

SITE LOCATION:

LATITUDE: 48°31'16" LONGITUDE: -120°11'05" OKANOGAN COUNTY, WASHINGTON

WATERBODY: CHEWUCH RIVER TRIBUTARY OF: METHOW RIVER

				MM DRAWN	DESIGNED	CB CHECKED	
				 APPROVED	3/14/25 DATE	PROJECT	CHEWUC FISH HABIT
NO.	BY	DATE	REVISION DESCRIPTION				

ON FISHERIES PROGRAM CH RIVER MILE 4.2 AT ENHANCEMENT



501 Portway Avenue, Suite 101 Hood River, OR 97031 541.386.9003 www.interfluve.com

CHEWUCH RIVER MILE 4 Final Design





YAKAMA NATION FISHERIES 2 JOHNSON LANE WINTHROP WA, 98862

SHEET LIST

1 - TITLE SHEET 2 - GENERAL NOTES 3 - HIP GENERAL NOTES (1 OF 3) 4 - HIP GENERAL NOTES (2 OF 3) 5 - HIP GENERAL NOTES (2 OF 3) 6 - PROJECT SITE OVERVIEW 7 - WORK AREA 1 8 - WORK AREA 2 9 - WORK AREA 3 10 - SPECIFICATIONS



TITLE SHEET

1 OF 10

IT IS STRONGLY SUGGESTED THAT THE CONTRACTOR ATTEND THE PRE-CONSTRUCTION MEETING WITH THE OWNER AND OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THE PROJECT SITE IS LOCATED ON STATE PROPERTY WITH ACCESS THROUGH PRIVATE PROPERTY. SITE VISITS PRIOR TO THE PRE-CONSTRUCTION MEETING ARE NOT ALLOWED WITHOUT PRIOR PERMISSION FROM THE YAKAMA NATION PROJECT MANAGER.

ALL WORK SHALL CONFORM TO THE 2024 EDITION OF STANDARD PLANS AND SPECIFICATIONS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), AND LOCAL STANDARDS UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT WILL PREVAIL.

BPA HIP

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE BPA HABITAT IMPROVEMENT PROGRAM, PROGRAMMATIC BIOLOGICAL OPINION (HIP). HIP GENERAL CONSERVATION MEASURES (CMs) ARE INCLUDED ON SHEETS 3 AND 4. SITE SPECIFIC DIRECTION IS INCLUDED IN THE FOLLOWING GENERAL NOTES. ANY VARIANCES FROM HIP III CMs WILL BE REQUESTED BY OWNER. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, LOCAL REGULATIONS, OR OTHER CONTRACT DOCUMENTATION, THE MORE STRINGENT WILL PREVAIL, UNLESS SPECIFIED IN WRITING BY THE OWNER.

EXISTING DATA

TOPOGRAPHIC SURVEY COLLECTED BY INTER-FLUVE, INC. BY RTK GPS AND TOTAL STATION IN 2017-18. REFERENCED TO NAD83 WASHINGTON STATE PLANE, NORTH ZONE US FEET NAVD 88.

CULTURAL RESOURCES

A YAKAMA NATION ARCHEOLOGIST WILL BE ON SITE DURING CONSTRUCTION. ENCOUNTERING THE FOLLOWING CULTURAL RESOURCES REQUIRES THE IMMEDIATE DISCONTINUATION OF ALL GROUND-DISTURBING ACTIVITY:

-NATIVE AMERICAN CULTURAL ARTIFACTS (EXAMPLE: FLAKES, ARROWHEADS, STONE TOOLS, BONE TOOLS, POTTERY, ETC.)

-HISTORIC ERA ARTIFACTS (EXAMPLE: BUILDING FOUNDATIONS, HOMESTEADS, SHIPWRECKS, MINING CAMPS, ETC.)

-HUMAN SKELETAL REMAINS AND BONE FRAGMENTS

DO NOT TOUCH OR MOVE THE OBJECTS AND MAINTAIN THE CONFIDENTIALITY OF THE SITE. FOLLOW THE PROCEDURES LISTED IN THE BPA INADVERTENT DISCOVERY PROCEDURE AND AWAIT FURTHER DIRECTION FROM THE ARCHEOLOGIST AND BPA'S CULTURAL RESOURCES STAFF.

INVASIVE SPECIES CONTROL

PRIOR TO ENTERING THE SITE, ALL EQUIPMENT SHALL BE POWER WASHED, BECOME FULLY DRY, AND INSPECTED IN THE TOWN OF TWISP TO MAKE SURE NO PLANTS, SOIL, OR OTHER ORGANIC MATERIAL ADHERES TO THE SURFACE. IF EQUIPMENT LEAVES THE SITE AND RETURNS, IT SHALL BE REWASHED AND INSPECTED PRIOR TO ACCESSING THE SITE.

DISTURBANCE LIMITS

ACCESS ROUTES AND CLEARING LIMITS WILL BE STAKED IN THE FIELD BY THE OWNER PRIOR TO CONSTRUCTION. ACCESS FOR CHANNEL CONSTRUCTION SHALL UTILIZE AN "INSIDE-OUT" APPROACH TO CONSTRUCTION AND HAULING ROUTES, WHICH SHALL REMAIN WITHIN THE CHANNEL CONSTRUCTION FOOTPRINT.

LIVE TREES

ALL TREES NOT MARKED FOR REMOVAL SHALL BE PRESERVED AND UNDISTURBED. CONSTRUCTION ACTIVITY SHALL NOT DEBARK OR DAMAGE LIVE TREES.

KEEP OUT OF DRIP LINE OF ALL PRESERVED EXISTING TREES.

ALL SAPLING AND TREES TO BE REMOVED FOR ACCESS WILL BE APPROVED AND CLEARLY MARKED BY THE OWNER'S REPRESENTATIVE.

ALL TREES REMOVED WITHIN CLEARING LIMITS SHALL BE REMOVED WHOLE WITH ROOTS INTACT AND UTILIZED IN THE CHANNEL CONSTRUCTION AS DIRECTED BY OWNER'S REPRESENTATIVE.

APPROVED

DATE

PROJECT

ABBREVIATIONS

DATE REVISION DESCRIPTION

	APPROX	APPROXIMATE	INV	INVERT
	CY	CUBIC YARDS	LWM	LARGE WOODY MATERIAL
	0	DEGREES	MAX	MAXIMUM
	DIA or Ø	DIAMETER	MIN	MINIMUM
DBH		DIAMETER AT BREAST HEIGHT	OHW	ORDINARY HIGH WATER
	EA	EACH	%	PERCENT
1	EL or ELEV	ELEVATION	RMx	RIVER MILE x
	ESC	EROSION AND SEDIMENT CONTROL	STA	STATION
	EXIST	EXISTING	TBD	TO BE DETERMINED
1	FT or '	FEET	TYP	TYPICAL
	FTR	FULLY THREADED ROD	VERT	VERTICAL
	HORIZ	HORIZONTAL	WSE	WATER SURFACE ELEVATION
	IN or "	INCH	YR	YEAR
L				
⊢				
				MM CB
⊢				-

YAKAMA NATION FISHERIES PROGRAM CHEWUCH RIVER MILE 4.2 FISH HABITAT ENHANCEMENT



501 Portway Avenue, Su Hood River, OR 970 541.386.9003 www.interfluve.cc

		9	HEET
Suite 101 7031 com	GENERAL NOTES	2	of 10

HIP GENERAL CONSERVATION MEASURES APPLICABLE TO ALL ACTIONS

THE ACTIVITIES COVERED UNDER THE HIP ARE INTENDED TO PROTECT AND RESTORE FISH AND WILDLIFE HABITAT WITH LONG-TERM BENEFITS TO ESA-LISTED SPECIES. THE FOLLOWING GENERAL CONSERVATION MEASURES (DEVELOPED IN COORDINATION WITH USFWS AND NMFS) WILL BE APPLIED TO ALL ACTIONS OF THIS PROJECT.

PROJECT DESIGN AND SITE PREPARATION.

1. STATE AND FEDERAL PERMITS.

- A. ALL APPLICABLE REGULATORY PERMITS AND OFFICIAL PROJECT AUTHORIZATIONS WILL BE OBTAINED BEFORE PROJECT IMPLEMENTATION.
- B. THESE PERMITS AND AUTHORIZATIONS INCLUDE, BUT ARE NOT LIMITED TO, NATIONAL ENVIRONMENTAL POLICY ACT, NATIONAL HISTORIC PRESERVATION ACT, THE APPROPRIATE STATE AGENCY REMOVAL AND FILL PERMIT, USACE CLEAN WATER ACT (CWA) 404 PERMITS, CWA SECTION 401 WATER QUALITY CERTIFICATIONS, AND FEMA NO-RISE ANALYSES.
- 2. TIMING OF IN-WATER WORK.
- A. APPROPRIATE STATE (OREGON DEPARTMENT OF FISH AND WILDLIFE (ODFW), WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW), IDAHO DEPARTMENT OF FISH AND GAME (IDFG), AND MONTANA FISH WILDLIFE AND PARKS (MFWP)) GUIDELINES FOR TIMING OF IN-WATER WORK WINDOWS (IWW) WILL BE FOLLOWED.
- B. CHANGES TO ESTABLISHED WORK WINDOWS WILL BE APPROVED BY REGIONAL STATE BIOLOGISTS AND BPA'S EC LEAD.
- C. BULL TROUT. FOR AREAS WITH DESIGNATED IN-WATER WORK WINDOWS FOR BULL TROUT OR AREAS KNOWN TO HAVE BULL TROUT, PROJECT PROPONENTS WILL CONTACT THE APPROPRIATE USFWS FIELD OFFICE TO INSURE THAT ALL REASONABLE IMPLEMENTATION MEASURES ARE CONSIDERED AND AN APPROPRIATE IN-WATER WORK WINDOW IS BEING USED TO MINIMIZE PROJECT EFFECTS.
- D. LAMPREY. WORKING IN STREAM OR RIVER CHANNELS THAT CONTAIN PACIFIC LAMPREY WILL BE AVOIDED FROM MARCH 1 TO JULY 1 FOR REACHES <5,000 FEET IN ELEVATION AND FROM MARCH 1 TO AUGUST 1 FOR REACHES >5,000 FEET. IF EITHER TIMEFRAME IS INCOMPATIBLE WITH OTHER OBJECTIVES, THE AREA WILL BE SURVEYED FOR NESTS AND LAMPREY PRESENCE, AND AVOIDED IF POSSIBLE. IF LAMPREYS ARE KNOWN TO EXIST, THE PROJECT SPONSOR WILL UTILIZE DEWATERING AND SALVAGE PROCEDURES (SEE FISH SALVAGE AND ELECTROFISHING SECTIONS) TO MINIMIZE ADVERSE EFFECTS.
- E. THE IN-WATER WORK WINDOW WILL BE PROVIDED IN THE CONSTRUCTION PLANS.
- 3. CONTAMINANTS.
- A. EXCAVATION OF MORE THAN 20 CUBIC YARDS WILL REQUIRE A SITE VISIT AND DOCUMENTED ASSESSMENT FOR POTENTIAL CONTAMINANT SOURCES. THE SITE ASSESSMENT WILL BE STORED WITH PROJECT FILES OR AS AN APPENDIX TO THE BASIS OF DESIGN REPORT.
- B. THE SITE ASSESSMENT WILL SUMMARIZE:
 - 1. THE SITE VISIT, CONDITION OF THE PROPERTY, AND IDENTIFICATION OF ANY AREAS USED FOR VARIOUS INDUSTRIAL PROCESSES;
 - 2. AVAILABLE RECORDS, SUCH AS FORMER SITE USE, BUILDING PLANS, AND RECORDS OF ANY PRIOR CONTAMINATION EVENTS;
 - 3. INTERVIEWS WITH KNOWLEDGEABLE PEOPLE, SUCH AS SITE OWNERS, OPERATORS, OCCUPANTS, NEIGHBORS, OR LOCAL GOVERNMENT OFFICIALS; AND
 - 4. THE TYPE, QUANTITY, AND EXTENT OF ANY POTENTIAL CONTAMINATION SOURCES.

4. SITE LAYOUT AND FLAGGING.

- A. CONSTRUCTION AREAS TO BE CLEARLY FLAGGED PRIOR TO CONSTRUCTION.
- B. AREAS TO BE FLAGGED WILL INCLUDE:
 - 1. SENSITIVE RESOURCE AREAS, SUCH AS AREAS BELOW ORDINARY HIGH WATER, SPAWNING AREAS, SPRINGS, AND WETLANDS;
 - 2. EQUIPMENT ENTRY AND EXIT POINTS;
 - 3. ROAD AND STREAM CROSSING ALIGNMENTS;
 - 4. STAGING, STORAGE, AND STOCKPILE AREAS; AND
 - 5. NO-SPRAY AREAS AND BUFFERS.

5. TEMPORARY ACCESS ROADS AND PATHS.

- A. EXISTING ACCESS ROADS AND PATHS WILL BE PREFERENTIALLY USED WHENEVER REASONABLE, AND THE NUMBER AND LENGTH OF TEMPORARY ACCESS ROADS AND PATHS THROUGH RIPARIAN AREAS AND FLOODPLAINS WILL BE MINIMIZED.
- B. VEHICLE USE AND HUMAN ACTIVITIES, INCLUDING WALKING, IN AREAS OCCUPIED BY TERRESTRIAL ESA-LISTED SPECIES WILL BE MINIMIZED.
- C. TEMPORARY ACCESS ROADS AND PATHS WILL NOT BE BUILT ON SLOPES WHERE GRADE, SOIL, OR OTHER FEATURES SUGGEST A LIKELIHOOD OF EXCESSIVE EROSION OR FAILURE. IF SLOPES ARE STEEPER THAN 30%, THEN THE ROAD WILL BE DESIGNED BY A CIVIL ENGINEER WITH EXPERIENCE IN STEEP ROAD DESIGN.
- D. THE REMOVAL OF RIPARIAN VEGETATION DURING CONSTRUCTION OF TEMPORARY ACCESS ROADS WILL BE MINIMIZED. WHEN TEMPORARY VEGETATION REMOVAL IS REQUIRED, VEGETATION WILL BE CUT AT GROUND LEVEL (NOT GRUBBED).
- E. AT PROJECT COMPLETION, ALL TEMPORARY ACCESS ROADS AND PATHS WILL BE OBLITERATED, AND THE SOIL WILL BE STABILIZED AND REVEGETATED. ROAD AND PATH OBLITERATION REFERS TO THE MOST COMPREHENSIVE DEGREE OF DECOMMISSIONING AND INVOLVES DECOMPACTING THE SURFACE AND DITCH, PULLING THE FILL MATERIAL ONTO THE RUNNING SURFACE, AND RESHAPING TO MATCH THE ORIGINAL CONTOUR.
- F. HELICOPTER FLIGHT PATTERNS WILL BE ESTABLISHED IN ADVANCE AND LOCATED TO AVOID TERRESTRIAL ESA-LISTED SPECIES AND THEIR OCCUPIED HABITAT DURING SENSITIVE LIFE STAGES.

6. TEMPORARY STREAM CROSSINGS.

- A. EXISTING STREAM CROSSINGS OR BEDROCK WILL BE PREFERENTIALLY USED WHENEVER REASONABLE, AND THE NUMBER OF TEMPORARY STREAM CROSSINGS WILL BE MINIMIZED.
- B. TEMPORARY BRIDGES AND CULVERTS WILL BE INSTALLED TO ALLOW FOR EQUIPMENT AND VEHICLE CROSSING OVER PERENNIAL STREAMS DURING CONSTRUCTION. TREATED WOOD SHALL NOT BE USED ON TEMPORARY BRIDGE CROSSINGS OR IN LOCATIONS IN CONTACT WITH OR DIRECTLY OVER WATER.
- C. FOR PROJECTS THAT REQUIRE EQUIPMENT AND VEHICLES TO CROSS IN THE WET:
 - 1. THE LOCATION AND NUMBER OF ALL WET CROSSINGS SHALL BE APPROVED BY THE BPA EC LEAD AND DOCUMENTED IN THE CONSTRUCTION PLANS;
 - 2. VEHICLES AND MACHINERY SHALL CROSS STREAMS AT RIGHT ANGLES TO THE MAIN CHANNEL WHENEVER POSSIBLE;
 - 3. NO STREAM CROSSINGS WILL OCCUR 300 FEET UPSTREAM OR 100 FEET DOWNSTREAM OF AN EXISTING REDD OR SPAWNING FISH; AND
 - 4. AFTER PROJECT COMPLETION, TEMPORARY STREAM CROSSINGS WILL BE OBLITERATED AND BANKS RESTORED.

7. STAGING, STORAGE, AND STOCKPILE AREAS.

- A. STAGING AREAS (USED FOR CONSTRUCTION EQUIPMENT STORAGE, VEHICLE STORAGE, FUELING, SERVICING, AND HAZARDOUS MATERIAL STORAGE) WILL BE 150 FEET OR MORE FROM ANY NATURAL WATER BODY OR WETLAND. STAGING AREAS CLOSER THAN 150 FEET WILL BE APPROVED BY THE EC LEAD.
- B. NATURAL MATERIALS USED FOR IMPLEMENTATION OF AQUATIC RESTORATION, SUCH AS LARGE WOOD, GRAVEL, AND BOULDERS, MAY BE STAGED WITHIN 150 FEET IF CLEARLY INDICATED IN THE PLANS THAT AREA IS FOR NATURAL MATERIALS ONLY.
- C. ANY LARGE WOOD, TOPSOIL, AND NATIVE CHANNEL MATERIAL DISPLACED BY CONSTRUCTION WILL BE STOCKPILED FOR USE DURING SITE RESTORATION AT A SPECIFICALLY IDENTIFIED AND FLAGGED AREA.
- D. ANY MATERIAL NOT USED IN RESTORATION, AND NOT NATIVE TO THE FLOODPLAIN, WILL BE DISPOSED OF OUTSIDE THE 100-YEAR FLOODPLAIN.

<u>8. EQUIPMENT.</u>

- A. MECHANIZED EQUIPMENT AND VEHICLES WILL BE SELECTED, OPERATED, AND MAINTAINED IN A MANNER THAT MINIMIZES ADVERSE EFFECTS ON THE ENVIRONMENT (E.G., MINIMALLY-SIZED, LOW PRESSURE TIRES; MINIMAL HARD-TURN PATHS FOR TRACKED VEHICLES; TEMPORARY MATS OR PLATES WITHIN WET AREAS OR ON SENSITIVE SOILS).
- B. EQUIPMENT WILL BE STORED, FUELED, AND MAINTAINED IN AN CLEARLY IDENTIFIED STAGING AREA THAT MEETS STAGING AREA CONSERVATION MEASURES.

- C. EQUIPMENT WILL BE REFUELED IN A VEH ISOLATED HARD ZONE, SUCH AS A PAV ESTABLISHED ROAD (THIS MEASURE APP EQUIPMENT WITH TANKS LARGER THAN S
- D. BIODEGRADABLE LUBRICANTS AND FLUID OPERATING IN AND ADJACENT TO THE
- E. EQUIPMENT WILL BE INSPECTED DAILY F VEHICLE STAGING AREA FOR OPERATION WATER BODY OR WETLAND.
- F. EQUIPMENT WILL BE THOROUGHLY CLEAI ORDINARY HIGH WATER, AND AS OFTEN TO REMAIN GREASE FREE.

9. EROSION CONTROL.

A. TEMPORARY EROSION CONTROL MEASURE

- 1. TEMPORARY EROSION CONTROLS WIL SIGNIFICANT ALTERATION OF THE AC INSTALLED DOWNSLOPE OF PROJECT BUFFER AREA UNTIL SITE REHABILIT
- 2. IF THERE IS A POTENTIAL FOR ERO SEDIMENT BARRIERS WILL BE INSTAI DURATION OF PROJECT IMPLEMENTA
- 3. TEMPORARY EROSION CONTROL MEA FIBER WATTLES, SILT FENCES, JUTE SOIL BINDER, OR GEOTEXTILES AND
- 4. SOIL STABILIZATION UTILIZING WOOD (HYDRO-APPLIED) MAY BE USED THE MATERIALS ARE NOXIOUS WEEL AND TERRESTRIAL ANIMALS, SOIL M
- 5. SEDIMENT WILL BE REMOVED FROM REACHED 1/3 OF THE EXPOSED HE
- 6. ONCE THE SITE IS STABILIZED AFTE CONTROL MEASURES WILL BE REMO
- B. EMERGENCY EROSION CONTROLS. THE F EROSION CONTROL WILL BE AVAILABLE
 - 1. A SUPPLY OF SEDIMENT CONTROL N
 - 2. AN OIL-ABSORBING FLOATING BOOM PRESENT.

10. DUST ABATEMENT.

- A. THE PROJECT SPONSOR WILL DETERMIN MEASURES BY CONSIDERING SOIL TYPE, DIRECTION, AND THE EFFECTS CAUSED CONTROL MEASURES.
- B. WORK WILL BE SEQUENCED AND SCHED SUBJECT TO WIND EROSION.
- C. DUST-ABATEMENT ADDITIVES AND STAE MAGNESIUM CHLORIDE, CALCIUM CHLOR NOT BE APPLIED WITHIN 25 FEET OF W WILL BE APPLIED SO AS TO MINIMIZE T STREAMS. APPLICATIONS OF LIGNINSULF RATE OF 0.5 GALLONS PER SQUARE Y/ MIXED 50:50 WITH WATER.
- D. APPLICATION OF DUST ABATEMENT CHE JUST BEFORE WET WEATHER, AND AT S THAT COULD RESULT IN UNFILTERED DE MATERIALS TO A WATERBODY (TYPICAL FEET OF A WATERBODY OR STREAM CH WHERE VEGETATION IS SPARSE OR SLO
- E. SPILL CONTAINMENT EQUIPMENT WILL BI DUST ABATEMENT CHEMICALS.
- F. PETROLEUM-BASED PRODUCTS WILL NO

HICLE STAGING AREA OR IN AN VED PARKING LOT OR ADJACENT, PLIES ONLY TO GAS-POWERED 5 GALLONS).		
DS WILL BE USED ON EQUIPMENT STREAM CHANNEL AND LIVE WATER.		
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ASURES MAY INCLUDE SEDGE MATS, MATTING, WOOD FIBER MULCH AND GEOSYNTHETIC FABRIC;	MEA	И ДМР И
) FIBER MULCH AND TACKIFIER) TO REDUCE EROSION OF BARE SOIL IF) FREE AND NONTOXIC TO AQUATIC IICROORGANISMS, AND VEGETATION;	CONSERVATION ME.	WER ADMINISTRATION: ENVIRONMENT, FISH AND WILDLIFE DIVISION
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BILIZATION CHEMICALS (TYPICALLY IDE SALTS, OR LIGNINSULFONATE) WILL /ATER OR A STREAM CHANNEL AND THE LIKELIHOOD THAT THEY WILL ENTER FONATE WILL BE LIMITED TO A MAXIMUM ARD OF ROAD SURFACE, ASSUMING		
EMICALS WILL BE AVOIDED DURING OR STREAM CROSSINGS OR OTHER AREAS ELIVERY OF THE DUST ABATEMENT LY THESE WOULD BE AREAS WITHIN 25 HANNEL; DISTANCES MAY BE GREATER IPES ARE STEEP).		
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DT BE USED FOR DUST ABATEMENT.	File Nam	ne <i>HIP GCA</i>
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PROJECT DESIGN AND SITE PREPARATION (CONTINUED).

11. SPILL PREVENTION, CONTROL, AND COUNTER MEASURES.

- A. A DESCRIPTION OF HAZARDOUS MATERIALS THAT WILL BE USED, INCLUDING INVENTORY, STORAGE, AND HANDLING PROCEDURES WILL BE AVAILABLE ON-SITE.
- B. WRITTEN PROCEDURES FOR NOTIFYING ENVIRONMENTAL RESPONSE AGENCIES WILL BE POSTED AT THE WORK SITE.
- C. SPILL CONTAINMENT KITS (INCLUDING INSTRUCTIONS FOR CLEANUP AND DISPOSAL) ADEQUATE FOR THE TYPES AND QUANTITY OF HAZARDOUS MATERIALS USED AT THE SITE WILL BE AVAILABLE AT THE WORK SITE.
- D. WORKERS WILL BE TRAINED IN SPILL CONTAINMENT PROCEDURES AND WILL BE INFORMED OF THE LOCATION OF SPILL CONTAINMENT KITS.
- E. ANY WASTE LIQUIDS GENERATED AT THE STAGING AREAS WILL BE TEMPORARILY STORED UNDER AN IMPERVIOUS COVER, SUCH AS A TARPAULIN, UNTIL THEY CAN BE PROPERLY TRANSPORTED TO AND DISPOSED OF AT A FACILITY THAT IS APPROVED FOR RECEIPT OF HAZARDOUS MATERIALS.
- F. PUMPS USED ADJACENT TO WATER SHALL USE SPILL CONTAINMENT SYSTEMS.
- 12. INVASIVE SPECIES CONTROL.
- A. PRIOR TO ENTERING THE SITE, ALL VEHICLES AND EQUIPMENT WILL BE POWER WASHED, ALLOWED TO FULLY DRY, AND INSPECTED TO MAKE SURE NO PLANTS, SOIL, OR OTHER ORGANIC MATERIAL ADHERES TO THE SURFACE.
- B. WATERCRAFT, WADERS, BOOTS, AND ANY OTHER GEAR TO BE USED IN OR NEAR WATER WILL BE INSPECTED FOR AQUATIC INVASIVE SPECIES.
- C. WADING BOOTS WITH FELT SOLES ARE NOT TO BE USED DUE TO THEIR PROPENSITY FOR AIDING IN THE TRANSFER OF INVASIVE SPECIES UNLESS DECONTAMINATION PROCEDURES HAVE BEEN APPROVED BY THE EC LEAD.

WORK AREA ISOLATION AND FISH SALVAGE.

- 1. WORK AREA ISOLATION.
- A. ANY WORK AREA WITHIN THE WETTED CHANNEL WILL BE ISOLATED FROM THE ACTIVE STREAM WHENEVER ESA-LISTED FISH ARE REASONABLY CERTAIN TO BE PRESENT, OR IF THE WORK AREA IS LESS THAN 300-FEET UPSTREAM FROM KNOWN SPAWNING HABITATS.
- B. WORK AREA ISOLATION AND FISH SALVAGE ACTIVITIES WILL COMPLY WITH THE IN-WATER WORK WINDOW.
- C. DESIGN PLANS WILL INCLUDE ALL ISOLATION ELEMENTS AND AREAS (COFFER DAMS, PUMPS, DISCHARGE AREAS, FISH SCREENS, FISH RELEASE AREAS, ETC.).
- D. WORK AREA ISOLATION AND FISH CAPTURE ACTIVITIES WILL OCCUR DURING PERIODS OF THE COOLEST AIR AND WATER TEMPERATURES POSSIBLE, NORMALLY EARLY IN THE MORNING VERSUS LATE IN THE DAY, AND DURING CONDITIONS APPROPRIATE TO MINIMIZE STRESS AND DEATH OF SPECIES PRESENT.
- 2. FISH SALVAGE.
- A. MONITORING AND RECORDING WILL TAKE PLACE FOR DURATION OF SALVAGE. THE SALVAGE REPORT WILL BE COMMUNICATED TO AGENCIES VIA THE PROJECT COMPLETION FORM (PCF).
- B. SALVAGE ACTIVITIES SHOULD TAKE PLACE DURING CONDITIONS TO MINIMIZE STRESS TO FISH SPECIES, TYPICALLY PERIODS OF THE COOLEST AIR AND WATER TEMPERATURES WHICH OCCUR IN THE MORNING VERSUS LATE IN THE DAY.
- C. SALVAGE OPERATIONS WILL FOLLOW THE ORDERING, METHODS, AND CONSERVATION MEASURES SPECIFIED BELOW:
 - 1. SLOWLY REDUCE WATER FROM THE WORK AREA TO ALLOW SOME FISH TO LEAVE VOLITIONALLY.
 - 2. BLOCK NETS WILL BE INSTALLED AT UPSTREAM AND DOWNSTREAM LOCATIONS AND MAINTAINED IN A SECURED POSITION TO EXCLUDE FISH FROM ENTERING THE PROJECT AREA.
 - 3. 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 EXCLUDE FISH AS LONG AS PASSAGE REQUIREMENTS ARE MET.
 - 4. NETS WILL BE MONITORED HOURLY DURING IN-STREAM DISTURBANCE.

- 5. IF BLOCK NETS REMAIN IN PLACE MORE THAN ONE DAY, THE NETS WILL BE MONITORED AT LEAST DAILY TO ENSURE THEY ARE SECURED AND FREE OF ORGANIC ACCUMULATION. IF BULL TROUT ARE PRESENT, NETS ARE TO BE CHECKED EVERY 4 HOURS FOR FISH IMPINGEMENT.
- 6. CAPTURE FISH THROUGH SEINING AND RELOCATE TO STREAMS.
- 7. WHILE DEWATERING, ANY REMAINING FISH WILL BE COLLECTED BY HAND OR DIP NETS.
- 8. SEINES WITH A MESH SIZE TO ENSURE CAPTURE OF THE RESIDING ESA-LISTED FISH WILL BE USED.
- 9. MINNOW TRAPS WILL BE LEFT IN PLACE OVERNIGHT AND USED IN CONJUNCTION WITH SEINING.
- 10. ELECTROFISH TO CAPTURE AND RELOCATED FISH NOT CAUGHT DURING SEINING PER ELECTROFISH CONSERVATION MEASURES.
- 11. CONTINUE TO SLOWLY DEWATER STREAM REACH.
- 12. COLLECT ANY REMAINING FISH IN COLD-WATER BUCKETS AND RELOCATED TO THE STREAM.
- 13. LIMIT THE TIME FISH ARE IN A TRANSPORT BUCKET.
- 14. MINIMIZE PREDATION BY TRANSPORTING COMPARABLE SIZES IN BUCKETS.
- 15. BUCKET WATER TO BE CHANGED EVERY 15 MINUTES OR AERATED.
- 16. BUCKETS WILL BE KEPT IN SHADED AREAS OR COVERED.
- 17. DEAD FISH WILL NOT BE STORED IN TRANSPORT BUCKETS, BUT WILL BE LEFT ON THE STREAM BANK TO AVOID MORTALITY COUNTING ERRORS.
- D. SALVAGE GUIDELINES FOR BULL TROUT, LAMPREY, MUSSELS, AND NATIVE FISH.
 - 1. CONDUCT SITE SURVEY TO ESTIMATE SALVAGE NUMBERS.
 - 2. PRE-SELECT SITE(S) FOR RELEASE AND/OR MUSSEL BED RELOCATION.
 - 3. SALVAGE OF BULL TROUT WILL NOT TAKE PLACE WHEN WATER TEMPERATURES EXCEED 15 DEGREES CELSIUS.
 - IF DRAWDOWN LESS THAN 48 HOURS, SALVAGE OF LAMPREY AND MUSSELS MAY NOT BE NECESSARY IF TEMPERATURES SUPPORT SURVIVAL IN SEDIMENTS.
 - 5. SALVAGE MUSSELS BY HAND, LOCATING BY SNORKELING OR WADING.
 - 6. SALVAGE LAMPREY BY ELECTROFISHING (SEE ELECTROFISHING FOR LARVAL LAMPREY SETTINGS AND LARVAL LAMPREY DRY SHOCKING SETTINGS).
 - 7. SALVAGE BONY FISH AFTER LAMPREY WITH NETS OR ELECTROFISHING (SEE ELECTROFISHING FOR APPROPRIATE SETTINGS).
 - 8. REGULARLY INSPECT DEWATERED SITE SINCE LAMPREY LIKELY TO EMERGE AFTER DEWATERING AND MUSSELS MAY BECOME VISIBLE.
 - 9. MUSSELS MAY BE TRANSFERRED IN COOLERS.
- 10. MUSSELS WILL BE PLACED INDIVIDUALLY TO ENSURE ABILITY TO BURROW INTO NEW HABITAT.

3. ELECTROFISHING.

- A. INITIAL SITE SURVEY AND INITIAL SETTINGS.
 - 1. IDENTIFY SPAWNING ADULTS AND ACTIVE REDDS TO AVOID.
 - 2. RECORD WATER TEMPERATURE. ELECTROFISHING WILL NOT OCCUR WHEN WATER TEMPERATURES ARE ABOVE 18 DEGREES CELSIUS.
- 3. IF POSSIBLE, A BLOCK NET WILL BE PLACED DOWNSTREAM AND CHECKED REGULARLY TO CAPTURE STUNNED FISH THAT DRIFT DOWNSTREAM.
- 4. INITIAL SETTINGS WILL BE 100 VOLTS, PULSE WIDTH OF 500 MICRO SECONDS, AND PULSE RATE OF 30 HERTZ.
- 5. RECORDS FOR CONDUCTIVITY, WATER TEMPERATURE, AIR TEMPERATURE, ELECTROFISHING SETTINGS, ELECTROFISHER MODEL, ELECTROFISHER CALIBRATION, FISH CONDITIONS, FISH MORTALITIES, AND TOTAL CAPTURE RATES WILL BE INCLUDED IN THE SALVAGE LOG BOOK.

- B. ELECTROFISHING TECHNIQUE.
 - SAMPLING WILL BEGIN USING STRAIGH IS NETTED WHEN USING STRAIGHT DC. REMAINING BELOW MAXIMUM LEVELS.
 - 2. MAXIMUM VOLTAGE WILL BE 1100 VOL 800 VOLTS WHEN CONDUCTIVITY IS BE VOLTS WHEN CONDUCTIVITY IS >300 M
 - 3. IF FISH CAPTURE IS NOT SUCCESSFUL WILL BE SET TO INITIAL VOLTAGE FOR FREQUENCY WILL BE GRADUALLY INCR CAPTURE IS SUCCESSFUL.
 - MAXIMUM PULSE WIDTH IS 5 MILLISECO
 ELECTROFISHING WILL NOT OCCUR IN
 - 6. THE ANODE WILL NOT INTENTIONALLY FOR POTENTIAL INJURY OF 0.5 M FRO
 - 7. SETTINGS WILL BE LOWERED IN SHALL LIKELY TO INCREASE.
 - 8. ELECTROFISHING WILL NOT OCCUR IN UNABLE TO SEE THE BED OF THE ST
 - 9. OPERATIONS WILL IMMEDIATELY STOP OBSERVED. ELECTROFISHING SETTINGS
- C. SAMPLE PROCESSING.
 - 1. FISH SHALL BE SORTED BY SIZE TO
 - 2. SAMPLERS WILL REGULARLY CHECK CO PUMPS, WATER TRANSFERS, ETC.
 - 3. FISH WILL BE OBSERVED FOR GENERA
 - 4. EACH FISH WILL BE COMPLETELY REVI WILL BE PRIORITIZED FOR SUCCESSFU
- D. BULL TROUT ELECTROFISHING.

1.

- ELECTROFISHING FOR BULL TROUT WIL ELECTROFISHING WILL OCCUR IN ANY AUGUST 15. IN FMO HABITATS ELECTR
- 2. ELECTROFISHING OF BULL TROUT WILL EXCEED 15 DEGREES CELSIUS.
- E. LARVAL LAMPREY ELECTROFISHING.
 - PERMISSION FROM EC LEAD WILL BE IS NOT ONE OF FOLLOWING PRE-APP SMITH-ROOT LR-24, OR SMITH-ROOT
 - 2. LARVAL LAMPREY SAMPLING WILL INCO "STUN".
 - FIRST STAGE: USE 125 VOLT DC WITH SLOW RATE OF 3 PULSES PER SECON CELSIUS, VOLTAGE MAY BE INCREASED BURSTED PULSES (THREE SLOW AND EMERGENCE.
 - 4. SECOND STAGE (OPTIONAL FOR EXPER LAMPREY EMERGE, USE A FAST PULSI
 - 5. USE DIP NETS FOR VISIBLE LAMPREY. USED IN POOR VISIBILITY.
 - 6. SAMPLING WILL OCCUR SLOWLY (>60 AND WORKING DOWNSTREAM.
 - 7. MULTIPLE SWEEPS TO OCCUR WITH 15
 - POST-DRAWDOWN "DRY-SHOCKING" W TO EMERGE. ANODES TO BE PLACED METER AT A TIME FOR AT LEAST 60 DEGREES CELSIUS, MAXIMUM VOLTAGE VOLTS (DRY-SHOCKING ONLY).

T DC. POWER WILL REMAIN ON UNTIL THE FISH . GRADUALLY INCREASE VOLTAGE WHILE		
TS WHEN CONDUCTIVITY IS <100 MILLISECONDS, ETWEEN 100 AND 300 MILLISECONDS, AND 400 MILLISECONDS.		
L USING STRAIGHT DC, THE ELECTROFISHER R PDC. VOLTAGE, PULSE WIDTH, AND PULSE REASED WITHIN MAXIMUM VALUES UNTIL		
ONDS. MAXIMUM PULSE RATE IS 70 HERTZ ONE AREA FOR AN EXTENDED PERIOD.	Designed	Checked_ Approved Title
COME INTO CONTACT WITH FISH. THE ZONE OM THE ANODE WILL BE AVOIDED.		NC
OWER WATER SINCE VOLTAGE GRADIENTS	S	IVISIC
TURBID WATER WHERE VISIBILITY IS POOR (I.E. REAM).	URE	DLIFE D
IF MORTALITY OR OBVIOUS FISH INJURY IS WILL BE REEVALUATED.	MEAS	1M DNP H
AVOID PREDATION DURING CONTAINMENT.	Z	, FISF
ONDITIONS OF FISH HOLDING CONTAINERS, AIR	II	NENT,
L CONDITIONS AND INJURIES	N N	RON
IVED BEFORE RELEASE. ESA—LISTED SPECIES L RELEASE.	CONSERVATION ME	ON: ENV
L ONLY OCCUR FROM MAY 1 TO JULY 31. NO BULL TROUT OCCUPIED HABITAT AFTER ROFISHING MAY OCCUR ANY TIME.		WER ADMINISTRATION: ENVIRONMENT, FISH AND WILDLIFE DIVISION
NOT OCCUR WHEN WATER TEMPERATURES	NERAL	VER ADN
OBTAINED IF LARVAL LAMPREY ELECTROFISHER ROVED MODELS: ABP-2 "WISCONSIN", APEX BACKPACK.	HIP GE	BONNEVILLE POL
ORPORATE 2-STAGE METHOD: "TICKLE" AND		SONN
I A 25 PERCENT DUTY CYCLE APPLIED AT A ID. IF TEMPERATURES ARE BELOW 10 DEGREES D GRADUALLY (NOT TO EXCEED 200 VOLTS). ONE SKIPPED) RECOMMENDED TO INCREASE		F
RIENCED NETTERS): IMMEDIATELY AFTER E SETTING OF 30 PULSES PER SECOND.		
SIENES AND FINE MESH NET SWEEPS MAY BE		
SECONDS PER METER) STARTING AT UPSTREAM		
MINUTES BETWEEN SWEEPS.		
/ILL BE APPLIED IF LARVAL LAMPREY CONTINUE ONE METER APART TO SAMPLE ONE SQUARE SECONDS. FOR TEMPERATURES LESS THAN 10 MAY BE GRADUALLY INCREASED TO 400	File Name 2021 F	HIP GCA

Sheet 2 of 3

WORK AREA ISOLATION AND FISH SALVAGE (CONTINUED).

4. DEWATERING

- A. DEWATERING WILL OCCUR AT A RATE SLOW ENOUGH TO ALLOW SPECIES TO NATURALLY MIGRATE OUT OF THE WORK AREA.
- B. WHERE A GRAVITY FEED DIVERSION IS NOT POSSIBLE, A PUMP MAY BE USED. PUMPS WILL BE INSTALLED TO AVOID REPETIVE DEWATERING AND REWATERING.
- C. WHEN FISH ARE PRESENT, PUMPS WILL BE SCREENED IN ACCORDANCE WITH NMFS FISH SCREEN CRITERIA. NMFS ENGINEERING REVIEW AND APPROVAL WILL BE OBTAINED FOR PUMPS EXCEEDING 3 CUBIC FEET PER SECOND.
- D. DISSIPATION OF FLOW ENERGY AT THE BYPASS OUTFLOW WILL BE PROVIDED TO PREVENT DAMAGE TO THE STREAM CHANNEL AND RIPARIAN VEGETATION.
- E. SEEPAGE WATER WILL BE PUMPED TO A TEMPORARY STORAGE AND TREATMENT SITE OF INTO UPLAND AREAS TO ALLOW WATER TO PERCOLATE THROUGH SOIL AND VEGETATION PRIOR TO REENTERING THE STREAM CHANNEL.

CONSTRUCTION AND POST CONSTRUCTION CONSERVATION MEASURES.

1. FISH PASSAGE.

- A. FISH PASSAGE WILL BE PROVIDED FOR ADULT AND JUVENILE FISH LIKELY TO BE PRESENT DURING CONSTRUCTION UNLESS PASSAGE DID NOT EXIST BEFORE CONSTRUCTION, THE STREAM IS NATURALLY IMPASSABLE, OR PASSAGE WILL NEGATIVELY IMPACT ESA-LISTED SPECIES OR THEIR HABITAT.
- B. FISH PASSAGE ALTERNATIVES WILL BE APPROVED BY THE BPA EC LEAD UNDER ADVISEMENT BY THE NMFS HABITAT BIOLOGIST.
- 2. CONSTRUCTION AND DISCHARGE WATER.
- A. SURFACE WATER MAY BE DIVERTED TO MEET CONSTRUCTION NEEDS ONLY IF DEVELOPED SOURCES ARE UNAVAILABLE OR INADEQUATE.
- B. DIVERSIONS WILL NOT EXCEED 10% OF THE AVAILABLE FLOW.
- C. CONSTRUCTION DISCHARGE WATER WILL BE COLLECTED AND TREATED TO REMOVE DEBRIS, NUTRIENTS, SEDIMENT, PETROLEUM HYDROCARBONS, METALS, AND OTHER POLLUTANTS.

3. TIME AND EXTENT OF DISTURBANCE.

- A. EARTHWORK REQUIRING IN-STREAM MECHANIZED EQUIPMENT (INCLUDING DRILLING, EXCAVATION, DREDGING, FILLING, AND COMPACTING) WILL BE COMPLETED AS QUICKLY AS POSSIBLE.
- B. MECHANIZED EQUIPMENT WILL WORK FROM TOP OF BANK UNLESS WORK FROM ANOTHER LOCATION WILL RESULT IN LESS HABITAT DISTURBANCE (TURBIDITY, VEGETATION DISTURBANCE, ETC.).

4. CESSATION OF WORK.

- A. PROJECT OPERATIONS WILL CEASE WHEN HIGH FLOW CONDITIONS MAY RESULT IN INUNDATION OF THE PROJECT AREA (FLOOD EFFORTS TO DECREASE DAMAGES TO NATURAL RESOURCES PERMITTED).
- B. WATER QUALITY LEVELS EXCEEDED. SEE CWA SECTION 401 WATER QUALITY CERTIFICATION AND TURBIDITY MEASURES.

5. SITE RESTORATION.

- A. DISTURBED AREAS, STREAM BANKS, SOILS, AND VEGETATION WILL BE CLEANED UP AND RESTORED TO IMPROVED OR PRE-PROJECT CONDITIONS.
- B. PROJECT-RELATED WASTE WILL BE REMOVED.
- C. TEMPORARY ACCESS ROADS AND STAGING WILL BE DECOMPACTED AND RESTORED. SOILS WILL BE LOOSENED IF NEEDED FOR REVEGETATION OR WATER INFILTRATION.
- D. THE PROJECT SPONSOR WILL RETAIN THE RIGHT OF REASONABLE ACCESS TO THE SITE TO MONITOR AND MAINTAIN THE SITE OVER THE LIFE OF THE PROJECT.

6. REVEGETATION.

A. PLANTING AND SEEDING WILL OCCUR PRIOR TO OR AT THE BEGINNING OF THE FIRST GROWING SEASON AFTER CONSTRUCTION.

- B. A MIX OF NATIVE SPECIES (INVASIVE SPECIES NOT ALLOWED) APPROPRIATE TO THE SITE WILL BE USED TO REESTABLISH VEGETATION, PROVIDE SHADE, AND REDUCE EROSION. REESTABLISHED VEGETATION SHOULD BE AT LEAST 70% OF PRE-PROJECT CONDITIONS WITHIN THREE YEARS.
- C. VEGETATION SUCH AS WILLOWS, SEDGES, OR RUSH MATS WILL BE SALVAGED FROM DISTURBED OR ABANDONED AREAS TO BE REPLANTED.
- D. SHORT-TERM STABILIZATION MEASURE MAY INCLUDE THE USE OF NON-NATIVE STERILE SEED MIX (WHEN NATIVE NOT AVAILABLE), WEED-FREE CERTIFIED STRAW, OR OTHER SIMILAR TECHNIQUES.
- E. SURFACE FERTILIZER WILL NOT BE APPLIED WITHIN 50 FEET OF ANY STREAM, WATE BODY, OR WETLAND.
- F. FENCING WILL BE INSTALLED AS NECESSARY TO PREVENT ACCESS TO REVEGETATED SITES BY LIVESTOCK OR UNAUTHORIZED PERSONS.
- G. INVASIVE PLANTS WILL BE REMOVED OR CONTROLLED UNTIL NATIVE PLANT SPECIES ARE WELL ESTABLISHED (TYPICALLY THREE YEARS POST-CONSTRUCTION).

7. SITE ACCESS AND IMPLEMENTATION MONITORING.

- A. THE PROJECT SPONSOR WILL PROVIDE CONSTRUCTION MONITORING DURING IMPLEMENTATION TO ENSURE ALL CONSERVATION MEASURES ARE ADEQUATELY FOLLOWED, EFFECTS TO LISTED SPECIES ARE NOT GREATER THAN PREDICTED, AND INCIDENTAL TAKE LIMITATIONS ARE NOT EXCEEDED.
- B. THE PROJECT SPONSOR OR DESIGNATED REPRESENTATIVE WILL SUBMIT THE PROJECT COMPLETION FORM (PCF) WITHIN 30 DAYS OF PROJECT COMPLETION.

8. CWA SECTION 401 WATER QUALITY CERTIFICATION.

- A. THE PROJECT SPONSOR OR DESIGNATED REPRESENTATIVE WILL COMPLETE AND RECORD WATER QUALITY OBSERVATIONS (SEE TURBIDITY MONITORING) TO ENSURE IN-WATER WORK IS NOT DEGRADING WATER QUALITY.
- B. DURING CONSTRUCTION, WATER QUALITY PROVISIONS PROVIDED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, WASHINGTON DEPARTMENT OF ECOLOGY, IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY WILL BE FOLLOWED.

STAGED REWATERING PLAN.

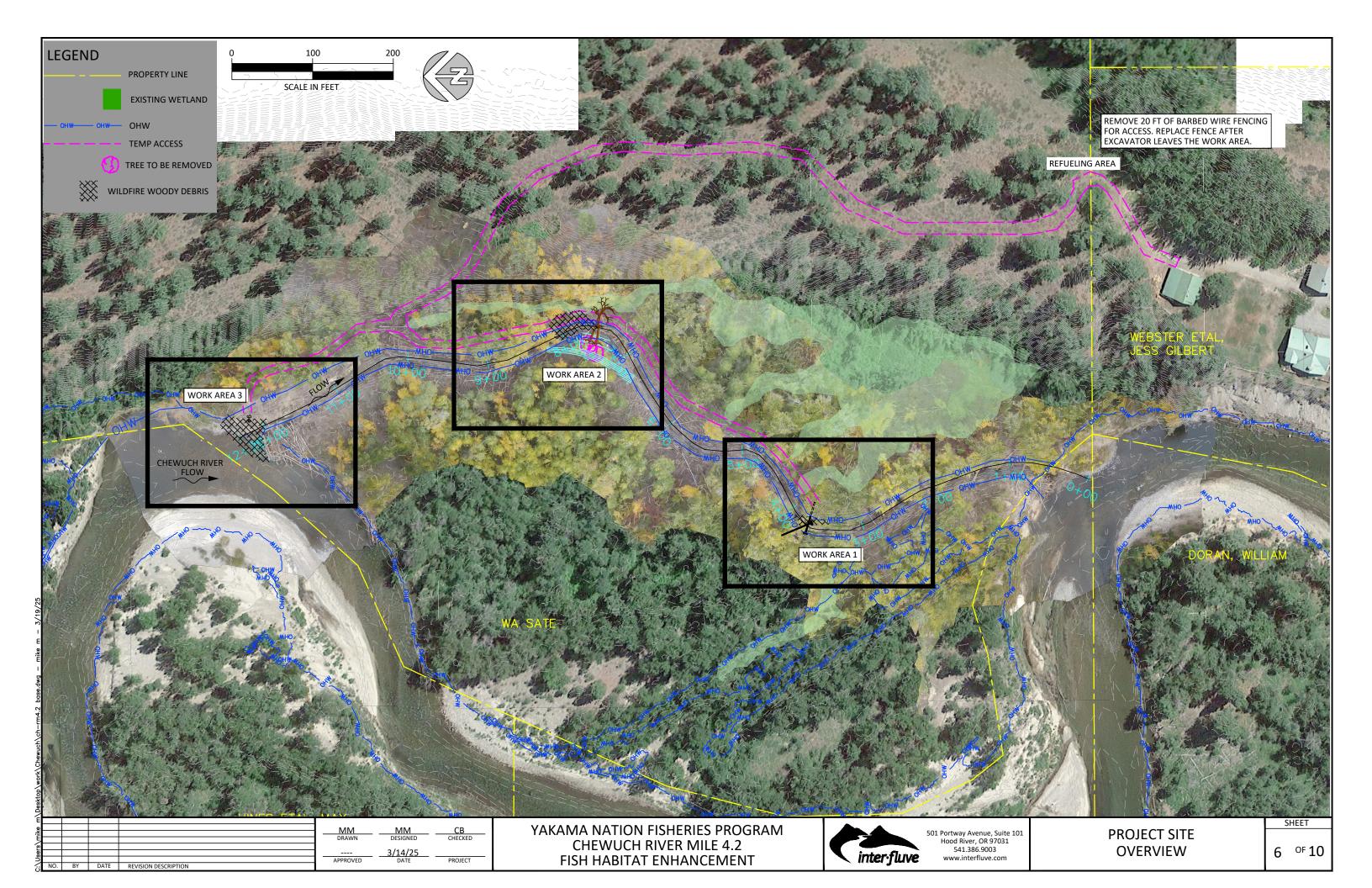
- A. WHEN REINTRODUCING WATER TO DEWATERED AREAS AND NEWLY CONSTRUCTED CHANNELS, A STAGED REWATERING PLAN WILL BE APPLIED.
- B. THE FOLLOWING WILL BE APPLIED TO ALL REWATERING EFFORTS. COMPLEX REWATERING EFFORTS MAY REQUIRE ADDITIONAL NOTES OR A DEDICATED SHEET IN THE CONSTRUCTION DETAILS.
- 1. TURBIDITY MONITORING PROTOCOL WILL BE APPLIED TO REWATERING EFFORTS.
- PRE-WASH THE AREA BEFORE REWATERING. TURBID WASH WATER WILL BE DETAINED AND PUMPED TO THE FLOODPLAIN OR SEDIMENT CAPTURE AREAS RATHER THAN DISCHARGING TO FISH-BEARING STREAMS.
- 3. INSTALL SEINE NETS AT UPSTREAM END TO PREVENT FISH FROM MOVING DOWNSTREAM UNTIL 2/3 OF TOTAL FLOW IS RESTORED TO THE CHANNEL.
- 4. STARTING IN EARLY MORNING INTRODUCE 1/3 OF NEW CHANNEL FLOW OVER PERIOD OF 1-2 HOURS.
- 5. INTRODUCE SECOND THIRD OF FLOW OVER NEXT 1 TO 2 HOURS AND BEGIN FISH SALVAGE OF BYPASS CHANNEL IF FISH ARE PRESENT.
- 6. REMOVE UPSTREAM SEINE NETS ONCE 2/3 FLOW IN REWATERED CHANNEL AND DOWNSTREAM TURBIDITY IS WITHIN ACCEPTABLE RANGE (LESS THAN 40 NTU OR LESS THAN 10% BACKGROUND).
- 7. INTRODUCE FINAL THIRD OF FLOW ONCE FISH SALVAGE EFFORTS ARE COMPLETE AND DOWNSTREAM TURBIDITY VERIFIED TO BE WITHIN ACCEPTABLE RANGE.
- 8. INSTALL PLUG TO BLOCK FLOW INTO OLD CHANNEL OR BYPASS. REMOVE ANY REMAINING SEINE NETS.
- 9. IN LAMPREY SYSTEMS, LAMPREY SALVAGE AND DRY SHOCKING MAY BE NECESSARY.

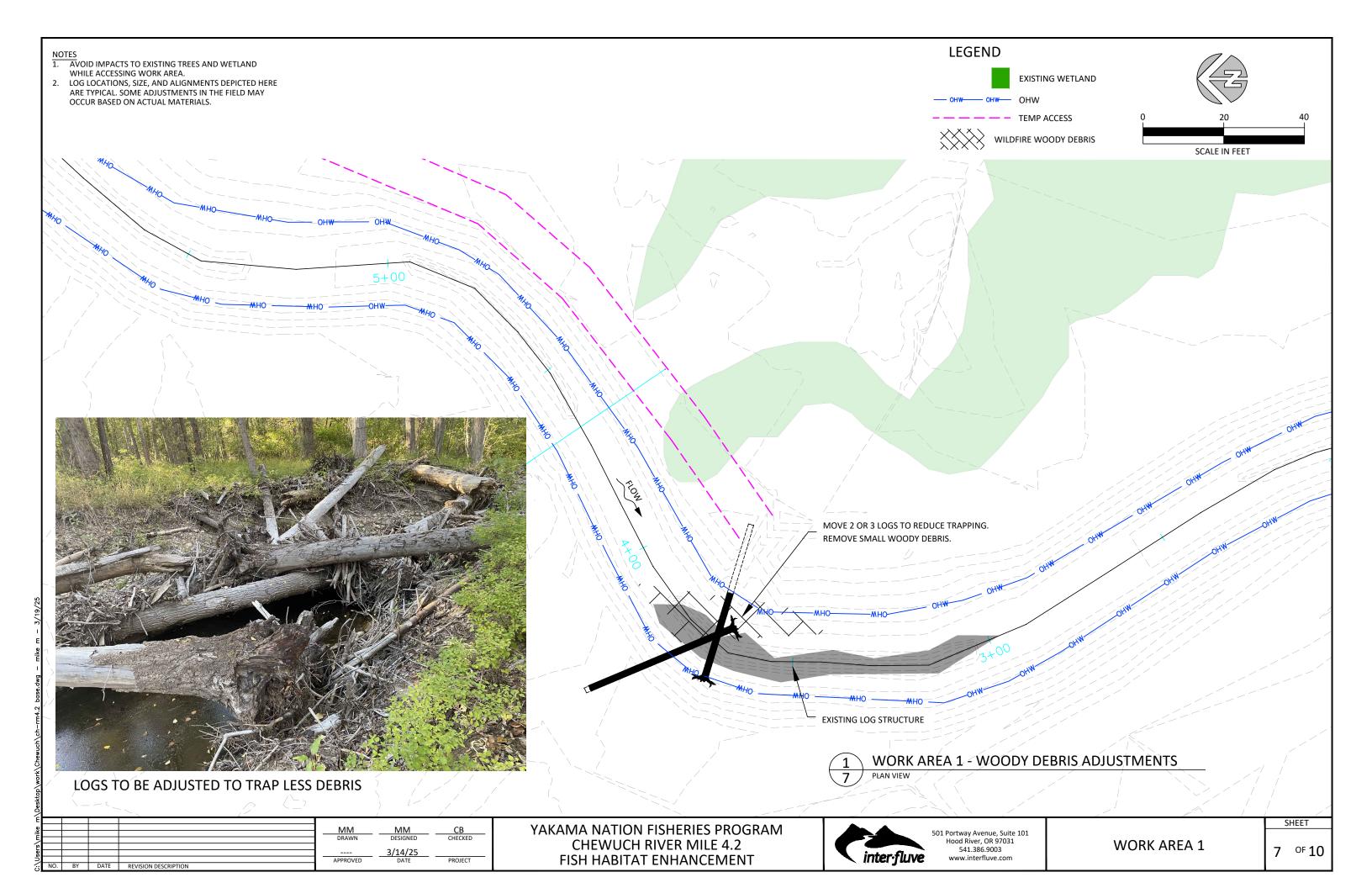
TURBIDITY MONI

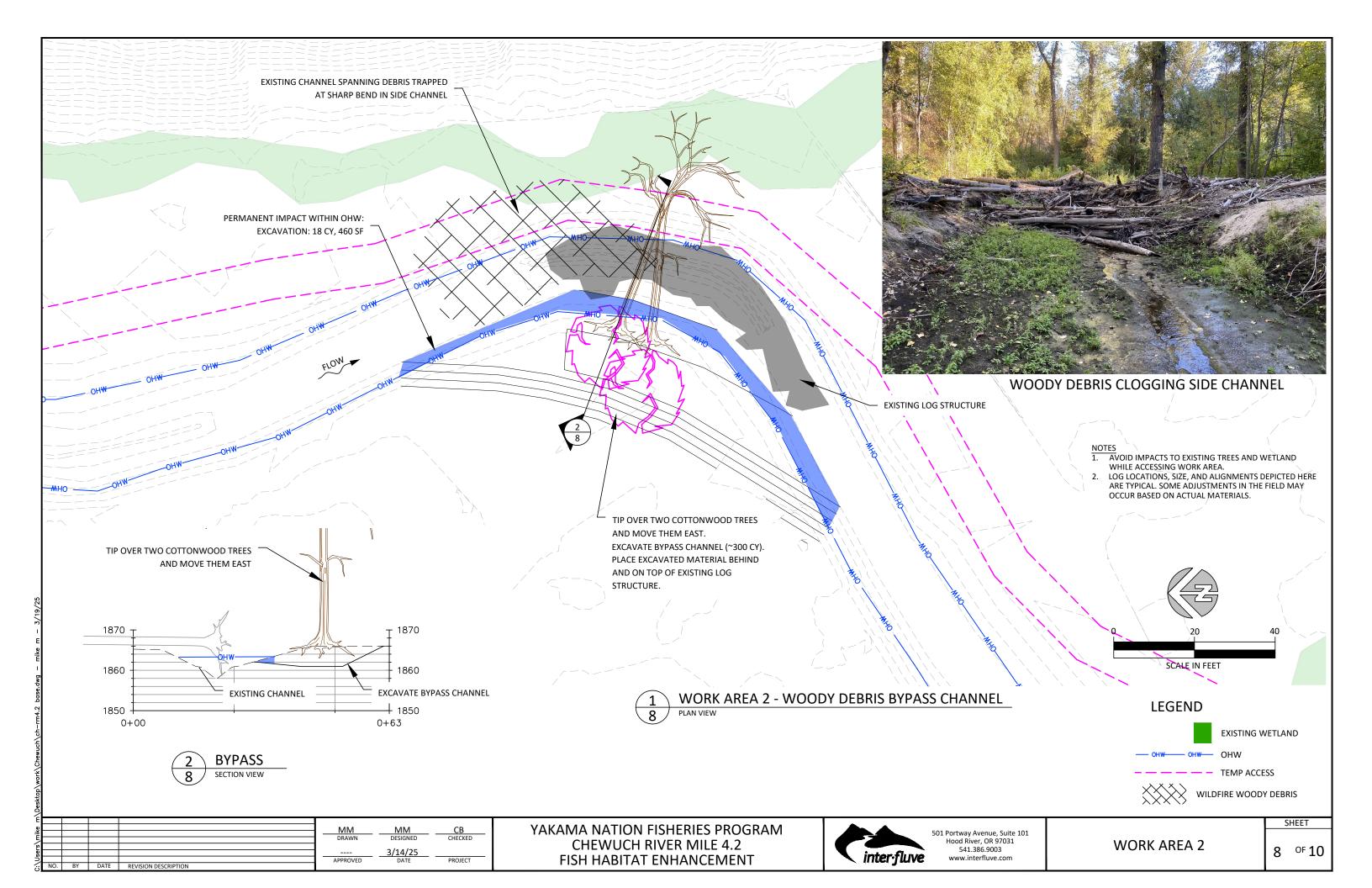
- A. RECORD THE READING, LOCATION, AND READING APPROXIMATELY 100 FEET UP USING A RECENTLY CALIBRATED TURBID OBSERVATION (SEE THE HIP HANDBOOK FOR A VISUAL OBSERVATION KEY).
- B. RECORD THE TURBIDITY READING, LOCA MEASUREMENT COMPLIANCE LOCATION F
- 1. 50 FEET DOWNSTREAM FOR STREAM
- 2. 100 FEET DOWNSTREAM FOR STREA WIDE.
- 3. 200 FEET DOWNSTREAM FOR STREA
- 4. 300 FEET FROM THE DISCHARGE PO LOCATIONS SUBJECT TO TIDAL OR (
- C. TURBIDITY SHALL BE MEASURED (BACK COMPLIANCE POINTS) EVERY 4 HOURS IMPLEMENTED.
- D. IF THERE IS A VISIBLE DIFFERENCE BET THE BACKGROUND, THE EXCEEDANCE W COMPLETION FORM (PCF). ADJUSTMENT BE TAKEN IN ORDER TO REDUCE TURBI
- E. IF EXCEEDANCES OCCUR FOR MORE TH. INTERVALS (AFTER 8 HOURS), THE ACT TURBIDITY LEVEL RETURNS TO BACKGRO NOTIFIED OF ALL EXCEEDANCES AND CO COMPLETION.
- F. IF TURBIDITY CONTROLS (COFFER DAMS DETERMINED INEFFECTIVE, CREWS WILL I NECESSARY. OCCURRENCES WILL BE DO COMPLETION FORM (PCF).
- G. FINAL TURBIDITY READINGS, EXCEEDANC BE SUBMITTED TO THE BPA EC LEAD U FORM (PCF).

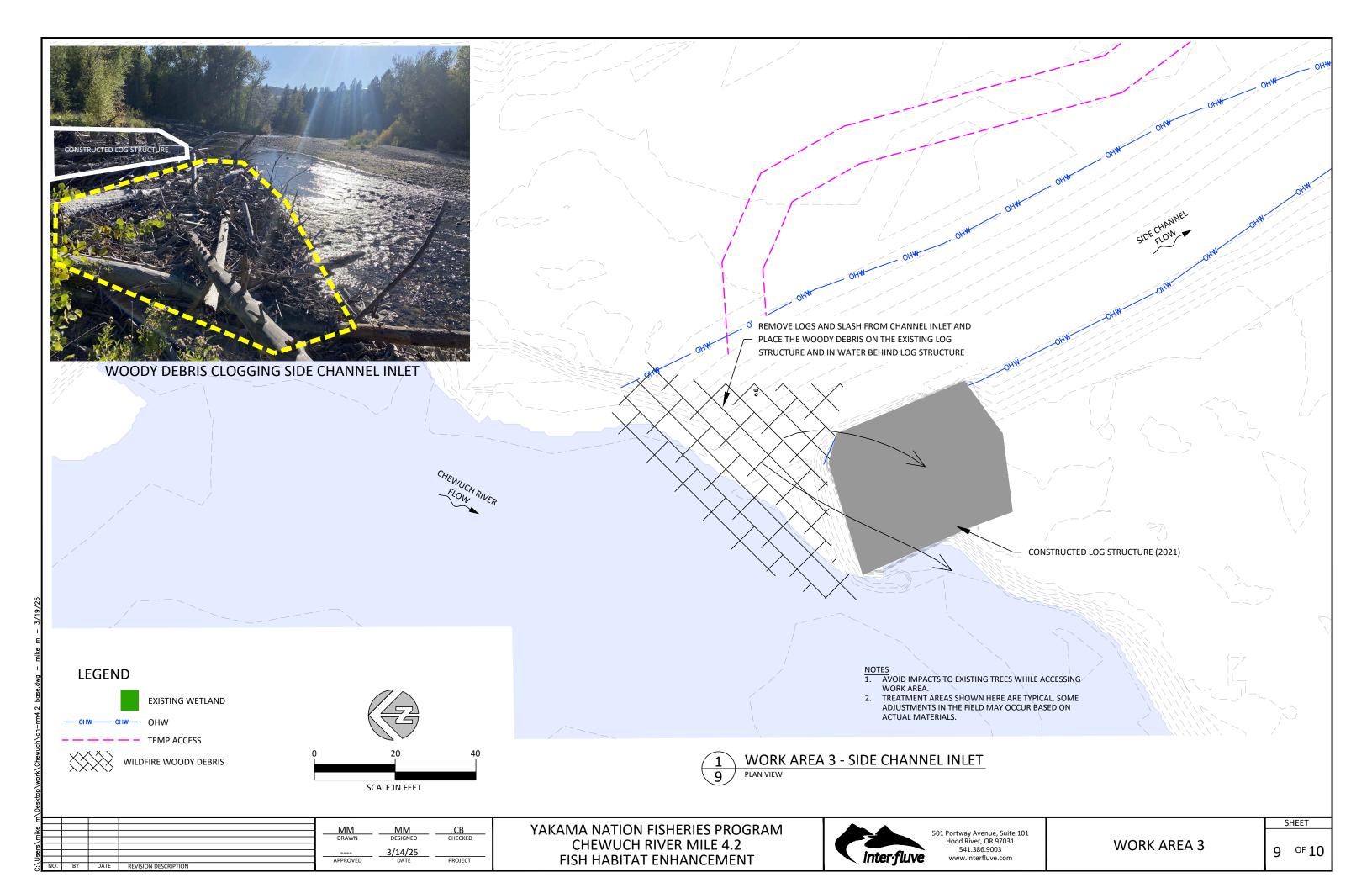
TTORING. TIME FOR THE BACKGROUND STREAM OF THE PROJECT AREA DIMETER OR VIA VISUAL K TURBIDITY MONITORING SECTION ATION, AND TIME AT THE POINT. MS LESS THAN 30 FEET WIDE. MS BETWEEN 30 AND 100 FEET	Designed	Checked
AMS GREATER THAN 100 FEET WIDE. DINT OR NONPOINT SOURCE FOR COASTAL SCOUR. GROUND LOCATION AND WHILE WORK IS BEING TWEEN A COMPLIANCE POINT AND MILL BE NOTED IN THE PROJECT S OR CORRECTIVE MEASURES WILL IDITY. AN TWO CONSECUTIVE MONITORING TWITY WILL STOP UNTIL THE OUND. THE BPA EC LEAD WILL BE ORRECTIVE ACTIONS AT PROJECT S, WADDLES, FENCING, ETC.) ARE BE MOBILIZED TO MODIFY AS DOUMENTED IN THE PROJECT DES, AND CONTROL FAILURES WILL JSING THE PROJECT COMPLETION	HIP GENERAL CONSERVATION MEASURES	Chec BONNEV/LLE POWER ADMINISTRATION: ENVIRONMENT, FISH AND W/LDLIFE DIVISION Appril
	File Name <i>2021 H.</i> Drawing N	

Sheet 3 of 3









Provisions INTRODUCTION

The Washington State Department of Transportation's Standard Specifications for Road, Bridge and Municipal Construction 2024 (WSDOT Standard Specifications) shall apply unless otherwise noted in the following Special Provisions. The "Contracting Agency" or "Owner" shall be the Confederated Tribes and Bands of the Yakama Nation. Additional specifications in the following contract sections are included for items not covered by the WSDOT Standard Specifications.

Sections 1-02, 1-03, and 1-08 (except 1-08.6, 1-08.7, 1-08.8) of the Standard Specifications do not apply.

The in-water work window is July 1 - July 31. The construction window is July 22 - July 31, 2025. Work shall be only 7am to 7pm, 5 days per week (Mon-Fri).

ITEM 001- TESC, SPCC PLAN AND IMPLEMENTATION

Description

This work shall provide for preparation, implementation, and removal of a Temporary Erosion Sediment Control (TESC) plan and for the preparation and implementation of a Spill Prevention Control and Countermeasure (SPCC) plan in accordance with Section 1-07.15 of the Standard Specifications, and as amended by these Special Provisions.

1. The Contractor shall submit a TESC for the project to the Owner for approval. The TESC must satisfy the requirements of the Washington Department of Ecology NPDES Stormwater General Permit for Construction Activity and all other applicable permits. The TESC included in the Drawings and described herein is intended to provide a baseline for sediment and erosion control and does not ensure that the standards established by any applicable permits will be met. The Contractor may use these measures or alternative measures of his own design to ensure satisfactory performance and that the erosion control requirements of all applicable permits are met. The contractor shall be named as the permit holder. The contractor shall be responsible for implementing, inspecting and filing reports, maintaining, replacing, and removing TESC and SPCC measures. The plan shall include the name, address and 24-hour contact number of the person responsible for erosion prevention and sediment control measures

2. A spill Containment Kit shall be on site and crews shall be trained in its use.

3. Biodegradable Hydraulic Fluid shall be installed into each piece of heavy machinery working within 50 feet of the river.

Measurement

"TESC, SPCC Plan and Implementation," including the above amendments to the item will be measured by lump sum.

Payment

Payment shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete this work as specified. Payment will be made in accordance with Section 1-04.1 for the following bid items: "TESC, SPCC Plan and Implementation" per lump sum.

ITEM 002 - MOBILIZATION

This item shall consist of preparation work and operations performed by the Contractor in accordance with the provisions of Section 1-09.7 of the Washington Department of Transportation Standard Specifications (Standard Specifications), and as amended by these Special Provisions.

1. Temporary site access shall be along alignments shown in the plans. Minor deviations to the alignments may occur as directed by the Owner to preserve sensitive areas or trees, or to avoid damage to other features identified in the field. Deviations from the alianments shown in the plans shall be approved by Owner prior to use.

2. Prior to demobilization, staging areas and site temporary access routes shall be ripped to decompact soils to 18" or greater depth.

Measurement and Payment

Payment for Mobilization shall be by the lump sum contract price for, 'Mobilization', partial payments will be made as in accordance with Section 1-09.9 of the Standard Specifications. Payment shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete this work as specified.

ITEM 003 - CHANNEL EXCAVATION INCL. HAUL

This item is applicable to excavation at the Side Channel site.

This item consists of excavating and on-site placement of fill.

1. Portions of work will be in water. The Contractor is advised that shallow groundwater may be encountered throughout excavation areas.

2. This item includes "Pumping".

3. No work shall occur outside of the limits of disturbance shown in the Plans unless authorized by the Owner.

4. A cultural staff person will be present on site during all excavation activities.

Measurement

"Channel Excavation" will be measured by cubic yard. All excavated material will be measured in the position it occupied before the excavation was performed. An original ground measurement was taken using digital terrain modeling survey techniques. The original around will be compared with the planned finished section shown in the Plans. Slope/around intercept points defining the limits of the measurement will be as staked by the Owner. No additional compensation will be made for excavated material that is stockpiled, re-excavated, and moved again.

"Pumping" associated with preventing turbidity from entering the river shall be incidental to "Channel Excavation".

<u>Payment</u>

Payment shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete this work as specified.

"Channel Excavation" per cubic vard.

ITEM 003 - MOVE LOGS AND WOODY DEBRIS

Description

This item includes all work associated with tipping trees and moving them, and moving logs and and woody debris from areas generally designated in the Plans and/or as directed by the Engineer.

Construction Requirements

Logs: Repositioning Logs and woody debris shall generally be as indicated on the Plans. However, final location will depend upon the size, and shape of materials. The Work shall be understood to require a "fit in the field" approach as directed by the Owner.

Salvaged Trees: Salvaged trees shall be installed as directed by the Owner. Care shall be taken when moving and installing salvaged trees so that branches and roots remain attached to the tree.

Slash: Slash cleared from within the clearing shall be incorporated into log structures or scattered on floodplain as directed by the Owner.

Earthwork: Where shown in the Plans, excavate to create a bypass channel. Place the fill on the log structure on opposite bank. Small shallow fills may be placed on floodplain. . Backfill the logs as each layer is installed. A cultural staff person will be present on site during all excavation activities.

Measurement

Measurement will be based on the portion of work completed, measured as each completed site. There will be no unit of measurement for "Move Logs and Woody Debris". Payment

The contract price for "Move Logs and Woody Debris" shall be full compensation for all costs incurred for equipment, materials and labor for the work in this item.

"Move Logs and Woody Debris", lump sum.

PUMPING {Incidental to other items} from the river by Cofferdams.

Description

of water BMPs.

Materials

1. Two 3" trash pumps, each with pumping capacity greater than 250 gpm, assuming 6 feet of vertical lift and 150 feet of discharge hose.

2. Each water intake shall have a fish screen installed, operated and maintained according to NMFS' fish screen criteria (NMFS 1997; NMFS 2008). No pumping can occur until fish screen has been approved by Owner prior to installation.

Construction Requirements

1. Pumps

а. river.

b. To help prevent turbidity from leaking through cofferdams, the contractor shall provide and operate 3" trash pump(s) to lower the water surface within the isolated area and discharge to an infiltration area.

instream activity continues.

b. If exceedances occur for more than two consecutive monitoring intervals (after 4 hours), the activity must stop until the turbidity level returns to background, and the EC lead must be notified within 48 hours.

Measurement and Payment

Measurement will be based on the item from the bid list installed and the work for that portion completed. The unit contract prices for "Pumpina" shall be full compensation for all costs incurred for equipment, materials and labor for furnishing, installing, securing, maintaining and removal of pumping equipment as outlined in the plans. If additional environmental protection measures are required to control turbidity, they shall be considered incidental to pumping and no additional compensation will be made.

Pumping shall be incidental to "Channel Excavation".

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				3/14/25	
			APPROVED	DATE	PROJECT
BY	DATE	REVISION DESCRIPTION			-
	BY	BY DATE	BY DATE REVISION DESCRIPTION	APPROVED	DRAWN DESIGNED

YAKAMA NATION FISHERIES PROGRAM CHEWUCH RIVER MILE 4.2 FISH HABITAT ENHANCEMENT



This item includes dewatering and controlling turbidity within construction areas isolated

The work consists of furnishing, monitoring, operating, maintaining, and removing pumps, coordinating with the Owner for fish salvage relocation activities, and installation of control

3. Pumps shall be placed within rigid or flexible pool to contain fuel or oil spills. Diapers shall be stored at each pump.

4. Environmental Protection Measures such as sandbags, straw bales, perforated pipe for discharge flow distributors, geotextiles, filter bags, or other means of controlling water and turbidity. No turbidity shall be allowed to enter the river or wetlands.

Groundwater will be encountered during excavations. Construction water shall be pumped away from work areas to be infiltrated into the around and without entering the

Environmental Protection Measures

a. If observed or measured turbidity downstream of cofferdam or pump discharge is more than 10% above the upstream background visual observation or measurement, the activity must be modified to reduce turbidity. Continue to monitor every 2 hours as long as

c. If at any time, monitoring, inspections, or observations/samples show that the turbidity controls are ineffective, immediately mobilize work crews to repair, replace, or reinforce controls as necessary. Additional and alternative methods, such as pumping into stilling basins or filtration geotextile fabric shall be required at the Contractor's expense.

SHEET

SPECIFICATIONS

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