Yakama Nation Fisheries

Columbia River
Honor. Protect. Restore.

OFFICE
P.O. Box 151
401 Fort Road
Toppenish, WA 98948

PHONE
509-881-1462

EMAIL
johj@yakamafish-nsn.gov

Request for Proposals:

Construction Oversight and Monitoring of the Big Valley South Fish Habitat Enhancement Project

January 28, 2016

The Yakama Nation's Upper Columbia Habitat Restoration Project (UCHRP) is requesting proposals from qualified engineering firms for Construction Oversight and Monitoring Services for the Big Valley South Fish Habitat Enhancement Project. The project is located on the Upper-Middle Reach of the Methow River between rivermile 56 and 57. Qualified engineering firms should submit proposals following the directions in the online RFP. See the Scope of Work and completed designs in the RFP materials for complete list of tasks and deliverables.

Please include a detailed Statement of Qualifications describing your firm's ability to meet the Baseline Qualifications and a budget for completion of each Task as described in the SOW. **Proposals must be received in Toppenish by Close of Business, Wednesday, February 24, 2016.** Please specify in writing that all bid prices are valid for 90 days.

Baseline Qualifications

To be considered competitive each firm's proposal must demonstrate the following:

- Field survey capabilities by in-house and local (Washington/Oregon based) design engineers
- Ability to effectively model hydraulics using HEC-RAS
- Have on staff (not subcontracted) a Geologist, Hydrologist, and a Professional Engineer with at least 10 years experience designing instream restoration projects
- Over 10 years of Construction Management experience on with Fish Habitat Restoration Projects.
- Oversight conducted on at least 40 Engineered Large Wood Structures in the last 10 years
- Completed oversight on at least 5 projects using an excavator mounted vibratory pile driver and threaded rod.

Bid Submittal Directions

Each engineering firm seeking to be eligible for award of this contract under this RFP must submit a hard copy of their proposal to:

Yakama Nation Fisheries
Attn: Jackie Olney
PO Box 151
401 Fort Road (shipping service)
Toppenish, WA 98948

Proposals must be received in Toppenish by Close of Business, Wednesday, February 24, 2016.

For additional information contact:
Jarred Johnson (Project Manager)
johj@yakamafish-nsn.gov
509-881-1462

Exhibit A – Scope of Work

Big Valley South Fish Habitat Enhancement Project; Construction Oversight and Monitoring (Phases 5&6)

Objective

The Yakama Nation's Upper Columbia Habitat Restoration Project (UCHRP) is planning to construct the Big Valley South Fish Habitat Enhancement Project during the summer 2016. The UCHRP works to restore and enhance habitat for ESA-listed salmon and steelhead in accordance with the Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan and the associated Biological Strategy.

The project design was informed by regional guiding documents: the 2014 Biological Strategy, Big Valley Reach Assessment and survey data collected in 2014. The design set attached to this scope was completed in March 2015 through a separate contract. This scope of work describes the tasks included in the Construction Oversite and Monitoring Phases of the project as well as deliverable requirements and timeline.

Scope of Work

Contractor Obligations

The Contractor shall furnish all supervision, labor, equipment and tools necessary to complete the work as outlined in the following tasks.

Phase 5 – Construction Management

Task 13 – Assistance during bidding

This task includes assistance to Yakama Nation staff with preparation of the construction bid package and review of contractor bids. The task includes any necessary pre-bid meetings with contractors at the project site or elsewhere.

Task 14 – Engineer's Oversight during Project Construction

This task will complete construction oversight duties for all construction projects related to the restoration designs. Contractor will work closely with selected construction contractors and Yakama Fisheries managers to implement the projects. Inspection and direction of construction activities will occur throughout the project. Any changes or in field adjustments that are required will be under the supervision of the Contractor with the approval of Yakama Nation Fisheries staff. This work includes any pre-construction staking and/or identification of survey control.

A daily observation report will be produced by the Contractor for all days during construction oversight activities.

Phase 6 – Monitoring

Task 15– Produce a Monitoring Plan

Contractor will develop a comprehensive Monitoring Plan for the project which will address each work element under this contract. The Monitoring Plan will document post-construction condition and will outline future monitoring activities that will be completed. Documentation of post-construction conditions will include a description of the completed project, preparation of as-built drawings, and results of initial post-construction monitoring. This information will serve as a baseline for comparison to future monitoring data. The plan will also identify future monitoring activities and schedule; however,

out-year monitoring activities will be conducted under a separate scope of work. Monitoring activities to be described in the Plan may include photos, notes/sketches, measurements, ocular sediment data, and other activities depending on the project type and objectives. The monitoring schedule will describe the plan for regular scheduled monitoring events as well as trigger points for monitoring in response to high water events. The Plan will also include a discussion of site conditions or changes that may intervention or adaptive management. The Monitoring Plan will be submitted to Yakama Fisheries staff for review, comment, and feedback. Revisions will be made as necessary to finalize the plan.

Consistent Satisfactory Progress

Consistent satisfactory progress in execution of this project will be required. Satisfactory progress will be measured by both the quality and quantity of work. If for any reason no work is performed for a period of 10 consecutive regular work days unless authorized by Yakama Nation's Designated Representative, the contractor will be given a notice of contract cancellation. The Yakama Nation's Designated Representative will monitor progress closely.

Location

This contract covers design Phases 5 & 6 for the Big Valley South Fish Habitat Enhancement Project. This project is located between RM 56.0 and RM 57.0 on the mainstem Methow River.

Anticipated Schedule

The Yakama Nation is seeking to have this work initiated promptly upon issuance of a Notice to Proceed.

Projected Timeline:

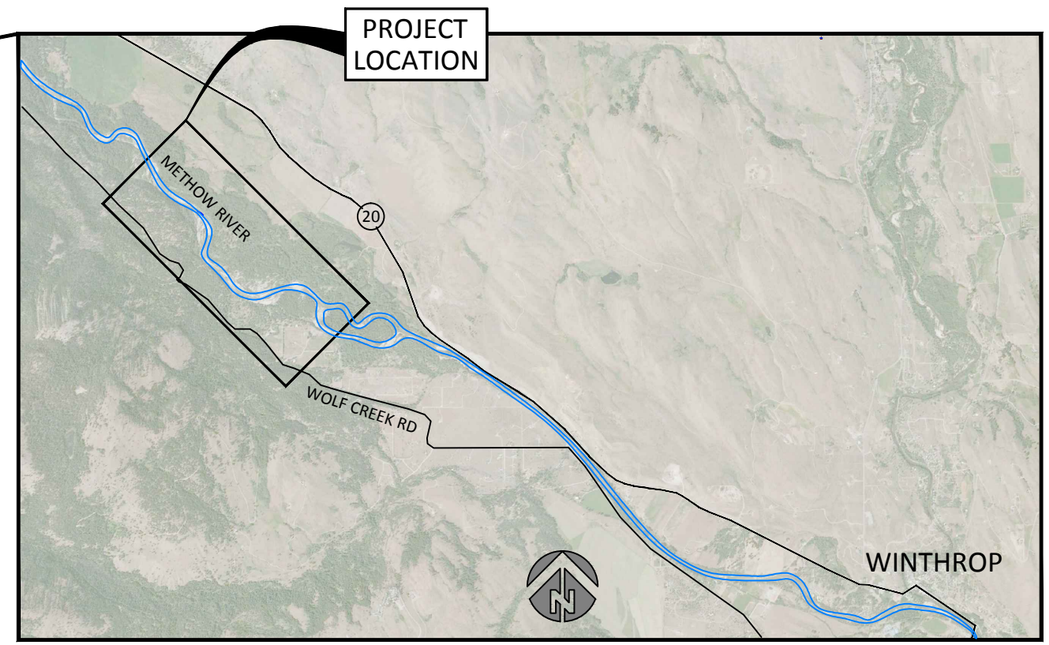
Task 13: February-March 2016
Task 14: July 2016
Task 15: October 2016

METHOW RIVER - BIG VALLEY SOUTH

FISH HABITAT ENHANCEMENT PROJECT

VICINITY MAP

NOT TO SCALE



SITE MAP

SCALE - 1" = 5000'

UPSTREAM END OF PROJECT AREA:
LATITUDE 120°17'16.8" W
LONGITUDE 48°30'55.4" N
SECTION 25, TOWNSHIP 35N, RANGE 20E

DOWNSTREAM END OF PROJECT AREA:
LATITUDE 120°16'11.1" W
LONGITUDE 48°30'20.2" N
SECTION 25, TOWNSHIP 35N, RANGE 21E

WATERBODY: METHOW RIVER

TRIBUTARY OF: COLUMBIA RIVER

YAKAMA NATION FISHERIES
2 JOHNSON LANE
WINTHROP WA, 98862

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MICHAEL R. McALLISTER
STATE OF WASHINGTON
38189
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 09-25-2016

NO.	DATE	REVISION DESCRIPTION
1	04/02/15	30% SUBMITTAL

DRAWN	DESIGNED	CHECKED
CP,DF	MM,MB,CM	MM,MB
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MM,MB	04/02/15	13-02-29

CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION
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inter·fluve
501 Portway Ave., Suite 101
Hood River, OR 97031
541.386.9003
www.interfluve.com

COVER, SHEET INDEX & VICINITY MAPS

SHEET 1 OF 16

THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH OWNER AND OWNER'S REPRESENTATIVE PRIOR TO MOBILIZING TO SITE AND BEGINNING CONSTRUCTION.

ALL WORK SHALL CONFORM TO THE CURRENT EDITIONS 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.

WDFW IN-WATER WORK PERIODS

WORK SHALL OCCUR DURING THE PERMITTED IN-WATER WORK PERIOD STATED IN THE HYDRAULIC PROJECT APPROVAL.

EXISTING DATA

TOPOGRAPHIC DATA WAS COLLECTED BY INTER-FLUVE USING RTK AND TOTAL STATION IN NOVEMBER, 2013.

HORIZONTAL DATUM: STATE PLANE NAD83 WASHINGTON NORTH
VERTICAL DATUM: NAVD88

HYDROLOGY INFORMATION PROVIDED BY USBR.

HYDRAULIC MODELING BY INTER-FLUVE USING USACE HEC-RAS (4.1.0).

GIS DATA INCLUDING: AERIAL PHOTOGRAPHY, LIDAR, FISH USE, SURFACE SOILS INFORMATION, LAND OWNERSHIP, AND TRANSPORTATION ROUTES PROVIDED BY VARIOUS AGENCIES.

SOILS

SUBSURFACE SOILS ARE EXPECTED TO BE SAND, GRAVEL, COBBLES, BOULDERS. CONTRACTOR SHALL CONDUCT OWN INVESTIGATIONS IF ADDITIONAL DATA IS REQUIRED AT NO ADDITIONAL COST.

UTILITIES

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR HAVING UTILITIES LOCATED PRIOR TO CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL CALL (800-424-5555) FOR UTILITY LOCATE PRIOR TO CONSTRUCTION

THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE AFFECTED UTILITY SERVICE TO REPORT ANY DAMAGED OR DESTROYED UTILITIES.

THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND LABOR TO AID THE EFFECTED UTILITY SERVICE IN REPAIRING DAMAGED OR DESTROYED UTILITIES AT NO ADDITIONAL COST.

CONSTRUCTION STAKING

PRIOR TO CONSTRUCTION, THE OWNER WILL FLAG EQUIPMENT ENTRY AND EXIT POINTS, STREAM CROSSING ALIGNMENTS, STAGING AND STOCKPILE AREAS, AND SENSITIVE AREAS TO BE AVOIDED. TTHE OWNER WILL PROVIDE STAKING OF PROJECT LIMITS, GRADE STAKES, AND ELEVATION CONTROL POINTS. SOME FIELD ADJUSTMENTS TO THE LINES AND GRADES ARE TO BE EXPECTED.

CONTRACTOR SHALL MEET WITH THE OWNER AND OWNER'S REPRESENTATIVE TO DEFINE AND MARK LIMITS OF DISTURBANCE PRIOR TO MOBILIZATION OF EQUIPMENT OR MATERIALS ONTO THE SITE.

THE CONTRACTOR SHALL REPLACE DAMAGED OR DESTROYED CONSTRUCTION STAKES AT NO ADDITIONAL COST.

CONSTRUCTION MATERIALS

ALL MATERIALS QUANTITIES ARE BASED ON IN-PLACE CONDITION DETERMINED BY A PRE-PROJECT CONDITION SURVEY COMPARED AGAINST A PROJECT CONDITION SURVEY

CONTRACTOR SHALL ALLOW FOR EXPANSION OF EXCAVATED MATERIAL AND COMPACTION OF PLACED MATERIAL AT NO ADDITIONAL MEASURE OR COST. MEASUREMENT AND PAYMENT SHALL NOT BE BASED ON WEIGHT TICKETS OR TRUCK MEASURE WITHOUT PRIOR WRITTEN APPROVAL.

LOCATION, ALIGNMENT, AND ELEVATION OF LOGS AND LOGS WITH ROOT WADS ARE SUBJECT TO ADJUSTMENT BASED ON FIELD CONDITIONS, AND MATERIAL SIZE.

ANY EXCESS MATERIAL SHALL BE STOCKPILED NEATLY IN AN APPROVED LOCATION OF THE STOCKPILE AND STAGING AREA. AT COMPLETION OF WORK, THE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE FOR LEGAL DISPOSAL.

CONSTRUCTION ACCESS

CONTRACTOR SHALL SUBMIT AN ACCESS, STAGING, AND STOCKPILE PLAN TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO MOBILIZATION.

PUBLIC ACCESS TO/ALONG ROADWAYS SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ANY REQUIRED TRAFFIC CONTROL OR ACCESS PERMITS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING ANY REQUIRED TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO, SIGNAGE AND FLAGGERS.

ALL EQUIPMENT, MATERIALS AND PERSONNEL SHALL REMAIN WITHIN THE LIMITS OF DISTURBANCE.

THE CONTRACTOR SHALL KEEP THE WORK AREAS IN NEAT CONDITION, FREE OF DEBRIS AND LITTER FOR THE DURATION OF THE PROJECT.

CONTRACTOR SHALL IMPLEMENT MEASURES TO CONTROL AND MINIMIZE WIND BLOWN DUST FROM THE SITE.

ALL DISTURBED AREAS INCLUDING ROADS, DRIVEWAYS AND ACCESS ROUTES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST.

EXISTING ROADS AND PATHS SHALL BE PREFERENTIALLY USED, AND THE NUMBER AND LENGTH OF TEMPORARY ACCESS ROUTES THROUGH RIRARIAN AREAS SHALL BE MINIMIZED TO LESSEN IMPACTS TO SOIL AND VEGETATION. WHERE VEGETATION REMOVAL IS REQUIRED, VEGETATION SHALL BE CUT AT GROUND LEVEL (NOT GRUBBED) AND CAST TO THE SIDE.

AT PROJECT COMPLETION, TEMPORARY ACCESS ROUTES SHALL BE RESTORED BY DECOMPACTING THE SURFACE, RESHAPING TO MATCH ORIGINAL CONTOUR, AND PULLING ANY NEARBY WOODY DEBRIS AND REMOVED VEGETATION ONTO THE SURFACE.

STAGING AND STOCKPILE AREAS

STAGING AND STOCKPILE AREAS WILL BE FLAGGED BY THE OWNER. STAGING AREAS USED FOR CONSTRUCTION EQUIPMENT STORAGE, VEHICLE STORAGE, FUELING, SERVICING, AND HAZARDOUS MATERIAL STORAGE SHALL BE 50 FEET OR MORE FROM ANY NATURAL WATER BODY OR WETLAND. NATURAL MATERIALS MAY BE STOCKPILED NEAR INSTALLATION AREAS.

A FUELING STATION SHALL BE SET UP IN A DESIGNATED AREA IN ORDER TO MINIMIZE RIVER CROSSINGS. 500 GALLONS OF FUEL SHALL BE STORED AT THE FUELING STATION. CONTRACTOR SHALL INSTALL AN IMPERMEABLE CONTAINMENT BASIN WITH SIDES SO THAT 500 GALLONS PLUS 6" FREEBOARD CAN BE CONTAINED IN THE EVENT OF A LEAK.

TREE SALVAGE

ALL TREES AND SLASH REMOVED FOR CONSTRUCTION SHALL TEMPORARILY BE STOCKPILED WITHIN LIMITS OF DISTURBANCE. STOCKPILED TREE/SLASH SHALL BE REINCORPORATED INTO FINISHED PROJECT.

ANY REMOVED VEGETATION GREATER THAN 6 INCHES DIAMETER AND 15 FEET LONG SHALL BE INCORPORATED INTO LOG STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR REMOVING SMALLER CLEARING AND GRUBBING DEBRIS FROM THE SITE AND DISPOSING AT A LEGAL LOCATION AT THE END OF THE PROJECT UNLESS DIRECTED BY THE OWNER'S REPRESENTATIVE.

ALL TREES REMOVED WITHIN CLEARING LIMITS SHALL BE REMOVED WHOLE WITH ROOT WAD AND UTILIZED IN THE STREAM CONSTRUCTION AS DIRECTED BY OWNER'S REPRESENTATIVE.

LIVE TREES

ALL TREES NOT MARKED FOR REMOVAL SHALL BE LEFT STANDING UNDISTURBED. AVOID THE DRIPLINE IF POSSIBLE. CONSTRUCTION ACTIVITY SHALL NOT DEBARK OR DAMAGE LIVE TREES.

FISH RESCUE

ALL FISH RESCUE EFFORTS SHALL BE SUPERVISED BY A YAKAMA NATION FISHERIES/AQUATIC BIOLOGIST EXPERIENCED WITH THE COLLECTION AND HANDLING OF SALMONID FISHES FROM CONSTRUCTION SITES.

ALL FISH TRAPPED IN RESIDUAL POOLS WITHIN THE PROJECT AREA WILL BE CAREFULLY COLLECTED BY SEINE AND/OR DIP NETS AND PLACED IN CLEAN TRANSFER CONTAINERS WITH ADEQUATE VOLUME OF FRESH RIVER WATER.

CAPTURED FISH SHALL BE IMMEDIATELY RELEASED INTO RIVER AT AREAS SELECTED BY A YNF BIOLOGIST.

SUMMARY OF QUANTITIES

CONSTRUCTION ITEMS	UNITS	SITE - A	SITE - B	SITE - C	SITE - D	SITE - E	SITE - F	TOTALS
CUT	C.Y.	2295	-	295 (1)	910 (2)	370	-	3870
FILL	C.Y.	2590 (1)	-	-	510	770 (2)	-	3870
LOG WITH ROOTS	PIECES	100	5	9	28	7	-	149
LOGS	PIECES				8	-	-	8
TIMBER PILES	PIECES	60	11	16	6	7	54	154
TEMPORARY COFFER DAM	L.F.	400	-	80	120	70	-	670
REMOVE RIPRAP	C.Y.	-	-	-	120 (3)	-	-	120
REMOVE STRUCTURE	C.Y.	-	-	-	400 (3)	3 (3)	-	403

1. HAUL EXCAVATED MATERIAL FROM SITE–C TO SITE–A TO BURY SITE–A LOG STRUCTURES.
2. EXCAVATED MATERIAL AT SITE D TO BE USED TO BACKFILL LOG STRUCTURE. HAUL EXCESS MATERIAL TO SITE E FOR DITCH FILL.
3. HAUL TO LEGAL OFF–SITE DISPOSAL AREA UNLESS DIRECTED OTHERWISE BY THE OWNER.

*APPROXIMATE CONSTRUCTION QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY, AND ARE NOT TO BE USED AS BASIS FOR COMPENSATION FOR WORK MEASURED AND PAID AS "LUMP SUM". EARTHWORK VOLUMES ARE "IN–PLACE" AND NOT ADJUSTED FOR EXPANSION OR COMPACTION.

ABBREVIATIONS

TYP	TYPICAL
APPROX	APPROXIMATE
MH	MANHOLE
STA	STATION
NTS	NOT TO SCALE
ELEV	ELEVATION
CL	CENTERLINE
XS	CROSS SECTION
MIN	MINIMUM
MAX	MAXIMUM
LWD	LARGE WOODY DEBRIS (LOGS)
OHW	ORDINARY HIGH WATERLINE
CFS	CUBIC FEET PER SECOND
GPM	GALLONS PER MINUTE
LBS	POUNDS
IN	INCHES
FT	FEET
LF	LINEAL FEET
SF	SQUARE FEET
SY	SQUARE YARDS
CY	CUBIC YARDS
AC	ACRES
OC	ON CENTER
PLS	PURE LIVE SEED
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
SWPPP	STORMWATER POLLUTION PREVENTION PLAN

MICHAEL R. McALLISTER
STATE OF WASHINGTON
38189
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 08-25-2016

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METHOW RIVER - BIG VALLEY SOUTH
FISH HABITAT ENHANCEMENT PROJECT

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GENERAL NOTES

EROSION/SEDIMENTATION CONTROL (ESC) PLAN

THE EROSION AND SEDIMENT CONTROL (ESC) PLAN PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING EROSION CONTROL MEASURES TO COMPLY WITH APPLICABLE REGULATIONS.

THE RECOMMENDATIONS FOR AN ESC PLAN INCLUDED HEREIN WILL PROVIDE A GUIDELINE FOR THE CONTRACTOR TO DEVELOP AND IMPLEMENT AN ESC PLAN.

A. THE IMPLEMENTATION OF AN ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

B. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

C. ESC FACILITIES AS APPROXIMATELY SHOWN ON THIS PLAN ARE TO BE CONSTRUCTED PRIOR TO CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT ENTER SURFACE WATERS, THE DRAINAGE SYSTEM, OR VIOLATE APPLICABLE WATER STANDARDS.

D. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED AT NO ADDITIONAL COST FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.

E. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

F. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.

G. STABILIZED CONSTRUCTION ENTRANCES AND ADDITIONAL MEASURES MAY BE REQUIRED AND SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT TO ENSURE ALL ACCESS ROADS ARE KEPT CLEAN AT NO ADDITIONAL COST.

INSPECTION AND MAINTENANCE

ALL ESC FACILITIES SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL ESC FACILITIES SHALL BE INSPECTED DAILY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD AND AFTER EVENTS EXCEEDING 2 HOURS DURATION.

CONTRACTOR'S ESC RECORD

WEEKLY REPORTS SUMMARIZING THE SCOPE OF INSPECTIONS, THE PERSONNEL CONDUCTING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN, AND ACTIONS TAKEN AS A RESULT OF THESE INSPECTIONS SHALL BE PREPARED AND RETAINED ON SITE BY THE CONTRACTOR. IN ADDITION, A RECORD OF THE FOLLOWING DATES SHALL BE INCLUDED IN THE REPORTS:

1. WHEN MAJOR GRADING ACTIVITIES OCCUR.
2. DATES OF RAINFALL EVENTS EITHER EXCEEDING 2 HOURS DURATION OR MORE THAN 0.5 INCHES/24 HOURS.
3. WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON SITE, OR ON A PORTION OF THE SITE.
4. WHEN STABILIZATION MEASURES ARE INITIATED FOR PORTIONS OF THE SITE.
5. ESC RECORDS SHALL BE MADE AVAILABLE TO THE OWNER AND OWNER'S REPRESENTATIVE ON REQUEST AND SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO APPLICATION FOR PAYMENT.

STABILIZE SOILS AND PROTECT SLOPES

FROM MAY 1 THROUGH SEPTEMBER 30, ALL EXPOSED SOILS SHALL BE PROTECTED FROM EROSION BY MULCHING, HYDROSEED COVERING, OR OTHER APPROVED MEASURES WITHIN THREE DAYS OF GRADING. SOILS SHALL BE STABILIZED BEFORE A WORK SHUTDOWN, HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.

DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. REDUCE SLOPE RUNOFF VELOCITIES ON DISTURBED SLOPES BY PROVIDING TEMPORARY BARRIERS. DIVERT OFFSITE STORMWATER SO THAT IT REMAINS SEPARATE FROM ONSITE STORMWATER.

AFTER FINAL SITE STABILIZATION

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BEST MANAGEMENT PRACTICES (BPMs) ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED FROM THE SITE OR INCORPORATED INTO FINISHED GRADING. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED

CONSTRUCTION DEWATERING

TEMPORARY COFFERDAMS SHALL BE USED TO ISOLATE IN-CHANNEL EXCAVATION AREAS FROM THE RIVER.

DEWATERING OF IN-CHANNEL WORK AREAS SHALL OCCUR CONCURRENT WITH FISH RESCUE. CONTRACTOR SHALL COORDINATE WITH THE YAKAMA NATION FISHERIES FOR FISH RESCUE. CONTRACTOR SHALL PROVIDE YAKAMA FISHERIES AMPLE TIME TO SCHEDULE FISH RESCUE. IF DIVERSION FAILS DUE TO CONTRACTOR NEGLIGENCE, FISH RESCUE SHALL BE REPEATED BY YAKAMA FISHERIES CREWS AT CONTRACTOR'S EXPENSE.

IF ADDITIONAL PUMPING IS REQUIRED TO DEWATER DURING CONSTRUCTION, PUMPED DISCHARGE SHALL RELEASE SEDIMENT-LADEN WATER AT AN UPLAND DISCHARGE LOCATION IN A MANNER THAT DOES NOT CAUSE EROSION, CONTAMINATION OR INCREASE TURBIDITY OF SURFACE WATERS. (SEE CONSTRUCTION DEWATERING).

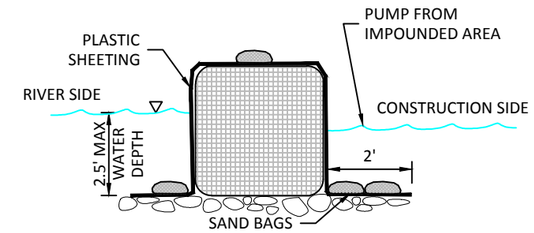
OWNER'S REPRESENTATIVE SHALL APPROVE DEWATERING DISCHARGE LOCATION PRIOR TO IMPLEMENTATION.

CONTRACTOR SHALL PERFORM CONSTRUCTION DEWATERING IN SUCH A MANNER AS TO AVOID THE RELEASE OF SEDIMENT-LADEN WATER TO SURFACE WATERS. SEDIMENT LADEN WATER MAY BE PUMPED TO AN UPLAND DISCHARGE LOCATION AND ALLOWED TO SHEET FLOW THROUGH EXISTING VEGETATION BEFORE INFILTRATING INTO THE GROUND. IF THIS METHOD IS NOT SUFFICIENT TO PREVENT RETURN OF TURBID WATER TO THE RIVER, A 'DIRT-BAG' OR SEDIMENT RETENTION STRUCTURE MAY BE REQUIRED AS NECESSARY TO COMPLY WITH LAWS AND PERMIT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.

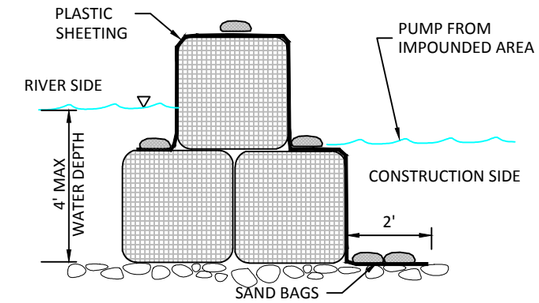
CONTRACTOR SHALL PROVIDE PLASTIC SHEETING OR GEOTEXTILE LINER OR PLYWOOD OR METAL PLATING AS NECESSARY TO DISSIPATE PUMP DISCHARGE JET TO PREVENT EROSION.

EQUIPMENT

BIODEGRADABLE HYDRAULIC FLUID SHALL BE USED IN EACH EXCAVATOR WORKING WITHIN LIVE WATER. MECHANIZED EQUIPMENT AND VEHICLES SHALL BE INSPECTED DAILY FOR LEAKS, AND CLEANED THOROUGHLY BEFORE OPERATION NEAR WATER.



SINGLE LAYER COFFERDAM
(WATER DEPTH LESS THAN 2.5')

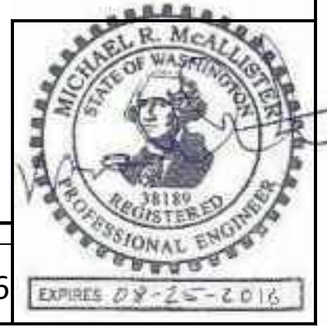


STACKED BULK BAG COFFERDAM
(WATER DEPTH LESS THAN 4')

TEMPORARY COFFERDAM DETAILS
NOT TO SCALE

BULK BAG NOTES:

1. BULK BAG COFFERDAM SHALL BE CONSTRUCTED OF SEVERAL UNITS OF BULK BAGS FILLED WITH WASHED GRAVEL, AND ABUTTED SIDE BY SIDE TO CREATE A ROW THAT ISOLATES THE CONSTRUCTION SITE FROM THE RIVER.
2. IF WATER DEPTH EXCEEDS 85% OF THE BULK BAG HEIGHT, AN ADDITIONAL TOP ROW OF BULK BAGS SHALL BE INSTALLED, SUPPORTED BY TWO BOTTOM ROWS OF BULK BAGS.
3. BULK BAG COFFERDAM SHALL BE SEALED BY COVERING THE COFFERDAM WITH PLASTIC SHEETING HELD IN PLACE BY STANDARD SANDBAGS PLACED IN ROWS ON TOP OF COFFERDAM, AND AT TOE OF COFFERDAM. THE PLASTIC SHEETING SHALL BE DRAPED ALONG THE CHANNEL BOTTOM ON THE WORK AREA SIDE OF THE COFFERDAM WITH OUTWARD EDGE OF SHEETING MINIMUM 4-FEET FROM TOE OF COFFERDAM. THE DRAPED PORTION OF PLASTIC SHEETING SHALL BE PINNED TO THE CHANNEL BED BY MINIMUM TWO ROWS OF STANDARD SANDBAGS.
4. THE OUTWARD EDGE OF PLASTIC SHEETING ON WORK AREA SIDE SHALL BE TOED INTO THE CHANNEL BED MINIMUM 1-FT. TOEING IN THE OUTWARD EDGE OF PLASTIC SHEETING SHALL OCCUR AFTER THE COFFERDAM IS CLOSED TO PREVENT TURBIDITY RELEASE TO THE WATERWAY.
5. IF POSSIBLE, THE COFFERDAM SHALL BE EXTENDED ONTO A GRAVEL BAR AND OUT OF THE WATER. IF THE END MUST BE TERMINATED AT THE RIVERBANK, THE COFFERDAM SHALL BE TIGHTLY SEALED TO THE GROUND BY PLASTIC SHEETING AND STANDARD SANDBAGS. MULTIPLE LAYERS OF SANDBAGS MAY BE REQUIRED TO FORM A WATERTIGHT SEAL.
6. BULK BAGS SHALL BE WATERPROOF CUBE-SHAPED POLYPROPYLENE WOVEN FABRIC BAGS WITH FULLY OPEN TOP, FLAT BOTTOM, FOUR LOOPS, MINIMUM 2-TON WEIGHT CAPACITY, MINIMUM 5:1 SAFETY FACTOR.
7. PLASTIC SHEETING SHALL BE MINIMUM 6-MIL THICKNESS. ROLL LENGTH SHALL BE LONG ENOUGH TO ENSURE THAT ENTIRE LENGTH OF COFFERDAM WILL BE COVERED WITHOUT A SEAM. MINIMUM 12-FT WIDE ROLL SHALL BE USED FOR SINGLE LAYER BULK BAG COFFERDAM. MINIMUM 16-FT WIDE ROLL SHALL BE USED FOR 2-LAYER STACKED BULK BAG COFFERDAM.
8. IN THE EVENT OF LEAKS THROUGH OR UNDER THE COFFERDAM, CONTRACTOR SHALL PROVIDE PUMPING SUFFICIENT TO PULL DOWN THE WATER SURFACE IN THE IMPOUNDED AREA TO THE DEGREE THAT LEAKAGE IS INTO THE IMPOUNDED AREA AND NOT OUT OF IT. NO TURBIDITY SHALL BE ALLOWED TO EXIT THE DAM. PUMP DISCHARGE SHALL BE TO AREAS THAT ALLOW SEEPAGE INTO THE GROUND OR TOTAL FILTRATION OF TURBIDITY BEFORE RE-ENTERING THE RIVER.
9. BULK BAG COFFERDAM SHALL BE COMPLETELY REMOVED AFTER CONSTRUCTION IS COMPLETED AND TURBIDITY HAS BEEN REMOVED.
10. ALTERNATE COFFERDAM MATERIALS AND CONFIGURATIONS MAY BE ALLOWED BUT SHALL NOT BE IMPLEMENTED WITHOUT REVIEW AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND/OR VENDOR CUT SHEETS FOR SUBSTITUTIONS.
11. IF NECESSARY, GAPS BETWEEN BULK BAGS SHALL BE FILLED WITH WASHED STREAM GRAVEL TO IMPROVE COFFERDAM SEAL. STREAM GRAVEL MAY REMAIN IN RIVER.



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DRAWN	DESIGNED	CHECKED
CP,DF	MM,MB,CM	MM,MB
APPROVED	DATE	PROJECT
MM,MB	04/02/15	13-02-29

CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION
METHOW RIVER - BIG VALLEY SOUTH
FISH HABITAT ENHANCEMENT PROJECT

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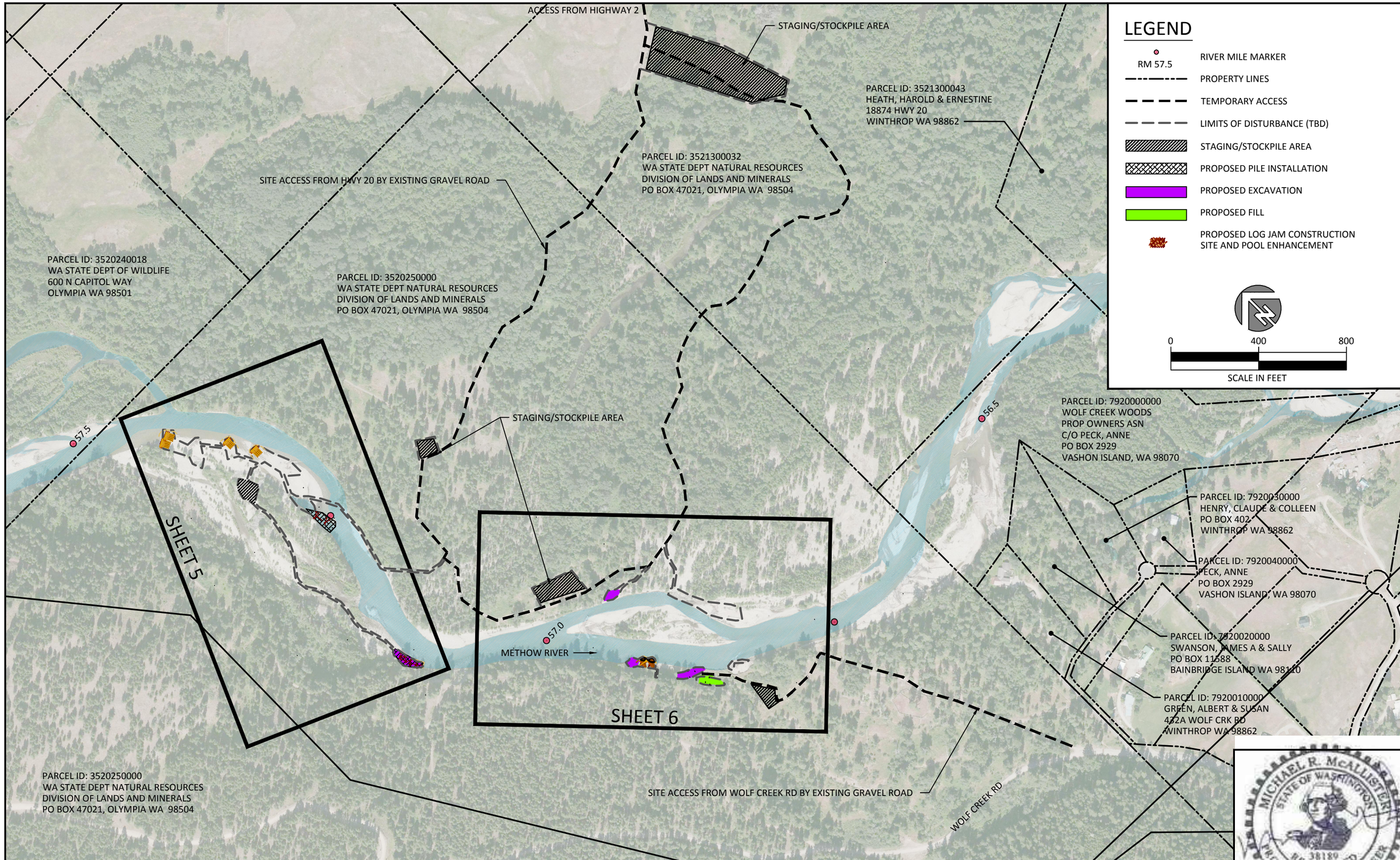
EROSION CONTROL & GENERAL NOTES



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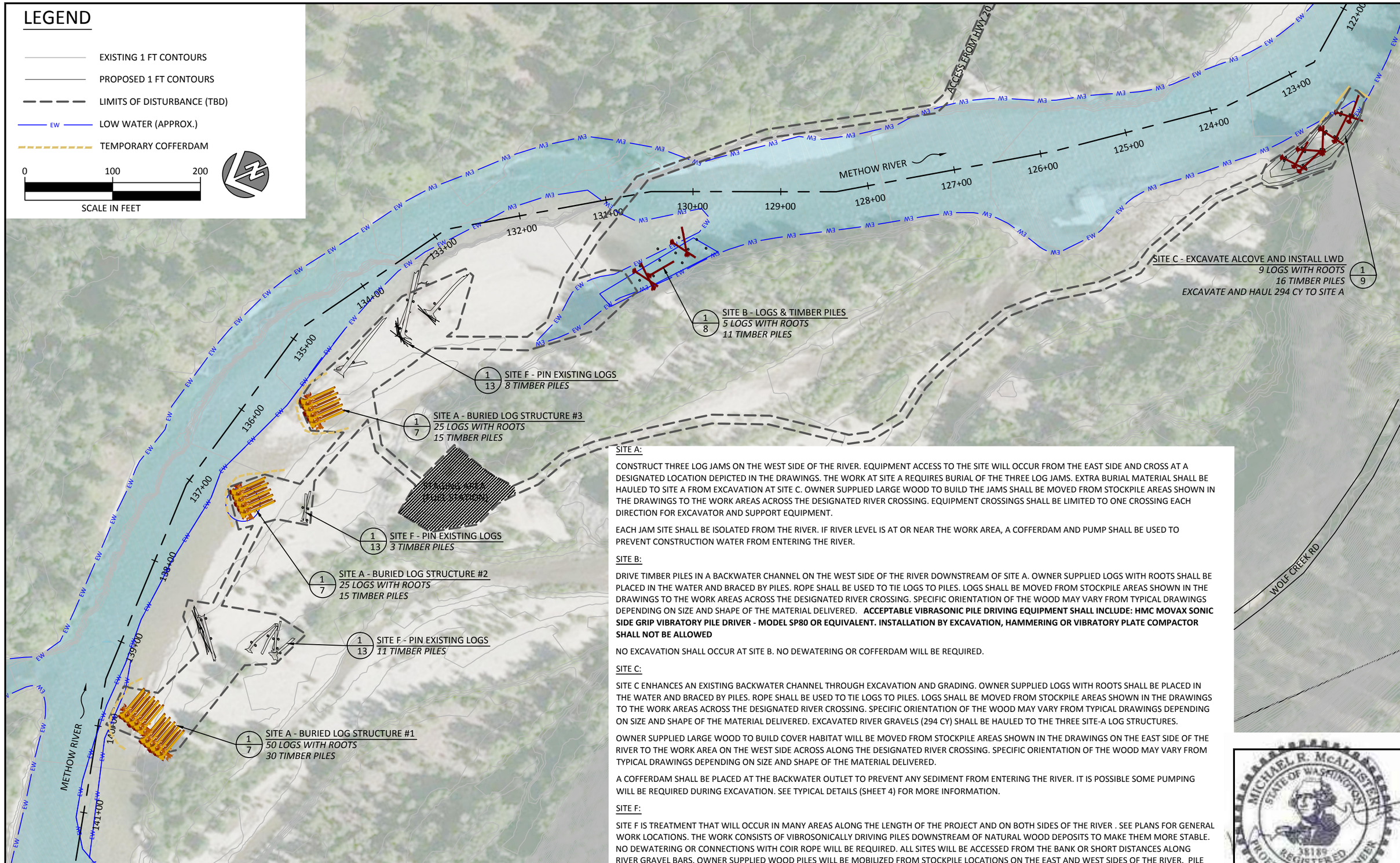
PROPERTY OWNERSHIP & PROPOSED PROJECT AREAS

SHEET 4 OF 16

MICHAEL R. McALLISTER
STATE OF WASHINGTON
38189
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 08-25-2016



SITE A:

CONSTRUCT THREE LOG JAMS ON THE WEST SIDE OF THE RIVER. EQUIPMENT ACCESS TO THE SITE WILL OCCUR FROM THE EAST SIDE AND CROSS AT A DESIGNATED LOCATION DEPICTED IN THE DRAWINGS. THE WORK AT SITE A REQUIRES BURIAL OF THE THREE LOG JAMS. EXTRA BURIAL MATERIAL SHALL BE HAULED TO SITE A FROM EXCAVATION AT SITE C. OWNER SUPPLIED LARGE WOOD TO BUILD THE JAMS SHALL BE MOVED FROM STOCKPILE AREAS SHOWN IN THE DRAWINGS TO THE WORK AREAS ACROSS THE DESIGNATED RIVER CROSSING. EQUIPMENT CROSSINGS SHALL BE LIMITED TO ONE CROSSING EACH DIRECTION FOR EXCAVATOR AND SUPPORT EQUIPMENT.

EACH JAM SITE SHALL BE ISOLATED FROM THE RIVER. IF RIVER LEVEL IS AT OR NEAR THE WORK AREA, A COFFERDAM AND PUMP SHALL BE USED TO PREVENT CONSTRUCTION WATER FROM ENTERING THE RIVER.

SITE B:

DRIVE TIMBER PILES IN A BACKWATER CHANNEL ON THE WEST SIDE OF THE RIVER DOWNSTREAM OF SITE A. OWNER SUPPLIED LOGS WITH ROOTS SHALL BE PLACED IN THE WATER AND BRACED BY PILES. ROPE SHALL BE USED TO TIE LOGS TO PILES. LOGS SHALL BE MOVED FROM STOCKPILE AREAS SHOWN IN THE DRAWINGS TO THE WORK AREAS ACROSS THE DESIGNATED RIVER CROSSING. SPECIFIC ORIENTATION OF THE WOOD MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SIZE AND SHAPE OF THE MATERIAL DELIVERED. **ACCEPTABLE VIBRASONIC PILE DRIVING EQUIPMENT SHALL INCLUDE: HMC MOVAX SONIC SIDE GRIP VIBRATORY PILE DRIVER - MODEL SP80 OR EQUIVALENT. INSTALLATION BY EXCAVATION, HAMMERING OR VIBRATORY PLATE COMPACTOR SHALL NOT BE ALLOWED**

NO EXCAVATION SHALL OCCUR AT SITE B. NO DEWATERING OR COFFERDAM WILL BE REQUIRED.

SITE C:

SITE C ENHANCES AN EXISTING BACKWATER CHANNEL THROUGH EXCAVATION AND GRADING. OWNER SUPPLIED LOGS WITH ROOTS SHALL BE PLACED IN THE WATER AND BRACED BY PILES. ROPE SHALL BE USED TO TIE LOGS TO PILES. LOGS SHALL BE MOVED FROM STOCKPILE AREAS SHOWN IN THE DRAWINGS TO THE WORK AREAS ACROSS THE DESIGNATED RIVER CROSSING. SPECIFIC ORIENTATION OF THE WOOD MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SIZE AND SHAPE OF THE MATERIAL DELIVERED. EXCAVATED RIVER GRAVELS (294 CY) SHALL BE HAULED TO THE THREE SITE-A LOG STRUCTURES.

OWNER SUPPLIED LARGE WOOD TO BUILD COVER HABITAT WILL BE MOVED FROM STOCKPILE AREAS SHOWN IN THE DRAWINGS ON THE EAST SIDE OF THE RIVER TO THE WORK AREA ON THE WEST SIDE ACROSS ALONG THE DESIGNATED RIVER CROSSING. SPECIFIC ORIENTATION OF THE WOOD MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SIZE AND SHAPE OF THE MATERIAL DELIVERED.

A COFFERDAM SHALL BE PLACED AT THE BACKWATER OUTLET TO PREVENT ANY SEDIMENT FROM ENTERING THE RIVER. IT IS POSSIBLE SOME PUMPING WILL BE REQUIRED DURING EXCAVATION. SEE TYPICAL DETAILS (SHEET 4) FOR MORE INFORMATION.

SITE F:

SITE F IS TREATMENT THAT WILL OCCUR IN MANY AREAS ALONG THE LENGTH OF THE PROJECT AND ON BOTH SIDES OF THE RIVER . SEE PLANS FOR GENERAL WORK LOCATIONS. THE WORK CONSISTS OF VIBROSONICALLY DRIVING PILES DOWNSTREAM OF NATURAL WOOD DEPOSITS TO MAKE THEM MORE STABLE. NO DEWATERING OR CONNECTIONS WITH COIR ROPE WILL BE REQUIRED. ALL SITES WILL BE ACCESSED FROM THE BANK OR SHORT DISTANCES ALONG RIVER GRAVEL BARS. OWNER SUPPLIED WOOD PILES WILL BE MOBILIZED FROM STOCKPILE LOCATIONS ON THE EAST AND WEST SIDES OF THE RIVER. PILE INSTALLATION LOCATIONS WILL BE FIELD DIRECTED BY THE OWNER.

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METHOW RIVER - BIG VALLEY SOUTH
FISH HABITAT ENHANCEMENT PROJECT

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PLAN VIEW
UPSTREAM SITES

SHEET 5 OF 16

MICHAEL R. McALLISTER
STATE OF WASHINGTON
38189
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09-25-2016

LEGEND

- EXISTING 1 FT CONTOURS
- PROPOSED 1 FT CONTOURS
- LIMITS OF DISTURBANCE (TBD)
- EW — LOW WATER (APPROX.)

0 100 200
SCALE IN FEET

SITE D1:

AT SITE D1, CONSTRUCT TWO LOG STRUCTURES DOWNSTREAM OF THE WEST BANK PEOPLE MOVER TOWER. BOTH LOG STRUCTURES SHALL BE BALLASTED BY PARTIAL BURIAL AND VIBROSONICALLY DRIVEN PILES. EXCAVATION AND BURIAL WILL REQUIRE COFFERDAM AND PUMPING TO PREVENT SEDIMENT FROM ENTERING THE RIVER.

OWNER SUPPLIED LARGE WOOD WILL BE DELIVERED TO THE WORK SITE FROM A STOCKPILE ON THE WEST SIDE OF THE RIVER. NO RIVER CROSSING WILL BE NEEDED.

SITE D2:

AT SITE D2, REMOVE THE PEOPLE MOVER INFRASTRUCTURE INCLUDING SUBSURFACE CONCRETE AND RIPRAP. ALL STRUCTURAL AND MECHANICAL COMPONENTS WILL BE CAREFULLY DISMANTLED AND TRANSPORTED TO THE OWNER'S DESIGNATED OFFSITE STORAGE LOCATION. ALL RIPRAP AND CONCRETE WILL BE DISPOSED OF IN A LEGAL UPLAND OFFSITE LOCATION. REMAINING NATIVE ROCK AND SOIL WILL BE RE-GRADED INTO SURROUNDING TOPOGRAPHY AS DIRECTED BY OWNER.

NO COFFERDAM IS EXPECTED FOR RIPRAP REMOVAL. HOWEVER, THE DIMENSIONS OF THE CONCRETE ARE UNKNOWN. IF CONCRETE REMOVAL REQUIRES WORK IN OR NEAR THE WATER, A COFFERDAM MAY BE REQUIRED TO PREVENT SEDIMENT FROM ENTERING THE RIVER. SEE TYPICAL DETAILS SHEET FOR MORE INFORMATION.

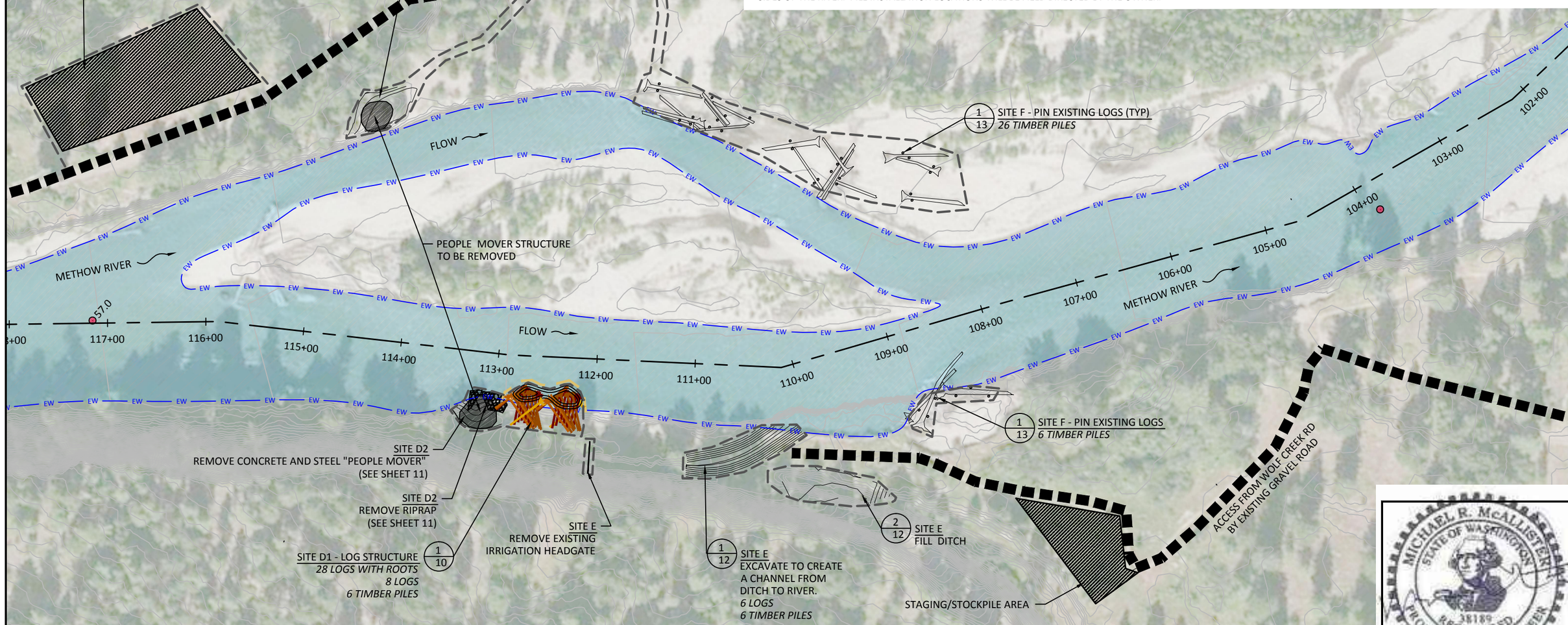
SITE E:

EXCAVATE THE RIVERBANK TO CONNECT A SEGMENT OF AN ABANDONED IRRIGATION DITCH TO THE RIVER. A PORTION OF THE DOWNSTREAM DITCH SEGMENT SHALL BE FILLED WITH THE MATERIAL PRODUCED BY EXCAVATING THROUGH THE RIVERBANK. AN ABANDONED HEADGATE STRUCTURE SHALL BE REMOVED BY THE CONTRACTOR AND LEGALLY DISPOSED OF. SITE ACCESS IS FROM THE WEST SIDE OF THE RIVER.

A COFFERDAM SHALL BE INSTALLED TO INSURE NO SEDIMENT ENTERS THE RIVER DURING RIVERBANK EXCAVATION. PUMPING MAY BE REQUIRED DEPENDING ON RIVER LEVEL. SEE TYPICAL DETAILS SHEET FOR MORE INFORMATION.

SITE F:

SITE F IS TREATMENT THAT WILL OCCUR IN MANY AREAS ALONG THE LENGTH OF THE PROJECT AND ON BOTH SIDES OF THE RIVER . SEE PLANS FOR GENERAL WORK LOCATIONS. THE WORK CONSISTS OF VIBROSONICALLY DRIVING PILES AMONG NATURAL WOOD DEPOSITS TO MAKE THEM MORE STABLE. NO DEWATERING WILL BE REQUIRED. ALL SITES WILL BE ACCESSED FROM THE BANK OR SHORT DISTANCES ALONG RIVER GRAVEL BARS. OWNER SUPPLIED WOOD SHALL BE MOBILIZED FROM STOCKPILE LOCATIONS ON THE EAST AND WEST SIDES OF THE RIVER. PILE INSTALLATION LOCATIONS WILL BE FIELD DIRECTED BY THE OWNER.



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PLAN VIEW
DOWNSTREAM SITES

SHEET 6 OF 16

MICHAEL R. McALLISTER
STATE OF WASHINGTON
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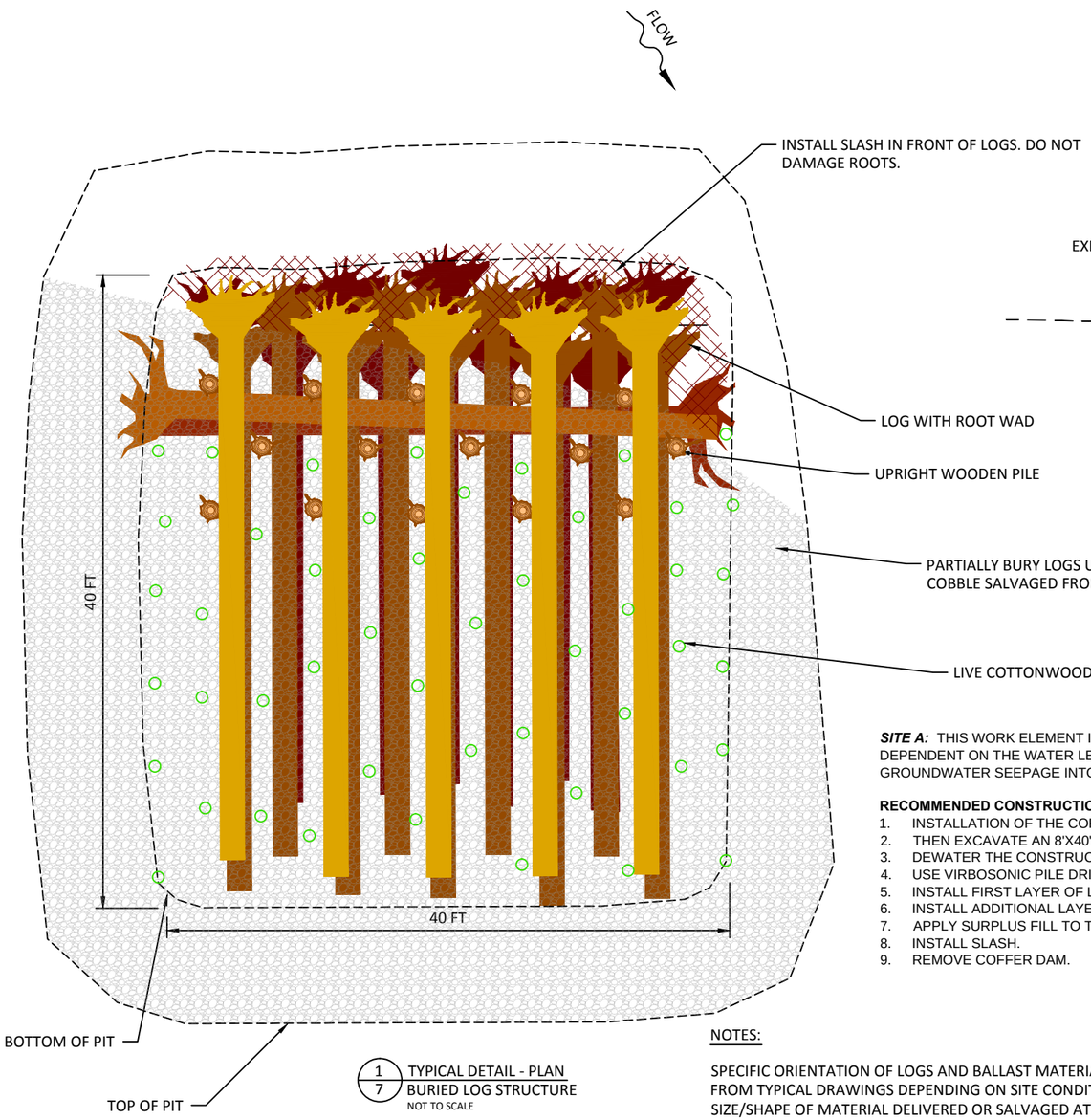
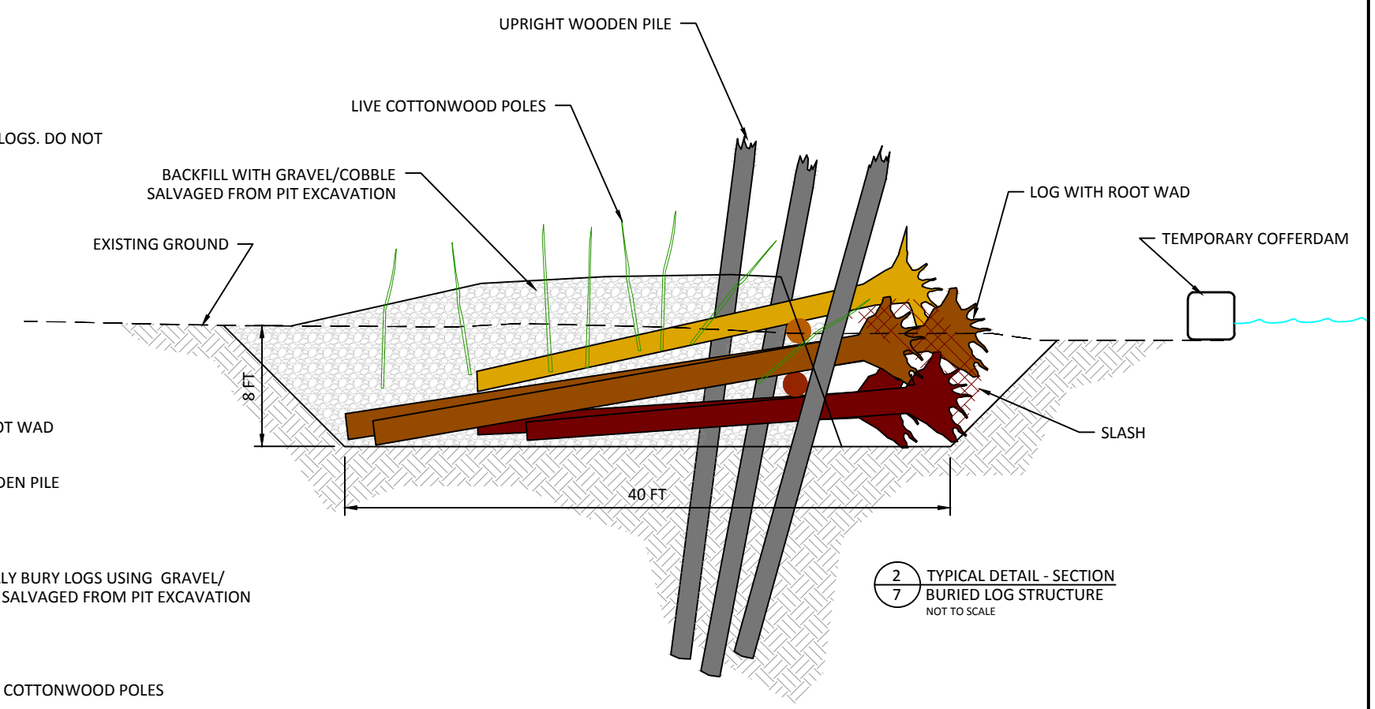
EXPIRES 08-25-2016



1 / 7 TYPICAL DETAIL - PLAN
BURIED LOG STRUCTURE
NOT TO SCALE



2 / 7 TYPICAL DETAIL - SECTION
BURIED LOG STRUCTURE
NOT TO SCALE

SITE A: THIS WORK ELEMENT INCLUDES THREE LOG STRUCTURES TO BE CONSTRUCTED ONE AT A TIME. THE LOCATION OF EACH STRUCTURE WILL BE FIT-IN-THE-FIELD AND DEPENDENT ON THE WATER LEVEL AT TIME OF CONSTRUCTION. EACH LOCATION WILL BE INTO THE RIVER AS FAR AS FEASIBLE. EXCAVATION WILL BE BELOW GROUNDWATER LEVELS. GROUNDWATER SEEPAGE INTO THE CONSTRUCTION AREA IS TO BE EXPECTED.

RECOMMENDED CONSTRUCTION SEQUENCE:

1. INSTALLATION OF THE COFFER DAM TO EXCLUDE WATER FROM FLOWING INTO THE EXCAVATED PIT AND RETAIN SEDIMENT.
2. THEN EXCAVATE AN 8'X40'X40' PIT MEASURED AT THE MAXIMUM DEPTH.
3. DEWATER THE CONSTRUCTION AREA BY PUMPING WATER TO UPLAND SURFACES FOR INFILTRATION.
4. USE VIRBOSONIC PILE DRIVER TO INSTALL VERTICAL PILES.
5. INSTALL FIRST LAYER OF LOGS BETWEEN PILES, PUMP WATER OUT OF PIT AND PARTIALLY BURY LOGS TO PREVENT FLOATATION.
6. INSTALL ADDITIONAL LAYERS OF LOGS AND BACKFILL EACH LAYER, PLACE COTTONWOOD POLES WHILE BACKFILLING.
7. APPLY SURPLUS FILL TO TOP OF STRUCTURE.
8. INSTALL SLASH.
9. REMOVE COFFER DAM.

NOTES:

SPECIFIC ORIENTATION OF LOGS AND BALLAST MATERIALS MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SITE CONDITIONS & SIZE/SHAPE OF MATERIAL DELIVERED OR SALVAGED AT SITE.

LOGS SHALL BE BALLASTED TO RESIST BUOYANCY BY PARTIAL BURIAL AND BRACING TO WOODEN PILES.

VIBRATORY PILE DRIVING:

DESCRIPTION
THIS WORK CONSISTS OF INSTALLING LOGS UPRIGHT AS WOODEN PILES WHERE SHOWN ON THE PLANS.
INSTALLATION SHALL BE WITH VIBRATORY PILE DRIVER.

MATERIALS
WOODEN PILES SHALL BE LOGS WITH 12-18" DIAMETER AT BUTT END AND MINIMUM 10" DIAMETER AT SCALED END. EACH LOG PILE SHALL BE MINIMUM 32' LONG.

CONSTRUCTION
FINAL POSITIONING OF LOG PILES SHALL BE IN THE APPROXIMATE LOCATIONS SHOWN ON THE PLANS.
EACH PILE SHALL BE INSTALLED BY VIBRATORY PILE DRIVER TO A DEPTH EXCEEDING 13' BELOW BOTTOM OF PIT.

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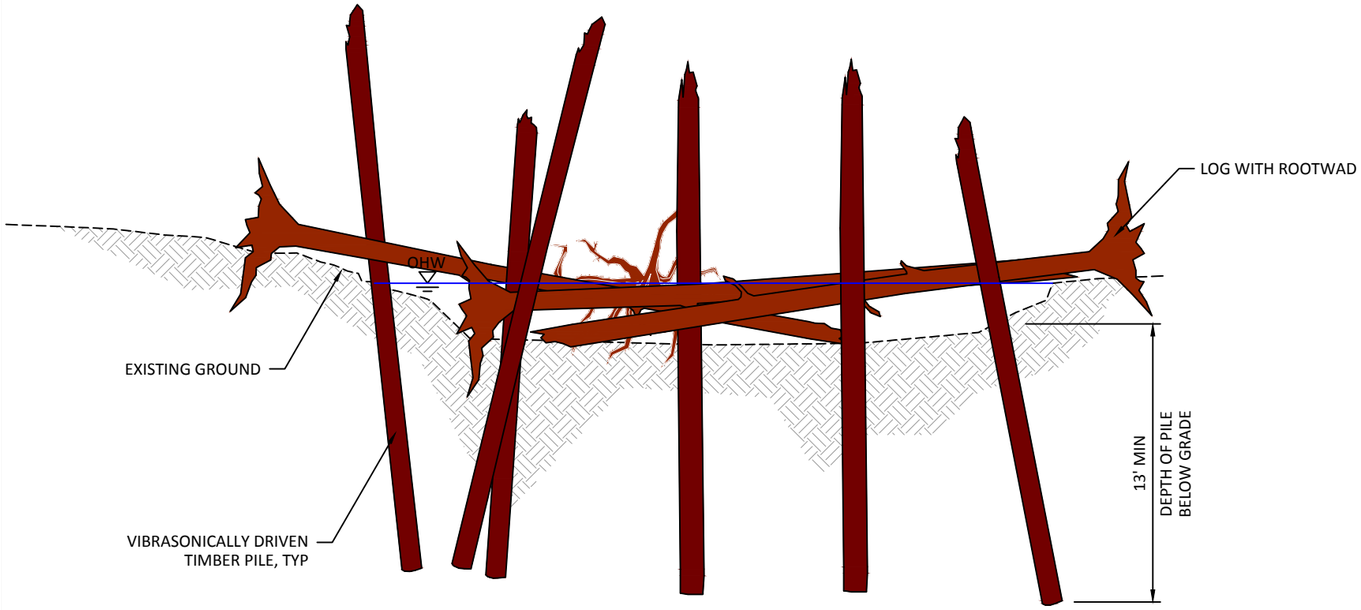
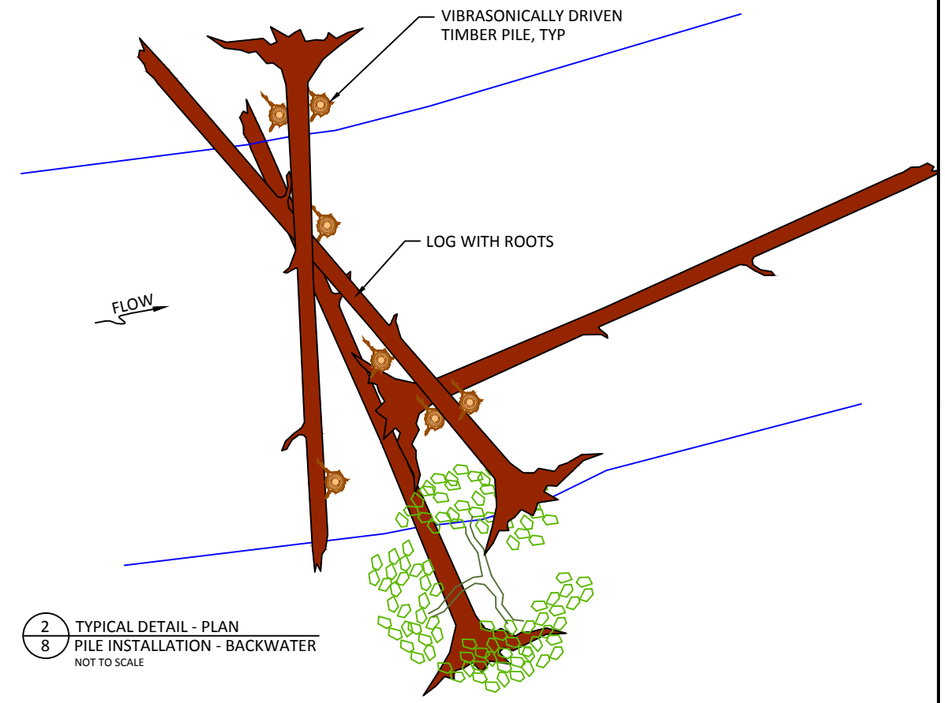
SITE A - TYPICAL DETAILS
BURIED LOG JAMS



1/8 TYPICAL DETAIL - SECTION
PILE INSTALLATION - BACKWATER
NOT TO SCALE



2/8 TYPICAL DETAIL - PLAN
PILE INSTALLATION - BACKWATER
NOT TO SCALE

SITE B: THIS WORK WILL OCCUR BELOW THE LOW WATER ELEVATION IN AN ACTIVE BACKWATER CHANNEL.

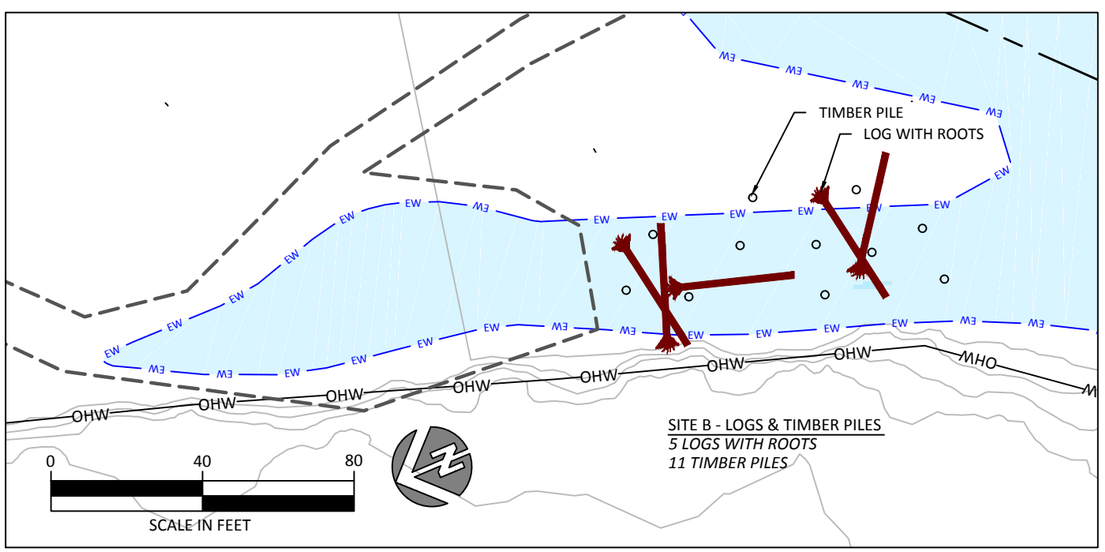
THE SEQUENCE OF CONSTRUCTION ACTIVITIES WILL BE:

1. VIBROSONICALLY DRIVE VERTICAL PILES
2. PLACE TREES WITH ROOTWADS ALONG VERTICAL PILES TO BRACE THEM IN PLACE.
3. SECURE LOGS TO PILES USING ROPE. EACH LOG SHALL BE TIES TO AT LEAST ONE PILE.

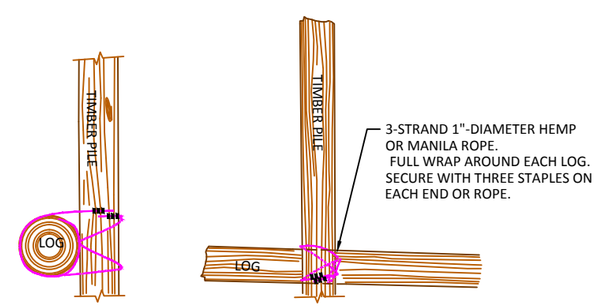
NOTES

SPECIFIC ORIENTATION OF LOGS AND BALLAST MATERIALS MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SIZE AND SHAPE OF MATERIAL DELIVERED OR SALVAGED.

BRACING TO EXISTING TREES OR INSTALLED VERTICAL LOGS WILL OCCUR AT LOCATIONS IDENTIFIED INTHE FIELD TO PROVIDE HORIZONTAL STABILITY.



SITE B - LOGS & TIMBER PILES
5 LOGS WITH ROOTS
11 TIMBER PILES



3/8 ROPE DETAILS
NO SCALE

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SITE B - TYPICAL DETAILS
INSTALL LOGS AND
TIMBER PILES

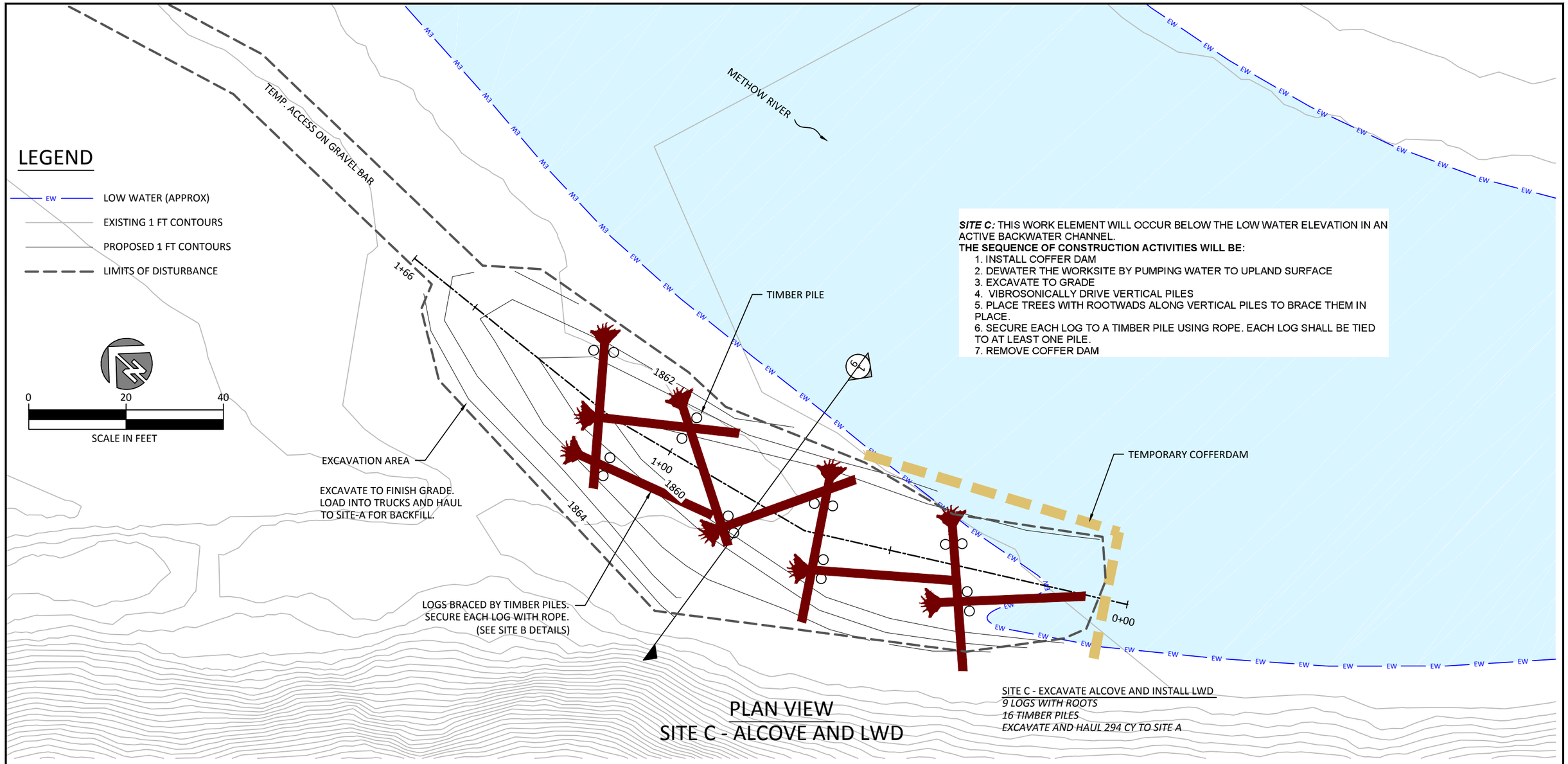
SHEET
8 OF 16

MICHAEL R. McALLISTER
STATE OF WASHINGTON
38180
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 08-25-2016

LEGEND

- LOW WATER (APPROX)
- EXISTING 1 FT CONTOURS
- PROPOSED 1 FT CONTOURS
- LIMITS OF DISTURBANCE

0 20 40
SCALE IN FEET

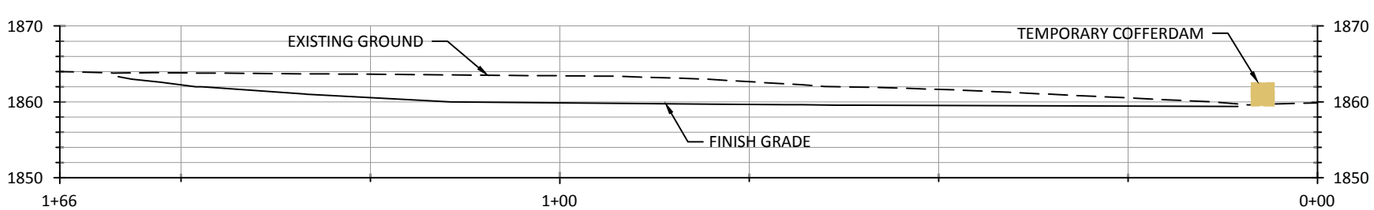


SITE C: THIS WORK ELEMENT WILL OCCUR BELOW THE LOW WATER ELEVATION IN AN ACTIVE BACKWATER CHANNEL.

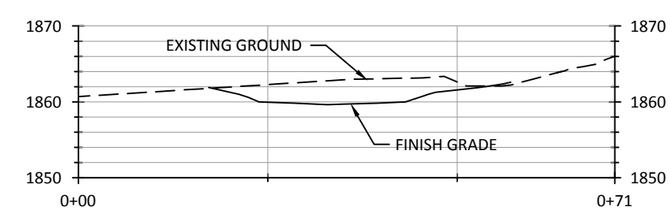
THE SEQUENCE OF CONSTRUCTION ACTIVITIES WILL BE:

1. INSTALL COFFER DAM
2. DEWATER THE WORKSITE BY PUMPING WATER TO UPLAND SURFACE
3. EXCAVATE TO GRADE
4. VIBROSONICALLY DRIVE VERTICAL PILES
5. PLACE TREES WITH ROOTWADS ALONG VERTICAL PILES TO BRACE THEM IN PLACE.
6. SECURE EACH LOG TO A TIMBER PILE USING ROPE. EACH LOG SHALL BE TIED TO AT LEAST ONE PILE.
7. REMOVE COFFER DAM

PLAN VIEW
SITE C - ALCOVE AND LWD



BACKWATER EXCAVATION - EXISTING & PROPOSED PROFILE



1/9 BACKWATER EXCAVATION - EXISTING & PROPOSED CROSS SECTION

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SITE C - ALCOVE EXCAVATION AND INSTALL LWD

SHEET 9 OF 16

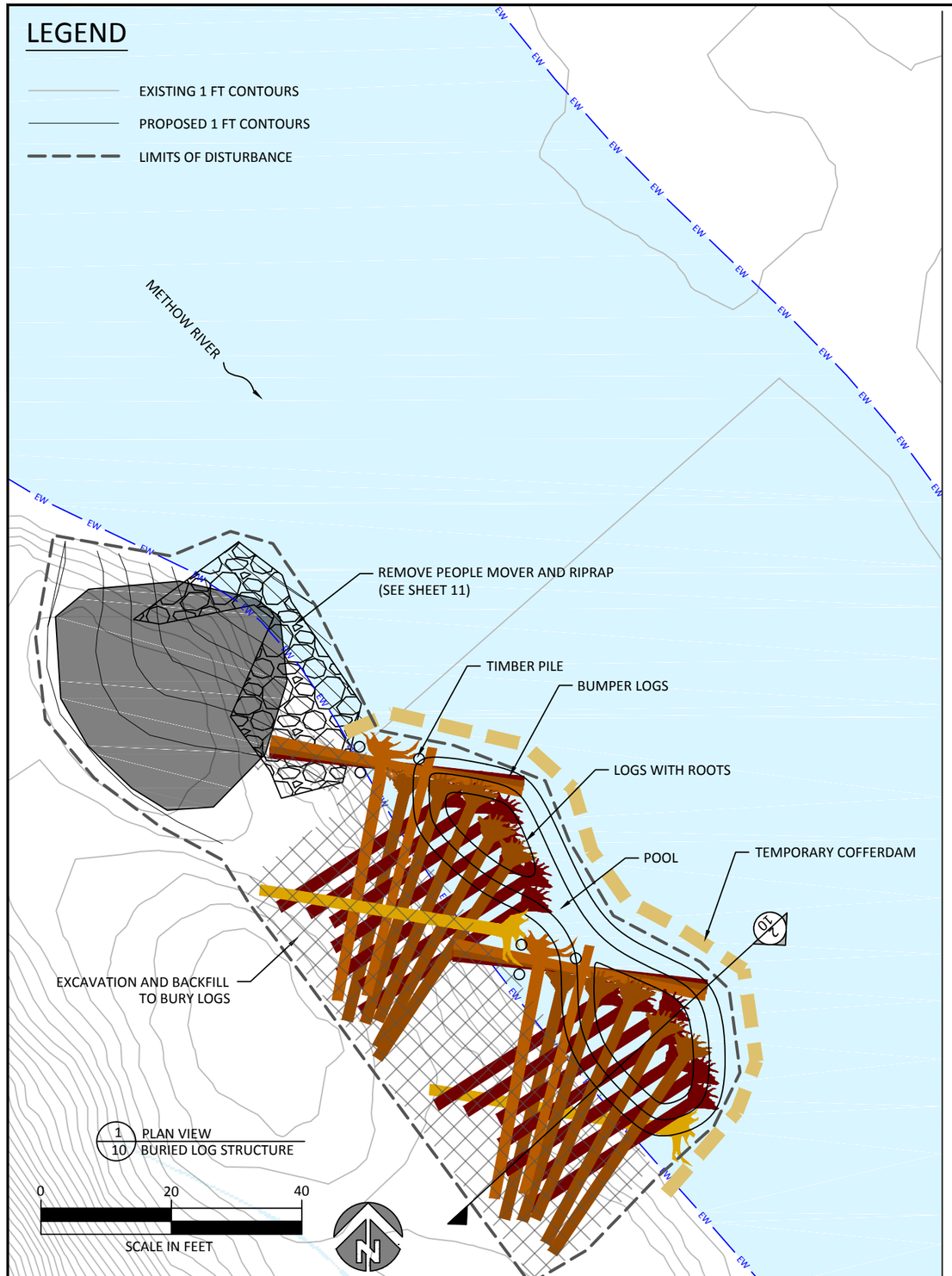
MICHAEL R. McALLISTER
STATE OF WASHINGTON
38189
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 08-25-2016

LEGEND

EXISTING 1 FT CONTOURS

PROPOSED 1 FT CONTOURS

LIMITS OF DISTURBANCE



LEGEND

LOW WATER (APPROX)

EXISTING 1 FT CONTOURS (LiDAR)

PROPOSED 1 FT CONTOURS

LIMITS OF DISTURBANCE

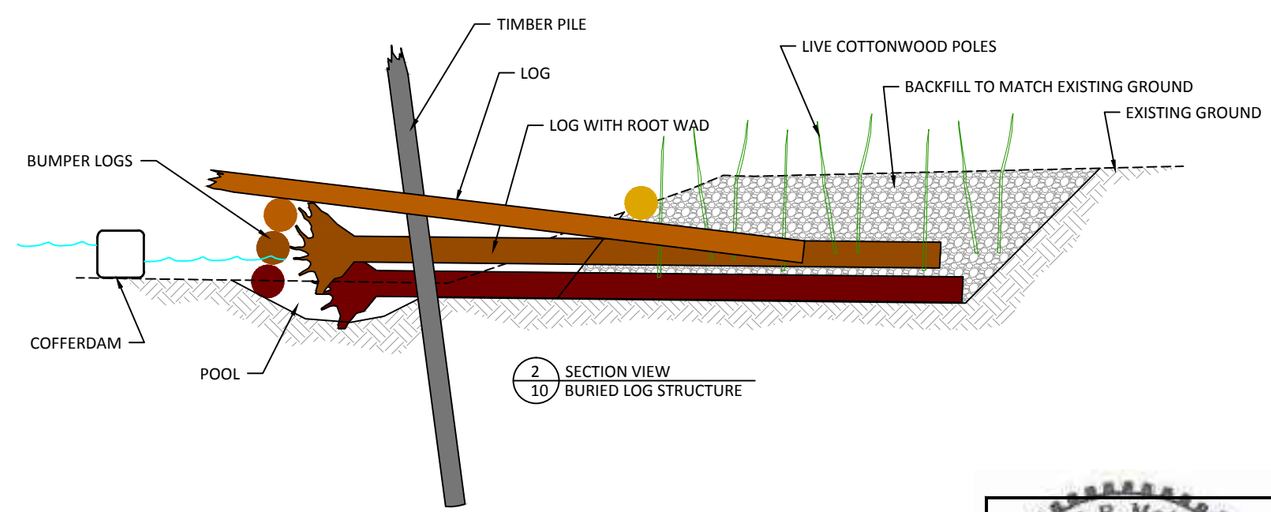
EXCAVTION AND BACKFILL OVER LOGS

SITE D1 - LOG STRUCTURE
28 LOGS WITH ROOTS
8 LOGS
6 TIMBER PILES

A PORTION OF THIS WORK WILL OCCUR IN WATER.

SEQUENCE:

1. INSTALL COFFERDAM. PUMP FROM IMPOUNDED AREA TO LOWER WATER SURFACE IN WORK AREA.
2. EXCAVATE PIT FOR LOG BURIAL. EXCAVATE POOL.
3. INSTALL LOGS. BACKFILL EACH LAYER. PLACE COTTONWOOD POLES WHILE BACKFILLING.
4. REMOVE SURPLUS FILL FROM SITE.
5. REMOVE COFFERDAM.
6. APPLY STRAW MULCH TO GROUND DISTURBANCE AREA.



NOTES:
SPECIFIC ORIENTATION OF LOGS AND BALLAST MATERIALS MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SITE CONDITIONS & SIZE/SHAPE OF MATERIAL DELIVERED OR SALVAGED AT SITE.

LOGS SHALL BE BALLASTED TO RESIST BUOYANCY BY PARTIAL BURIAL AND BRACING TO WOODEN PILES.

NO.	DATE	REVISION DESCRIPTION
1	04/02/15	30% SUBMITTAL

DRAWN	DESIGNED	CHECKED
CP,DF	MM,MB,CM	MM,MB
APPROVED	DATE	PROJECT
MM,MB	04/02/15	13-02-29

CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION
METHOW RIVER - BIG VALLEY SOUTH
FISH HABITAT ENHANCEMENT PROJECT

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SITE D1 - BURIED
LOG STRUCTURE

SHEET
10 OF 16

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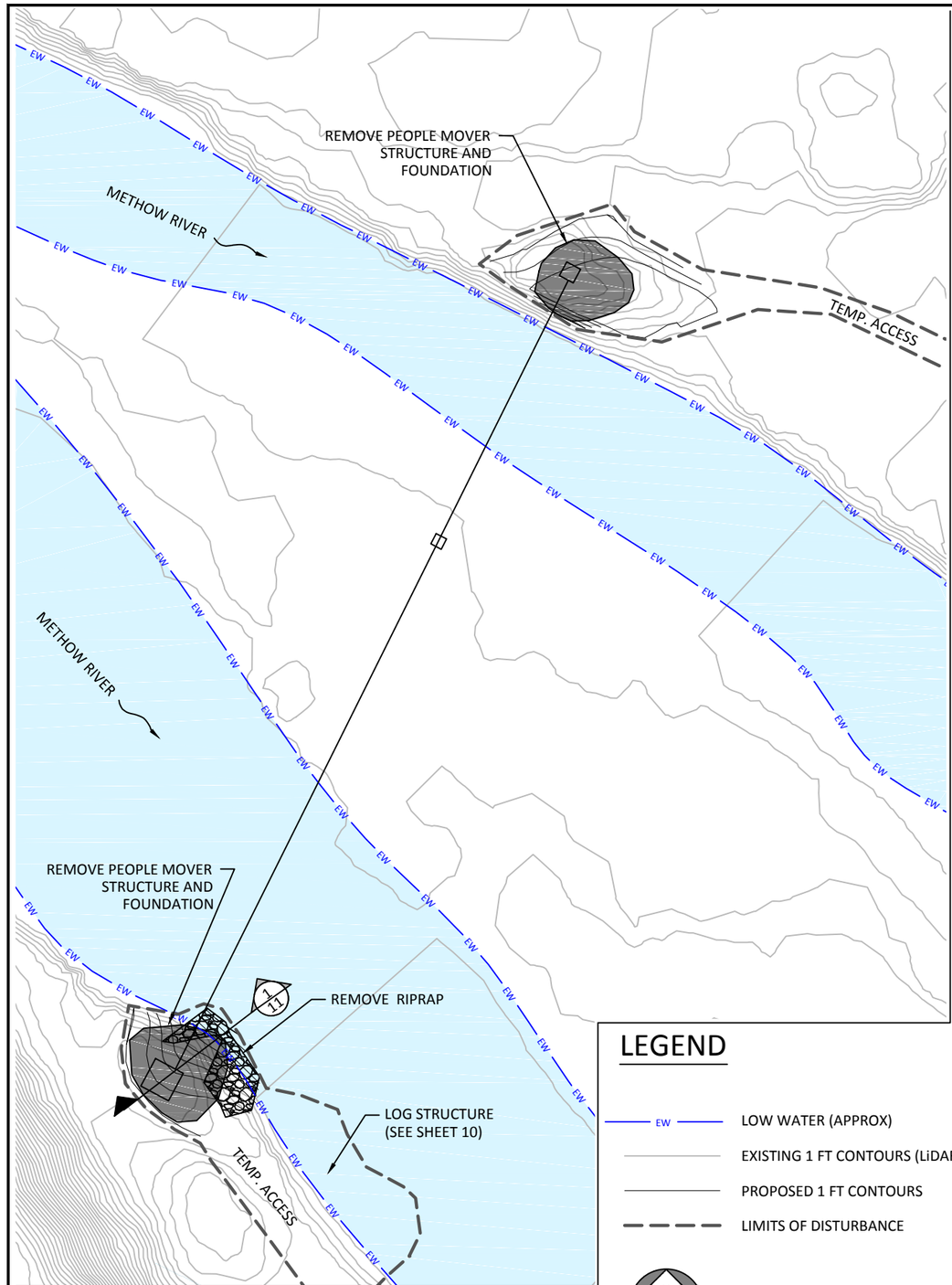


0 50 100

SCALE IN FEET

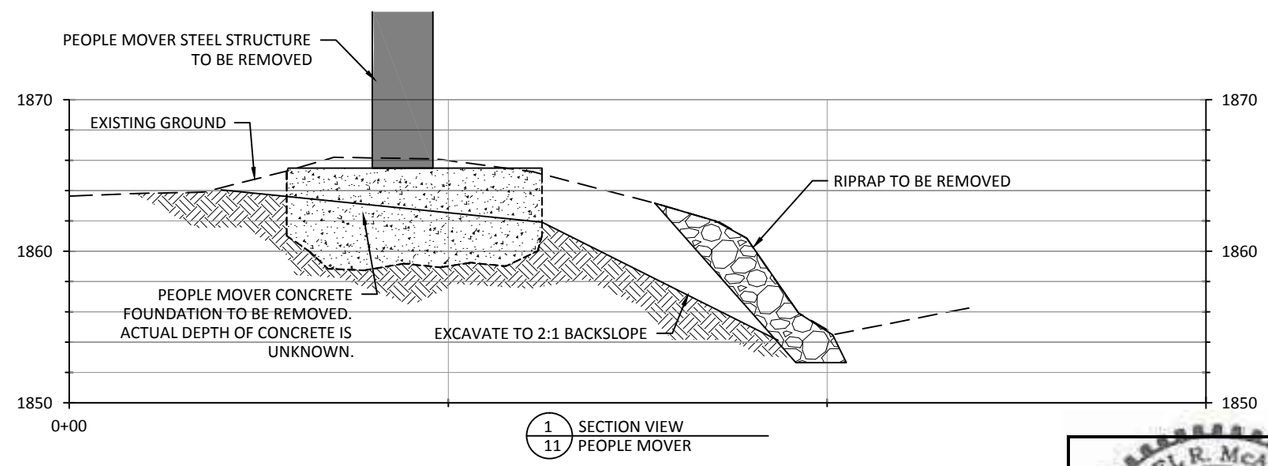
PLAN VIEW
SITE D - REMOVE PEOPLE MOVER

LEGEND

- EW — LOW WATER (APPROX)
- EXISTING 1 FT CONTOURS (LiDAR)
- PROPOSED 1 FT CONTOURS
- LIMITS OF DISTURBANCE

PEOPLE MOVER STRUCTURE AT SOUTH SIDE OF RIVER

PEOPLE MOVER STRUCTURE AT NORTH SIDE OF RIVER



1 / 11 SECTION VIEW PEOPLE MOVER

SITE D: THIS WORK INCLUDES REMOVAL OF THE CABLE TRAM STRUCTURE AND RIPRAP. CABLE TRAM SHALL BE SALVAGED AND TRANSPORTED TO DESIGNATED LOCATION. DISMANTLING OF CABLE TRAM SHALL BE IN A MANNER THAT ALLOWS RECONSTRUCTION OF CABLE TRAM BY OTHERS.

PORTIONS OF THE RIPRAP REMOVAL WILL OCCUR IN THE RIVER, BELOW WATER LEVEL.

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NO.	DATE	REVISION DESCRIPTION
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DRAWN	DESIGNED	CHECKED
MM,MB	04/02/15	13-02-29
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SITE D2 - REMOVE PEOPLE MOVER

SHEET 11 OF 16

BURIED LOG STRUCTURE
(SEE SHEET 10)

METHOW RIVER

INSTALL PILES TO BRACE EXISTING LOGS
(SEE SITE F DETAILS, SHEET 13)

TEMPORARY COFFERDAM

EXCAVATE TO CREATE
A CHANNEL FROM
DITCH TO RIVER.
6 LOGS
6 TIMBER PILES

1862
1856
1861
1862
1863
1864

EXISTING DITCH

REMOVE IRRIGATION HEADGATE
(SEE PHOTO BELOW)

EXCAVATE THROUGH BERM THAT
SEPARATES DITCH FROM RIVER

PLACE FILL IN DITCH

EXISTING DITCH

ACCESS FROM WOLF CREEK RD BY
EXISTING GRAVEL ROAD

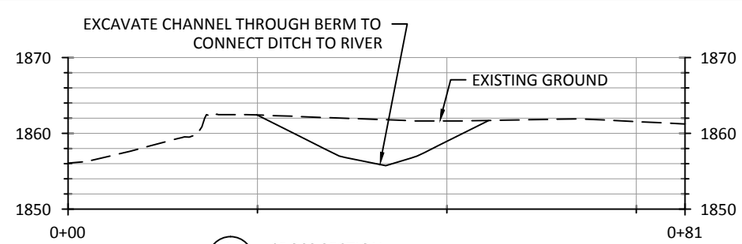
LEGEND

- LOW WATER (APPROX)
- EXISTING 1 FT CONTOURS (LiDAR)
- PROPOSED 1 FT CONTOURS
- LIMITS OF DISTURBANCE (TBD)

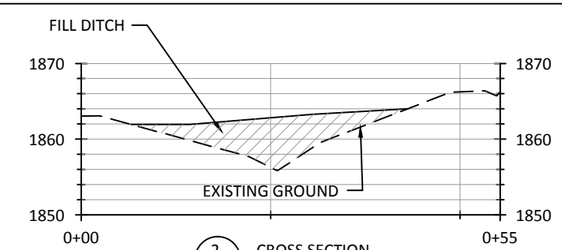
0 40 80
SCALE IN FEET

PLAN VIEW
SITE E

1870 IRRIGATION HEADGATE



1/12 CROSS SECTION
BERM EXCAVATION



2/12 CROSS SECTION
DITCH FILL

SITE E: THIS WORK ELEMENT INCLUDES EXCAVATION OF THE BACKWATER CHANNEL, REMOVAL OF THE IRRIGATION HEADGATE AND FILLING OF THE IRRIGATION DITCH. THESE ACTIVITIES WILL OCCUR IN UNISON.

THE SEQUENCE OF CONSTRUCTION ACTIVITIES WILL BE:

1. REMOVE IRRIGATION HEADGATE
2. INSTALL COFFER DAM
3. PUMP WATER FROM THE IMPOUNDMENT TO PREVENT CONSTRUCTION WATER FROM LEAKING INTO THE RIVER.
4. DISCHARGE CONSTRUCTION WATER TO EXISTING DITCH FOR INFILTRATION.
5. EXCAVATE THE BACKWATER CHANNEL FEATURE TO DESIRED GRADE.
6. PLACE FILL IN IRRIGATION DITCH. GRADE FILL TO MATCH SURROUNDING TOPOGRAPHY
7. REMOVE COFFER DAM

NO.	DATE	REVISION DESCRIPTION
1	04/02/15	30% SUBMITTAL

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SITE E - BERM AND DITCH
GRADING PLAN

SHEET 12 OF 16

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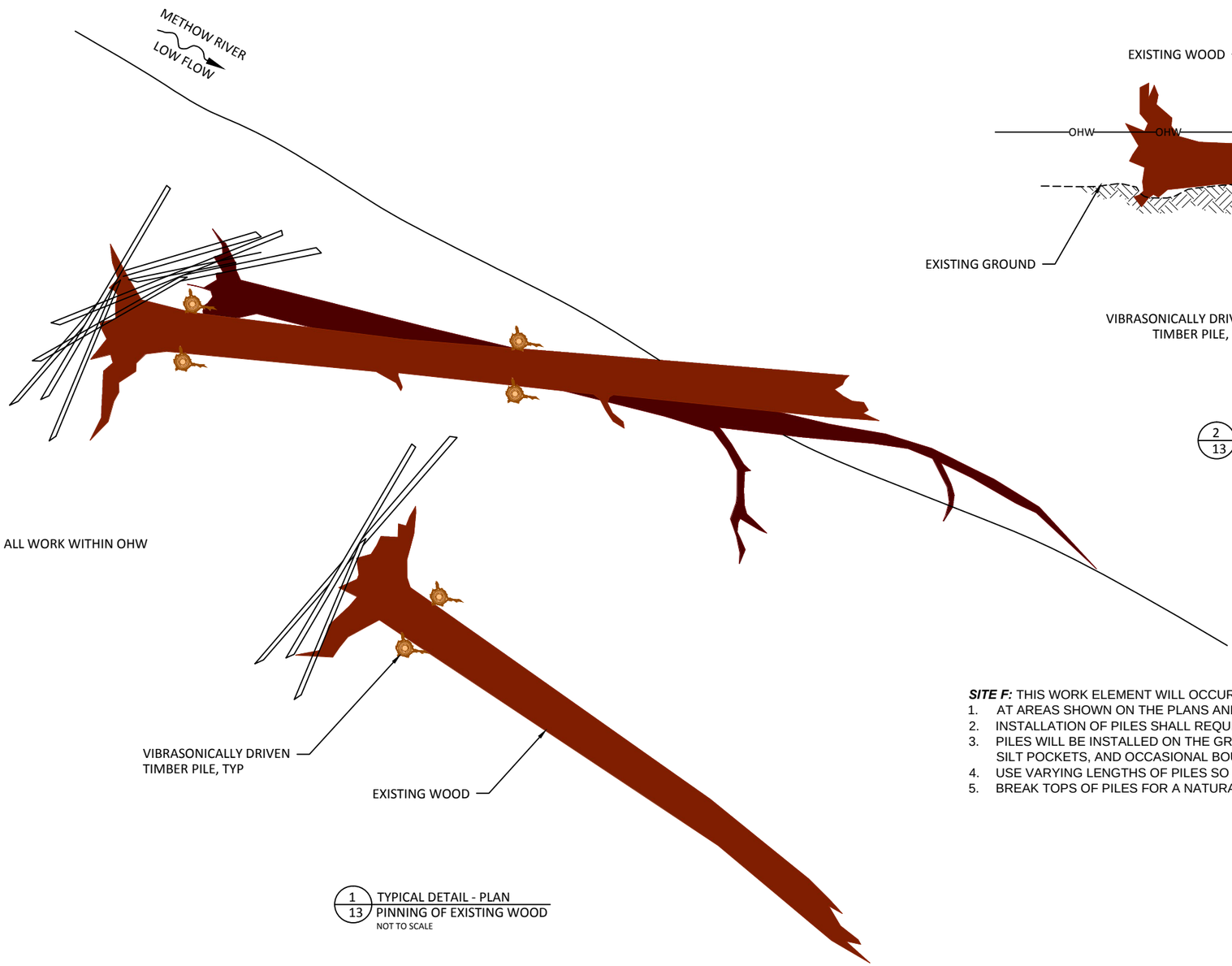
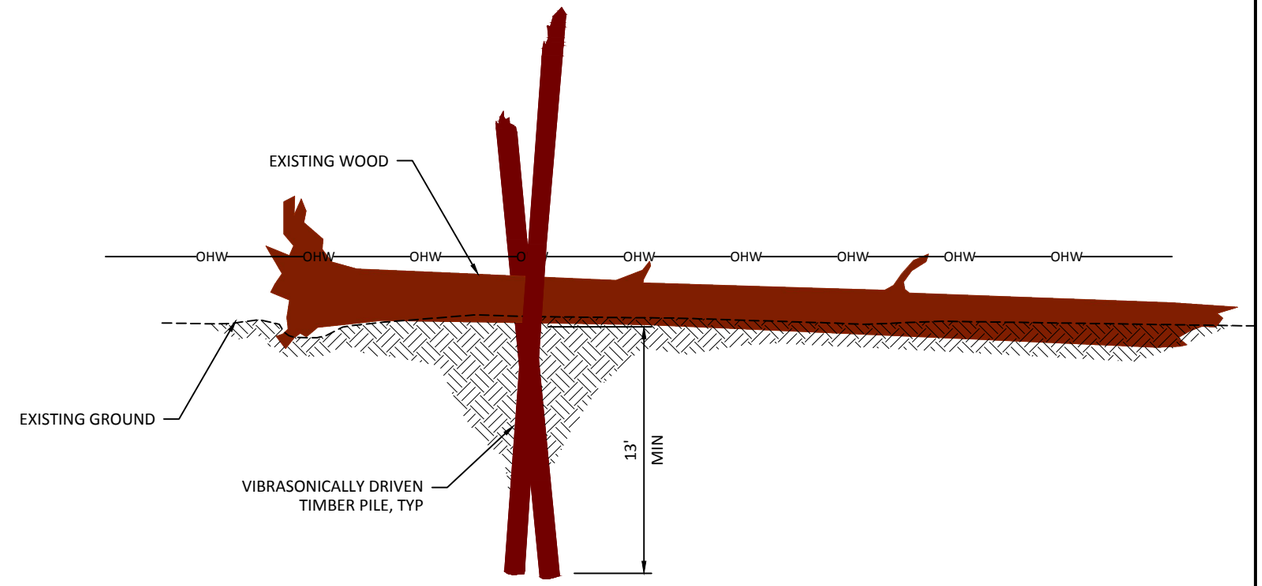


1/13 TYPICAL DETAIL - PLAN
PINNING OF EXISTING WOOD
NOT TO SCALE



2/13 TYPICAL DETAIL - SECTION
PINNING OF EXISTING WOOD
NOT TO SCALE

SITE F: THIS WORK ELEMENT WILL OCCUR AT LOCATIONS OF NATURAL WOOD ACCUMULATIONS.

1. AT AREAS SHOWN ON THE PLANS AND INDICATED IN THE FIELD, INSTALL UPRIGHT WOODEN PILES TO PIN EXISTING LOGS.
2. INSTALLATION OF PILES SHALL REQUIRE A VIBRASONIC PILE DRIVER.
3. PILES WILL BE INSTALLED ON THE GRAVEL BAR. EXISTING MATERIAL IS EXPECTED TO BE GRAVEL/COBBLE, WITH SAND AND SILT POCKETS, AND OCCASIONAL BOULDERS OR BURIED WOOD.
4. USE VARYING LENGTHS OF PILES SO THAT A RANGE OF HEIGHTS ABOVE GROUND WILL MAKE A NATURAL APPEARANCE.
5. BREAK TOPS OF PILES FOR A NATURAL APPEARANCE.

NO.	DATE	REVISION DESCRIPTION
1	04/02/15	30% SUBMITTAL

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SITE F - TYPICAL DETAILS
PINNING EXISTING WOOD

SHEET 13 OF 16

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EXPIRES 09-25-2016

Special Provisions

INTRODUCTION

The *Washington State Department of Transportation's Standard Specifications for Road, Bridge and Municipal Construction 2014* (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.

DIVISION 1 - GENERAL REQUIREMENTS

- **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. Work will be in a sensitive environmental area. Biodegradable Hydraulic Fluid shall be installed into each piece of heavy machinery working within 50 feet of Methow River.
3. River crossings shall be limited to one pass each way. A fueling station shall be installed on the west side of the river at a designated area near project sites A, B, C, and F. The fueling station shall store the total volume of fuel required to operate all heavy equipment utilized in the construction of Sites A,B,C,F on the west side of the river. No equipment crossings for refueling shall be allowed. The contractor shall include a fuel containment plan in the SPCC.
4. A spill Containment Kit shall be on site and crews shall be trained in its use.

Measurement

"TESC, SPCC Plan and Implementation," including the above amendments to the item will be measured by completion as described in the approved TESC, SPCC Plan.

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.

- **MOBILIZATION**

Description

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).

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.

DIVISION 2 - EARTHWORK

- **REMOVAL OF STRUCTURES**

Description

This item consists of removing and disposing of, or salvaging materials named in these Special Provisions in accordance with Section 2-02 of the Standard Specifications, and as amended by these Special Provisions.

Construction Requirements

Removal of Structures shall apply to three areas:

1. Cable Tram: The Cable Tram (People Mover) as shown in the Plans, includes cable, tram, and steel structure and concrete foundation on each side of the river (two structures).
   a. Steel portions of each structure shall be salvaged and hauled to a designated delivery location in the City of Okanagan as directed by the Owner. The steel portions of the structures shall be dismantled and transported in manner and form that will allow for reassembly of the structure by others. The City of Okanogan has agreed to provide labor and excavator to unload the structure at the disposal site at the Contractor's request. The delivery address is: 1610 First Ave South, Okanogan, WA 98640.
   b. Concrete portions of the Cable Tram structures shall be demolished and removed from the site. The dimensions of the concrete foundation are unknown. Concrete foundation shall be removed and hauled to a legal disposal site provided by the Contractor.
2. Large Boulders (riprap). Where designated in the Plans, riprap shall be removed from the riverbank and riverbed, and hauled to a legal disposal site provided by the Contractor.
3. Irrigation Headgate. This work includes demolition and disposal of cement, concrete, cinderblocks and metal associated with the Irrigation Headgate shown in the Plans. The disposal site shall be provided by the Contractor.

Measurement

Measurement will be based on work completed the item from the bid list installed and the work for that portion completed.

"Structure Removal" will be measured by lump sum.

Payment

Payment will be made in accordance with Section 1-04.1 for the following bid items: "Structure Removal" per lump sum

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

- **CHANNEL EXCAVATION INCL. HAUL**

Description

This item consists of excavating, loading, hauling, placing, and embankment compacting, or otherwise disposing of the material in accordance with Section 2-03 of the Standard Specifications, and as amended by these Special Provisions.

1. This item includes clearing at work areas and where needed to facilitate hauling between excavation and fill areas.
2. Portions of work will be in water.
3. This item includes hauling of excavated material to the embankment (fill) area designated in the Plans. The unit contract price per cubic yard shall include "Haul".
4. This item includes earth embankment construction at the fill area designated in the Plans. Embankment compaction shall be per *Section 2-03.3(14)C Method A*. Payment for Embankment Compaction will not be made as a separate item. All costs for embankment compaction shall be included in this item.
5. No work shall occur outside of the limits of disturbance shown in the Plans unless authorized by the Owner.

Work areas include:

1. excavation at Site C, hauling from Site C to Site A, and placing and embankment compacting at Site A
2. excavation and fill at Site E
3. excess fill from Site D to be placed and compacted at Site E

Measurement

"Channel Excavation Incl. Haul" 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 ground will be compared with the planned finished section shown in the Plans. Slope/ground 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.

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: "Channel Excavation Incl. Haul" per cubic yard.

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DIVISION 8 - MISCELLANEOUS CONSTRUCTION

The following sections are added.

- **SITE ACCESS MEASURES**

Description

This item includes construction, maintenance, and decommissioning of access roads, and staging and stockpile areas; temporary traffic control; utilities locates; and site cleanup.

Materials

The Contractor shall provide all required materials for site access measures.

Construction Requirements

1. Site Access

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 fence posts or other features identified in the field. Deviations from the alignments shown in the plans shall be approved by Owner prior to use. If fence is removed to facilitate access or construction, the Contractor shall replace or repair fence at no additional cost to the Owner. Site access routes shall be maintained and restored to original or better condition.

Site access may require the removal of trees. Only trees designated for removal by the Owner shall be removed.

2. Traffic Control

Temporary traffic control requirements shall include construction signage at the entrance to the project site and any other measures required by State or local regulations.

"Site Access Measures," will be measured by lump sum.

Measurement

The unit contract prices for "Site Access Measures" shall be full compensation for all costs incurred for equipment, materials and labor for furnishing, installing, securing, maintaining, and restoration of access road, temporary traffic control, general site restoration, and Site Access Measures as described in this section.

Payment

Payment will be made in accordance with Section 1-09.9 for the following bid items: "Site Access Measures" per lump sum.

DIVISION 8 - MISCELLANEOUS CONSTRUCTION (continued)

- **COFFERDAMS**

Description

This item consists of providing and installing, maintaining, and removing measures to bypass the surface waters of the stream around in-channel work areas, and to prevent turbidity from entering the river.

A bulk bag cofferdam as illustrated in the Plans is one acceptable method. The Contractor may use this method or propose a different method that provides equal or better isolation of the work area from the flow. If a different method is proposed, Contractor shall submit drawings showing details of proposed methods for providing temporary isolation of surface water during construction activities. Review and approval of the Cofferdam Plan shall not relieve the Contractor from full responsibility for the adequacy of cofferdam work if the proposed plan is not successful at properly isolating the work area.

Cofferdams shall be suitably offset from work area so as to not interfere with log placement or limit pool excavation.

Materials

The Contractor shall provide all required materials for construction and maintenance of the cofferdam structures except as directed by the Owner.

A suitable Bulk Bag Cofferdam method is shown in the Plans. If Contractor elects to use alternate method(s) for temporary cofferdams, Contractor shall provide to the Owner shop drawings and/or vendor cut sheets for substitutions and submit cofferdam/diversion plan for review prior to implementation.

Construction Requirements

1. Cofferdams

Construct each cofferdam to completely isolate each work area from the river or water directly connected to the river. Cofferdam shall be in conjunction with Pumping.

2. Coordination with Fish Rescue

The Contractor shall provide minimum 5 days advance notice to the Owner before each cofferdam installation date. The Contractor shall understand that cofferdam installation requires coordination with the Owner and only after the Owner has completed fish rescue can the cofferdams be completed.

Measurement

Measurement will be based on the item from the bid list installed and the work for that portion completed.

"Cofferdams" will be measured by lump sum.

Payment

Payment will be made in accordance with Section 1-09.9 for the following bid items: "Cofferdams" per lump sum

- **PUMPING**

Description

This item includes dewatering work within cofferdam impoundments. In cofferdammed (impoundment) areas, the intent of pumping will not necessarily be to remove all water from the impoundment, but to create a lower-head condition in the impoundment so that if there are any leaks, clean water will flow toward the construction area instead of turbidity flowing away from it.

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

Materials

1. At a minimum, one 6" trash pump with 300 feet of discharge hose. System shall have pumping capacity greater than 600 gpm, assuming 12 feet of vertical lift and 300 feet of discharge hose.
2. Environmental Protection Measures such as 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.

Construction Requirements

1. Pumps

Groundwater will be encountered during excavations. To help prevent turbidity from leaking through the cofferdams, the contractor shall provide and operate 6" trash pump(s) to lower the water surface within the isolated area and discharge to an infiltration area. The Contractor shall monitor discharge and ensure that infiltration is effective. The Contractor may be required to change discharge location, limit pumping duration, and/or provide additional BMPs to control construction water. No turbidity shall be allowed to enter the river.

2. Environmental Protection Measures

If infiltration becomes an ineffective means to control turbidity, additional and alternative methods, such as pumping into stilling basins or filtration geotextile fabric shall be required at the Contractor's expense.

Measurement

Measurement will be based on the item from the bid list installed and the work for that portion completed.

"Pumping" will be measured by lump sum.

Payment

Payment will be made in accordance with Section 1-09.9 for the following bid items: "Pumping" per lump sum. The unit contract prices for "Pumping" 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.

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DIVISION 8 - MISCELLANEOUS CONSTRUCTION (continued)

- **LOGS**

Description

All references to installing logs, logs with roots, timber piles, salvaged trees, or slash in the Plans and these Special Provisions shall be considered work associated with this item. This item consists of installing Logs and includes movement from stockpiles to installation areas, excavation and backfill to partially bury Logs, and installing rope and staples.

Materials

1. Logs

Logs will be supplied by the Owner to the site staging areas and shall consist of Logs, Logs with Roots, Timber Piles, and Salvaged Trees. Quantities of Owner supplied Logs are:

- 149 Logs with Roots; 40 feet long, with 16-24 inch diameter at breast height (dbh).
- 8 Logs, no roots, 30-40 feet long, with 16-18 inch diameter at scaled end.
- 154 Timber Piles. Minimum 30 feet long, 10-15 inch diameter at scaled end. Each Timber Pile shall have a broken top for a natural appearance.
- 5 Salvaged Trees with roots, 60 feet long.
- Two or more salvaged tree tops to be used as slash.

2. Rope and Staples

Rope and staples shall be supplied by the contractor and meet the specifications described herein. At Sites B, C, and E, Logs shall be tied to Timber Piles using 3-strand 1-inch diameter hemp or manila rope. Each end of the rope shall be secured by 3 "U" staples. 21 logs shall be secured with rope. Each connection will use approximately 22 feet of rope and 6 staples.

Construction Requirements

1. Logs shall be stabilized by partial burial at Sites A and D, and by Timber Piles and Rope at Sites B,C, and E. Locations of Logs shall generally be as indicated on the Plans. However, final location will depend upon the size, shape and quantity of material delivered or salvaged. Installation of Logs shall be understood to require a “fit in the field” approach as directed by the Owner's Representative.
2. Up to 5 trees have fallen near the access road to Site D. The Contractor shall haul these trees to Site D to be installed as Logs in Site D and Site E.
3. Timber Piles shall be per the approximate numbers and quantities indicated on the plans. Specific locations shall be determined in the field and directed by the Owner. The required embedment depth is indicated on the plans. Installed Timber Piles shall also have the following field-directed characteristics:.
   a. Timber Piles shall have varying heights above ground to break up a uniform appearance.
   b. Each Timber Pile log shall have a broken tops unless directed otherwise by the Owner's Representative. The preferred method shall be to break off the top 4-8 feet before installing the pile.
   c. Timber Piles shall be installed at various angles to pin down Logs to the floodplain surface.
4. At each pile installation site, one pile shall be tested for pullout resistance. Each test will require up to four individual pulls, each at a deeper depth. The Owner will provide the testing equipment.
5. Timber Piles shall be installed by vibratory hammer. Vibratory hammer shall have the following characteristics:
   a. Minimum of 800 kN (80 tons) of centrifugal force.
   b. Side grip with minimum 16” space between ends of jaws so that 16” diameter log will fit into the jaws.
6. Backfilling log structures at Site A shall be conducted simultaneously with installation of live cottonwood trees on the downstream side each structure. All materials and labor to conduct the plant installation will be provided by a planting contractor under separate contract with the Owner. Coordination will be required between the Construction Contractor and the Planting Contractor to ensure timing does not significantly interrupt the flow of work. Trees will be placed with roots in contact with groundwater while the stalks are protected by PVC tubes during backfilling. The trees in tubes will be hand-held in place during backfill operations.
7. At Sites B, C, and E, use Rope to secure each log to at least one Timber Pile. Secure each end of rope with 3 staples.

Measurement

Measurement will be based on the item from the bid list installed and the work for that portion completed.

“Logs” will be measured by lump sum.

Payment

Payment will be made in accordance with Section 1-09.9 for the following bid items: “Logs” per lump sum.

The unit contract prices for “Logs” shall be full compensation for all costs incurred for equipment, materials and labor for installing and securing logs and piles as outlined in the plans. Excavation and backfill, installing slash shall be incidental to Logs.

- **STANDBY TIME**

Description

Occasionally environmental factors and/or permit regulations require construction projects to temporarily shut down construction activities to avoid adverse impacts to sensitive resources. A declaration of a Level IV Industrial Fire Precaution Level by fire management agencies is one example of an environmental factor that could forcibly interrupt construction work on site for a matter of days to weeks. Should regulations or restrictions be enforced upon project construction activities resulting from environmental factors beyond the control of the contractor or the owner, the contractor will discuss options with the owner to determine the best course of action for maintaining the project timelines, preserving the good faith cost estimates for implementing the project as designed, and protecting the contractor from being responsible for cost overruns related to the mandatory shut down.

Discharging staff from the project during shut down periods is one way to control payroll costs that could be incurred by the contractor. However, the owner recognizes that leaving heavy construction equipment at the site can be a cost burden to the contractor if that equipment could be temporarily redeployed at other unaffiliated project sites during the shutdown period. For this reason, the owner shall allow the contractor to charge pre-determined standby rates by a unit of time for pre-identified pieces of heavy equipment in order to preserve the opportunity for the equipment to not be mobilized away from the project site. Determination of when standby time shall be assessed by the contractor will be agreed upon by mutual consent between the contractor and the owner in advance when shut down notices are imminent. As such, it is required that the contractor provide a schedule of rates for standby time by piece of equipment so that all such costs to the project are known in advance.

Measurement

Standby time will be calculated at the daily rate per piece of equipment as per the contractors bid price.

Payment

Payment shall be considered full compensation for all equipment remaining onsite during the period of work stoppage. Standby time charges will only apply to full work days where construction activities are not possible and will not be pro-rated by partial work days or hours on standby.

- **ROAD REPAIR**

This work consists of constructing one or more top courses of crushed surfacing top course upon a prepared subgrade in accordance with Section 4.04 of the Standard Specifications and the following supplements:

The work area is Dripping Springs Road from the Highway 20 intersection to the Big Valley trailhead parking area. This work shall be conducted after completion of other project sites that utilize this access route.

Materials

Materials shall meet the requirements of Crushed Surfacing 9-03.9(3).

Construction Requirements

Resurfacing shall consist of application of a crushed surfacing top course to a compacted depth of 3 inches.

The Contractor shall apply water and compact top course materials to ensure quality road surface construction.

This item shall include “Blading” and “Water Supply and Watering”.

Blading- This work consists of surface blading the traveled way to a condition to facilitate traffic and provide proper drainage. Blading includes shaping the crown or slope of the traveled way, and drainage dips, in accordance with this specification. Watering shall be incidental to this item.

A. General

1. Blade and shape the existing traveled way to produce a surface which is uniform, consistent to grade, and crowned or cross sloped as indicated by the character of the existing surface, unless otherwise specified. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of pothole or corrugations.
2. Apply water during blading when sufficient moisture is not present to prevent surface material segregation. Water supply, hauling, and application shall be in accordance with Water Supply and Watering (see below).
3. Shape existing native rock or aggregate surfaced drainage dips to divert surface runoff to existing outlet devices, ditches, and discharge locations.
4. Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of material within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise specified.

B. Routine Blading

Shape roadbed width in excess of the dimensions shown only as needed to provide drainage away from the travelled way. Do not remove established grasses and other vegetation from the excess width except as incidental to providing drainage or unless otherwise directed.

C. Signage - Place suitable temporary traffic control warning signs at each end of the work area. Such signing shall conform to the Federal Highway Administration's publication “Manual for Uniform Traffic Control Devices”, or MUTDC.

Water Supply and Watering - This work consists of providing facilities to furnish an adequate water supply, hauling and applying water. It shall be the contractors' sole responsibility to obtain all rights to use the water source. Equipment shall meet environmental permit or municipality requirements for controlling dispersal rates, backflow, NMFS fish screening protocol, or other pertinent requirements to conduct the work safely and efficiently.

Measurement

Road Repair will be measured as cubic yard of installed material.

Payment

Payment will be made in accordance with Section 1-04.1, for “Road Repair” per cubic yard. Subsurface preparation, “Blading”, and “Water Supply and Watering” shall be incidental to this item.

BID SHEET

Big Valley South Fish Habitat Enhancement Project Phases 5&6

Please provide costs by Project Task as described in the Scope of Work. Use the Cost Assumptions column to further describe the bid price.

Item	Cost	Cost Assumptions
Phase 5: Construction Management		
TASK 13.0—Assistance During Bidding		
TASK 14.0—Engineer's Oversight during Project Construction		
Phase 6: Monitoring		
Task 15.0—Produce a Monitoring Plan		

CERTIFICATION:

_____ _____

Company Name Date Prepared

_____ _____

Printed Name and Title Signature