R & E Grant Application 13 Biennium

Project #: 13-064

Oak Ranch Creek - Salmon Passage Improvement

Project Information

R&E Project Request: $70,000.00
Match Funding: $236,000.00
Total Project: $306,000.00
Start Date: 4/26/2014
End Date: 6/30/2015
Project Email: maggie@nehalem.org
Project Biennium: 13 Biennium
Organization: Upper Nehalem Watershed Council (Tax ID #: 721536873)

Fiscal Officer

Name: Maggie Peyton
Address: 1201 Texas Ave., Suite A
Vernonia, OR 97064
Telephone: 503-429-0869
Telephone 2: 503-396-2046
Email: maggie@nehalem.org

Applicant Information

Name: Maggie Peyton
Address: 1201 Texas, Ave. Suite A
Vernonia, OR 97064
Telephone: 503-429-0869
Telephone 2: 503-396-2046
Email: maggie@nehalem.org

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Project Summary

This project is part of ODFW's 25 Year Angling Plan.

Activity Type: Passage
Summary: Two Columbia County road (Apiary Road) stream crossings seriously impede anadromous fish passage. Approximately 8 miles of high quality/under utilized salmon habitat persists above these crossings. This project in a multi-phase effort

seeks to replace the first of two stream crossings and install fish habitat improvements with the addition of large wood in partnership with other cooperators and funding sources. Restoration and Enhancement board funds will be used exclusively to cost share with OWEB funds for the purchase of a Pre-cast Concrete bottomless arch culvert for replacing the road stream crossing and bringing it into compliance with fish passage standards.

Objectives: Restore anadromous fish passage and habitat throughout Oak Ranch Creek (Nehalem River tributary) to all areas of historical distribution.

Fishery Benefits: If not addressed, 8+ miles of Oak Ranch Creek will continue to be under-utelized by salmonids until the two remaining fish passage impediments underneath Apiary Road are replaced. We anticipate a 50%+ increase in juvenile production and subsequent adult return to the basin as a direct result of this work. Significant recreational fisheries for Chinook, coho, steelhead, & cutthroat trout within the Nehalem River basin stand to benefit, especially in the estuary up to the upper extents of tidewater. Ocean commercial and recreational fisheries also intercept the same Chinook and coho populations from this stream during the saltwater phase of their respective life cycles.

Watershed Benefits: Adult and juvenile fish passage at both crossings is definitely impacted. Replacement (phase I and II) of these two key stream/road crossings along Apiary Road will improve salmonid and lamprey access to the quality habitat conditions that awaits them upstream. Habitat improvements made within the identified reaches of this overall project will also help increase the overall productivity of the stream, allowing more fish to rear within Oak Ranch Creek and not be forced into the mainstream Nehalem, where summer rearing temperatures can be lethal.

Average rearing densities for coho have remained low in Oak Ranch Creek during the last three survey years (1.0-1.4 coho/sqm.). A large potential for higher coho production exists in this sub-basin. The highest densities in 2009 were observed at RM 6 (6.5 coho/sqm.). In 2010 there were two peaks observed, the first at RM 2.6 (3.9 coho/sqm.) and the second at RM 6 (2.8 coho/sqm.). In 2011 these two density peaks shifted
0.5 miles upstream to RM 3.2 (3.6 coho/sqm.) and RM 7 (2.7 coho/sqm.).

The highest individual pool counts for coho occurred downstream of RM 6. Almost all 1+steelhead (99%) found in 2010 were downstream of RM 4. No 1+steelhead were found in Oak Ranch in 2009. Cutthroat abundance declined 32% in Oak Ranch in 2010, most were documented below RM 4.

This project is Phase I of a two phase effort to address two passage barriers on Apiary Road. The second site will be addressed in 2014/15. This project will replace a pair of culverts that are a complete barrier to juvenile salmonids and partial barrier to adults. Replacing the culverts will eliminate these barriers, opening up over 8 miles of high quality habitat for both juveniles and adults Also, because of the double barrel and undersized designs of the existing crossings,

they impound gravels and impede natural downstream movement of the bed load material. Downstream reaches are thus affected by lack of gravel and debris recruitment in the nearby vicinities of these culverts. The new crossings will re-enable natural stream processes, improving stream conditions upstream and downstream.

The large wood placement in conjunction with the culvert replacement will enhance instream habitat conditions and aid in gravel and debris recruitment and sorting. The LWD sites will increase the amount of complex over winter and summer habitat, increase overall habitat complexity, pool volumes and create slow water areas, encourage off-channel flooding and wetland enhancement, create backwater areas and trap and sort sediment, and capture and capture and store high flows resulting in increased ground water holding capacity and the release of cooler water in summer. LWD also provides habitat and nutrients for aquatic invertebrates, increasing food supplies for fish and wildlife, helping nutrient cycling. There is ample beaver sign in this stream, and it is highly likely beaver will use the LWD structures to enhance their dam building.

Current Situation:

Review of current watershed assessments support our findings that the Upper Nehalem
Watershed historically supported large, diverse populations of salmon, steelhead and trout species; and due to fish passage impediments and habitat degradation these species are in decline. The assessments recommend corrective action, and identified high priority fish passage and aquatic habitat improvement projects. The overall assessment of the Oak Ranch watershed identifies its low gradient meandering cobble-rich stream system is suitable for restoring historical levels of native coho salmon production. Two culverts crossing Apiary County Road are blocking passage of adult and juvenile coho salmon, steelhead, and cutthroat trout, as well as Pacific and brook lamprey. Three fish passage projects meeting fish passage standards have already been completed over Oak Ranch Creek by other entities. Once the final two passage barrier projects have been completed, Oak Ranch Creek will be accessible to its headwaters, and some of the best existing juvenile coho salmon rearing habitat in the Upper Nehalem watershed.

Alternatives: It is the opinion of Lower Columbia Engineering, Columbia County Road Department, ODFW and UNWC, based on our collective experience, the precast "bottomless" concrete arch structures proposed for the crossing replacement solutions offer the most durable option with regards to possible damage from natural debris flows and stream scour. Furthermore, the arch configuration of these structures sustain heavier loads and available structure length allows for natural embankments that do not increase traffic safety concerns. The proposed Contec arch design has a life span of 160+ years, is very low maintenance and easier to install then a bridge or corrugated metal plate structure. In contrast Corrugated metal plate structures are cheaper to purchase however are more expensive to install and have shorter-limited structural and life span integrity.

Other options considered:

Steel Modular Bridge: The steel modular bridge was estimated to cost more than the precast open bottom concrete box culvert by the time that county/ODOT standards are met. Additionally, there are increased safety concerns and long-term expenses for the county associated with a bridge.

Multi-plate Open Bottom Steel Arch: Not as durable as the precast open bottom concrete box culvert. Even though the structure costs less, the total implementation costs are similar to the open bottom concrete box culvert due to the labor associated with assembling all of the plates.

Open Bottom Concrete Box Culvert (selected option): This was determined to be the most appropriate selection based on installation cost, durability and long-term maintenance considerations.

Designer: The stream crossing replacements for this project have already been designed by Lower Columbia Engineering and reviewed/approved by ODFW fish passage program, NOAA fisheries, US Fish & Wildlife service, Columbia County Road Department.

Methods: Oregon Habitat Restoration Guidelines, ODOT Slopes IV Handbook, and Columbia County Road Construction Standards.

Inspector: Upper Nehalem WSC, ODFW, Lower Columbia Engineering, and Columbia County Road Master.

Funding Elements: R&E funds will be used exclusively with OWEB funds to cost share the purchase of the pre-cast bottomless concrete arch road stream crossing.

Partners: Yes

Upper Nehalem Watershed Council: project development, field reconnaissance, grant writing, partnership building, public outreach, project management, project administration, reporting, project effectiveness monitoring

ODF: in-kind field reconnaissance, consultation, access to public forest land for 150 whole trees for habitat enhancement

Columbia County Parks Department: full access to project reaches in Camp Wilkerson, 10 whole trees for habitat enhancement

Columbia County Road Department: field reconnaissance, project development, design consultation, public outreach, public bid, permit application, county permit, contract administration, engineer oversight during implementation, project inspection, long-term maintenance

Weyerhaeuser: field reconnaissance, logistics consultation, access to project reaches, whole trees, safety and fire prevention planning

Campbell Group: field reconnaissance, logistics consultation, access to project reaches, whole trees, safety and fire prevention planning

OWEB: $425,000 for project management, contracted services, materials, grant administration, project effectiveness monitoring and technical review of design and project over-all ($236,000 earmarked specifically for cost share with R&E to purchase the Pre-cast bottomless concrete arch stream road crossing).

NFWF Governor's Fund for the Environment: $75,000 for contracted services and materials

USFWS Partner's of Fish and Wildlife Program: $25,000 for contracted services, design and permitting consultation

ODFW R&E Program: $70,000 cost share with OWEB to purchase the Pre-cast bottomless concrete arch stream road crossing.

Existing Plan: Yes

North Coast TMDL, 2003 includes Nehalem river and stream reaches identified by DEQ as temperature limited for rearing and spawning salmon. Oak Ranch Creek is identified as impaired.

Oregon Coastal Coho Assessment, Part I, 2005 identifies several 'risk factors' that threaten the viability of the Coastal Coho Evolutionary Significant Unit. This project addresses the risk factors associated with stream complexity (page 62). The Oregon Coastal Coho Assessment lists Stream Complexity as the Primary Limiting Factor for the Nehalem Watershed.

Upper Nehalem Watershed Habitat Assessment and Prioritization Project prepared by Boswell Consultants (2007) identifies Oak Ranch Creek a priority restoration area.
2009-2011 Upper Nehalem Rapid Bio-Assessment prepared by Bio-Surveys identifies Oak Ranch Creek as a priority candidate for habitat and access enhancement.
The North Coast Stream Project Guide to Restoration Site Selection Phase II by ODFW (1997) identifies the project areas of Oak Ranch creek as high priority areas for enhancement.
2008 Nehalem Data Synthesis by OWEB/UNWC/LNWC (2008) identifies Oak Ranch Creek as a priority area for LWD and riparian enhancement.

This crossing is listed as a high priority for replacement in the ODOT/ODFW Fish Passage Database.

OWEB Basin Priorities addresses all of the priorities identified through the identification of the status of Upper Nehalem Health Indicators. The Limiting Factors identified include the following: Water Temp, Water Quality and Water Quantity; Winter Rearing Habitat Complexity; Large Wood; Channel Modification; Stand Condition; Roads.

Nehalem Conservation Action Plan addresses watershed health and limiting factor concerns at the ecosystem scale with special focus on improving fresh water and riparian forest habitats.

Affected Contacted: Yes

Affected Supportive: Yes

Affected Comments: This project already has broad support from a plethora of landowner partners such as ODF, Columbia County, Weyerhaeuser, Campbell Group and natural resource agency support from USFWS and ODFW.

We would like to add the ODFW R&E program into the mix as this project is a highly worthwhile endeavor and cost share funds are required to secure OWEB funds.

Project Schedule/Participants/Funding

Activity	Date	Participants
Permit for Crossing - DSL/USACE	1/31/2014	Columbia County/UNWC
Public Bid - Road/Stream Crossing	2/17/2014	Columbia County/UNWC
Public Bid - Large Wood Placement	4/17/2014	UNWC
Project Implementation	7/15/2014	Columbia County/UNWC/ODF/LCEW
Project Inspection	8/31/2014	Columbia County/UNWC/ODFW/LCE

Affected Species:
Chinook Salmon
Coho Salmon
Cutthroat Trout
Pacific Lamprey
Steelhead
Western Brook Lamprey

Project Permits

Name	Issued By	Secured?	Date Secured	Date Expected
Columbia County - Road Construction	Columbia County	No	1/1/0001	5/1/2014
SLOPES IV - Programatic	DSL/USACE	No	1/1/0001	5/1/2014
ODF FPA Written Notification	ODF	No	1/1/0001	5/1/2014

Project Monitoring

Organization	Address	Activity	Frequency
Columbia County Road Department	2030 Strand St. St. Helens, OR 97051	bridge/road inspection	annually
ODFW	4907 3rd St. Tillamook, OR 97141	spawning, juvenile presence, aquatic habitat survey	annually
Upper Nehalem Watershed Council	1201 Texas Ave. Vernonia, OR 97064	Photopoints, effectiveness	annually

Project Maintenance

Organization	Address	Activity	Frequency
Columbia County Parks Department	2030 Strand St. St. Helens, OR 97051	large wood site = adjust if needed in Camp Wilkerson reach - minimal maintenance expected	as needed - after winter high water events

Columbia County Road Department	2030 Strand St. St. Helens, OR 97051	bridge inspection/repair = footings, bank stabilization, pavement. Minimal maintenance is expected.	annually - as needed

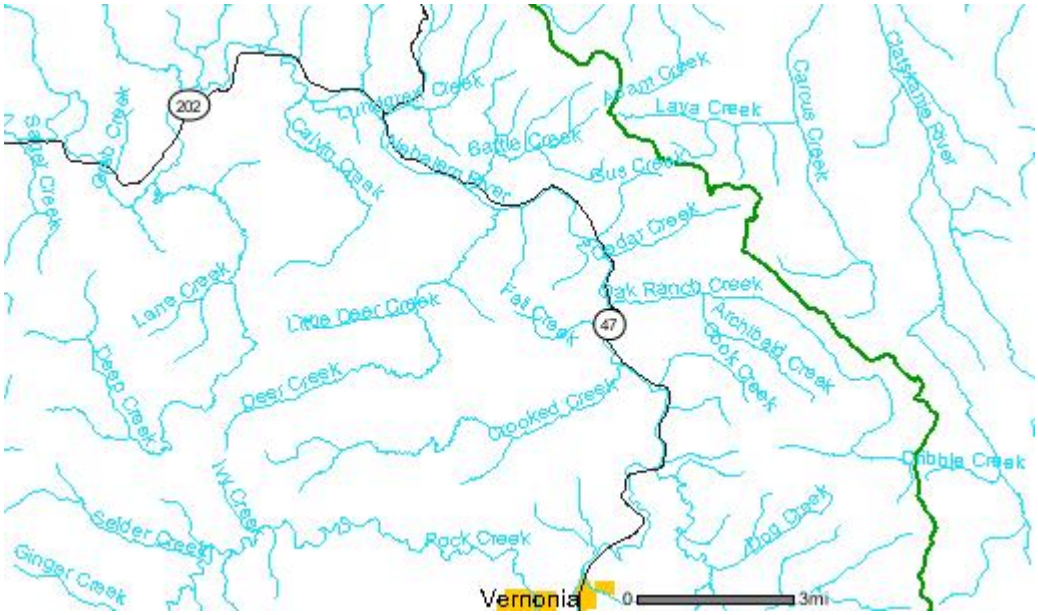
Project Match Funding

Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	$70,000.00	$0.00	$0.00	Pre-cast Concrete Stream Crossing Purchase/Acquisition	$70,000.00	No	No	
OWEB	$236,000.00	$0.00	$0.00	Pre-cast Concrete Stream Crossing Purchase/Acquisition	$236,000.00	No	No	
				Total Match Funding:	$306,000.00			

Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
Precast concrete bottomless arch culvert	Supplies/Materials /Services	1	$306,000.00	$70,000.00	$236,000.00	$306,000.00
					Total Budget:	$306,000.00

Project Map



Additional Files

Click a link to view that particular file.

Current site photo

letter of support

letters of support

letters of support

Oak Ranch Creek - Project Overview

Oak Ranch Creek - Project Overview - aerial

ODFW Letter

Overlay drawing on current picture

Project Design Plans

Signature page

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
Northwest Region
4907 3rd Street
Tillamook, OR 97141
(503) 842-2741
Fax (503) 842-8385
www.dfw.state.or.us

December 13, 2013

Oregon Department of Fish & Wildlife
Restoration & Enhancement Program
3406 Cherry Ave
Salem, OR 97303

To Whom it Concerns:

The purpose of this letter is to express the support of the Oregon Department of Fish and Wildlife (ODFW) North Coast Watershed District for the Oak Ranch Creek Salmon Passage Improvement Project proposal submitted by the Upper Nehalem Watershed Council. The goals of this project are to eliminate fish passage impediments and improve overall fish habitat conditions throughout the Oak Ranch Creek watershed. Partners in this project include Columbia County, ODF, Weyerhaeuser Company, Campbell Group LLC, USFWS Partners for Wildlife Program, Upper Nehalem Watershed Council and ODFW.

Oak Ranch Creek was historically a substantial producer of anadromous fish in the Nehalem River basin, but is not currently up to its production potential. Factors for its decline are due primarily to historic habitat simplification and the two stream road crossings underneath Apiary road that preclude fish from over 50% of the available habitat. The potential for this stream to provide exceptional fish production for Chinook, coho, steelhead, coastal cutthroat trout, and lamprey spp. is substantial. Completion of the identified work will support fisheries within the Nehalem River Basin and ocean.

The North Coast Watershed District will be providing in-kind technical and on-the-ground implementation assistance to ensure that all fish passage designs and recommended habitat improvements meet our agency's fish passage and habitat restoration criteria.

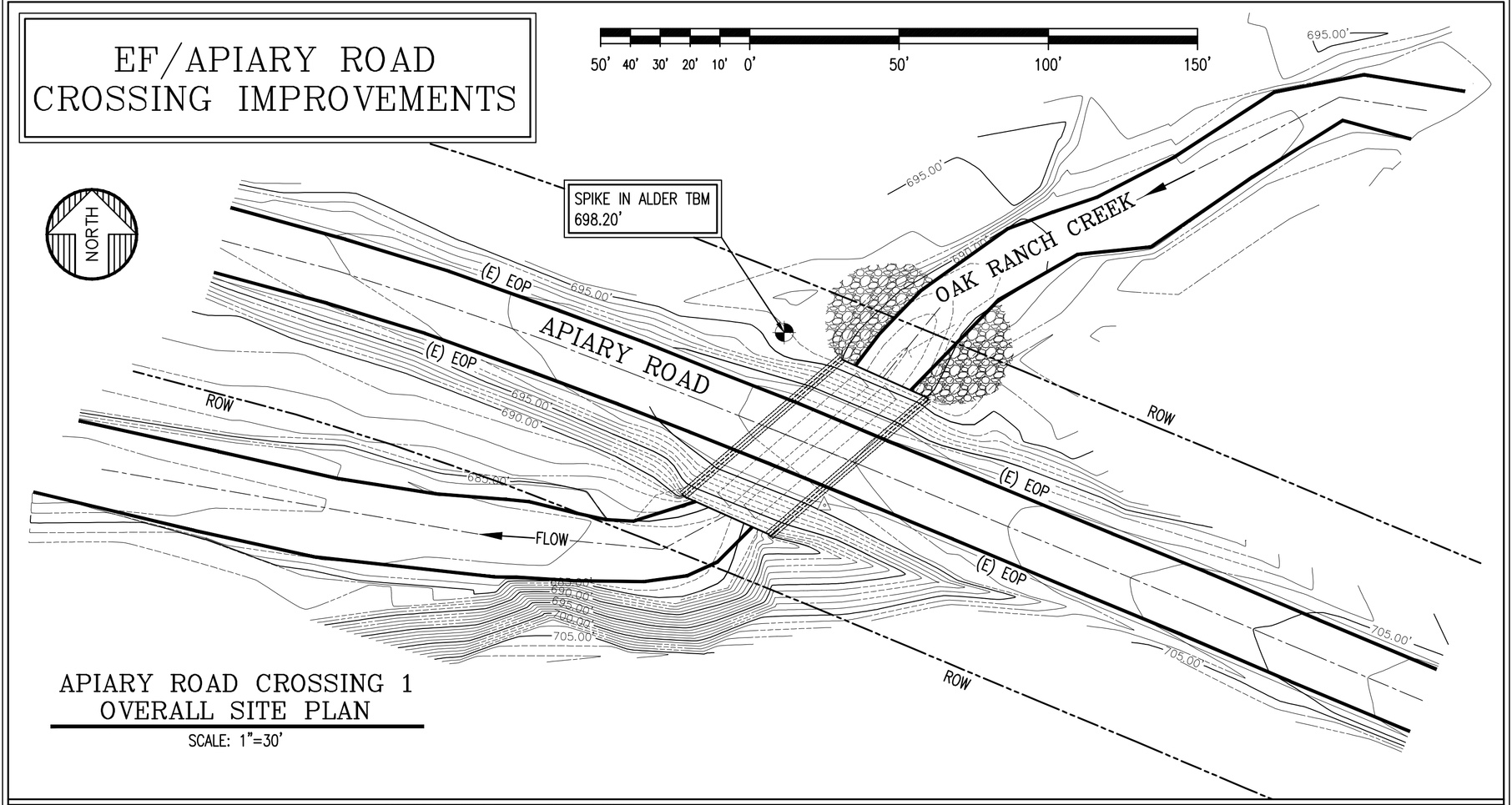
The Oregon Department of Fish and Wildlife strongly urges you to support this proposal.

Sincerely,

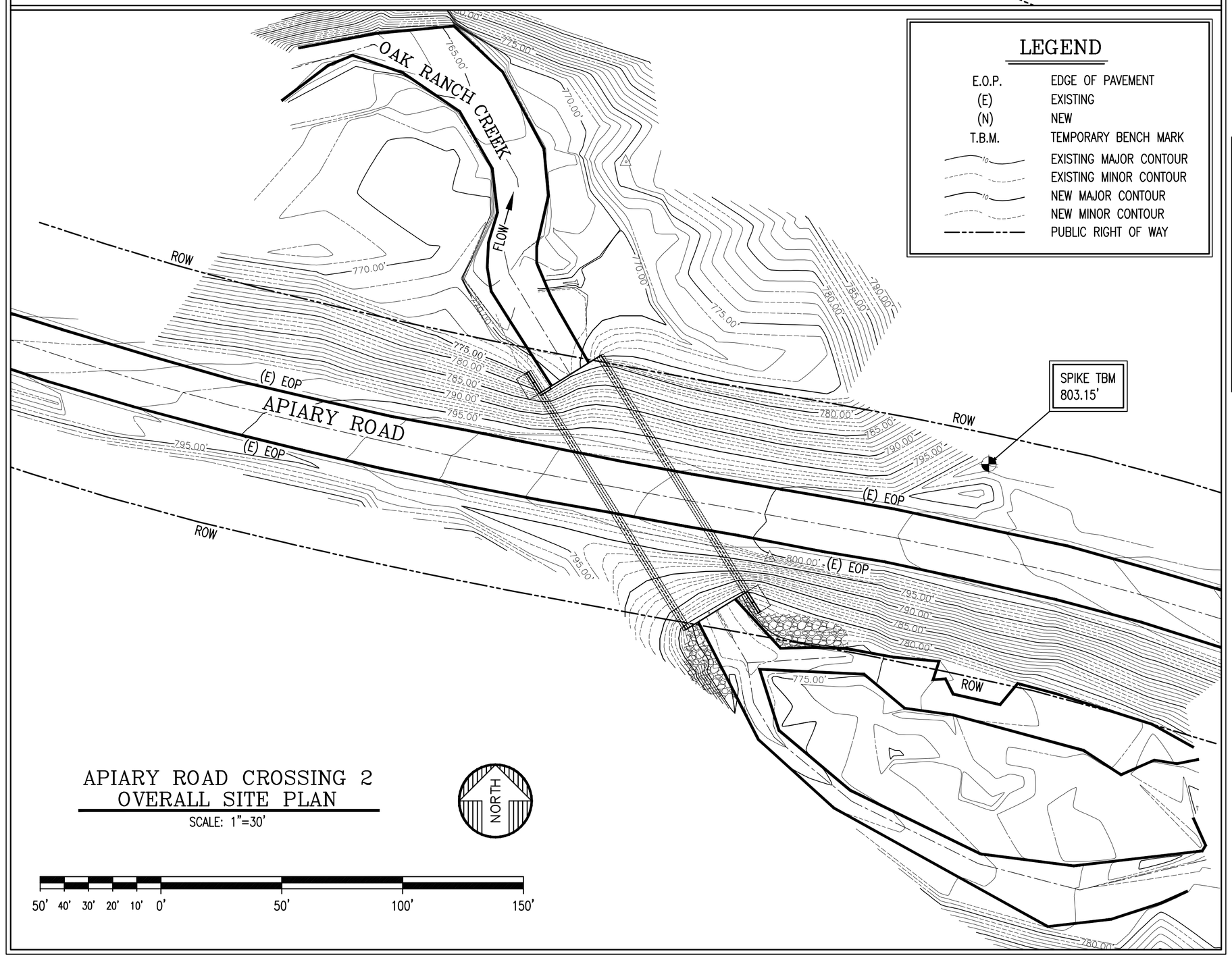
[redacted]

Chris Knutsen
District Fish Biologist
ODFW - North Coast Watershed District

EF/APIARY ROAD CROSSING IMPROVEMENTS



APIARY ROAD CROSSING 1
OVERALL SITE PLAN
SCALE: 1"=30'



APIARY ROAD CROSSING 2
OVERALL SITE PLAN
SCALE: 1"=30'

50' 40' 30' 20' 10' 0' 50' 100' 150'

LEGEND

E.O.P.	EDGE OF PAVEMENT
(E)	EXISTING
(N)	NEW
T.B.M.	TEMPORARY BENCH MARK
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	NEW MAJOR CONTOUR
	NEW MINOR CONTOUR
	PUBLIC RIGHT OF WAY

GENERAL STREAM NOTES

1. ANY CASCADES SHALL NOT BE GREATER THAN 6" TALL FALLING INTO POOLS THAT FISH CAN JUMP FROM RATHER THAN SHALLOW SURFACES SUCH AS ROCKS.

2. INSTALL HABITAT LOGS AS DIRECTED BY ODFW OR FIELD ENGINEER (IF SPECIFIED). LINE STREAM BED IN DISTURBED AREA WITH COHO SPAWNING GRAVEL MIX AS APPROVED BY THE FIELD ENGINEER OR ODFW. USE SALVAGED NATIVE MATERIAL OR EQUAL PARTS OF 7/8" DRAIN ROCK 1-1/2" DRAIN ROCK, PEA GRAVEL AND 2" TO 6" COBBLE, ALL ROUNDED AND WASHED WITH NO FINE SEDIMENT. THIS BEDDING SHALL BE 8"-12" THICK AND EXTEND THROUGHOUT DISTURBED AREA.

3. NO CEMENT SHALL BE ALLOWED TO ENTER STREAM OR CONTAMINATE BANKS.

4. WORK SHALL BE CONDUCTED ONLY DURING PERIODS OF LOW WATER FLOWS AND BETWEEN JULY 1 AND AUG. 31, UNLESS AN IN WATER WORK PERIOD EXTENSION IS GRANTED BY ODFW.

5. WORK AREA SHALL BE KEPT PICKED UP AS BEST AS REASONABLY POSSIBLE AT ALL TIMES. DO NOT ALLOW ANY DEBRIS TO ENTER STREAM OR LITTER BANKS.

UTILITY LOCATES

(48 HOUR NOTICE PRIOR TO EXCAVATION)

OREGON LAW REQUIRES YOU TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0100. (YOU MAY OBTAIN COPIES OF THE RULES ROM THE CENTER BY CALLING 503 246 1987.)

ONE CALL SYSTEM.....1 800 332 2344

ON LINE .... http://www.callbeforeyoudig.org/

NOTE:
ENGINEERING SHALL BE FINALIZED BASED ON STRUCTURAL SUBMITTAL FROM SUPPLIER.

DRAWING INDEX

DRAWING NUMBER	DESCRIPTION
D-1442-1000-01	COVER SHEET
D-1442-1000-02	EXISTING SITE PLANS
D-1442-1000-03	PROPOSED SITE PLANS
D-1442-1000-04	CROSSING 1 - PROFILES & SETTING PLAN
D-1442-1000-05	CROSSING 2 - PROFILES & SETTING PLAN
D-1442-1000-06	WATER DIVERSION & SITE DETAILS

GENERAL STRUCTURAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE I.B.C., A.I.S.C., A.C.I., CODE AND COLUMBIA COUNTY ROADS DEPARTMENT, AASHTO AND ODOT STANDARDS.

2. ALL CONCRETE, OTHER THAN PRE STRESSED, SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AFTER 28 DAYS OR AS SPECIFIED BY MANUFACTURER.

3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60, BILLET STEEL DEFORMED BARS. ALL REINFORCING SHALL BE SPLICED AND/OR BENT TO FULLY DEVELOP THE CAPACITY OF THE BAR. ALL AREAS OF POURING CONCRETE SHALL BE ISOLATED FROM THE STREAM FOR 24 HOURS MINIMUM. PUMP CONTAMINATED WATER TO UPLAND LOCATION.

4. ALL HOT ROLLED SHAPES & STEEL PLATES SHALL BE CONSTRUCTED WITH STEEL CONFORMING TO ASTM A36 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI. ALL STEEL SHALL BE CLEANED, PRIMED & PAINTED WITH TWO FINISH COATS, COLOR BY OWNER OR GALVANIZED.

5. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE LAWS SPECIFICATIONS WITH 70 KSI MATERIAL. ALL WELDS SHALL BE OF A TYPE AND SIZE APPROPRIATE FOR THE MEMBERS BEING WELDED. ALLOW SUFFICIENT TIME FOR COOLING BETWEEN WELDS. FIELD WELDING REQUIRES SPECIAL INSPECTION.

6. ALL BOLT ASSEMBLIES SHALL CONSIST OF BOLT, NUT AND HARDENED WASHER. BOLTS SHALL BE A307 AND TIGHTENED UTILIZING "TURN OF NUT" METHOD, UNLESS NOTED OTHERWISE.

7. COMPLIANCE WITH GEOTECHNICAL REPORT BY CHINOOK GEOSERVICES, INC. IS THE RESPONSIBILITY OF THE CONTRACTOR.

8. BACKFILL SHALL BE THE MATERIAL PREVIOUSLY EXCAVATED, IF APPROPRIATE REMOVE ALL DELETERIOUS MATERIAL PER GEOTECHNICAL ENGINEERING REPORT. DO NOT PLACE ANY BACKFILL IN WATER. ALL MATERIALS SHALL BE THOROUGHLY COMPACTED TO 95% OF OPTIMUM DRY DENSITY.

9. ALL WALKING & ROAD SURFACES SHALL RECEIVE A SLIP RESISTANT SURFACE.

10. FIELD ENGINEER AND OR GEOTECHNICAL ENGINEER SHALL DETERMINE AND APPROVE FINAL LOCATION, EXCAVATION DEPTH AND PROPER BEDDING MATERIALS FOR FOOTINGS BASED ON SITE CONDITIONS DURING CONSTRUCTION.

11. ANY UNCERTAINTIES SHALL BE ADDRESSED PRIOR TO PROCEEDING, LOWER COLUMBIA ENGINEERING IS NOT RESPONSIBLE FOR THE PROPER IMPLEMENTATION OF THESE SPECIFICATIONS OR CONSTRUCTION MEANS AND METHODS ALL SHORING DESIGN IS BY OTHERS.

12. MAINTENANCE, INSPECTIONS AND PROTECTION OF THIS STREAM CROSSING ARE THE RESPONSIBILITY OF OTHERS. ENTIRE SYSTEM SHALL BE INSPECTED BY A QUALIFIED INSPECTOR EVERY 4 YEARS MINIMUM.

13. ENGINEERING OF STRUCTURE IS BY SUPPLIER. CONTRACTOR SHALL PROVIDE PROJECT SPECIFIC STRUCTURAL SUBMITTAL FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH PLACING AN ORDER OR BEGINNING CONSTRUCTION ACTIVITY.

GENERAL EROSION CONTROL & PROJECT NOTES

1. INSTALL COFFER DAMS WITH SAND BAGS TO PREVENT WATER FROM ENTERING CONSTRUCTION AREA. DIVERT WATER AROUND CONSTRUCTION AREA WITH APPROPRIATELY SIZED PIPE SYSTEM. ANY WATER THAT ENTERS CONSTRUCTION AREA SHALL BE PUMPED TO AN UPLAND LOCATION - SEE DETAILS ON SHEET 06. ALL PUMPS SHALL HAVE SCREENED INLETS. ADD GRAVEL MIXTURE AT PIPE OUTLET TO PREVENT EROSION.

2. REMOVE EXISTING EMBANKMENT AND CULVERT TO ACCOMMODATE THE WORK AREA FOR CONSTRUCTION. EXISTING EMBANKMENTS SHALL BE EXCAVATED TO THE NATURAL STREAM COURSE LEVEL. ALL WOODY DEBRIS ENCOUNTERED DURING EXCAVATION SHALL BE END HAULED TO A DESIGNATED WASTE AREA. THE EXISTING, REMOVED CULVERT SHALL BE HAULED TO AN APPROVED REFUSE SITE.

3. WASTE MATERIALS SHALL BE SLOPED FOR DRAINAGE AND STABILITY. PRIOR TO HAULING WASTE MATERIALS, THE WASTE AREA SHALL BE CLEARED OF LARGE WOODY DEBRIS. THE DEBRIS SHALL BE PILED ADJACENT TO THE WASTE AREA. ALL EXPOSED EXCAVATION AREAS AND WASTE MATERIALS SHALL BE MULCHED WITH STRAW. APPLIED MULCH SHALL BE A MINIMUM OF 2 INCHES DEEP AND PROVIDE A UNIFORM COVER. LARGE WOODY DEBRIS SHALL BE REDISTRIBUTED OVER THE WASTE AREA AFTER ALL WASTE MATERIALS HAVE BEEN HAULED.

4. DO NOT DISTURB A LARGER AREA THAN CAN BE STABILIZED BY THE END OF EACH WORK DAY.

5. SOIL EXPOSURE SHALL BE MINIMIZED BY COVERING WITH STRAW, VEGETATION, MATTING OR MULCHING. DUST PRODUCING SURFACES SHALL BE SPRINKLED TO CONTROL DUST. RESEED DISTURBED AREAS WITH NATIVE GRASS SEEDINGS.

6. LIMIT CONSTRUCTION ACCESS TO AS FEW OF ROUTES AS PRACTICALLY POSSIBLE. MINIMIZE TRACKING OF SOILS AND DEBRIS INTO ROADWAY.

7. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ANY SEDIMENT THAT ACCUMULATES ON ADJACENT PROPERTIES OR DOWNSTREAM AS RESULT OF CONSTRUCTION ACTIVITIES.

8. NECESSARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED ONCE CONSTRUCTION AREA IS STABILIZED OR AS DIRECTED BY THE FIELD ENGINEER.

9. CONTRACTOR IS RESPONSIBLE FOR MINIMIZING PROPERTY DAMAGE. ANY DAMAGE SHALL BE REPAIRED BY CONTRACTOR.

10. ADD FISH BLOCK NETS AS REQUIRED AT WATER DIVERSION INTAKE TO ISOLATE FISH.

11. PUMP AND PIPE SYSTEM SHALL BE SCREENED WITH FINE MESH SCREEN TO PREVENT ENTRY BY FISH.

12. IN GENERAL, BANKED SLOPES SHALL NOT EXCEED 1 VERTICAL UNIT TO 2 HORIZONTAL UNITS. IN AREAS WHERE THIS IS NOT POSSIBLE, BANKS SHALL BE ARMORED WITH 24" TO 60" ROCK. CRACKS SHALL BE FILLED WITH TOP SOIL AND PLANTED WITH CUTTINGS PER DETAILS ON SHEET 06. ARMORING SHALL EXTEND TO 3'-0" BELOW STREAMBED ELEVATION.

13. INSTALL COIR FABRIC WITH MINIMUM OF (2) OVERLAPPING LAYERS, FOR A TOTAL MINIMUM OF 11 FEET UP EACH BANK EXTENDING UPSTREAM AND DOWNSTREAM AT LEAST 15 FEET OR AS NECESSARY TO PROTECT STRUCTURE. OVER-EXCAVATE STREAM WIDTH BY 1-2 FEET AND THEN LAY COIR AT TOE OF SLOPE, WEIGHT DOWN WITH ROUNDED BOULDERS, FILL OVER WITH A LAYER OF SOIL, COMPACT WITH BUCKET, SPREAD STERILE WHEAT SEED AND A LAYER OF STRAW ON SLOPE, THEN PULL UP AND STAKE COIR WITH CUT WILLOW STAKES AT 2 FEET INTERVALS. WILLOW STAKE SHALL BE 12" LONG & 1/2" - 1" DIA. WITH END CUT AT ANGLE, POUNDED IN WITH RUBBER MALLET WITH ROOT END DOWN. COIR FABRIC SHALL BE USED, UNLESS IT IS DETERMINED BY THE FIELD ENGINEER TO BE UNNECESSARY FOR EROSION CONTROL GIVEN THE SITE CONDITIONS.

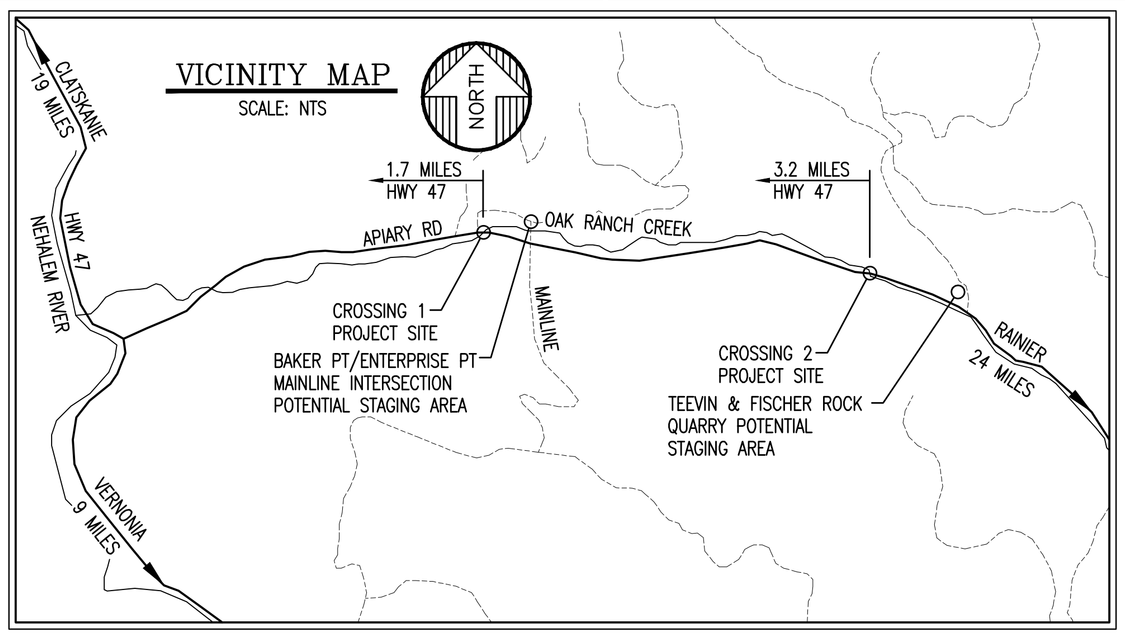
14. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO COLUMBIA COUNTY ROADS DEPARTMENT FOR APPROVAL AND OBTAIN ALL REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY. LANE CLOSURES SHALL NOT CAUSE MORE THAN A 15 MINUTE TRAFFIC DELAY AT ANY TIME.

15. VERIFY ANY STREAM ENHANCEMENT COMPONENTS REQUIRED WITH UPPER NEHALEM WATERSHED COUNCIL. SUCH COMPONENTS MAY INCLUDE: LOG OR WOODY DEBRIS, PLANTINGS OR LARGE ROCK INSTALLATION PER DETAILS ON SHEET 06.

16. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING, LOCATING PROPERTY LINES & COORDINATING ALL CONSTRUCTION ACTIVITIES WITH ADJACENT LAND OWNERS.

VICINITY MAP

SCALE: NTS



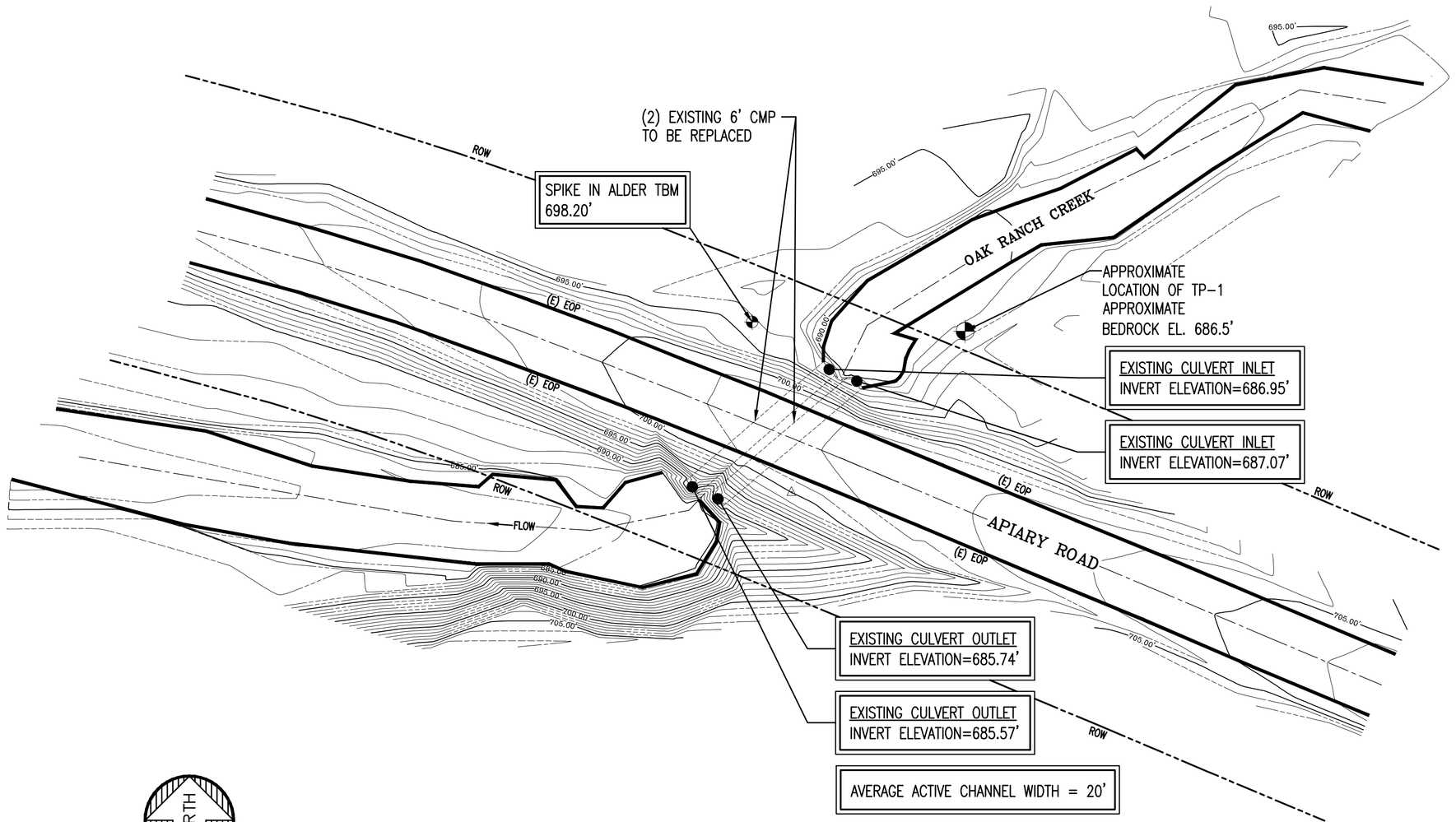
DATE: 10/21/13
REVISED PRINT
VOID ALL PREVIOUS

DATE: 12/31/10
ISSUED
FOR APPROVAL

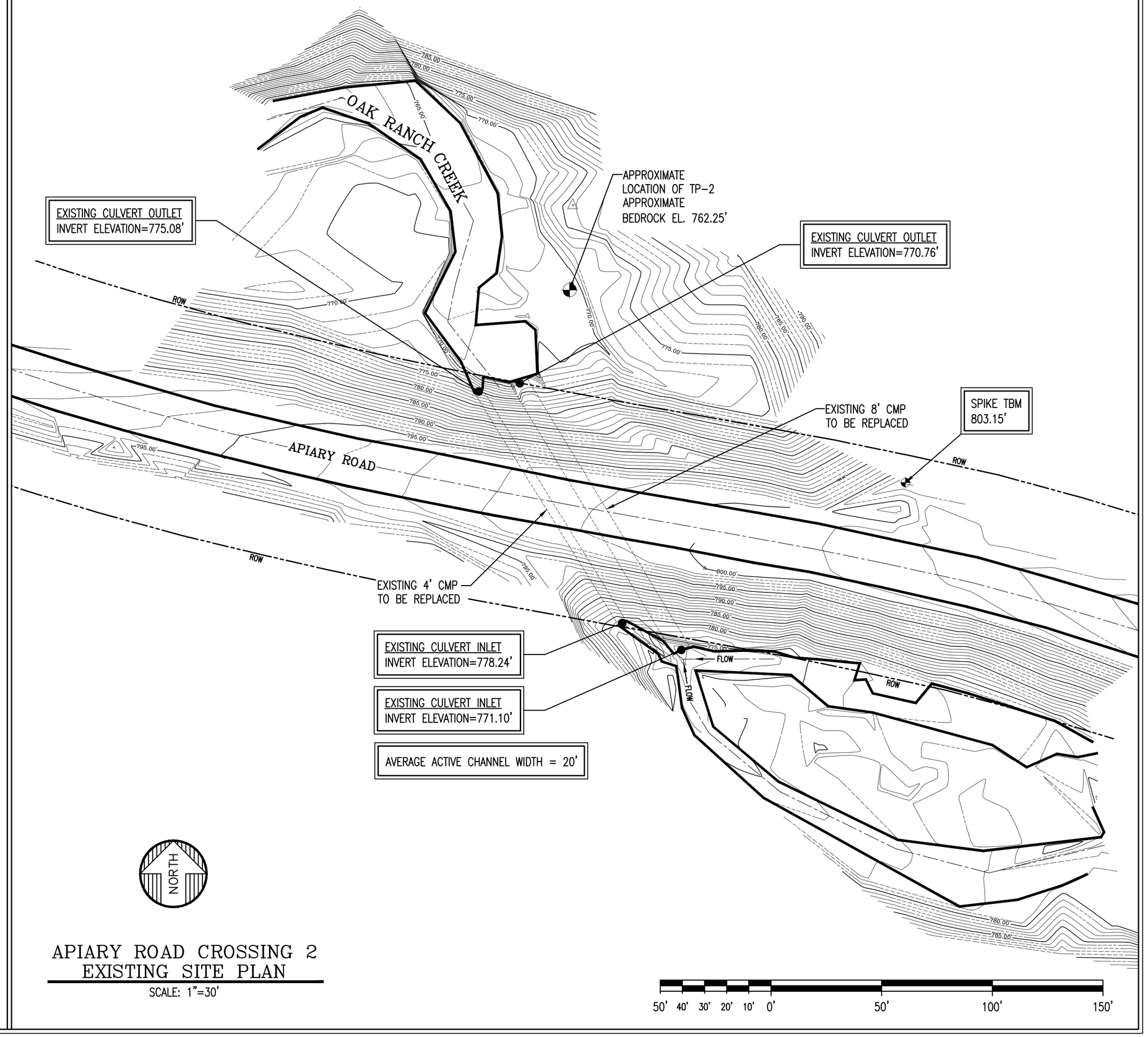
REV.	REVISION RECORD	DATE
F	REVISED VICINITY MAP	10/21/13
B	SHORTENED CROSSING 2 & GENERAL REVISIONS	01/03/11
C	REVISED CROSSING 2 CULVERT	02/11/11
D	REVISED GENERAL STREAM NOTES	02/15/12
E	GENERAL REVISION	10/07/13

Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

PROJ. NO. 1442	UPPER NEHALEM WATERSHED COUNCIL		
DWG. BY TCO	EF/APIARY STREAM CROSSINGS		
APPR. BY	COVER SHEET		
SCALE NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-01-F	



APIARY ROAD CROSSING 1
EXISTING SITE PLAN
SCALE: 1"=30'



APIARY ROAD CROSSING 2
EXISTING SITE PLAN
SCALE: 1"=30'

LEGEND

E.O.P.	EDGE OF PAVEMENT
(E)	EXISTING
(N)	NEW
T.B.M.	TEMPORARY BENCH MARK
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PUBLIC RIGHT OF WAY

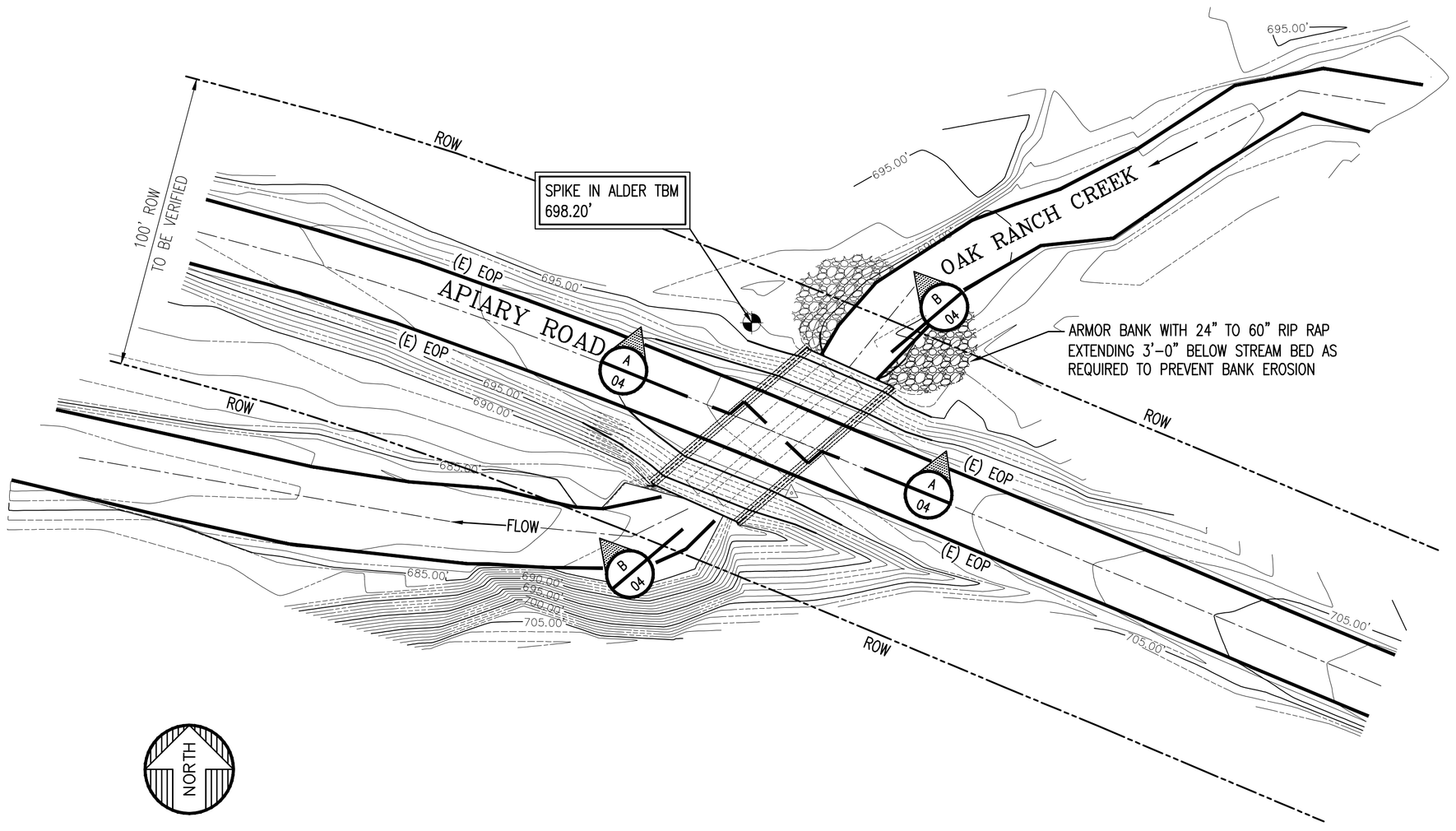
DATE: 12/31/10
REVISED PRINT
VOID ALL PREVIOUS

DATE: 12/31/10
ISSUED
FOR APPROVAL

REV.	REVISION RECORD	DATE
A	ADDED INFO FROM CHINOOK GEO SERVICES, INC	12/23/10
B	GENERAL REVISION	01/03/11

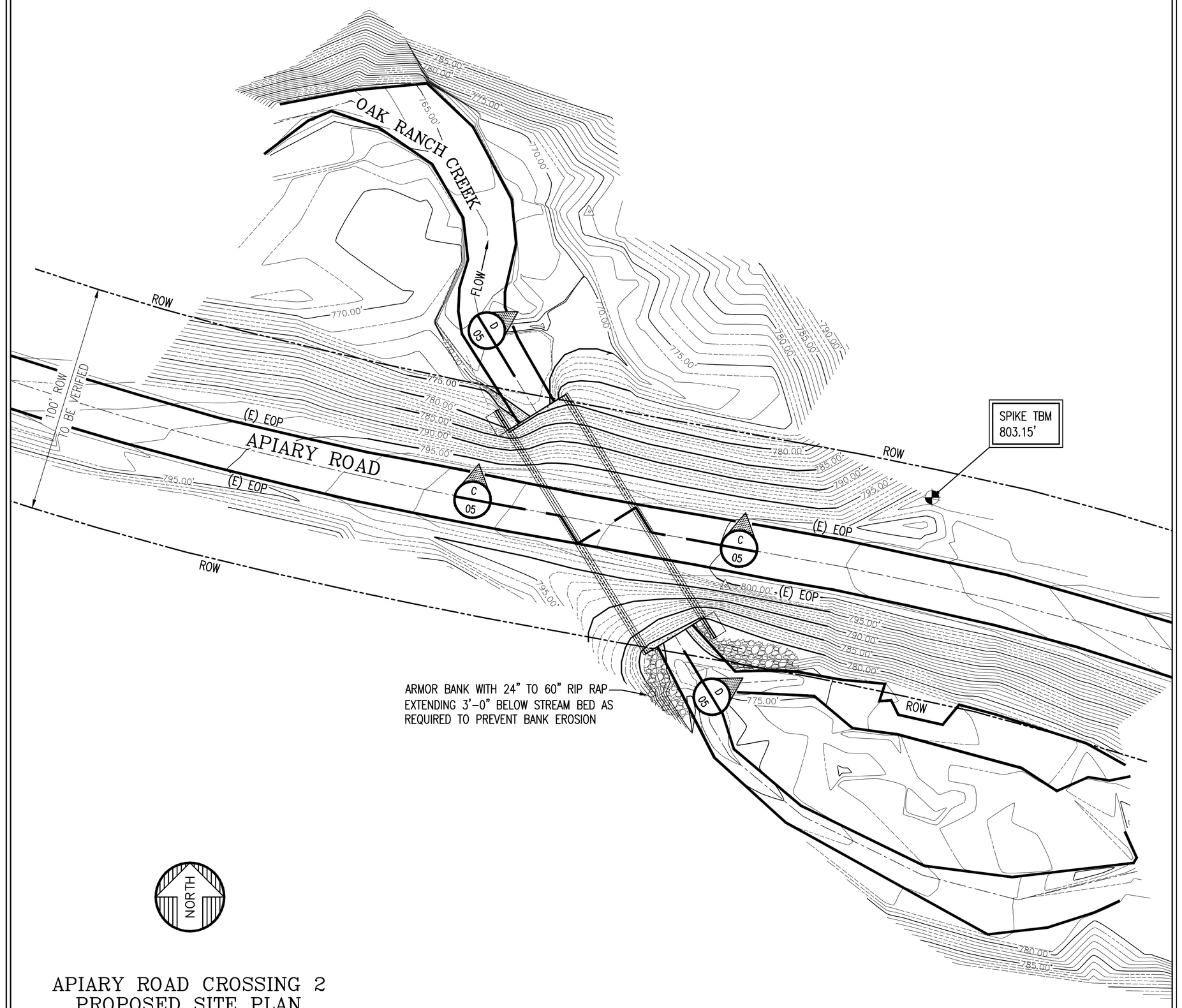
Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

PROJ. NO.	1442	UPPER NEHALEM WATERSHED COUNCIL	
DWG. BY	TCO	EF/APIARY STREAM CROSSINGS	
APPR. BY		EXISTING SITE PLANS	
SCALE	NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-02-B



APIARY ROAD CROSSING 1
PROPOSED SITE PLAN
SCALE: 1"=30'

50' 40' 30' 20' 10' 0' 50' 100' 150'



APIARY ROAD CROSSING 2
PROPOSED SITE PLAN
SCALE: 1"=30'

50' 40' 30' 20' 10' 0' 50' 100' 150'

LEGEND

E.O.P.	EDGE OF PAVEMENT
(E)	EXISTING
(N)	NEW
T.B.M.	TEMPORARY BENCH MARK
	NEW MAJOR CONTOUR
	NEW MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PUBLIC RIGHT OF WAY

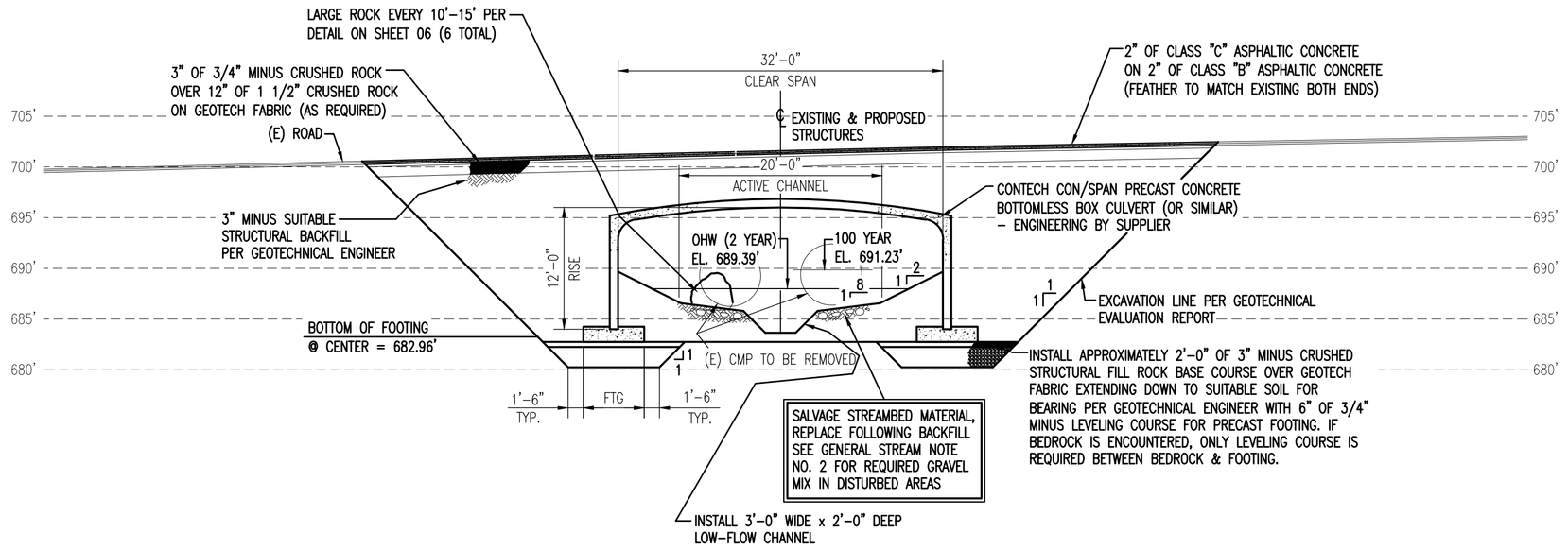
DATE: 03/01/12
REVISED PRINT
VOID ALL PREVIOUS

DATE: 12/31/10
ISSUED
FOR APPROVAL

REV.	REVISION RECORD	DATE
A	ADDED SKEW TO CROSSINGS 1 &2 & REVISED LENGTH	12/23/10
B	SHORTENED CROSSING 2 CULVERT & GENERAL REVISIONS	01/03/11
C	REVISED CROSSING 2 CULVERT	02/11/11
D	REVISE CONTOURS	02/15/12

Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

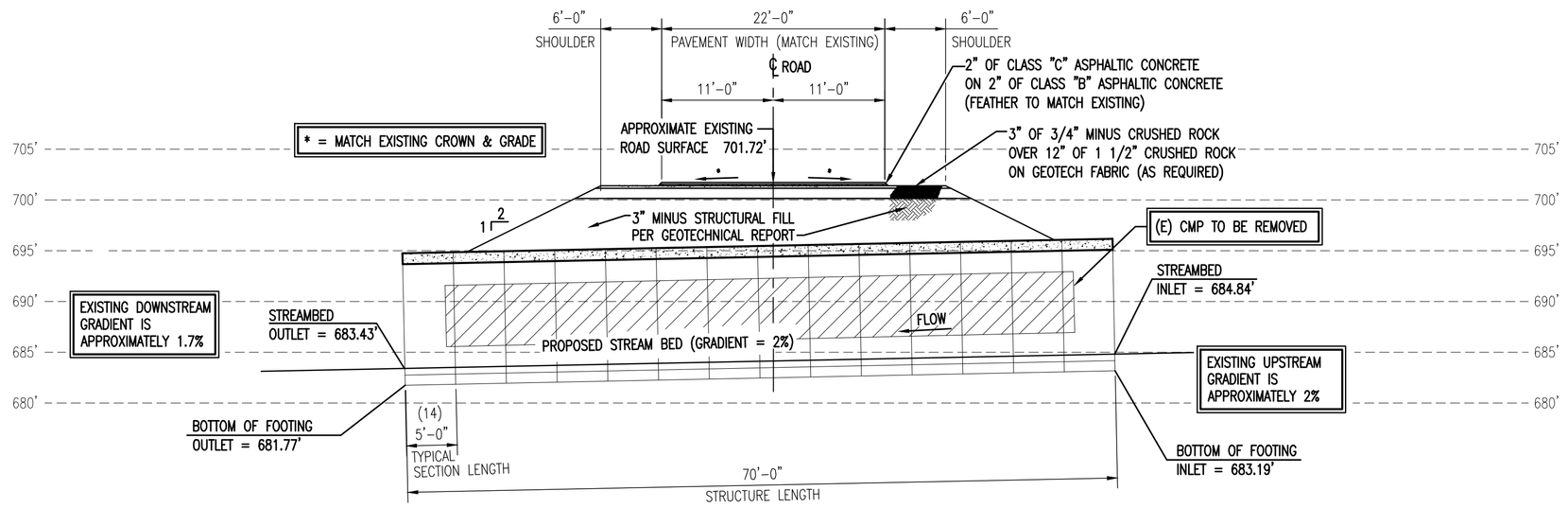
PROJ. NO.	1442	UPPER NEHALEM WATERSHED COUNCIL	
DWG. BY	TCO	EF/APIARY STREAM CROSSINGS	
APPR. BY		PROPOSED SITE PLANS	
SCALE	NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-03-D



CROSSING 1 – ROAD PROFILE (A/03)

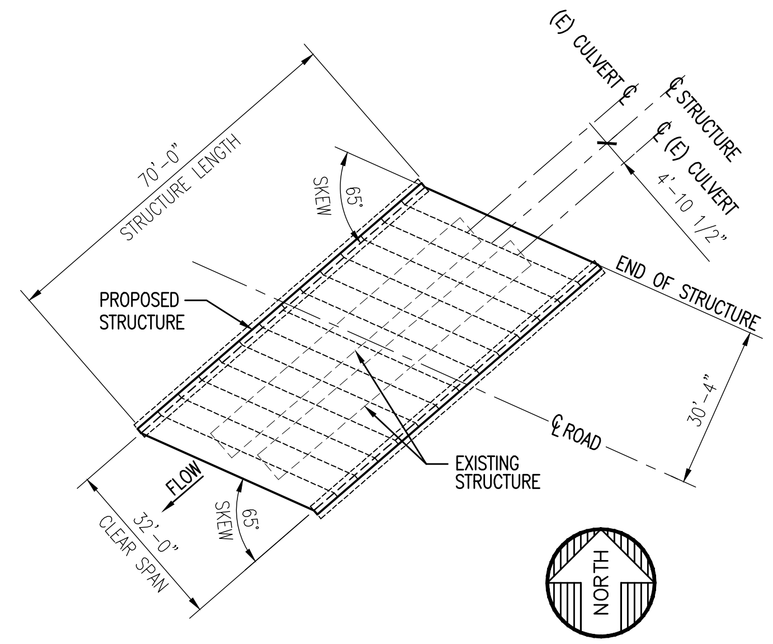
SCALE: 1"=10'-0"

NOTE:
CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED BEDROCK REMOVAL. STRUCTURE MAY BE RAISED AT THE DISCRETION OF THE FIELD ENGINEER BASED ON THE ACTUAL LOCATION OF BEDROCK ENCOUNTERED. HOWEVER, FOOTINGS SHALL EXTEND TO THE DEPTH SHOWN OR A MINIMUM OF 6" BELOW TOP OF BEDROCK IN ALL AREAS TO PREVENT RISK OF SCOUR.



CROSSING 1 – CREEK PROFILE (B/03)

SCALE: 1"=10'-0"



CROSSING 1 – STRUCTURE SETTING PLAN

SCALE: 1"=20'-0"

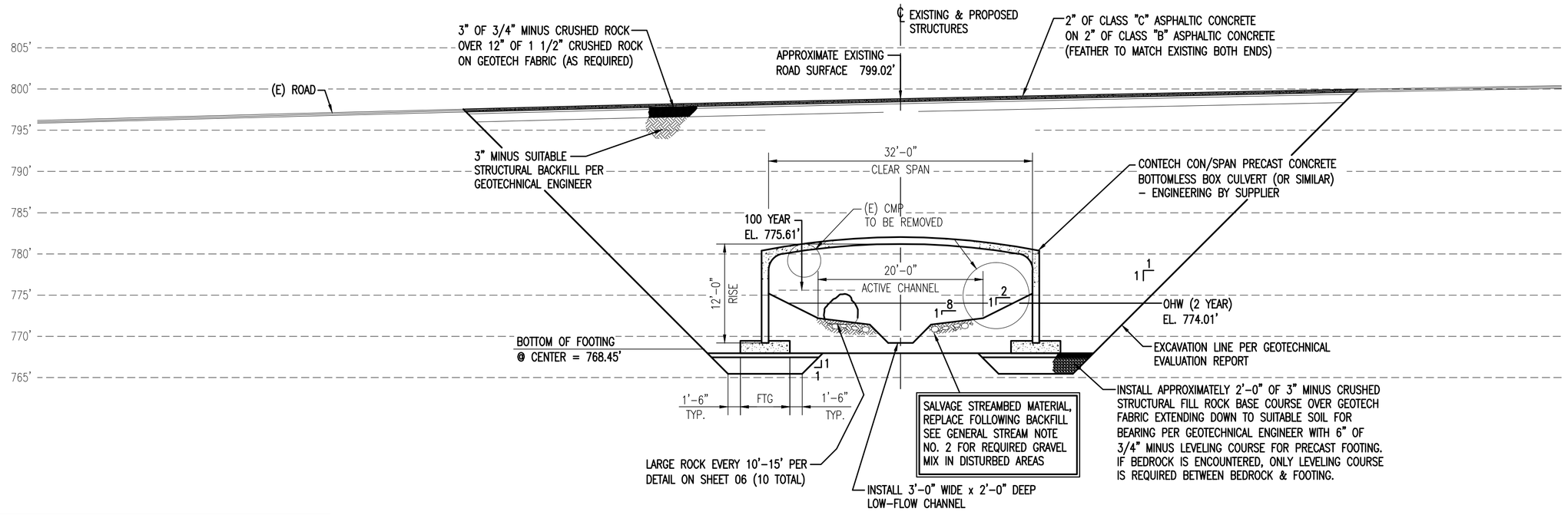
DATE: 10/21/13
REVISED PRINT
VOID ALL PREVIOUS

DATE: 12/31/10
ISSUED
FOR APPROVAL

REV.	REVISION RECORD	DATE
A	REVISED PROFILES & ADDED SETTING PLAN	12/23/10
B	GENERAL REVISION	01/03/11
C	REVISED ROAD & CREEK PROFILES	02/15/12
D	GENERAL REVISION	10/03/13
E	REVISED CULVERT TO CON/SPAN B SERIES	10/18/13

Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

PROJ. NO.	1442	UPPER NEHALEM WATERSHED COUNCIL	
DWG. BY	TCO	EF/APIARY STREAM CROSSINGS	
APPR. BY		CROSSING 1 – PROFILES & SETTING PLAN	
SCALE	NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-04-E

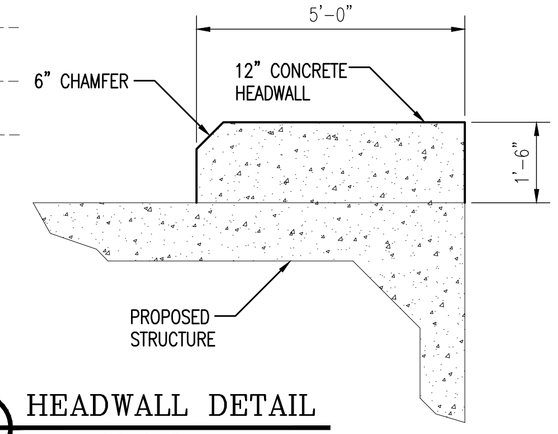


CROSSING 2 – ROAD PROFILE (C / 03)

SCALE: 1"=10'-0"

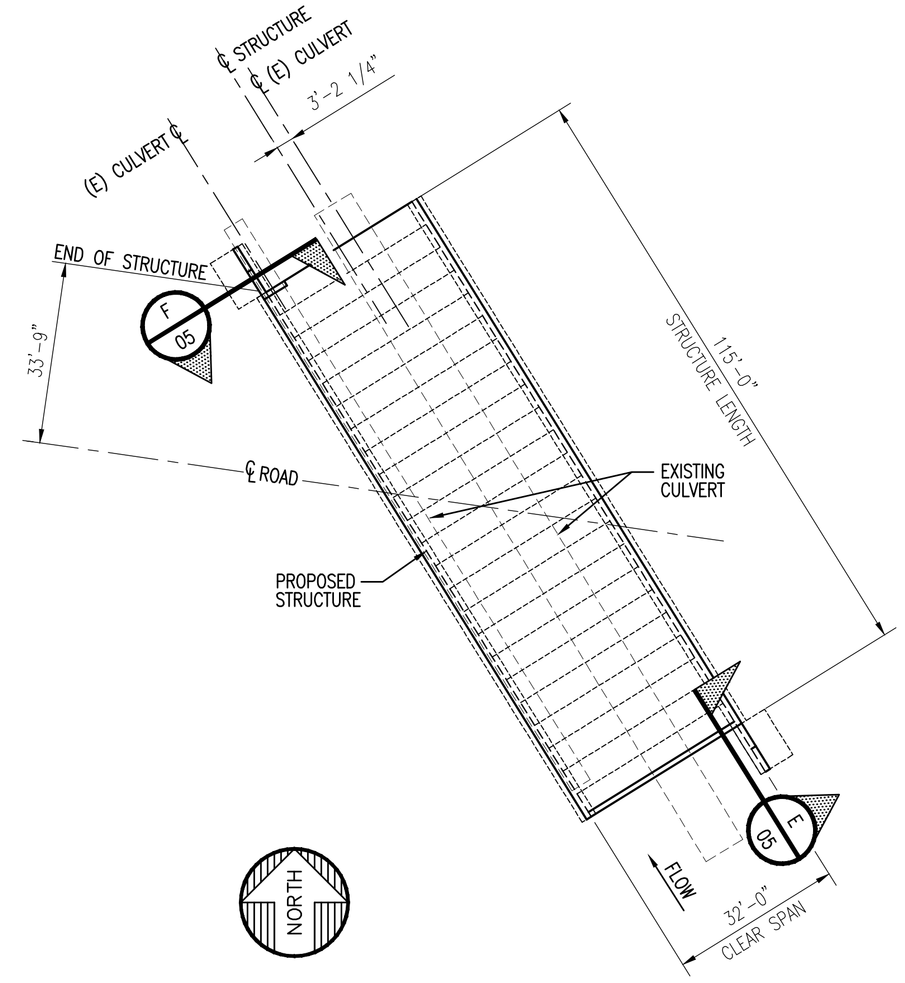
NOTE:
CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED BEDROCK REMOVAL. STRUCTURE MAY BE RAISED AT THE DISCRETION OF THE FIELD ENGINEER BASED ON THE ACTUAL LOCATION OF BEDROCK ENCOUNTERED. HOWEVER, FOOTINGS SHALL EXTEND TO THE DEPTH SHOWN OR A MINIMUM OF 6" BELOW TOP OF BEDROCK IN ALL AREAS TO PREVENT RISK OF SCOUR.

NOTE:
FOOTING MAY BE DESIGNED AS CAST-IN-PLACE BASED ON STRUCTURAL SUBMITTAL BY SUPPLIER.



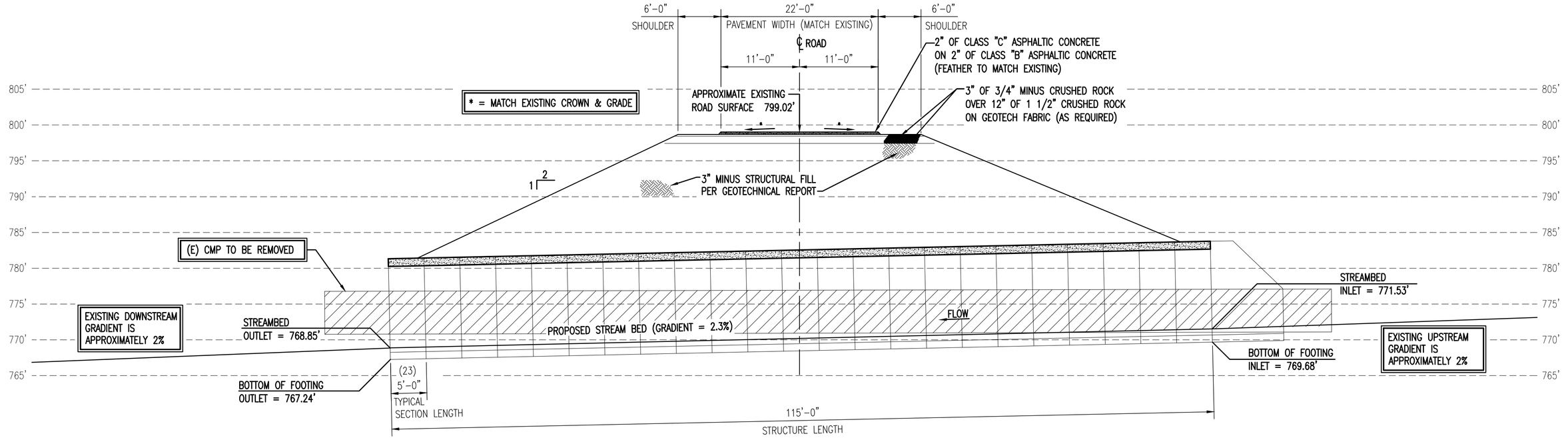
HEADWALL DETAIL (F / 05)

SCALE: 1/2"=1'-0"



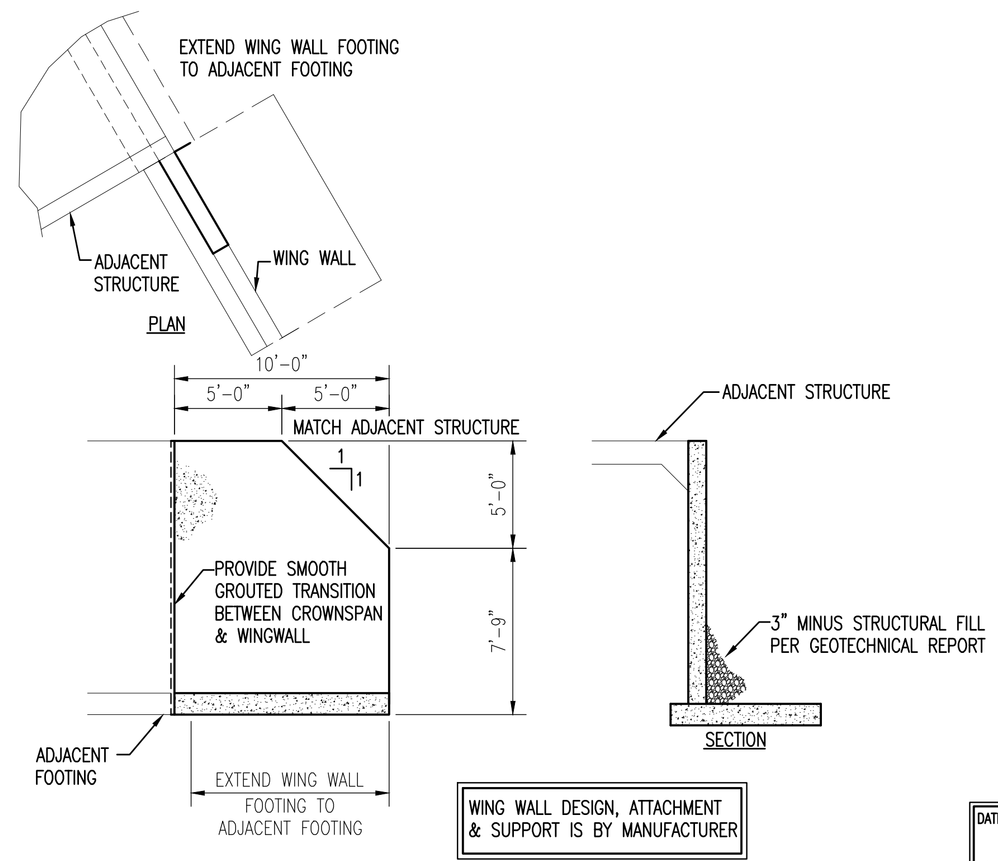
CROSSING 2 – STRUCTURE SETTING PLAN

SCALE: 1"=20'-0"



CROSSING 2 – CREEK PROFILE (D / 03)

SCALE: 1"=10'-0"



WING WALL DESIGN, ATTACHMENT & SUPPORT IS BY MANUFACTURER

WING WALL DETAIL (E / 03)

SCALE: 1=5'-0" (4 PLACES)

DATE: 10/21/13
REVISED PRINT
VOID ALL PREVIOUS

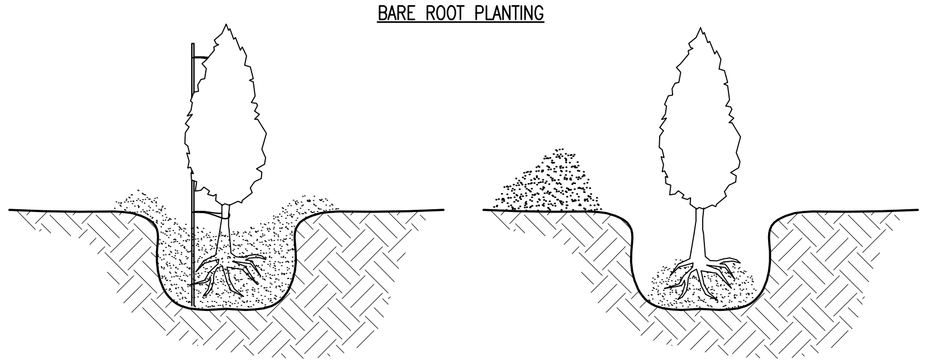
DATE: 12/31/10
ISSUED
FOR APPROVAL

REV.	REVISION RECORD	DATE
F	REVISED CULVERT TO CON/SPAN B SERIES	10/18/13
B	GENERAL REVISION	01/03/11
C	REVISED STRUCTURE LENGTH	02/11/11
D	REVISED ROAD & CREEK PROFILES	02/15/12
E	ADDED HIGH WATER ELEVATION	10/03/13

Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

PROJ. NO.	1442	UPPER NEHALEM WATERSHED COUNCIL	
DWG. BY	TCO	EF/APIARY STREAM CROSSINGS	
APPR. BY		CROSSING 2 – PROFILES & SETTING PLAN	
SCALE	NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-05-F

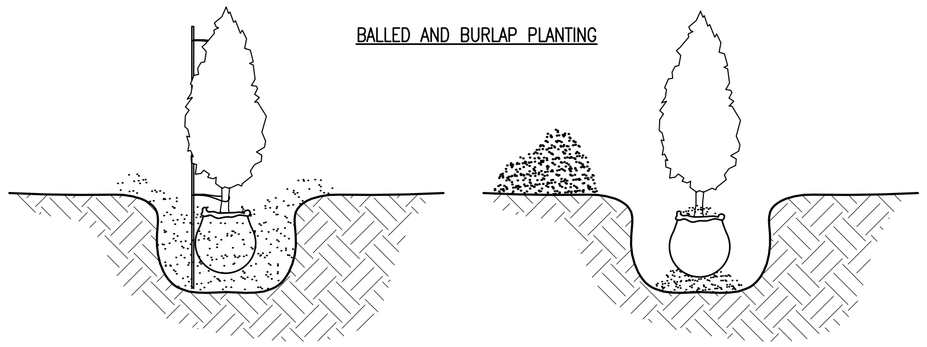
BARE ROOT PLANTING



NOTES:

1. SOAK BARE ROOT PLANTS FOR 24 HRS BEFORE PLANTING.
2. DIG HOLE APPROXIMATELY 2X ROOT BALL DIAMETER.
3. BACKFILL A CONE SHAPED MOUND IN THE HOLE.
4. SPREAD ROOTS EVENLY ON MOUND.
5. FILL ⅔ FULL, COMPACT GENTLY AND ADJUST PLANT ALIGNMENT.
6. COMPLETE FILL AND CREATE RIDGE AROUND PLANT FOR A WATERING BASIN.
7. WATER THOROUGHLY.
8. STAKE AS NECESSARY.

BALLED AND BURLAP PLANTING

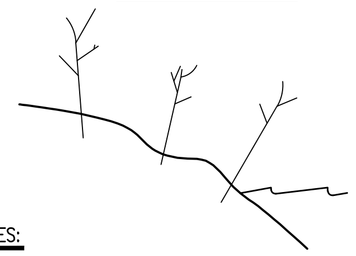


NOTES:

1. DIG HOLE TWICE AS LARGE AS ROOT BALL.
2. BACKFILL A CONE SHAPED MOUND IN THE HOLE.
3. INSTALL TREE AND OPEN BURLAP TO FULLY EXPOSE SURFACE SOIL.
4. FILL ⅔ FULL, COMPACT GENTLY AND ADJUST PLANT ALIGNMENT.
5. COMPLETE FILL AND CREATE RIDGE AROUND PLANT FOR A WATERING BASIN.
6. STAKE AS NECESSARY.
7. WATER THOROUGHLY.

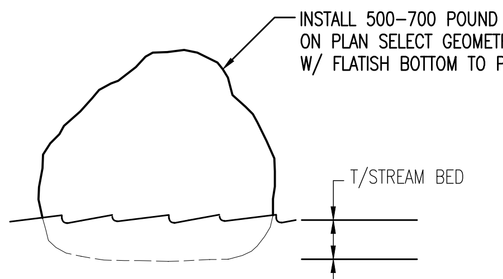
TYP. PLANTING DETAILS

LOCAL STAKE PLANTING



NOTES:

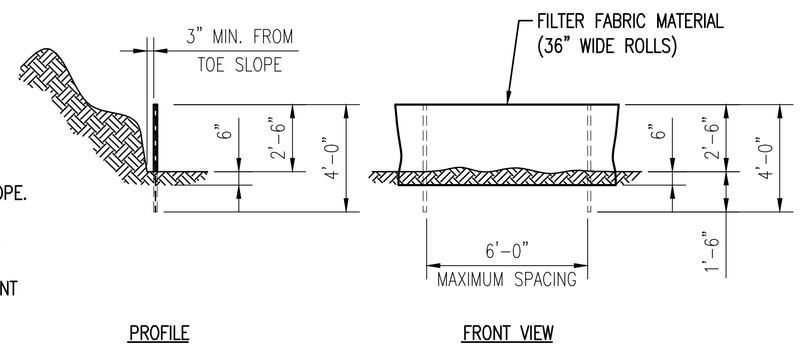
1. SELECT LOCAL DOGWOOD, ELDERBERRY, WILLOW, TWINDBERRY, SALMONBERRY, NINEBARK, OCEANSPRAY, SNOWBERRY, CURRENT, OR OTHER LOCAL SPECIES.
2. CLEANLY CUT INTO STAKES OF ANY SIZE FROM SMALLER THAN A PENCIL TO AS LARGE AS THE DONOR WILL ALLOW, SMALL STAKES ARE MUCH EASIER TO INSTALL, LARGE STAKES CAN STAND ABOVE COMPETING VEGETATION.
3. EACH STAKE SHOULD HAVE AT LEAST 2 NODES (BUDS).
4. BUNDLE STAKES INTO MANAGEABLE GROUPS, RIGHTSIDE UP AND STORE IN THE STREAM UNTIL USE.
5. INSTALL BY SLIDING INTO GROUND AT A RANGE OF LOCATIONS, SOME HIGH AND SOME LOW WITH RESPECT TO ORDINARY HIGH WATER.
6. NEATLY TRIM ANY ENDS THAT ARE MASHED BY POUNDING.
7. PERFORM FROM SEPTEMBER THRU MAY OR IN MOIST SOIL.
8. PLANTING DENSITY SHALL PROVIDE FOR MAXIMUM UNPLANTED AREA OF 2'-0" IN ANY DIRECTION.



LARGE ROCK INSTALLATION DETAIL

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x2" DOUGLAS FIR OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. LOCATE PER FIELD ENGINEER OR PLAN TO PREVENT SILT FROM ENTERING THE STREAM.



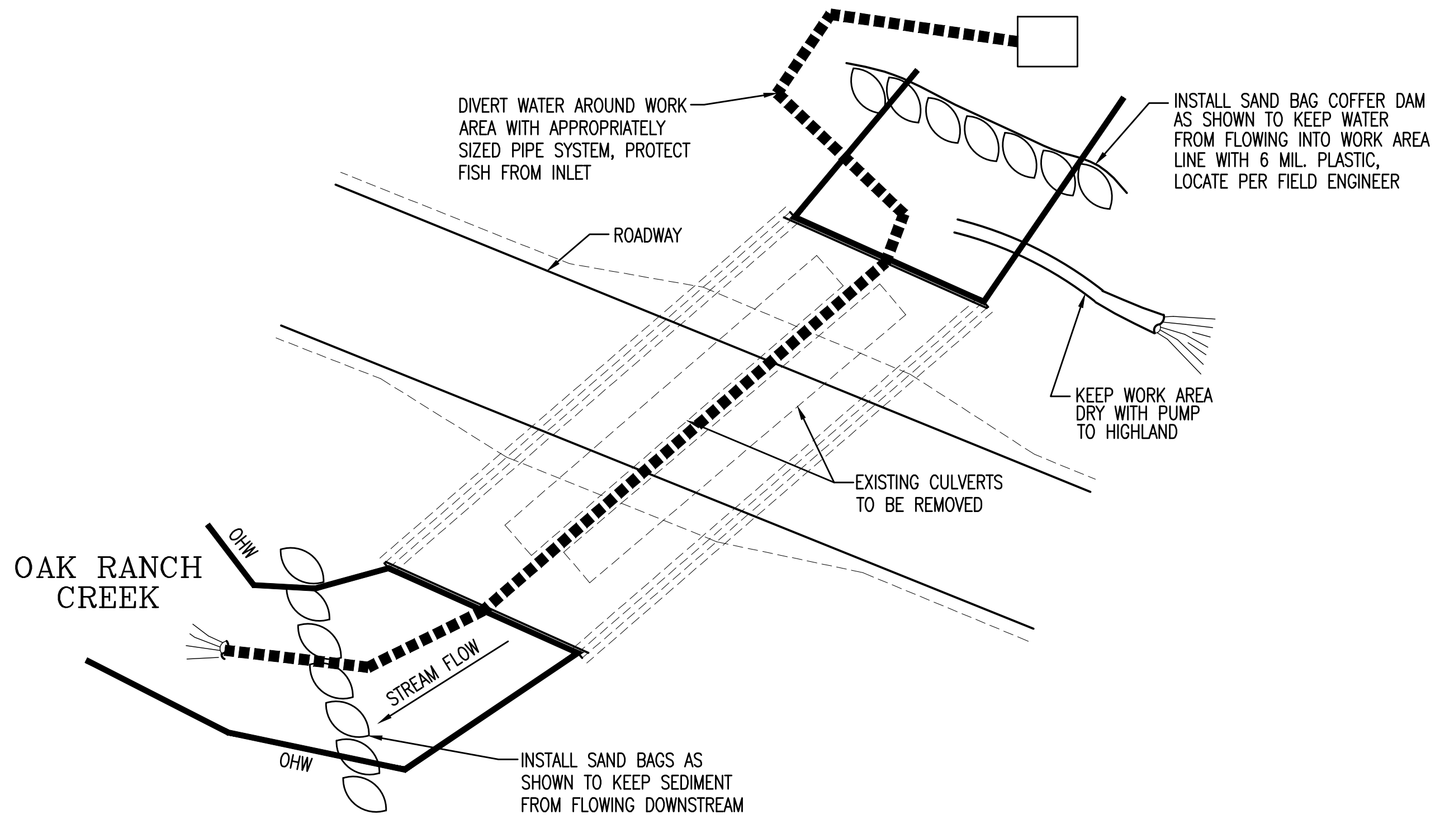
PROFILE FRONT VIEW

SILT FENCE DETAIL (IF REQUIRED)

SCALE: 1/4"=1'-0"

NOTES:

1. STANDARD BEST MANAGEMENT PRACTICES (BMP'S) ARE TO BE IMPLEMENTED TO MINIMIZE THE IMPACTS OF THIS PROJECT.
2. COFFER DAMS SHALL BE INSTALLED BY FIRST REMOVING A LAYER OF GRAVEL THEN LAYING DOWN HEAVY DUTY 6MM PLASTIC, LOCATE PER FIELD ENGINEER W/ SAND BAGS ON TOP. WRAP PLASTIC AROUND FRONT OF SANDBAGS TO ACHIEVE AN EFFECTIVE SEAL ON BOTTOM & SIDES OF CHANNEL.
3. SAND BAGS SHALL BE FILLED WITH SAND, ROUNDED PEA GRAVEL & 7/8" ROUNDED DRAIN ROCK.
4. A PUMP MUST BE ON HAND AT ALL TIMES FOR PUMPING SEEPAGE WATER AS NEEDED. IF A PUMP IS USED FOR DIVERSION, A SECOND PUMP MUST BE ON SITE DURING CONSTRUCTION.
5. FIELD ENGINEER SHALL APPROVE DIVERSION PIPE SIZE.
6. PRIOR TO CONSTRUCTION A FISH BLOCK NET WITH ¼ INCH MESH WILL BE INSTALLED ABOVE THE PROJECT AREA. ODFW WILL WORK WITH THE CONTRACTOR TO ELECTROFISH THROUGH THE PROJECT AREA, CAPTURING ALL FISH AND RELEASING THEM UPSTREAM OF THE PROJECT AREA. WHILE THE PROJECT IS BEING DEWATERED, ODFW WILL ELECTROFISH THROUGH THE AREA TO CAPTURE ANY FISH THAT MAY HAVE ESCAPED THE FIRST PASS THROUGH AND RELEASE THEM UPSTREAM OF THE PROJECT AREA.
7. THE DOWN STREAM COFFER DAM SHALL NOT BE CONSTRUCTED UNTIL THE FULL FLOW IS RUNNING THROUGH THE DIVERSION, CONTRACTOR SHALL COORDINATE W/ ODFW FOR REMOVING ANY FISH FROM WORK AREA AT LEAST ONE WEEK PRIOR TO COMPLETION OF DIVERSION.
8. WHEN RE-WATERING ADD APPROXIMATELY 20% OF THE FLOW FOR 4 HOURS, THEN 50% FOR FOUR HOURS. PUMP SILTY WATER TO HIGHLAND PRIOR TO REMOVING LOWER COFFER DAM & RESTORING FULL FLOW.



CROSSING 1 WATER DIVERSION DETAIL

NOTES:

1. STANDARD BEST MANAGEMENT PRACTICES (BMP'S) ARE TO BE IMPLEMENTED TO MINIMIZE THE IMPACTS OF THIS PROJECT.
2. COFFER DAMS SHALL BE INSTALLED BY FIRST REMOVING A LAYER OF GRAVEL THEN LAYING DOWN HEAVY DUTY 6MM PLASTIC, LOCATE PER FIELD ENGINEER W/ SAND BAGS ON TOP. WRAP PLASTIC AROUND FRONT OF SANDBAGS TO ACHIEVE AN EFFECTIVE SEAL ON BOTTOM & SIDES OF CHANNEL.
3. SAND BAGS SHALL BE FILLED WITH SAND, ROUNDED PEA GRAVEL & 7/8" ROUNDED DRAIN ROCK.
4. A PUMP MUST BE ON HAND AT ALL TIMES FOR PUMPING SEEPAGE WATER AS NEEDED. IF A PUMP IS USED FOR DIVERSION, A SECOND PUMP MUST BE ON SITE DURING CONSTRUCTION.
5. FIELD ENGINEER SHALL APPROVE DIVERSION PIPE SIZE.
6. PRIOR TO CONSTRUCTION A FISH BLOCK NET WITH ¼ INCH MESH WILL BE INSTALLED ABOVE THE PROJECT AREA. ODFW WILL WORK WITH THE CONTRACTOR TO ELECTROFISH THROUGH THE PROJECT AREA, CAPTURING ALL FISH AND RELEASING THEM UPSTREAM OF THE PROJECT AREA. WHILE THE PROJECT IS BEING DEWATERED, ODFW WILL ELECTROFISH THROUGH THE AREA TO CAPTURE ANY FISH THAT MAY HAVE ESCAPED THE FIRST PASS THROUGH AND RELEASE THEM UPSTREAM OF THE PROJECT AREA.
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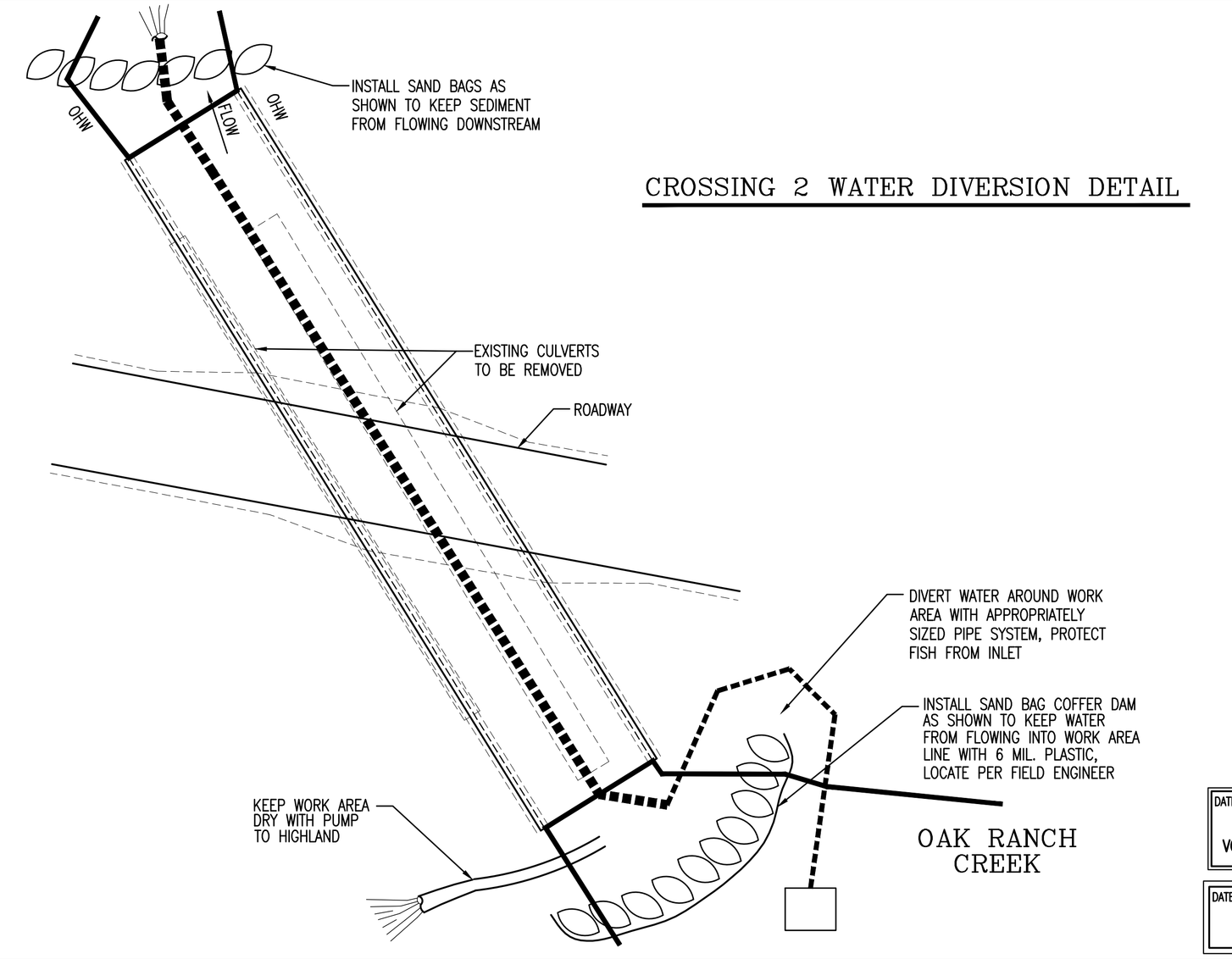
8. WHEN RE-WATERING ADD APPROXIMATELY 20% OF THE FLOW FOR 4 HOURS, THEN 50% FOR FOUR HOURS. PUMP SILTY WATER TO HIGHLAND PRIOR TO REMOVING LOWER COFFER DAM & RESTORING FULL FLOW.



CROSSING 2 WATER DIVERSION DETAIL

DATE: 10/07/13
REVISED PRINT
VOID ALL PREVIOUS

DATE: 12/31/10
ISSUED
FOR APPROVAL

REV.	REVISION RECORD	DATE
A	GENERAL REVISION	12/23/10
B	REVISED CROSSING 2 DIVERSION DETAIL	01/26/11
C	GENERAL REVISION	10/03/13

Lower Columbia Engineering
St. Helens, Oregon
(503) 366-0399

PROJ. NO.	1442	UPPER NEHALEM WATERSHED COUNCIL	
DWG. BY	TCO	EF/APIARY STREAM CROSSINGS	
APPR. BY		WATER DIVERSION & SITE DETAILS	
SCALE	NOTED	DATE 03/08/10	DWG. NO. D-1442-1000-06-C

Columbia County Road Department
1054 Oregon Street, St. Helens, OR 97051

----Civil Engineering---

Ph: (503) 397-5090 Fax: 397-7215
E-mail: tristan.wood@co.columbia.or.us

Date: October 16, 2013

Maggie Peyton, Coordinator
Upper Nehalem Watershed Council
1201 Texas Ave., Suite A
Vernonia, Oregon 97064

RE: Oak Ranch Creek Fish Passage Improvement Project

Maggie,

Columbia County Road Department is in support of Upper Nehalem Watershed Council's effort to obtain grant funding for the replacement of Oak Ranch Creek Culverts. As the owner of the Apiary Road crossings we are in support of seeing the health of the Oak Ranch Creek restored. With the County replacing a structure on Oak Ranch Creek downstream in 2009 the improvements have seen instant improvement to fish passage upstream and downstream from the replaced structure.

Columbia County Road Department will support the watershed to aid of the construction of the lower crossing. Columbia County will work in coordination with the Watershed and the Regulatory agencies to develop construction plan and execution of the construction in the form of selecting a contractor and oversight of the construction.

Due to the value of the project to the County we will donate $9,000 in-kind staff time towards project construction, with a cash contribution of $30,000 towards the cost of the construction contract. Columbia County sees the value in these projects and hopes the granting committee also sees the value in our donation during these times when budgets are very limited.

Sincerely,

[redacted]

Tristan Wood
Engineering Project Coord.

Columbia County
Oregon

Board of Commissioners

230 Strand Street, Rm 331, St. Helens, Oregon 97051-2096
*Ph: 503-397-4322 *Fax 503-397-7243

Commissioner Henry Heimuller henry.heimuller@co.columbia.or.us
Commissioner Anthony Hyde tony.hyde@co.columbia.or.us
Commissioner Earl Fisher earl.fisher@co.columbia.or.us
Jan Greenhalgh, Board Office Administrator jan .greenhalgh@co.columbia.or.us

October 16, 2013

Maggie Peyton, Coordinator
Upper Nehalem Watershed Council
1201 Texas Ave., Suite A
Vernonia, Oregon 97064

RE: Oak Ranch Creek Fish Passage Improvement Projects

Dear Maggie,

The Columbia County Board of Commissioners is in support of awarding the Upper Nehalem Watershed Council funding for replacement of the fish barriers along Oak Ranch Creek.

The Board sees these culvert replacements as a huge benefit to the area in returning salmon, steelhead, and trout to the upper reaches of Oak Ranch Creek. With the County Road Department culvert replacement downstream in 2009 and the County Parks dedication to forest and park management of Camp Wilkerson, we fully support the Upper Nehalem Watershed Council in seeking funding for replacement of these structures. These improvements will provide multiple miles of spawning habitat, and miles of protected and managed forestland that would be maintained along the streams reaches.

Columbia County intends to contribute significant funds for these projects along with donation of staff time from both the Parks and Road department staff in helping execute these projects. Please give these projects your highest considerations for grant funding, as we see these projects as an important need for our community.

BOARD OF COUNTY COMMISSIONERS
FOR COLUMBIA COUNTY, OREGON

By: [redacted]
Henry Heimuller, Chair

By: [redacted]
Anthony Hyde, Commissioner

By: [redacted]
Earl Fisher, Commissioner

Signature Authorization Page

I hereby make an application for financial assistance under the terms and conditions of the R&E Program as described in my project application.

I understand that if my project is approved for funding, the following will apply:

- All project sponsors must sign a grant agreement containing the terms and conditions on which funding will be released.
- Project expenses which occur before the grant agreement is signed or after the expiration date will not be paid by the R&E Program.
- Copies of all necessary permits must be submitted to the R&E Program.
- Project sponsors must certify compliance with local, state, and federal regulations and laws.
- Landowner, monitoring and maintenance agreements must be submitted to the R&E Program.
- Regular progress reports may be required, and at the end of each project a Completion Report must be submitted.
- Educational products resulting from projects are public domain.
- All information submitted to either party under this application is subject to the federal Freedom of Information Act.

Project Title: Oak Ranch Creek - Salmon Passage Improvement

Applicant: Upper Nehalem Watershed Council

Date: 12/13/13

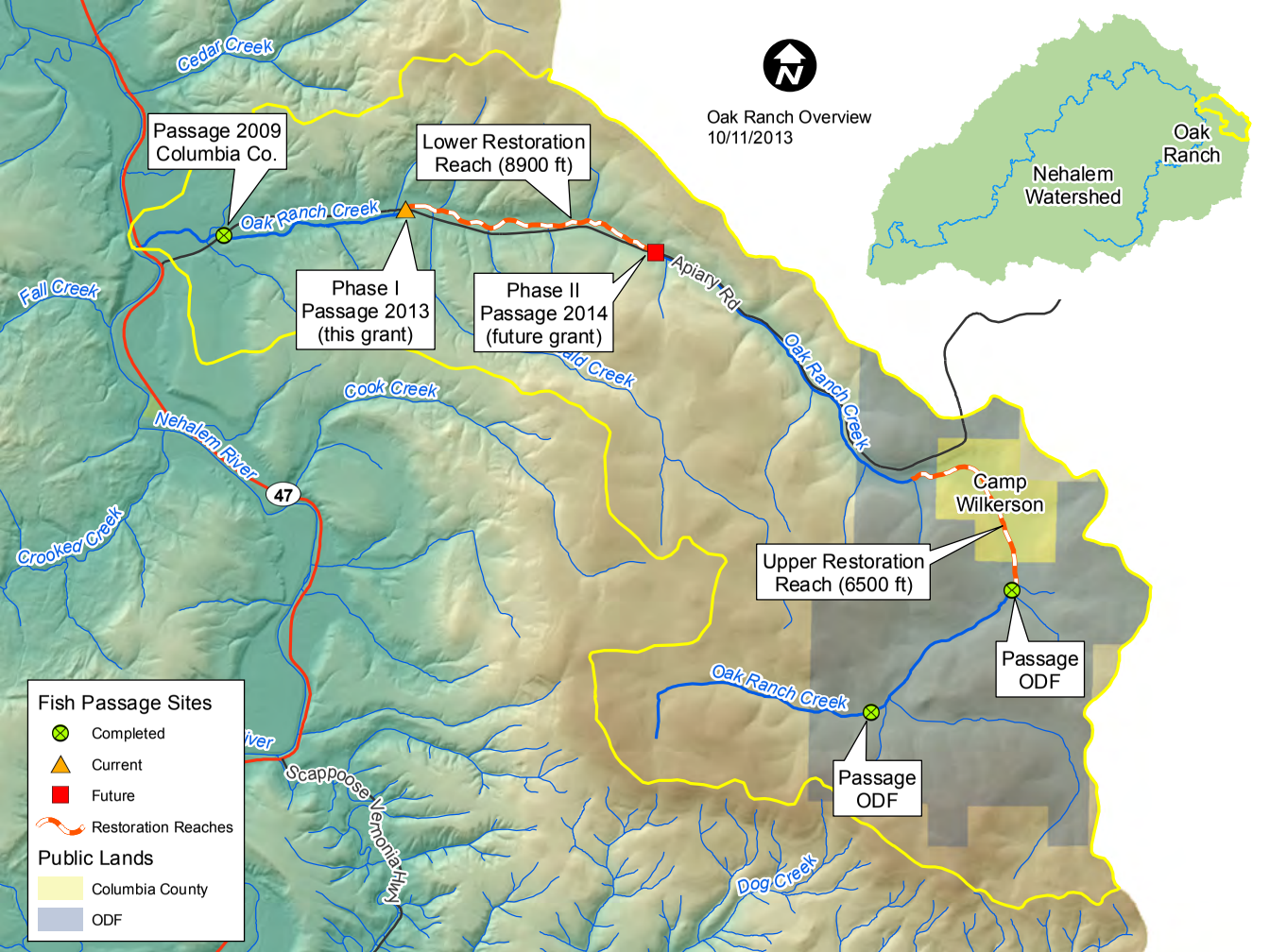
Fiscal Officer: [redacted] Maggie L. Peyton

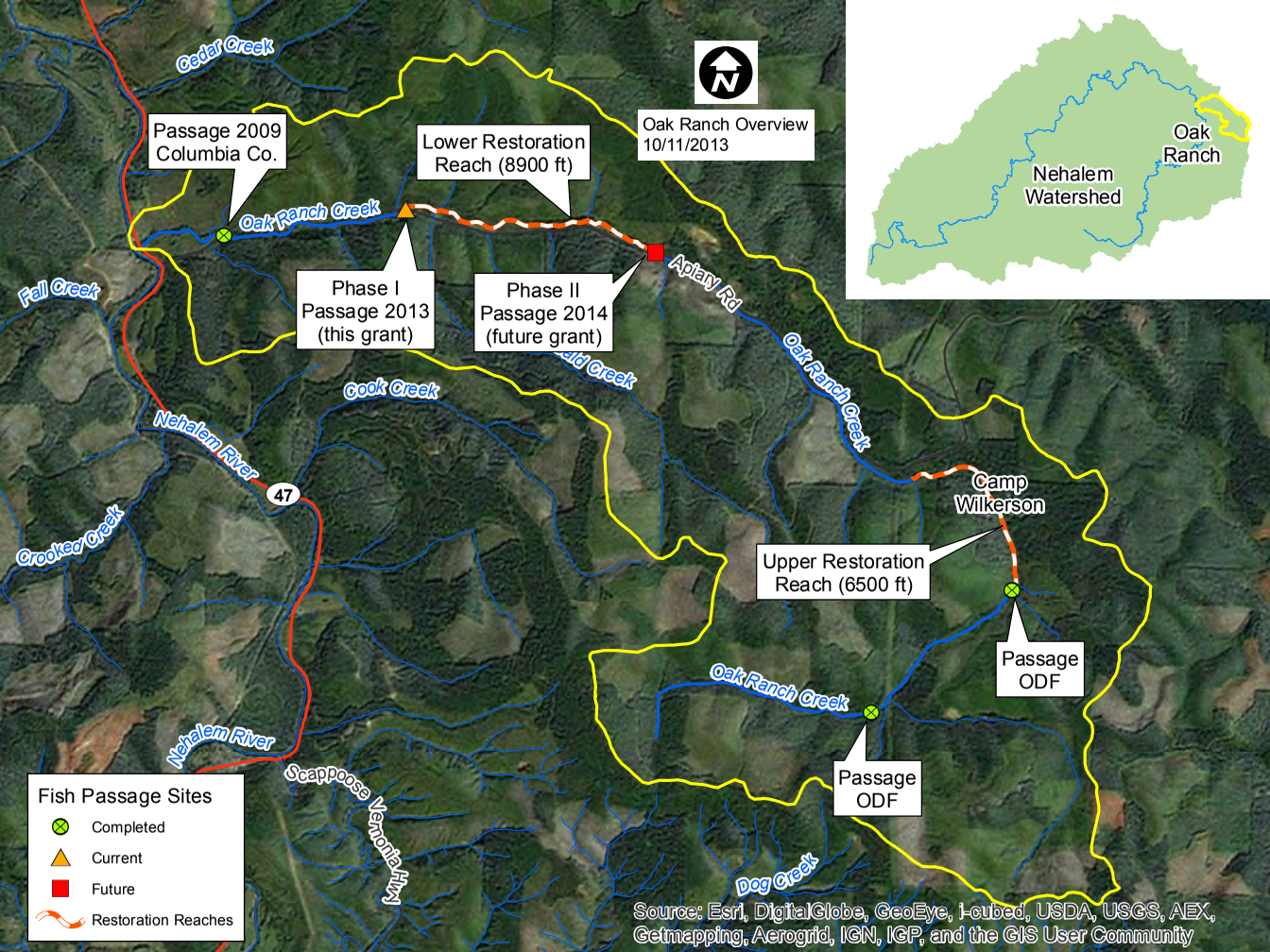
Date: 12/13/13 UNWC Executive Director

Phase 1 Stream Crossing Replacement— Oak Ranch Creek under Apairy Road.

Replace two under sized culverts with a single 36 ft. wide pre-cast concrete bottomless Arch.

Phase I: Oak Ranch Creek
Salmon Passage and Habitat Improvement – Current Site Photos


Oak Ranch Overview
10/11/2013
Oak Ranch
Nehalem Watershed
Cedar Creek
Passage 2009
Columbia Co.
Lower Restoration
Reach (8900 ft)
Oak Ranch Creek
Phase I
Passage 2013
(this grant)
Phase II
Passage 2014
(future grant)
Apiary Rd
Fall Creek
Cook Creek
Nehalem River
47
Crooked Creek
Camp
Wilkerson
Upper Restoration
Reach (6500 ft)
Passage
ODF
Oak Ranch Creek
Passage
ODF
Scappoose Vernonia Hwy
Dog Creek
Fish Passage Sites
Completed
Current
Future
Restoration Reaches
Public Lands
Columbia County
ODF


Oak Ranch Overview
10/11/2013
Oak
Ranch
Nehalem
Watershed
Cedar Creek
Passage 2009
Columbia Co.
Lower Restoration
Reach (8900 ft)
Oak Ranch Creek
Phase I
Passage 2013
(this grant)
Phase II
Passage 2014
(future grant)
Apiary Rd
Oak Ranch Creek
Fall Creek
Cook Creek
Nehalem River
47
Crooked Creek
Camp
Wilkerson
Upper Restoration
Reach (6500 ft)
Passage
ODF
Oak Ranch Creek
Passage
ODF
Nehalem River
Scappoose Vernonia Hwy
Dog Creek
Fish Passage Sites
Completed
Current
Future
Restoration Reaches
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX,
Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
Fish Division
3406 Cherry Avenue NE
Salem, OR 97303
503-947-6200
Fax: 503-947-6202
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September 5th, 2013

Tristan Wood
Columbia County Road Department
1054 Oregon St.
St. Helens, OR 97051

Maggie Peyton
Upper Nehalem Watershed Council
825 Bridge Street
Vernonia, OR 97064

Re: Fish Passage Approval for Apiary Road Crossing of Oak Ranch Creek, PA-1-0048 & PA-01-0049

Dear Mr. Wood and Ms. Peyton,

The Oregon Department of Fish and Wildlife (ODFW) has reviewed, and approves, as required by Oregon Fish Passage Law ORS 509.585, the fish passage design plans for two new Apiary Road crossings over Oak Ranch Creek located in Columbia County. Oak Ranch Creek is a tributary of the Nehalem River. The project consists of replacing two existing undersized crossings, with new open-bottomed concrete box structures, that once completed, will clear span the active channel of Oak Ranch Creek, which is 20 feet in the project area. In addition to clear spanning the active channel, both the bed materials and the gradient under the crossing will be reflective of "stream simulation" conditions in Oak Ranch Creek. The new crossings will provide a substantial improvement to natural stream function and fish passage for native migratory fish in Oak Ranch Creek.

ODFW Fish Passage program staff has reviewed the fish passage plans and all corresponding designs for this project, which were received by ODFW fish passage on 8/14/2013, and we find the project meets all ODFW fish passage requirements for stream simulation road-stream crossings pursuant to OAR 635-412-0035 3(a). ODFW fish passage approval is contingent on specific items which include:

1. All in-water work for this project shall occur during the ODFW in-water work window, unless otherwise approved by the Department.
2. As required by OAR 635-412-0035 (10ef), a fish salvage shall be performed by a qualified fisheries biologist to safely remove all native fish from the work area prior to dewatering of the site. Post construction, the construction site shall be re-watered in a manner to prevent loss of downstream surface flow as the new streambed absorbs water.

3. All best management practices (BMPs) shall be followed to minimize impacts to the stream. These BMP's may include, but are not limited to silt curtains, or other turbidity protection devices to ensure turbidity from construction activities does not impact downstream habitats. In addition, downstream connectivity shall be maintained through a gravity fed bypass pipe, as described in the fish passage plans. Any deviation from this plan shall be approved by an ODFW North Coast District Fish Biologist.
4. The project owner shall be responsible for all monitoring and maintenance required at the crossing to maintain fish passage as designed. Maintenance activities shall include periodic debris removal as necessary to keep the crossing clear of obstructions. Monitoring shall entail visual observations made during site visits paying special attention to scour or deposition within or immediately adjacent to the project reach. If monitoring reveals that fish passage criteria is no longer being met (volitional fish passage of native migratory fish no longer being achieved), project owners shall contact ODFW in order to develop solutions to provide volitional fish passage through the project site.
5. The Department shall be allowed to inspect the project site at reasonable times for the duration of this approval. Unless prompted by emergency or other exigent circumstances, inspection shall be limited to regular and usual business hours, including weekends.
6. A low flow thalweg shall be designed and implemented into the crossing's stream simulation material to ensure low flow fish passage through the site. In addition, fines shall be adequately washed into the bed material matrix to seal the materials and prevent sub-surface flow.

Please retain this correspondence for your records, as this documents ODFW's approval of fish passage for this project. Please pass this information to the appropriate construction staff, project managers, and project owners as you deem fit. Thank you for your cooperation and patience as we worked through the fish passage approval details for this project. If you have any questions regarding these projects or the content of this letter, please contact me by calling 503-947-6256.

Sincerely,

[redacted]

Ken Loffink
Assistant Fish Passage Coordinator

Cc: Chris Knutsen, ODFW North Coast District Fish Biologist
Michelle Long, ODFW North Coast Watershed Council Liaison
Greg Apke, ODFW Statewide Fish Passage Coordinator
Project Files: PA-01-0048, PA-01-0049