GENERAL NOTES:
1. THESE DESIGNS AND DRAWINGS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE NZF PERCE TRIBE (NPT) AND THEIR AUTHORIZED AGENTS. NO OTHER PARTY MAY RELY ON THE PRODUCT OF OUR SERVICES UNLESS GEDENGINES INC. (GEDENGINES) AGREES IN WRITING IN ADVANCE OF SUCH USE.
2. THE DRAWINGS CONTAINED WITHIN SHOULD NOT BE APPLIED FOR ANY PROJECT OR PURPOSE EXCEPT THE LOSTINE RIVER POLEY ALLEN FISH PASSAGE AS SHOWN IN THE PROJECT AREA LOCATED ON DRAWING 1.1.
3. THESE DESIGNS AND DRAWINGS ARE COPYRIGHTED BY GEDENGINES, INC. ANY USE, ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPRESS WRITTEN PERMISSION FROM GEDENGINES, INC. IS STRICTLY PROHIBITED. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.
4. NPT IS ADVISED TO OBTAIN THE NECESSARY PERMITS AND APPROVALS FROM ALL APPROPRIATE REGULATORY AGENCIES (LOCAL, STATE, AND FEDERAL) PRIOR TO LOADING/UNLOADING.
5. GEODEMOCRATIC CONDITIONS CAN CHANGE AND THESE DESIGNS ARE BASED ON CONDITIONS THAT EXISTED AT THE TIME THE DESIGN WAS PERFORMED. THE RESULTS OF THESE DESIGNS MAY BE AFFECTED BY THE PASSAGE OF TIME, MANMADE EVENTS SUCH AS CONSTRUCTION ON OR ADJACENT TO THE SITE, OR BY NATURAL EVENTS SUCH AS FLOODS, EARTHQUAKES, SLOPE INSTABILITY OR GROUNDWATER FLUCTUATIONS. ALWAYS CONTACT GEDENGINES BEFORE APPLYING THESE DESIGNS TO DETERMINE IF THEY REMAIN APPLICABLE.
6. ALL RIVERS, STREAMS, ROCKS AND FISH PASSAGE STRUCTURES ARE POTENTIALLY DANGEROUS. THESE PROPOSED IMPROVEMENTS ARE INTENDED TO ADDRESS FISH PASSAGE CONSTRAINTS. THESE STRUCTURES ARE INHERENTLY DANGEROUS TO PEOPLE IN OR AROUND THEM. NPT AND THE PROPERTY OWNER SHOULD ADDRESS SAFETY CONCERNS APPROPRIATELY.
7. POTENTIAL REGULATORY CHANGES TO FLOOD ELEVATIONS AND FLOOD EXTENTS RESULTING FROM THE PROPOSED ENHANCEMENTS HAVE NOT BEEN ADDRESSED BY GEDENGINES AS PART OF THIS PROJECT.
8. IN GENERAL, THE PROPOSED HABITAT ENHANCEMENTS ARE INTENDED TO RESULT IN MORE STABLE STREAMBEDS, BANKS AND FLOODPLAINS. HOWEVER, CHANNEL EROSION, CHANNEL MIGRATION AND/OR AVULSIONS CAN BE EXPECTED TO OCCUR OVER TIME. THESE CHANNEL PROCESSES ARE NATURAL AND APPROPRIATE FOR THESE STREAM SYSTEMS.
9. DESIGN SPECIFICS FOR STRUCTURES SHALL BE CONFIRMED AND/OR VERIFIED BY A QUALIFIED ENGINEER PRIOR TO OR DURING CONSTRUCTION AT EACH PROPOSED STRUCTURE LOCATION.
10. THESE FIGURES WERE ORIGINALLY PRODUCED IN COLOR.

CONSTRUCTION NOTES:
1. ALL CONTRACTORS WORKING WITHIN THE PROJECT BOUNDARIES ARE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE SAFETY LAWS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA.
2. ALL MATERIAL AND WORKSMANSHIP FURNISHED ON OR FOR THE PROJECT MUST MEET THE MINIMUM REQUIREMENTS OF PROJECT PERMITS, APPROVING AGENCIES, SPECIFICATIONS AS SET FORTH HEREIN, OR WHICHERSOEVER IS MORE RESTRICITIVE.
3. ALL FEDERAL, STATE AND LOCAL PERMITS SHALL BE OBTAINED BY THE CLIENT PRIOR TO CONSTRUCTION ACTIVITY COMMENCEMENT.
4. THE CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE EROSION AND SEDIMENT CONTROL DEVICES THROUGHOUT THE WHOLE PROJECT SITE, INCLUDING THOSE ASSOCIATED WITH CONSTRUCTION ACCESS, STAGING AND STOCKPILES AREAS THROUGHOUT THE PROJECT'S CONSTRUCTION PERIOD. TEMPORARY CONSTRUCTION AND PERMANENT EROSION CONTROL MEASURES SHALL BE DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
5. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE CONSTRUCTION AREAS AND ACCESS ROUTES TO MINIMIZE DISTURBANCE OF THE EXISTING VEGETATION AND LANDSCAPE. ALL PUBLIC AND PRIVATE PROPERTY EITHER INSIDE OR OUTSIDE THE CONSTRUCTION LIMITS IMPACTED BY CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO THE CONSTRUCTION. NO CONSTRUCTION-RELATED MATERIALS, DEBRIS, GARBAGE, EQUIPMENT, FUEL, PROVISIONS OF ANY KIND SHALL REMAIN ON SITE AFTER CONSTRUCTION. NO STOCCIPLES OR EXCAVATIONS ARE TO REMAIN AFTER CONSTRUCTION UNLESS AUTHORIZED BY NPT. THE SITE WILL BE GRADED TO APPEAR NATURAL AND CONFORM TO THE NATURAL TOPOGRAPHY.
6. CONSTRUCTION SHALL MINIMIZE DISTURBANCE TO, AND MAXIMIZE REUSE OF, EXISTING RIPARIAN VEGETATION TO REMAIN AND SALVAGE.
7. ONLY APPROPRIATE APPROVED NATIVE RIPARIAN VEGETATION SHALL BE USED FOR CUTTINGS AND TRANSPLANTING. VEGETATION CUTTING, TRANSPLANTING, PLANTING AND IRRIGATION SHALL BE MANAGED BY AN APPROPRIATE PROFESSIONAL.
8. CONSTRUCTION RECORDS AND AS-BUILT INFORMATION SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR AND SUPPLIED TO THE OWNER AND GEDENGINES, REFERENCE AND MONITORING. SUBMITTAL OF RECORD INFORMATION IS A CONDITION OF FINAL ACCEPTANCE.
9. THIS DESIGN HAS BEEN PERFORMED AND THESE PLANS HAVE BEEN PREPARED WITH THE EXPRESS UNDERSTANDING THAT GEDENGINES WILL NOT BE ON-SITE DURING CONSTRUCTION TO HELP THE CONTRACTOR INTERPRET THE DESIGN PLANS AND INTENT.
10. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING TURBIDITY MONITORING AS INDICATED IN THE PROJECT HANDBOOK. MEASURE BASELINE DATA APPROXIMATELY 100 FEET UPSTREAM OF THE PROPOSED DISTURBANCE USING A TURBIDIMETER. RECORD READINGS ON THE STANDARD PROJECT COMPLETION FORM. MEASURE TURBIDITY APPROXIMATELY 50 FEET DOWNSTREAM OF THE DISTURBANCE AREA EVERY 2 HOURS WHILE WORK IS BEING IMPLEMENTED.

VISION
MAXIMIZE FISH PASSAGE AT THE POLEY ALLEN DIVERSION FOR ALL LIFE HISTORY STAGES OF BULL TROUT, STEELHEAD, AND CHINOOK SALMON, WHILE MAINTAINING ACCESS TO IRRIGATION WATER FOR CURRENT WATER RIGHTS HOLDERS.

GOAL
PROMOTE NATURAL RIVER AND FLOODPLAIN CONDITIONS WHILE MAINTAINING IRRIGATION ACCESS THROUGH CONSTRUCTION OF A ROUGHENED CHANNEL WITH BANK STABILIZATION PROVIDED BY LARGE WOODY MATERIAL STRUCTURES. BOULDERS WITHIN THE ROUGHENED CHANNEL WILL INCREASE HYDRAULIC COMPLEXITY AND ROUGHNESS.

OBJECTIVES
1. DEVELOP AND SELECT FISH PASSAGE DESIGN FOR JUVENILE AND ADULT BULL TROUT, STEELHEAD AND SPRING CHINOOK SALMON DURING PERIODS OF MIGRATION THAT ACHIEVE OREGON DEPARTMENT OF FISH AND WILDLIFE (ODFW) AND NATIONAL MARINE FISHERIES SERVICE (NMFS) FISH PASSAGE CRITERIA TO THE GREATEST EXTENT PRACTICAL.
2. DEVELOP FISH PASSAGE DESIGNS THAT MAINTAIN ACCESS AND USE OF IRRIGATION WATER FOR WATER RIGHTS HOLDERS AND IRRIGATORS.
3. PROVIDE A SUSTAINABLE, PERMISITABLE, AND EASILY MAINTAINED PROPOSED CONDITION AT A REASONABLE COST.

<table>
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<tr>
<th>Item Description</th>
<th>Units</th>
<th>No. of Units</th>
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<tr>
<td>Mobilization and Demobilization</td>
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<td>Pollution Control</td>
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<td>Sawdust Silt Abatement</td>
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<tr>
<td>Clearing, Grubbing, Stockpile and Disposal</td>
<td>AC</td>
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<tr>
<td>Excavation and Stockpile</td>
<td>CY</td>
<td>775</td>
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<tr>
<td>Earthfill - Stockpiled Material</td>
<td>CY</td>
<td>444</td>
</tr>
<tr>
<td>Earthfill - Stockpiled Habitat Buffers</td>
<td>CY</td>
<td>232</td>
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<td>Earthfill - Imported Habitat Buffers</td>
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<td>Earthfill - Imported Streambed Sediment</td>
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<td>Concrete Repair</td>
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<td>Large Woody Material Structures</td>
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<td>Permanent Seeding, Fertilizing and Mulching</td>
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<tr>
<td>Planting</td>
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EXISTING GROUND ALONG ROUGHENED CHANNEL CONSTRUCTION ALIGNMENT

OVEREXCAVATE NATIVE MATERIAL AND PLACE STREAMBED MATERIAL WITH HABITAT BOULDERS

EXISTING CONCRETE SILL TO REMAIN

EXCAVATION LIMITS

FILL BETWEEN EXISTING GROUND AND EXCAVATION BOUNDARY WITH NATIVE STOCKPILED MATERIAL (TYP.)

PROPOSED HABITAT BOULDER (TYP.)

PROPOSED CONDITIONS ROUGHENED CHANNEL PROFILE

2X VERT. EXAGGERATION

scale in feet

TIE INTO EXISTING RIPRAP AT TOE OF SLOPE

EXISTING RIPRAP

FILL BETWEEN EXISTING GROUND AND EXCAVATION BOUNDARY WITH NATIVE STOCKPILED MATERIAL (TYP.)

TIE ROUGHENED CHANNEL INTO EXISTING TOP OF BANK, SEE DRAWING 4.1

20 FT

20 FT

10:1

PROPOSED THALWEG TO MATCH ROUGHENED CHANNEL CONSTRUCTION ALIGNMENT

EXCAVATION BOUNDARY

TYPICAL ROUGHENED CHANNEL SECTION
NOT TO SCALE

NOTE: TYPICAL SECTION VIEW IS LOOKING DOWNSTREAM

LOSSINE RIVER POLEY ALLEN FISH PASSAGE
WALLOWA COUNTY, OREGON

PROPOSED CONDITIONS ROUGHENED CHANNEL PROFILE AND TYPICAL SECTION
STREAMBED CHANNEL PREPARATION NOTES:
STEP 1. EXCAVATE CHANNEL TO ACCOMMODATE STREAMBED MATERIAL, PLACE 1 FT LIFT OF
STREAMBED MATERIAL.
STEP 2. PLACE 3 IN. OF NATIVE STREAMBED SEDIMENT UNIFORMLY OVER STREAMBED MATERIAL.
APPLY WATER TO WASH IN NATIVE AND IMPORTED STREAMBED SEDIMENT. PLACE HABITAT
BOULDERS. SEE HABITAT BOULDER DETAIL.
STEP 3. PLACE 1 FT LIFT OF STREAMBED TO PROPOSED SURFACE.
STEP 4. PLACE 1 IN. OF NATIVE AND IMPORTED STREAMBED SEDIMENT UNIFORMLY OVER
ROUGHENED CHANNEL MATERIAL. APPLY WATER TO WASH IN STREAMBED FINE SEDIMENT.

ROUGHENED CHANNEL STREAMBED MATERIAL GRADATION

<table>
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<tr>
<th>GRAIN-SIZE STATISTIC</th>
<th>GRAIN-SIZE SIZE</th>
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<tr>
<td>D50</td>
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<td>D30</td>
<td>35.2</td>
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<tr>
<td>D20</td>
<td>16.5</td>
</tr>
<tr>
<td>D15</td>
<td>2.0</td>
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ROUGHENED CHANNEL STREAMBED MATERIAL NOTES:
1. ROUGHENED CHANNEL MATERIAL SHALL BE COMPRISED OF
   APPROXIMATELY 20 PERCENT STREAMBED SEDIMENT (2 IN MINUS),
   APPROXIMATELY 40 PERCENT STREAMBED COBLES (SORTED NATIVE
   OR IMPORTED 10-IN TO 12-IN) AND APPROXIMATELY 40 PERCENT 28-IN
   TO 48-IN HABITAT BOULDERS (IMPORTED OR SORTED NATIVE).
2. PLACE HABITAT BOULDERS ON EITHER THE EXCAVATED SURFACE OR ON
   THE FIRST 12-IN LIFT OF STREAMBED MATERIAL AND COMPLETE THE
   PREPARATION AS DESCRIBED IN THE DETAIL ABOVE.

ROUGHENED CHANNEL STREAMBED DETAIL

LWM TYPE C - SWEEPER DETAIL
CONSTRUCTION SEQUENCING AND DewaterING GENERAL NOTES

ALL IN-WATER WORK SHALL OCCUR BETWEEN JULY 15 - AUGUST 15 OR AS OTHERWISE SPECIFIED IN ENVIRONMENTAL PERMITS.

1. (1.1) ACCESS SITE FROM PRIVATE property, (1.2) ESTABLISH TEMPORARY ACCESS ROUTES THROUGHOUT THE SITE AS SHOWN. TEMPORARY ACCESS ROUTES SHALL MINIMIZE DISTURBANCE TO NATIVE VEGETATION AND THE PRIVATE LAND OWNERS PROPERTY. PRIVATE ROADS MUST BE CLEAR OF ALL CONSTRUCTION DEBRIS AT ALL TIMES. (1.3) ROADS SHALL BE RESTORED TO EXISTING CONDITION OR BETTER PRIOR TO COMPLETION OF THE PROJECT.

2. (2.1) INSTALL PERIMETER SEDIMENT CONTROLS AROUND STAGING AREAS AND STABILIZE ANY TEMPORARY STOCKPILES. (2.2) ISOLATE WORK ZONE FOR CONSTRUCTION OF ROUGHENED-CHANNEL. (3.2) CONDUCT FISH SALVAGE WITHIN THE MAIN CHANNEL PRIOR TO DewaterING. (3.3) DONATE THE MAIN CHANNEL AND ALLOW FOR CONTINUOUS DOWNSWEEP PASSAGE THROUGH THE DURATION OF ISOLATION. AFTER FISH SALVAGE WATER WITHIN THE WORK AREA SHALL BE PUMPED OUT AND DISCHARGED IN AN UPLAND LOCATION TO AVOID EXCESS TURBIDITY.

3. (4.1) REMOVE CONCRETE ABUTMENT AND MODIFY CONCRETE SL. PER DRAWINGS 4.1 THROUGH 5.1. (4.2) EXCAVATE ROUGHENED CHANNEL FOOTPRINT TO EXCAVATION LIMITS, FILLING IN VOIDS WITH NATIVE MATERIAL. (4.3) HAUL ALL REMOVED MATERIALS OFF-SITE AND DISPOSE ACCORDINGLY.

4. (5.1) CONSTRUCT ROUGHENED CHANNEL PER DRAWINGS 4.1 THROUGH 5.1.

5. (6.1) RESTORE DISTURBED AREAS WITHIN THE FLOODPLAIN GRADING LIMITS ACCORDING TO THE REVEGETATION PLAN ON DRAWING 7.1. (6.2) STABILIZE WITH NATIVE SEED MIX AND LIVES STAKES AFTER CHANNEL EXCAVATION AND LOG STRUCTURE INSTALLATION IS COMPLETE. RESTORE ALL DISTURBED AREAS WITHIN PRIVATE PROPERTY TO EXISTING CONDITIONS OR BETTER.
ALL IN-WATER WORK SHALL OCCUR BETWEEN JULY 15 - AUGUST 15 OR AS OTHERWISE SPECIFIED IN ENVIRONMENTAL PERMITS.

1. Access site from Lostine River Road. (1.2) Establish temporary access routes throughout the site as shown. Temporary access routes shall minimize disturbance to native vegetation and the private land owners property. Private roads must be clear of all construction debris at all times. (1.3) Roads shall be restored to existing condition or better prior to completion of the project.

2. Establish staging and stockpile locations as shown. All fuel storage and refueling activities shall occur at a minimum of 150 feet from the edge of water. (2.2) Install perimeter sediment controls around staging areas and stabilize any temporary stockpiles.

3. Isolate work zone for construction of large woody structures. (3.2) Conduct fish salvage within the side channel prior to de-watering. (3.3) De-water the side channel and allow for continuous downstream passage through the duration of isolation. After fish salvage water within the work area shall be pumped out and discharged in an upland location to avoid excess turbidity.

4. Excavate existing material for large woody material structures as indicated on the design drawings.

5. Construct large woody structures per drawings 4.1 through 3.3.

6. Restore disturbed areas within the floodplain grading limits according to the revegetation plan on drawing 7.1. (6.2) Stabilize with native seed mix and live stakes after channel excavation and log structure installation is complete. Restore all disturbed areas within private property to existing condition or better.
**Seed Mix Includes Approximately 0.8 Acres**

<table>
<thead>
<tr>
<th>Species</th>
<th>Size</th>
<th>lbs/acre</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Annual Ryegrass</td>
<td>Seed</td>
<td>10</td>
<td>8.0</td>
</tr>
<tr>
<td>Idaho Fescue</td>
<td>Seed</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Blue Wildrye</td>
<td>Seed</td>
<td>10</td>
<td>8.0</td>
</tr>
<tr>
<td>Mountain Brome</td>
<td>Seed</td>
<td>12</td>
<td>9.6</td>
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</tbody>
</table>

**Seeding Notes:**
1. The seed mix is suggested based on past work but can be substituted with similar mix and will be provided by the Nez Perce Tribe.
2. Install cuttings between approximately 1.5 and 3.0 vertical feet above the toe of slope. Confirm stems intercept shallow groundwater at low flow conditions.

**Typical Willow Stake Detail**

- **2-3 FT Stake Total Length**
- **0.5 - 1.5 Inch Diameter**
- **Flat Cut on Top, Diagonal Cut on Bottom, Advance Stake Using Soft Mallet**
- **Add Mulch Layer Over Finish Grade**
- **3/4 Length Stake Below Finish Grade, 1/4 Length Above Grade**
- **Pre-drill hole using rebar sections smaller than 0.5 - 1.5 Inch Diameter of Stake**

**Willow Trench Planting**

<table>
<thead>
<tr>
<th>Species</th>
<th>Total Trench Length (ft)</th>
<th>Stake Size</th>
<th>Spacing (ft)</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willow (Salix sp.) Floodplain</td>
<td>260</td>
<td>4</td>
<td>0.5/1.5</td>
<td>1</td>
</tr>
</tbody>
</table>
The document contains legal and technical information related to water management and pollution control. The text is dense and includes various regulatory and procedural details, typical of a scientific or legal document. The content is technical and requires a thorough understanding of environmental regulations, hydrology, and water quality standards. The document discusses topics such as water quality standards, water conservation measures, and the implementation of various water management strategies. The text is structured with headings, subheadings, and lists to organize the information systematically. The document is likely part of a larger report or policy framework aimed at addressing water resource management and pollution control.
FOR SALVAGE OPERATIONS IN KNOWN BULL TROUT SPawning AND REARING HABITAT, ELECTROFISHING SHALL ONLY OCCUR FROM MAY 1 TO JULY 31. NO ELECTROFISHING WILL OCCUR IN ANY BULL TROUT OCCUPIED HABITAT AFTER JULY 31. BULL TROUT ARE EXTREMELY TEMPERATURE SENSITIVE AND GENERALLY SHOULD NOT BE ELECTROSHOCKED OR OTHERWISE HANDLED WHEN TEMPERATURES EXCEED 15 DEGREES CELSIUS. SALVAGE ACTIVITIES SHOULD TAKE PLACE DURING PERIODS OF THE COOLEST AIR AND WATER TEMPERATURES POSSIBLE, NORMALLY EARLY IN THE MORNING AND LATER IN THE DAY, AND DURING CONDITIONS APPROPRIATE TO MINIMIZE STRESS AND DEATH OF SPECIES PRESENT.

SAVAGE OPERATIONS WILL FOLLOW THE ORDERING, METHODS, AND CONSERVATION MEASURES SPECIFIED BELOW IN STEPS 1 THROUGH 6. STEPS 1 AND 2 WILL BE IMPLEMENTED FOR ALL PROJECTS WHERE WORK AREA ISOLATION IS NECESSARY ACCORDING TO CONDITIONS ABOVE. ELECTROFISHING (STEP 3) CAN BE IMPLEMENTED TO ENSURE ALL BULL TROUT HAVE BEEN REMOVED FOLLOWING STEPS 1 AND 2, OR WHEN OTHER METHODS OF RECOVERY MAY NOT BE FEASIBLE OR EFFECTIVE. Dewatering AND REWATERING (STEPS 4 AND 5) WILL BE IMPLEMENTED UNLESS WETTED IN STREAM WORK IS DEEMED TO BE MINIMALLY HARMFUL TO FISH, AND IS BENEFICIAL TO OTHER AQUATIC SPECIES. Dewatering WILL NOT BE CONDUCTED IN AREAS KNOWN TO BE OCCUPIED BY LAMPIREY, UNLESS LAMPREYS ARE SALVAGED USING GUIDANCE SET FORTH IN US FISH AND WILDLIFE SERVICE (2003c).

1. LUBRICATE:
   a) BLOCK NETS WILL BE INSTALLED AT UPSTREAM AND DOWNSTREAM LOCATIONS AND MAINTAINED IN A SECURE POSITION TO EXCLUDE FISH FROM ENTERING THE PROJECT AREA.
   b) BLOCK NETS WILL BE SECURED TO THE STREAM CHANNEL BED AND BANKS UNTIL FISH CAPTURE AND TRANSPORT ACTIVITIES ARE COMPLETE. BLOCK NETS MAY BE LEFT IN PLACE FOR THE DURATION OF THE PROJECT TO ENCOURAGE FISH TO ENTER AND EXIT THE BLOCKS.
   c) IF BLOCK NETS REMAIN IN PLACE MORE THAN ONE DAY, THE NETS WILL BE MONITORED AT LEAST DAILY TO ENSURE THEY ARE SECURED TO THE BANKS AND FREE OF ORGANIC ACCUMULATION. IF THE PROJECT NETS ARE NOT SECURED TO THE BANKS, THE FISH WILL BE MAINTAINED IN THE LAST BLOCKS OF THE BLOCK NETS UNTIL THE NEXT BUSY PERIOD OR UNTIL THE BLOCK NETS ARE REMOVED.
   d) MINNOW TRAPS WILL BE LEFT IN PLACE OVERNIGHT AND USED IN CONJUNCTION WITH SEINING.
   e) IF BUCKETS ARE USED TO TRANSPORT FISH:
      i. THE TIME FISH ARE IN A TRANSPORT BUCKET WILL BE LIMITED, AND WILL BE RELEASED AS QUICKLY AS POSSIBLE.
      ii. THE NUMBER OF FISH WITHIN A BUCKET WILL BE LIMITED BASED ON SIZE, AND FISH WILL BE OF RELATIVELY COMPARABLE SIZE TO MINIMIZE PREJUDICE.
      iii. ADORATORS FOR BUCKETS WILL BE INSTALLED OR THE BUCKET WATER WILL BE FREQUENTLY CHANGED WITH COLD CLEAR WATER AT 15 MINUTE OR MORE FREQUENT INTERVALS.
      iv. BUCKETS WILL BE KEPT IN SHADEd AREAS OR WILL BE COVERED BY A CANOPY IN EXPOSED AREAS.
      v. DEAD FISH WILL NOT BE STORID IN TRANSPORT BUCKETS, BUT WILL BE LEFT ON THE STREAM BANK TO AVOID MORTALITY COUNTERING ERRORS.
      f) AS RAPIDLY AS POSSIBLE (ESPECIALLY FOR TEMPERATURE SENSITIVE BULL TROUT, FISH WILL BE RELEASED IN AN AREA THAT PROVIDES ADEQUATE COVERAGE AND FLOW REFUGE. UPSTREAM RELEASE IS GENERALLY PREFERRED, BUT FISH RELEASED DOWNSLREM WILL BE SUPSUFFICIENTLY OUTSIDE OF THE INFLUENCE OF CONSTRUCTION.
      g) SALVAGE WILL BE SUPERVISED BY A QUALIFIED FISHERIES BIOLOGIST EXPERIENCED WITH WORK AREA ISOLATION AND COMPETENT TO ENSURE THE SAFE HANDLING OF ALL FISH.

2. ELECTROFISHING:
   a) ELECTROFISHING WILL BE USED ONLY AFTER OTHER SALVAGE METHODS HAVE BEEN EMPLOYED OR WHEN OTHER MEANS OF FISH CAPTURE ARE DETERMINED TO BE INEFFECTIVE OR UNACCEPTABLE. ELECTROFISHING WILL BE USED TO CAPTURE FISH FOR SALVAGE, THE SALVAGE OPERATION WILL BE LED BY AN EXPERIENCED FISHERIES BIOLOGIST AND THE FOLLOWING GUIDELINES WILL BE FOLLOWED:
      i. THE NMFS ELECTROFISHING GUIDELINES (NMFS 2000).
      ii. ONLY DIRECT CURRENT (DC) OR PULSED DIRECT CURRENT (PCC) WILL BE USED AND CONDUCTIVITY MUST BE TESTED.
      iii. IF CONDUCTIVITY IS LESS THAN 100 MS VOLTAGE RANGES FROM 800 TO 1100 VOLTS WILL BE USED.
      iv. FOR CONDUCTIVITY RANGES BETWEEN 150 TO 300 MS, VOLTAGE RANGES WILL BE 500 TO 800.
      v. FOR CONDUCTIVITY BETWEEN 350 TO 500 MS, VOLTAGE WILL BE LESS THAN 400.
      vi. ELECTROFISHING WILL BEGIN WITH A MINIMUM PULSE WIDTH AND RECOMMENDED VOLTAGE AND THEN SLOWLY INCREASE TO THE POINT WHERE FISH ARE IMMOBILIZED.
      vii. THE ANODE WILL NOT BE TILED OR MODIFIED.
      viii. ELECTROFISHING SHALL NOT BE CONDUCTED WHEN THE WATER CONDITIONS ARE TURBID AND VISIBILITY IS POOR. THIS CONDITION MAY BE EXPERIENCED WHEN THE SAMPETER CANNOT SEE THE STREAM BOTTOM IN ONE FOOT OF WATER.
      ix. IF FURTHER OR OBVIOUS INJURY (DEFINED AS DARK BANDS ON THE BODY, SPINAL DEFORMATIONS, OR SCALING OF 25% OR MORE OF BODY, AND TORPOR OR INABILITY TO MAINTAIN UPRIGHT ATTITUDE AFTER SUFFICIENT RECOVERY TIME) OCCURS DURING ELECTROFISHING, OPERATIONS WILL BE IMMEDIATELY DISCONTINUED, MACHINE SETTINGS, WATER TEMPERATURE AND CONDUCTIVITY CHECKED, AND PROCEDURES ADJUSTED OR ELECTROFISHING POSTPONED TO REDUCE MORTALITY.
      x. Dewatering, when necessary, WILL BE CONDUCTED OVER A SUFFICIENT PERIOD OF TIME TO ALLOW SPECIES TO NATURALLY MIGRATE OUT OF THE WORK AREA AND WILL BE LIMITED TO THE SHORTEST LINEAR EXTENT PRACTICABLE.
      xi. DIVERSION AROUND THE CONSTRUCTION SITE WILL BE IMPLEMENTED WITH A COIFER DAM AND A BY-PASS CULVERT OR PIPE, OR A LINE, NON-ERODIBLE DIVERSION DITCH. WHERE GRAY FISH IS NOT POSSIBLE, A PUMP MAY BE INSTALLED AND OPERATED IN SUCH A MANN WAYS TO AVOID ADHESIVE Dewatering AND REWATERING OF THE SITE. UNMOUNTED BEHIND THE CULVERT MUST OCCUR SLOWLY THROUGH THE TRANSITION, WHILE CONSTANT MAXIMUMWATER IS DELIVERED TO THE DOWNSTREAM REACHES.
      xii. ALL PUMPS WILL HAVE SCREENS TO AVOID JUVENILE FISH IMPINGEMENT OR ENTANGLEMENT, AND WILL BE OPERATED IN ACCORDANCE WITH NMFS CURRENT FISH SCREEN CRITERIA (NMFS 2014a, OR MOST RECENT VERSION), IF THE PUMPING RATE EXCEEDS 3 CUBIC FEET PER SECOND (CFP), A NMFS HYDRO FISH PASSAGE REVIEW WILL BE NEEDED.
      xiii. DRAINAGE OF FLOW ENERGY AT THE Bypass OUTFLOW WILL BE PROVIDED TO PREVENT DAMAGE TO RIPARIAN VEGETATION OR STREAM CHANNEL.
      xiv. SAFE REENTRY OF FISH INTO THE STREAM OR CHANNEL WILL BE PROVIDED, PRIOR TO İateral WITH COVER, IF THE DIVERSION ALLOWS FOR DOWNSTREAM FISH PASSAGE.
      xv. SEEPAGE WATER WILL BE PUMPED TO A TEMPORARY STORAGE AND TREATMENT SITE OR INTO UPLAND AREAS TO ALLOW WATER TO PERCOLATE THROUGH SOIL OR TO FILTER THROUGH VEGETATION PRIOR TO REENTERING THE STREAM CHANNEL.
      xvi. 4 NATIONAL FISHERIES SERVICE. 2011. ANOMAROUS SALMON PASSAGE FACILITY DESIGN. NORTHWEST REGION. AVAILABLE AT WIFI:
          a) http://www.nww.noaa.gov/Salmon-Hydropower/FERC/Uplight/Fish-Passage-Design.pdf
          b) SALVAGE TRIBES FOR RECORDING OF FISH PRESENCE, HANDLING, AND MORTALITY MUST OCCUR DURING THE DURATION OF THE OUTLET, SALVAGE, ELECTROFISHING, Dewatering, AND REWATERING OPERATIONS, ONCE CONSTRUCTION IS COMPLETED. THE RAPID REPORT WILL DOCUMENT PROCEDURES USED, ANY FISH INJURIES OR DEATHS (INCLUDING NUMBERS OF FISH IMPAFTED), AND CAUSES OF ANY DEATHS.

CONSTRUCTION AND POST-CONSTRUCTION CONSERVATION MEASURES:

1. FISH PASSAGE, FISH PROTECTION WILL BE PROVIDED FOR ALL ADULT OR JUVENILE FISH LIKELY TO BE PRESENT IN THE ACTIVITY AREA DURING CONSTRUCTION, UNLESS PASSAGE DID NOT EXIST BEFORE CONSTRUCTION OR THE STREAM IS INACCESSIBLE AT THE TIME OF CONSTRUCTION. IF THE PROVISION OF TEMPORARY FISH PASSAGE DURING CONSTRUCTION WILL INCREASE NEGATIVE EFFECTS ON ADULT SPECIES OF INTEREST OR THEIR HABITAT, Dewatering REQUESTS WILL BE MADE FROM THE FISH Office SUPERVISING OFFICE. FOR ADHESIONAL, LESTENING WATER, SUCH AS THE SPECIES AFFECTED, LENGTH OF STREAM REACH AFFECTED, PROPER TIME FOR THE PASSAGE LATER, AND ALTERNATIVE CONSIDERED, WILL BE INCLUDED IN THE VARIANCE REQUEST.

2. CONSTRUCTION AND DISCHARGE WATER:
   a) SURFACE WATER MAY BE DIVERTED TO MEET CONSTRUCTION NEEDS, BUT ONLY IF DEVELOPED SOURCES ARE UNAVAILABLE OR INADEQUATE.
   b) Dewatering WILL NOT EXCEED 15% OF THE AVAILABLE FLOW.
   c) ALL CONSTRUCTION DISCHARGE WATER WILL BE COLLECTED AND TREATED USING THE BEST AVAILABLE TECHNOLOGY APPLICABLE TO SITE CONDITIONS.
   d) TREATMENTS TO REMOVE DECO MUNUTS, SEDIMENT, PETROLEUM HYDROCARBONS, METALS AND OTHER POLLUTANTS LIKELY TO BE PRESENT WILL BE PROVIDED.

EXPIRES: DEC. 31, 2023