CLACKAMAS COUNTY

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PLANS FOR PROPOSED PROJECT

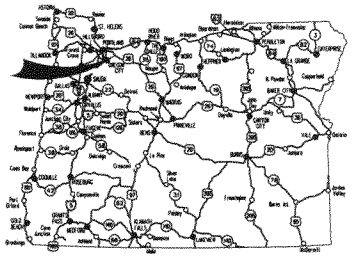
SCOPE OF WORK

EAST BARLOW TRAIL ROAD RESTORATION IMPROVEMENTS PROJECT

CLACKAMAS COUNTY

_____ 2015

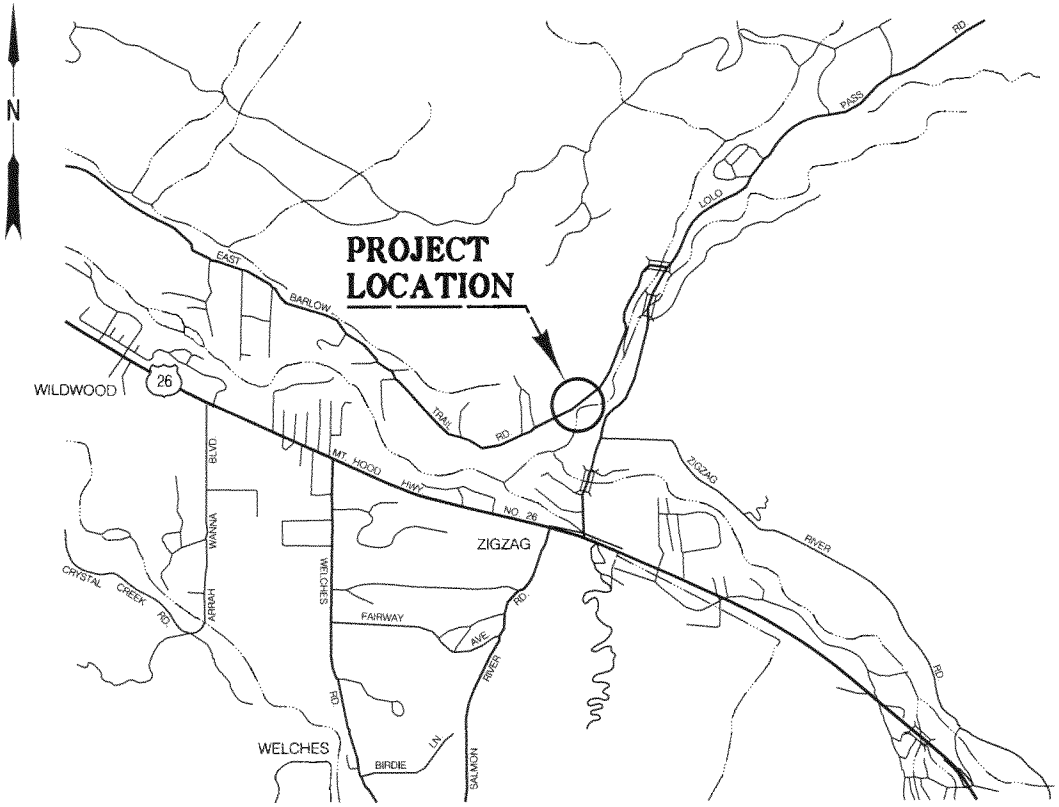
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1.0	Title Sheet
1.1	Index Of Sheets, Legend And Abbreviations



Overall Length Of Project - 0.09 Miles

ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE



PRELIMINARY

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REGIONAL OFFICES:
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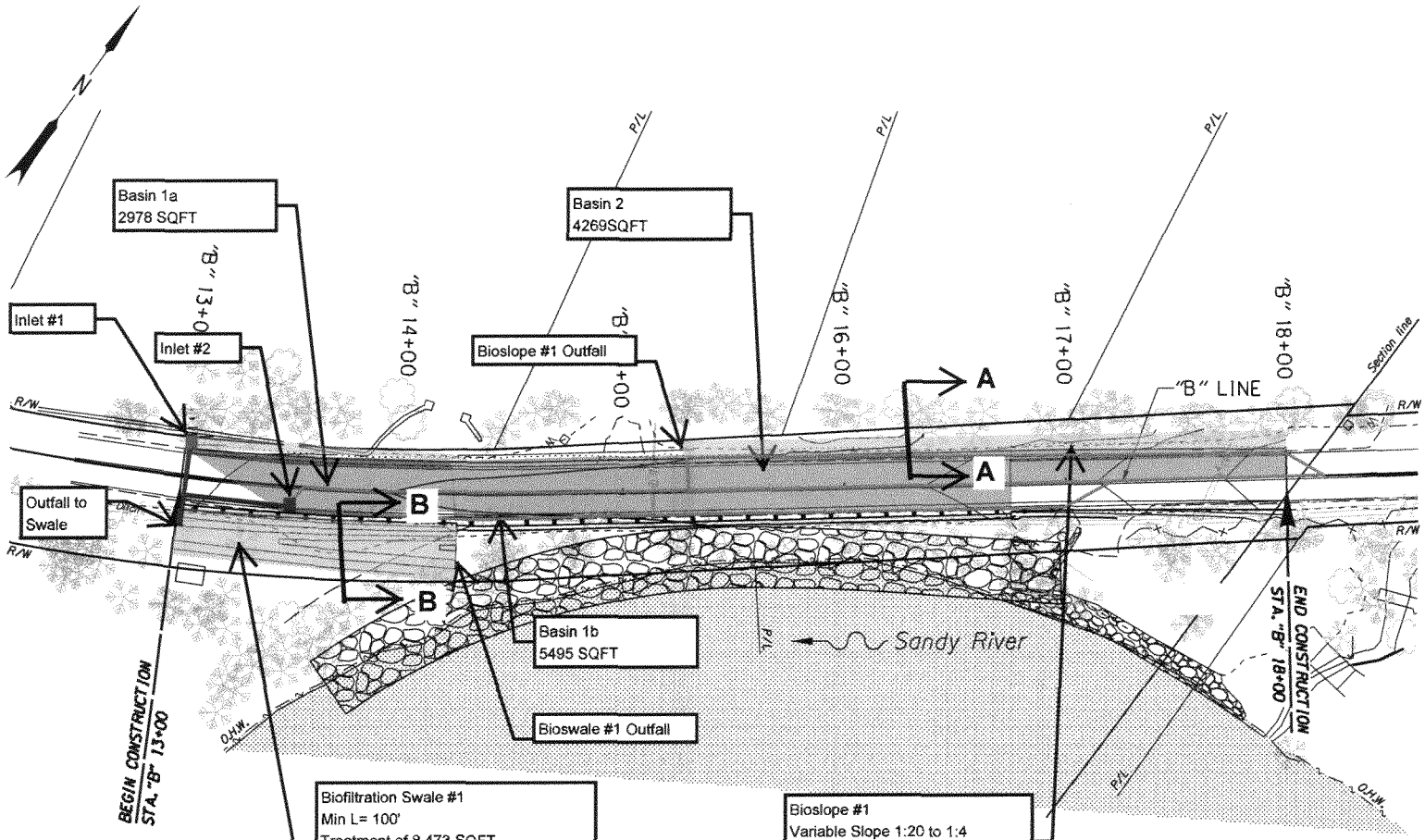
EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Matthew Phillips
Checked By - _____
Drafted By - Serban Dinca

TITLE SHEET

SHEET NO. 1.0

pw:\\PWCS01E.obec.com:PWOBEC01\Documents\OBEC\Projects\0070\0070-0039.00\CAD\Roadway\Plans\070039f_1.0.dgn :: Default 11/7/2013 11:53:37 AM Sdinca



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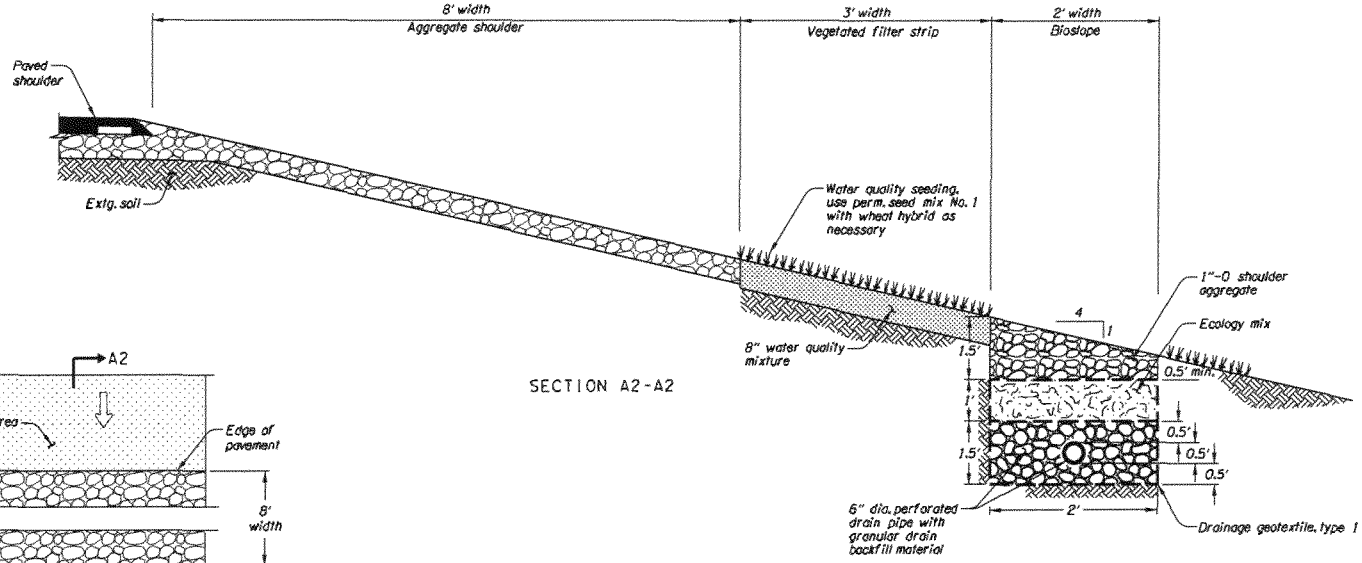
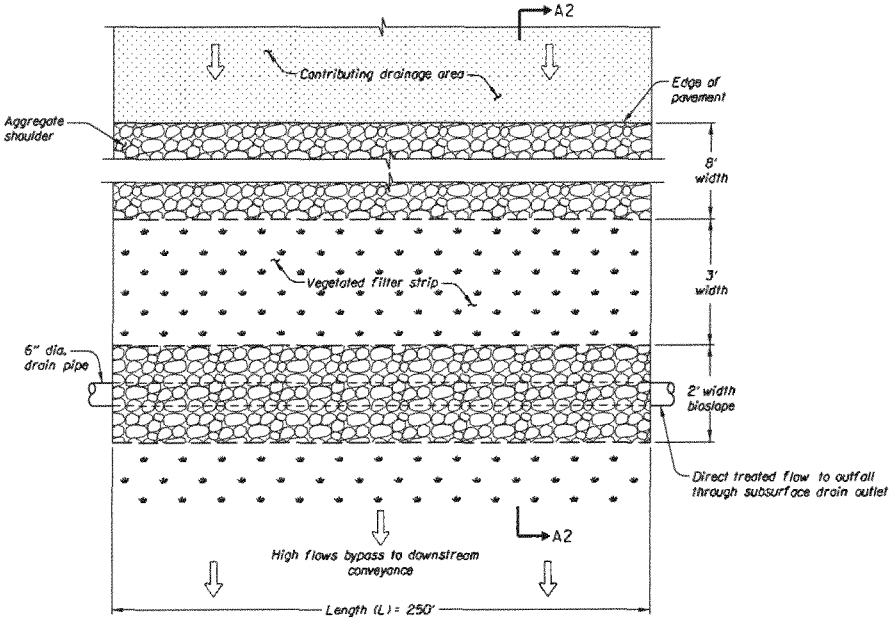


SECTION A2-A2



PLAN

SECTION A-A
(Fig. 2)

BIOSLOPE DETAIL

OREGON DEPARTMENT OF TRANSPORTATION

CONSULTING ENGINEERS
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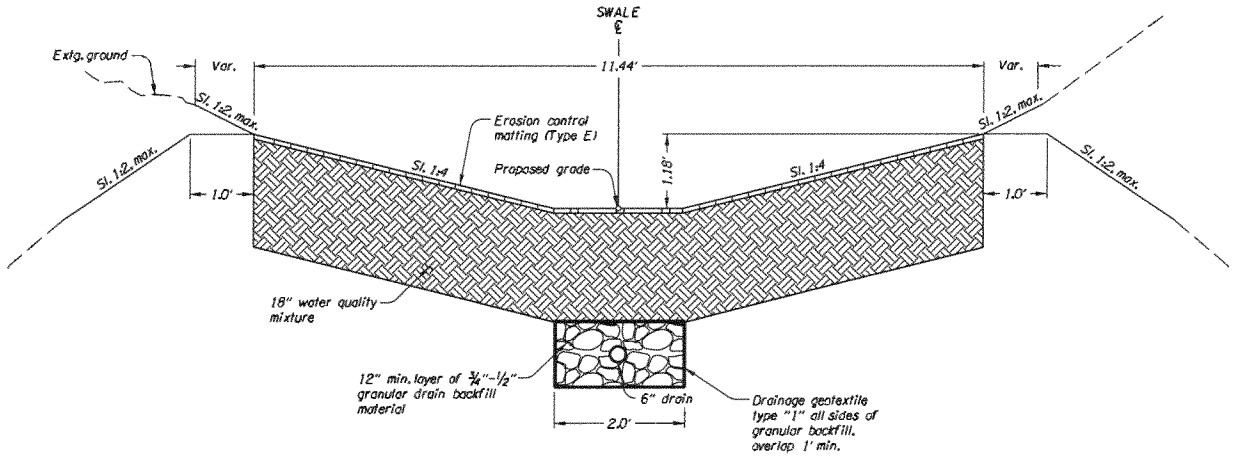
EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Amy Jones
Checked By - Ben Weverka
Drafted By - Cory Schrieiner

DRAINAGE DETAILS

FIGURE
3

c:\obec\pwobec01\dms97344\070039f_Figure 3.dtl 4/29/2014 10:13:39 AM



BIOFILTRATION SWALE TYPICAL SECTION B-B

Not to scale (Fig. 2)

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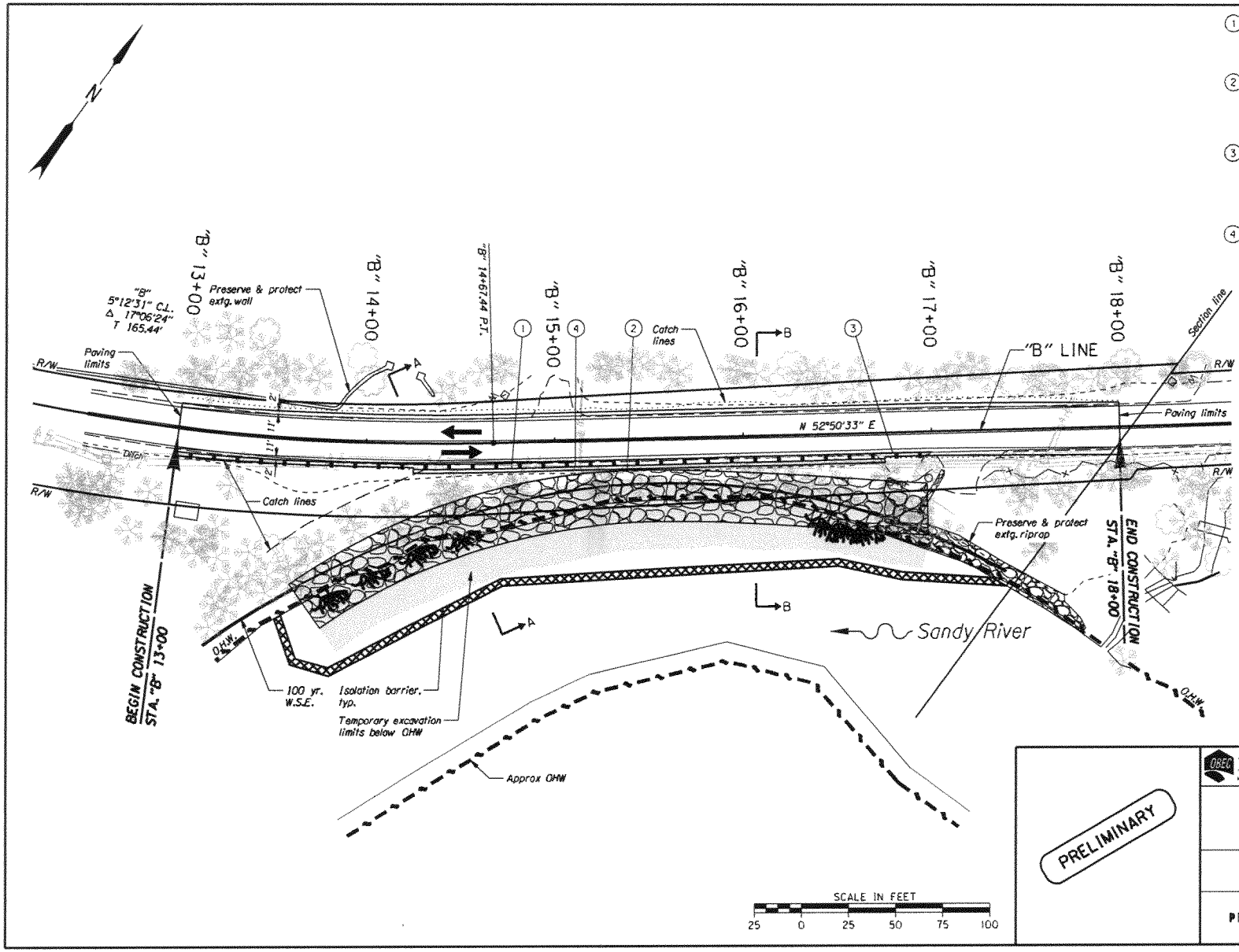
EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Amy Jones
Checked By - Ben Wewerka
Drafted By - Cory Schrlenar

DRAINAGE DETAILS

FIGURE
4



1. Structure no. _____
   Sta. "B" 14+25 to Sta. "B" 16+75
   Const. retaining wall
   (See sht. 5.2)

2. Sta. "B" 13+64 to Sta. "B" 16+97
   Const. riprap (Class 10,000) revetment - 2183 cu. yd.
   Inst. willow bundle - 220 each
   3 to 5 cuttings per bundle, typ.
   (For details, see sht. 3.0)

3. Sta. "B" 13+00 to Sta. "B" 17+00
   Const. guardrail terminal - energy absorbing
   Flare rate=0, W=1, E=0, L=25'
   Const. guardrail - 375' (Type 3)
   Const. anchor (Type 1, modified)
   Inst. end piece (Type B)

4. Utilities relocated prior to construction

LEGEND

Water impacts - permanent

Removal:
3,573 CY, 15,115 SF below O.H.W.
1,470 CY, 6,220 SF above O.H.W.

Fill:
Class 10,000 riprap
713 CY, 4000 SF below O.H.W.
730 CY above O.H.W.
Replace 2,860 CY, 11,115 SF of excavation below O.H.W.

Water impacts - temporary
Sandy River isolation/containment
261 CY, 1,760 SF fill

Riprap

PRELIMINARY

CONSULTING ENGINEERS
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EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Amy Jones
Checked By - Ben Wewerka
Drafted By - Cory Schrlener

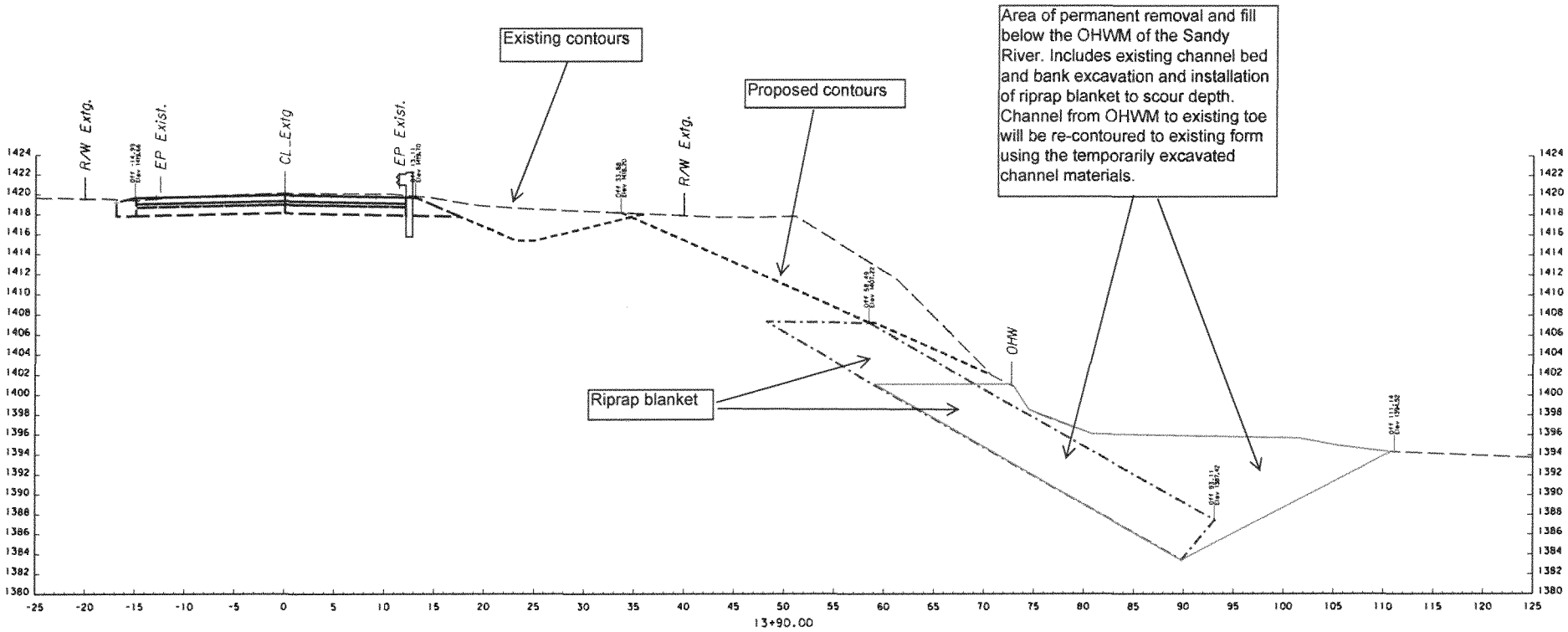
PROJECT IMPACT SUMMARY

SHEET NO.
*

THIS IS THE FILENAME LOCATION ********** DD-MMM-YYYY HH:MM USERNAME

NOTE: drawings scaled for 11x17 printing. Scale will change for 8.5x11 printing.

NOTE: the exact stationing of willow bundles and large wood will depend on site conditions during construction. Please refer to Sheet 3.0 in Exhibit C for the large woody typical drawing, and refer to Sheet GN-3 in Exhibit D for the willow bundle typical.



STA. 13+90 TO STA. 13+90 SCALE 1"=10'

Cross Section 1
03/07/2014

NOTE: drawings scaled for 11x17 printing. Scale will change for 8.5x11 printing.

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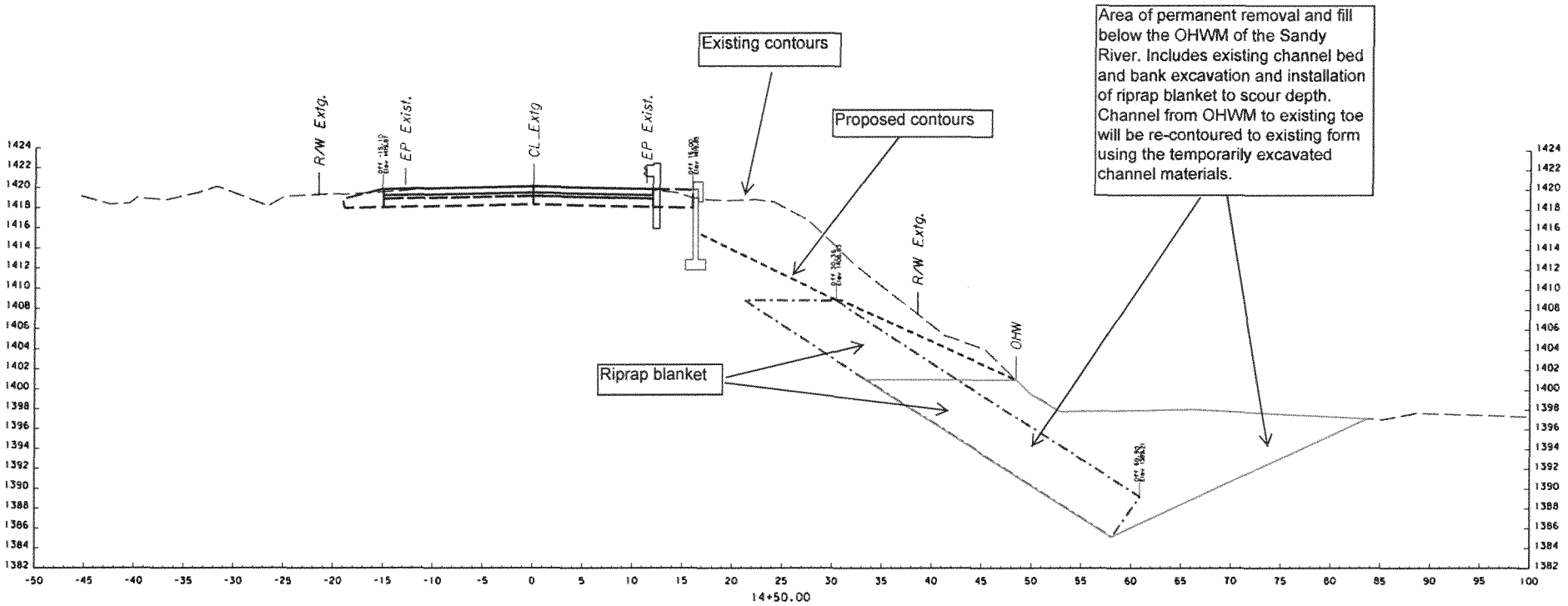
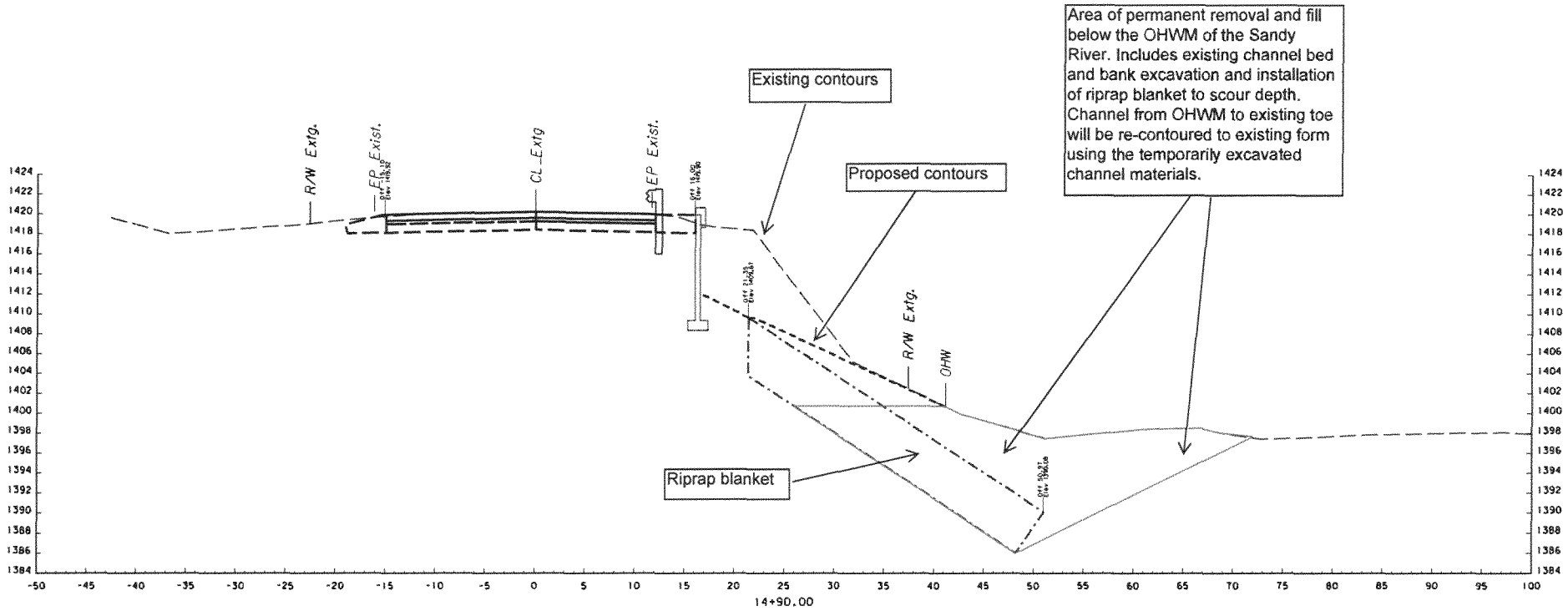


STA. 14+50 TO STA. 14+50 SCALE 1"=10'

Cross Section 2
03/07/2014

NOTE: drawings scaled for 11x17 printing. Scale will change for 8.5x11 printing.

NOTE: the exact stationing of willow bundles and large wood will depend on site conditions during construction. Please refer to Sheet 3.0 in Exhibit C for the large woody typical drawing, and refer to Sheet GN-3 in Exhibit D for the willow bundle typical.

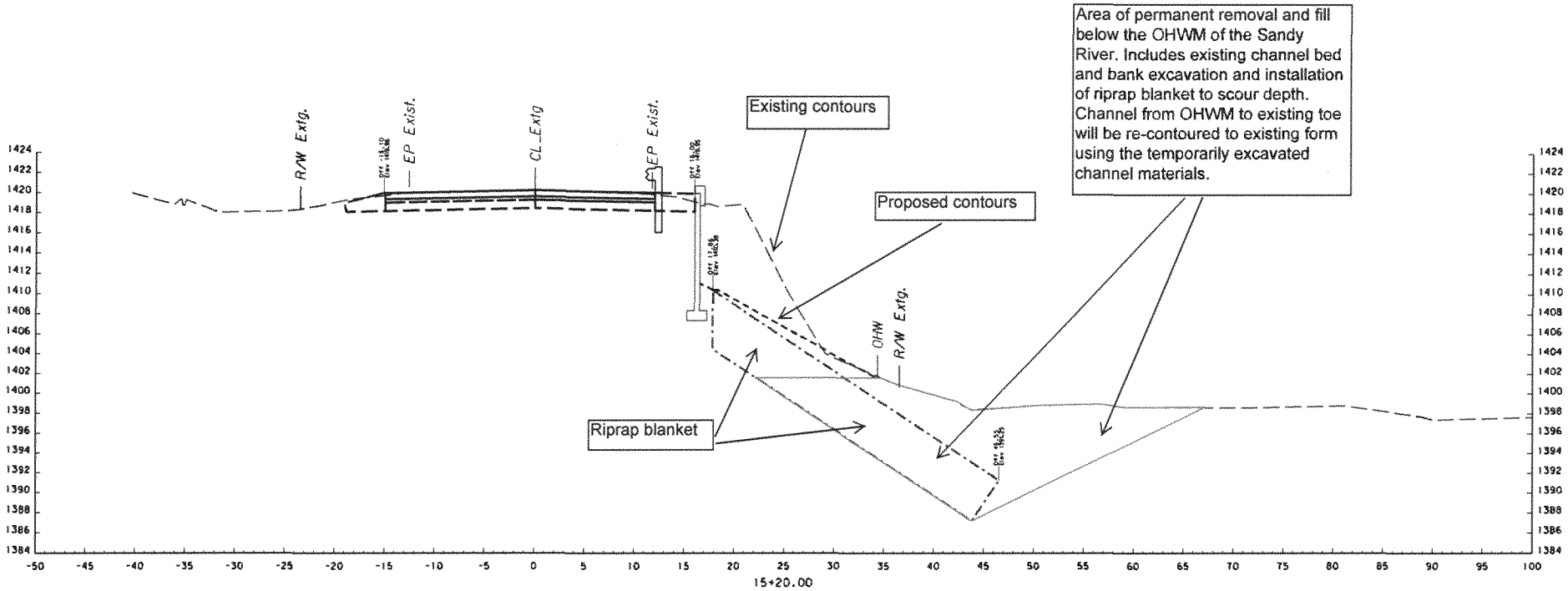


STA. 14+90 TO STA. 14+90 SCALE 1"=10'

Cross Section 3
03/07/2014

NOTE: drawings scaled for 11x17 printing. Scale will change for 8.5x11 printing.

NOTE: the exact stationing of willow bundles and large wood will depend on site conditions during construction. Please refer to Sheet 3.0 in Exhibit C for the large woody typical drawing, and refer to Sheet GN-3 in Exhibit D for the willow bundle typical.

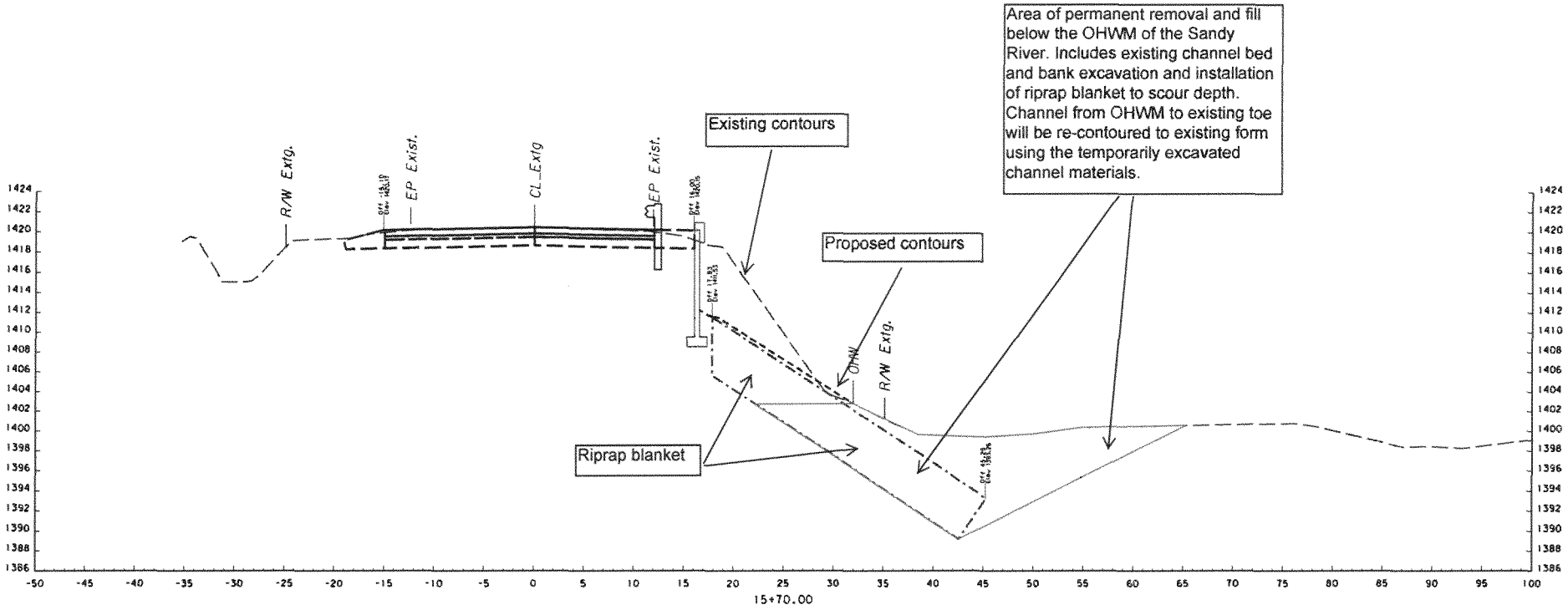


STA. 15+20 TO STA. 15+20 SCALE 1"=10'

Cross Section 4
03/07/2014

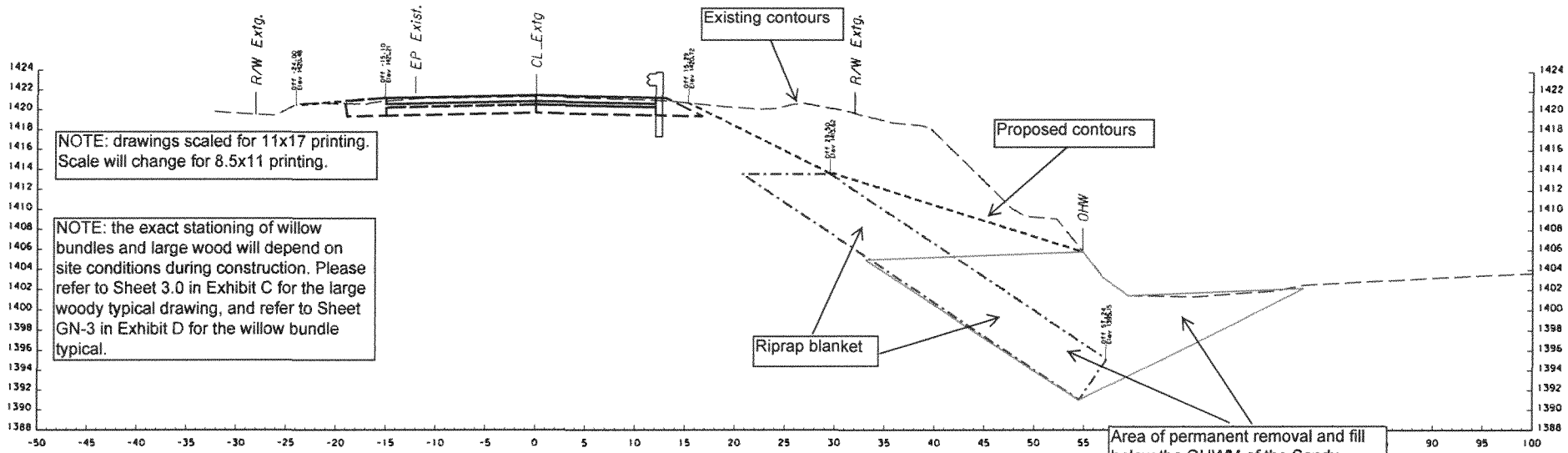
NOTE: drawings scaled for 11x17 printing. Scale will change for 8.5x11 printing.

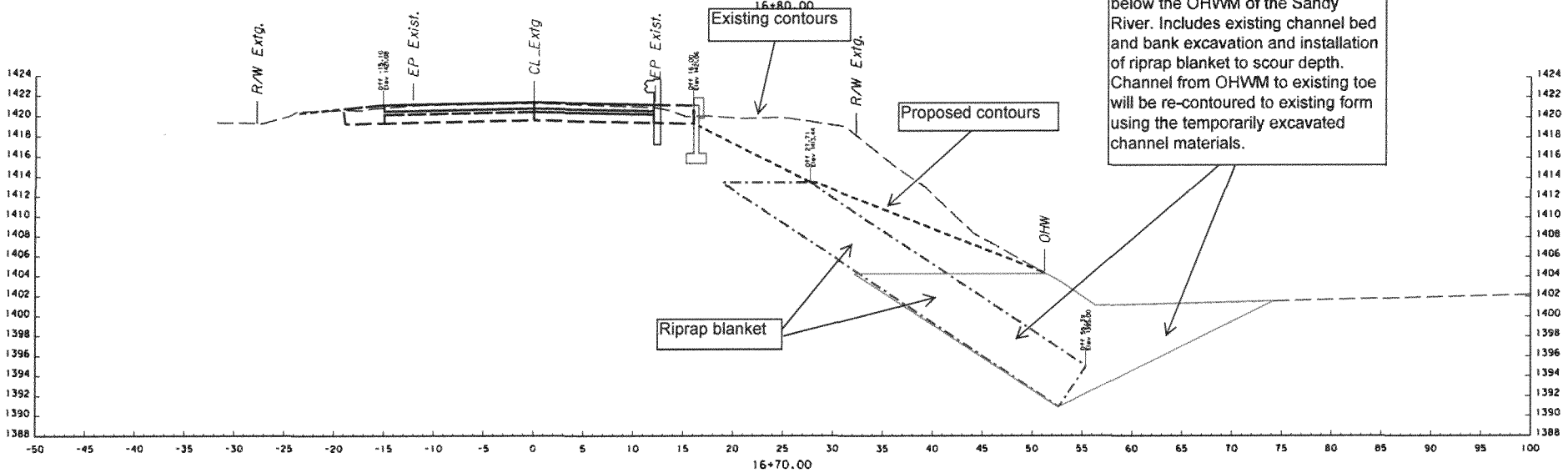
NOTE: the exact stationing of willow bundles and large wood will depend on site conditions during construction. Please refer to Sheet 3.0 in Exhibit C for the large woody typical drawing, and refer to Sheet GN-3 in Exhibit D for the willow bundle typical.



STA. 15+70 TO STA. 15+70 SCALE 1"=10'

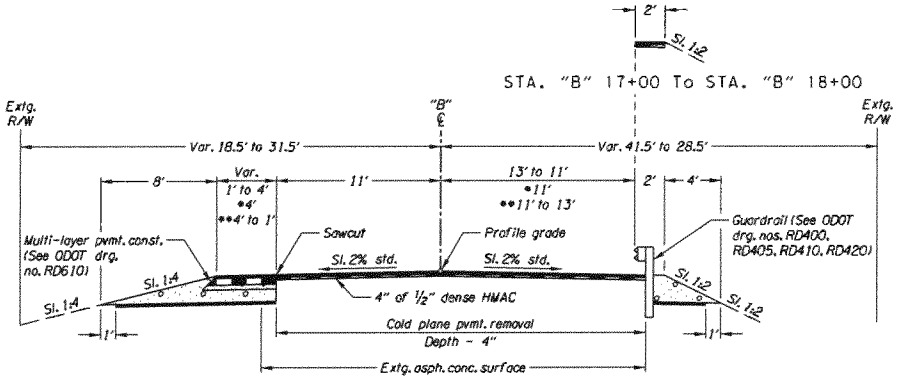
Cross Section 5
03/07/2014





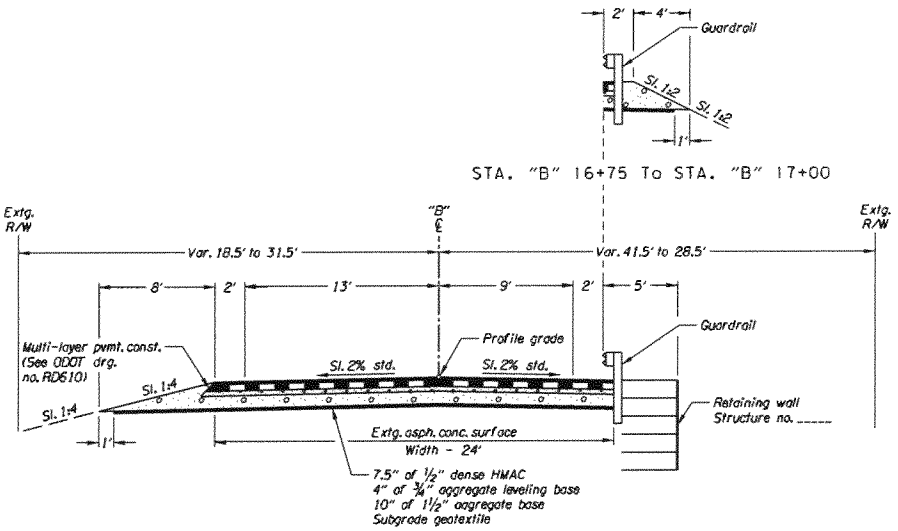
STA. 16+70 TO STA. 16+80 SCALE 1"=10'

Cross Section 6
03/07/2014

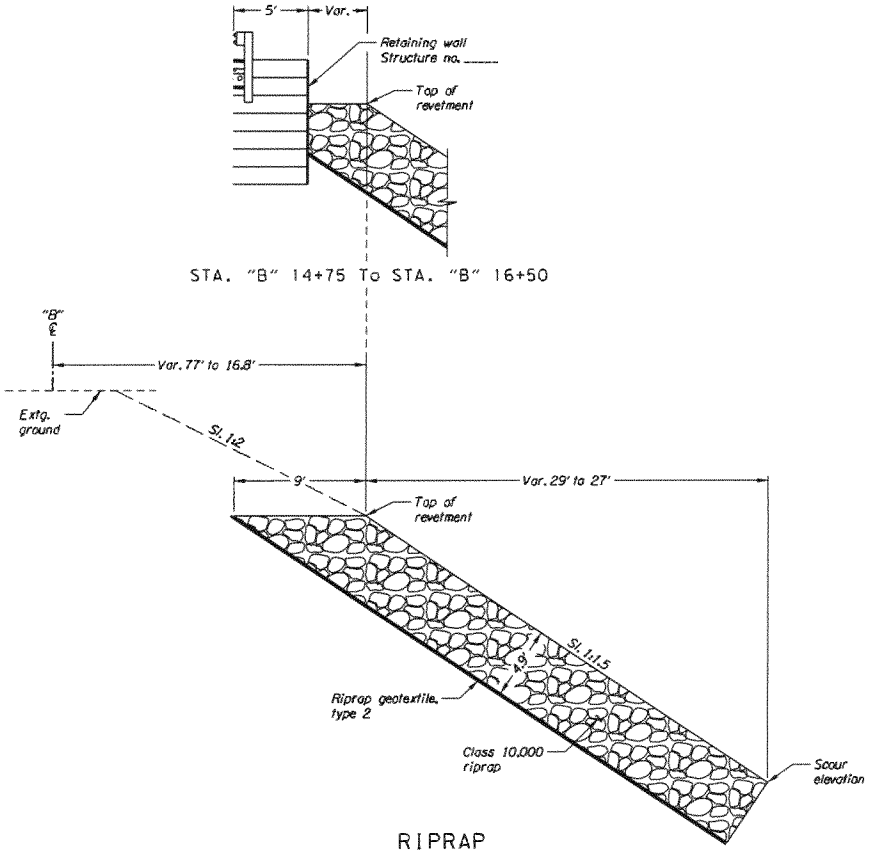


(For surfacing details not shown, see section below)

EAST BARLOW TRAIL ROAD
STA. "B" 13+00 To STA. "B" 13+90
*"B" 13+90 To "B" 14+25
**"B" 17+00 To "B" 18+00



EAST BARLOW TRAIL ROAD
STA. "B" 14+25 To STA. "B" 17+00



RIPRAP
STA. "B" 13+64 To STA. "B" 16+97
(For details, see sht. 3.0)

NOTE:
Side slopes are shwon as vert. to horiz.

PRELIMINARY

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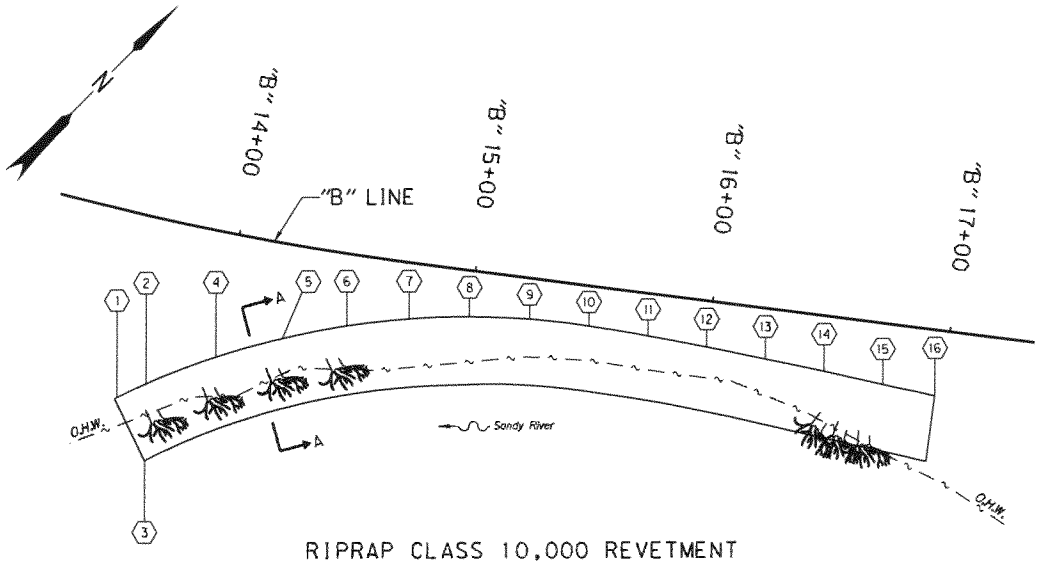
EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Matthew Phillips
Checked By - _____
Drafted By - Serban Sinca

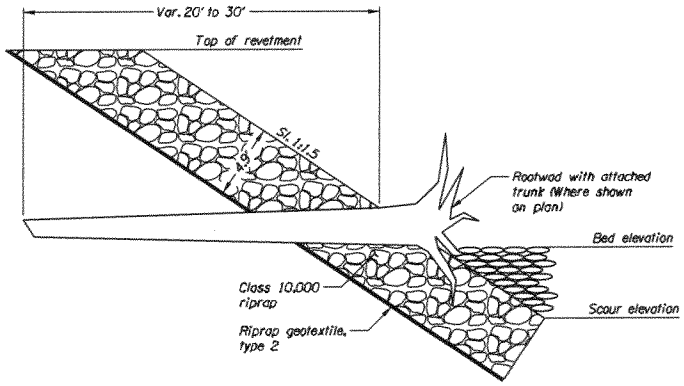
TYPICAL SECTIONS

SHEET NO. 2.0



RIPRAP CLASS 10,000 REVETMENT

RIPRAP REVETMENT LAYOUT TABLE					
⬡	STATION	TOP OF REVETMENT		SCOUR	
		OFFSET	ELEVATION	OFFSET	ELEVATION
1	"B" 13+65.00	77.32' Rt.	1406.27		
2	"B" 13+75.00	69.14' Rt.	1406.68		
3	"B" 13+80.70			100.47' Rt.	1387.04
4	"B" 14+00.00	52.31' Rt.	1407.53	85.93' Rt.	1387.79
5	"B" 14+25.00	39.64' Rt.	1408.23	71.39' Rt.	1388.56
6	"B" 14+50.00	30.36' Rt.	1408.83	60.90' Rt.	1389.21
7	"B" 14+75.00	24.03' Rt.	1409.37	53.87' Rt.	1389.77
8	"B" 15+00.00	19.89' Rt.	1409.91	49.31' Rt.	1390.37
9	"B" 15+25.00	17.53' Rt.	1410.50	46.07' Rt.	1391.46
10	"B" 15+50.00	17.16' Rt.	1411.09	46.07' Rt.	1391.46
11	"B" 15+75.00	18.04' Rt.	1411.65	45.35' Rt.	1393.45
12	"B" 16+00.00	19.46' Rt.	1412.14	46.72' Rt.	1393.97
13	"B" 16+25.00	21.35' Rt.	1412.60	48.76' Rt.	1394.34
14	"B" 16+50.00	24.12' Rt.	1413.07	51.69' Rt.	1394.71
15	"B" 16+75.00	28.01' Rt.	1413.53	56.31' Rt.	1395.07
16	"B" 16+97.21	32.58' Rt.	1413.94	60.40' Rt.	1395.40



SETION A-A
WOODY DEBRIS DETAIL

PRELIMINARY

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EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Matthew Phillips
Checked By - -------
Drafted By - Serban Dinca

DETAILS

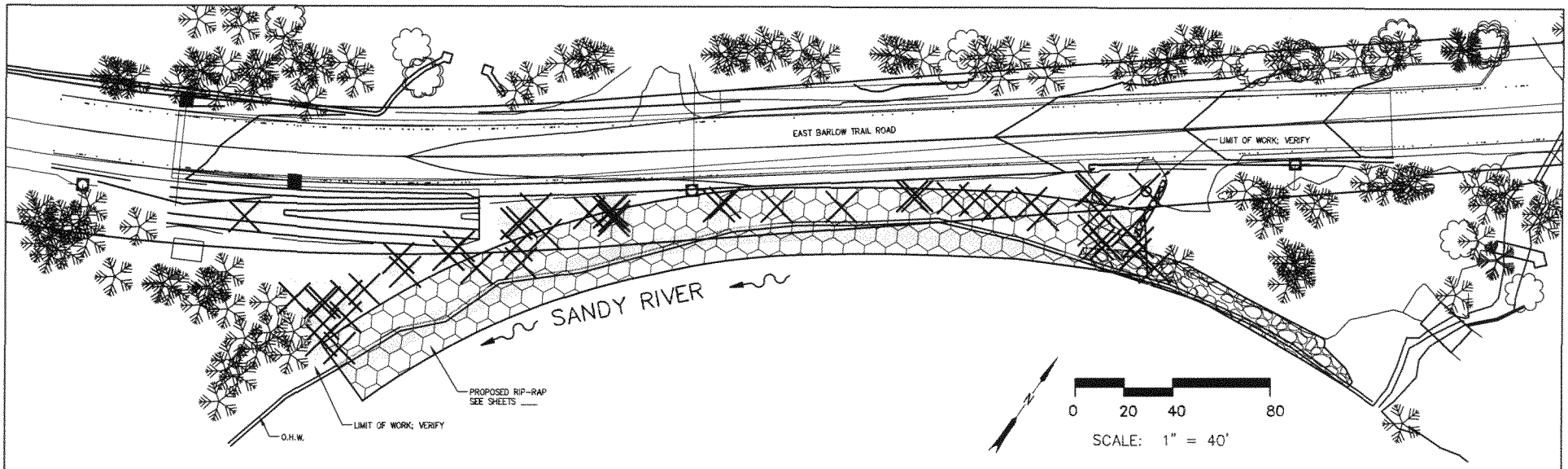
SHEET NO. 3.0

Exhibit D

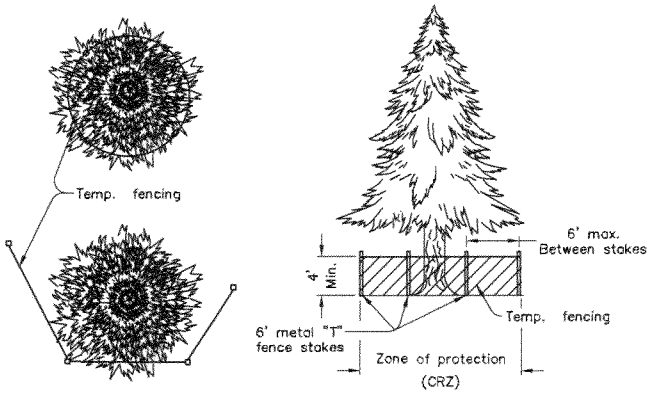
Tree Removal and Site Restoration Plan Sheets

East Barlow Trail Road Restoration Improvements Project

Clackamas County, Oregon



TREE REMOVAL LEGEND	
EXISTING CONIFER TO REMAIN	EXISTING CONIFER TO BE REMOVED
EXISTING DECIDUOUS TREE TO REMAIN	EXISTING DECIDUOUS TREE TO BE REMOVED



TREE PROTECTION FENCING DETAIL

NOT TO SCALE

TREE PROTECTION NOTES:

1. Install tree protection fence at existing trees, or tree groups prior to commencement of construction, per Tree Protection Detail. Fencing shall remain in place until project completion.

2. Trees adjacent to designated clearing limits shall be protected within the critical root zone (CRZ) as directed.

3. The CRZ for trees 4" diameter or smaller shall be an area with a radius at least 5' from the trunk.

4. The CRZ for trees over 4" diameter shall be an area with a radius of at least 18" from the trunk for every 1" of diameter size.

5. No soil grade changes or compaction shall take place within the CRZ, except as directed.

6. If work is done within the CRZ, care must be taken to minimize root disturbance. Special care shall be taken during excavation.

7. Additional protective fencing may be required when the work area is within the CRZ of trees.

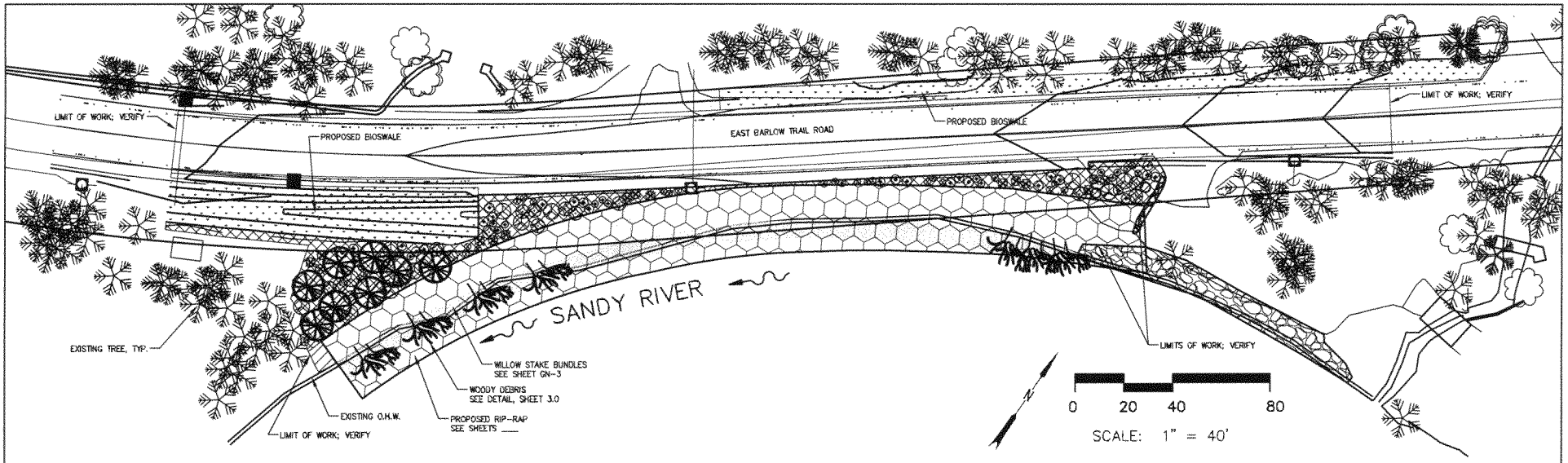
REGISTERED LANDSCAPE ARCHITECT
397
HOLLY KONDZIELA
OREGON
05/08/98
PRELIMINARY

EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By – Holly Kondziela
Checked By – Mike Gilliland
Drafted By – Holly Kondziela

TREE REMOVAL AND PROTECTION PLAN

SHEET NO. GN



SITE RESTORATION PLANTING LEGEND					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY	LOCATION
TREES					
	Pseudotsuga menziesii	Douglas Fir	2 gal	8	As shown
SHRUBS					
	Acer circinatum	Vine Maple	1 gal	13	As shown
	Gaultheria shallon	Salal	1 gal	21	As shown
	Holodiscus discolor	Oceanspray	1 gal	15	As shown
	Polystichum munitum	Western Sword Fern	1 gal	18	As shown
	Symphoricarpos albus	Snowberry	1 gal	27	As shown
	Vaccinium parvifolium	Red Huckleberry	1 gal	15	As shown
STAKING					
	Salix scouterlana	Scouler's Willow	bundle	220	As shown, 36" o.c.
SEEDING					
	REGREEN SEED MIX 1	Riparian Mix	N/A	50 lbs / ac see specifications	As shown
	REGREEN SEED MIX 2	Upland Mix	N/A	50 lbs / ac see specifications	As shown
	SEED MIX 3	Water Quality Mix	N/A	see specifications	As shown

PLANTING NOTES:

1. Verify and identify limits of disturbance in field prior to commencement of construction. If construction disturbance limits exceed plan areas, notify owner's representative prior to construction, to rectify approved adjustments.

2. Verify location of subsurface or overhead utilities and structures, traffic sight lines, or other conflicts with public right of way prior to layout of plant material in field. Adjust planting layout in specified patterns to eliminate conflicts and ensure survivability as plantings mature. Locate and label underground utility lines prior to digging. Coordinate all mobilization and construction operations with flagging and traffic control specifications.

3. Verify annual seasonal stream flow conditions prior to layout of planting areas. All container plantings shall be located above identified 25-year Mean High Water level.

4. Planting locations are based on available horizontal and vertical survey data. Field conditions may vary. Verify survey limits prior to construction. Locate and adjust all plantings in suitable locations to ensure survivability.

5. Disturbance and impacts to existing native vegetation shall be minimized to the greatest extent practicable. Do not remove native plant species, felled trees, stumps or native detritus.

6. Minimal clearing may be required in order to establish suitable planting locations in areas where existing vegetation will not be disturbed during construction activities.

7. Specified willow bundles to be coordinated with and installed during placement of rip rap material. Verify elevation prior to installation. See Willow Bundle Installation Detail, Sheet GN-3.

8. Shrubs shall be placed in a random, natural pattern.

9. Planting areas shall be prepared in accordance with the ODOT 2008 Oregon Standard Specifications for Construction and the project specific Special Provisions.

10. Contractor shall verify the availability of sufficient existing planting soil on site prior to construction. If imported topsoil is needed, submit topsoil type, source, and quantity for approval before commencement of construction.

11. See Sheet GN-3 for planting details.

12. Provide browse protection for all container plants. See detail, sheet GN-3.

13. Disturbed areas beyond those shown shall be seeded as required in the Standard Specifications and in accordance with the Planting Legend, this sheet. Verify limits of disturbance in field.

14. Mulch and tackifier shall be utilized during all seeding applications.

15. Plantings shall be irrigated manually or by other approved method, as necessary, to ensure plant establishment.

REGISTERED LANDSCAPE ARCHITECT
397
HOLLY KONDZIELA
OREGON
05/08/98
PRELIMINARY

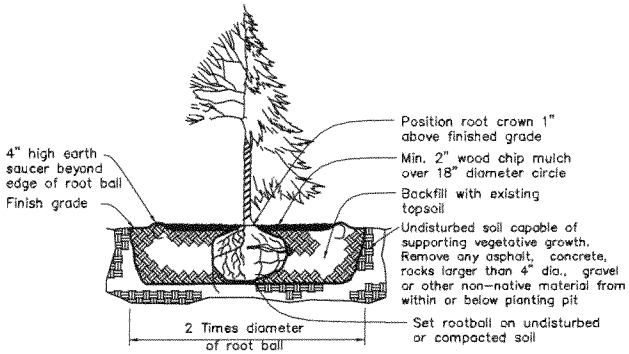
Mayer Landscape Architecture
2503 NE 8th Avenue, Portland, Oregon 97212
503.231.1633 info@MayerLA.com

EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By – Holly Kondziela
Checked By – Mike Clifford
Drafted By – Holly Kondziela

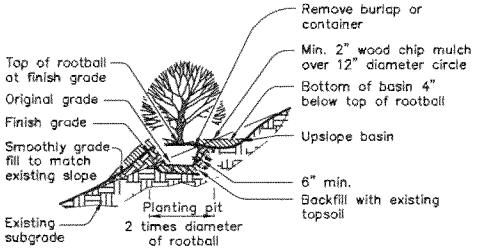
RESTORATION PLAN

SHEET NO. GN-2



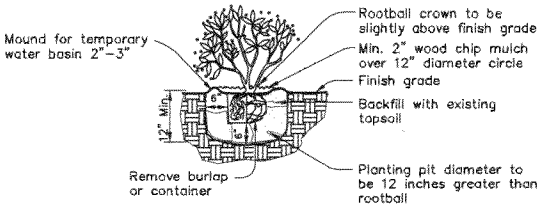
TREE PLANTING

NOT TO SCALE



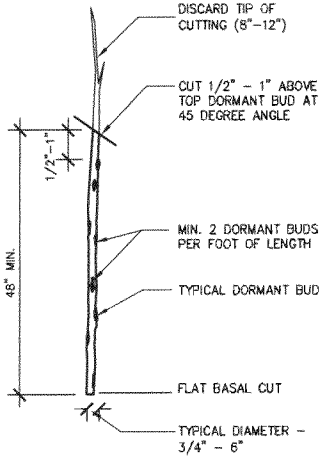
SLOPED AREA TREE/SHRUB PLANTING

NOT TO SCALE



SHRUB PLANTING (All forms except bareroot)

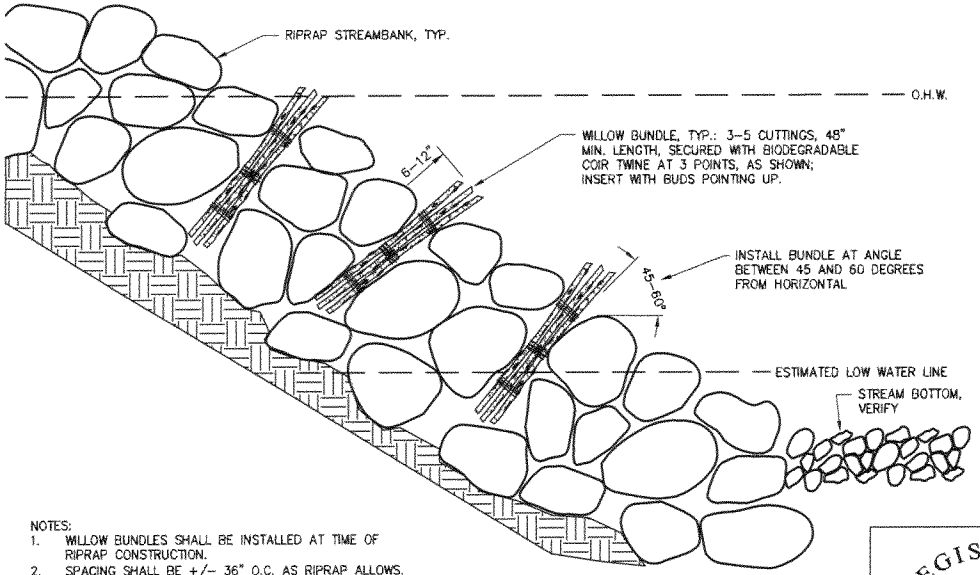
NOT TO SCALE



NOTES:
1. HARVEST AREA TO BE WITHIN SAME ECOREGION AS PROJECT AREA.
2. CUT FROM VIGOROUS 1–3 YEAR OLD WOOD ON PLANTS GROWING IN FULL SUNLIGHT.
3. IMMEDIATELY REMOVE ALL LATERAL BRANCHES AND CUT LEADER (APICAL STEM) APPROXIMATELY 8 – 12" DOWN STEM FROM TIP OF LEADER; SEAL TOP CUT WITH A DAB OF PAINT.
4. STORE PROTECTED AT 32–42° FARENHEIT FOR UP TO 4 MONTHS, OR BEFORE DORMANT BUD DEVELOPMENT.
5. SOAK ENTIRE LENGTH OF CUTTINGS FOR 10 – 12 DAYS PRIOR TO INSTALLATION.

STAKE CUTTING DETAIL

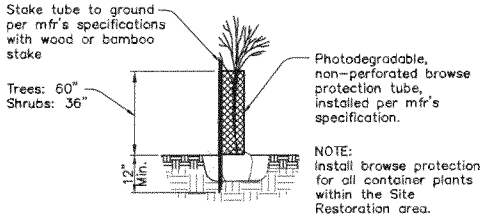
NOT TO SCALE



NOTES:
1. WILLOW BUNDLES SHALL BE INSTALLED AT TIME OF RIPRAP CONSTRUCTION.
2. SPACING SHALL BE +/– 36" O.C. AS RIPRAP ALLOWS. ADJUST SPACING AS NECESSARY TO ACCOUNT FOR WOODY DEBRIS.
3. APPROXIMATELY 80% OF BUNDLE LENGTH TO BE BELOW SURFACE OF RIPRAP.
4. BURIED ENDS OF BUNDLES SHOULD BE IN CONTACT WITH STANDING WATER OR MOIST ZONE NEAR BOTTOM OF RIPRAP REVETMENT EXCAVATION.

WILLOW BUNDLE INSTALLATION

NOT TO SCALE



NOTE:
Install browse protection for all container plants within the Site Restoration area.

BROWSE PROTECTION

NOT TO SCALE

REGISTERED LANDSCAPE ARCHITECT
397
HOLLY KONDZIELA
OREGON
05/08/98
PRELIMINARY

Mayer Landscape Architecture
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EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By – Holly Kondziela
Checked By – Mike Gilliland
Drafted By – Holly Kondziela

RESTORATION DETAILS

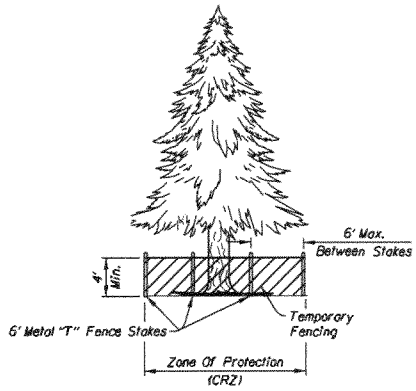
SHEET NO. GN–3

Exhibit E

Erosion and Sediment Control Plan, Stormwater Management Plan, and Turbidity Monitoring Plan

East Barlow Trail Road Restoration Improvements Project

Clackamas County, Oregon



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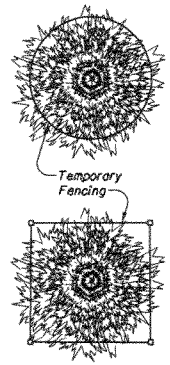
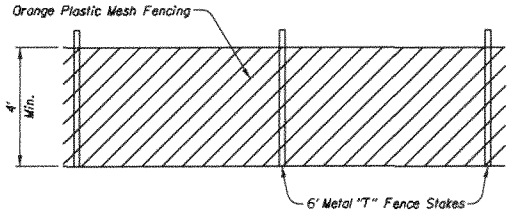


TYPICAL TREE PROTECTION

NOTES:

1. Trees Adjacent To Designated Clearing Limits Shall Be Protected Within The Critical Root Zone (CRZ) As Dir.
2. The CRZ For Trees 4" Dia. Or Smaller Shall Be An Area With A Radius At Least 5' From The Trunk.
3. The CRZ For Trees Over 4" Dia. Shall Be An Area With A Radius Of At Least 18" From The Trunk For Every 1" Of Dia. Size.
4. No Soil Grade Changes Or Compaction Shall Take Place Within The CRZ, Except As Dir.
5. If Work Is Done Within The CRZ, Care Must Be Taken To Minimize Root Disturbance. Special Care Shall Be Taken During Excavation.
6. Additional Protective Fencing May Be Required When The Work Area Is Within The CRZ Of Trees.



TEMPORARY FENCING

GENERAL NOTES:

The Implementation Of These Erosion Control Plans And The Construction, Maintenance, Replacement And Upgrading Of These Facilities Are The Responsibility Of The Contractor Until All Construction Is Completed And Approved.

Develop A Revised Plan Of The Erosion Control Facilities Shown In Accordance With The Requirements Of Sec. 00280, Oregon Standard Specifications For Construction. This Plan Must Be Constructed In Conjunction With All Clearing And Grading Activities. Construct In Such A Manner As To Insure That Sediment And Sediment-Laden Water Do Not Enter The Drainage System, Roadway, Or Violate Applicable Water Standards. Construct Controls In Segments Applicable To Each Staging Phase.

The Erosion Control Facilities Shown On This Plan Are The Minimum Requirements For Anticipated Site Conditions. During The Construction Period, These Facilities Shall Be Upgraded For Unexpected Storm Events And To Insure That Sediment And Sediment-Laden Water Do Not Leave The Site.

Stabilized Construction Entrances Shall Be Installed At The Beginning Of Construction And Maintained For The Duration Of The Project. Additional Measures May Be Required To Ensure That All Paved Areas Are Kept Clean For The Duration Of The Project.

Construct Sediment Fence At The Toe Of Fill Slopes In Areas Where Sediment-Laden Water Has A Potential Of Entering Waterways Or Leaving The R/W.

STANDARD DRAWINGS

■	RD1000	Construction Entrance
■	RD1005	Check Dam
□	RD1010	Inlet Protection Type 1,2,3
■	RD1015	Inlet Protection Type 4
□	RD1020	Inlet Protection Type 5
□	RD1025	Sediment Barrier Type 1
□	RD1030	Sediment Barrier Type 2,4
■	RD1035	Sediment Barrier Type 3
■	RD1040	Sediment Fence Supported/Unsupported
□	RD1045	Temporary Slope Drain
□	RD1050	Temporary Scour Basin
■	RD1055	Matting
□	RD1060	Tire Wash Type 1

PRELIMINARY

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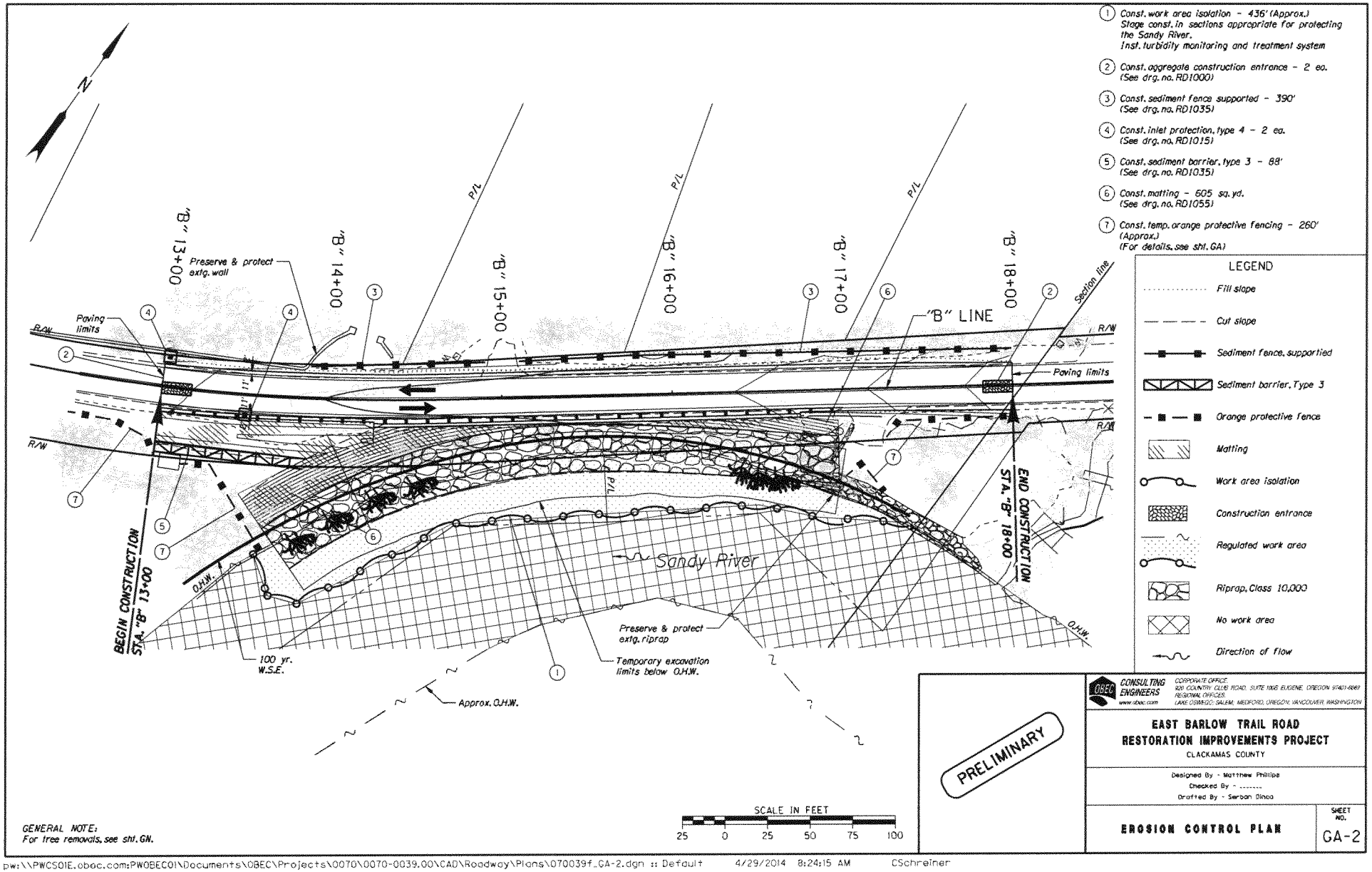
REGIONAL OFFICES:
LAKE OSWEGO, SALEM, MEDFORD, OREGON; VANCOUVER WASHINGTON

EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Matthew Phillips
Checked By - -------
Drafted By - Serban Dinca

EROSION CONTROL DETAILS

SHEET NO. GA



1. Const. work area isolation - 436' (Approx.) Stage const. in sections appropriate for protecting the Sandy River. Inst. turbidity monitoring and treatment system
2. Const. aggregate construction entrance - 2 ea. (See drg. no. RD1000)
3. Const. sediment fence supported - 390' (See drg. no. RD1035)
4. Const. inlet protection, type 4 - 2 ea. (See drg. no. RD1015)
5. Const. sediment barrier, type 3 - 88' (See drg. no. RD1035)
6. Const. matting - 605 sq. yd. (See drg. no. RD1055)
7. Const. temp. orange protective fencing - 260' (Approx.) (For details, see sht. GA)

GENERAL NOTE:
For tree removals, see sht. GN.

PRELIMINARY

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EAST BARLOW TRAIL ROAD
RESTORATION IMPROVEMENTS PROJECT
CLACKAMAS COUNTY

Designed By - Matthew Phillips
Checked By - -------
Drafted By - Serban Dinca

EROSION CONTROL PLAN

SHEET NO. GA-2

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