pages of the BE may be referenced and a copy attached.

a. Remove as much of existing structure as possible.	
b. Clean structure prior to removal.	
5. Discussion of alternatives.	
a. Presumed practical alternatives.	
b. Alternatives documentation.	
(1) Habitat functions.	
(2) Cost estimates.	
(3) Risk assessment	
(4) Habitat improvements.	
c. Demonstrate removal or replacement of culvert will not cause head-cutting	
d. Partial removal of a blockage – justification required.	
6. Minimize streambank grading.	
7. Salvage natural debris.	
8. Tree removal will be strictly limited.	
a.. Clearing and grubbing not to exceed 0.01 of an acre total.	
(1) Restrictions on tree removal in 50' buffer for all perennial & intermittent streams	
(2) Restrictions on tree removal in 50-150' buffer for listed salmonid bearing streams.	
b. Replant at 2:1 ratio.	
c. Fall trees toward the stream and leave in place	
9. Use natural materials.	
a. Obtain natural materials 150 feet outside channel migration zone.	
10. Salvage excavated material	
a. Stockpile material above bankfull elevation.	
b. Stockpile excavated material 300 feet from streams and waterbodies.	
11. Anchoring of large woody debris (LWD).	
12. Substrate enhancement material.	
13. Streambank revegetation.	
a. Reuse native material, soil, and vegetation.	
14. Use of bank stabilization.	
a. Integrated Streambank Protection Guidelines (ISPG)	
b. Wood bank protection only allowed with invert of replaced crossing structure.	
B. General Construction	
15. Flag riparian, wetlands and sensitive areas prior to construction.	
a. Flag all project clearing and access areas.	
16. Timing restrictions.	
a. NMFS approval of work period extensions:	
17. Permitting requirements.	

18. Heavy equipment standards & requirements.	
a. Low minimize size and impact of equipment	
b. Location of staging & refueling areas.	
(1) Clean equipment 300 feet away from wetlands and waters before any instream work.	
(2) Stay 300 feet away from wetlands and waters.	
(3) Inspect for leaks daily.	
(4) Store equipment in staging area 300 feet away from wetlands or waters..	
c. Spill Prevention Plan in place.	
d. Barges shall not ground out.	
19. Temporary access roads.	
a. New roads require NMFS approval.	
b. No unauthorized access allowed.	
c. Cross riparian areas & streams at right angles	
d. Avoid, minimize & mitigate soil disturbance.	
f. Stream crossing design criteria	
(1) Spawning habitat mapping with 1000 feet.	
(2) No crossing in or near (300 feet) spawning areas.	
(3) Design to accommodate impacts of potential failure.	
(4) Minimize number of crossings.	
g. Access restrictions for Debris Jam/Sediment Terrace Removal.	
(1) No mid-slope or steep slope roads.	
(2) Maximum 100 feet of new road allowed.	
(3) Road Access for Sediment Terrace Removal allowed only once a year.	
20. Restriction on heavy equipment in streams.	
a. No dynamite allowed in waters.	
21. Fish screens.	
22. Bypass requirements:	
a. Isolation of in-water work area.	
b. Ramping schedule.	
c. Bypass method options.	
(1) Channel relocation.	
(2) Piping stream flow.	
(3) Temporary channel.	
(4) Bypass pumping.	
(5) Combined approaches.	
d. Documentation of bypass method.	
23. Fish Removal Protocols & Standards.	
a. Isolate the area.	
b. Fish Removal requirements from the isolated area.	
(1) Standard mesh sizes.	

(2) Hand collection.	
(3) Electroshocking.	
(a) Electroshock timing restriction.	
(b) Equipment maintenance	
(c) Voltage standards.	
(d) Direct current.	
(e) Pulse width & rate.	
(f) No fish contact with anode	
(g) Minimize harm to fish.	
(h) Signs of fish stress/injury.	
(i) Fish holding requirements.	
(4) Use of minnow traps	
(5) Use of connecting rod snakes.	
(6) Use of fish block nets.	
c. Screening of temporary bypass pumps.	
d. Fish release.	
24. Use hand labor crews.	
25. Containment of wash water.	
26. No uncured concrete.	
27. Cessation of work.	
<u>C. Pollution, Erosion & Sediment Control Plan (PECP)</u>	
28. Pollution, Erosion and Sediment Control Protocols and Standards	
29. Spill Containment and Control Plan.	
a. List hazardous materials used.	
30. Keep debris out of aquatic habitats.	
31. Confining and removing excess concrete.	
32. Erosion and Sedimentation Control (ESC) methods.	
a. Delineate construction limits	
b. Extra pollution/erosion control materials available in case of emergency.	
(1) Materials for sediment emergencies.	
(2) Oil absorbing floating boom.	
c. Place erosion control measures downslope of project.	
d. Stabilize construction entrances	
e. Isolate construction areas from high water events.	
f. Minimize sediment transport outside construction area.	
g. Prevent wind transport of sediment.	
h. Surface runoff barriers.	
33. Erosion and Sediment Control (ESC) monitoring.	
a. Frequency of ESC monitoring.	
b. Definition of ESC failure.	
c. Repair ESC failures immediately.	

d. Limit disturbance in areas of failure	
e. Stabilize disturbed areas immediately.	
(1) Timing requirements for coverage of disturbed Areas.	
(2) Revegetation of disturbed areas.	
f. Removal of sediment from sediment controls.	
g. Treatment of sediment laden water.	
D. Post-Construction Requirements	
34. Removal of waste material	
35. Site inspection by biologist.	
36. Stabilize all areas within 3 days of the end of construction.	
a. Placement of temporary covers.	
b. Deadlines for placement temporary covers.	
37. Site restoration.	
a. Return to pre-work conditions.	
b. Submit and implement a planting plan.	
c. Seeding exposed soils.	
d. Replant with native vegetation.	
e. Random plantings.	
f. Replanting completed by March 1.	
g. No herbicide use allowed.	
h. No fertilizer within 50 feet of stream or water.	
i. Fence revegetated areas.	
j. Plant survival at 80% in 3 years.	
(1) Contingency measures for planting failures.	
(2) Monitoring until planting determined successful.	
38. Monitoring for fish passage conditions.	
a. Monitored by qualified personnel.	
b. Monitor summer of first year.	
c. Monitoring at high flow.	
d. Document hydraulic conditions.	
e. Contingency measures required.	
39. Post-construction implementation reports.	
a. Isolation of in-water work area.	
(1) Supervisory fish biologist.	
(2) Methods used to isolate.	
(3) Pre- and post-construction stream conditions.	
(4) Method of fish removal.	
(5) Total fish removed.	
(6) Location of fish release.	
(7) Document fish injury/mortality.	
(8) Dates of construction.	
b. Pollution and erosion control.	
c. Site restoration.	
(1) Post-construction elevations.	
(2) Elevations of natural debris.	
(3) Post-construction planting conditions.	

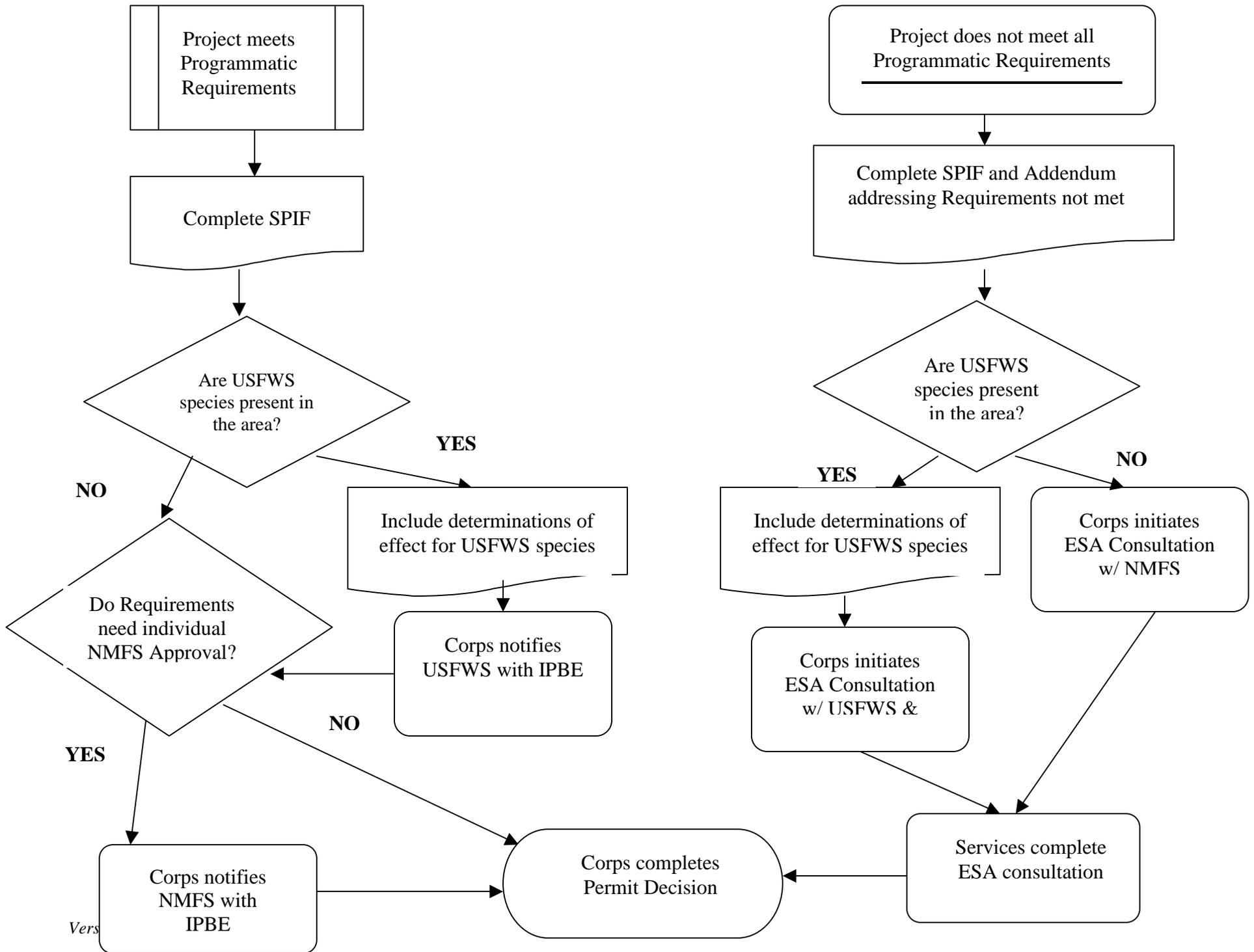
(4) Five (5) year inspection reports.	
d. Post-construction impact assessment.	
e. Photographic documentation.	
(1) Pre- and post-construction photographs.	
(2) Label all photographs.	
(3) Document habitat conditions.	

All Programmatic Conditions Have Been Met. I as the applicant or designated agent have read all the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets all conditions of the programmatic consultation. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations.

Name of Applicant/Agent (Print)

Signature of Applicant/Agent

Date



Corps Programmatic Reporting Requirements

At regular intervals as outlined in the programmatic consultation, the Corps will be submitting monitoring and tracking reports to the Services.

The monitoring and tracking reports will include the following information:

- Activities Authorized:
 - List of all the activities authorized under the programmatic consultation showing Corps reference number, permittee's name, date of approval, and permitting procedure used (NWP, RGP, LOP, IP).
 - List of permits authorized under the programmatic consultation by activity (i.e. removal of fish passage barrier, in-stream restoration, etc.).

- Compliance and Enforcement Actions:
 - Discussion of which projects were modified from what was originally authorized and how.
 - Discussion of any enforcement actions taken on projects authorized by the programmatic consultation and how they were resolved.

- Activities not Authorized:
 - Discussion of types of restoration/rehabilitation activities that did not qualify for the programmatic consultation and why.

- Individual Project Monitoring:
 - All as-built drawings, post-construction impact assessments, and monitoring reports submitted for the period covered by the tracking report.
 - A list of permits which have as-built drawings, post-construction impact assessments, and monitoring reports past due.

- Evaluation of the Project Success
 - Success of the project(s) to meet restoration/rehabilitation objective.
 - Failure of the project(s) to meet restoration/rehabilitation objective.
 - Unforeseen impacts associated with the project(s) short- and long-term.
 - Activities less impacting than anticipated in the programmatic consultation.

- Proposed Programmatic Consultation Revisions and/or Modifications:
 - Recommendation as to whether the programmatic should be revised to include additional activities or exclude previously authorized activities.

Glossary of Acronyms

CCM – Corps Conservation Measure

Corps – U.S. Army Corps of Engineers, Seattle District, Regulatory Branch

DC – Direct current

ESA – Endangered Species Act

ESC – Erosion and Sediment Control

FTC – U.S. Fish and Wildlife Service (USFWS) Terms and Conditions

Hz - Hertz

IPBE – Individual Programmatic Biological Evaluation

IPBO – Individual Programmatic Biological Opinion

ISPG – Integrated Streambank Protection Guidelines

JARPA – Joint Aquatic Resource Permit Application

LWD – Large woody debris

NMFS – National Marine Fisheries Service –NOAA Fisheries

NTC – National Marine Fisheries Service (NMFS) Terms and Conditions

PBA – Programmatic Biological Assessment

PBO – Programmatic Biological Opinion

PECP – Pollution, Erosion & Sediment Control Plan

PM – Corps Regulatory Project Manager

Services – National Marine Fisheries Service and U.S. Fish & Wildlife Service

SPIF- Specific Project Information Form

USFWS – U.S. Fish and Wildlife Service

WAC – Washington Administrative Code

WDFW – Washington State Department of Fish and Wildlife

Appendix A – Detailed Descriptions of Requirements

For ease of use, the Corps Conservation Measures and NMFS Terms and Conditions have been grouped together under “Requirements” and in the general categories of Project Design and Description, General Construction, Erosion & Sediment Control (ESC), and Post-Construction Requirements. Each requirement is noted in parentheses whether the source is the Corps Conservation Measure (CCM), NMFS Term and Condition (NTC), or USFWS Term and Condition (FTC). In addition the correlating letter or number from the original source is noted as well.

For example, if a requirement is from the Corps Conservation Measure (m)(i) – it is denoted as [CCM-m(i)]. If a requirement is from the NMFS Term and Condition A(1)(e) – it is denoted as [NTC-A(1)(e)]. If a requirement is from the USFWS Term and Condition RPM 1(1) – it is denoted as [FTC 1(1)].

A. Project Design and Description

1. Project Design. Each project will be individually reviewed [by the Corps] to ensure that all reasonable alternatives to restore fish passage have been considered and impacts to natural resources have been avoided, minimized and mitigated (see Requirement 5 - *Discussion of Alternatives*), and that the following overall project design conditions are met. Complete removal of blockages or replacement with a full-spanning bridge, arch or culvert is preferred. [NTC-A(1)]

a. Debris jam and sediment terrace removal require WDFW & Tribal Co-manager approval. Debris jam and sediment terrace removal proposals will be accompanied by *affirmation from appropriate WDFW and Tribal co-managers* in support of removing the passage barrier. *Affirmation from the co-managers* is also required *for the placement of sandbags* to facilitate fish passage or maintain fish life during periods of extremely low flow. [NTC- A(1)] [FTC 1(2)] *Affirmation from appropriate WDFW and Tribal co-managers may be in the form of a memo or e-mail from the WDFW and Tribal co-managers.*

(1) Grade streambed only when needed for fish passage. Streambed grading associated with debris jam or sediment terrace removal projects will occur only when needed to facilitate fish passage and shall be supported by the co-managers with documentation included in the project proposal. When streambed aggregate is to be graded and does not consist of fines (< .85mm) the aggregate shall not be removed from the stream channel. [NTC-A(5)(d)]

(2) All streambed grading completed with hand tools. All streambed grading associated with debris removal and sediment bar and terrace removal shall be performed using handtools only. [FTC 4(3)]

(3) Debris jam removal limited to human placed debris only. Excavation at debris jams is limited to the removal of human placed debris only. It does not include the removal of the native streambed material. [FTC 4(9)]

b. Tide Gate replacement requires NMFS approval. NMFS will have 30 days to review the replacement of tide gates that are designed to enhance fish passage.⁶ Review of proposed projects will include relative improvement from baseline conditions. Projects will be designed to maximize the time adult and juvenile fish are able to traverse through the structure throughout the tidal cycle and/or river stage while maintaining flood control intent. Some projects may be able to further enhance passage in critical times of the year (i.e. periods of adult migration and juvenile outmigration/rearing). [NTC-A(1)(k)]

c. Steep gradients. Projects in steeper gradient streams, $>4\%$ ⁷, that propose to replace a passage blocking culvert with another culvert shall provide an analysis supporting the choice of structure. Applicant shall also provide monitoring data to support that passage is occurring and accepts responsibility to ensure fish passage in perpetuity. [NTC-A(1)(a)] Projects with stream slopes greater than 5 percent which will be culverted rather than bridged must provide justification, including engineering constraints, which specifies why bridging is not feasible. Monitoring data shall be provided to demonstrate that passage is occurring post project. The project will need to be modified if post project fish passage cannot be demonstrated. [FTC 5(1)]

(1) Weirs. Weirs are not a preferred passage solution, and should only be installed if absolutely necessary to facilitate passage. Weirs should not be installed in reaches with a gradient of $<4\%$. If weirs are required as part of any installation, they should be used as follows; proponents should verify the need for weirs by determining the maximum potential for regrade and headcutting at the site/within the reach affected by the installation. Weirs should be placed only within the road prism where possible. Weirs installed outside the road prism should be kept to the minimum number and installed in the minimum length of stream possible. Fish passage barrier removal projects that include the installation of weirs shall be reviewed by NMFS via the tiered consultation process. [NTC-A(1)(a)(i)] If in-stream structures such as fish weirs and fish ladders are proposed, justification for requiring these structure shall be provided to demonstrate that no other option is feasible. [FTC 5(4)]

d. Alluvial Fans. The construction of bridges, arches or culverts shall be designed so as not to impede the formation or protection of alluvial fans and sediment deposition zones. These structures must be designed to accommodate sediment

⁶ Projects that document to the Corps that passage can occur through 90% of the tide cycle or 90% of river stage in non-tidal areas, and that provide adequate salinity to those areas that fish will have access to, do not require 30 day review period.)

⁷ In areas that support listed or proposed species protected by NMFS, justification is required for greater than 4%. For USFWS protected species, justification is required for greater than 5%

transport and deposition. Structures must span alluvial fans or include alternative design measures that eliminate fan and deposition zone impacts. [NTC – A(1)(b)]

2. Supplemental information. In addition to standard permit application requirements⁸, project proponents must submit the following supplemental documentation [CCM-a]:

a. Location and footprints of ingress/egress points. Locations and footprints of equipment ingress/egress points (may be shown on project plans, see requirement 19 – *Temporary Access Roads*), [CCM-a(i)] A description of the egress and ingress locations, including length and width of roadway or path, and type, size and quantity of vegetation removed shall be addressed in the IPBE. [FTC 4(11)]

b. Describe bypass method. Description of the project bypass method (including drawings, see requirement 22 – *Bypass Requirements*). [CCM-a(ii)]

c. Additional documentation. Based on the project proposal, other supplemental documentation may be required by:

Requirement 1(c) – *Steep Gradients*

Requirement 1(c)(1) - *Weirs*

Requirement 5 – *Discussion of Alternatives*

Requirement 14(a) – *Integrated Streambank Protection Guidelines*

Requirement 16 – *Timing Restrictions*

Requirement 19(c) – *Cross riparian areas & streams at right angles.*

Requirement 19(h) – *Provide a description of ingress and egress locations.*

Requirement 22(b) - *Ramping Schedule*

Requirement 22(d) – *Documentation of Bypass Method*

Requirement 23(b)(3) – *Electroshocking*

Requirement 23(e) – *Trained and Experienced Biologist Required.*

Requirement 37(b) – *Submit and Implement a Planting Plan.*

3. Fish passage standard. Projects will be designed to meet Washington Department of Fish and Wildlife’s (WDFW) “Fish Passage Design Criteria At Culverts” (WDFW 1999). The WDFW criteria is available on the internet at <http://www.wa.gov/wdfw/hab/ahg>. [CCM-b] [NTC-A(1)(a)(ii)]

NOTE: For projects utilizing the stream simulation design criteria the structure sizing is 1.2 times the bed width of the channel plus 2 feet.

4. Minimize work area. Construction impacts will be confined to the minimum area necessary to complete the project. [NTC-A(1)(c)]

⁸Permit application requirements include the name, address, and telephone number of the project proponent; the location of the proposed work; and a brief description of the proposed project and its purpose. When completed, the Joint Aquatic Resources Permit Application (JARPA) form contains the standard information. For this programmatic consultation, the applicant also must complete and submit the Supplemental Information Form for ESA Programmatic Consultation.

a. Remove as much of existing structure as possible. As much of the existing structure as possible shall be removed before finally dismantling the structure to limit the amount of material and debris from entering receiving waters. This shall include all roadbed material, decking, concrete curbs, etc. [FTC 4(18)]

b. Clean structure prior to removal. Concentrated accumulations of bird feces, road grit, sand, and loose paint chips shall be removed as much as practicable from the structure before dismantling. These materials will be contained using tarps or other methods to prevent their entry into the waterbody. [FTC 4(19)]

5. Discussion of alternatives. Projects designed to remove fish passage barriers will avoid and minimize long- and short-term impacts to stream and riparian habitat. [CCM-c]

a. Presumed practical alternatives. For stream crossings, complete removal of the culvert or blockage will be implemented wherever feasible. For replacement or retrofit culverts or tide gates, removal and abandonment of the crossing/tide gate, a full-spanning bridge, or a full-spanning arch or bottomless culvert are presumed to be practicable alternatives unless clearly demonstrated otherwise. In addition, bridges and full-spanning arch or bottomless culverts are presumed to have less adverse impact on the aquatic environment, unless clearly demonstrated otherwise. [CCM-c]

b. Alternatives documentation. Accordingly, for replacement or retrofit culverts or tide gates (see exception below), applicant must provide a written analysis of the practicability of crossing removal and abandonment, bridge, and full-spanning arch or bottomless culvert that will be based on the following factors [CCM-c]. *Alternatives documentation may be submitted as a short addendum to the SPIF.*

(1) Habitat functions. The fish and wildlife habitat functions that would be lost and/or restored by the proposed project and the potential alternatives; [CCM-c(i)] Methods used to determine that the existing structure or element is a fish passage barrier need to be provided for each project. [FTC 5(2)]

(2) Cost estimates. The predicted cost associated with construction, maintenance, and repair (over the forecast life of the project) for the proposed project and the potential alternatives; [CCM-c(ii)]

(3) Risk assessment. For the proposed project and the potential alternatives, the risk or probability of future crossing failure or loss of fish passage due to reasonably foreseeable trends in watershed development and extreme flow events; and [CCM-c(iii)]

(4) Habitat improvements. The potential of the proposed project and the potential alternatives to contribute to maintenance or achievement of properly functioning habitat conditions for salmonids in the watershed. [CCM-c(iv)]

EXCEPTION: The prescribed alternatives analysis is not required for bridges, arch culverts, or bottomless culverts with footings located at least 1.2-times the average channel bed width. The channel bed width shall be determined from measurements of the stream corridor up- and downstream of the crossing location but outside of the influence of the existing crossing structure. In cases where the channel bed width is poorly defined or indeterminate, the footings must be located *at least 1.2-times the width* corresponding to the 2-year recurrence interval flood (WDFW, 1999). [CCM-c]

c. Demonstrate removal or replacement of culvert will not cause head cutting.

A demonstration must be provided (such as a longitudinal profile) that the removal or replacement of a culvert will not result in upstream head cut migration. If a risk of head cut migration does exist, then grade control must be included in the project design. [FTC 4(12)]

d. Partial removal of a blockage - justification required. Justification for the partial removal of a culvert or blockage must be provided. Analysis of the long-and short-term impacts associated with only partial removal of a culvert or blockage must be provided. [FTC 5(3)]

6. Minimize streambank grading. Stream bank grading shall be the minimum necessary to revegetate and restore bank lines disturbed in the course of conducting the project activity. [NTC-A(5)(e)] Stream bank grading shall be limited to that necessary to provide a stable area for revegetation of slopes disturbed during construction. [FTC 4(17)]

7. Salvage natural debris. Any instream large wood or riparian vegetation that is moved or altered during construction will stay on site or be replaced with a functional equivalent. [NTC-A(4)(a)] Large woody debris, boulders, and spawning gravel required for habitat restoration may be salvaged from construction or access areas but otherwise will not be taken from streams, wetlands or other sensitive areas. With the exception of salvage from construction or access areas, large woody debris shall not be obtained from standing or fallen trees *within 250 feet landward* of the edge of any stream or wetland. [CCM-d] Large woody material removed from a passage barrier inlet will be placed back in the stream. It will be placed downstream of the removed or replaced culvert, bridge or tide gate if it is otherwise unable to pass through the new structure. [FTC 4(20)]

8. Tree and riparian vegetation removal will be strictly limited. [NTC-A(4)(c)] [FTC 1(9)]

a. Clearing and grubbing not to exceed 0.01 of an acre⁹ total. A project shall remove no more than 0.1 acre (66 ft²) of riparian vegetation (trees and shrubs; does not pertain to herbaceous species). A project shall remove no more than 25 ft

⁹ In areas where proposed or listed species protected by USFWS occur, no more than 0.01 of an acre may be cleared total. For NMFS protected species, clearing is restricted to 0.25 of an acre from 0-50' foot buffer and additional 0.25 of an acre from 50-150' buffer.

(measured parallel to the water body) of riparian vegetation (trees and shrubs; does not pertain to herbaceous species). [FTC 1(9)] Clearing and grubbing will not exceed .25 acre within 50 feet of any stream not occupied by listed salmonids during any part of the year. [NTC A(4)(b)]. Clearing and grubbing will not exceed .25 acre within 150 feet of any stream occupied by listed salmonids during any part of the year. [NTC-A(4)(b)]

(1) Restrictions on tree removal in 50' buffer for all perennial & intermittent streams. No tree *6 inches* diameter at breast height (dbh) or greater will be removed from within *50 feet* horizontal distance of the ordinary high water mark. [NTC-A(4)(c)(i)]

(2) Restrictions on tree removal in 50-150' buffer for listed salmonid bearing streams. No more than *5 trees 6 inches dbh* or greater total may be removed from the area spanning *50 feet to 150 feet* horizontal distance from the ordinary high water mark. [NTC-A(4)(c)(ii)]

b. Replant at 2:1 ratio. All tree removal will be mitigated for onsite by a 2:1 replanting ratio. (See Requirement 13 – *Streambank revegetation*) [NTC-A(4)(c)(iii)]

c. Fall trees toward the stream and leave in place. Any trees to be felled within the channel migration zone shall be felled toward the stream and left in place, unless it is demonstrated that this would create a safety hazard. If a safety hazard is created by this action, downed trees shall be retained on or adjacent to the project site and within the active floodplain. [FTC 4(6)]

9. Use natural materials. Materials used for habitat restoration activities will be of natural origin (e.g. coir wraps, coir logs, natural anchors, etc.) if they are to be retained in the landscape following completion of construction. Culverts, bridges, their footings, and materials necessary for their structural support may be man-made. [CCM-e]

a. Obtain natural materials 150 feet¹⁰ outside channel migration zone. Salvage of large woody debris, boulders, or spawning gravels for use as instream project components shall not occur within the channel migration zone plus 150 ft. [FTC 4(5)] Boulders, rock, woody materials and other natural construction materials used for the project must be obtained from outside of the riparian area. [NTC-A95)(a)]

10. Salvage excavated material. Excavated material will either be salvaged or disposed of and stabilized properly in upland areas where the potential for future environmental problems is minimized. [CCM-f] [FTC2(1)]

a. Stockpile material above bankfull elevation. During excavation, native streambed materials will be stockpiled above the bankfull elevation for later use. If

¹⁰ In areas where proposed or listed species protected by USFWS occur, salvaging of natural material must occur 150 feet away from the channel migration zone. For NMFS protected species, salvaging must occur outside the riparian area.

invert protecting rip rap has been placed, native materials will be placed over the top of the rip rap. [NTC-A(5)(c)]

b. Stockpile excavated material 300 feet¹¹ from streams and waterbodies.

Material removed during excavation will only be placed in locations where it cannot enter streams or other water bodies. [NTC-A(5)(f)] Material may be temporarily stockpiled for reuse at the restoration site if it is properly contained and BMPs are used such that erosion of stockpiled material does not occur, and contained sediments are not allowed to enter surface water or wetlands. Stockpiled material must be at least **300 feet** from the Corps’ jurisdictional boundary of wetlands and waterbodies. [FTC 2(1)]

11. Anchoring of large woody debris (LWD). Public safety issues such as downstream bridge or culvert crossings that could reasonably be assumed to be endangered by stream-borne logs may necessitate anchoring of placed LWD. Where unavoidable, anchoring will be accomplished either by placing large boulders on top of the log, burying one end of the log in the bank (sometimes in conjunction with boulder placement), or cabling the log to an anchor (such as a boulder, a buried ecology block, screw anchor, or driven anchor bar). Anchoring requiring excavation (e.g. ecology block burial) within the ordinary high water mark of the stream or in vegetated areas shall occur before streamflow is re-introduced into the work area and during the approved work window [see requirement 16 – *Timing Restrictions*]. [CCM-g]

12. Substrate enhancement material. All material used to restore the streambed inside a replacement culvert or under a bridge shall have enough fine materials to seal the bed (via natural processes or the particle size distribution of the material used to restore the streambed). The maximum particle size of the replacement streambed is determined by the hydraulic analysis and the fish passage flow at the proposed structure. The recommended particle size distribution of replacement streambeds is described in the following table (WDFW, 1999): [CCM-h]

Maximum Particle Size (D ₁₀₀)	Particle Size Distribution			
9 in.		40% <2 in.	30% 2-5 in.	30% 5-9 in.
12 in.		40% <3 in.	30% 3-7 in.	30% 7-12 in.
18 in.	15% <1 in.	25% 1-5 in.	30% 5-11 in.	30% 11-18 in.
24 in.	10% <1 in.	30% 1-6 in.	30% 6-14 in.	30% 14-24 in.
30 in.	10% <1 in.	30% 1-8 in.	30% 8-18 in.	30% 18-30 in.

13. Streambank revegetation. Vegetative or integrated streambank protection methods (e.g. herbaceous ground cover, rooted stock, live stakes and slips, fascines, brush mattresses, brush layers, joint plantings, vegetated geogrids, live cribwalls, tree

¹¹ The 300 foot distance for stockpiling excavated material only applies in areas where listed or proposed species protected by USFWS (e.g. bull trout) occur. NMFS requires that stockpiled material is kept out of the waterbody but does not set a distance requirement.

revetments) will be installed along with the installation of large woody debris and boulders to provide fish habitat and hydraulic diversity in the project reach. [CCM-i]

a. Reuse native material, soil, and vegetation. Whenever the project area is to be revegetated or restored, native channel material, topsoil and native vegetation removed for the project should be stockpiled for redistribution on the project area. [NTC-A(4)(c)(iv)]

14. Use of bank stabilization. Bank stabilization activities using rock, concrete, bulkheads, wingwalls, or similar structures shall be limited to the existing road fill prism. [CCM-j] The intended use of bank stabilization materials is to protect the road prism only at the inverts of crossing structures when required for the preservation of the structure. [NTC-A(5)(b)] Bank protection or stabilization to protect the road fill prism will be placed only at the inverts of a replaced crossing structure. The minimum amount of bank protection or stabilization work will be performed. Projects which exceed 15 m³ (20 cy) of riprap per project will be evaluated to determine if they are in compliance with the programmatic. [FTC 4(8)]

NOTE: Streambank stabilization using rock may be used to key streambed controls into a streambank. *No more than 3 cubic yards* of rock may be used for each streambed control. [CCM-j]

a. Integrated Streambank Protection Guidelines (ISPG). Projects proposing to use bank stabilization at crossing structures, revegetate at streambank grading sites, place stream bed controls or otherwise impact the natural erosional patterns of the stream shall incorporate, and demonstrate in a written description, the site design fundamentals of WDFW's ISPG available for review and download at: <http://www.wa.gov/wdfw/hab/ahg/ispgdoc.htm> [NTC-A(1)(j)] *Written description of the ISPG applicability will include completing the ISPG matrices 1-3.*

b. Wood bank protection only allowed with invert of replaced crossing structure. No wood, including large woody debris, shall be used for streambank hardening or channelization, except if proposed as part of bank stabilization at the invert of a replaced crossing structure. [FTC 4(4)]

B. General Construction

15. Flag riparian, wetlands and sensitive areas prior to construction. Boundaries of the clearing limits associated with site access and construction are flagged to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive *sites beyond the flagged boundary.* [NTC-A(2)(a)]

a. Flag all project clearing and access areas. Limits of project clearing and access shall be delineated using flagging or fencing prior to construction. [FTC 4(16)]

16. Timing restrictions. All work within the active channel of all anadromous fish-bearing streams, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing streams, will be completed within the approved work window (See “Restoration/Rehabilitation Programmatic Consultation - Approved Work Windows by Species”, dated 13 April 2001¹² – available on the Corps website http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=Home_Page). [CCM-k] [NTC-A(1)(d)]

EXCEPTION: Timing windows may be adjusted based on project-specific criteria approved by the Corps and Services via the Individual Programmatic Biological Opinion (IPBO) responses. For example, placement of large woody debris or boulders into channels may be more effective and safer during winter when leaf cover is less and overhead visibility is greater. For consultation procedures for requirement revisions, see “Programmatic Consultation Procedures”. [CCM-k] [NTC-A(1)(d)]

a. NMFS approval of work period extensions: Extensions of the in-water work period, including those for work outside the wetted perimeter of the stream but below the ordinary high water mark must be approved by biologists from NMFS. [NTC-A(1)(d)(i)]

17. Permitting requirements. Necessary local, State, and Federal authorizations will be secured prior to project implementation and copies kept at the project site; these include but are not limited to: State Hydraulic Permit Approval, local clearing and grading permit, U.S Army Corps of Engineers permits and associated ESA documentation, State Environmental Protection Act checklist, and Shorelines permits. Construction activities shall adhere to the strictest conditions set-forth in these permits, with particular deference to requirements of the ESA. [CCM-l] All conditions of the Hydraulic Project Approval, if required, shall be implemented unless more protective measures are required in the PBE or the terms and conditions of this BO. [FTC 4(2)]

18. Heavy equipment standards & requirements. Wherever heavy equipment or power equipment is used, the following measures should be taken to minimize effects on the landscape, associated habitat and species in the area. [CCM-m] (See Requirements for Pollution, Erosion & Sediment Control Plans)

a. Low minimize size and impact of equipment. When heavy equipment is required, the applicant will use equipment having the least impact necessary to accomplish the authorized work (e.g. low ground pressure, minimally sized, rubber tired). [NTC-A(3)(a)].

b. Location of staging & refueling Areas.

¹² The Approved Work Windows are subject to change based on new information collected by the Corps and NMFS. For the most current work windows, refer to the Corps website <http://www.nws.usace.army.mil/reg/reg.htm>.

(1) Clean Equipment 300 feet away from wetlands or waters before any instream work. All equipment that is used for instream work will be cleaned prior to operations below the bankfull elevation. External oil and grease will be removed, along with dirt and mud. No untreated wash and rinse water will be discharged into streams and rivers without adequate treatment. [NTC-A(3)(b)(i)] Equipment with any identified problems, including leaks or accumulations of oil or grease, must be fixed before its use as part of the project. Fuel hoses, oil drums, or fuel transfer valves and fittings, etc. shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent accidental spills. Proper security shall be maintained to prevent vandalism. Equipment that enters the water shall be maintained to prevent any visible sheen from petroleum products from appearing on the water. Prior to entering waterbodies, machinery must be steam cleaned at least 300 ft from the Corps jurisdictional boundary of wetlands and waterbodies, and on impervious surfaces so as to prevent spills from escaping to ground waters. [FTC 2(3)]

(2) Stay 300 feet¹³ away from wetlands and waters. Equipment staging or refueling areas must be located *at least 300 feet* from the edge of wetlands and streams, in areas where environmental effects from accidental spills or leakage will be minimized. [CCM-m(ii)][NTC-A(3)(b)(ii)] [FTC 2(2)]

(3) Inspect for leaks daily. All vehicles operated within 150 feet of any stream or water body will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation. [CCM-m(ii)] [NTC-A(3)(iii)]

(4) Store equipment in staging area 300 feet¹⁴ away from wetlands or waters. When not in use, vehicles will be stored in the vehicle staging area. [NTC-A(3)(b)(iv)]. All oil, fuel, or chemical storage tanks or containers shall be located at least 300 ft from the Corps jurisdictional boundary of wetlands and waterbodies, and on impervious surfaces so as to prevent spills from escaping to ground waters. Waste liquids shall be stored under cover, such as tarpaulins or roofs. No petroleum products, fresh cement, lime or uncured concrete, chemicals, or other toxic or deleterious materials shall be allowed to enter the wetland or waterbody. No washwater from concrete trucks or equipment shall be allowed to enter a wetland or waterbody. [FTC 2(4)]

c. Spill Prevention Plan in place. Oil-absorbent pads and personnel trained in spill prevention and control will be present during equipment operations (See Requirement 29 – *Spill Containment and Control Plan*) [NTC-A(3)(b)(v)]

¹³ The 300 foot distance applies only to those areas where listed or proposed species protected by USFWS occur. NMFS restricts the distance to 150 feet for those listed or proposed species they protect.

¹⁴ The 300 foot distance applies only to those areas where listed or proposed species protected by USFWS occur. NMFS restricts the distance to 150 feet for those listed or proposed species they protect

d. Barges shall not ground out. Barges used for these projects shall not ground. [FTC 4(10)]

19. Temporary access roads. Existing paths and roadways will be used for access to project sites, where feasible. If existing paths and roadways cannot be used (i.e. due to long distance from the work area) or do not exist, ***no more than 2 temporary roads*** to allow mechanized equipment to access the project area may be installed. Upon project completion, temporary roads will be graded and all resulting unvegetated, compacted road surfaces will be tilled and planted to promote vegetation re-establishment. [CCM-m(iii)]

a. New roads require NMFS approval. Existing roadways or travel paths will be used whenever reasonable. Project proposals to construct any access roads to a project site must receive individual project review [by NMFS] and an IPBO from NMFS and must be accompanied by analysis supporting the need for road construction vs. the impacts of using hand labor to remove blockages in the case of debris jams or sediment bars. [NTC-A(1)(g)(iii)]

b. No unauthorized access allowed. Project applicant is responsible to prevent unauthorized access via a temporary road corridor. [NTC-A(1)(g)(v)]

c. Cross riparian areas and streams at right angles. Vehicles and machinery must cross riparian areas and streams at right angles to the main channel wherever reasonable. [NTC-A(1)(g)(ix)] If heavy equipment must cross a stream, they will cross at right angles to the main channel using temporary pads, such as manufactured pads, boulders, or logs. Justification for not using a temporary pad must be provided. At no time shall heavy equipment cross within flowing water. [FTC 4(15)]

d. Avoid, minimize & mitigate soil disturbance. Temporary roads within ***150 feet*** of streams will avoid, minimize and mitigate soil disturbance and compaction by clearing vegetation to ground level and placing clean road bedding, gravel or wood chips, over geotextile fabric. The fill and fabric is to be removed upon project completion, during road obliteration. [NTC-A(1)(g)(x)] Equipment ingress/egress points shall be as indicated on the project plans. Access points shall be designed to minimize impacts and, in most cases, equipment should be stationed on top of the stream bank; rather than in the stream, during excavation or placement of materials in the stream. [CCM- m(iv)]

f. Stream crossing design criteria

(1) Spawning habitat mapping with 1000 feet. Where stream crossings are essential, a survey must determine and map any potential spawning habitat within 1,000 feet upstream and downstream. [NTC-A(g)(vi)]

(2) No crossing in or near (300 feet) spawning areas. No stream crossings will occur at known or suspected spawning areas or within 300 feet upstream of such areas where impacts to spawning areas may occur. [NTC-A(1)(g)(vii)]

(3) Design to accommodate impacts of potential failure. Where stream crossings are essential, the crossing design will accommodate reasonably foreseeable risks (e.g., flooding and associated bedload and debris) to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure. [NTC-A(1)(g)(viii)]

(4) Minimize number of crossings. The number of stream crossings is minimized. [NTC-A(1)(g)(xi)]

g. Access restrictions for Debris Jam/Sediment Terrace Removal.

(1) No mid-slope or steep slope roads. No mid-slope or steep slope (*greater than 30%*) roads will be constructed to access debris jam removal or sediment terrace removal projects. [NTC-A(1)(g)(i)]

(2) No new roads allowed¹⁵. No new roads, including temporary roads, will be created for proposed projects, except those needed for culvert and bridge removal and/or replacement. If existing roads or paths are used, no removal of vegetation with a diameter breast height of >4 in. shall occur. Existing roads or paths which require clearing must be perpendicular to the stream to minimize the loss of riparian vegetation. Upon project completion, existing roads and paths, if previously vegetated, shall be replanted. [FTC 4(14)] Debris jam projects and sediment terrace projects requiring more than 100 feet of new road construction shall require individual ESA Section 7 consultation. [NTC-A(g)(ii)]

(3) Road access for Sediment Terrace Removal allowed only once a year. temporary road construction for removal of up to the authorized *25 cubic yards* of terrace accumulation to allow fish passage is authorized only once a year and road obliteration is required immediately post project. [NTC-A(1)(g)(iv)]

20. Restriction on heavy equipment in streams. Stream crossings with heavy equipment shall be avoided or minimized to the maximum practicable extent. If stream crossings are unavoidable, they shall be located as indicated on the project plans and positioned to avoid potential salmonid spawning areas and to minimize compaction of the streambed. Where possible, the equipment operator will use temporary pads such as boulders, logs or pads to cross the stream at right angles to the main channel. [CCM-m(v)]

a. No dynamite allowed in waters. Dynamite or other explosives will not be used in water. [FTC 4(1)]

¹⁵ In areas that support listed or proposed species protected by USFWS, no new roads are allowed. For NMFS protected species, new roads are limited to a maximum of 100 feet.

21. Fish screens. Any water intake structure authorized under this Opinion must have a fish screen installed, operated and maintained in accordance to NMFS' fish screen criteria.¹⁶ [NTC-A(1)(e)(i)]

22. Bypass requirements: The work area shall be isolated from stream flow by temporarily diverting the flow from the work area or by bypassing the work area altogether. Flow will be diverted using structures such as cofferdams or aqua barriers. If the stream contains fish, fish must be removed prior to the start of construction [see Requirement 23 – *Fish Removal Protocols & Standards*] and actions must be taken to minimize effects on fish adjacent to the work area. The temporary bypass must be sized large enough to accommodate the predicted peak flow rate during construction. Dissipation of flow at the outfall of the bypass system (e.g. splash protection, sediment traps) is required to diffuse the erosive energy of the flow. Water quality below the bypass outfall shall be in compliance with established standards [Requirement 32 – *Erosion and Sediment Control Methods*] to minimize effects on habitat and associated fish downstream of the bypass. Water removed from the de-watered work area shall be pumped to upland areas and treated as necessary to ensure that it is in compliance with established standards [Requirement 33 – *Erosion and Sediment Control (ESC) Monitoring*] upon re-entering any wetland, stream, or any other waterbody. To ensure that the work area is never exposed to flowing water (i.e. due to unexpected rain during the work period), bypass requirements apply to seasonally dry streams as well as streams with perennial flow. [CCM-n]

a. Isolation of in-water work area. Except for work to install stream isolation structures, i.e. coffer dams, bypass flow devices, pumps and screens etc. all work to remove, repair, and restore fish passage at culverts, tide gates, debris jams, and sediment terraces shall occur in isolation from flowing waters. [NTC-A(1)(e)]

b. Ramping schedule. Project proposals shall include a ramping schedule, to be reviewed for adequacy by the Corps, for re-introduction of stream flow to the project site. [NTC-A(1)(e)(ii)] Ramping rates of flows which are removed and re-introduced into a stream must be included in the IPBE. Ramping rates shall follow the WDFW ramping rate criteria (Hunter 1992), at a minimum, to reduce the risk of fish stranding as a result of temporary stream diversions. [FTC 3(2)]

c. Bypass method options. The following are general approaches available (in no particular order) for temporary stream bypass systems: [CCM-n]

(1) Channel relocation. Leave the stream in its existing channel until the new culvert or channel are completed, then move the stream into the new channel and

¹⁶ National Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996)(guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) <http://www.nwr.noaa.gov/1hydro/hydroweb/ferc.htm>.

abandon the old. To allow the new channel and associated vegetation to stabilize and mature, flow shall not be introduced into new channel alignments for at least one year after the completion of construction. Channel relocation shall be limited to that necessary to restore fish passage at the existing passage barrier. [CCM-n]

(2) Piping stream flow. Use piping to convey stream flow around the project area. In some instances, an existing culvert can be used as the bypass, with construction proceeding next to or around the old culvert. [CCM-n]

(3) Temporary channel. Construct a temporary channel to carry stream flow during construction. [CCM-n]

(4) Bypass pumping. Pump stream water to downstream of the fish exclusion reach. Bypass pumping shall occur only in the stream reach isolated by upstream and downstream block nets, but not from within the work area. [CCM-n]

(5) Combined approaches. Combine approaches to create a practical bypass system; for example, pump the stream flow downstream during work hours and pipe it through the work area during off-hours. [CCM-n]

d. Documentation of bypass method. The project bypass method shall be specified in the project description that will be reviewed by the Corps as specified in “Programmatic Consultation Procedures.” [CCM-n] The duration of the stream bypass should be minimized to the least amount of time needed to complete inwater work. The estimated duration of the bypass should be included in the IPBE. [FTC 4(13)]

23. Fish Removal Protocols & Standards. Fish shall be removed from the work area according to the following methods (developed from RRMTWG, 2000; see exception below): [CCM-o]. If fish are present at the project site, all live fish must be removed from area to be dewatered prior to the start of construction (see Conservation Measure “o”) to reduce stranding impacts, and actions must be taken to minimize effects on fish adjacent to and downstream of the work area [FTC 3(1)]

a. Isolate the area. Install block nets at up and downstream locations to isolate the entire affected stream reach. This is done to prevent fish and other aquatic wildlife from moving into the work area. Block net mesh size, length, type of material, and depth will vary based on site conditions. Generally, block net mesh size is the same as the seine material (9.5 millimeters stretched). During fish removal activities, the block nets shall be then left in place and checked at least once daily to make sure the nets are functioning properly. Block nets require leaf and debris removal to ensure proper function. An individual must be designated to monitor and maintain the nets. Block nets are installed securely along both banks and in channel to prevent failure during unforeseen rain events or debris accumulation. Some locations may require additional block net support such as galvanized hardware cloth or additional stakes or metal fence posts. The block nets shall be left in place throughout the fish removal

activity and not removed until flow has been bypassed around the work area [see Requirement 22 – *Bypass Requirements*]. [CCM-o(i)]

b. Fish removal requirements from the isolated area. The following methods provide alternatives for removal of fish from the area between the block nets. The methods are given in order of preference. Drag netting or seining through the isolated stream reach shall be the default technique. The remaining methods shall be used only if seining is not possible. Electroshocking requires approval based on a project-specific plan approved by the Corps and Services via the tiered consultation procedures (see exception below). [CCM-o(ii)]

(1) **Standard mesh sizes.** Lengths of 9.5 mm stretched nylon mesh minnow seines are used throughout the isolated stream reach. The seine is approximately three feet wide and of various lengths with approximately fifteen feet of rope attached to either end. Sets of the seine are conducted with one person on shore and one to two people working the other end of the net through the isolated stream reach area. Once the net is out and the lead line dropped to the bottom, the other end of the 15-foot line is brought to shore and both ends of the net are pulled in quickly in tandem. [CCM-o(ii)(a)]

(2) **Hand collection.** Collecting aquatic life by hand or with dip nets as the site is slowly dewatered. [CCM-o(ii)(b)]

(3) **Electroshocking.** Electrofishing in stream channels shall be done only where other means of fish exclusion are not feasible and where specifically approved by the Corps and Services as part of a project-specific plan (see exception below). Protocol for electrofishing is summarized below: [CCM-o(ii)(c)]

(a) **Electroshock timing restriction.** No electrofishing in anadromous waters from October 15th to May 15. No electrofishing in resident waters from November 1st to May 15th. Electrofishing shall not contact spawning adult salmonids or active redds. [CCM-o(ii)(c)(1)]

(b) **Equipment maintenance.** Equipment must be in good working condition and operators shall go through the manufacturer’s preseason checks, adhere to all provisions, and record major maintenance work in a logbook. [CCM-o(ii)(c)(2)]

(c) **Voltage standards.** Measure conductivity and set voltage as follows: [CCM-o(ii)(c)(3)]

Conductivity (µmhos/cm)	Voltage
Less than 100	900 to 1100
100-300	500 to 800
Greater than 300	to 400

(d) Direct current. Only Direct Current (DC) or Pulsed Direct Current (PDC) shall be used. [CCM-o(ii)(c)(4)]

(e) Pulse width & rate. Each session shall begin with pulse width and rate set to the minimum needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured. Start with pulse width of 500 μ seconds and do not exceed 5 milliseconds. Pulse rate should start at 30 Hz and work carefully upwards. In general, exceeding 40 Hertz (Hz) will injure more fish. [CCM-o(ii)(c)(5)]

(f) No fish contact with anode. Do not allow fish to come in contact with the anode. The zone of potential fish injury is 0.5m from the anode. Care shall be taken in shallow waters, undercut banks, near structures such as wood, or where fish can be concentrated in high numbers because in such areas the fish are more likely to come into close contact with the anode. [CCM-o(ii)(c)(6)]

(g) Minimize harm to fish. Electrofishing shall be performed in a manner that minimizes harm to fish. The stream segment shall be worked systematically, moving the anode continuously in a herringbone pattern through the water. Do not electrofish one area for an extended period of time. Remove fish from the electrical field immediately; do not hold fish in net while continuing to net additional fish. [CCM-o(ii)(c)(7)]

(h) Signs of fish stress/injury. Carefully observe the condition of the excluded fish. Dark bands on the body and longer recovery times are signs of injury or handling stress. When such signs are noted, the settings for the electrofishing unit may need adjusting. ESA specimens will be released immediately upstream of the block nets in an area that provides refuge. Each fish shall be completely revived before releasing (see requirement **iii** below). [CCM-o(ii)(c)(8)]

(i) Fish holding requirements. A healthy environment for the stressed fish must be provided, with no overcrowding in the buckets, and the holding time minimized. Large fish shall be kept separated from smaller prey-sized fish to avoid predation during containment. Water to water transfers, the use of shaded, dark containers and supplemental oxygen shall be considered in designing fish handling operations. [CCM-o(ii)(c)(9)]

(4) Use of minnow traps. Trapping using minnow traps. Traps will be left in place between each pass. [CCM-o(ii)(d)]

(5) Use of connecting rod snakes. When removing fish out of the isolated stream reach, all attempts to remove fish out of the existing stream crossing structure shall be made. Connecting rod snakes may be used to help get the fish to move out of the structure. The connecting rod snake is inserted and wiggled through the pipe or other structure to get the fish to move out so they can be

captured and removed out of the stream reach. The connecting rod snake is made of wood sections with metal couplers with sections approximately three feet in length. As the snake is wiggled slowly through the pipe, noise and turbulence will help to get the fish to move out without harming them. [CCM-o(ii)(e)]

(6) Use of Fish Block Nets. Fish block nets shall be checked hourly to ensure that they are functioning properly, cleaned of debris, and not entraining any fish. [FTC 3(3)] To the extent possible, fish block nets shall be placed in low velocity sections of the stream. [FTC 3(4)] Should fish be entrained on block nets, the pump shall be turned off immediately, and the screen shall be placed further from the pump to prevent any further entrainment. [FTC 3(5)]

c. Screening of temporary bypass pumps. Pumps used to temporarily bypass water around work sites shall be fitted with mesh screens to prevent aquatic life from entering the trash pump hose. The screens shall be installed as a precautionary measure to prevent any fish and other wildlife which may have been missed in the fish exclusion process. The screens will also prevent fish and other wildlife from entering the trash pump if a block net should fail. Screens will be placed approximately 2-4 feet from the inlet of the trash pump hose to avoid the suction of the trash pump. [CCM-o(ii)(f)]

d. Fish release. For the period between capture and release, all captured aquatic life shall be immediately put in dark colored five gallon buckets filled with clean stream water. Frequent monitoring of bucket temperature and well being of the specimens will be done to assure that all specimens will be released unharmed. Any injuries or mortalities to ESA listed or proposed species will be documented and reported to the Corps, NMFS, and USFWS. Any fish killed that are identified or suspected as listed or proposed species shall be provided to NMFS or the USFWS, depending on which agency has jurisdiction over that species. Captured aquatic life will be released upstream of the isolated stream reach in a pool or area which provides some cover and flow refuge. [CCM-o(iii)]

EXCEPTION: The fish removal protocols and standards identified in this conservation measure may be modified by a project-specific plan developed by the project proponent and approved by the Corps and Services via the tiered consultation procedures. Electroshocking may be implemented only if approved as part of a project-specific plan. [CCM-o(iii)]

e. Trained and Experienced Biologists Required. Fish removal procedures must be conducted by a trained and experienced biologist. Information on a person's fish removal qualifications and experience shall be included as part of the IPBE and is subject to USFWS approval. If a section 10(a)1(A) permit has been issued to the individual or agency for the activity type proposed, this additional information is not needed if the individual is listed as an "authorized individual" on the permit. However, the IPBE shall list the USFWS reference number and individuals who are covered by the section 10(a)1(A) permit. [FTC 1(13)]

24. Use hand labor crews. Hand labor crews will complete all portions of projects that do not require major excavation or grading (requiring movement of greater than 3 cubic yards of material from one location) or movement of large objects (such as woody debris larger than 1 foot, diameter breast height). [CCM-p]

25. Containment of wash water. Washing of replacement substrate shall not occur where the wash water can enter any stream, watercourse, or wetland. [CCM-q]

26. No uncured concrete. No uncured concrete shall come into contact with the waterbody. Washout of concrete trucks and equipment is prohibited *within 250 feet* landward of the edge of any stream, lake or wetland, unless dedicated washout facilities designed to treat the wash water are used. Wash water shall not enter into any waterbody prior to meeting Washington State Water Quality Standards (WAC 173-210A). [CCM-r]

27. Cessation of work. All project operations, except efforts to minimize storm or high flow erosion, will cease under high flow conditions that may result in inundation of the project area. [NTC-A(1)(h)]

C. Pollution, Erosion & Sediment Control Plan (PECP)

28. Pollution, Erosion and Sediment Control Protocols and Standards: Pollution, Erosion and sediment control Plans (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations. [NTC-A(1)(f)] Measures must be designed and implemented before there is any opportunity for storm runoff to create erosion. Project designs shall emphasize pollution and erosion control rather than sediment control. The following are summaries of the principles and specific measures to be used during any construction projects where erosion and sediment problems could arise. [CCM-s]

29. Spill Containment and Control Plan. A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment. [NTC-A(1)(f)(iv)] [CCM-m(ii)]

a. List hazardous materials used. A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring. [NTC-A(1)(f)(iii)]

30. Keep debris out of aquatic habitats. Measures that will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality. [NTC-A(1)(f)(v)]

31. Confining and removing excess concrete. Methods that will be used to confine and remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities. [NTC-A(1)(f)(ii)]

32. Erosion and Sedimentation Control (ESC) methods. Methods that will be used to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas. [NTC-A(1)(f)(i)] Erosion and sediment control measures shall be installed to prevent sediment from entering all waterbodies and wetlands. [FTC 2(8)]

a. Delineate construction limits. Prior to any clearing or grading, minimize the extent of site disturbance by delineating construction limits with flagging and/or fencing. [CCM-s(iii)]

b. Extra pollution/erosion control materials available in case of emergency. The following erosion control materials are onsite. [NTC-A(2)(b)]

(1) Materials for sediment emergencies. Supply of erosion control materials (e.g., silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds. [NTC-A(2)(b)(i)]

(2) Oil absorbing floating boom. An oil absorbing, floating boom is available on-site during all phases of construction whenever surface water is present. [NTC-A(2)(b)(ii)]

c. Place erosion control measures downslope of project. All temporary erosion controls (e.g., straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective. [NTC-A(2)(c)]

d. Stabilize construction entrances. Install construction entrances that have been designed and stabilized to reduce the amount of sediment transported off-site by construction vehicles and to reduce the area disturbed by vehicle traffic. [CCM-s(ii)]

e. Isolate construction areas from high water events. Sandbags or an equivalent barrier shall be constructed between the project area and the surface water in order to isolate the construction area from high water that might result due to precipitation (see Requirement 22 – *Bypass Requirements*). [CCM-s(v)]

f. Minimize sediment transport outside construction area. Reduce the amount of sediment transported beyond the disturbed areas of the construction site by installing and/or maintaining appropriate perimeter protection measures (vegetated strips, brush

barriers, silt fences, erosion control curtains) prior to the start of construction. [CCM-s(vi)]

g. Prevent wind transport of sediment. Preventative measures to minimize wind transport of soil (i.e. water spraying) shall be taken when sediment is likely to be deposited in water. The amount of water sprayed shall be the minimum necessary to prevent airborne dust and sediment. [CCM-s(vii)]

h. Surface runoff barriers. Barriers shall be installed to prevent surface runoff from entering the construction area. To remove particulate matter, water pumped from the construction area shall be treated prior to reintroduction to a storm drainage system, stream, wetland, or other waterbody. Water discharged from the site shall not cause erosion at or near the outfall location and shall meet state water quality standards (WAC 173-201A or current standard). [CCM-t]

i. Restrictions on Sand Bag use. Sandbags shall be filled with washed material 3.0 mm or greater in diameter, or shall be composed of impermeable material and sufficiently sealed so as to prevent the delivery of fine sediments (<3.0 mm) into the affected watercourse. All sandbags shall be removed from the affected waterway and disposed or stored above the ordinary high water mark of the affected stream by completion of the project. [FTC 2(10)]

33. Erosion and Sediment Control (ESC) monitoring. The site will be thoroughly monitored for turbidity and all ESC measures will be maintained until construction is complete and site conditions stabilize. The goal of monitoring activities will be to ensure that water quality is in compliance with the Washington State Water Quality Standards for turbidity (WAC 173-201A-030 or current standard). A minimum of *two* (2) monitoring stations will be established – one above the project site to establish the background level and one below the site to measure the project's effect on turbidity – the location and required compliance level of which will be determined by state standards (WAC 173-201A or current standard). If turbidity exceeds specified state standards and non-compliance zones, work will be stopped and actions to reduce and/or eliminate the source of turbid discharge shall be taken until turbidity levels are in compliance. Additional monitoring stations may be established in situations where the Corps' and Services' water quality compliance standards for meeting ESA Section 7 compliance differs from that of the state. [CCM-s(vii)]

a. Frequency of ESC monitoring. Erosion control devices will be inspected *daily* during the *rainy season*, *weekly* during the *dry season*, monthly on inactive sites. [NTC-A(5)(h)(i)]. Turbidity measurements shall be performed during those times when turbidity is most likely to result due to the proposed actions. The zone of non-compliance contained within WAC 173-201A-110(3) shall be followed. The distance the turbidity plume extends, its duration, and any exceedance shall be reported to USFWS as part of the monitoring reports. [FTC 2(5)] Erosion control measures shall be inspected by qualified personnel *daily* during *the rainy season* and *weekly* during the *dry season* to insure that they are properly installed and functioning effectively.

Repairs or other measures to insure continued proper function shall be made within **24 hours** of a determination. Effective temporary erosion control measures shall be in place until permanent erosion control measures are effective. [FTC 2(9)]

b. Definition of ESC Failure. Erosion control measures will be judged ineffective when turbidity plumes resulting from proposed activities are evident in waters occupied by listed salmonids during any part of the year. [NTC-A(5)(h)(iii)].

c. Repair ESC failures immediately. If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary. [NTC-A(5)(h)(ii)] . If rain falls during construction, and ESC measures are not adequate to maintain water quality downstream of the site (per WAC 173-201A or current standard), then all construction activities, except for those necessary to stabilize the site, shall stop until the storm ceases and downstream water quality has returned to pre-storm conditions. The ESC measures must be re-designed to address the deficiencies, approved by the Corps, and installed prior to re-starting construction. [CCM-s(i)]

d. Limit disturbance in areas of failure. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled. [NTC-A(5)(i)]

e. Stabilize disturbed areas immediately. To minimize the duration of area exposed, projects will be completed as quickly as possible without compromising the quality of work and disturbed areas shall be stabilized **within 3 days** of the end of construction. [CCM-s(iv)]

(1) Timing requirements for coverage of disturbed areas. Temporary and permanent cover measures shall be provided to protect disturbed areas (e.g. erosion control and blankets, plastic covering, mulching, seeding or sodding). Temporary cover shall be installed if any cleared or graded area is to remain un-worked for more than *seven (7) days* from *June 1- September 30*; and for more than *two (2) days* from *October 1 - May 31*. Temporary cover shall be completed within 12 hours of cessation of work in areas that will remain un-worked for the specified time periods. As long as the covering remains in place, planting or seeding is not required in covered areas until conditions are appropriate for growth. [CCM-s(iv)] (See Requirement 36 – *Stabilize all areas within 3 days of the end of construction*)

(2) Revegetation of disturbed areas. All disturbed areas will be re-planted with native vegetation within *3 days* of the end of construction, unless covered or otherwise stabilized with appropriate erosion and sediment control measures. Planting shall be completed **no later than April 15** of the year following construction [see Requirement 37 – *Site Restoration*]. [CCM-s(iv)]

f. Removal of sediment from sediment controls. Sediment will be removed from sediment controls once it has reached *1/3 of the exposed height* of the control. Whenever straw bales are used, they will be staked and dug into the ground **5 inches (12 cm)**. Catch basins will be maintained so that no more than **6 inches (15 cm)** of sediment depth accumulates within traps or sumps. [NTC-A(5)(j)]

g. Treatment of sediment ladened water. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other water body. Silt fences or other detention methods will be installed as close as reasonable to culvert outlets to reduce the amount of sediment entering aquatic systems. [NTC-(a)(5)(k)] Pumped stream water which is discharged back into the stream shall at a minimum comply with Washington State water quality standards. [FTC 2(7)]

h. Water restrictions for “aqua barriers.” If aqua barriers are used, naturally occurring surface waterbodies shall not be used as water sources to fill the barriers. Following use, water from these barriers shall not be released into naturally occurring waterbodies, but must be pumped out and disposed of into a stormwater system. If well water is used to fill the aqua barrier, water may be discharged into the stream if it meets water quality standards and will not result in negative impacts. [FTC 2(6)]

D. Post-Construction Requirements

34. Removal of waste material. Upon project completion, all waste from project activities will be removed from the project site. [CCM-u]

35. Site inspection by biologist. Site inspections will be performed by a qualified biologist after project completion to assure that the project is progressing as planned and that there are no unintended consequences to fish, wildlife and plant species and their habitat. Detailed inspections will be made on all construction projects immediately following the onset of the rainy season– with inspections during or immediately after the first freshet following construction. Any necessary corrective measures must be evaluated with respect to their urgency and potential effects on listed species, and must be agreed upon by the Corps before implementation. Corrective measures requiring in-stream work or other work likely to cause erosion will be implemented during the following work window. [CCM-v]

36. Stabilize all areas within 3 days of the end of construction. To minimize the duration of area exposed, projects will be completed as quickly as possible without compromising the quality of work and disturbed areas shall be stabilized within **3 days** of the end of construction. [NTC-A(5)(g)]

a. Placement of temporary covers. Temporary and permanent cover measures shall be provided to protect disturbed areas (e.g. erosion control and blankets,

plastic covering, mulching, seeding¹⁷, or sodding). [NTC-A(5)(g)(i)] (See Requirement 33 - *ESC Monitoring*)

b. Deadlines for placement Temporary Covers. Temporary cover shall be installed if any cleared or graded area is to remain un-worked for more than *seven* (7) days from *June 1- Sept. 30*; and for more than *two* (2) days from Oct. 1 - May 31. Temporary cover shall be *completed within 12 hours of cessation of work* in areas that will remain un-worked for the specified time periods. As long as the covering remains in place, planting or seeding is not required in covered areas until conditions are appropriate for growth. [NTC-A(5)(g)(i)] (See Requirement **)

37. Site restoration. Site restoration and clean-up, including protection of bare earth by seeding, planting, mulching and fertilizing, is done in the following manner. [NTC-A(6)]

a. Return to pre-work conditions. All damaged areas will be restored to pre-work conditions including restoration of original stream bank lines, and contours. [NTC-A(6)(a)]

b. Submit and implement a planting plan. Along with other project documentation, the project proponent shall submit a planting plan that includes the location, species and density of the proposed plantings; a planting schedule; performance standards; monitoring schedule; and contingency measures. [CCM-w]

c. Seeding exposed soils. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding prior to *October 1*. (Native woody vegetation will be planted prior to April 15) On cut slopes steeper than 1v:2h, a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, 1v:2h a hydro-mulch will be applied *at 1.5 times* the normal rate. [NTC-A(6)(b)]

d. Replant with native vegetation. Disturbed areas will be planted with native vegetation specific to the project vicinity or the region of the state where the project is located, and will comprise a diverse assemblage of woody and herbaceous species. [NTC-A(6)(c)]

e. Random plantings. Plantings will be arranged randomly within the revegetation area. [NTC-A(6)(d)]

f. Replanting completed by March 1.¹⁸ All areas disturbed by construction activities shall be replanted with native vegetation by March 1, of the year following

¹⁷ By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is located, shall be used.

construction. Planting plans shall include the replacement of trees and shrubs which may have been disturbed or destroyed as a result of the activity. [FTC 4(7)]. All disturbed areas will be re-planted with native vegetation within **three(3)** days of the end of construction, unless covered or otherwise stabilized with appropriate erosion and sediment control measures. Planting shall be completed no later than April 15 of the year following construction. [NTC-A(5)(g)(ii)] [NTC-A(6)(e)]

g. No herbicide use allowed¹⁹. No herbicides or pesticides shall be used as part of the proposed action. [FTC2(11)] No herbicide application will occur within 300 feet of any stream channel as part of this permitted action. Mechanical removal of undesired vegetation and root nodes is permitted. [NTC-A(6)(f)]

h. No fertilizer within 50 feet of stream or water. No surface application of fertilizer will be used within **50 feet** of any stream channel as part of this permitted action. [NTC-A(6)(g)]

i. Fence revegetated areas. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons. [NTC-A(6)(h)]

j. Plant survival at 80% in 3 years. Plantings will achieve an **80 percent** survival success after **three** (3) years. [NTC-A(6)(h)(i)]

(1) Contingency measures for planting failures. If success standard has not been achieved after 3 years, the applicant will submit an alternative plan to the Corps. The alternative plan will address temporal loss of function. [NTC-A(6)(h)(ii)]

(2) Monitoring until planting determined successful. Plant establishment monitoring will continue and plans will be submitted to the Corps until site restoration success has been achieved. [NTC-A(6)(h)(iii)]

38. Monitoring for fish passage conditions:

a. Monitored by qualified personnel. Culvert replacements and modifications will be monitored by **qualified personnel** for passage of the target fish species and life history stage. [CCM-x] [NTC-A(7)]

b. Monitor summer of first year. Monitoring will occur during the summer of the first year for passage of the target fish species and life history stages. [CCM-x] [NTC-A(7)]

¹⁸ In areas where listed or proposed species protected by USFWS occur, replanting must occur by March 1. For NMFS protected species, replanting must occur not later than April 15.

¹⁹ In areas where listed or proposed species protected by USFWS occur, no herbicide use is allowed. NMFS restricts herbicide use to 300 feet away from the waterbody.

c. Monitoring at high flow. Monitoring will occur during the high (greater than or equal to the 5-year flow event) and bankfull discharge or for **6 years**, whichever is sooner, for passage of the target fish species and life history stages. [CCM-x] [NTC-A(7)]

d. Document hydraulic conditions. Monitoring shall document the hydraulic conditions (depth; velocity; elevation drop at inlet, outlet, and within the culvert/under the bridge) around and through the structure at each of the stated flow thresholds. [CCM-x] [NTC-A(7)]

e. Contingency measures required. In the event that the project does not meet the velocity, flow, depth, and elevation drop standards to allow passage of the target fish species and life history stage, the permittee shall implement corrective actions necessary to allow fish passage of the target species at the project site. The corrective actions must be approved by the Corps prior to implementation and the Corps may need to reinitiate consultation if proposed measures are not covered by an existing Section 7 consultation. [CCM-x] [NTC-A(7)] Post-project corrective measures which may affect listed or proposed species must be reviewed and approved by the Service prior to their implementation. [FTC 6(1)]

39. Post-Construction Implementation Reports.

a. Isolation of in-water work area. All projects involving isolation of in-water work areas must include a report of any seining, electroshocking, and releasing activity. [NTC-B(1)(a)]

(1) Supervisory fish biologist. Include the name and address of the supervisory fish biologist. [NTC-B(1)(a)(i)]

(2) Methods used to isolate. Describe the methods used to isolate the work area and minimize disturbances to ESA-listed species. [NTC-B(1)(a)(ii)]

(3) Pre- and post-construction stream conditions. Describe the stream conditions prior to and following placement and removal of barriers. [NTC-B(1)(a)(iii)]

(4) Method of fish removal. Describe the means of fish removal. [NTC-B(1)(a)(iv)]

(5) Total fish removed. State the total number of fish removed by species during construction. [NTC-B(1)(a)(v)]

(6) Location of fish release. Provide a map of the location of fish release and a description of the condition of all fish released. [NTC-B(1)(a)(vi)]

- (7) Document fish injury/mortality.** Document any incidence of observed injury or mortality. [NTC-B(1)(a)(vii)]
- (8) Dates of construction.** State the starting and ending dates for work performed under the permit authorization. [NTC-B(1)(a)(viii)]
- b. Pollution and erosion control.** Provide copies of all pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials. [NTC-B(1)(b)]
- c. Site restoration.** Document the site restoration conditions through drawings and text documentation (i.e. as-builts). [NTC-B(1)(c)]
- (1) Post-construction elevations.** Provide drawings and documentation of the finished grade slopes and elevations. [NTC-B(1)(c)(i)]
- (2) Cross-section view of natural debris.** Provide drawings and documentation of log and rock structure elevations, orientation, and anchoring, if any. [NTC-B(1)(c)(ii)]
- (3) Post-construction planting conditions.** Provide drawings and documentation of planting composition and density. [NTC-B(1)(c)(iii)]
- (4) Five (5) year inspection reports.** Provide a plan to inspect and, if necessary, replace failed plantings and structures for a period of five years. [NTC-B(1)(c)(iv)]
- d. Post-construction impact assessment.** Provide a narrative assessment of the project's effects on natural stream function during construction and through the life of the monitoring event. [NTC-B(1)(d)] Identify what impacts actually occurred during construction, and (2) if any impacts were different than originally anticipated and why (i.e. alternative construction methods, weather conditions, etc.). [From Corps PBA]
- e. Photographic documentation.** Provide photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion. [NTC-B(1)(e)]
- (1) Pre- and post-construction photographs.** Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction. [NTC-B(1)(e)(i)]
- (2) Label all photographs.** Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject. [NTC-B(1)(e)(ii)]

(3) Document habitat conditions. Photograph all relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project. [NTC-B(1)(e)(iii)]

Appendix B –Requirements for Non-Fish Species

“Requirements for Non-Fish Species” is from Appendix F of the Programmatic Biological Evaluation. Complete and sign the appropriate checklist for all non-fish species that may occur in the project area. This information may be obtained from the “species list” the applicant has requested from USFWS.

Requirement Checklist for: Brown Pelican	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
From June 1 through October 31, no explosives or pile drivers will be used from one hour before sunset to one hour after sunrise within 0.5 mile of Sand and Goose Islands in Grays Harbor, Dead Man Island in Willapa Bay, or any other brown pelican night roosts in Pacific and Grays Harbor Counties	
I as the applicant or designated agent have read the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Bald Eagle	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located farther than ½ mile of a nest, wintering concentration, or communal roost which remove trees suitable for bald eagle perching.	
2. Project is located farther than 660 feet from a nest occurring from August 16 to December 31 (outside the nesting season) that result in minor modifications to nesting, perching, roosting, or wintering habitat (< 10 perch trees total for the programmatic over 5 years).	
3. If work generates noises above ambient levels within an area utilized by bald eagles for winter foraging, no work shall occur from 1 November through 15 March of any year (winter foraging season: 1 November – 15 March).	
4. If work generates noises above ambient levels within a one-mile radius of a bald eagle nest visible from the project site or ½ mile of a nest not visible from the project site, no work shall occur from 1 January through 15 August of any year (nesting season: 1 January – 15 August).	
<p>I as the applicant or designated agent have read the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Marbled Murrelet	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located within ¼ mile of suitable marbled murrelet nesting habitat that: - Occur from August 5 to September 15 (the late breeding season); - Result in increased human activity, disturbance and noise above the ambient levels (with the exception of blasting, helicopter, pile driving, or jack hammer use); and - Do not alter marbled murrelet nesting habitat.	
2. Project is located within ¼ mile of unoccupied suitable marbled murrelet nesting habitat (as determined by USFWS approved protocol nesting surveys) conducted between April 1 and September 15.	
3. If work is proposed that includes smoke and/or generates noises above ambient levels within ¼ mile (1.0 mile for blasting, helicopter, pile driving, or jack hammer use) of an occupied nesting or forage habitat, no work shall occur from 1 April through 15 September of any year (nesting or “early breeding season”: 1 April through 5 August; fledging or “late breeding season”: 6 August through 15 September).	
<p>I as the applicant or designated agent have read the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Northern Spotted Owl	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1 Project is located further than ¼ mile from known spotted owl activity centers that: - Are conducted from March 1 through September 30 (the breeding season); - Generate noise, excluding blasting, above ambient levels; and - Do not modify suitable habitat.	
2. Project is located in suitable spotted owl habitat that: - Are conducted from October 1 to February 28 (outside of the breeding season); - Generate noise, excluding blasting, above ambient levels; and - Do not modify suitable habitat.	
3. Project is located within ¼ mile of known spotted owl activity centers which have been determined to be non-nesting for the year that: - Are conducted during the early breeding season (March 1 to July 15); - Generate noise above ambient levels; and - Do not modify suitable habitat.	
4. If work is proposed that includes smoke and/or generates noises above ambient levels within ¼ mile of an occupied nesting or forage habitat, no work shall occur from 1 March through 30 September of any year (foraging season: 1 March through 30 September; nesting season: 1 March through 1 July; fledging season: 1 August through 30 September).	
5. For Designated Critical Habitat:	
a. Project is which involve minimal modification of less than 1.0 acre per year which may degrade, but are not likely to adversely affect constituent elements of suitable or critical habitat.	
b. Project is which modify less than 1.0 acre per year of younger stands within areas designated as critical habitat that are not likely to impede development of constituent elements.	
c. Project is that result in short-term degradation of dispersal habitat, but are not likely to adversely affect its suitability as dispersal habitat.	
d. Project is that involve minimal temporary modification of less than 1.0 acre per year of dispersal habitat located within areas designated as critical habitat.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Western Snowy Plover	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located within 1/4 mile (1 mile for blasting or pile driving) of nesting areas will not occur from March 15 through September 30.	
<p>I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Canada Lynx	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located at elevations above 3,000 feet and that involve: - Vegetation management of less than 1.0 acre of native forest per year; and - Will not result in increased off-road vehicle access to areas above 3000 feet.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Columbia White-tailed Deer	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located within Wahkiakum County within 2 miles of the Columbia River that: <ul style="list-style-type: none"> - Do not alter woodland habitat or tidal spruce forest communities; - Do not enable higher traffic speeds; and - Do not result in a permanent alteration of the plant community. 	
2. Fencing placed on Puget Island, the Hunting Islands, Price Island, and within 2 miles of the banks of the Columbia River between two miles east of Cathlamet and 2 miles west of Skamokawa Creek in Wahkiakum County will not be greater than 4-feet high and will use only three-strand barbed wire.	
3. Projects located on Puget Island, the Hunting Islands, Price Island, and within 2 miles of the banks of the Columbia River between two miles east of Cathlamet and 2 miles west of Skamokawa Creek in Wahkiakum County will not occur from June 1 through June 30 (the fawning period).	
<p>I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Gray Wolf	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Project generating noise above ambient levels within ¼ mile (1 mile for blasting) of any known gray wolf den or rendezvous site will not occur from March 15 through June 30.	
2. Project will not increase trail or road densities within gray wolf habitat.	
3. Project generating noise above ambient levels or otherwise creating disturbances will not occur within ¼ mile (1.0 mile for blasting) of occupied ungulate winter habitat ²⁰ from December 1 to April 15; and	
4. Project generating noise above ambient levels or otherwise creating disturbances will not occur within ¼ mile (1.0 mile for blasting) of calving, fawning, or kidding grounds ²¹ from December 1 to June 15.	
I as the applicant or designated agent have read the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

²⁰ Determination of “occupied ungulate winter habitat” will be based on determinations from USFWS during the IPBA consultation/coordination process.

²¹ Determination of “location and limits of calving, fawning, or kidding grounds” will be based on determinations from USFWS during the IPBA consultation/coordination process.

Requirement Checklist for: Grizzly Bear	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located within core habitat that will not degrade or destroy key grizzly bear foraging habitat (as described in Requirements 3& 4).	
2. Project generating noise above ambient levels within ¼ mile (1 mile for blasting) of any known grizzly bear den site will not occur from October 15 through May 15.	
3. Project generating noise above ambient levels and located within core habitat within ¼ mile (1.0 mile for blasting) of early season grizzly bear foraging areas (e.g., low elevation grass/forb habitat, deciduous forest, riparian forest, shrubfields, montane meadows, avalanche chutes) will not occur from March 15 to July 15 if the activity will last for more than one day.	
4. Project generating noise above ambient levels and located within core habitat within ¼ mile (1.0 mile for blasting) of late season grizzly bear foraging areas [e.g., high elevation berry fields, shrub fields, fruit/nut sources, wet forest openings, alpine and subalpine meadows, montane meadows (moist, cool, upland slopes dominated by coniferous trees)] will not occur from July 16 to November 15 if the activity will last for more than one day.	
5. Project will not increase trail or road densities within grizzly bear core habitat.	
<p>I as the applicant or designated agent have read the requirements for the “Restoration Programmatic Consultation – Removal of Fish Passage Barriers”, dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Woodland Caribou	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located east of the Pend Oreille River, Pend Oreille County at elevations greater than 4,000 feet that: - Produce noise above ambient noise levels; or - Produce disturbance levels above normal.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Oregon Silverspot Butterfly	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located in the Pacific coastal area of Pacific County within 200 feet of sand dune, salt-spray meadows or open field habitats which do not contain the larval host species, early blue violet, as determined by a survey conducted by a qualified biologist in the early part of the growing season.	
2. On all projects in Pacific County located within 200 feet of sand dune, salt-spray meadow or open field habitat, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Golden Paintbrush	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located in Island, San Juan, or Thurston Counties within 200 feet of grassland/prairie habitat which do not contain golden paintbrush, as determined by a survey conducted by a qualified biologist between April 1 and May 31.	
2. On all projects located within 200 feet of suitable grasslands and prairies, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
<p>I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Kincaid's Lupine	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located in Lewis County within 200 feet of native upland prairies and open oak woodlands that do not contain Kincaid's lupine as determined by a survey conducted by a qualified biologist between April 1 and June 30.	
2. On all projects located within 200 feet of suitable grasslands and prairies, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Nelson's Checker Mallow	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Projects that are located in the Willapa Hills/Coast Range of Lewis or Cowlitz Counties within 200 feet of wet, remnant grasslands and prairies which do not contain Nelson's checker-mallow as determined by a survey conducted by a qualified biologist between May 15 and September 30.	
2. On all projects located within 200 feet of suitable wet, remnant grasslands and prairies in the Willapa Hills/Coast Range of Lewis or Cowlitz Counties, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date

Requirement Checklist for: Water Howelia	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located in Pierce, Clark or Spokane Counties within 200 feet of potentially suitable wetland areas which do not contain water howellia as determined by a survey conducted by a qualified biologist between May 25 and July 15.	
2. Water quality and quantity treatment will be completed for all projects that add more than 150 square feet of new impervious surface to the project area.	
3. On all projects located within 200 feet of suitable grasslands and prairies, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
<p>I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Wenatchee Mountains Checker Mallow	
Designated Critical Habitat	Y
Determination of Effect	
Requirement	Applicant's Comments
1. Projects that are located in Pendleton or Camas Creek watersheds, Chelan County, within 200 feet of potentially suitable habitat which do not contain Wenatchee Mountains checker-mallow, as determined by a survey conducted by a qualified biologist between June 15 and August 15.	
2. On all projects located within 200 feet of suitable grasslands and prairies, no foreign material (such as pavement slurry) will be sidecast outside of the project footprint.	
3. For Designated Critical Habitat: Projects located in the Pendleton and Camas Creek watersheds, Chelan County, which affect the hydrology of wetland habitat.	
<p>I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations</p>	
Name and Signature	Date

Requirement Checklist for: Ute's Ladies Tresses	
Designated Critical Habitat	N
Determination of Effect	
Requirement	Applicant's Comments
1. Project is located in Okanogan or Kittitas Counties between 1,500 and 7,000 feet elevation within 200 feet of springs, river meanders, floodplains, wetlands, or riparian areas suitable for supporting Ute ladies'-tresses which do not contain <i>Spiranthes</i> spp. as determined by a survey conducted by a qualified biologist between July 15 and September 15.	
2. Project is located in Okanogan or Kittitas Counties between 1,500 feet and 7,000 feet elevation that do not alter wetland or riparian vegetation and hydrology.	
I as the applicant or designated agent have read the requirements for the "Restoration Programmatic Consultation – Removal of Fish Passage Barriers", dated July 29, 2002. I certify that this project meets the conditions of the programmatic consultation for this species. In the event that the U.S. Army Corps of Engineers, Seattle District, the U.S. Fish and Wildlife Service, and/or the National Marine Fisheries Service/NOAA Fisheries determines that the conditions have not been met, I agree to comply with all resolution measures in accordance with Corps regulations	
Name and Signature	Date