



Attachment V. McLoughlin Creek Sheets

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE

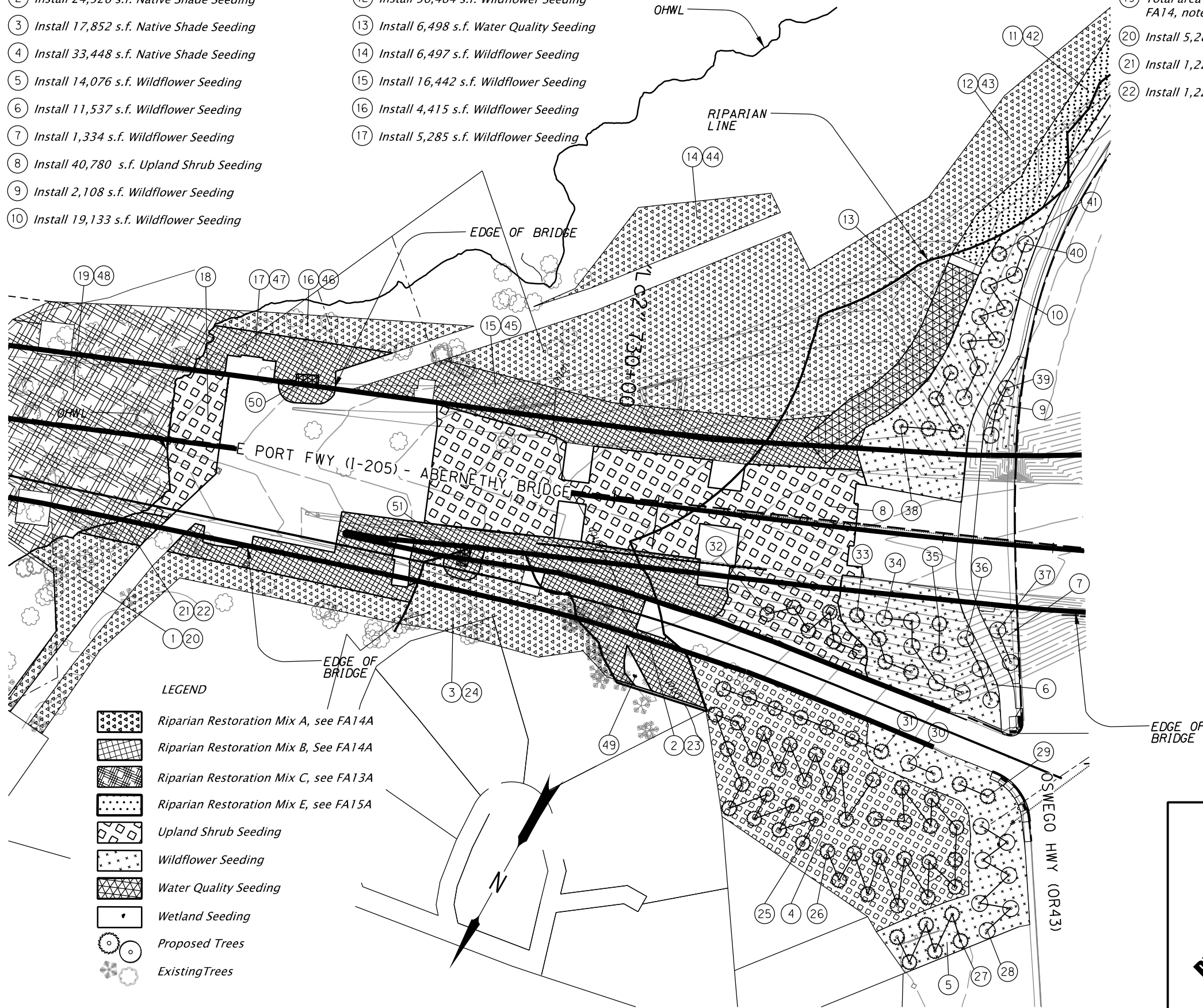
??V-???

- ① Install 5,280 s.f. Native Shade Seeding
- ② Install 24,526 s.f. Native Shade Seeding
- ③ Install 17,852 s.f. Native Shade Seeding
- ④ Install 33,448 s.f. Native Shade Seeding
- ⑤ Install 14,076 s.f. Wildflower Seeding
- ⑥ Install 11,537 s.f. Wildflower Seeding
- ⑦ Install 1,334 s.f. Wildflower Seeding
- ⑧ Install 40,780 s.f. Upland Shrub Seeding
- ⑨ Install 2,108 s.f. Wildflower Seeding
- ⑩ Install 19,133 s.f. Wildflower Seeding

- ⑪ Install 10,169 s.f. Wildflower Seeding
- ⑫ Install 56,484 s.f. Wildflower Seeding
- ⑬ Install 6,498 s.f. Water Quality Seeding
- ⑭ Install 6,497 s.f. Wildflower Seeding
- ⑮ Install 16,442 s.f. Wildflower Seeding
- ⑯ Install 4,415 s.f. Wildflower Seeding
- ⑰ Install 5,285 s.f. Wildflower Seeding

- ⑱ Install 5,401 s.f. Upland Shrub Seeding
- ⑲ Total area on FA14 and FA15, shown on FA14, note 8
- ⑳ Install 5,280 s.f. Riparian Restoration Mix A
- ㉑ Install 1,227 s.f. Native Shade Seeding
- ㉒ Install 1,227 s.f. Riparian Restoration Mix B

- ㉓ Install 24,526 s.f. Riparian Restoration Mix A
- ㉔ Install 17,852 s.f. Riparian Restoration Mix B
- ㉕ Install 21 TPSME
- ㉖ Install 17 TPIPO
- ㉗ Install 6 TPSME
- ㉘ Install 7 TQUGA
- ㉙ Install 2 TPSME
- ㉚ Install 2 TCONU
- ㉛ Install 7 TPIPO
- ㉜ Install 6 TPSME
- ㉝ Install 4 TCADE
- ㉞ Install 5 TCONU
- ㉟ Install 3 TQUGA
- ㊱ Install 2 TQUGA
- ㊲ Install 5 TPIPO
- ㊳ Install 3 TQUGA
- ㊴ Install 9 TQUGA
- ㊵ Install 1 TARME
- ㊶ Install 10,169 s.f. Riparian Restoration Mix E
- ㊷ Install 56,484 s.f. Riparian Restoration Mix A
- ㊸ Install 6,497 s.f. Riparian Restoration Mix A
- ㊹ Install 16,442 s.f. Riparian Restoration Mix B
- ㊺ Install 4,415 s.f. Riparian Restoration Mix A
- ㊻ Install 5,285 s.f. Riparian Restoration Mix B
- ㊼ Total area on FA14 and FA15, shown on FA14, note 15
- ㊽ Install 410 s.f. Wetland Seeding
- ㊾ Install 200 s.f. Water Quality Seeding
- ㊿ Install 199 s.f. Water Quality Seeding



LEGEND

- Riparian Restoration Mix A, see FA14A
- Riparian Restoration Mix B, See FA14A
- Riparian Restoration Mix C, see FA13A
- Riparian Restoration Mix E, see FA15A
- Upland Shrub Seeding
- Wildflower Seeding
- Water Quality Seeding
- Wetland Seeding
- Proposed Trees
- Existing Trees

**PRELIMINARY COPY
INFORMATION ONLY**

NNA Landscape Architecture
1125 SE Madison St, Suite 201
Portland, OR 97214
503.239.0600



I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: David Goodyke

Reviewer: Ben Ngan

Drafter: David Goodyke

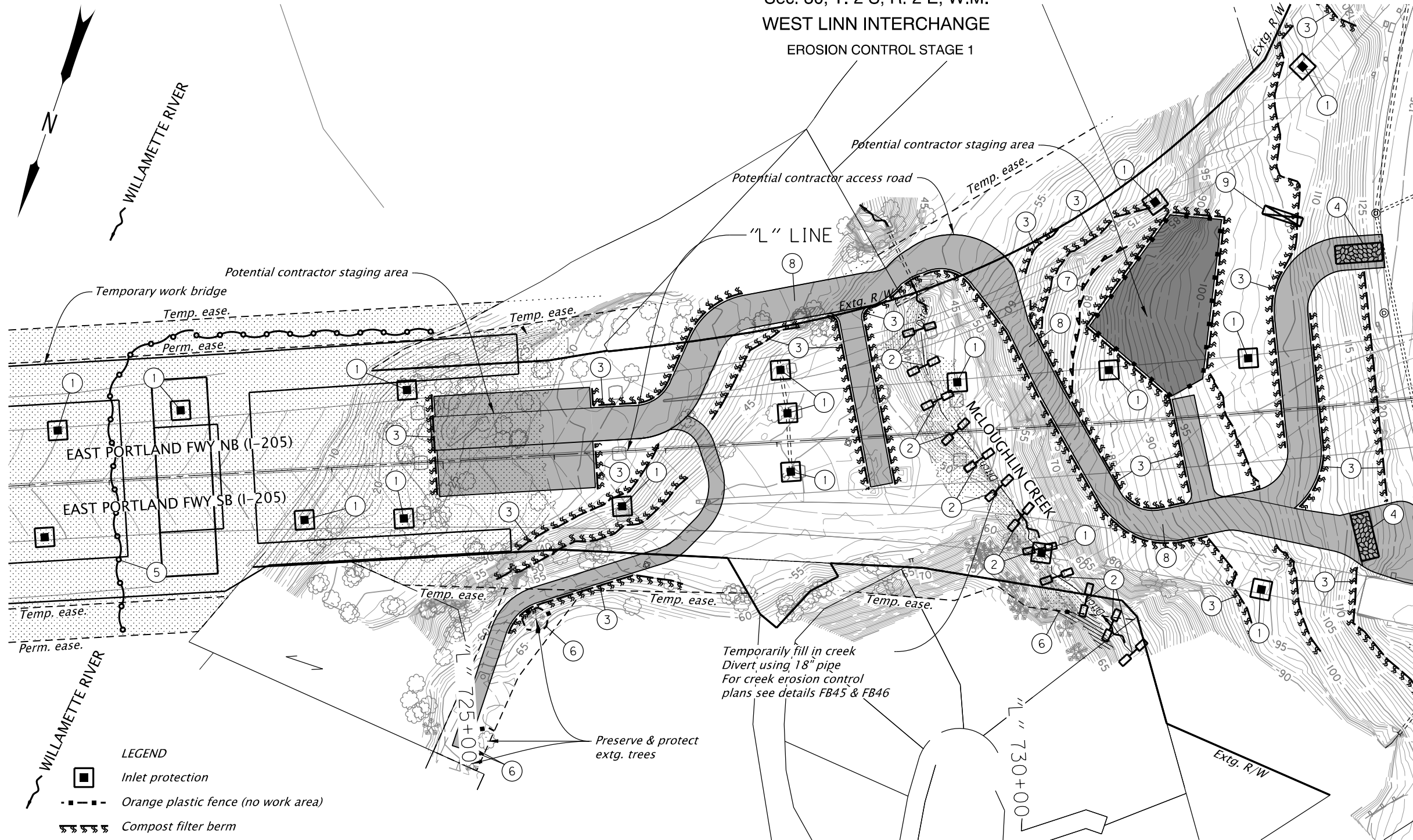
Checker: Ben Ngan

**ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION**

SHEET NO.
FA15

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???



- 1 Const. inlet protection - 16 (Type 3) (See drg. no. RD1010)
- 2 Const. check dam, (Type 6) - 12 (See drg. no. RD1006)
- 3 Install sediment barrier - 4,472' (Type 9) (See drg. no. RD1033)
- 4 Const. construction entrance - 2 (Type 1) (See drg. no. RD1000)
- 5 Const. turbidity barrier - 529' (For details, see sht. FB02)
- 6 Install orange plastic mesh fencing
- 7 Const. temp. interceptor swale, type 1 (For details, see sht. FB03)
- 8 Const. temp. waterbar (For details, see sht. FB04)
- 9 Const. temp. sediment trap (See drg. no. RD1065)

LEGEND

- Inlet protection
- Orange plastic fence (no work area)
- Compost filter berm
- Wetland
- Ordinary High Water
- Temp. interceptor swale
- Sediment trap
- Flow direction
- Construction entrance
- Access road
- Regulated Work Access
- No Work Access

Temporarily fill in creek
 Divert using 18" pipe
 For creek erosion control
 plans see details FB45 & FB46

Preserve & protect
 extg. trees

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. Floating turbidity barrier required for rip rap removal and cofferdam installation and removal.
 5. Contractor staging area shall contain concrete washout facility and temporary water management dewatering treatment.
 6. Size temporary sediment trap to match proposed water quality swale. See HA series for permanent feature size.

REGISTERED PROFESSIONAL
 ENGINEER
 779
 JASON M. RAHM
 APR 4, 2011
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 INFORMATION ONLY
 EXPIRES: DEC. 31, 2020

HDR HDR ENGINEERING, INC
 1050 SW 6TH AVENUE, SUITE 1800
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 503.423.3700

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 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

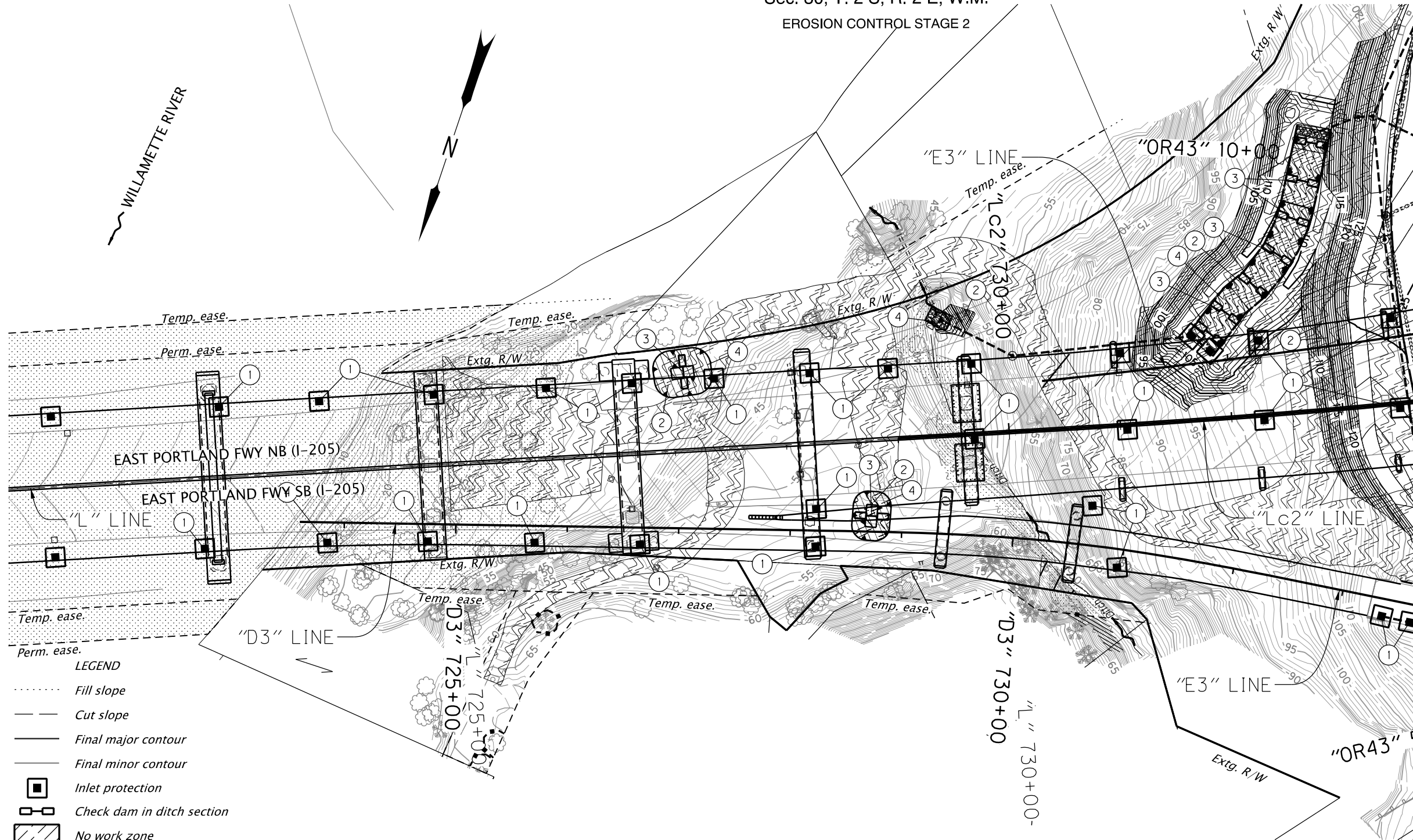
Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB11

Sec. 30, T. 2 S, R. 2 E, W.M.

EROSION CONTROL STAGE 2

??V-???



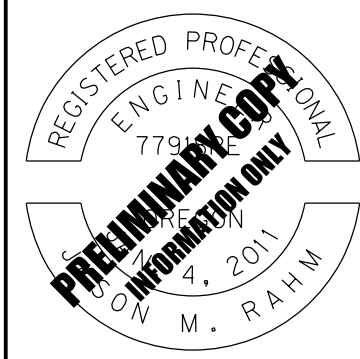
- 1 Const. inlet protection, (Type 3) - 29 (See drg. no. RD1010)
- 2 Install compost erosion blanket - 7,189 sq. yd. (For details, see sht. FB01)
- 3 Const. check dam, (Type 6) - 9 (See drg. no. RD1006)
- 4 Install matting - 1,156 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)

LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ No work zone
- - - Orange plastic fence (no work area, from Stage 1)
- ▨ Matting, Type F
- ~ - Ordinary High Water
- Wetland
- Compost blanket
- Flow direction
- Regulated Work Access
- No Work Access

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
4. See LA sheet series for permanent planting and seeding.
5. See HA sheets for water quality features and seeding.
6. Verify trees to be removed with Engineer prior to removal.



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CLACKAMAS COUNTY

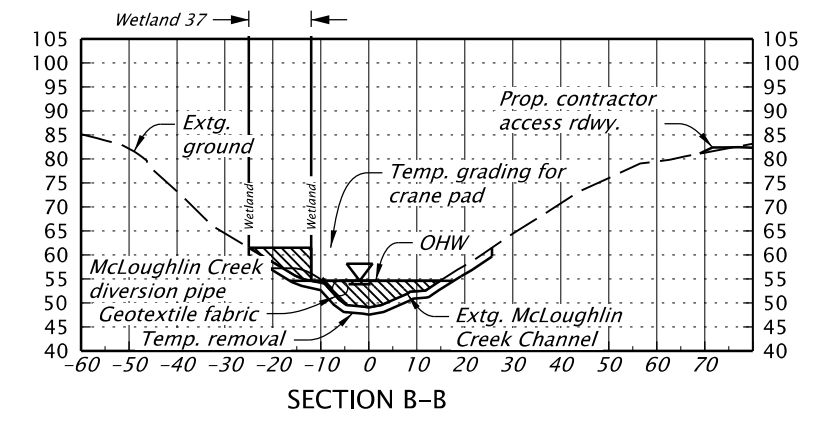
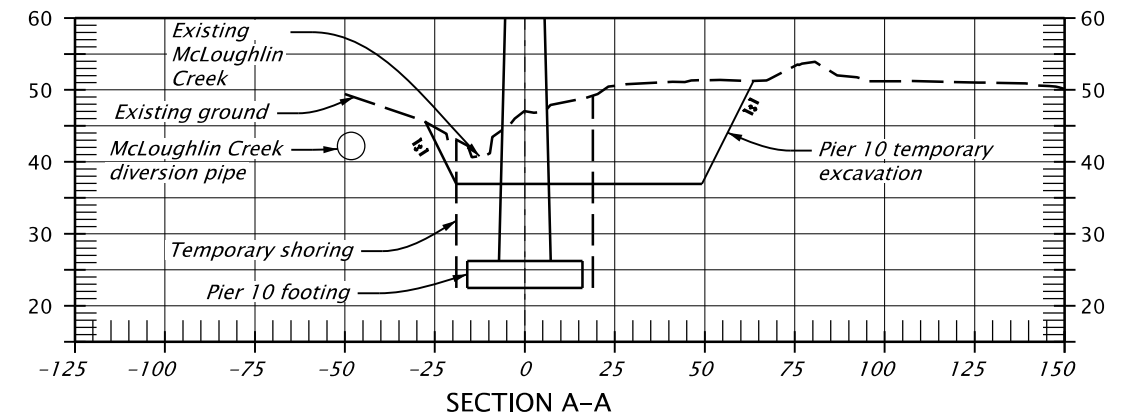
Designer: Jason Rahm Reviewer: Matt Steigleder
Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB29

McLoughlin Creek - Phase 1
Construct temporary dike
(In-water-work activities)
Construct shaft



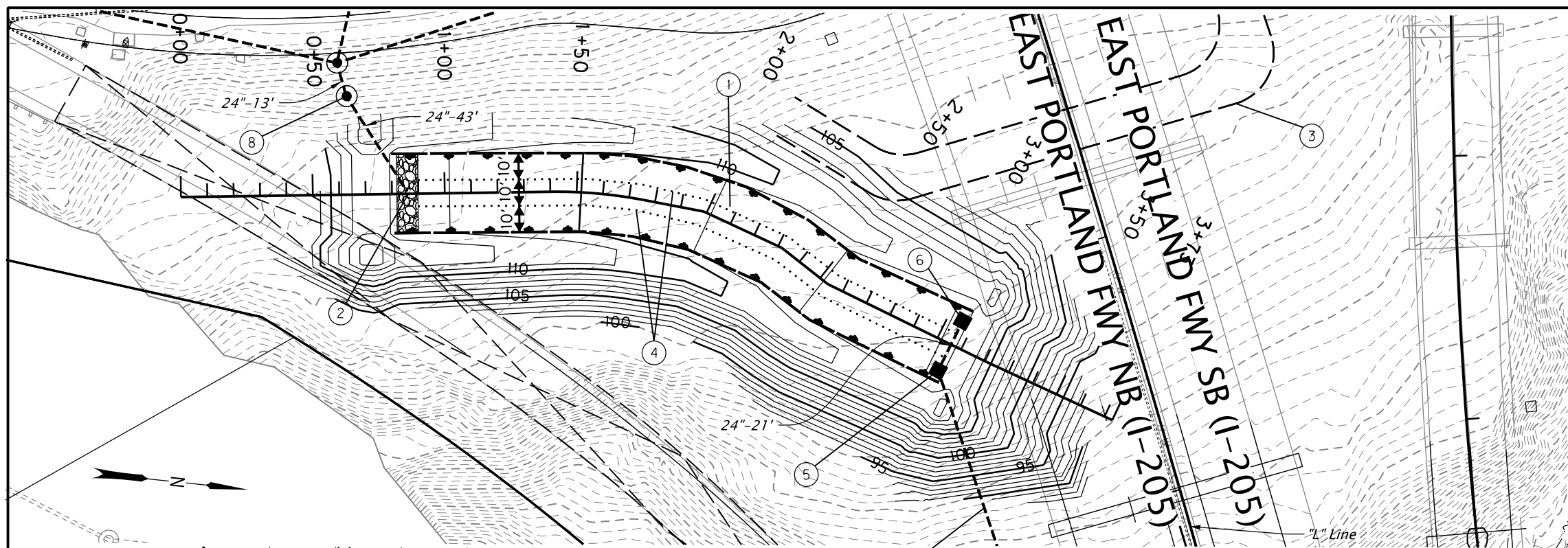
- LEGEND**
- Fill slope
 - Cut slope
 - Orange plastic fence (no work area)
 - Temporary diversion pipe
 - Sandbag barrier line
 - No work zone
 - ~ Flow direction
 - Wetland
 - Ordinary High Water
 - Temporary access



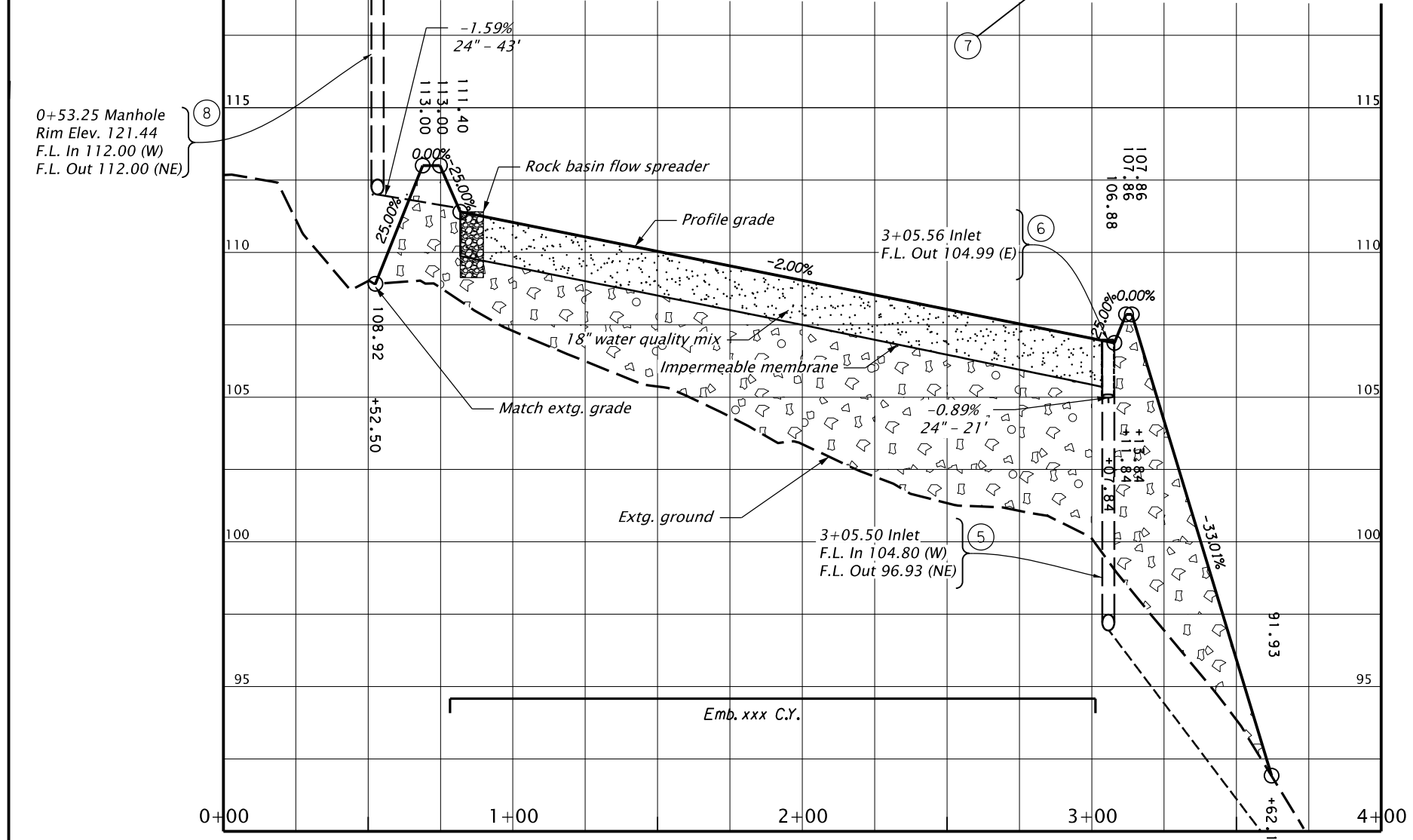
- Note:**
- For additional erosion control details not shown, see FB27.
- Creek work below OHW cannot exceed 18 months. Install and remove temporary water diversion during in-water work window.
- ① Install temporary BMPs and flow diversion
 - ② Install temporary diversion pipe (18" dia.)
 - ③ Construct shaft
 - ④ Install orange plastic fence (no work area)
 - ⑤ Remove existing pile cap and bridge column



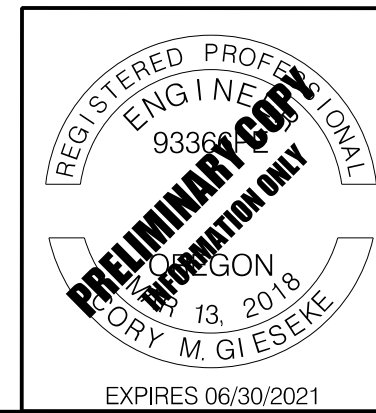
	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB44
EROSION AND SEDIMENT CONTROL		



- ① Sta. 0+80.76 to Sta. 3+07.72 = Sta. "OR43" 10+12.40, 104.31' Lt. to Sta. "OR43" 8+77.47, 208.62' Lt.
Construct biofiltration swale
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA16)
- ② Sta. 0+86.13
Construct rock basin flow spreader
Inst. 24" storm sew. pipe - 43'
5' Depth
(For details, see sht. HA16)
- ③ Const. maintenance access road
Exc. - xx cu. yd.
Agg. base - xx ton
Subgrade geotextile - sq. yd.
(For details, see sht. HA17)
- ④ Construct biofiltration swale divider
(For details, see sht. HAXx)
- ⑤ Sta. 3+05.56, 10.11' Lt.
Const. type "D" inlet
Inst. 24" storm sew. pipe - 21'
5' Depth
- ⑥ Sta. 3+05.50, 10.87' Rt.
Const. type "D" inlet
- ⑦ See sht. HA07 for outfall details
- ⑧ Sta. 0+53.25, 37.24' Rt.
Const. pollution control manhole
Inst. 24" storm sew. pipe - 21'
10' Depth

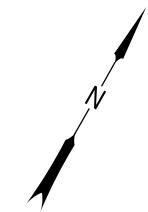
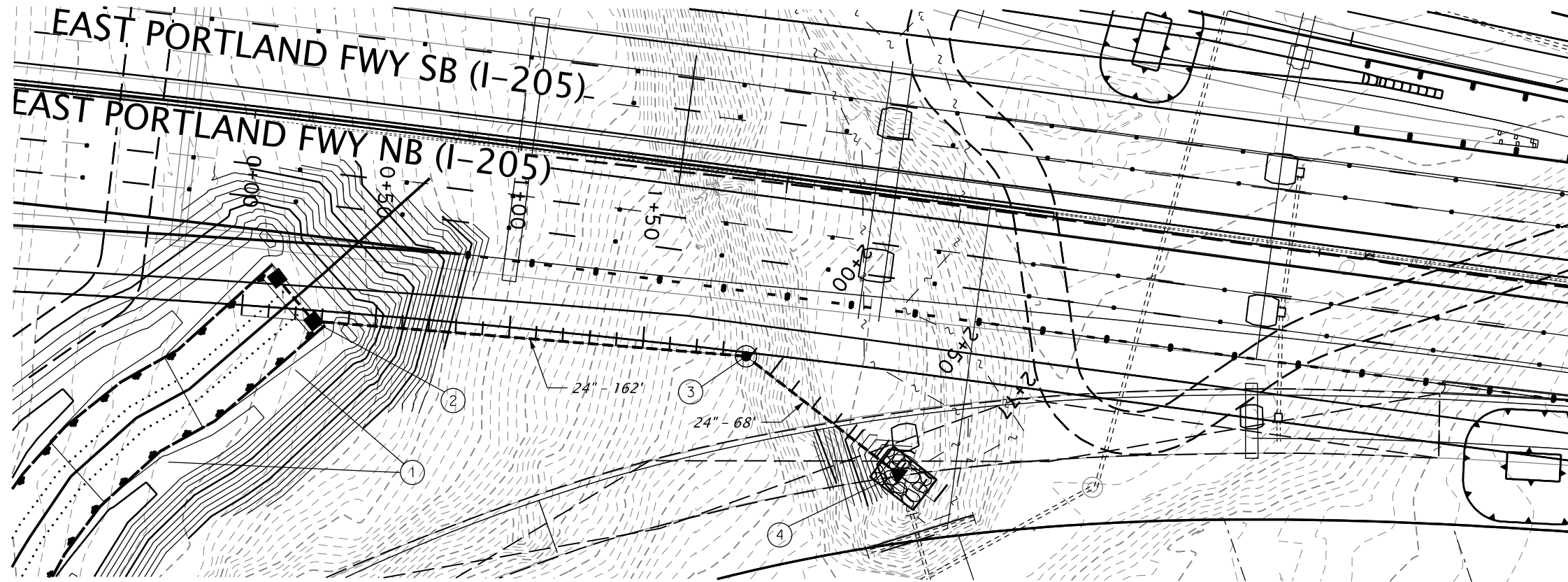


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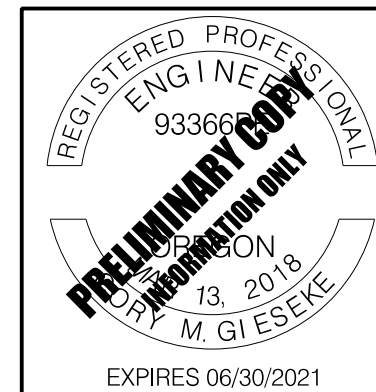
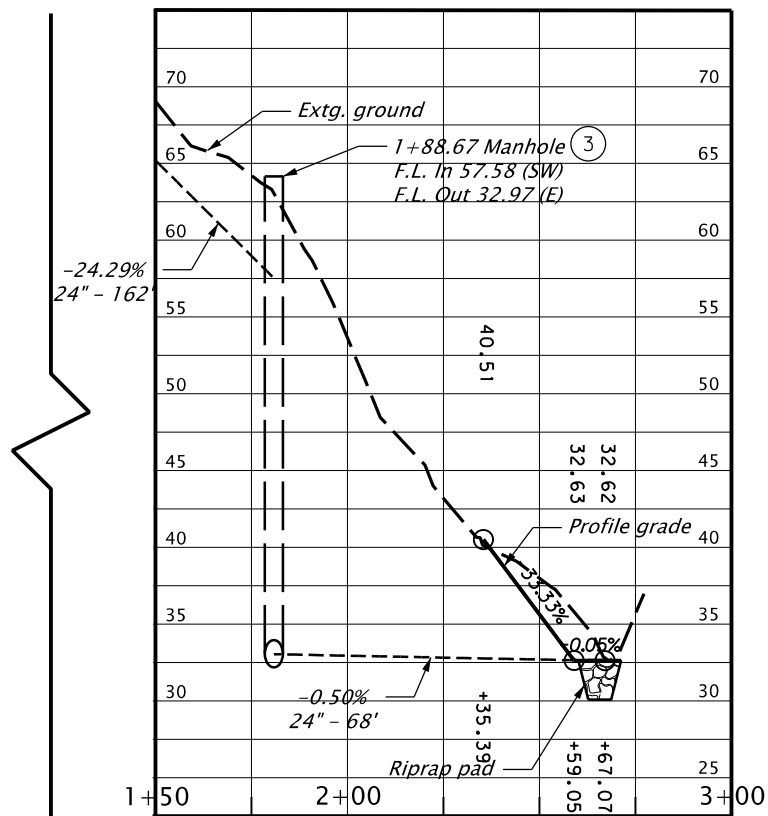
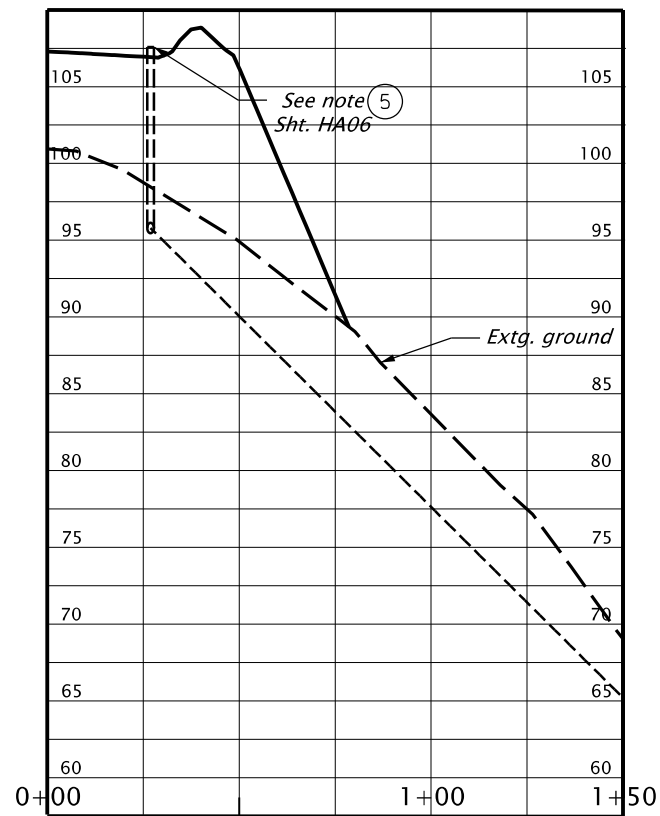


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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins	SHEET NO. HA06
WATER QUALITY PLAN & PROFILE		

EAST PORTLAND FWY SB (I-205)
 EAST PORTLAND FWY NB (I-205)



- ① See sht. HA06, note 1
- ② See sht. HA06, note 5
- ③ Sta. 1+88.67
Const. outside drop manhole
Inst. 24" storm sew. pipe - 162'
20' Depth
- ④ Sta. 2+50.00
Construct riprap pad
Loose riprap (class 50) - 5.0 tons
Inst. 24" storm sew. pipe w/ sloped end section - 68'
5' Depth



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EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer:	Reviewer:
Drafter:	Checker:

WATER QUALITY PLAN & PROFILE

SHEET NO.
HA07

FINAL ELECTRONIC DOCUMENT
 AVAILABLE UPON REQUEST

Rotation: 29.332° Scale: 1"=50'
 Vertical Scale: 1:4



Attachment W. Landscaping Plan

GENERAL NOTES:



1. Plant all trees beyond "clear zone"; verify with engineer prior to planting. Engineer shall approve all work outside designated work limits prior to construction. Do not plant trees within 20' of a bridge/viaduct or within 10' of a trail, waterline, or stormwater line.
2. Locate underground utility lines prior to any digging or ground disturbance.
3. Adjust planting locations so vegetation does not conflict with above- or below-ground utilities.
4. Adjust plant locations to avoid conflict with vehicular driver sight-lines and visibility of traffic control signs or other appurtenances. Verify location changes with Engineer.
5. All dimensions shown on details are minimum dimensions.
6. See Plant Schedule FA02, FA03 for plants and landscape material.
7. Plan is schematic. Planting may be adjusted to fit site conditions with prior Agency approval.
8. Lay out plant material in groups as indicated in plant and material schedule, details and plan sheets.
9. Stake all planting areas for review and approval by Engineer prior to planting.
10. Do not install plant material without prior inspection and approval as required by O1040.19(d).
11. Comply with Oregon Standard Specifications for Construction and Special Provisions for construction applicable to this project.
12. Thoroughly water all plants achieving saturation of soil backfill, within 24-hours of installation regardless of rainfall events.
13. Verify field conditions prior to construction with any adjustments to the plans made as directed by the Engineer.
14. Protect all trees and land areas marked for protection. Do not damage natural (non-invasive) vegetation.
15. Comply with erosion control measures per Section 00280 and all applicable permits during construction.
16. Where discrepancies between the Plant Schedule and the plans exist, plans shall prevail.
17. See Special Provision O1030.13(f) for seed mixes
18. Prepare all planting and seeding areas per Method B, see O1040.48(b) in the Oregon Standard Specifications for Construction.
19. Include Mycorrhizal inoculates for all seeding and individual plant installations. Apply per manufacturer's recommendation.
20. Flag all planted tree species with color-coded identification flags.

Mitigation and Restoration Permitting Requirements			
	Area (square feet)		Plant Totals
	TOTAL (COMBINED)	TREES	SHRUBS
West Linn Land Use HCA + WRA*	40,044	399	2,002

*DSL Restoration Tree and Shrub Quantities are applied for these requirements on FA15 and FA16

Mitigation and Restoration Permitting Requirements						
	Area (square feet)			Plant Totals		
	FA14*	FA15	FA16	TOTAL	TREES	SHRUBS
DSL Permit Requirements	25,956	42,555	148,187	209,929	1,004	2,031

*DSL Restoration Numbers for FA14 are on Oregon City side of Abernethy Bridge

PRELIMINARY COPY INFORMATION ONLY	 NNA Landscape Architecture 1125 SE Madison St, Suite 201 Portland, OR 97214 503.239.0600	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
	Designer: David Goodyke Reviewer: Ben Ngan Drafter: David Goodyke Checker: Ben Ngan	
	ROADSIDE DEVELOPMENT GENERAL NOTES	

ROADSIDE DEVELOPMENT PLANT SCHEDULE

??V-???

Plant and Material Schedule

Trees																													
Key	Botanical Name	Common Name	Size	Spacing	Root Type	Percent Mix	Plant Condition	FA09	FA10	FA11	FA12	FA13	FA14	FA15	FA16	FA17	FA18	FA19	FA20	FA21	FA22	FA23	FA24	FA25	FA26	FA27	TOTAL		
TARME	<i>Arbutus menziesii</i>	Madrone	1/2" Calip.	As Shown	Container	N/A	Single trunk	-	-	-	3	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	9	
TCADE	<i>Calocedrus decurrens</i>	Incense Cedar	4' Height	As Shown	Container or B&B	N/A	Single trunk	-	-	-	-	-	-	-	6	-	-	8	-	-	-	-	-	-	-	-	-	14	
TCONU	<i>Cornus nuttallii</i>	Pacific Dogwood	1" Calip.	As Shown	Container	N/A	Single trunk	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	7	
TPIPO	<i>Pinus ponderosa 'Willamette Valley'</i>	Willamette Ponderosa Pine	4' Height	As Shown	Container or B&B	N/A	Single trunk	-	-	30	99	69	16	-	29	24	-	-	-	-	-	-	-	-	-	-	30	297	
TPSME	<i>Pseudotsuga menziesii</i>	Douglas Fir	4' Height	As Shown	Container or B&B	N/A	Single trunk	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	35	
TQUCH	<i>Quercus chrysolepis</i>	Canyon Live Oak	1" Calip.	As Shown	Container or B&B	N/A	Single trunk	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	9	24	
TQUGA	<i>Quercus garryana</i>	Oregon White Oak	1" Calip.	As Shown	Container or B&B	N/A	Single trunk	-	-	-	2	51	13	-	24	12	-	6	-	-	-	-	-	-	-	-	56	164	
TULAM	<i>Ulmus americana 'Valley Forge'</i>	Valley Forge American Elm	1" Calip.	As Shown	Container or B&B	N/A	Single trunk	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	
TUMCA	<i>Umbellularia californica</i>	Oregon Myrtle	1" Calip.	As Shown	Container or B&B	N/A	Single trunk	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	
Groundcovers																													
	<i>Mahonia repens</i>	Low Oregongrape	18" Height	2' O.C.	#1 Container	N/A	N/A	-	-	-	-	2,327	158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,485
	<i>Juniperus sabina 'Tamariscifolia'</i>	Tamarix Juniper	18-24" Height	4' O.C.	2 Gal.	N/A	N/A	-	-	-	-	2,250	-	-	-	283	955	-	-	-	-	-	-	-	-	-	543	4,031	

Soundwall Screening Sun Mix										
Key	Botanical Name	Common Name	Size	Spacing	Root Type	Percent Mix	Plant Condition	FA13	TOTAL	
Sun Shrubs		<i>Arctostaphylos manzanita</i>	Common Manzanita	18" Height	5' O.C.	#1 Container	10%	N/A	639	639
		<i>Arctostaphylos viscida</i>	Whiteleaf Manzanita	18" Height	5' O.C.	#1 Container	10%	N/A	639	639
		<i>Ceanothus thyrsiflorus 'Oregon Mist'</i>	Oregon Mist California Lilac	18" Height	5' O.C.	#1 Container	25%	N/A	1,599	1,599
		<i>Ceanothus velutinus</i>	Snowbrush	18" Height	5' O.C.	#1 Container	10%	N/A	639	639
		<i>Cercocarpus ledifolius</i>	Curly-leaf Mountain Mahogany	18" Height	5' O.C.	#1 Container	20%	N/A	1,280	1,280
		<i>Garrya fremontii</i>	Fremont Silktassel	18" Height	5' O.C.	#1 Container	25%	N/A	1,599	1,599

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EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: David Goodyke

Reviewer: Ben Ngan

Drafter: David Goodyke

Checker: Ben Ngan

ROADSIDE DEVELOPMENT GENERAL NOTES

SHEET NO.
FA02

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ROADSIDE DEVELOPMENT PLANT SCHEDULE

??V-???

City of Oregon NROD Mitigation Trees and Shrubs											
Key			Size	Spacing	Root Type	Percent Mix	Plant Condition	FA09	FA11	TOTAL	
NROD Trees & Shrubs		<i>Arbutus menziesii</i>	Pacific Madrone	1/2" Calip.	13.5' O.C.	Bareroot	20%		84	40	124
		<i>Pinus ponderosa var. willamettensis</i>	Ponderosa Pine	18" Height	13.5' O.C.	Bareroot	30%		127	60	187
		<i>Quercus garryana</i>	Oregon White Oak	1/2" Calip.	13.5' O.C.	Bareroot	30%		127	60	187
		<i>Rhamnus purshiana</i>	Cascara	1/2" Calip.	13.5' O.C.	Bareroot	10%		42	20	62
		<i>Salix scouleriana</i>	Scouler's Willow	1/2" Calip.	13.5' O.C.	Bareroot	10%		42	20	62
		<i>Arctostaphylos columbiana</i>	Hairy Manzanita	12" Height	6' O.C.	Bareroot	20%		366	174	540
		<i>Berberis (Mahonia) aquifolium</i>	Tall Oregongrape	12" Height	6' O.C.	Bareroot	30%		549	261	810
		<i>Ceanothus velutinus</i>	Snowbrush	12" Height	6' O.C.	Bareroot	20%		366	174	540
		<i>Corylus cornuta var. Californica</i>	Western Hazelnut	12" Height	6' O.C.	Bareroot	15%		274	130	404
		<i>Ribes lobbii</i>	Gummy Gooseberry	12" Height	6' O.C.	Bareroot	15%		274	130	404
NROD Shrubs		<i>Berberis (Mahonia) aquifolium</i>	Tall Oregongrape	12" Min.	6' O.C.	Bareroot	20%		-	118	118
		<i>Cornus sericea</i>	Redtwig Dogwood	12" Min.	6' O.C.	Bareroot	10%		-	177	177
		<i>Ribes sanguineum</i>	Redflowering Currant	12" Min.	6' O.C.	Bareroot	15%		-	118	118
		<i>Rubus parviflorus</i>	Thimbleberry	12" Min.	6' O.C.	Bareroot	15%		-	89	89
		<i>Spiraea douglasii</i>	Douglas Spiraea	12" Min.	6' O.C.	Bareroot	15%		-	89	89
		<i>Symphoricarpos albus</i>	Snowberry	12" Min.	6' O.C.	Bareroot	25%		-	148	148

SUMMARY		
	HCA/WRA REQ'D	PROVIDED
trees	399	704
shrubs	2002	2067
TOTAL AREA 190,732 sf		

Upland Riparian Restoration Mix														
Key			Size	Spacing	Root Type	Percent Mix	Plant Condition	FA14	FA15	FA16	TOTAL			
MIX A: Trees		<i>Acer macrophyllum</i>	Bigleaf Maple	1/2" Calip.	30' Min.	Bareroot	8%		-	-	38	38		
		<i>Arbutus menziesii</i>	Pacific Madrone	1/2" Calip.	15'-20' Min.	Container	15%		-	-	71	71		
		<i>Calocedrus decurrens</i>	Incense Cedar	18" Height	30' Min.	Bareroot	8%		-	-	38	38		
		<i>Corylus cornuta var. californica</i>	Western Hazelnut	1/2" Calip.	15'-20' Min.	Bareroot	15%		-	-	71	71		
		<i>Cornus nuttallii</i>	Western Dogwood	1/2" Calip.	15'-20' Min.	Bareroot	5%		-	-	24	24		
		<i>Quercus garryana</i>	Oregon White Oak	1/2" Calip.	15'-20' Min.	Bareroot	26%		-	-	124	124		
		<i>Pseudotsuga menziesii</i>	Douglas Fir	18" Height	30' Min.	Bareroot	8%		-	-	38	38		
		<i>Rhamnus purshiana</i>	Cascara	1/2" Calip.	15'-20' Min.	Bareroot	15%		-	-	71	71		
		MIX A & B: Shrubs		<i>Berberis (Mahonia) aquifolium</i>	Tall Oregongrape	12" Height	5' Min.	Bareroot	25%		-	-	374	374
				<i>Oemleria cerasiformis</i>	Osoberry	12" Height	5' Min.	Bareroot	10%		-	-	150	150
<i>Rubus parviflorus</i>	Thimbleberry			12" Height	5' Min.	Bareroot	15%		-	-	225	225		
<i>Sambucus racemosa</i>	Red Elderberry			12" Height	5' Min.	Bareroot	10%		-	-	150	150		
<i>Spiraea douglasii</i>	Western Spiraea			12" Height	5' Min.	Bareroot	15%		-	-	225	225		
<i>Symphoricarpos albus</i>	Snowberry			12" Height	5' Min.	Bareroot	25%		-	-	374	374		

Lowland Riparian Restoration Mix														
Key			Size	Spacing	Root Type	Percent Mix	Plant Condition	FA14	FA15	FA16	TOTAL			
MIX C: Trees		<i>Abies grandis</i>	Grand Fir	18" Height	30' Min.	Bareroot	10%		8	21	-	29		
		<i>Acer macrophyllum</i>	Bigleaf Maple	1/2" Calip.	30' Min.	Bareroot	10%		8	21	-	29		
		<i>Alnus rubra</i>	Red Alder	1/2" Calip.	15'-20' Min.	Bareroot	26%		22	54	-	76		
		<i>Fraxinus latifolia</i>	Oregon Ash	1/2" Calip.	30' Min.	Bareroot	6%		5	13	-	18		
		<i>Prunus emarginata</i>	Bitter Cherry	1/2" Calip.	15'-20' Min.	Bareroot	15%		13	31	-	44		
		<i>Rhamnus purshiana</i>	Cascara	1/2" Calip.	15'-20' Min.	Bareroot	10%		8	21	-	29		
		<i>Salix lucida</i>	Shining Willow	1/2" Calip.	15'-20' Min.	Bareroot	15%		13	31	-	44		
		<i>Thuja plicata</i>	Western Redcedar	18" Height	30' Min.	Bareroot	8%		7	17	-	24		
		MIX C & D: Shrubs		<i>Cornus sericea</i>	Redtwig Dogwood	12" Height	5' Min.	Bareroot	25%		46	115	-	161
				<i>Physocarpus capitatus</i>	Pacific Ninebark	12" Height	5' Min.	Bareroot	10%		18	46	-	64
<i>Rubus spectabilis</i>	Salmonberry			12" Height	5' Min.	Bareroot	15%		28	69	-	97		
<i>Sambucus racemosa</i>	Red Elderberry			12" Height	5' Min.	Bareroot	10%		18	46	-	64		
<i>Spiraea douglasii</i>	Western Spiraea			12" Height	5' Min.	Bareroot	15%		28	69	-	97		
<i>Symphoricarpos albus</i>	Snowberry			12" Height	5' Min.	Bareroot	25%		46	115	-	161		

Roadside Riparian Restoration Mix												
Key			Size	Spacing	Root Type	Percent Mix	Plant Condition	FA14	FA15	FA16	TOTAL	
MIX E: Trees & Shrubs		<i>Pinus ponderosa var. willamettensis</i>	Willamette Ponderosa Pine	3'-4' Height	25'	#5 Container	50%		2	-	10	12
		<i>Quercus garryana</i>	Oregon White Oak	1/2" caliper	25'	Bareroot	40%		2	-	8	10
		<i>Arbutus menziesii</i>	Pacific Madrone	1'-2' Height	25'	#1 Container	10%		-	-	2	2
		<i>Berberis (Mahonia) aquifolium</i>	Tall Oregon Grape	12" Height	5' Min.	#1 Container	60%		14	-	66	80
		<i>Ceanothus velutinus</i>	Snowbrush	12" Height	5' Min.	#1 Container	10%		2	-	11	13
		<i>Ribes sanguineum</i>	Redflowering Currant	12" Height	5' Min.	#1 Container	15%		3	-	16	19
		<i>Symphoricarpos albus</i>	Snowberry	12" Height	5' Min.	#1 Container	15%		3	-	16	19

475 trees

1498 shrubs

209 trees

460 shrubs

20 trees

109 shrubs

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EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

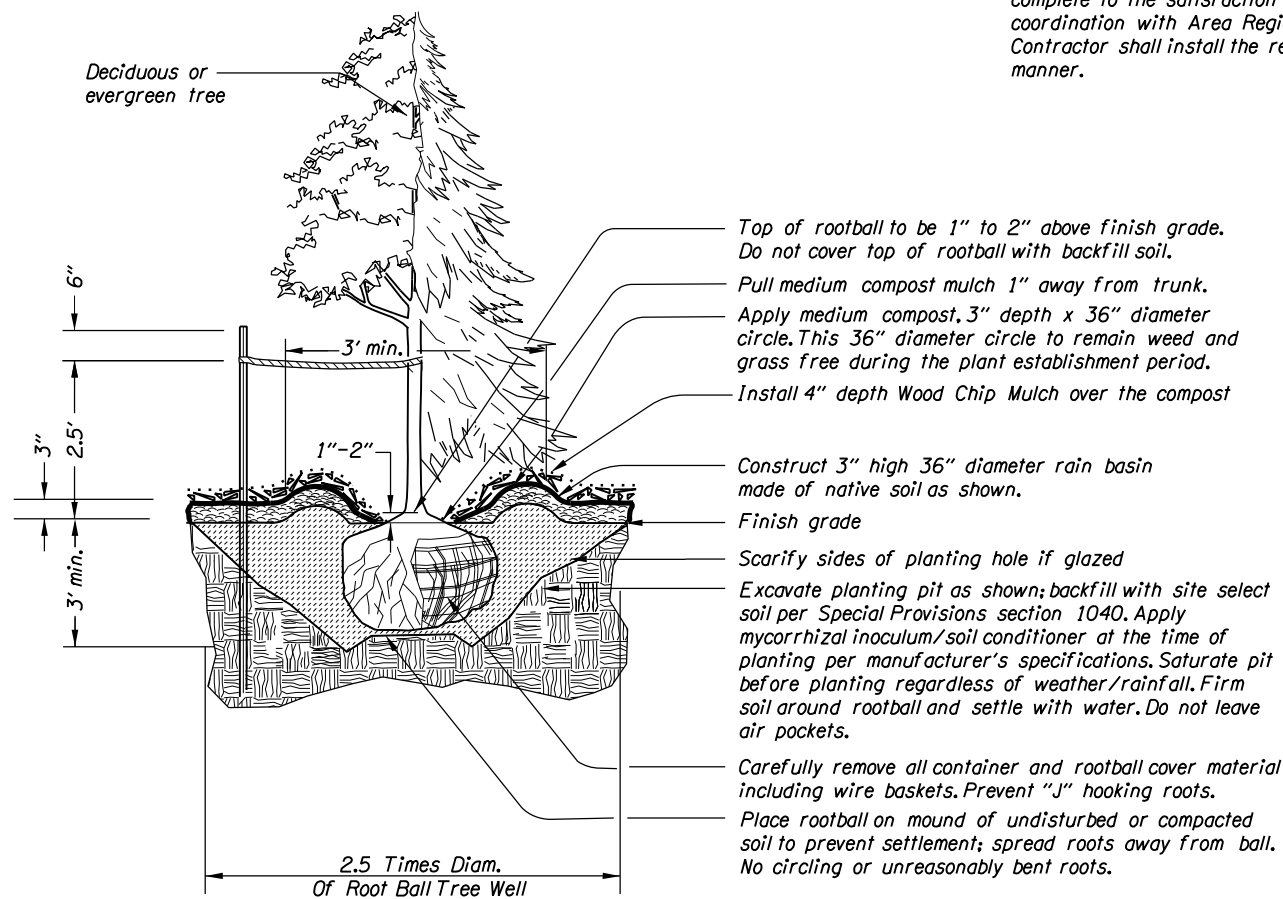
Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan

ROADSIDE DEVELOPMENT GENERAL NOTES

SHEET NO.
FA03

NOTE:

After tree location staking is complete and prior to planting any trees, Contractor shall construct two typical tree planting and staking installations per details and specifications, with Engineer and ODOT Area Regional Landscape Architect present. When the installations are complete to the satisfaction of the Engineer in coordination with Area Regional Landscape Architect, the Contractor shall install the remaining trees in the same manner.



TREE PLANTING and STAKING
On Terrain Flatter Than 5H:1V

Not To Scale

TREE STAKING NOTES:

1) Tree ties to be either:

Rigid guy system. Galvanized wire to be approximately 1/8" thickness and 24" length with a plastic sleeve over the portion that contacts the tree. The wire tie is to go through the wood stake and be securely fastened.

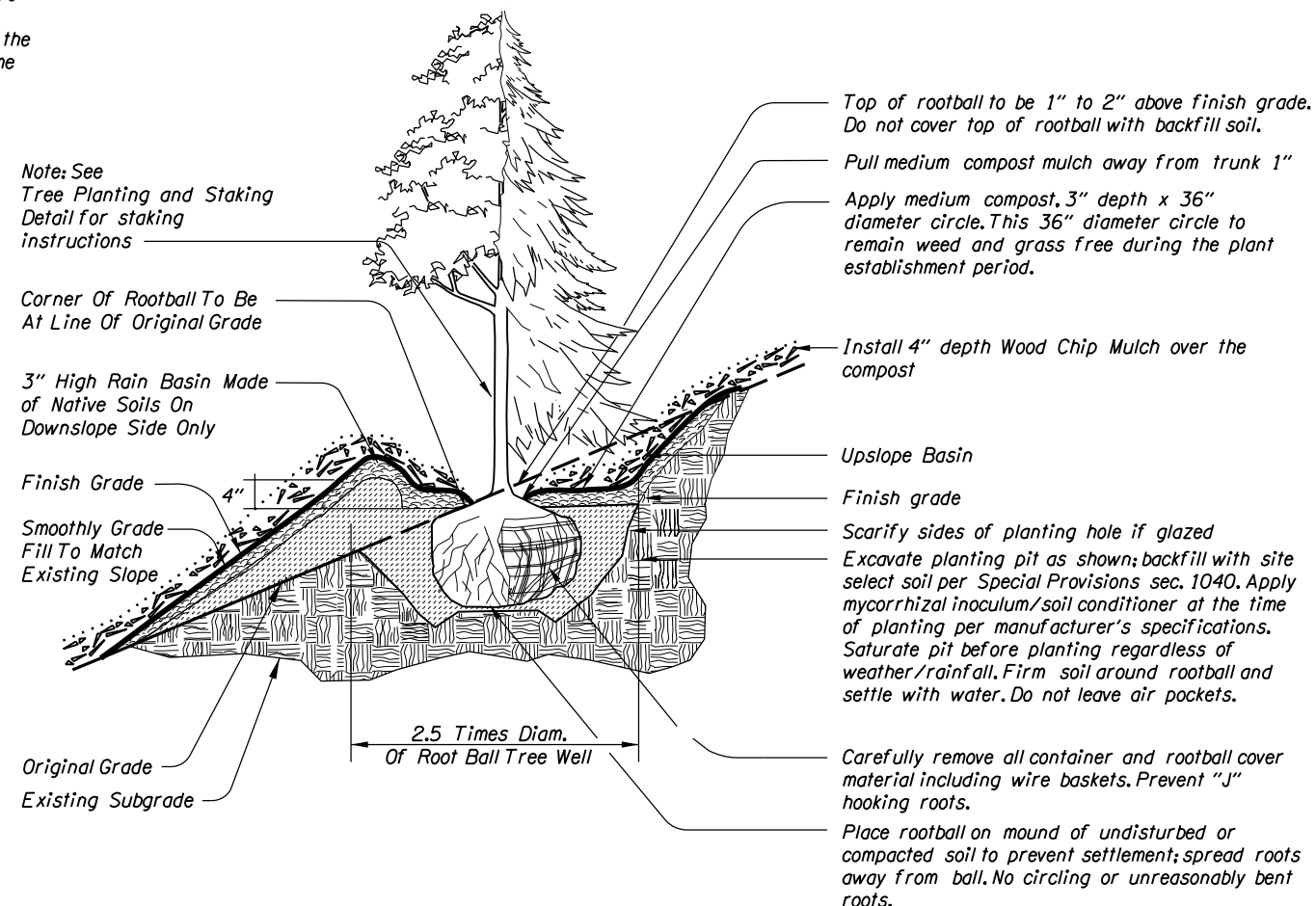
Plastic chain type, approximately 1" width by 1/8" thickness where two stakes are required. Cross ties between stakes and wrap tie around tree. Fasten securely to stake.

2) Furnish tree stakes on all tree plantings.

Stakes to be construction grade, rough sawn or finished Douglas Fir or Pine. Stain with approved green penetrating oil. Stake Size is to be 1 1/2" x 1 1/2" by following lengths:

Trees 36" and shorter - Use one - 6' (approximate) stake
Trees taller than 36" - Use one - 8' (approximate) stake

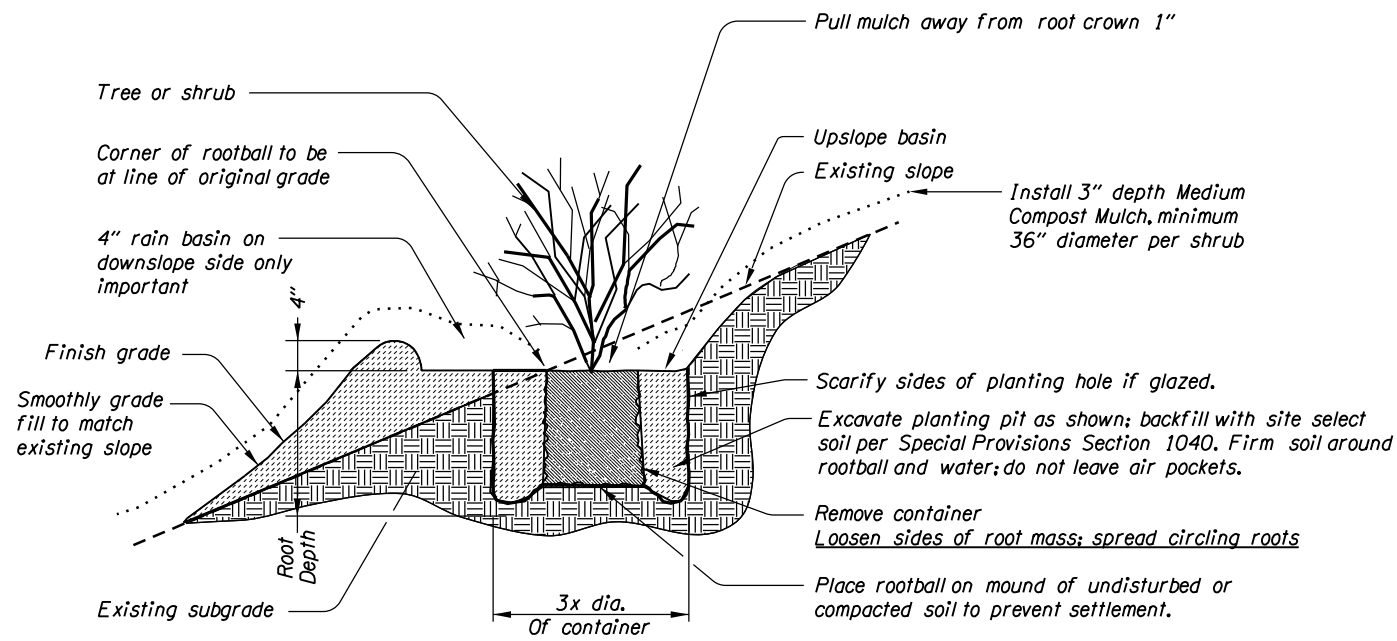
Drive stakes vertically and at least 24" into undisturbed soil. Do not drive stakes through root ball. Locate stakes to best resist prevailing winds.



TREE PLANTING and STAKING on SLOPES
On slopes 5H:1V or steeper

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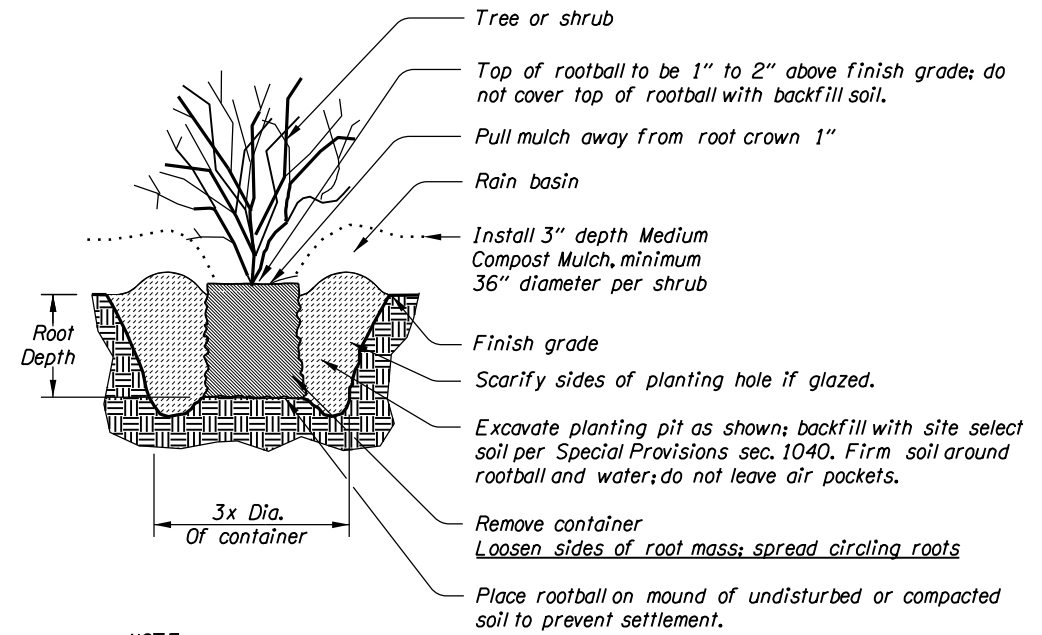
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	I-205: I-5 - OR213, PHASE 1 SEC.		
	EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
	Designer: David Goodyke	Reviewer: Ben Ngan	
Drafter: David Goodyke	Checker: Ben Ngan		
ROADSIDE DEVELOPMENT SITE DETAILS			SHEET NO. FA05



NOTE:
 1) 3" Medium Compost layer to be uniform and completely cover planting holes.
 2) Apply Mycorrhizae per specifications.

SLOPE PLANTING FOR #1 & #2 CONTAINERS

Not To Scale



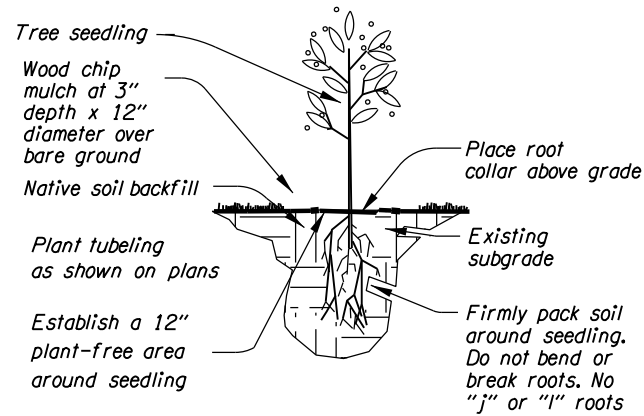
NOTE:
 1) 3" Medium Compost layer to be uniform and completely cover planting holes.
 2) Apply Mycorrhizae per specifications.

GENERAL PLANTING FOR #1 & #2 CONTAINERS

Not To Scale

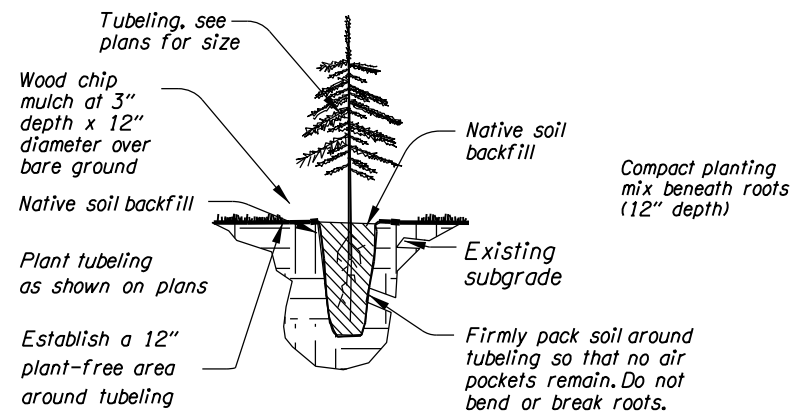
GENERAL NOTES:

- 1) All dimensions shown on details are minimum dimensions.
- 2) Comply with "American Standard for Nursery Stock" for plant quality minimum standards such as size of root ball or caliper of trunk.
- 3) Comply with plant list or special provisions and identify plant material that may need to be ordered early or contract-grown.
- 4) Excavate all plant wells per detail at 3x diameter of rootball or container & backfill with site select topsoil free of noxious weeds plant material including roots & sprigs.
- 5) After shrub location staking is complete and prior to planting any shrubs, Contractor shall construct a typical shrub planting per detail and specifications with Engineer and ODOT Area Regional Landscape Architect present. When the installation is complete to the satisfaction of the Engineer in coordination with Area Regional Landscape Architect, the Contractor shall install the remaining shrubs in the same manner.
- 6) Apply Mycorrhizae per specifications.



SEEDLING PLANTING

Not To Scale



TUBELING PLANTING

Not To Scale

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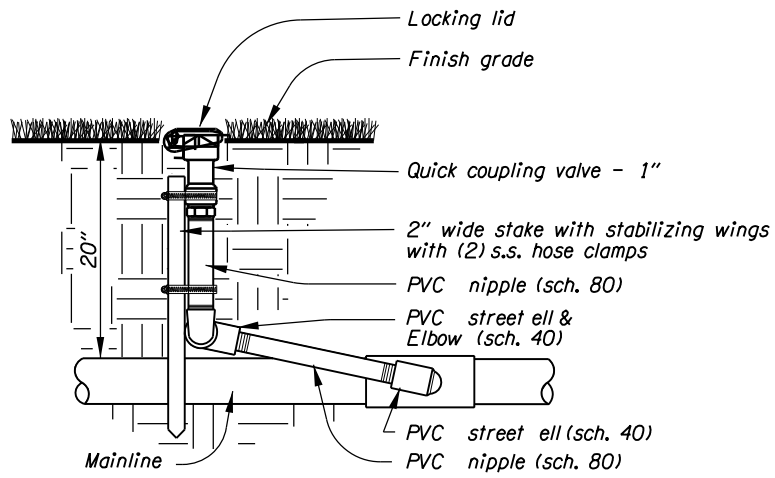
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EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

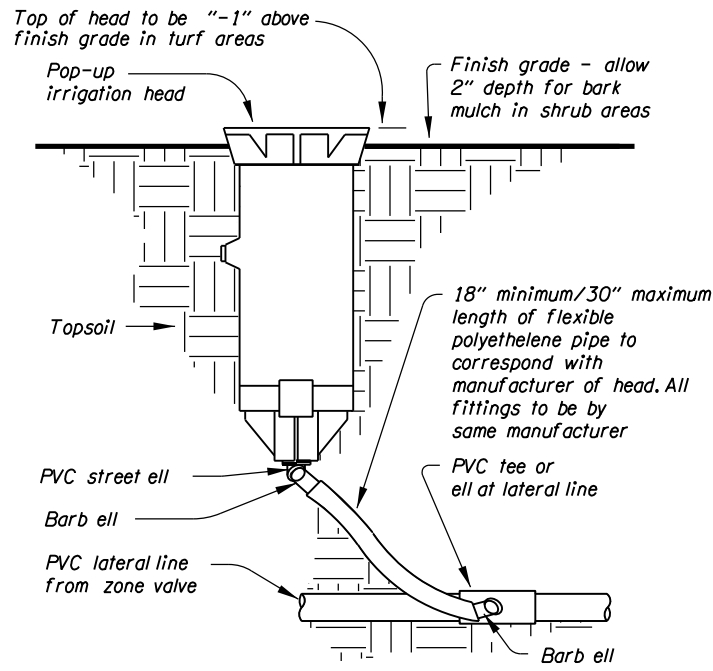
ROADSIDE DEVELOPMENT SITE DETAILS

SHEET NO.
 FA06



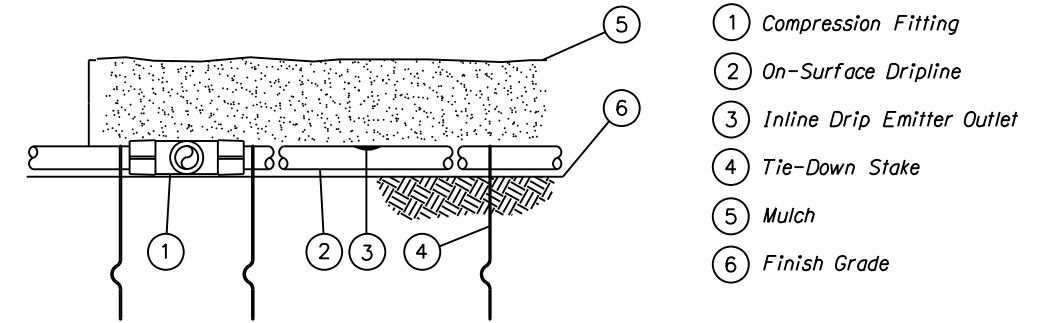
QUICK COUPLING VALVE

Not To Scale



SPRINKLER HEAD AND JOINTS

Not To Scale

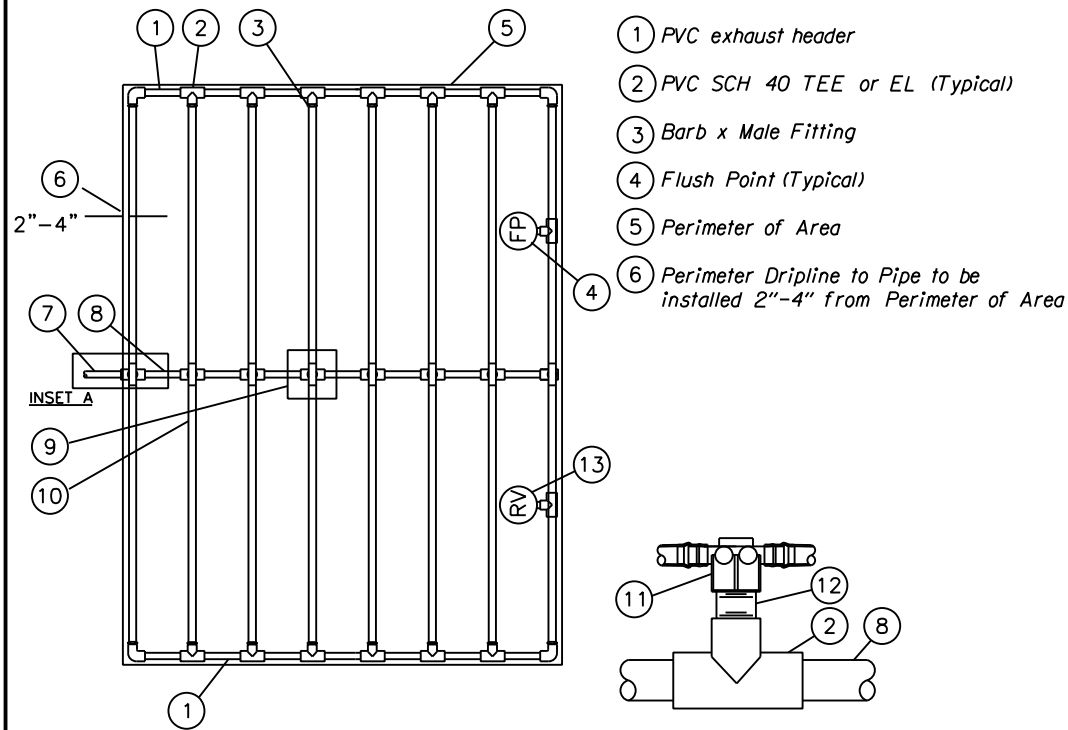


DRIPLINE AT GRADE

Not To Scale

NOTES:

- 1) Place tie-down stakes every 3' in sand, 4' in loam, and 5' in clay.
- 2) At fittings where there is a change of direction, such as tees or elbows, use tie-down stakes on each leg of the change of direction.



LOW VOLUME (DRIP) TUBING

Not To Scale

- ① PVC exhaust header
- ② PVC SCH 40 TEE or EL (Typical)
- ③ Barb x Male Fitting
- ④ Flush Point (Typical)
- ⑤ Perimeter of Area
- ⑥ Perimeter Dripline to Pipe to be installed 2"-4" from Perimeter of Area
- ⑦ PVC Supply Pipe from Existing Valve
- ⑧ PVC Supply Manifold
- ⑨ Connection from Supply Manifold to Dripline (Typical) - see Inset A
- ⑩ On-Surface Dripline
- ⑪ Barb x Female Fitting
- ⑫ 3/4" PVC Nipple, length as necessary
- ⑬ At ends of area, add air relief valve

NOTE:

- 1) Provide Low Volume (Drip) Tubing with emitters spaced at 18" and providing a flow rate of 0.9 gallons/hour and spaced at 24", or approved equal.
- 2) Modify detail to meet the specific requirements of the selected equipment brand's manufacturer and the specific shape and size of the plant bed to be irrigated.

NOTE:
Irrigation details are placeholders for 60%

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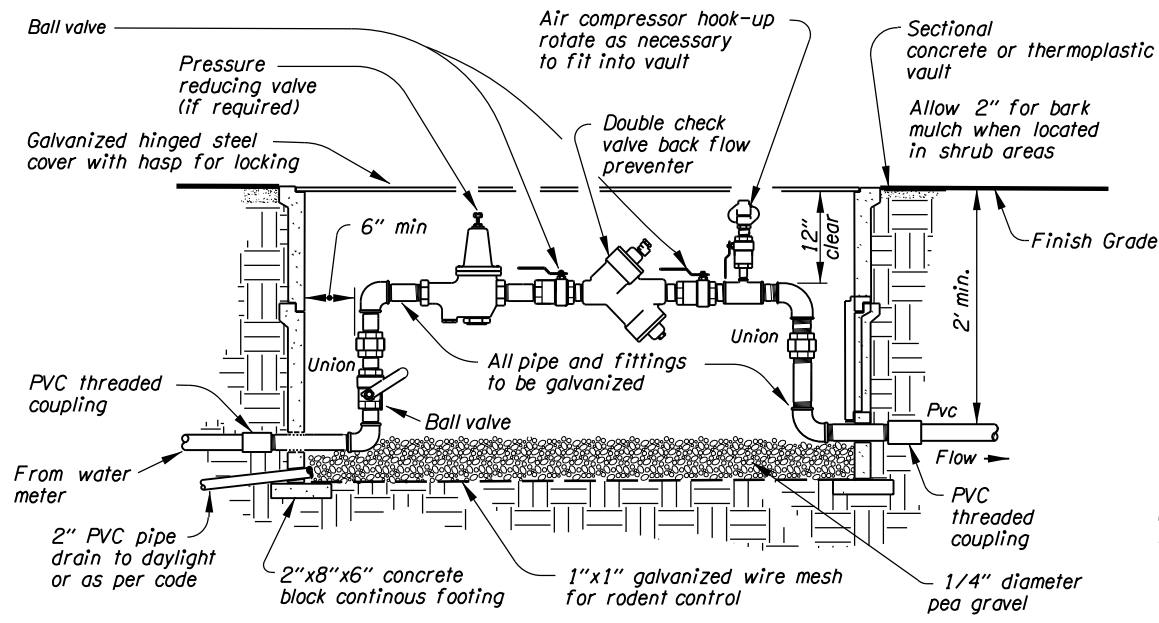


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CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan

ROADSIDE DEVELOPMENT SITE DETAILS

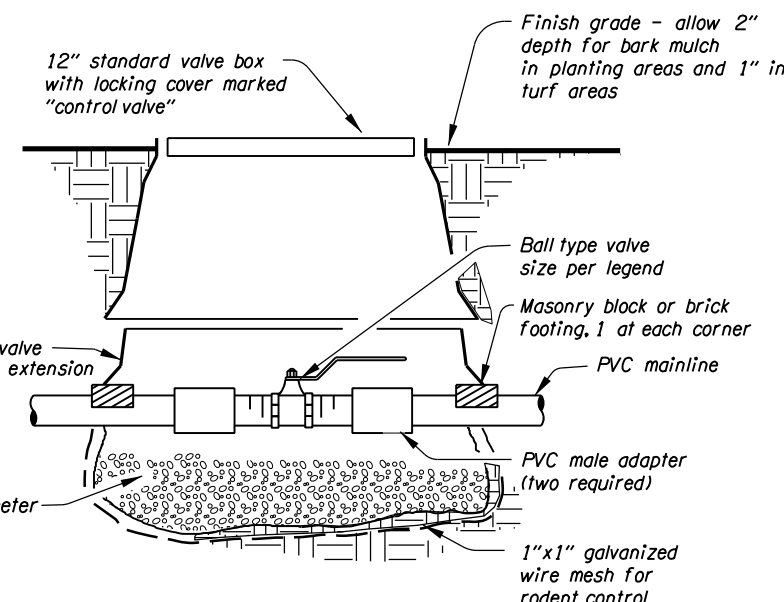
SHEET NO.
FA07



BACKFLOW PREVENTION ASSEMBLY

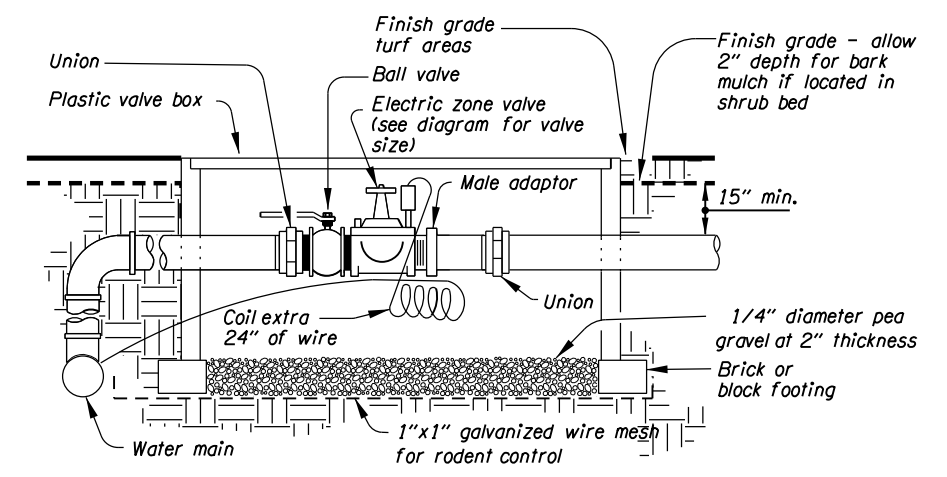
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- NOTES:**
- 1) Install backflow prevention assembly in accordance with "accepted procedure and practice in cross connection control manual"
 - 2) Comply with local jurisdiction requirements. These may vary from those shown on drawings, verify compliance.
 - 3) Provide 6" access clearance for devices 2" and smaller.
 - 4) Size of double check valve shown on plans or specifications.



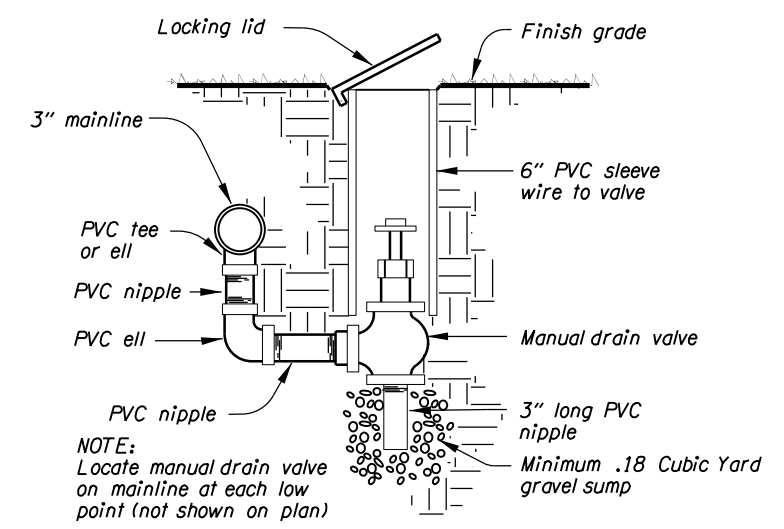
ISOLATION VALVE & BOX

Not To Scale



ELECTRIC ZONE VALVE

Not To Scale



MANUAL DRAIN VALVE

Not To Scale

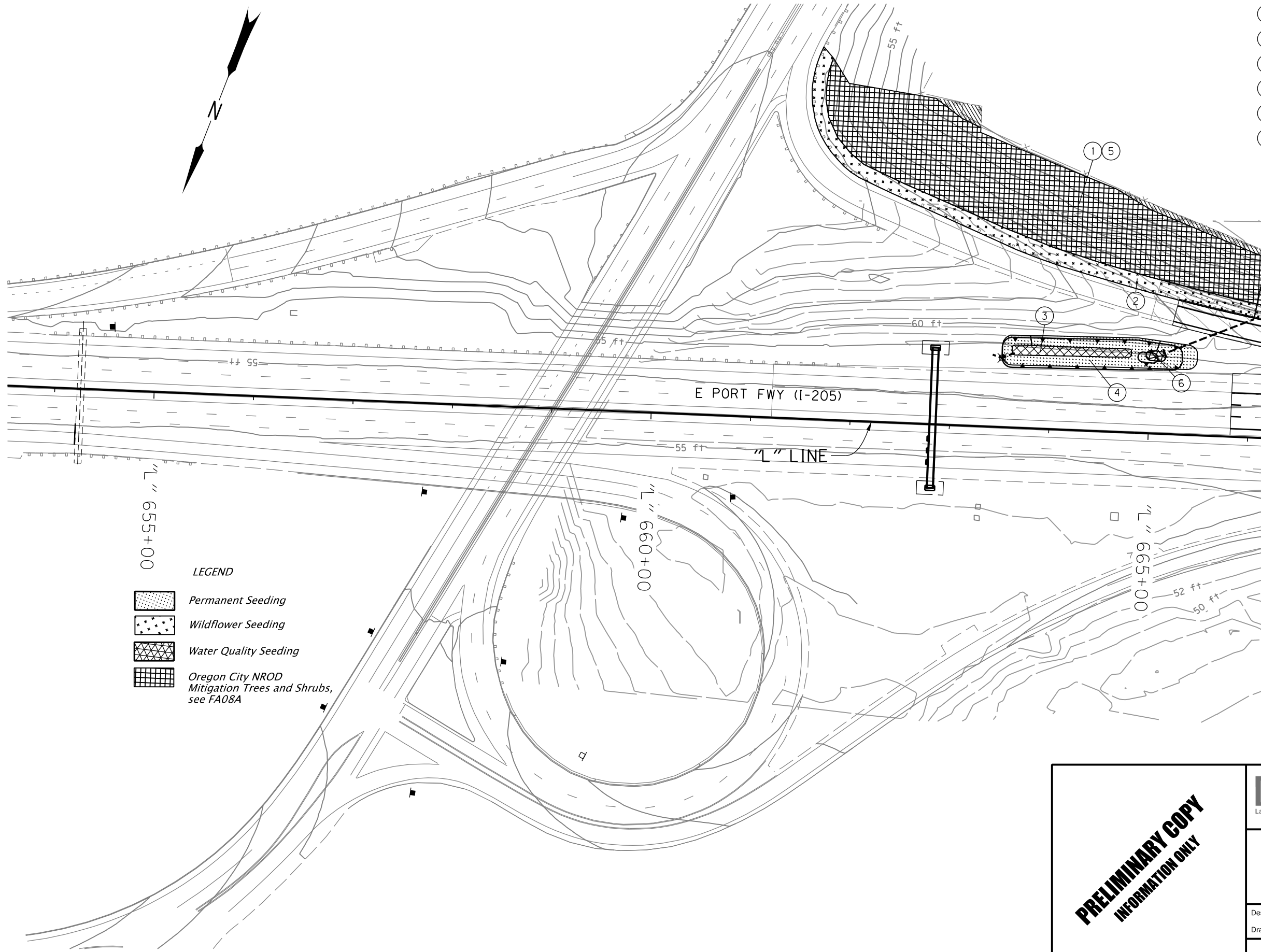
NOTE:
Irrigation details are placeholders for 60%

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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
	Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA08
	ROADSIDE DEVELOPMENT SITE DETAILS		





Sec. 29, T. 2 S, R. 2 E, W.M.

??V-???

- ① Install 66,961 s.f. Wildflower Seeding
- ② Install 18,701 s.f. Wildflower Seeding
- ③ Install 1,100 s.f. Water Quality Seeding
- ④ Install 4,348 s.f. Permanent Seeding
- ⑤ Install 66,961 s.f. NROD Mitigation Trees and Shrubs
- ⑥ Install 176 s.f. Water Quality Seeding



LEGEND

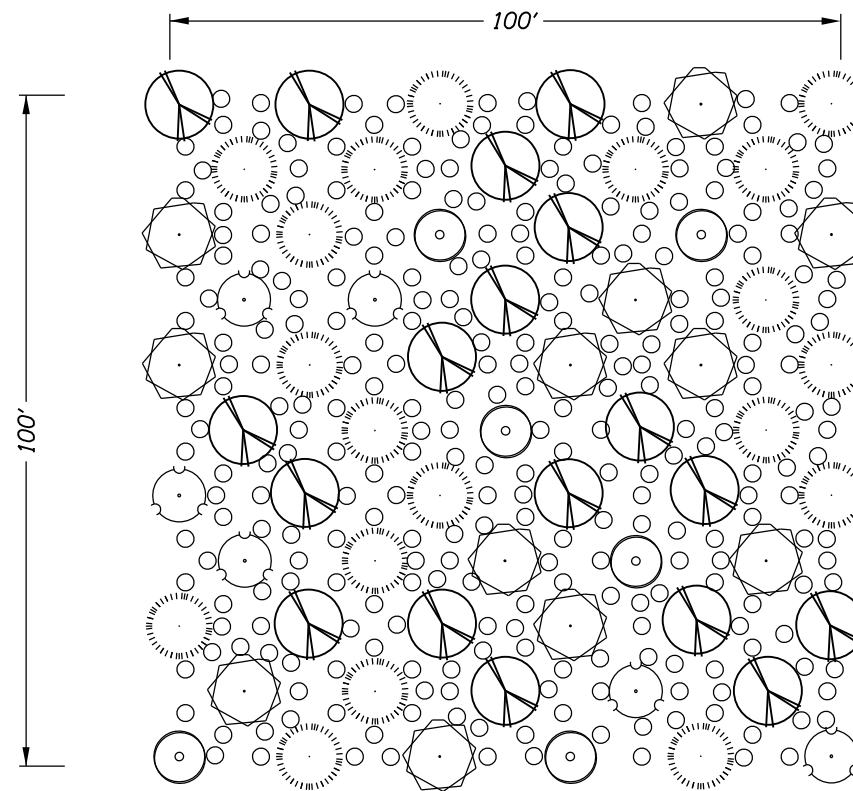
-  Permanent Seeding
-  Wildflower Seeding
-  Water Quality Seeding
-  Oregon City NROD Mitigation Trees and Shrubs, see FA08A

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Designer: David Goodyke	Reviewer: Ben Ngan
Drafter: David Goodyke	Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	SHEET NO. FA09



NROD Mitigation Planting Trees and Shrubs

Key	Tree	Approximate Planting Density	Planting Percentage
	Large, Slow-Growing Trees		
	<i>Arbutus menziesii</i>	13 stems / 10,000 s.f.	20%
	<i>Pinus ponderosa</i>	18 stems / 10,000 s.f.	30%
	<i>Quercus garryana</i>	18 stems / 10,000 s.f.	30%
	Small Trees		
	<i>Rhamnus purshiana</i>	6 stems / 10,000 s.f.	10%
	<i>Salix scouleriana</i>	6 stems / 10,000 s.f.	10%
	Shrubs*		
	<i>Arctostaphylos columbiana</i>	55 stems / 10,000 s.f.	20%
	<i>Berberis (Mahonia) aquifolium</i>	82 stems / 10,000 s.f.	30%
	<i>Ceanothus velutinus</i>	55 stems / 10,000 s.f.	20%
	<i>Corylus cornuta var. Californica</i>	41 stems / 10,000 s.f.	15%
	<i>Ribes lobbii</i>	41 stems / 10,000 s.f.	15%

* Groupings required

NOTE:
Total quantity of species per sheet shown on FA03.

LEGEND

- | | | |
|--|---|---|
| <p>Large, Slow-Growing Trees</p> <ul style="list-style-type: none"> <i>Arbutus menziesii</i> (TARME), 20% <i>Pinus ponderosa</i> (TPIPO), 30% <i>Quercus garryana</i> (TQUGA), 30% | <p>Small Trees</p> <ul style="list-style-type: none"> <i>Rhamnus purshiana</i> (TRHPU), 10% <i>Salix scouleriana</i> (TSASC), 10% | <p>Shrubs</p> <ul style="list-style-type: none"> Assorted Species |
|--|---|---|

DETAIL: NROD MITIGATION TREES AND SHRUBS

Not To Scale

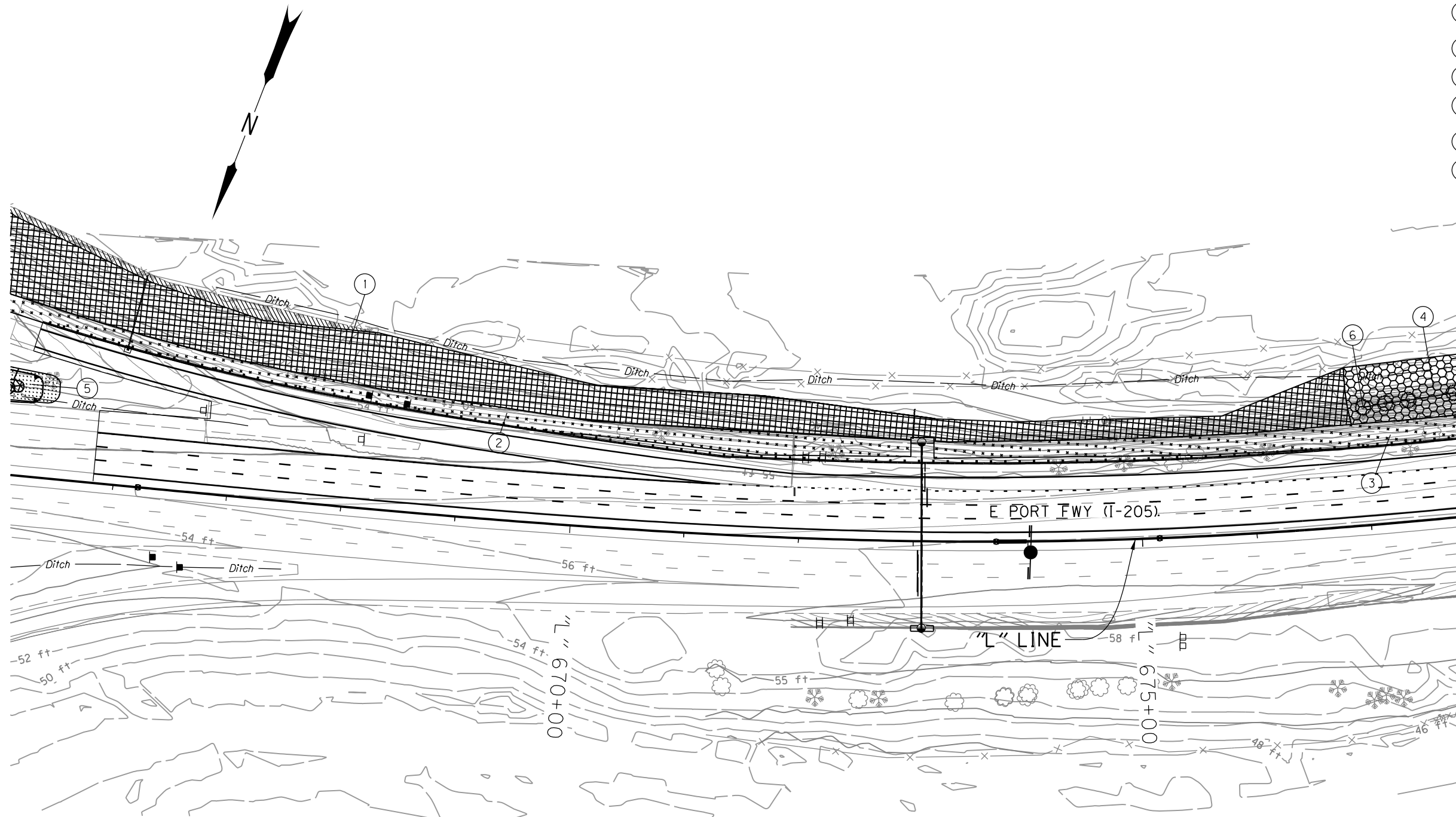
TREE PLANTING NOTES

- 1) Install trees at an overall density of 61 trees/10,000 s.f.
- 2) Install trees at an average of 13.75' O.C. with triangular spacing
- 3) Install shrubs at an overall density of 273 shrubs/10,000 s.f.
- 4) Concentrate TQUGA in areas with most southern and western sun exposure.
- 5) Install trees in groups of up to 4 specimens per species.
- 6) Install shrubs at an average of 6'.5 O.C. with triangular spacing, no closer than 3' O.C.. Install shrubs in groups of up to 4 specimens per species. Install shrubs 5' minimum from adjacent tree stems.
- 7) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 8) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.

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<p>I-205: I-5 - OR213, PHASE 1 SEC.</p> <p>EAST PORTLAND FREEWAY CLACKAMAS COUNTY</p>		
<p>Designer: David Goodyke Reviewer: Ben Ngan</p> <p>Drafter: David Goodyke Checker: Ben Ngan</p>		<p>SHEET NO. FA09A</p>
<p>ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION</p>		

- ① Total area on FA09 and FA10, shown on FA09, notes 1 & 5
- ② Total area on FA09 and FA10, shown on FA09, note 2
- ③ Total area on FA10 and FA11, shown on FA11, note 2
- ④ Total area on FA10 and FA11, shown on FA11, notes 1 & 4
- ⑤ Total area on FA09 and FA10, shown on FA09, note 4
- ⑥ Install 4 TPIPO



LEGEND

- Permanent Seeding
- Wildflower Seeding
- Oregon City NROD Mitigation Shrubs
- Oregon City NROD Mitigation Trees and Shrubs
- Existing Trees

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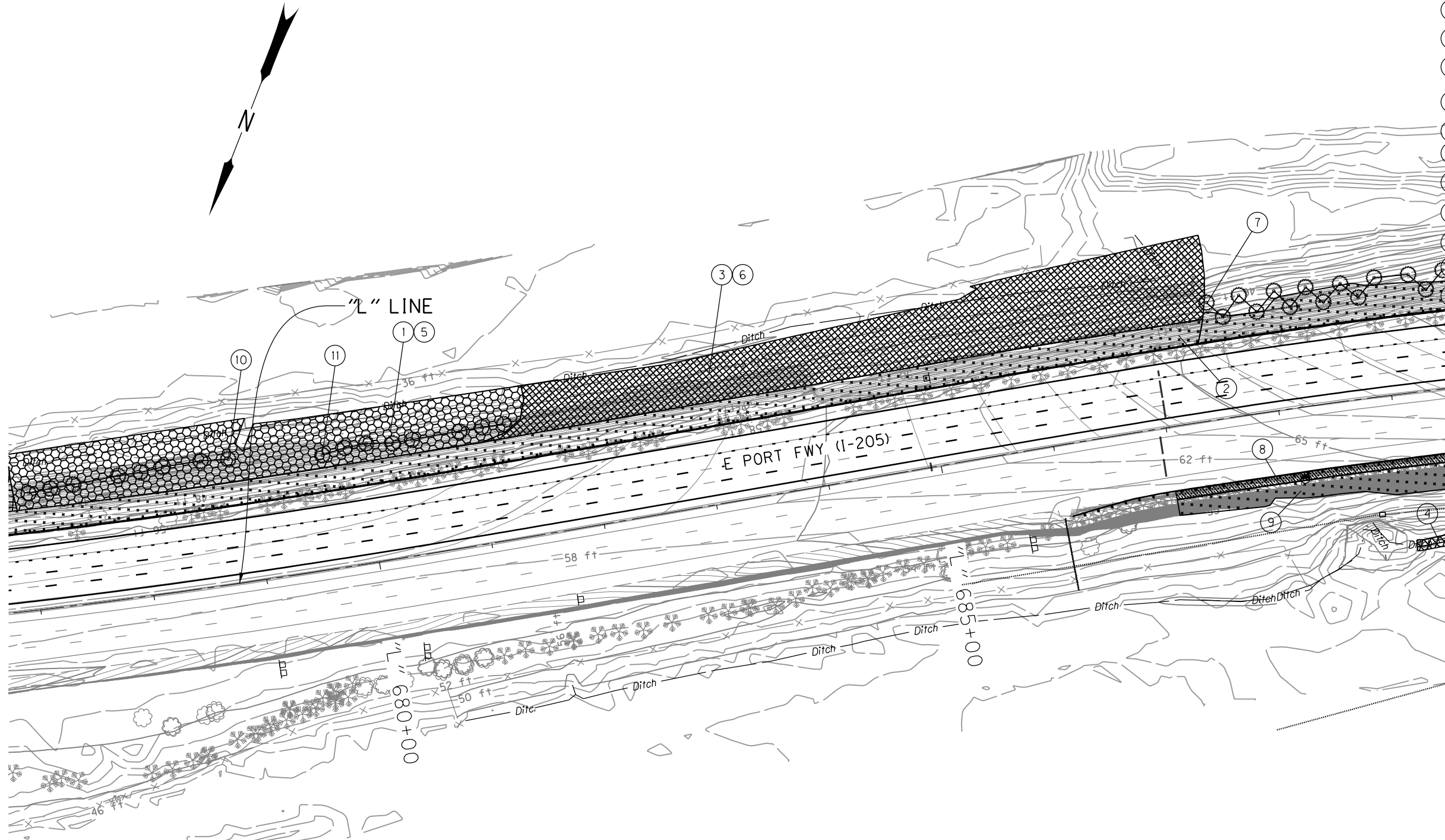


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 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Davki Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION SHEET NO.
 FA10

- ① Install 21,615 s.f. Wildflower Seeding
- ② Install 28,106 s.f. Wildflower Seeding
- ③ Install 31,834 s.f. Wildflower Seeding
- ④ Total quantity for area on FA11 and FA12, shown on FA12, note 1
- ⑤ Install 21,615 s.f. NROD Mitigation Shrubs
- ⑥ Install 31,834 s.f. NROD Mitigation Trees and Shrubs
- ⑦ Install 14 TPIPO
- ⑧ Total quantity for area on FA11 and FA12, shown on FA12, note 11
- ⑨ Total quantity for area on FA11 and FA12, shown on FA12, note 2
- ⑩ Install 8 TPIPO
- ⑪ Install 8 TPIPO



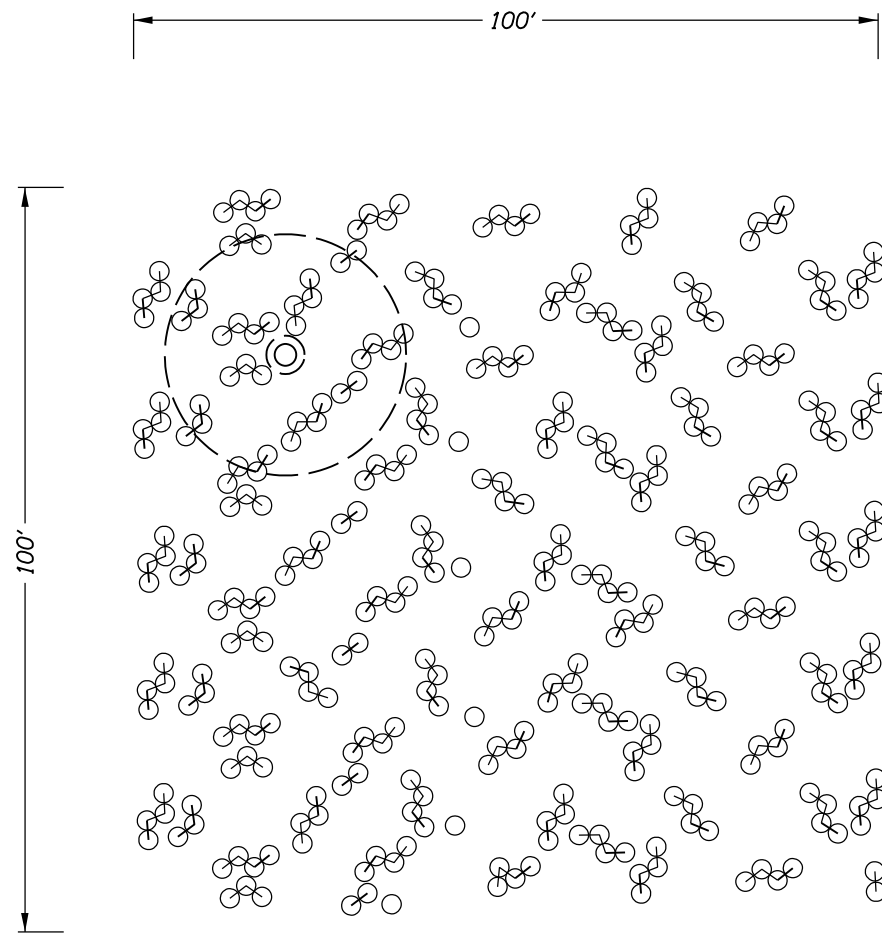
LEGEND

- Water Quality Seeding
- Wildflower Seeding
- Soundwall Screening Planting
- Oregon City NROD Mitigation Shrubs, see FA10A
- Oregon City NROD Mitigation Trees and Shrubs, see FA08A
- Existing Trees

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Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA11
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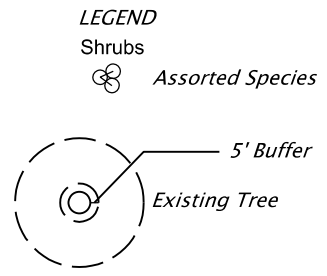


NROD Mitigation Planting Shrubs

Key	Shrubs*	Approximate Planting Density	Planting Percentage
	<i>Berberis (Mahonia) aquifolium</i>	55 stems / 10,000 s.f.	20%
	<i>Cornus sericea</i>	27 stems / 10,000 s.f.	10%
	<i>Ribes sanguineum</i>	41 stems / 10,000 s.f.	15%
	<i>Rubus parviflorus</i>	41 stems / 10,000 s.f.	15%
	<i>Spiraea douglasii</i>	41 stems / 10,000 s.f.	15%
	<i>Symphoricarpos albus</i>	68 stems / 10,000 s.f.	25%

* Groupings required

NOTE:
Total quantity of species per sheet shown on FA03.



DETAIL: NROD MITIGATION SHRUBS

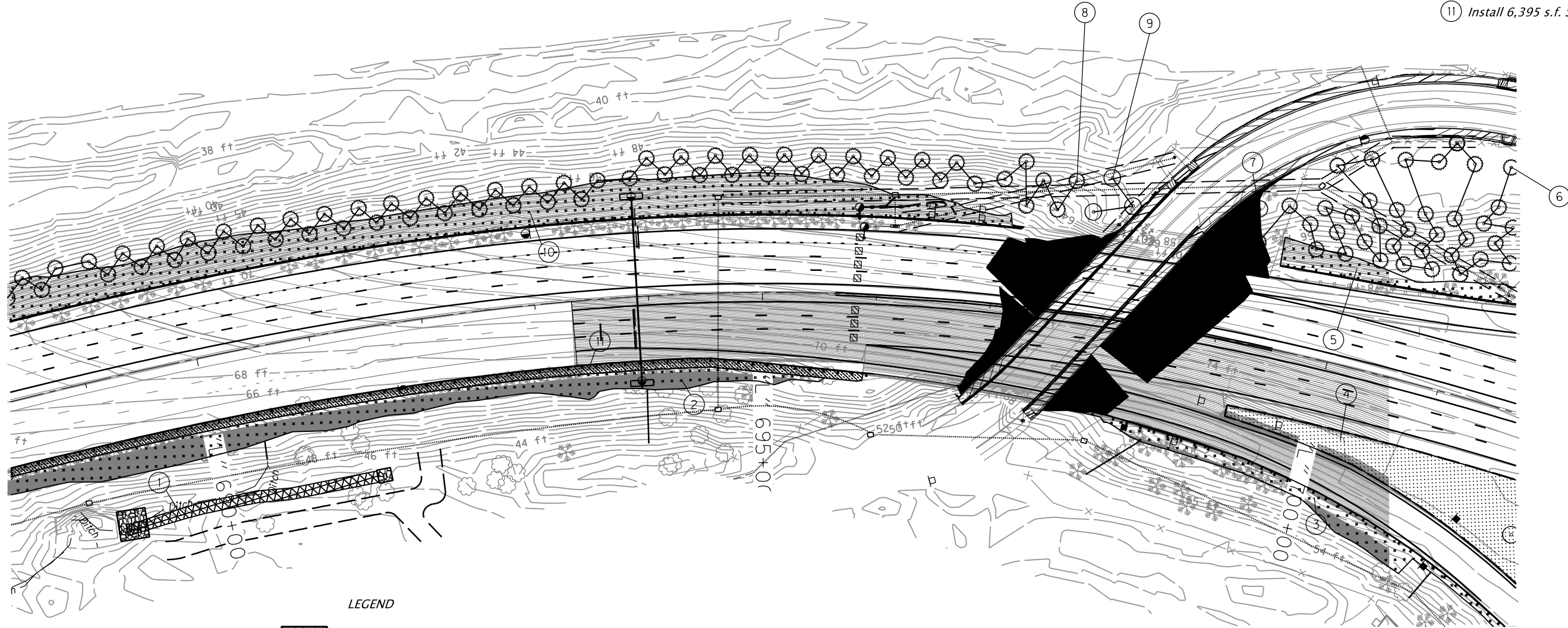
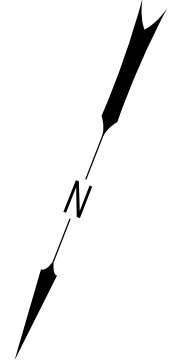
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TREE PLANTING NOTES

- 1) Install shrubs at an overall density of 273 shrubs/10,000 s.f.
- 2) Install shrubs at an average of 6'.5 O.C. with triangular spacing, no closer than 3' O.C.. Install shrubs in groups of up to 4 specimens per species. Install shrubs 5' minimum from adjacent tree stems.
- 3) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 4) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.
- 5) In areas where existing trees are to be preserved, maintain a 5' distance from the adjacent trees trunks to the edge of shrubs.
- 6) Adjust planting locations as necessary to avoid disturbing mature tree roots over 2" diameter.

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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
	Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA11A
	ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION		

- ① Install 2,224 s.f. Water Quality Seeding
- ② Install 3,328 s.f. Wildflower Seeding
- ③ Total area on FA12 and FA13, shown on FA13, note 1
- ④ Total area on FA12 and FA13, shown on FA13, note 2
- ⑤ Total area on FA12 and FA13, shown on FA13, note 33
- ⑥ Install 37 TPIPO
- ⑦ Install 2 TQUGA
- ⑧ Install 62 TPIPO
- ⑨ Install 3 TARME
- ⑩ Install 27,258 s.f. Wildflower Seeding
- ⑪ Install 6,395 s.f. Soundwall Screening Planting



LEGEND

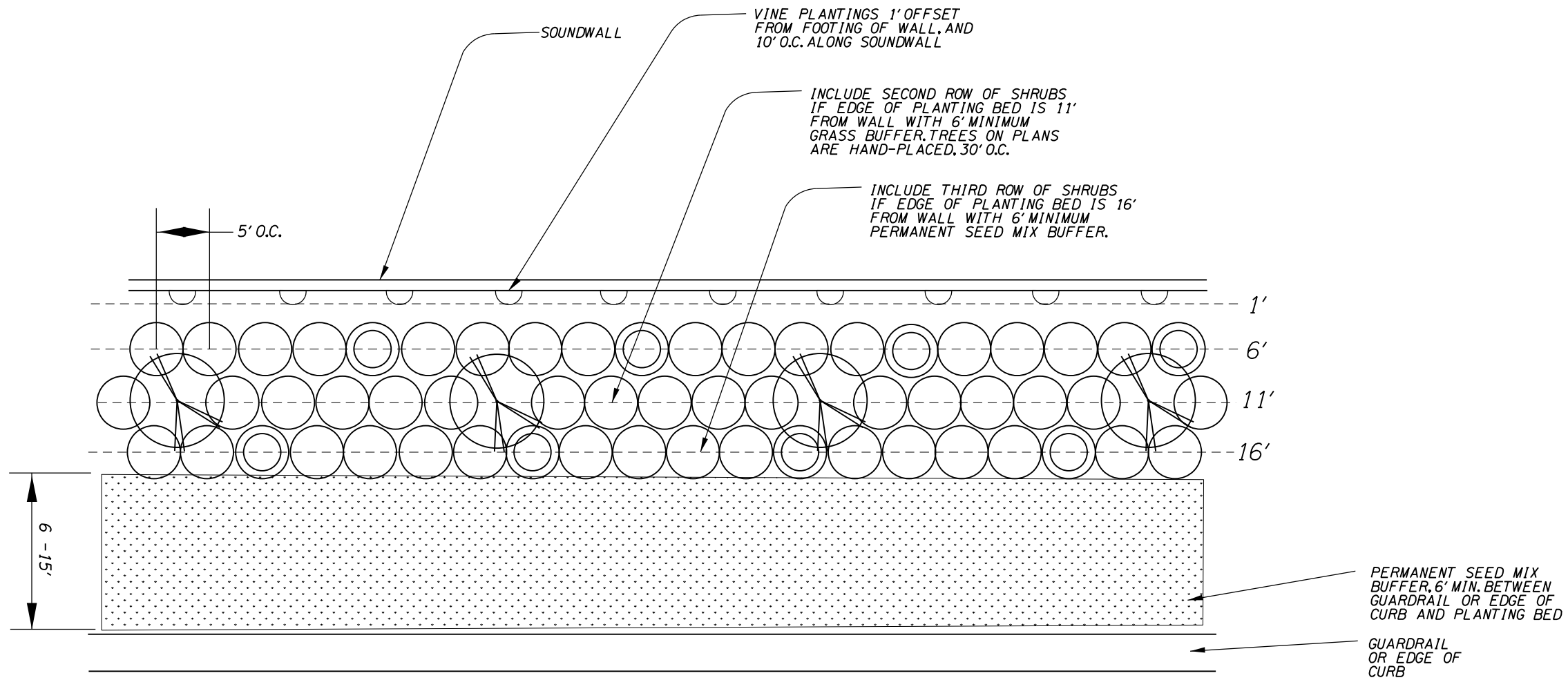
- Permanent Seeding
- Water Quality Seeding
- Wildflower Seeding
- Soundwall Screening Planting, see FA11A
- Proposed Trees
- Existing Trees

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EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: David Goodyke	Reviewer: Ben Ngan
Drafter: David Goodyke	Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	SHEET NO. FA12



NOTE:
Total quantity of species per sheet shown on FA02.

- LEGEND**
- Trees
 - Hand-placed trees
 - Shrubs
 - Arbutus unedo* 'Compacta'
 - Juniperus sabinana* 'Tamariscifolia'
 - Vines
 - Parthenocissus tricuspidata*

Soundwall Screening Shrub Mix

Key	Row	Species	Spacing	Planting Percentage
	Face of Wall	<i>Parthenocissus Tricuspidata</i>	10' O.C.	100%
	First	<i>Arbutus unedo</i> 'Compacta'	20' O.C.	20%
		<i>Juniperus sabina</i> 'Tamariscifolia'	5' O.C.	80%
	Second*	<i>Juniperus sabina</i> 'Tamariscifolia'	5' O.C.	100%
	Third	<i>Arbutus unedo</i> 'Compacta'	20' O.C.	20%
		<i>Juniperus sabina</i> 'Tamariscifolia'	5' O.C.	80%

* With room for hand-placed trees, see plans
Hatch appears on FA11 and FA12

DETAIL: SOUNDWALL SCREENING PLANTING

Not To Scale

PLANTING NOTES

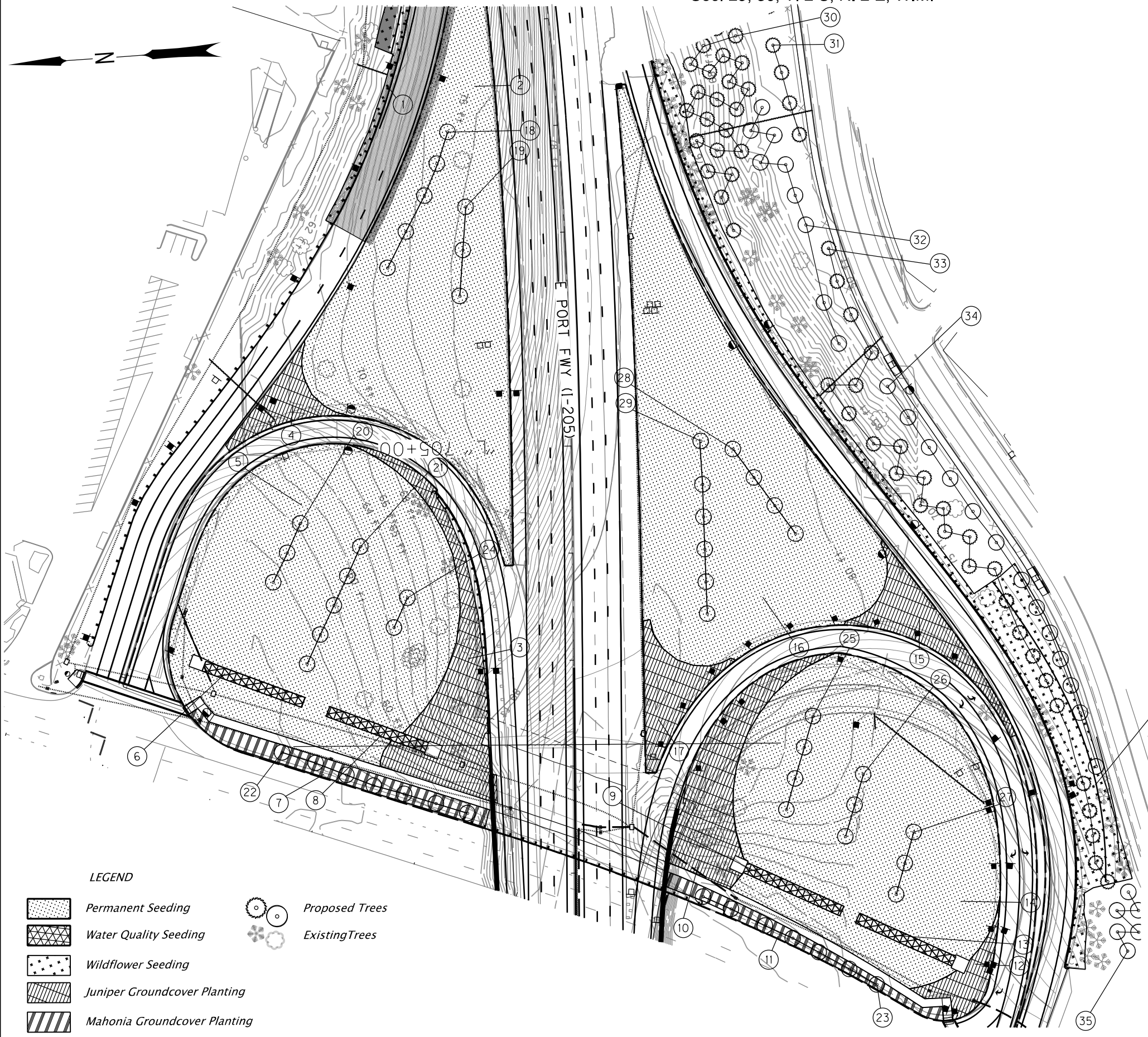
- 1) Soundwall planting beds will have either one, two, or three rows of shrubs, depending on available width. A 6' minimum permanent seed mix shall be maintained between plant bed and shoulder or guard rail.
- 2) Tree locations shown on plans, place trees within the second row of shrubs, as far from the shrubs as space allows.
- 3) Plant shrubs a minimum of 6' from the wall. Plant *Juniperus* shrubs 5' on-center using triangular spacing. *Arbutus unedo* 'Compacta' should be planted 20' O.C. in the first and third rows.
- 4) Vines shall be planted 1' from the base of the soundwall, and 10' O.C.

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ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION		SHEET NO. FA12A

Sec. 29, 30, T. 2 S, R. 2 E, W.M.

??V-???



- ① Install 5,884 s.f. Wildflower Seeding
- ② Install 54,675 s.f. Permanent Seeding
- ③ Install 790 Groundcover Plants
- ④ Install 219 Groundcover Plants
- ⑤ Install 58,388 s.f. Permanent Seeding
- ⑥ Install 971 s.f. Water Quality Seeding
- ⑦ Install 1,382 Groundcover Plants
- ⑧ Install 968 s.f. Water Quality Seeding
- ⑨ Install 974 s.f. Water Quality Seeding
- ⑩ Install 366 Groundcover Plants
- ⑪ Install 945 Groundcover Plants
- ⑫ Install 175 Groundcover Plants
- ⑬ Install 976 s.f. Water Quality Seeding
- ⑭ Install 55,677 s.f. Permanent Seeding
- ⑮ Install 366 Groundcover Plants
- ⑯ Install 60,349 s.f. Permanent Seeding
- ⑰ Install 334 Groundcover Plants
- ⑱ Install 5 TPIPO
- ⑲ Install 3 TQUGA
- ⑳ Install 3 TPIPO
- ㉑ Install 5 TQUGA
- ㉒ Install 7 TQUGA
- ㉓ Install 7 TQUGA
- ㉔ Install 2 TARME
- ㉕ Install 4 TPIPO
- ㉖ Install 3 TQUGA
- ㉗ Install 3 TARME
- ㉘ Install 4 TQUGA
- ㉙ Install 6 TPIPO
- ㉚ Install 21 TPIPO
- ㉛ Install 4 TPIPO
- ㉜ Install 9 TQUGA
- ㉝ Install 27 TPIPO
- ㉞ Install 13 TQUGA
- ㉟ Install 6 TUMCA
- ㊱ Install 22,993 s.f. Wildflower Seeding

LEGEND

- Permanent Seeding
- Water Quality Seeding
- Wildflower Seeding
- Juniper Groundcover Planting
- Mahonia Groundcover Planting
- Proposed Trees
- Existing Trees

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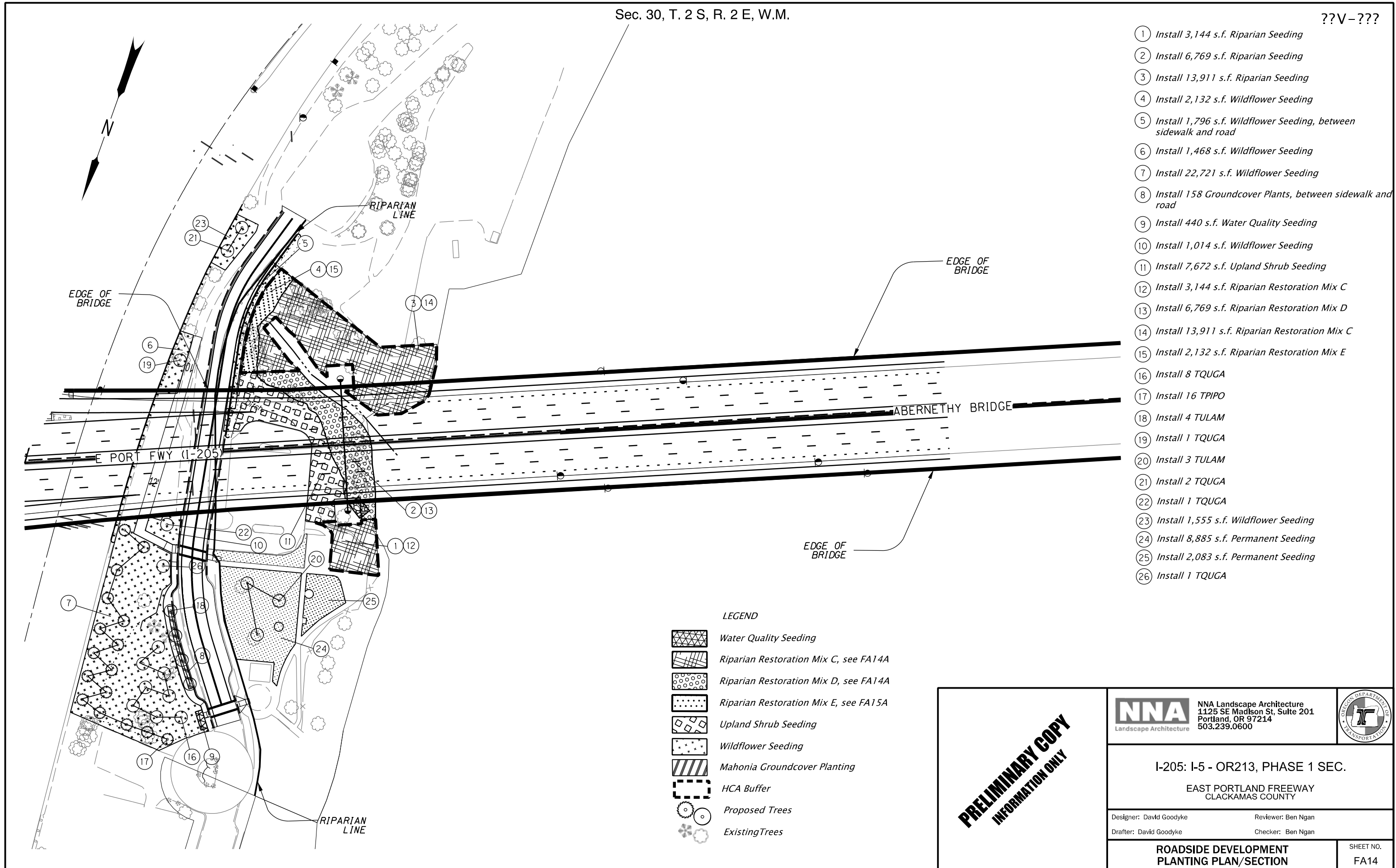
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 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

**ROADSIDE DEVELOPMENT
 PLANTING PLAN/SECTION** SHEET NO.
 FA13



- ① Install 3,144 s.f. Riparian Seeding
- ② Install 6,769 s.f. Riparian Seeding
- ③ Install 13,911 s.f. Riparian Seeding
- ④ Install 2,132 s.f. Wildflower Seeding
- ⑤ Install 1,796 s.f. Wildflower Seeding, between sidewalk and road
- ⑥ Install 1,468 s.f. Wildflower Seeding
- ⑦ Install 22,721 s.f. Wildflower Seeding
- ⑧ Install 158 Groundcover Plants, between sidewalk and road
- ⑨ Install 440 s.f. Water Quality Seeding
- ⑩ Install 1,014 s.f. Wildflower Seeding
- ⑪ Install 7,672 s.f. Upland Shrub Seeding
- ⑫ Install 3,144 s.f. Riparian Restoration Mix C
- ⑬ Install 6,769 s.f. Riparian Restoration Mix D
- ⑭ Install 13,911 s.f. Riparian Restoration Mix C
- ⑮ Install 2,132 s.f. Riparian Restoration Mix E
- ⑯ Install 8 TQUGA
- ⑰ Install 16 TPIPO
- ⑱ Install 4 TULAM
- ⑲ Install 1 TQUGA
- ⑳ Install 3 TULAM
- ㉑ Install 2 TQUGA
- ㉒ Install 1 TQUGA
- ㉓ Install 1,555 s.f. Wildflower Seeding
- ㉔ Install 8,885 s.f. Permanent Seeding
- ㉕ Install 2,083 s.f. Permanent Seeding
- ㉖ Install 1 TQUGA

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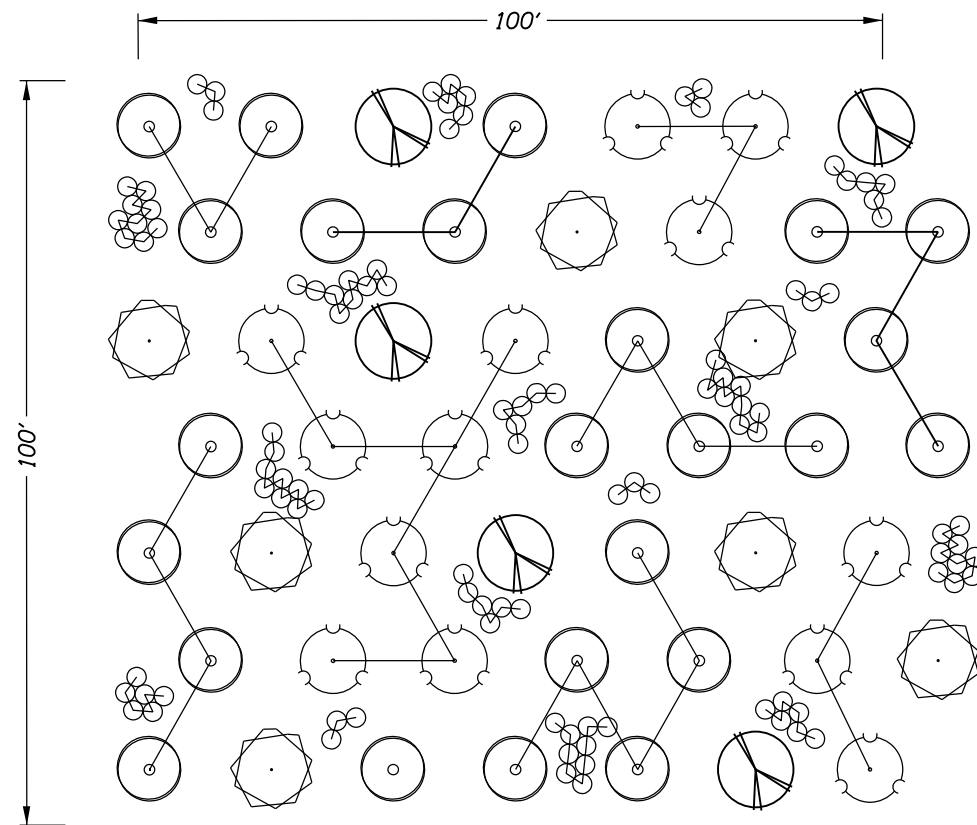
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EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

**ROADSIDE DEVELOPMENT
 PLANTING PLAN/SECTION**

SHEET NO.
FA14



NOTE:
Total quantity of species per sheet shown on FA03.

LEGEND

<p>Large, Slow-Growing Trees</p> <ul style="list-style-type: none"> <i>Acer macrophyllum</i> (TACMA), 10% <i>Abies grandis</i> (TABGR), 10% <i>Thuja plicata</i> (TTHPL), 8% 	<p>Small Trees</p> <ul style="list-style-type: none"> <i>Fraxinus latifolia</i> (TFRLA), 6% <i>Prunus emarginata</i> (TPREM), 15% <i>Salix lucida ssp. lasiandra</i> (TSALU), 15% <i>Rhamnus purshiana</i> (TRHPU), 10% 	<p>Fast-Growing Trees</p> <ul style="list-style-type: none"> <i>Alnus rubra</i> (TALRU), 26%
<p>Shrubs</p> <ul style="list-style-type: none"> Lowland Shrubs 		

Riparian Restoration Mix C: Lowland Trees and Shrubs			
Key	Tree	Approximate Planting Density	Planting Percentage
	Large, Slow-Growing Trees		
	<i>Abies grandis</i>	5 stems / 10,000 s.f.	10%
	<i>Acer macrophyllum</i>	4 stems / 10,000 s.f.	10%
	<i>Thuja plicata</i>	4 stems / 10,000 s.f.	8%
	Small Trees		
	<i>Fraxinus latifolia</i>	3 stems / 10,000 s.f.	6%
	<i>Prunus emarginata</i>	7 stems / 10,000 s.f.	15%
	<i>Salix lucida ssp. lasiandra</i>	7 stems / 10,000 s.f.	15%
	<i>Rhamnus purshiana</i>	6 stems / 10,000 s.f.	10%
	Fast-Growing Trees (13)*		
<i>Alnus rubra</i>	13 stems / 10,000 s.f.	26%	
Riparian Restoration Mix C and D: Lowland Shrubs			
		Approximate Planting Density	Planting Percentage
	Shrubs*		
	<i>Cornus sericea</i>	27 stems / 10,000 s.f.	25%
	<i>Physocarpus capitatus</i>	11 stems / 10,000 s.f.	10%
	<i>Rubus spectabilis</i>	16 stems / 10,000 s.f.	15%
	<i>Sambucus racemosa</i>	11 stems / 10,000 s.f.	10%
	<i>Spiraea douglasii</i>	16 stems / 10,000 s.f.	15%
	<i>Symphoricarpos albus</i>	27 stems / 10,000 s.f.	25%

* Groupings required

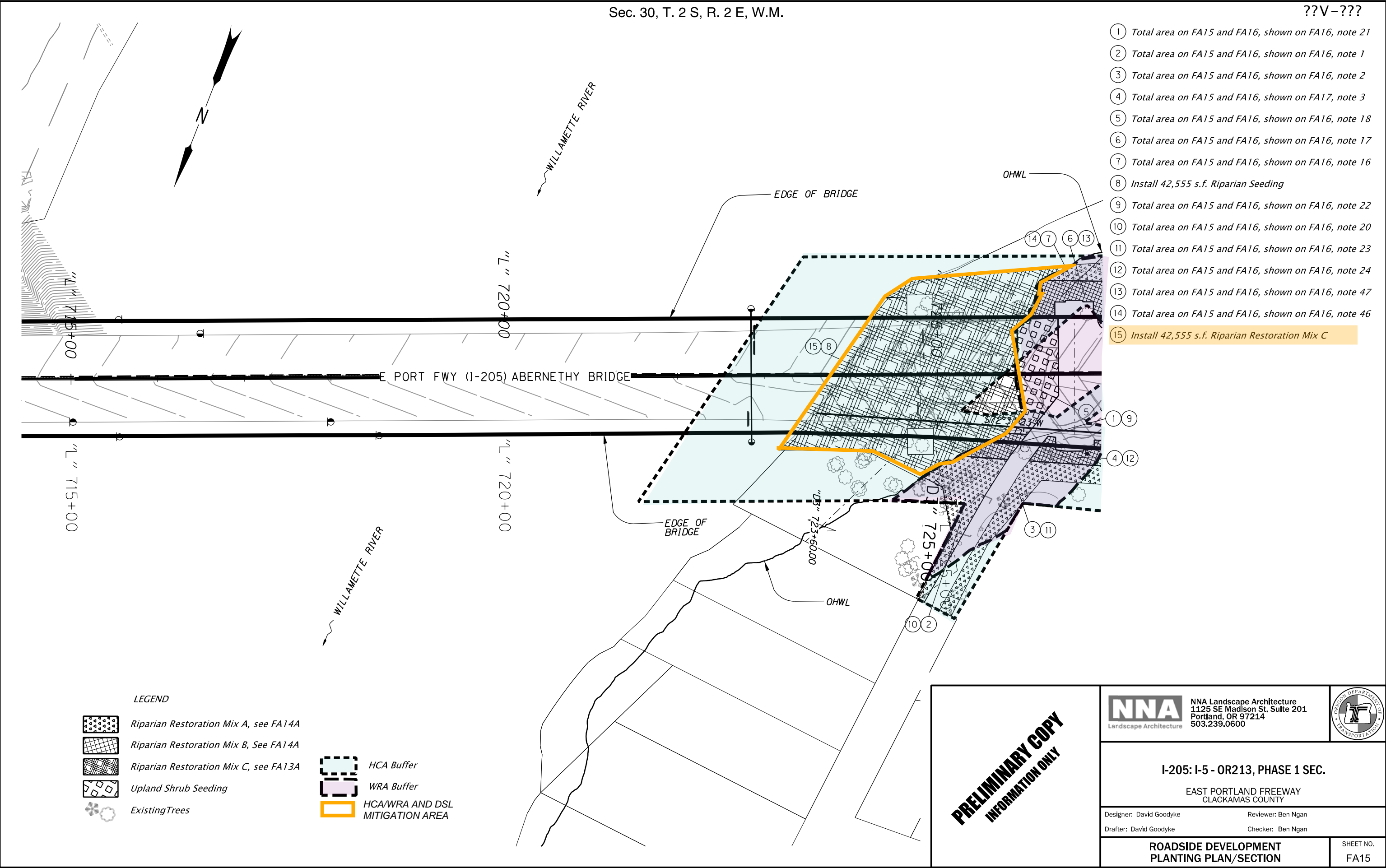
DETAIL: LOWLAND TREES AND PLANTING MIX C AND D

Not To Scale

TREE PLANTING NOTES

- 1) Install trees at an overall density of 49 trees/10,000 s.f.
- 2) Install trees at an average of 15' O.C. with triangular spacing, 49 trees/10,000 s.f. Large, Slow-Growing Trees must be planted at minimum 30' O.C. from one another. Fast-Growing and Small Trees shall be installed at a 10 - 20' O.C. average spacing from others.
- 3) Install Fast-Growing Trees in groups of 2 - 7
- 4) Install Small Trees in groups of 2 - 5
- 5) Install shrubs at an overall density of 108 shrubs/10,000 s.f.
- 6) Install shrubs 5' O.C. in groups of three to nine plants per species. Space shrub groups no closer than 15' apart and no closer than 5' to adjacent tree stems.
- 7) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 8) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.

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	Designer: David Goodyke Reviewer: Name Drafter: David Goodyke Checker: Name	
	ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	



- ① Total area on FA15 and FA16, shown on FA16, note 21
- ② Total area on FA15 and FA16, shown on FA16, note 1
- ③ Total area on FA15 and FA16, shown on FA16, note 2
- ④ Total area on FA15 and FA16, shown on FA17, note 3
- ⑤ Total area on FA15 and FA16, shown on FA16, note 18
- ⑥ Total area on FA15 and FA16, shown on FA16, note 17
- ⑦ Total area on FA15 and FA16, shown on FA16, note 16
- ⑧ Install 42,555 s.f. Riparian Seeding
- ⑨ Total area on FA15 and FA16, shown on FA16, note 22
- ⑩ Total area on FA15 and FA16, shown on FA16, note 20
- ⑪ Total area on FA15 and FA16, shown on FA16, note 23
- ⑫ Total area on FA15 and FA16, shown on FA16, note 24
- ⑬ Total area on FA15 and FA16, shown on FA16, note 47
- ⑭ Total area on FA15 and FA16, shown on FA16, note 46
- ⑮ Install 42,555 s.f. Riparian Restoration Mix C

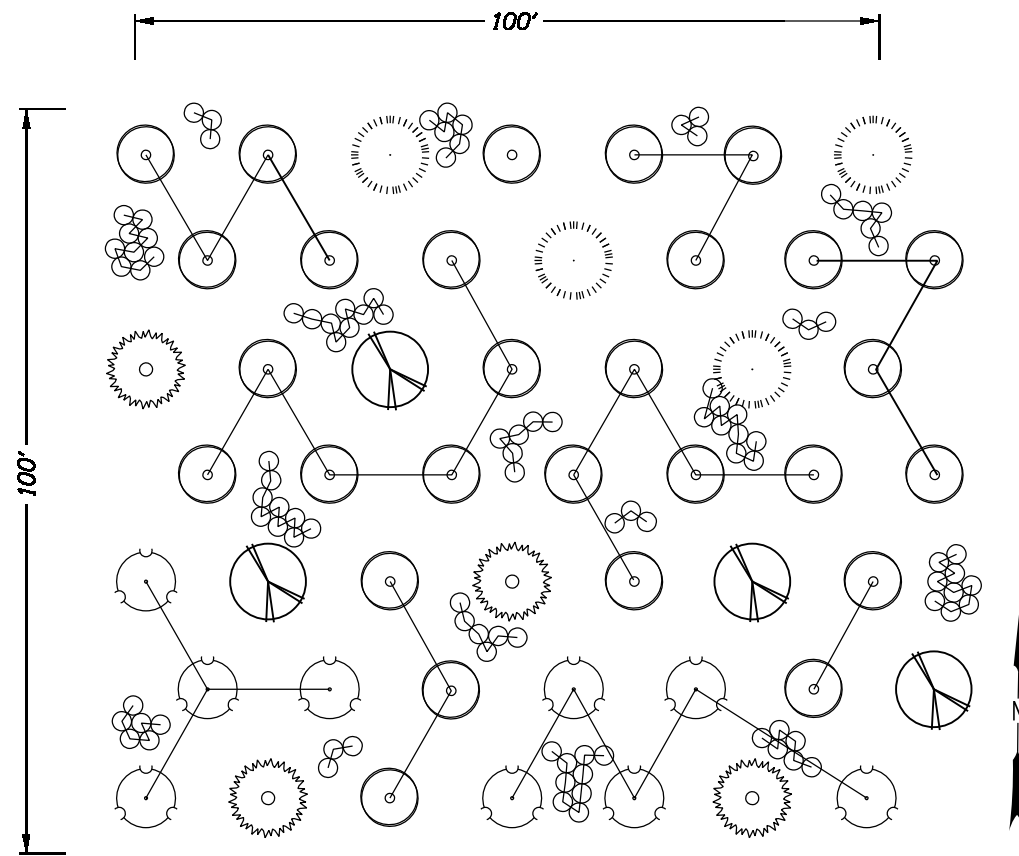
LEGEND

- Riparian Restoration Mix A, see FA14A
- Riparian Restoration Mix B, See FA14A
- Riparian Restoration Mix C, see FA13A
- Upland Shrub Seeding
- Existing Trees
- HCA Buffer
- WRA Buffer
- HCA/WRA AND DSL MITIGATION AREA

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Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA15
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NOTE:
Total quantity of species per sheet shown on FA03.

LEGEND

Large, Slow-Growing Trees	Small Trees	Shrubs
<i>Acer macrophyllum</i> (TACMA), 8%	<i>Arbutus menziesii</i> (TARME), 15%	Assorted Species
<i>Calocedrus decurrens</i> (TCADE), 8%	<i>Corylus cornuta ssp. californica</i> (TCOCO), 15%	
<i>Pseudotsuga menziesii</i> (TPSME), 8%	<i>Cornus nuttallii</i> (TCONU), 15%	
<i>Quercus garryana</i> (TQUGA), 26%	<i>Rhamnus purshiana</i> (TRHPU), 15%	

Riparian Restoration Mix A: Upland Trees and Shrubs			
Key	Tree	Approximate Planting Density	Planting Percentage
	Large, Slow-Growing Trees		
	<i>Acer macrophyllum</i>	4 stems / 10,000 s.f.	8%
	<i>Calocedrus decurrens</i>	4 stems / 10,000 s.f.	8%
	<i>Quercus garryana</i>	13 stems / 10,000 s.f.	26%
	<i>Pseudotsuga menziesii</i>	4 stems / 10,000 s.f.	8%
	Small Trees		
	<i>Arbutus menziesii</i>	7 stems / 10,000 s.f.	15%
	<i>Corylus cornuta ssp. californica</i>	7 stems / 10,000 s.f.	15%
	<i>Cornus nuttallii</i>	3 stems / 10,000 s.f.	5%
	<i>Rhamnus purshiana</i>	7 stems / 10,000 s.f.	15%
Riparian Restoration Mix A and B: Upland Shrubs			
		Approximate Planting Density	Planting Percentage
	Shrubs*		
	<i>Mahonia aquifolium</i>	27 stems / 10,000 s.f.	25%
	<i>Opuntia basilaris</i>	11 stems / 10,000 s.f.	10%
	<i>Rubus parviflorus</i>	16 stems / 10,000 s.f.	15%
	<i>Sambucus racemosa</i>	11 stems / 10,000 s.f.	10%
	<i>Spirea douglasii</i>	16 stems / 10,000 s.f.	15%
	<i>Symphoricarpos albus</i>	27 stems / 10,000 s.f.	25%

* Groupings required

DETAIL: UPLAND TREES AND PLANTING MIX A AND B

Not To Scale

TREE PLANTING NOTES

- 1) Install trees at an overall density of 49 trees/10,000 s.f.
- 2) Install trees at an average of 15' O.C. with triangular spacing, 49 trees/10,000 s.f. Large, Slow-Growing Trees must be planted at minimum 30' O.C. from one another. Fast-Growing and Small Trees shall be installed at a 10 - 20' O.C. average spacing from others.
- 3) Concentrate TQUGA in areas with most southern and western sun exposure.
- 4) Concentrate TPSME North and East of TQUGA.
- 5) Install Small Trees in groups of 2 - 5.
- 6) Install shrubs at an overall density of 108 shrubs/10,000 s.f.
- 7) Install shrubs 5' O.C. in groups of three to nine plants per species. Space shrub groups no closer than 15' apart and no closer than 5' to adjacent tree stems.
- 8) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 9) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.

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ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	
SHEET NO. FA15A	

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE

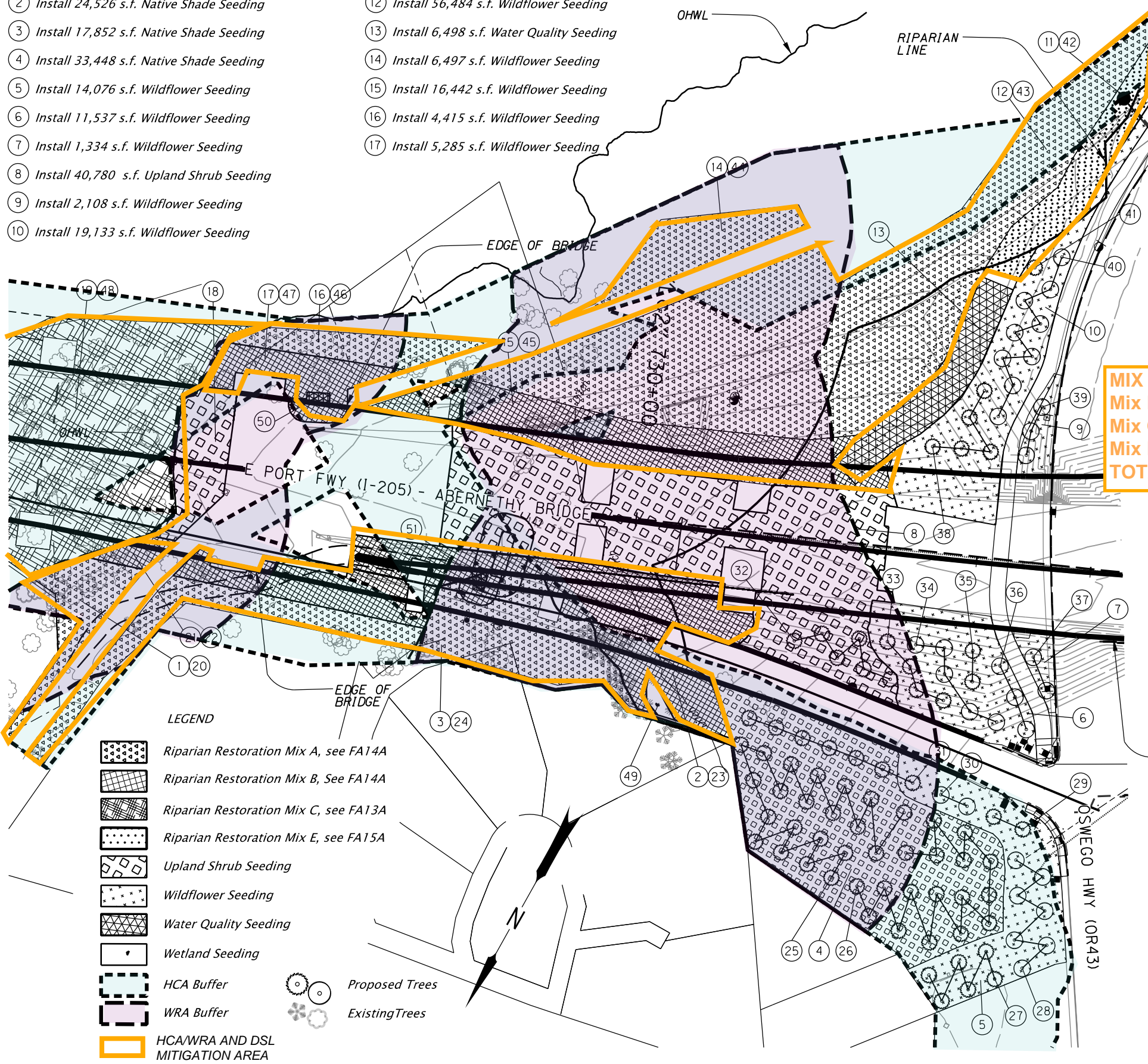
??V-???

- ① Install 5,280 s.f. Native Shade Seeding
- ② Install 24,526 s.f. Native Shade Seeding
- ③ Install 17,852 s.f. Native Shade Seeding
- ④ Install 33,448 s.f. Native Shade Seeding
- ⑤ Install 14,076 s.f. Wildflower Seeding
- ⑥ Install 11,537 s.f. Wildflower Seeding
- ⑦ Install 1,334 s.f. Wildflower Seeding
- ⑧ Install 40,780 s.f. Upland Shrub Seeding
- ⑨ Install 2,108 s.f. Wildflower Seeding
- ⑩ Install 19,133 s.f. Wildflower Seeding

- ⑪ Install 10,169 s.f. Wildflower Seeding
- ⑫ Install 56,484 s.f. Wildflower Seeding
- ⑬ Install 6,498 s.f. Water Quality Seeding
- ⑭ Install 6,497 s.f. Wildflower Seeding
- ⑮ Install 16,442 s.f. Wildflower Seeding
- ⑯ Install 4,415 s.f. Wildflower Seeding
- ⑰ Install 5,285 s.f. Wildflower Seeding

- ⑱ Install 5,401 s.f. Upland Shrub Seeding
- ⑲ Total area on FA15 and FA16, shown on FA15, note 8
- ⑳ Install 5,280 s.f. Riparian Restoration Mix A
- ㉑ Install 1,227 s.f. Native Shade Seeding
- ㉒ Install 1,227 s.f. Riparian Restoration Mix B

- ㉓ Install 24,526 s.f. Riparian Restoration Mix A
- ㉔ Install 17,852 s.f. Riparian Restoration Mix B
- ㉕ Install 21 TPSME
- ㉖ Install 17 TPIPO
- ㉗ Install 6 TPSME
- ㉘ Install 7 TQUGA
- ㉙ Install 2 TPSME
- ㉚ Install 2 TCONU
- ㉛ Install 7 TPIPO
- ㉜ Install 6 TPSME
- ㉝ Install 4 TCADE
- ㉞ Install 5 TCONU
- ㉟ Install 2 TCADE
- ㊱ Install 3 TQUGA
- ㊲ Install 2 TQUGA
- ㊳ Install 5 TPIPO
- ㊴ Install 3 TQUGA
- ㊵ Install 9 TQUGA
- ㊶ Install 1 TARME
- ㊷ Install 10,169 s.f. Riparian Restoration Mix E
- ㊸ Install 56,484 s.f. Riparian Restoration Mix A
- ㊹ Install 6,497 s.f. Riparian Restoration Mix A
- ㊺ Install 16,442 s.f. Riparian Restoration Mix B
- ㊻ Install 4,415 s.f. Riparian Restoration Mix A
- ㊼ Install 5,285 s.f. Riparian Restoration Mix B
- ㊽ Total area on FA15 and FA16, shown on FA15, note 15
- ㊾ Install 410 s.f. Wetland Seeding
- ㊿ Install 200 s.f. Water Quality Seeding
- ① Install 199 s.f. Water Quality Seeding



MIX A (tree & shrub): 97,202 sf
 Mix B (shrub): 40,806 sf
 Mix C (tree & shrub): 42,555 sf
 Mix E (tree & shrub): 10,169 sf
TOTAL: 190,732 sf

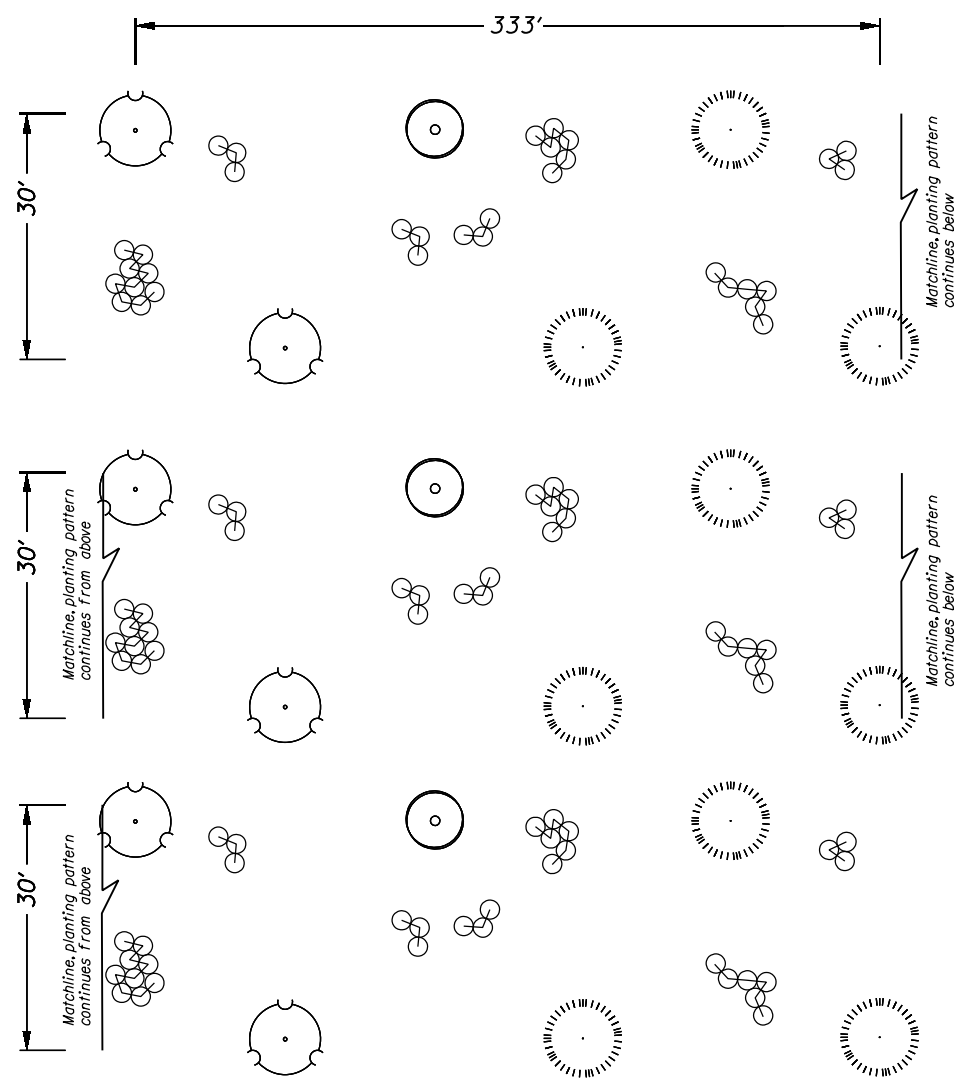
42,555 SF

LEGEND

- Riparian Restoration Mix A, see FA14A
- Riparian Restoration Mix B, see FA14A
- Riparian Restoration Mix C, see FA13A
- Riparian Restoration Mix E, see FA15A
- Upland Shrub Seeding
- Wildflower Seeding
- Water Quality Seeding
- Wetland Seeding
- HCA Buffer
- WRA Buffer
- HCA/WRA AND DSL MITIGATION AREA
- Proposed Trees
- Existing Trees

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Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	
SHEET NO. FA16	



LEGEND

Large, Slow-Growing Trees	Shrubs
<i>Arbutus menziesii</i> (TARME), 10%	Upland Shrubs
<i>Pinus ponderosa</i> (TPIPO), 50%	
<i>Quercus garryana</i> (TQUGA), 40%	

DETAIL: UPLAND TREES AND PLANTING MIX E

Not To Scale

TREE PLANTING NOTES

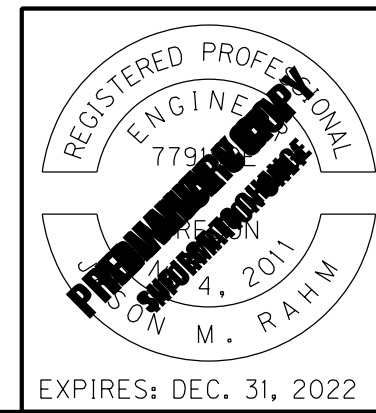
- 1) Install trees at an overall density of 20 trees/10,000 s.f.
- 2) Install trees at an average of 25' O.C. with triangular spacing.
- 3) Concentrate TQUGA in areas with most southern and western sun exposure.
- 4) Concentrate TPIPO North and East of TQUGA.
- 5) Install shrubs 5' O.C. in groups of three to nine plants per species. Space shrub groups no closer than 15' apart and no closer than 5' to adjacent tree stems.
- 6) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 7) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.

Riparian Restoration Mix E: Upland Trees and Shrubs

Key	Tree	Approximate Planting Density	Planting Percentage
	Large, Slow-Growing Trees		
	<i>Arbutus menziesii</i>	2 stems / 10,000 s.f.	10%
	<i>Quercus garryana</i>	8 stems / 10,000 s.f.	40%
	<i>Pinus ponderosa var. willamettensis</i>	10 stems / 10,000 s.f.	50%
Riparian Restoration Mix E: Upland Shrubs			
	Shrubs*		
	<i>Ceanothus velutinus</i>	11 stems / 10,000 s.f.	10%
	<i>Mahonia aquifolium</i>	65 stems / 10,000 s.f.	60%
	<i>Ribes sanguineum</i>	16 stems / 10,000 s.f.	15%
	<i>Symphoricarpos albus</i>	16 stems / 10,000 s.f.	15%

* Groupings required

NOTE:
Total quantity of species per sheet shown on FA03.



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 Portland, OR 97214
 503.239.0600



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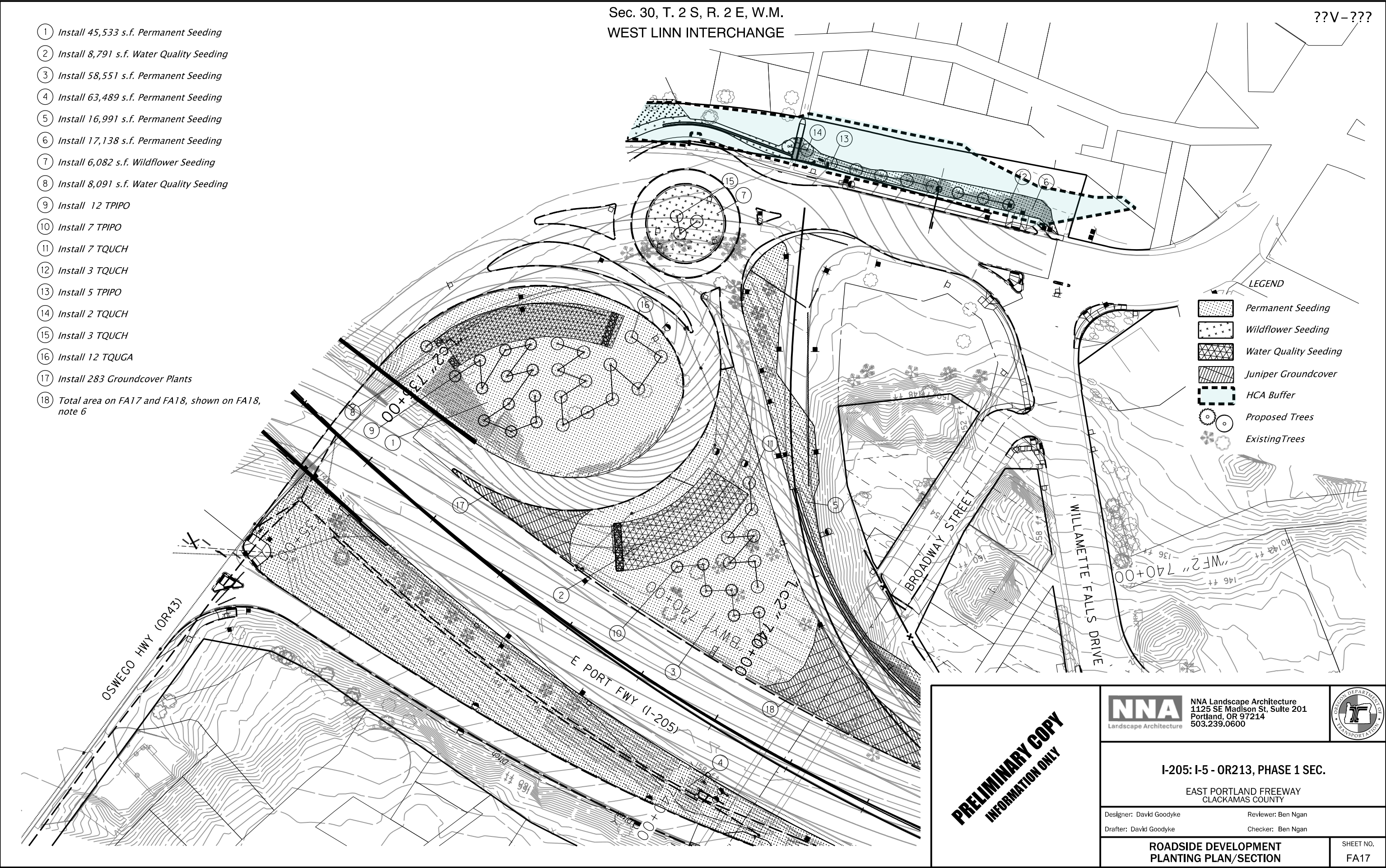
Designer: David G. Gandyke Reviewer: Brent G. Gandyke
 Drafter: David G. Gandyke Checker: Brent G. Gandyke

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION SHEET NO. FA16A

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE

??V-???

- ① Install 45,533 s.f. Permanent Seeding
- ② Install 8,791 s.f. Water Quality Seeding
- ③ Install 58,551 s.f. Permanent Seeding
- ④ Install 63,489 s.f. Permanent Seeding
- ⑤ Install 16,991 s.f. Permanent Seeding
- ⑥ Install 17,138 s.f. Permanent Seeding
- ⑦ Install 6,082 s.f. Wildflower Seeding
- ⑧ Install 8,091 s.f. Water Quality Seeding
- ⑨ Install 12 TPIPO
- ⑩ Install 7 TPIPO
- ⑪ Install 7 TQUCH
- ⑫ Install 3 TQUCH
- ⑬ Install 5 TPIPO
- ⑭ Install 2 TQUCH
- ⑮ Install 3 TQUCH
- ⑯ Install 12 TQUGA
- ⑰ Install 283 Groundcover Plants
- ⑱ Total area on FA17 and FA18, shown on FA18, note 6



LEGEND

- Permanent Seeding
- Wildflower Seeding
- Water Quality Seeding
- Juniper Groundcover
- HCA Buffer
- Proposed Trees
- Existing Trees

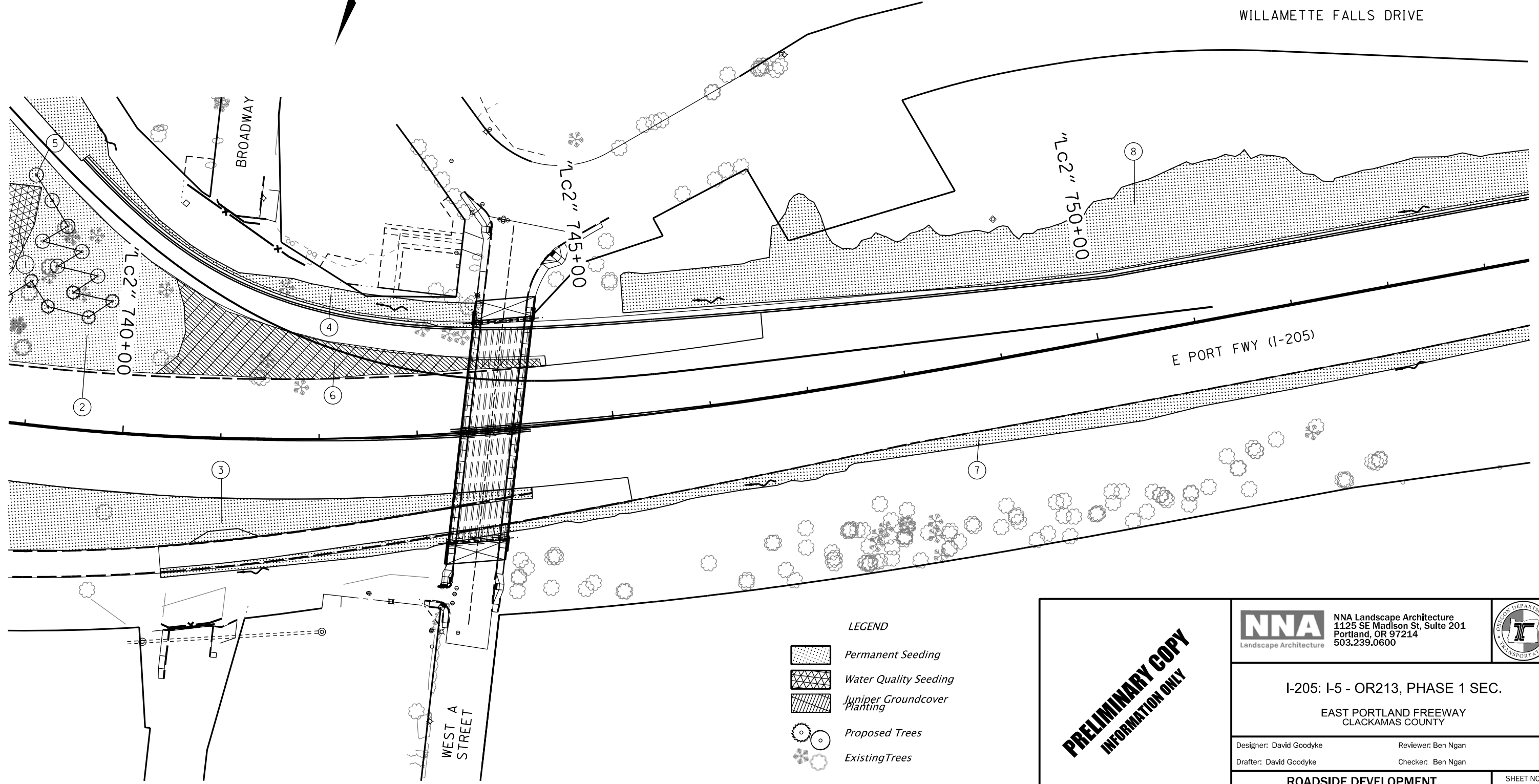
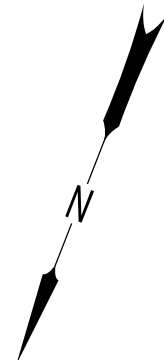
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


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Designer: David Goodyke	Reviewer: Ben Ngan
Drafter: David Goodyke	Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	
SHEET NO. FA17	

WEST LINN INTERCHANGE

- ① Total area on FA17 and FA18, shown on FA17, note 2
- ② Total area on FA17 and FA18, shown on FA17, note 3
- ③ Total area on FA17 and FA18, shown on FA17, note 4
- ④ Total area on FA17 and FA18, shown on FA17, note 5
- ⑤ Total area on FA17 and FA18, shown on FA17, notes 10, 11
- ⑥ Install 955 Juniper Groundcover Plants
- ⑦ Total area on FA18 and FA19, shown on FA19, note 5
- ⑧ Total area on FA18 and FA19, shown on FA19, note 1



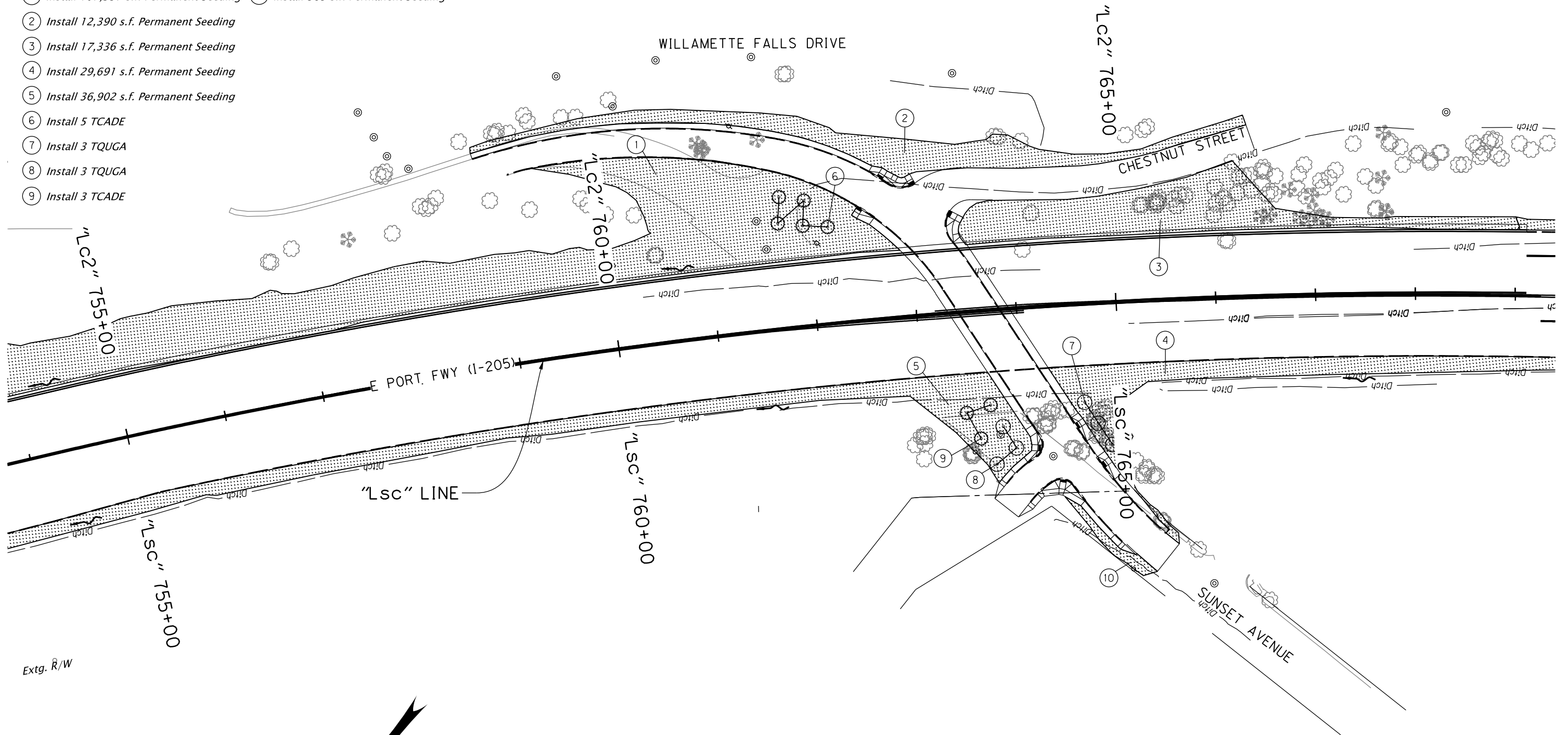
- LEGEND**
-  Permanent Seeding
 -  Water Quality Seeding
 -  Juniper Groundcover Planting
 -  Proposed Trees
 -  Existing Trees




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Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	SHEET NO. FA18

- ① Install 107,397 s.f. Permanent Seeding
- ② Install 12,390 s.f. Permanent Seeding
- ③ Install 17,336 s.f. Permanent Seeding
- ④ Install 29,691 s.f. Permanent Seeding
- ⑤ Install 36,902 s.f. Permanent Seeding
- ⑥ Install 5 TCADE
- ⑦ Install 3 TQUGA
- ⑧ Install 3 TQUGA
- ⑨ Install 3 TCADE
- ⑩ Install 985 s.f. Permanent Seeding



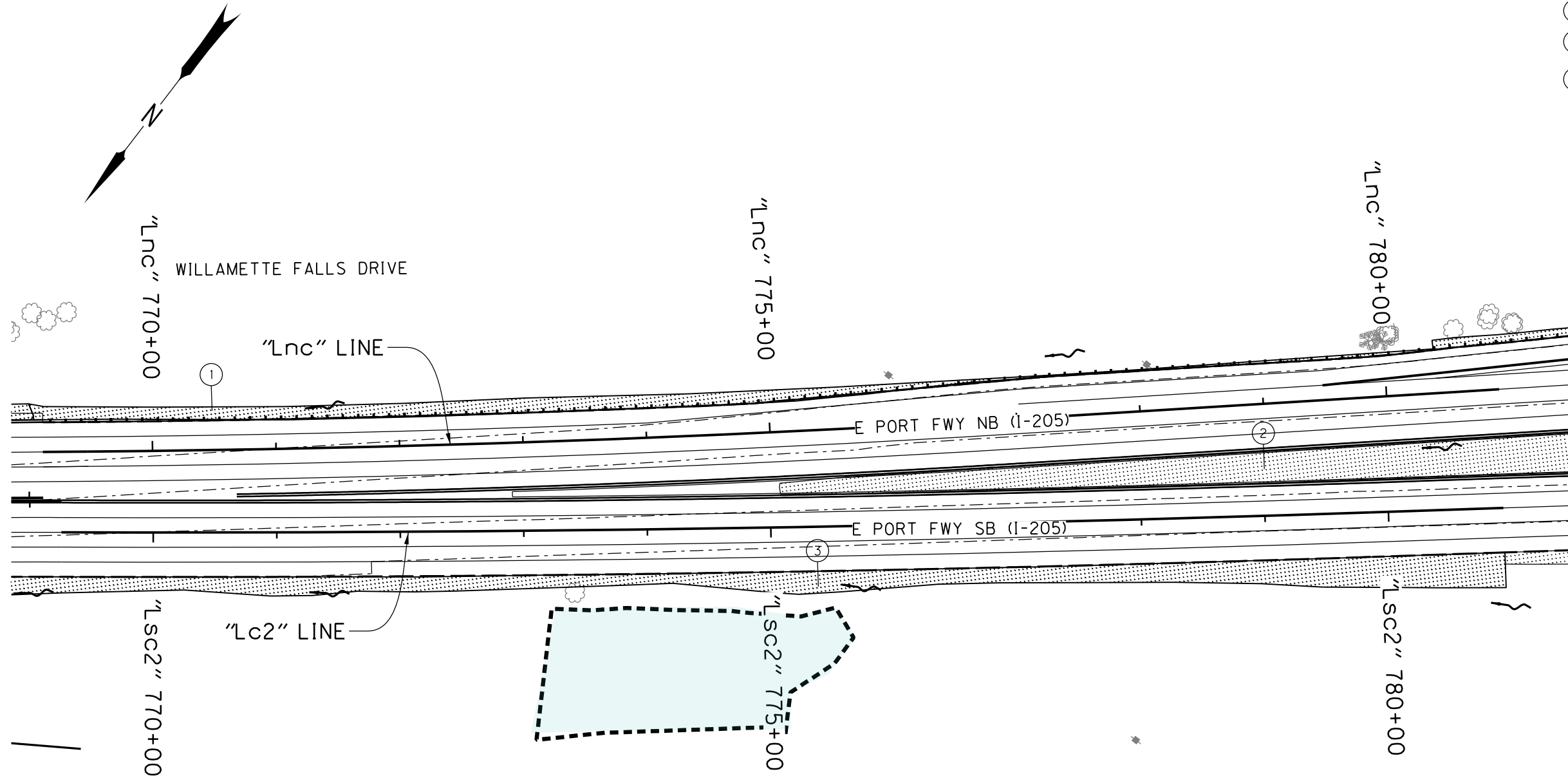
- LEGEND**
-  Permanent Seeding
 -  Proposed Trees
 -  Existing Trees

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--------------------------------------	---	---

I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	SHEET NO. FA19

- ① Install 13,860 s.f. Permanent Seeding
- ② Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ③ Total area on FA19 and FA20, shown on FA19, note 4



LEGEND

-  Permanent Seeding
-  HCA Buffer
-  Existing Trees

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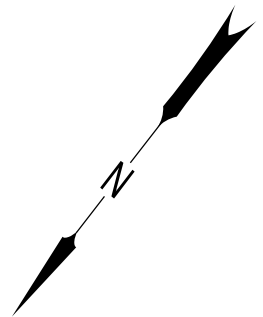
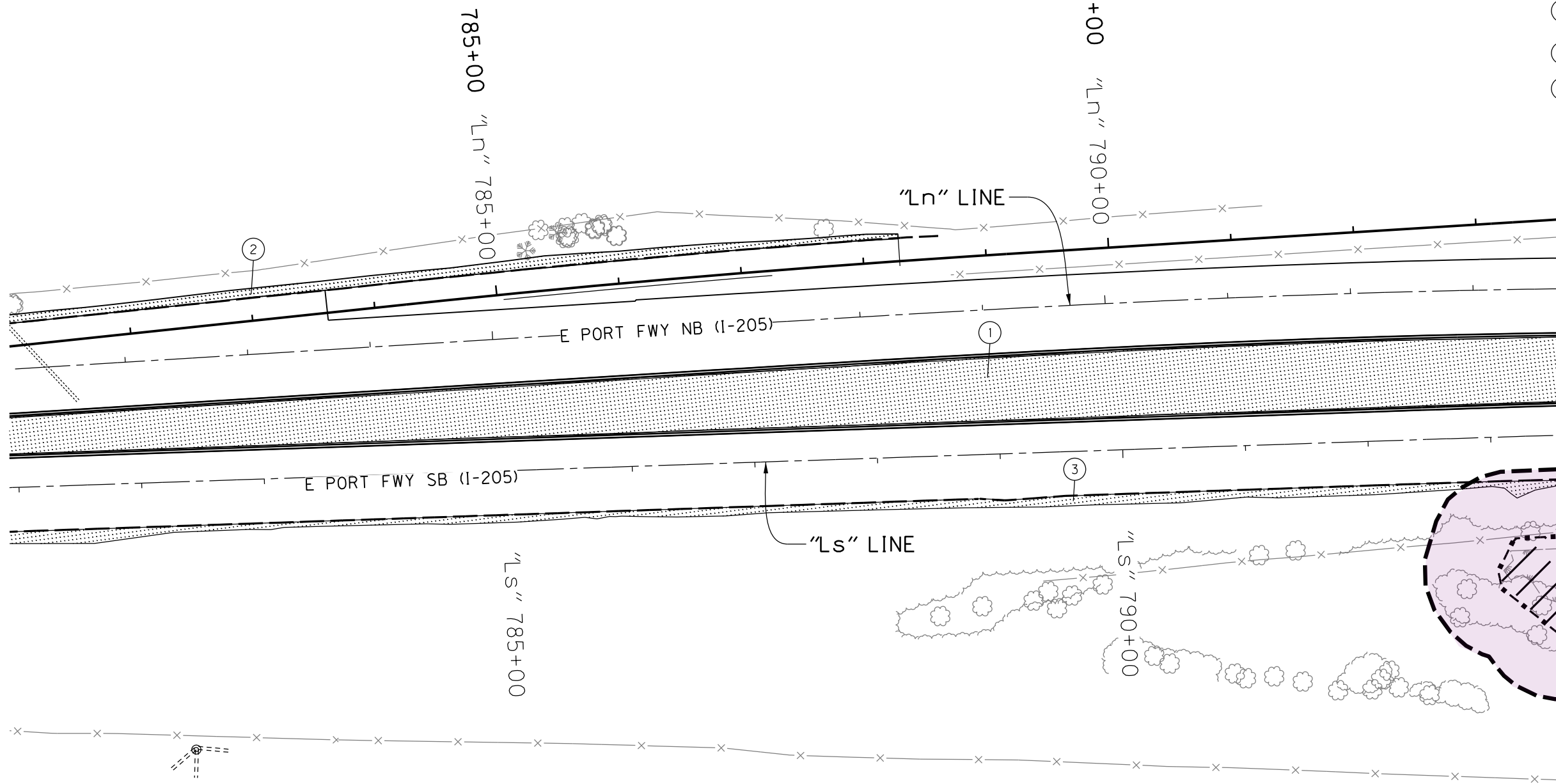
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan




ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION

SHEET NO.
FA20

- ① Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ② Total area on FA20 and FA21, shown on FA20, note 1
- ③ Install 36,248 s.f. Permanent Seeding



LEGEND

-  Permanent Seeding
-  WRA Buffer
-  Existing Trees

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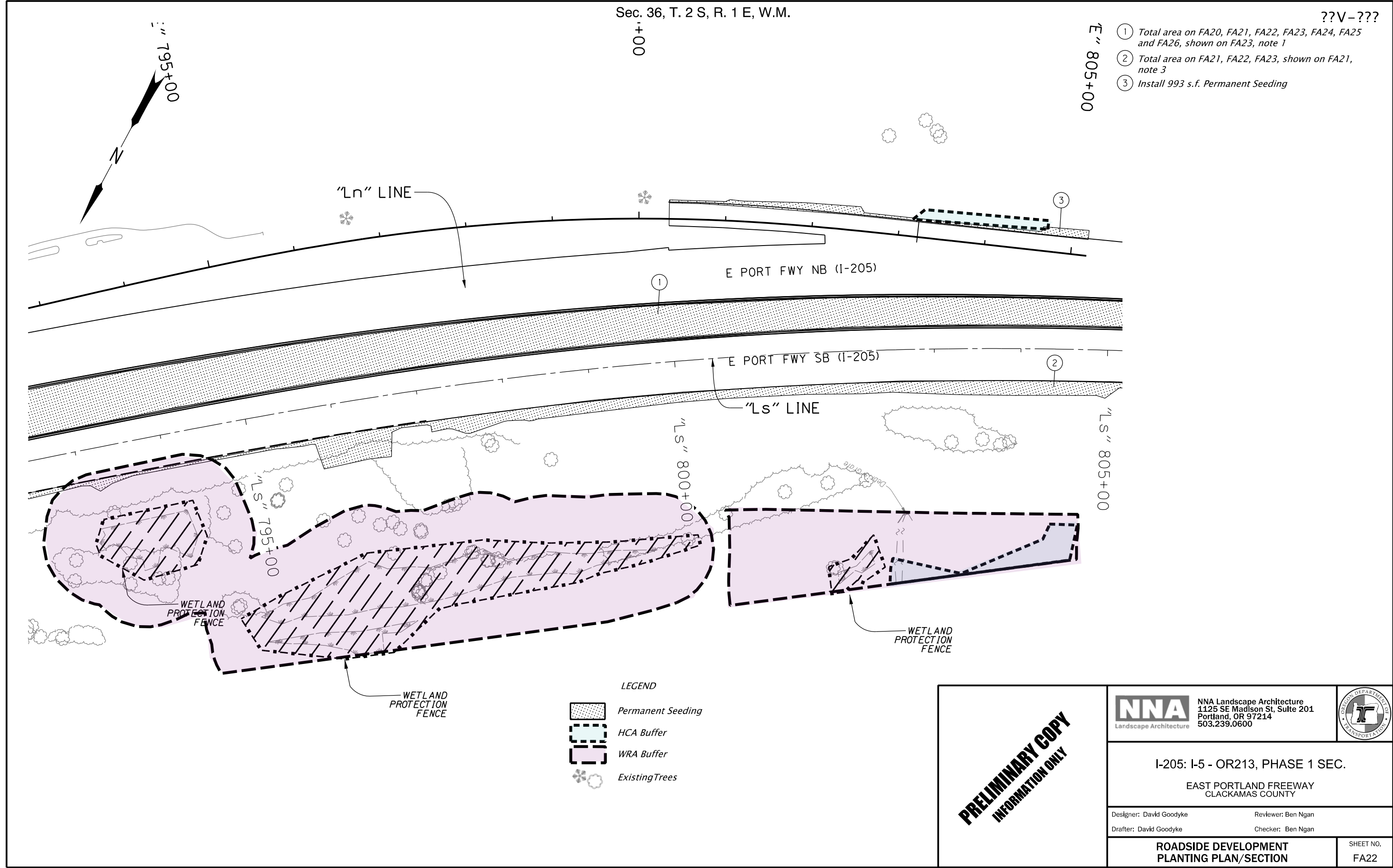
Designer: David Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION SHEET NO.
 FA21

Sec. 36, T. 2 S, R. 1 E, W.M.

??V-???

- ① Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ② Total area on FA21, FA22, FA23, shown on FA21, note 3
- ③ Install 993 s.f. Permanent Seeding

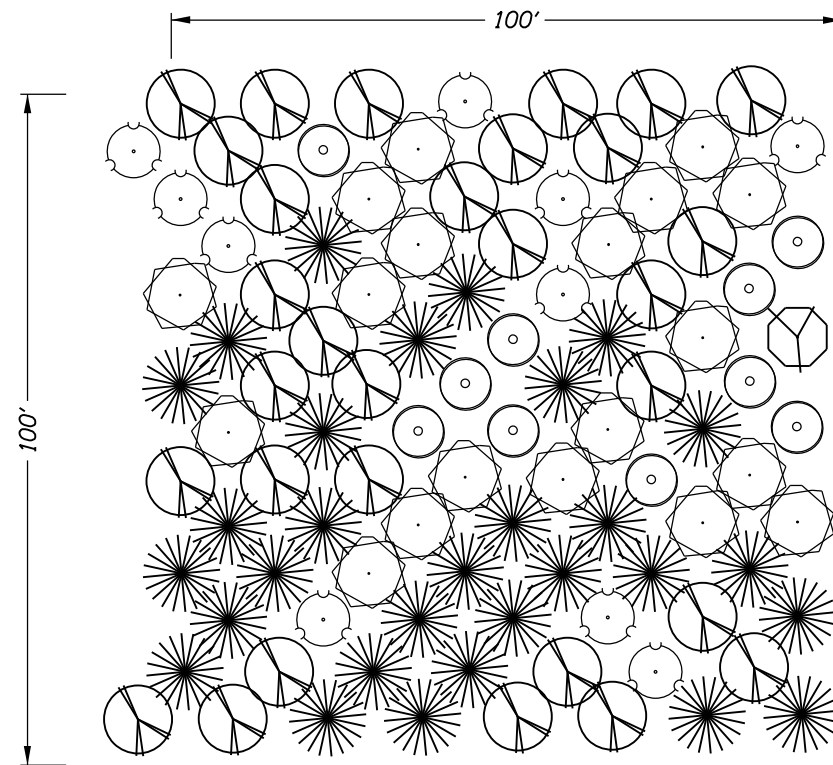


- LEGEND
- Permanent Seeding
 - HCA Buffer
 - WRA Buffer
 - Existing Trees

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Designer: David Goodyke	Reviewer: Ben Ngan
Drafter: David Goodyke	Checker: Ben Ngan
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION	
SHEET NO. FA22	








MIX D: TUALATIN HCA TREE AND SHRUB MIX

Tree	Approximate Planting Density	Planting Percentage
Large, Slow-Growing Trees		
<i>Arbutus menziesii</i>	20 stems / 10,000 s.f.	20%
<i>Pinus ponderosa var. willamettensis</i>	30 stems / 10,000 s.f.	30%
<i>Quercus garryana</i>	30 stems / 10,000 s.f.	30%
Small Trees		
<i>Salix scouleriana</i>	10 stems / 10,000 s.f.	10%
<i>Rhamnus purshiana</i>	10 stems / 10,000 s.f.	10%
Shrubs*		
<i>Amelanchier alnifolia</i>	120 stems / 10,000 s.f.	20%
<i>Mahonia aquifolium</i>	125 stems / 10,000 s.f.	25%
<i>Ribes lobbii</i>	120 stems / 10,000 s.f.	20%
<i>Rosa gymnocarpa</i>	75 stems / 10,000 s.f.	15%
<i>Symphoricarpos albus</i>	120 stems / 10,000 s.f.	20%

* Groupings required
Hatch appears on FA21, FA22, FA23, FA26, and FA27

LEGEND

- | | |
|--|---|
| <p>Large, Slow-Growing Trees</p> <ul style="list-style-type: none">  <i>Arbutus menziesii</i> (TARME), 20%  <i>Quercus garryana</i> (TQUGA), 30%  <i>Pinus ponderosa</i> (TIPO), 30% | <p>Small Trees</p> <ul style="list-style-type: none">  <i>Rhamnus purshiana</i> (TRHPU), 10%  <i>Salix scouleriana</i> (TSASC), 10% |
|--|---|

Please note, the required shrub plantings are not shown on this diagram for visual clarity.

NOTE:
Total quantity of species per sheet shown on FA04.

MIX D: TUALATIN HCA TREE AND SHRUB MIX

Not To Scale

TREE PLANTING NOTES

- 1) Install trees at an overall density of 100 trees/10,000 s.f.
- 2) Install trees at an average of 8 - 9.5' O.C. with triangular spacing
- 3) Install shrubs at an overall density of 500 shrubs/10,000 s.f.
- 4) Coordinate with Project Engineer on placement of species across site according to microclimate and topographic conditions.
- 5) Install trees in groups of up to 4 specimens per species.
- 6) Install shrubs at an average of 5' O.C. with triangular spacing, no closer than 3' O.C.. Install shrubs in groups of up to 4 specimens per species, with each group planted between 8 and 10' O.C. When planting near existing trees, the drip line of the existing tree shall be the starting point for plant spacing measurements.
- 7) Spread species throughout the given planting area to avoid monocultures, a random 10,000 s.f. sample should contain all species.
- 8) Maintain a 1' diameter plant-free area around all stems and mulch with wood chip mulch to prevent weeds.

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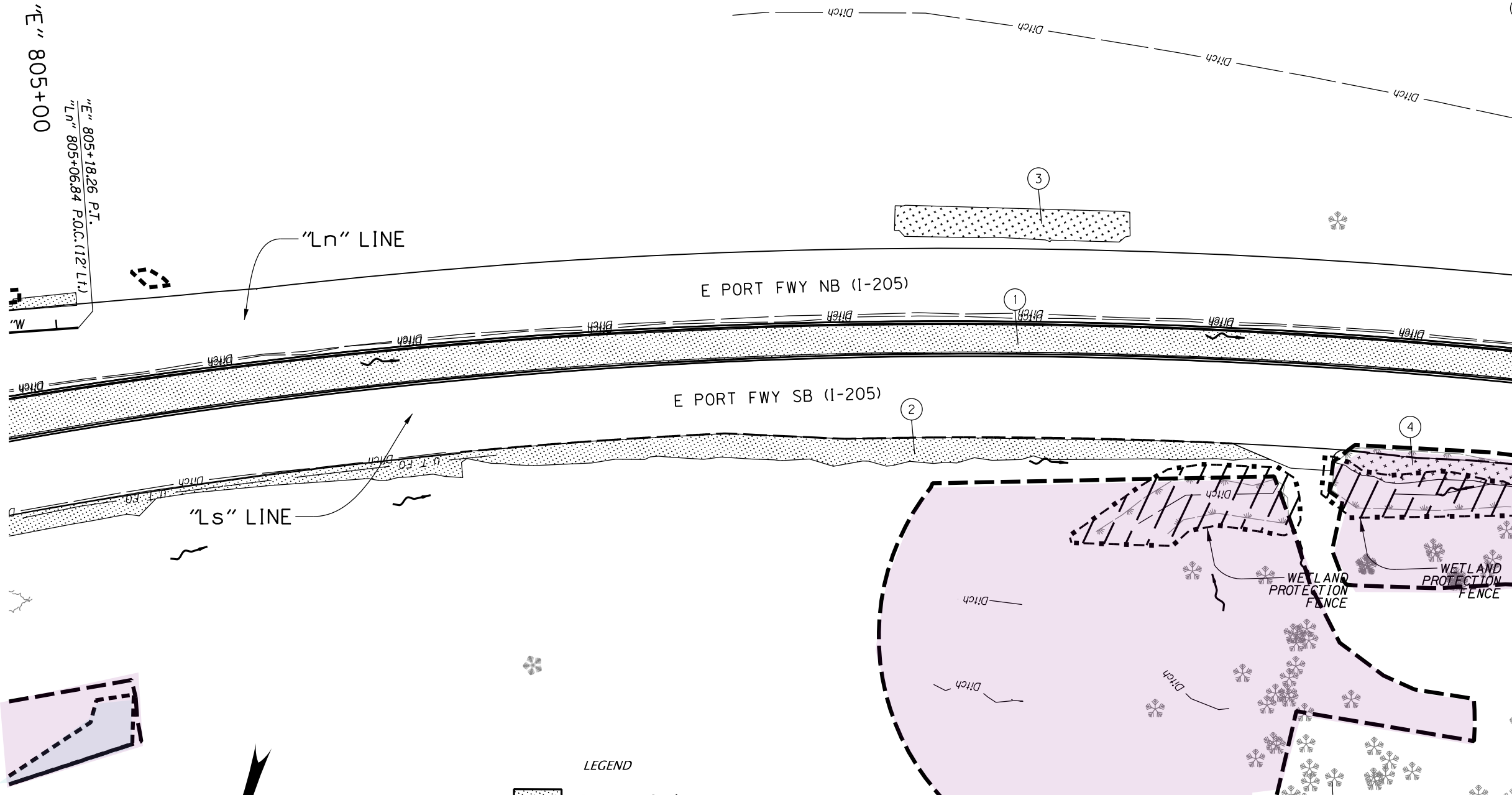


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EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan

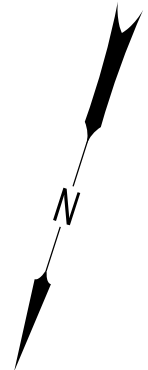
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION SHEET NO. FA22A

- ① Install 244,107 s.f. Permanent Seeding
- ② Total area on FA21, FA22, FA23, shown on FA21, note 3
- ③ Install 4,981 s.f. Wildflower Seeding
- ④ Total area on FA23, FA24, FA25, FA26, FA27, shown on FA25, note 3



LEGEND

- Permanent Seeding
- Wildflower Seeding
- HCA Buffer
- WRA Buffer
- Existing Trees



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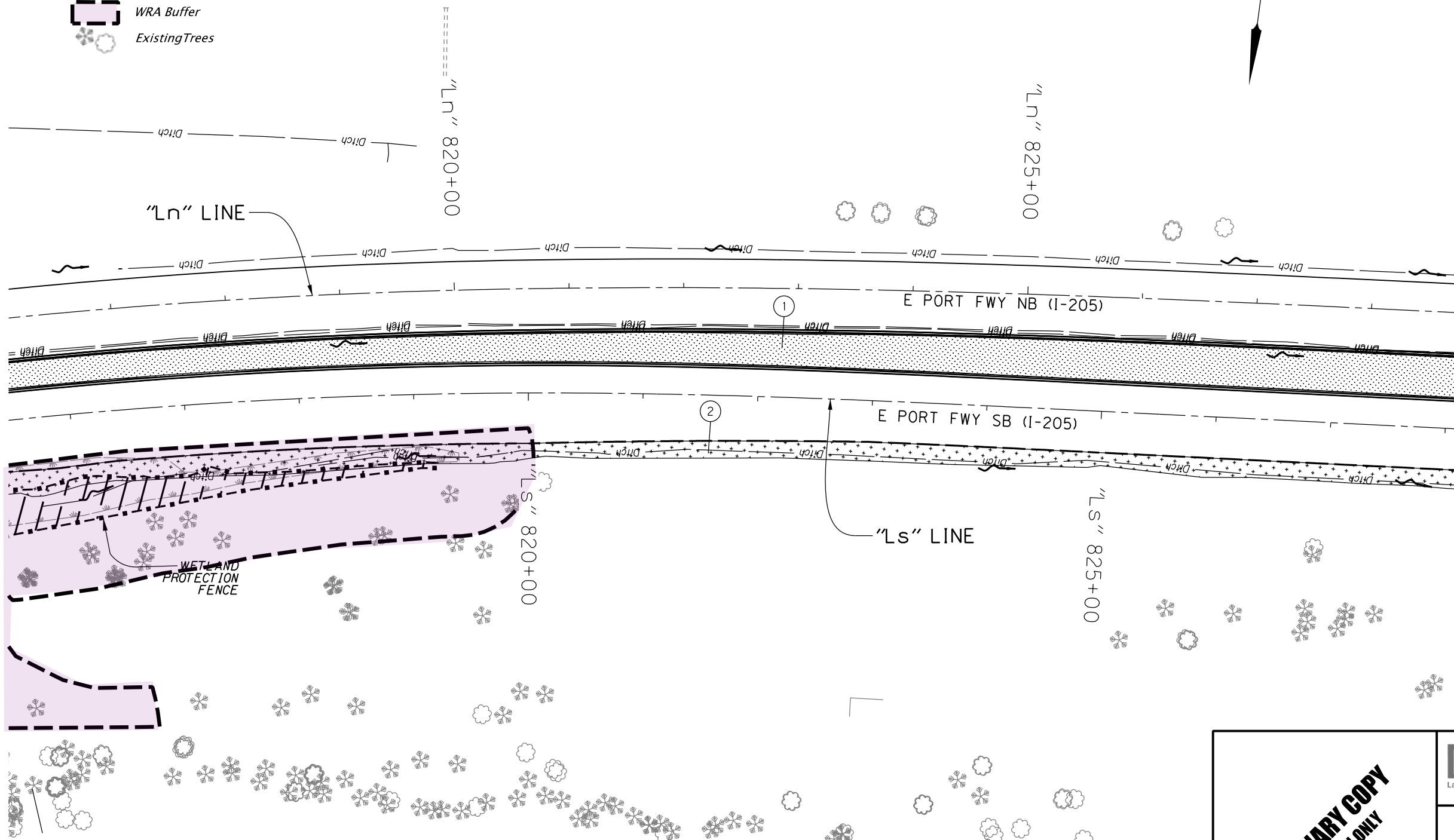
Designer: David Goodyke Reviewer: Ben Ngan
 Drafter: David Goodyke Checker: Ben Ngan

ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION SHEET NO.
 FA23

LEGEND

-  Permanent Seeding
-  Wildflower Seeding
-  WRA Buffer
-  Existing Trees

- ① Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ② Total area on FA23, FA24, FA25, FA26, FA27, shown on FA25, note 3

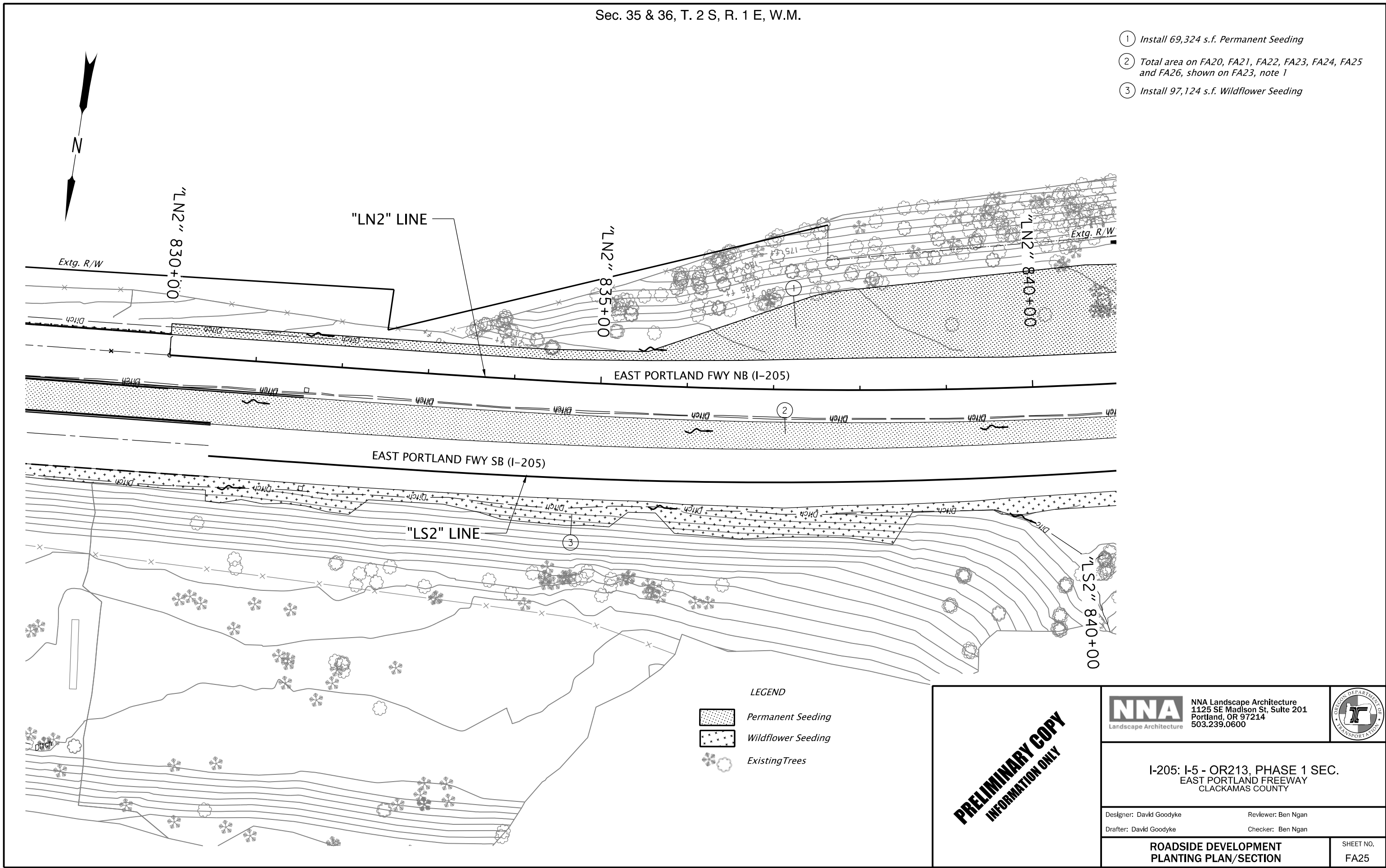


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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA24
---	---	-------------------

- ① Install 69,324 s.f. Permanent Seeding
- ② Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ③ Install 97,124 s.f. Wildflower Seeding

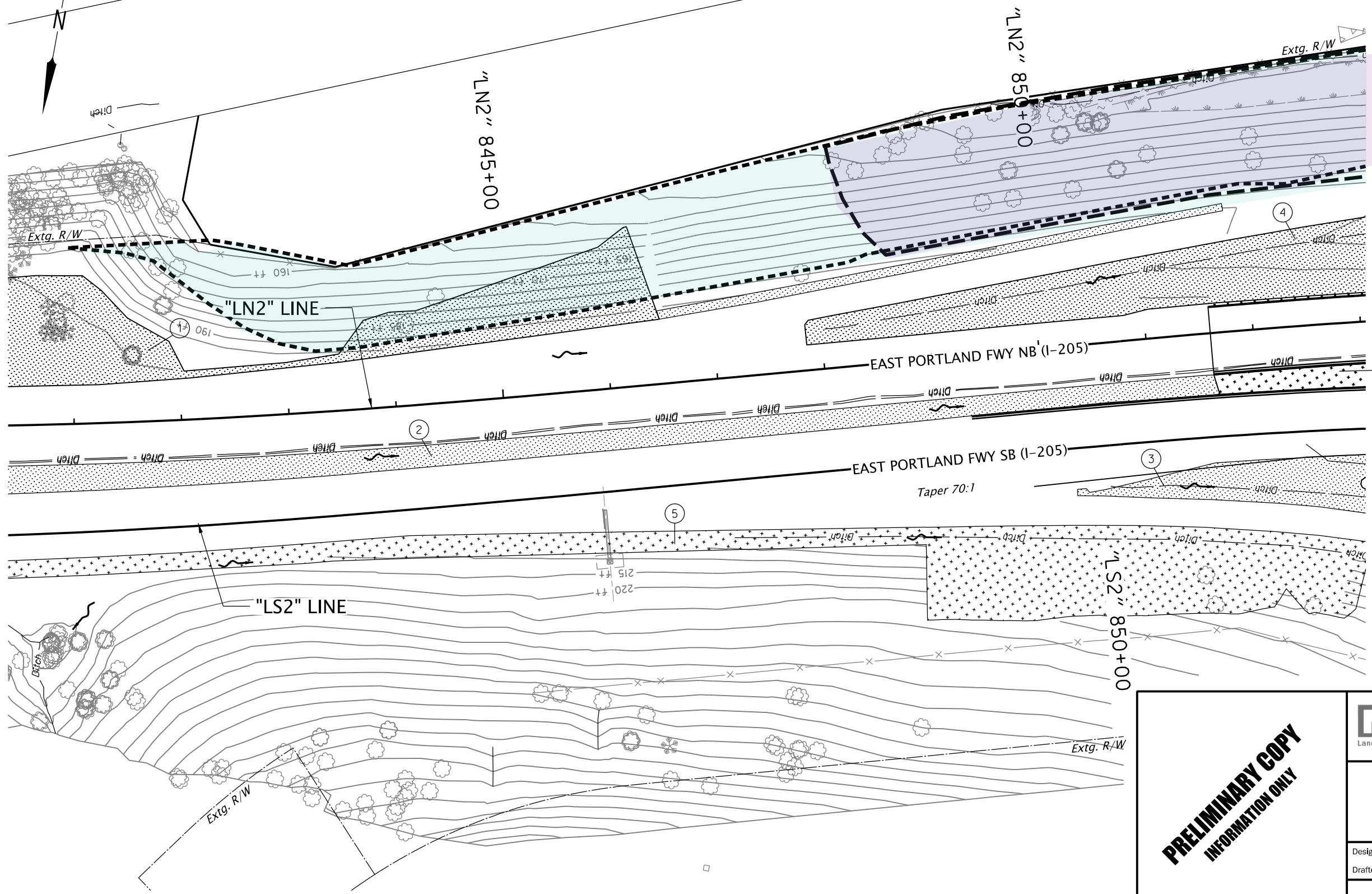
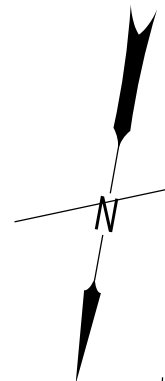


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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: David Goodyke Drafter: David Goodyke	Reviewer: Ben Ngan Checker: Ben Ngan	SHEET NO. FA25
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION		

Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE



- ① Total area on FA25 and FA26, shown on FA25, note 1
- ② Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ③ Total area on FA26 and FA27, shown on FA27, note 10
- ④ Total area on FA26 and FA27, shown on FA27, note 1
- ⑤ Total area on FA23, FA24, FA25, FA26, FA27, shown on FA25, note 3
- ⑥ Total area on FA26 and FA27, shown on FA27, note 12

LEGEND

- Permanent Seeding
- HCA Buffer
- WRA Buffer
- Wildflower Seeding
- Existing Trees

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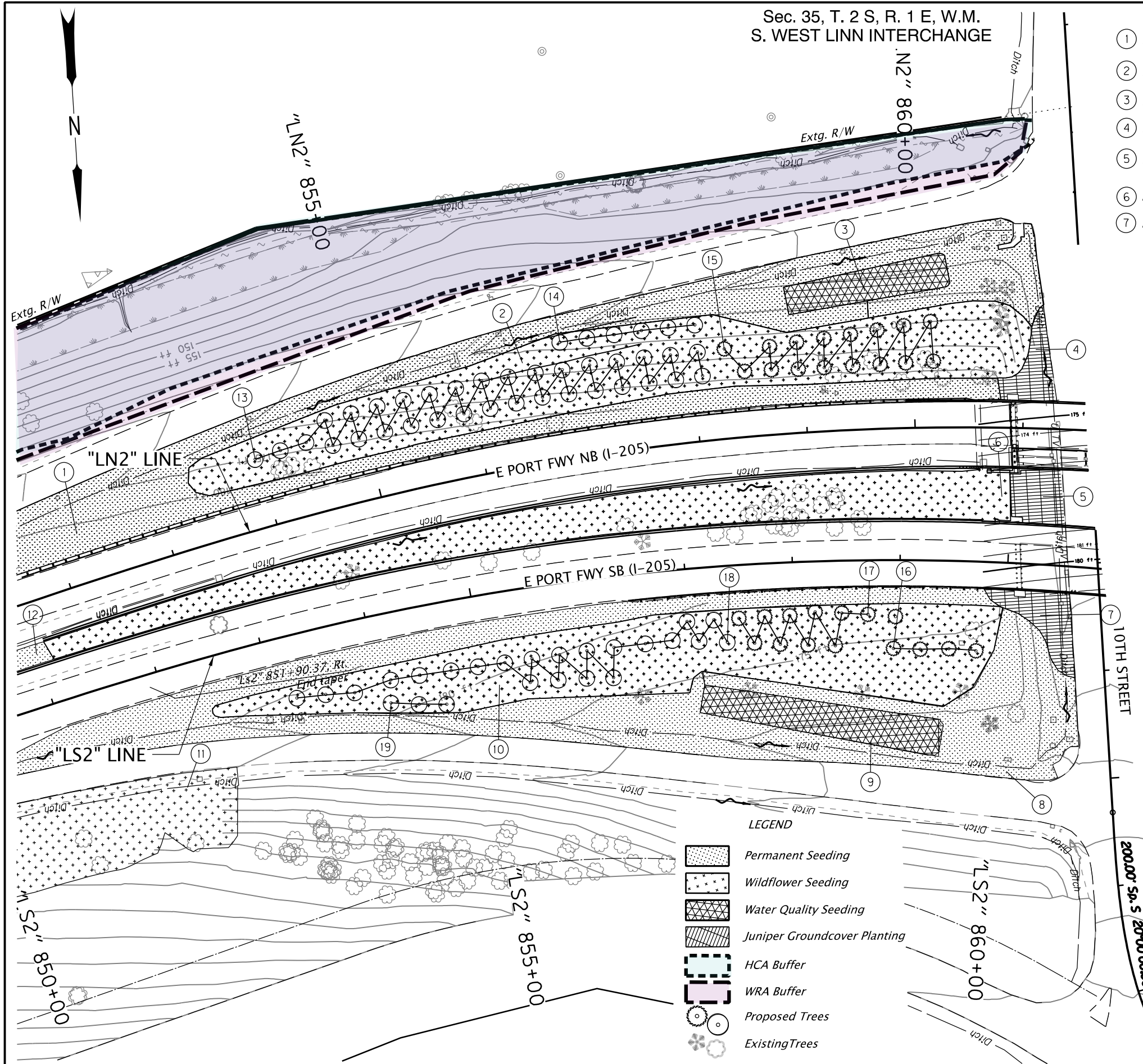


I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan

**ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION** SHEET NO.
FA26

Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE



- ① Install 65,826 s.f. Permanent Seeding
- ② Install 46,920 s.f. Wildflower Seeding
- ③ Install 4,416 s.f. Water Quality Seeding
- ④ Install 161 Juniper Groundcover Plants
- ⑤ Install 171 Juniper Groundcover Plants
- ⑥ Install 29,367 s.f. Wildflower Seeding
- ⑦ Install 211 Juniper Groundcover Plants
- ⑧ Install 57,324 s.f. Permanent Seeding
- ⑨ Install 6,788 s.f. Water Quality Seeding
- ⑩ Install 43,433 s.f. Wildflower Seeding
- ⑪ Total area on FA23, FA24, FA25, FA26, FA27, shown on FA25, note 3
- ⑫ Total area on FA20, FA21, FA22, FA23, FA24, FA25 and FA26, shown on FA23, note 1
- ⑬ Install 33 TQUGA
- ⑭ Install 6 TQUCH
- ⑮ Install 16 TPIPO
- ⑯ Install 4 TPIPO
- ⑰ Install 10 TPIPO
- ⑱ Install 22 TQUGA
- ⑲ Install 3 TQUCH

LEGEND

- Permanent Seeding
- Wildflower Seeding
- Water Quality Seeding
- Juniper Groundcover Planting
- HCA Buffer
- WRA Buffer
- Proposed Trees
- Existing Trees

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CLACKAMAS COUNTY













Designer: David Goodyke Reviewer: Ben Ngan
Drafter: David Goodyke Checker: Ben Ngan

**ROADSIDE DEVELOPMENT
PLANTING PLAN/SECTION** SHEET NO.
FA27



Attachment X. Signing Plan

LEGEND

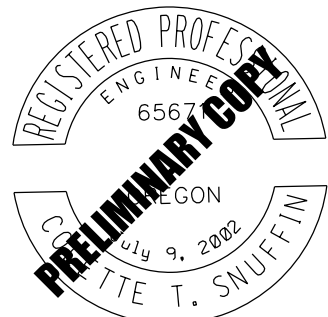


-  Install new sign (N)
-  Install new sign (N) on new (M) sign support
-  Maintain and protect existing sign (N) and support
-  Remove and save existing sign (N)
-  Remove and save existing sign (N) and remove (M) sign support
-  Reinstall existing sign (N)
-  Reinstall existing sign (N) on new (M) sign support
-  Remove existing sign (N) and (M) sign support
-  Remove existing sign (N)
-  Modify existing sign (N) as shown on plans
-  Variable Message Sign. See ITS Plans.
-  Existing Variable Advisory Speed Sign

N = Sign Number

M = Material

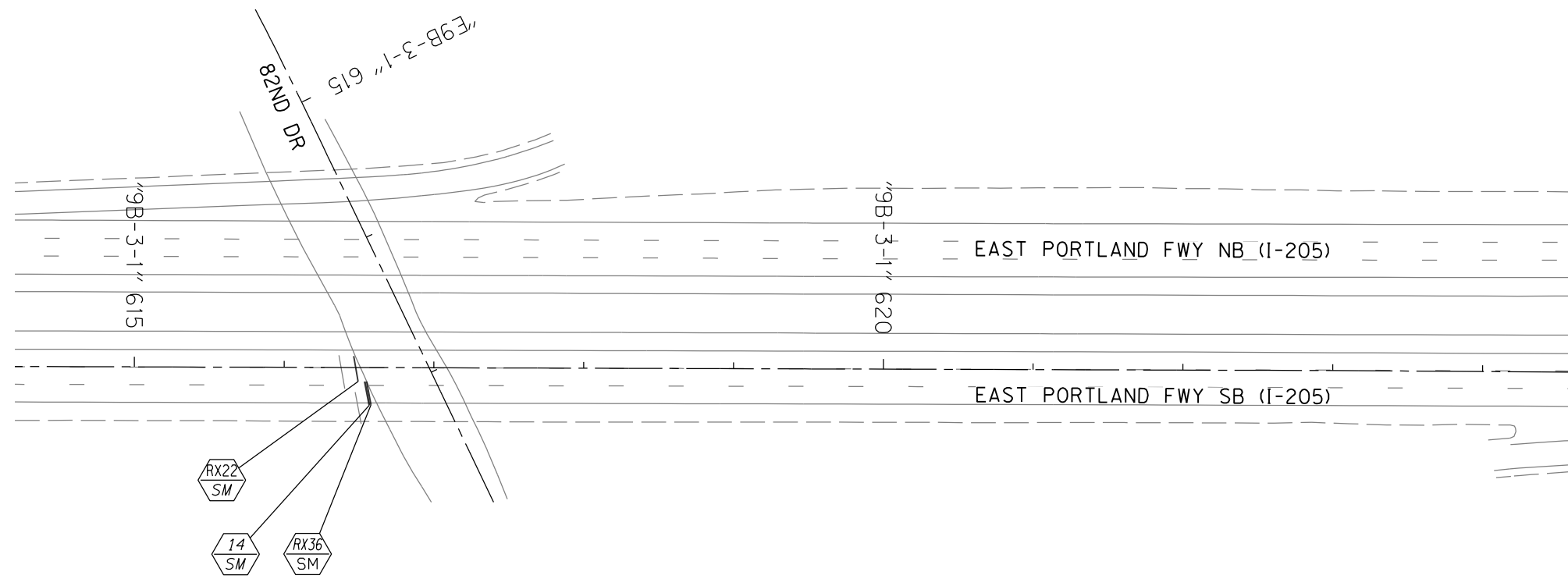
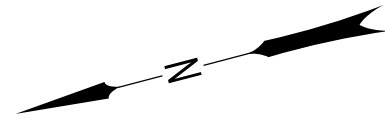
Material options:

- W = Wood Post
- S = Steel Breakaway Support (TBB or MPB)
- P = Round Pipe Support
- SM = Structure Mount
- C = Cantilever
- SB = Sign Bridge
- MP = Milepost Marker Post
- SSC = Stainless Steel Clamp
- BR = Bridge Rail Mount
- ST = Perforated Steel Square Tube Sign Support
- VM = Vertical Sign Mount

		 <p>HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700</p>	
		<p>I-205: I-5 - OR213, PHASE 1 SEC.</p> <p>EAST PORTLAND FREEWAY CLACKAMAS COUNTY</p>	
		<p>Designer: Colina Lieu Reviewer: Simon Eng</p> <p>Drafter: Colina Lieu Checker: Colette Snuffin</p>	
		<p>PERMANENT SIGNING</p>	<p>SHEET NO. LA01</p>

HWY: 064
M.P.: 11.06-10.89
TRS
00000
DFI/TSSU NO.
N/A

Expires June 30, 2020



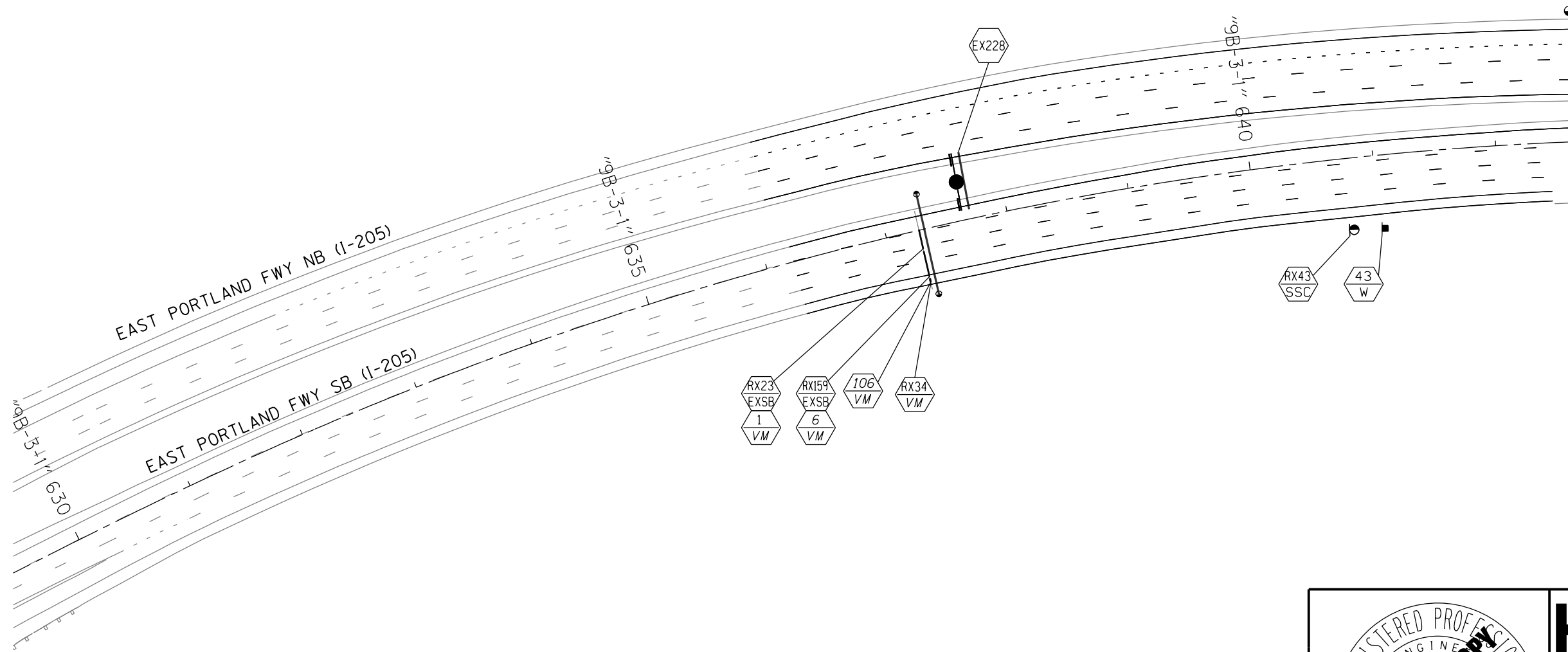
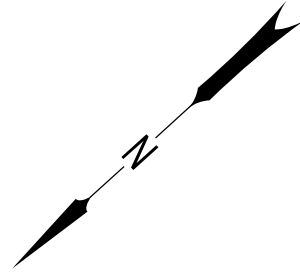
NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 11.06-10.89
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
 OREGON
 COLETTE T. SNUFFIN
 July 9, 2020
PRELIMINARY COPY
 Expires June 30, 2020

 HDR HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA02



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 10.81-10.58
TRS 00000
DFI/TSSU NO. N/A

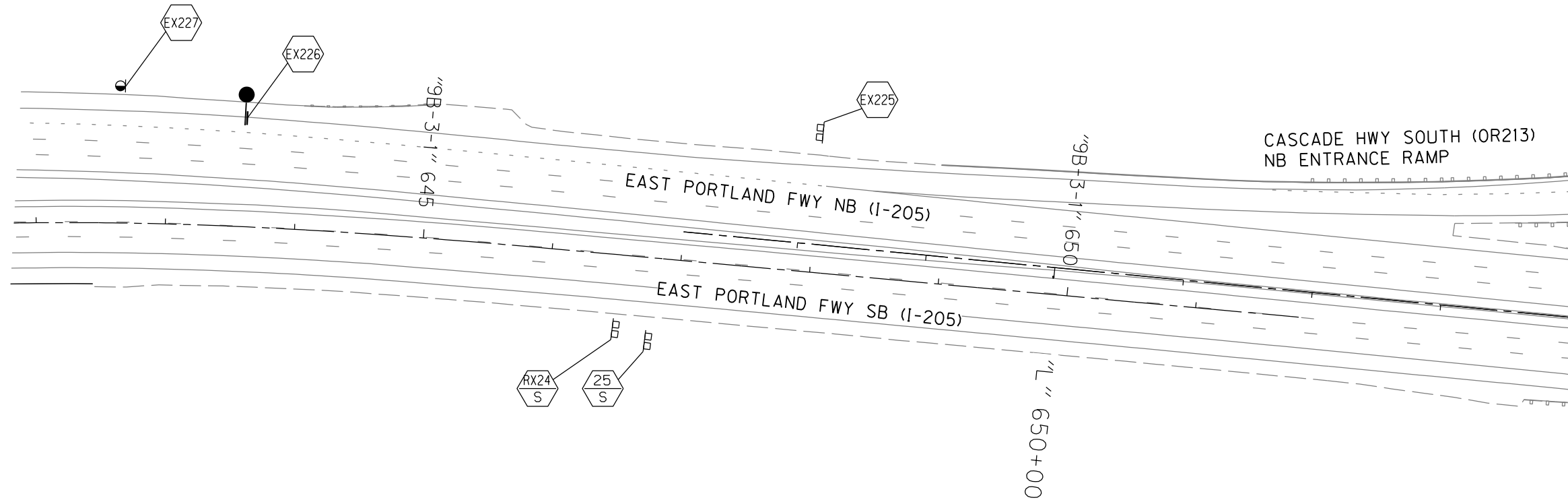
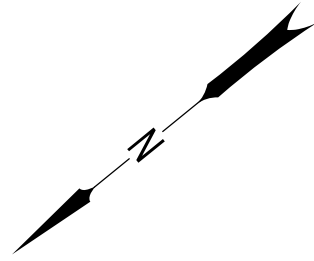
REGISTERED PROFESSIONAL ENGINEER
 6566
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 DATE 9, 2020
 T. SNUFFIN
 Expires June 30, 2020

HDR HDR ENGINEERING, INC
 1001 SW 5TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA03

Sec. 30, T. 2 S, R. 2 E, W.M.

SIGNING PLAN
I-205 M.P. 10.58 TO M.P. 10.36
STA "9B-3-1" 642+00 TO
"L" 653+50



NOTE:
Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
The locations of sign installations shown are approx. with exact locations to be determined in the field.

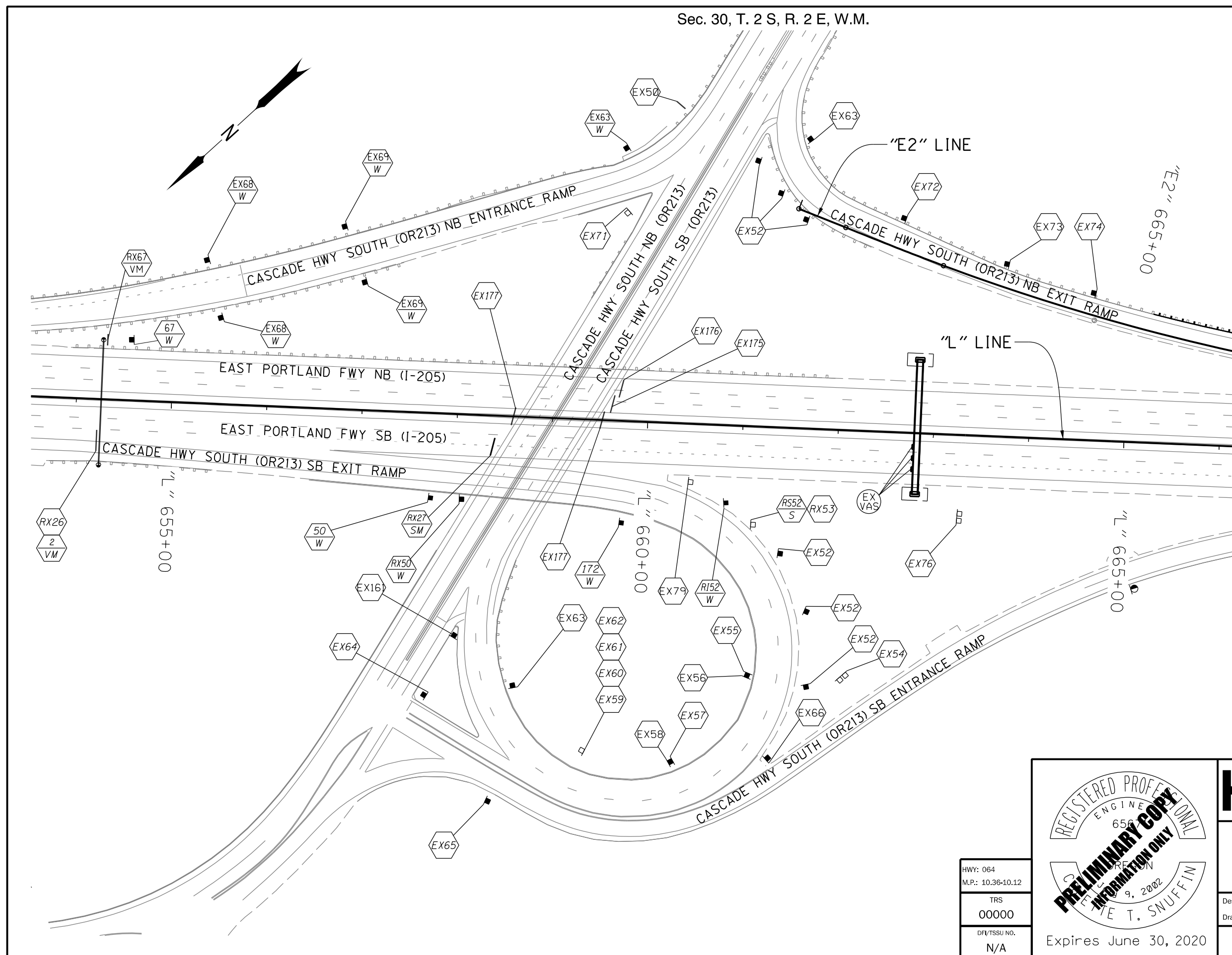
HWY: 064
M.P.: 10.81-10.58
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
656
STATE OF OREGON
JUL 9, 2002
T. SNUFFIN
Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Reviewer: Simon Eng Drafter: Colina Lieu Checker: Colette Snuffin		SHEET NO. LA04
PERMANENT SIGNING		

Sec. 30, T. 2 S, R. 2 E, W.M.

SIGNING PLAN
I-205 M.P. 10.36 TO M.P. 10.12
STA "L" 653+50 TO "L" 665+65



NOTE:
Existing signs not shown are to remain in place unless otherwise directed by the Engineer.
NOTE:
The locations of sign installations shown are approx. with exact locations to be determined in the field.

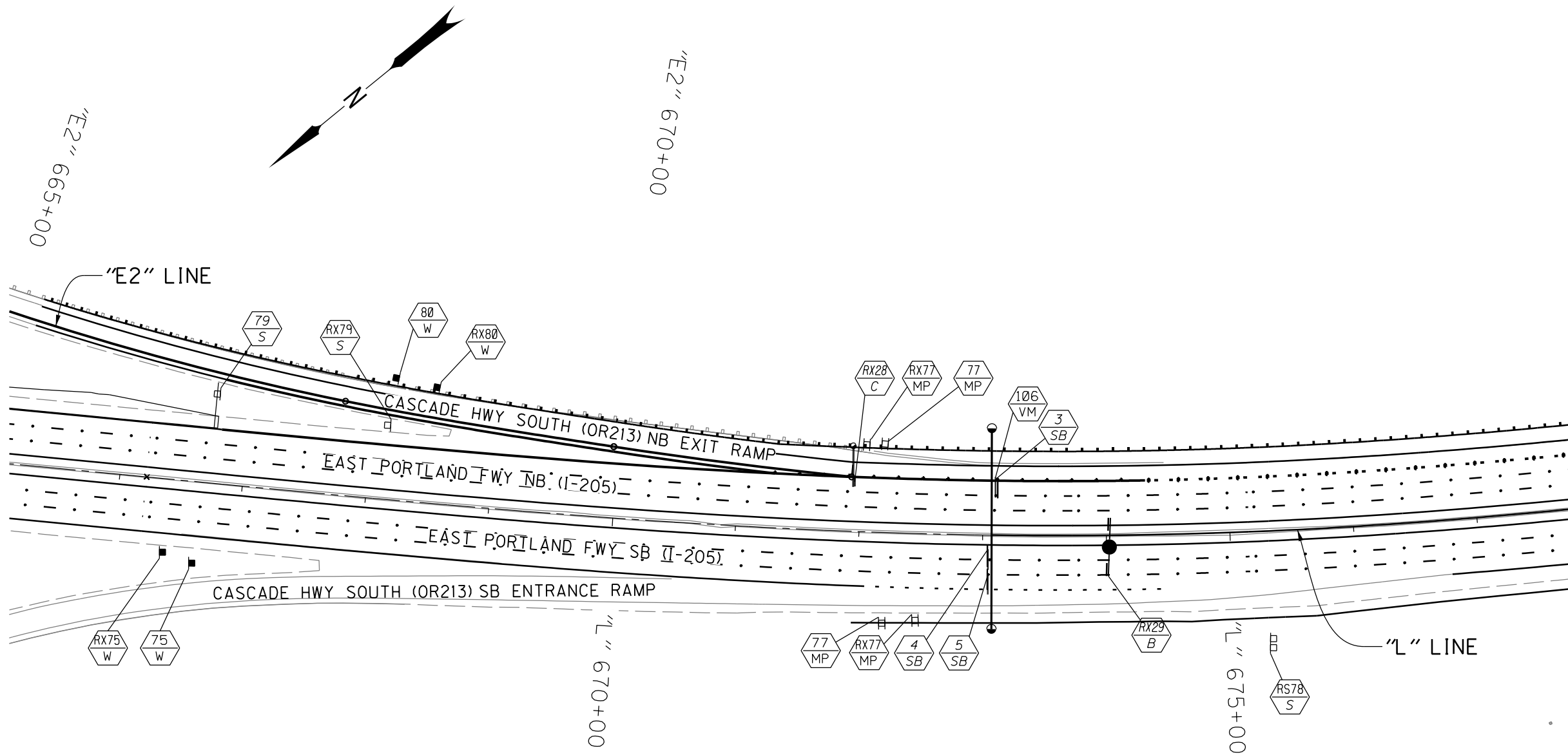
REGISTERED PROFESSIONAL ENGINEER
656
PRELIMINARY COPY
INFORMATION ONLY
DATE 9, 2002
T. SNUFFIN

HWY: 064
M.P.: 10.36-10.12
TRS 00000
DFI/TSSU NO. N/A

HDR HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA05

Expires June 30, 2020

SIGNING PLAN
 I-205 M.P. 10.12 TO M.P. 9.86
 STA "L" 665+65 TO "L" 677+25



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 10.12-9.86
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
 6567
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 INFORMATION ONLY
 9, 2002
 T. SNUFFIN
 Expires June 30, 2020

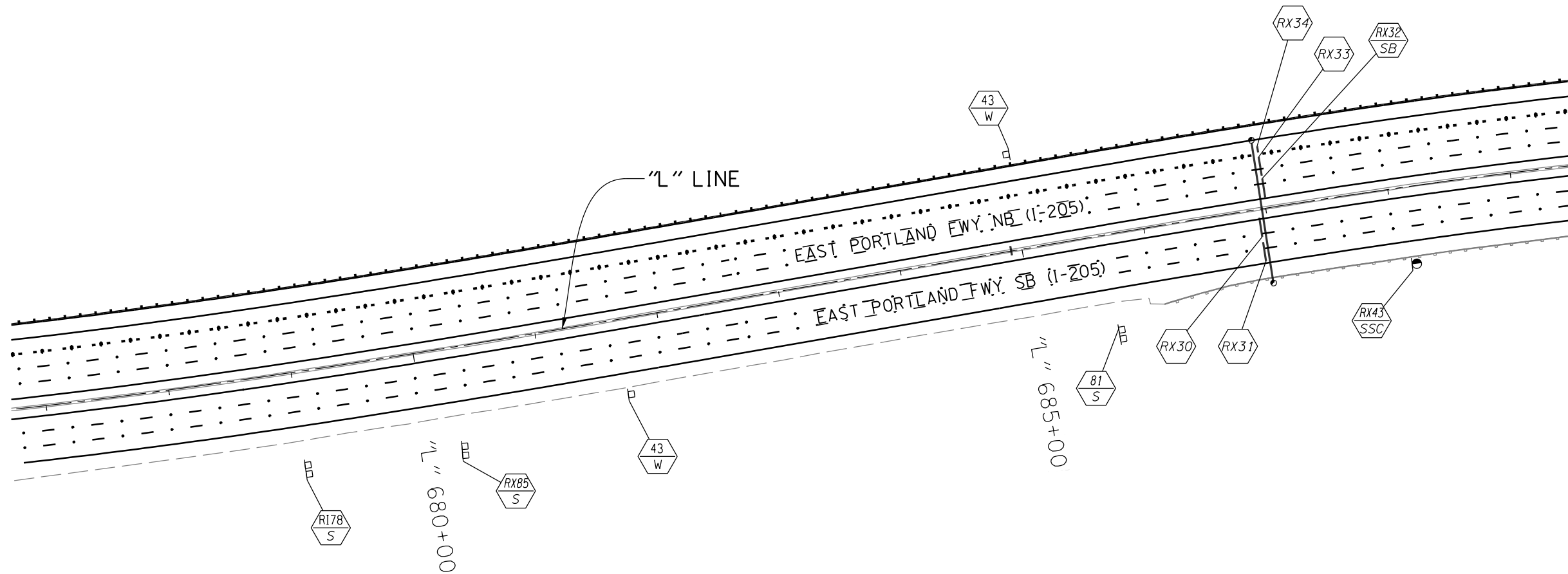
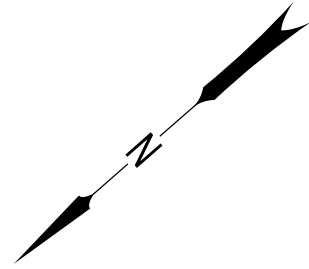
HDR HDR ENGINEERING, INC
 1001 SW 5TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Colina Lieu Reviewer: Simon Eng
 Drafter: Colina Lieu Checker: Colette Snuffin

PERMANENT SIGNING SHEET NO. LA06

SIGNING PLAN
 I-205 M.P. 9.86 TO M.P. 9.67
 STA "L" 677+25 TO "L" 689+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

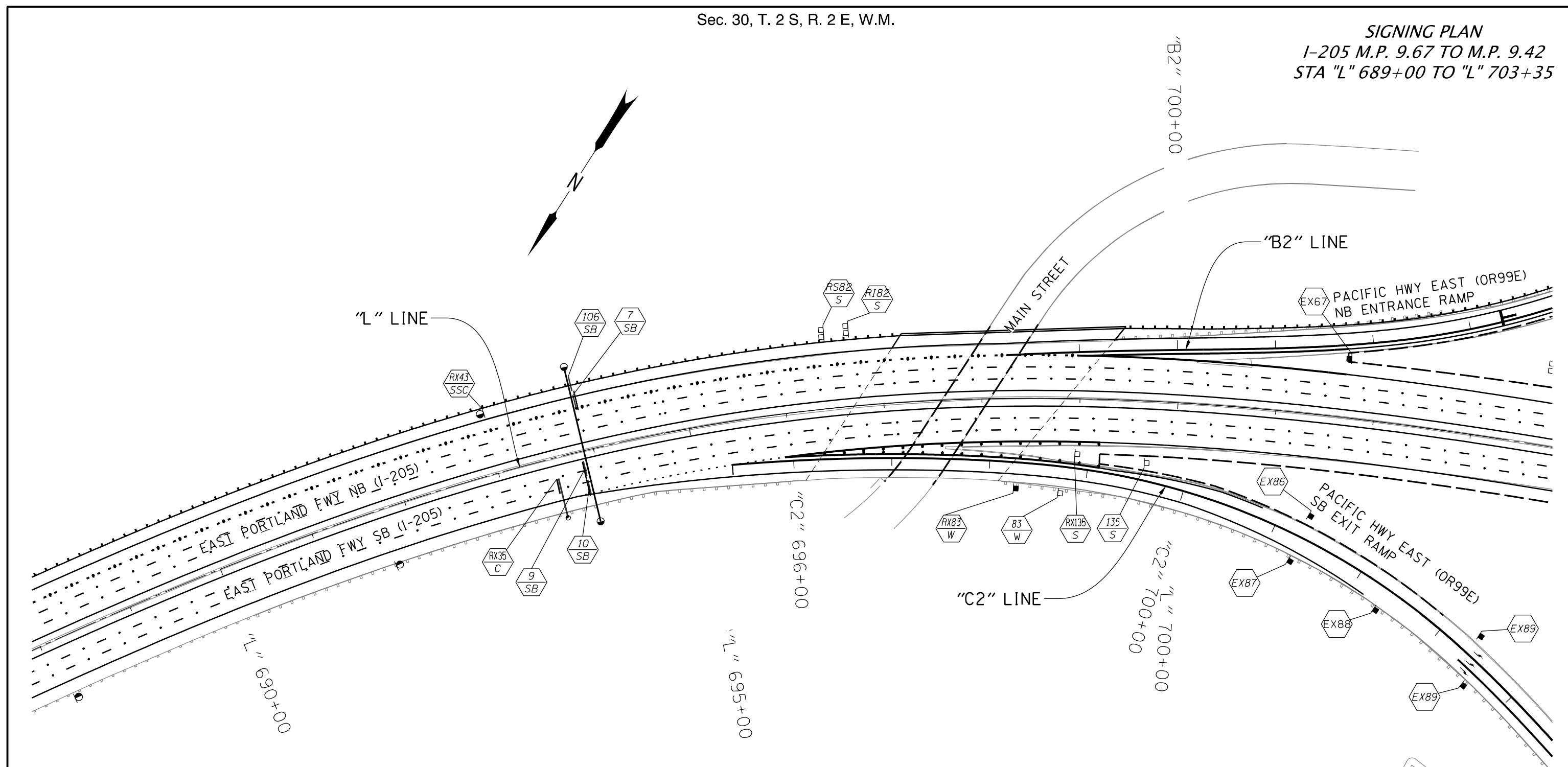
NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 9.86-9.67
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
 656
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 THE T. SNUFFIN
 Expires June 30, 2020

HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	OREGON DEPARTMENT OF TRANSPORTATION
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	
SHEET NO. LA07	

SIGNING PLAN
 I-205 M.P. 9.67 TO M.P. 9.42
 STA "L" 689+00 TO "L" 703+35



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

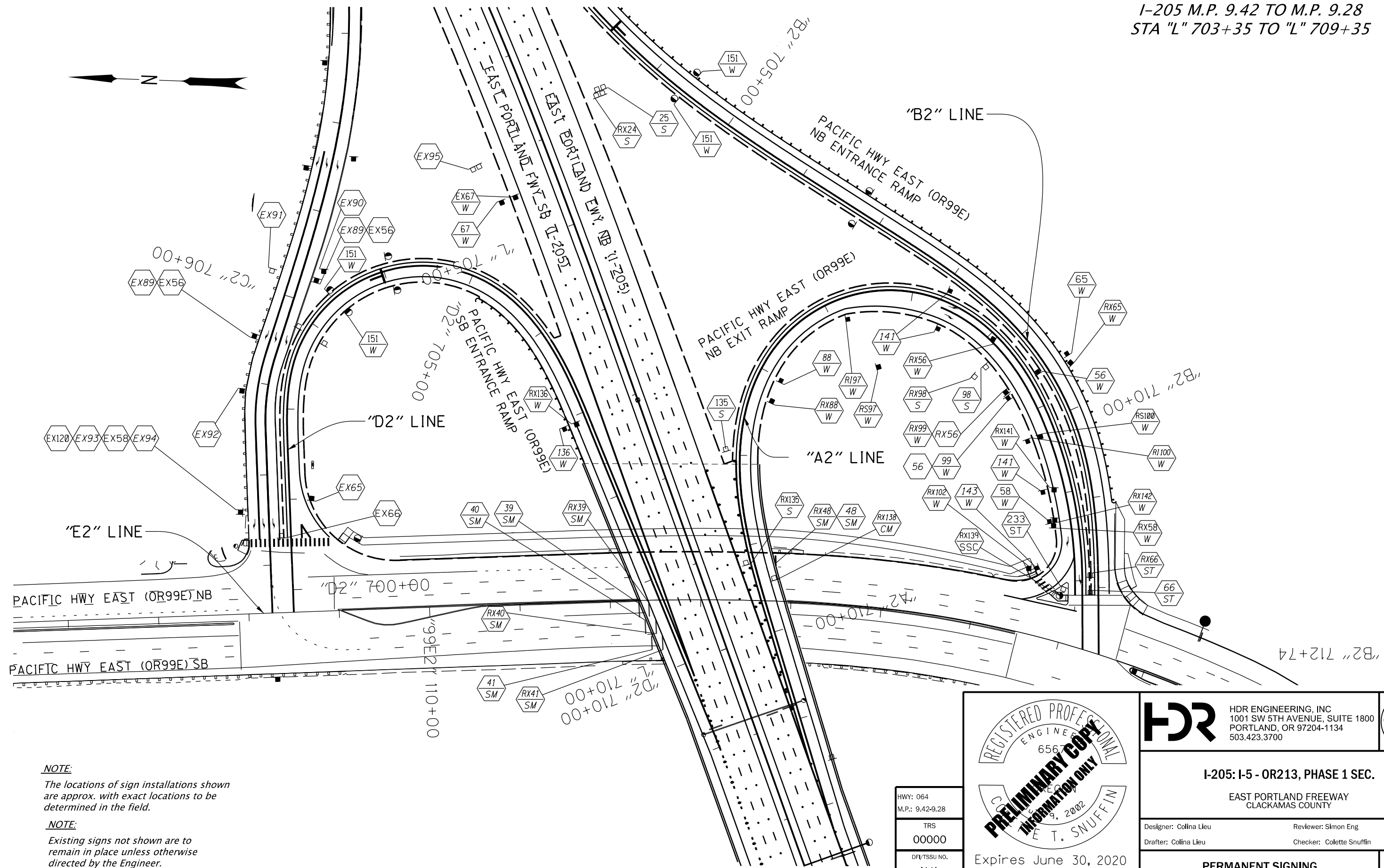
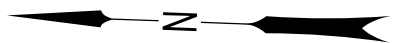
HWY: 064
M.P.: 9.67-9.42
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
 656
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 THE T. SNUFFIN
 Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700		
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	PERMANENT SIGNING	
			SHEET NO. LA08

Sec. 30, T. 2 S, R. 2 E, W.M.

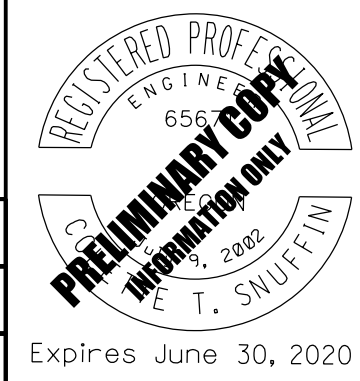
SIGNING PLAN
I-205 M.P. 9.42 TO M.P. 9.28
STA "L" 703+35 TO "L" 709+35



NOTE:
The locations of sign installations shown are approx. with exact locations to be determined in the field.

NOTE:
Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

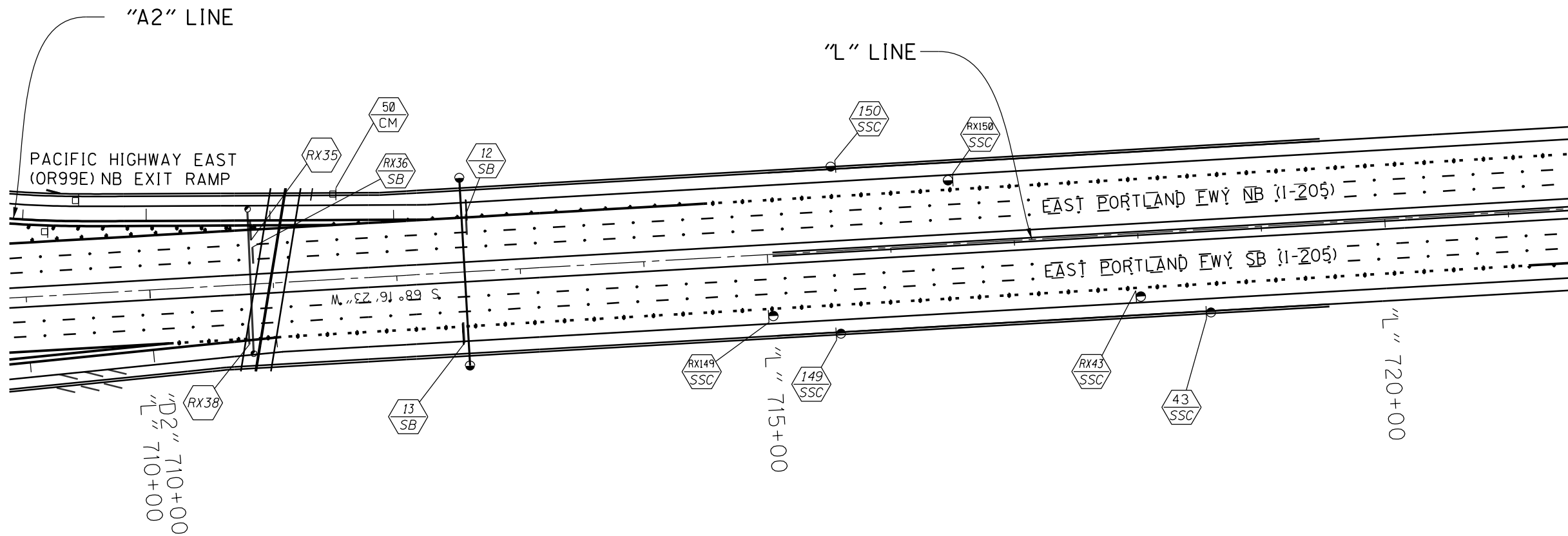
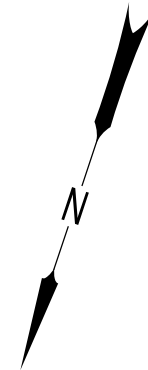
HWY: 064
M.P.: 9.42-9.28
TRS 00000
DFI/TSSU NO. N/A



HDR	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA09

SIGNING PLAN
 I-205 M.P. 9.28 TO M.P. 9.06
 STA "L" 709+35 TO "L" 723+45



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

REGISTERED PROFESSIONAL ENGINEER
 655
 STATE OF OREGON
 JUL 9, 2002
 T. SNUFFIN
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 Expires June 30, 2020

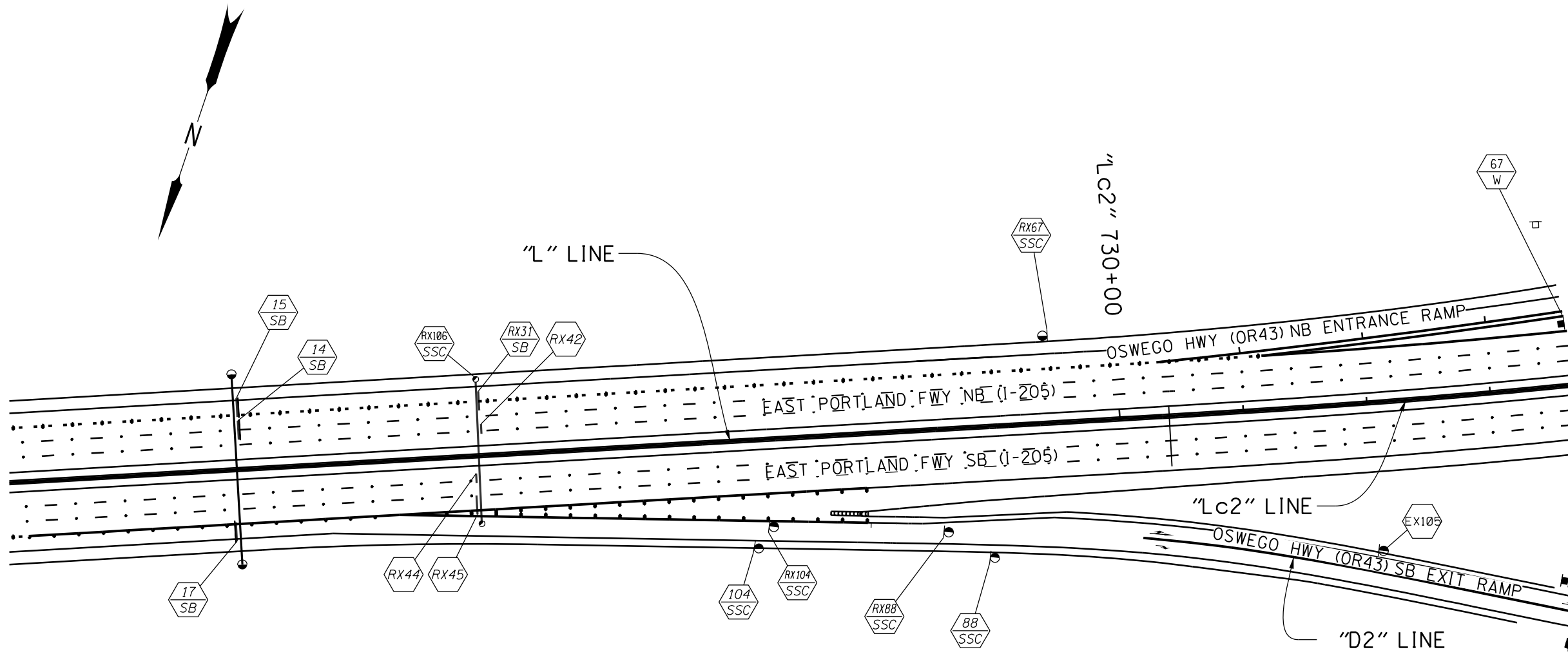
HWY: 064
M.P.: 9.28-9.06
TRS 00000
DFI/TSSU NO. N/A

HDR HDR ENGINEERING, INC
 1001 SW 5TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA10

SIGNING PLAN
 I-205 M.P. 9.06 TO M.P. 8.87
 STA "L" 723+45 TO "L" 733+15



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

REGISTERED PROFESSIONAL ENGINEER
 6560
 THE T. SNUFFIN
 9, 2002
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 Expires June 30, 2020

HWY: 064
M.P.: 9.06-8.87
TRS 00000
DFI/TSSU NO. N/A

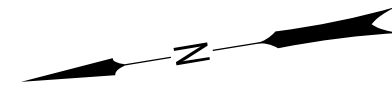
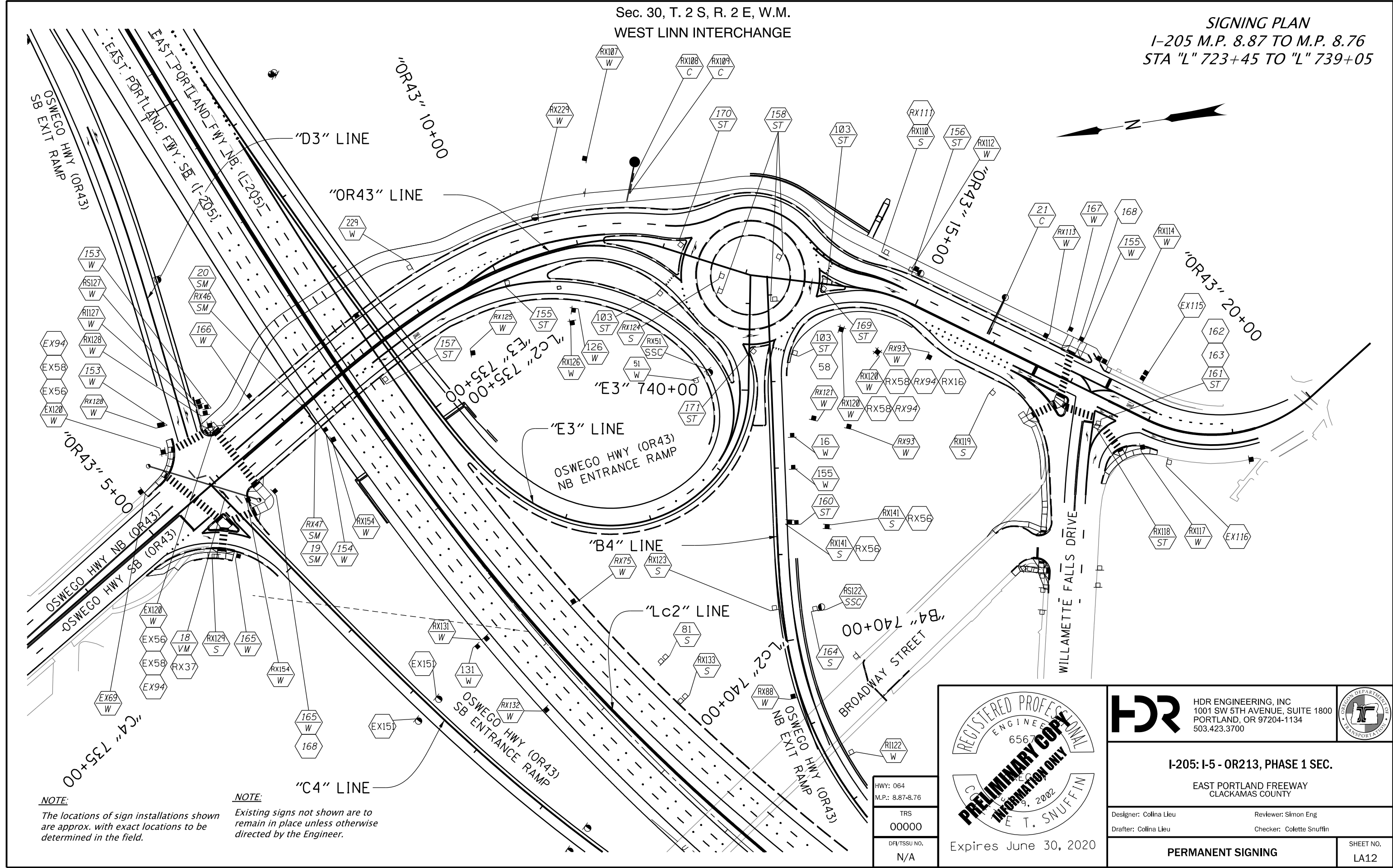
HDR HDR ENGINEERING, INC
 1001 SW 5TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	SHEET NO. LA11

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE

SIGNING PLAN
I-205 M.P. 8.87 TO M.P. 8.76
STA "L" 723+45 TO "L" 739+05



NOTE:
The locations of sign installations shown are approx. with exact locations to be determined in the field.

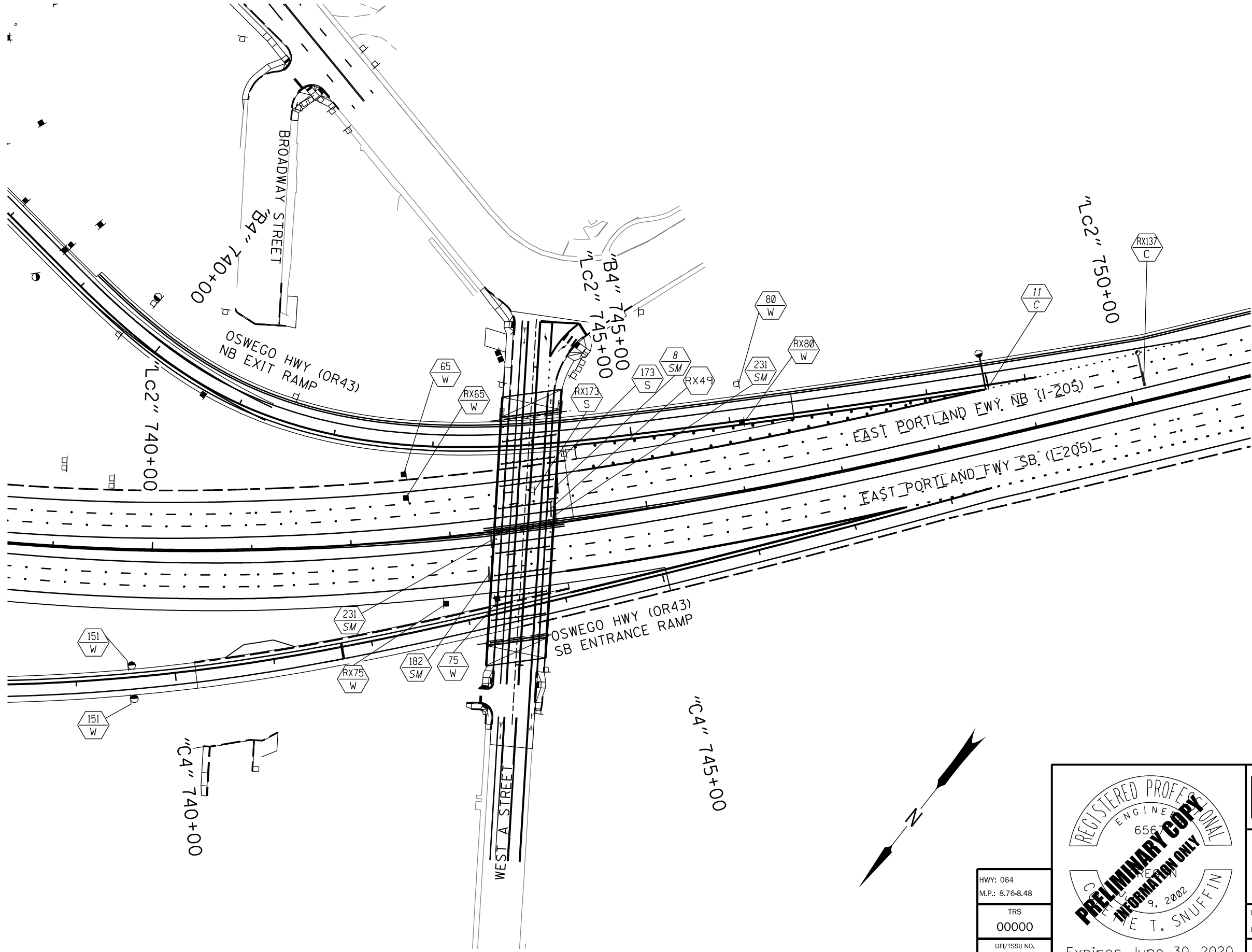
NOTE:
Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

HWY: 064
M.P.: 8.87-8.76
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
6567
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INFORMATION ONLY
E. T. SNUFFIN
Expires June 30, 2020

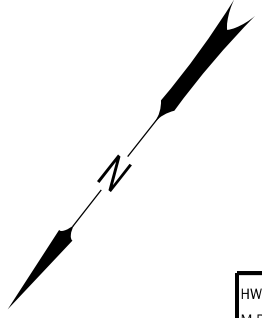
	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700		
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	PERMANENT SIGNING	SHEET NO. LA12

SIGNING PLAN
 I-205 M.P. 8.76 TO M.P. 8.48
 STA "L" 739+05 TO "L" 753+80

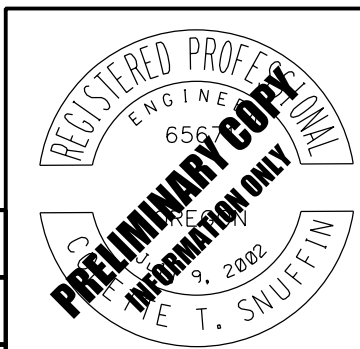


NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.



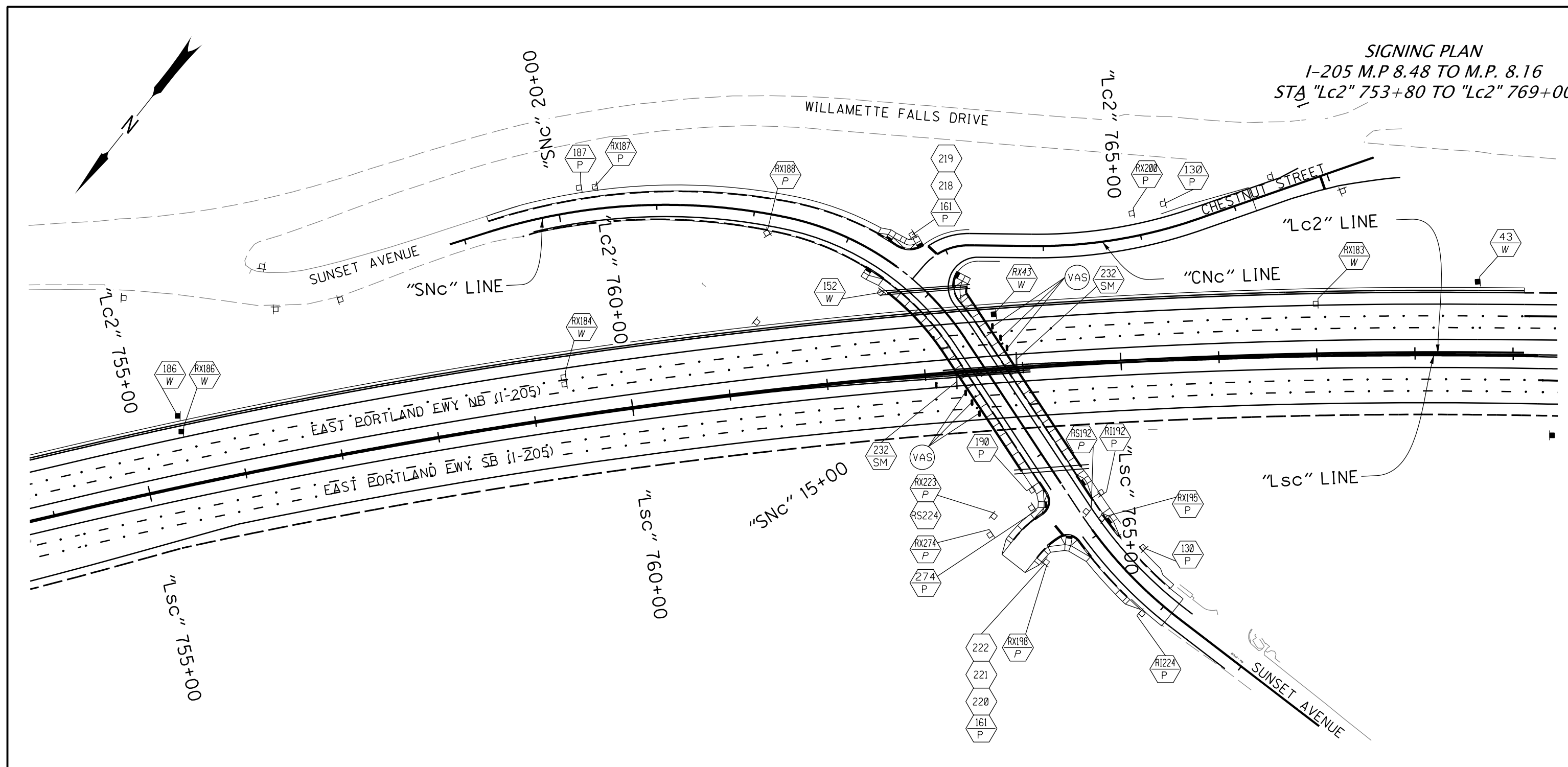
HWY: 064
M.P.: 8.76-8.48
TRS 00000
DFI/TSSU NO. N/A



Expires June 30, 2020

HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	OREGON DEPARTMENT OF TRANSPORTATION
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin
PERMANENT SIGNING	
SHEET NO. LA13	

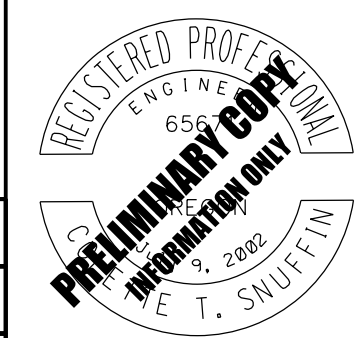
SIGNING PLAN
 I-205 M.P. 8.48 TO M.P. 8.16
 STA "Lc2" 753+80 TO "Lc2" 769+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 8.44-8.16
TRS 00000
DFI/TSSU NO. N/A



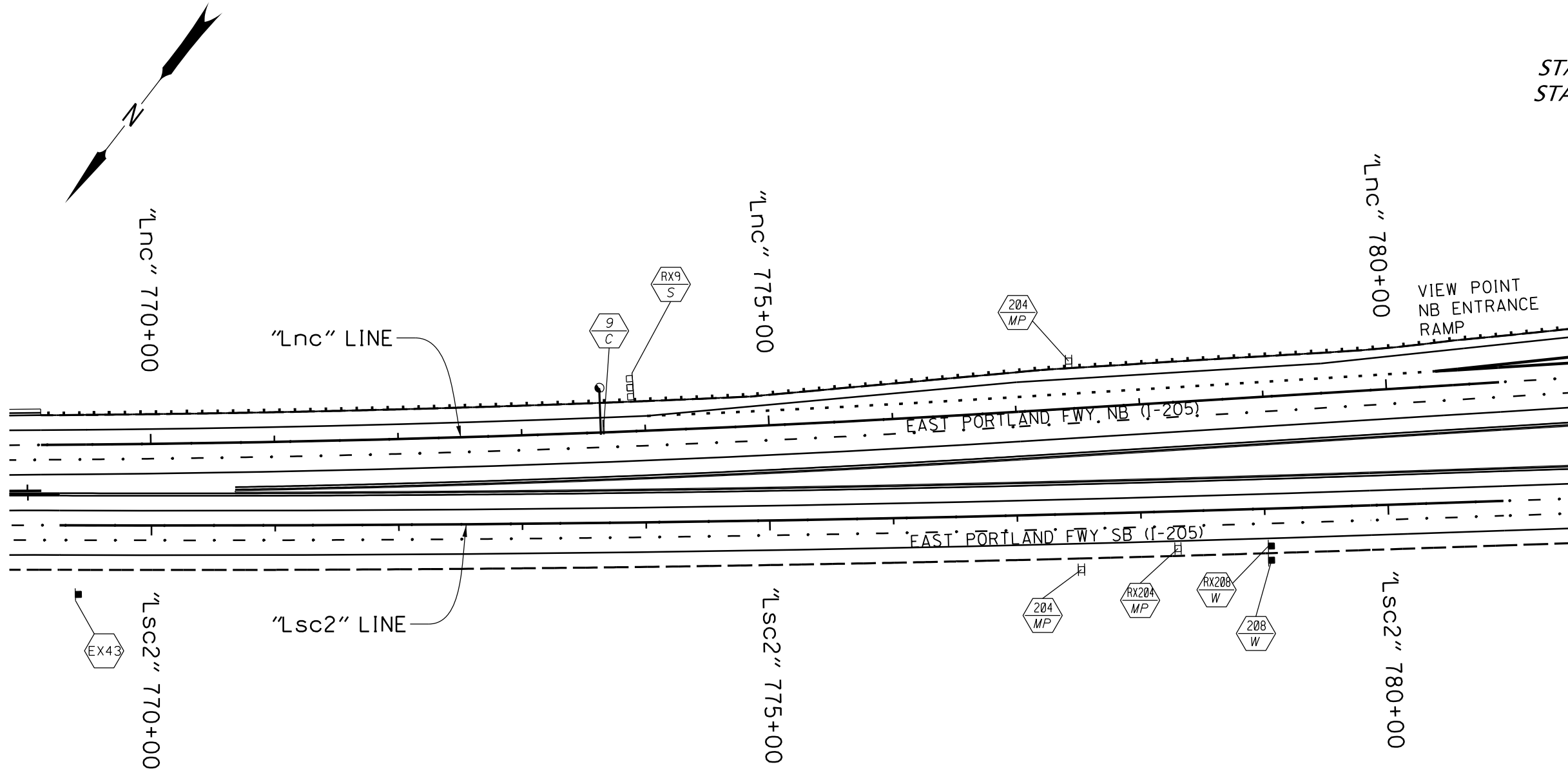
Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin

PERMANENT SIGNING	SHEET NO. LA14
--------------------------	-------------------

SIGNING PLAN
 I-205 M.P. 8.16 TO M.P. 7.88
 STA "Lnc" 769+00 TO "Ln" 784+00
 STA "Lsc2" 769+00 TO "Ls" 784+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

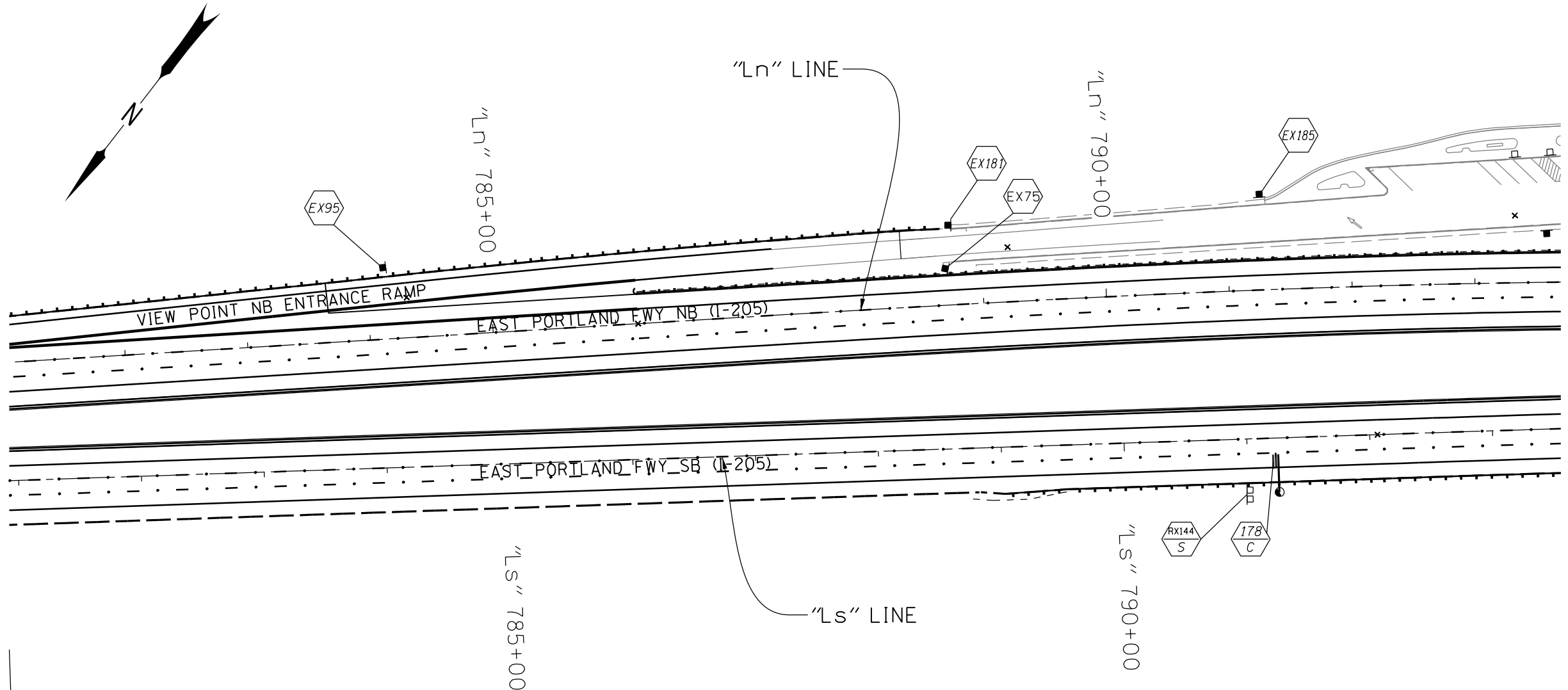
NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 8.16-7.88
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
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 E. T. SNUFFIN
 Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	SHEET NO. LA15
PERMANENT SIGNING		

SIGNING PLAN
 I-205 M.P. 7.88 TO M.P. 7.71
 STA "Ln" 784+00 TO "Ln" 793+00
 STA "Ls" 784+00 TO "Ls" 793+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

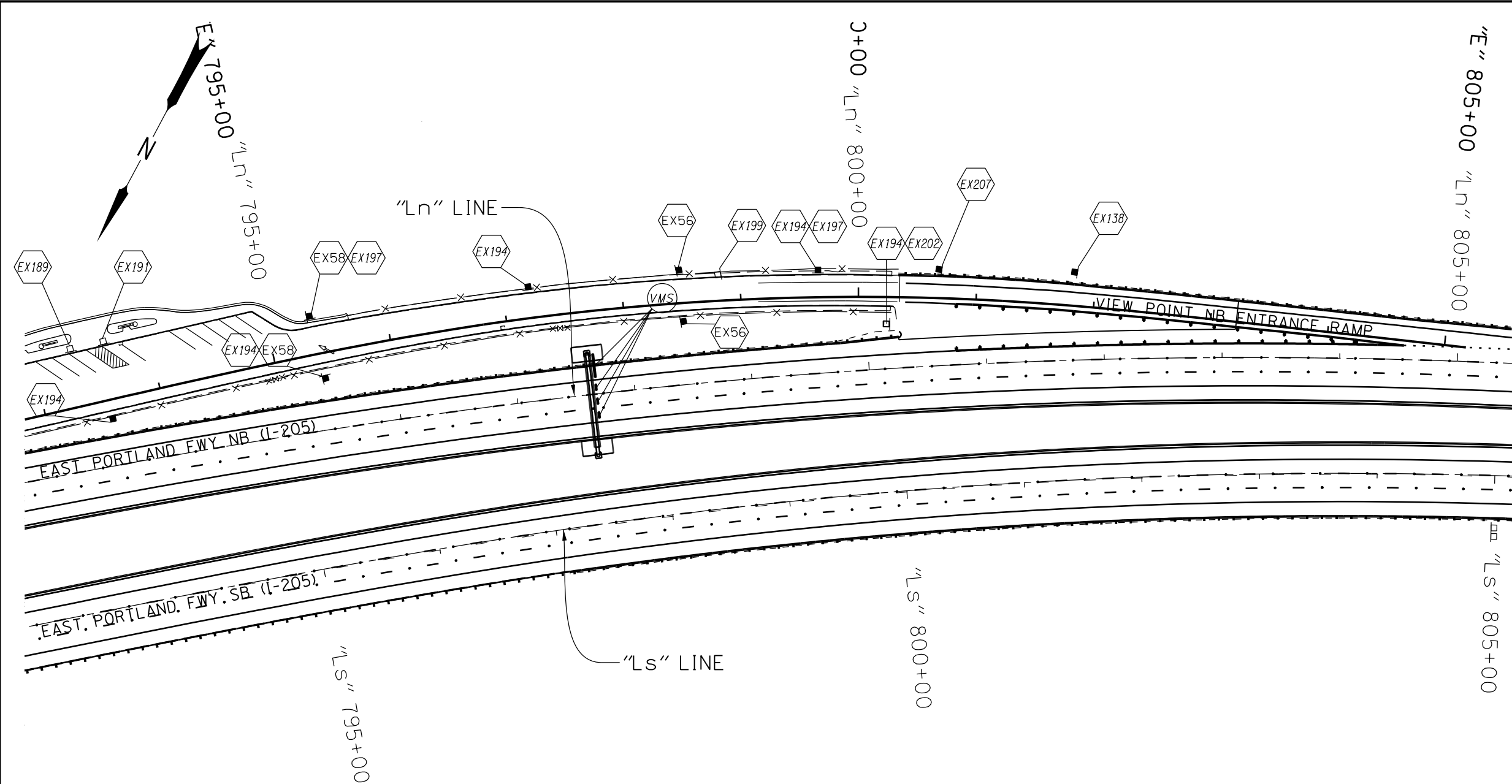
NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 7.88-7.71
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
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 E. T. SNUFFIN
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 Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Reviewer: Simon Eng		SHEET NO. LA16
Drafter: Colina Lieu Checker: Colette Snuffin		
PERMANENT SIGNING		

SIGNING PLAN
 I-205 M.P. 7.71 TO M.P. 7.48
 STA "Ln" 793+00 TO "Ln" 805+00
 STA "Ls" 793+00 TO "Ls" 805+00



NOTE:
 No signing work on this sheet.
 Included for continuity only.

NOTE:
 Existing signs not shown are to
 remain in place unless otherwise
 directed by the Engineer.

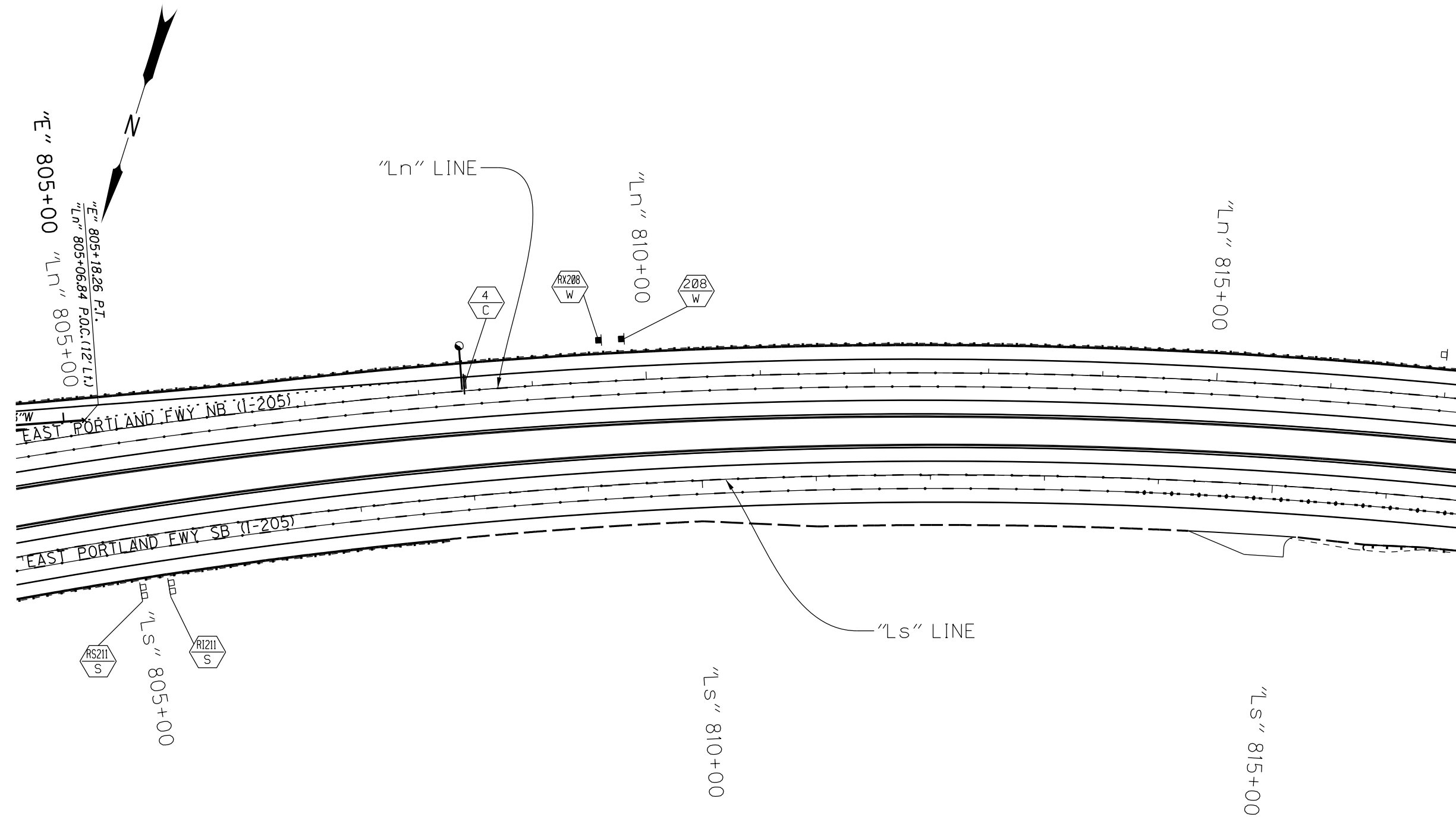
NOTE:
 The locations of sign installations shown
 are approx. with exact locations to be
 determined in the field.

HWY: 064
M.P.: 7.71-7.48
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL
 ENGINEER
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 9. 2002
 E. T. SNUFFIN
 Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	SHEET NO. LA17
PERMANENT SIGNING		

SIGNING PLAN
I-205 M.P. 7.48 TO M.P. 7.27
STA "Ln" 805+00 TO "Ln" 816+00
STA "Ls" 805+00 TO "Ls" 816+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

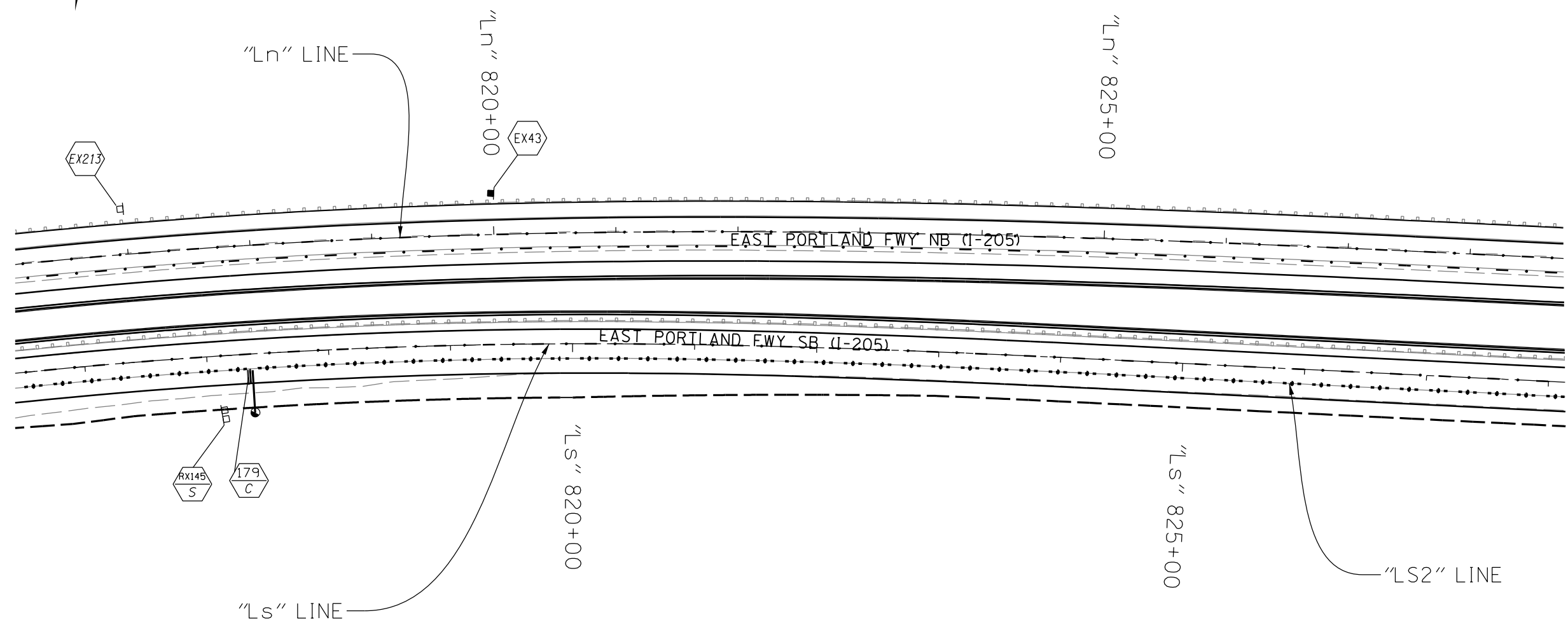
NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 7.48-7.27
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
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 9. 2002
 E. T. SNUFFIN
 Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Drafter: Colina Lieu		Reviewer: Simon Eng Checker: Colette Snuffin
PERMANENT SIGNING		SHEET NO. LA18

SIGNING PLAN
I-205 M.P. 7.27 TO M.P. 7.04
STA "Ln" 816+00 TO "Ln" 828+00
STA "Ls" 816+00 TO "Ls2" 828+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

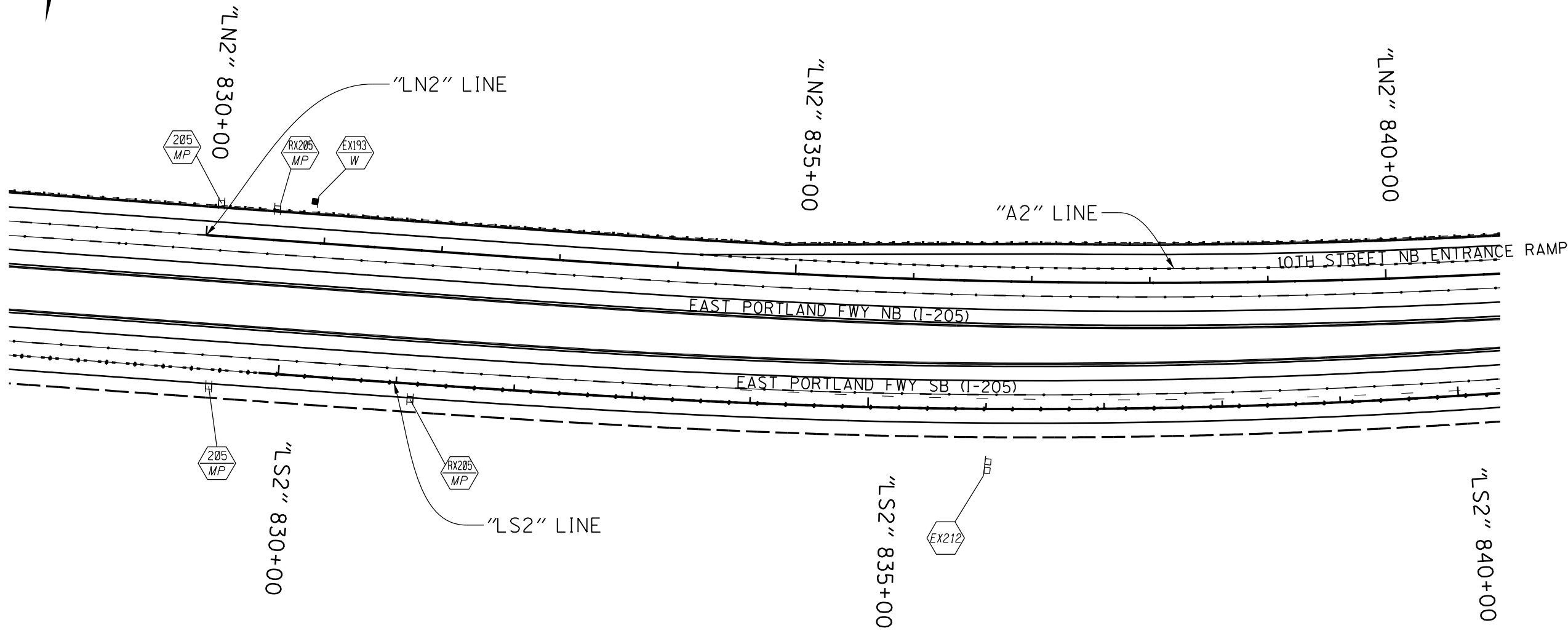
REGISTERED PROFESSIONAL ENGINEER
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 E. T. SNUFFIN
 9. 2002
PRELIMINARY COPY
 INFORMATION ONLY

Expires June 30, 2020

HWY: 064
M.P.: 7.27-7.04
TRS 00000
DFI/TSSU NO. N/A

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng	PERMANENT SIGNING
Drafter: Colina Lieu	Checker: Colette Snuffin	
PERMANENT SIGNING		SHEET NO. LA19

SIGNING PLAN
 I-205 M.P 7.04 TO M.P. 6.81
 STA "Ln2" 828+00 TO "Ln2" 840+00
 STA "Ls2" 828+00 TO "Ls2" 840+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

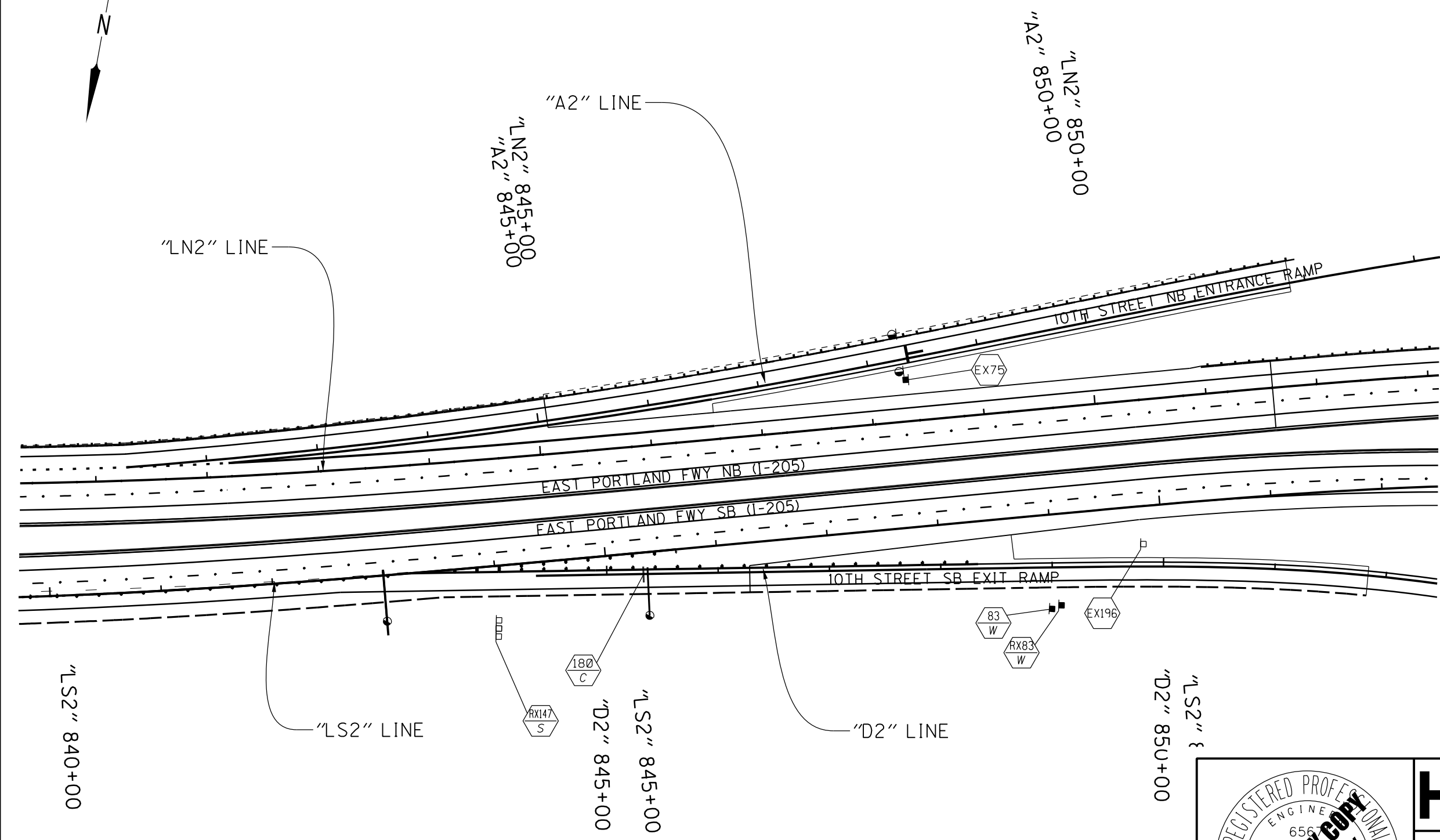
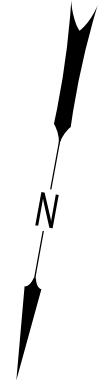
NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.

HWY: 064
M.P.: 7.04-6.81
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
 6567
 PRELIMINARY COPY
 INFORMATION ONLY
 9. 2002
 E. T. SNUFFIN
 Expires June 30, 2020

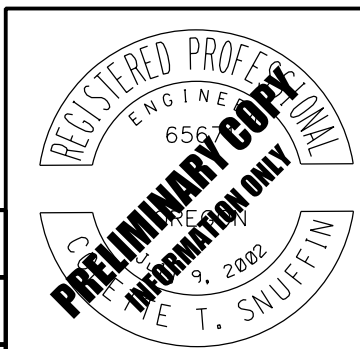
	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Reviewer: Simon Eng		SHEET NO. LA20
Drafter: Colina Lieu Checker: Colette Snuffin		
PERMANENT SIGNING		

SIGNING PLAN
I-205 M.P. 6.81 TO M.P. 6.57
STA "Ln2" 840+00 TO "Ln2" 853+00
STA "Ls2" 840+00 TO "Ls2" 852+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.



HWY: 064
M.P.: 6.81-6.57
TRS 00000
DFI/TSSU NO. N/A

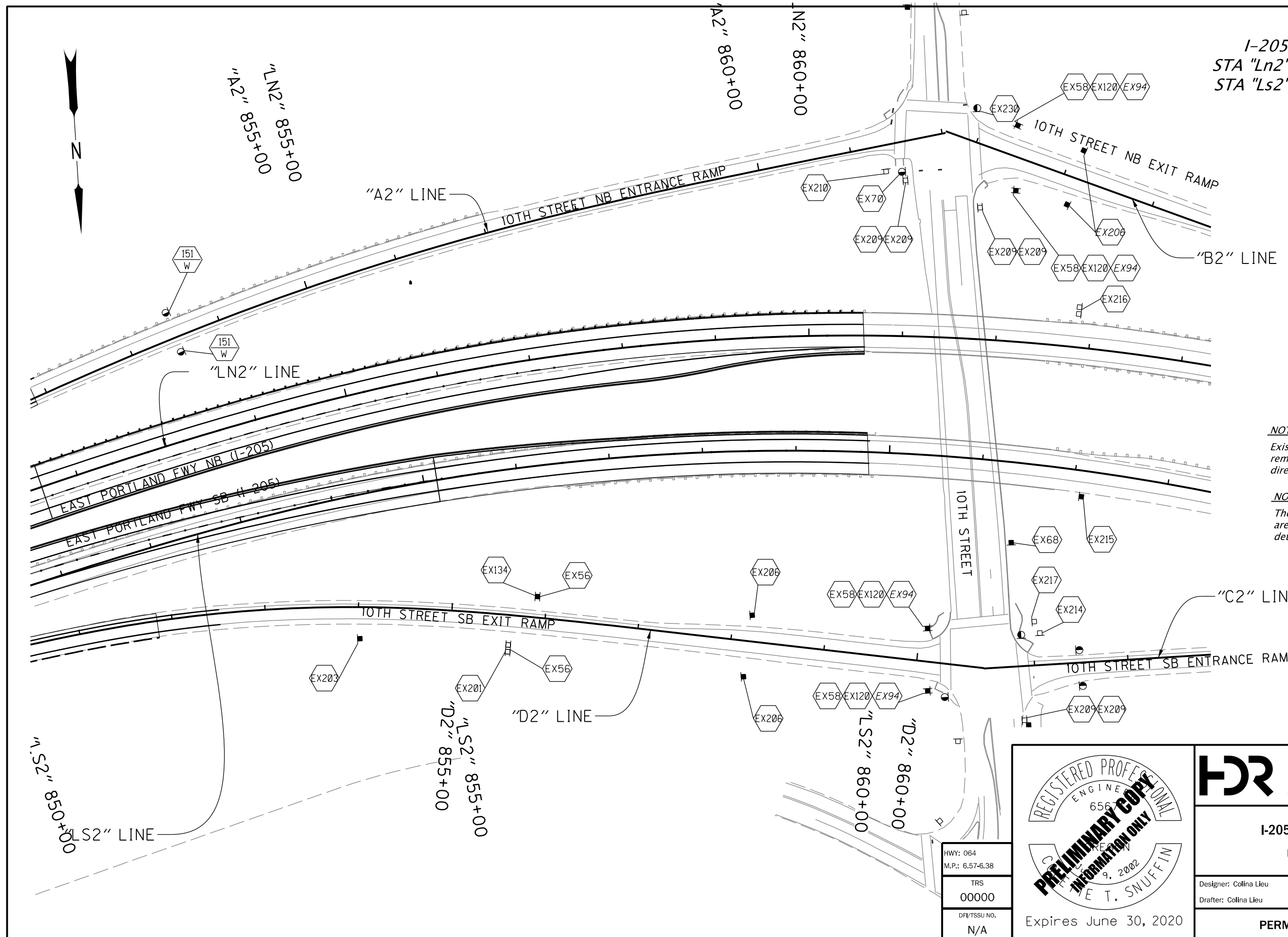
Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin

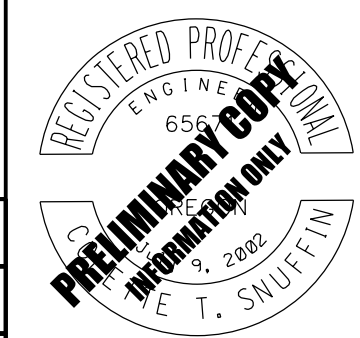
PERMANENT SIGNING	SHEET NO. LA21
--------------------------	-------------------

SIGNING PLAN
 I-205 M.P. 6.57 TO M.P. 6.38
 STA "Ln2" 853+00 TO "Ln2" 864+00
 STA "Ls2" 852+00 TO "Ls2" 864+00



NOTE:
 Existing signs not shown are to remain in place unless otherwise directed by the Engineer.

NOTE:
 The locations of sign installations shown are approx. with exact locations to be determined in the field.



HWY: 064
M.P.: 6.57-6.38
TRS 00000
DFI/TSSU NO. N/A

Expires June 30, 2020

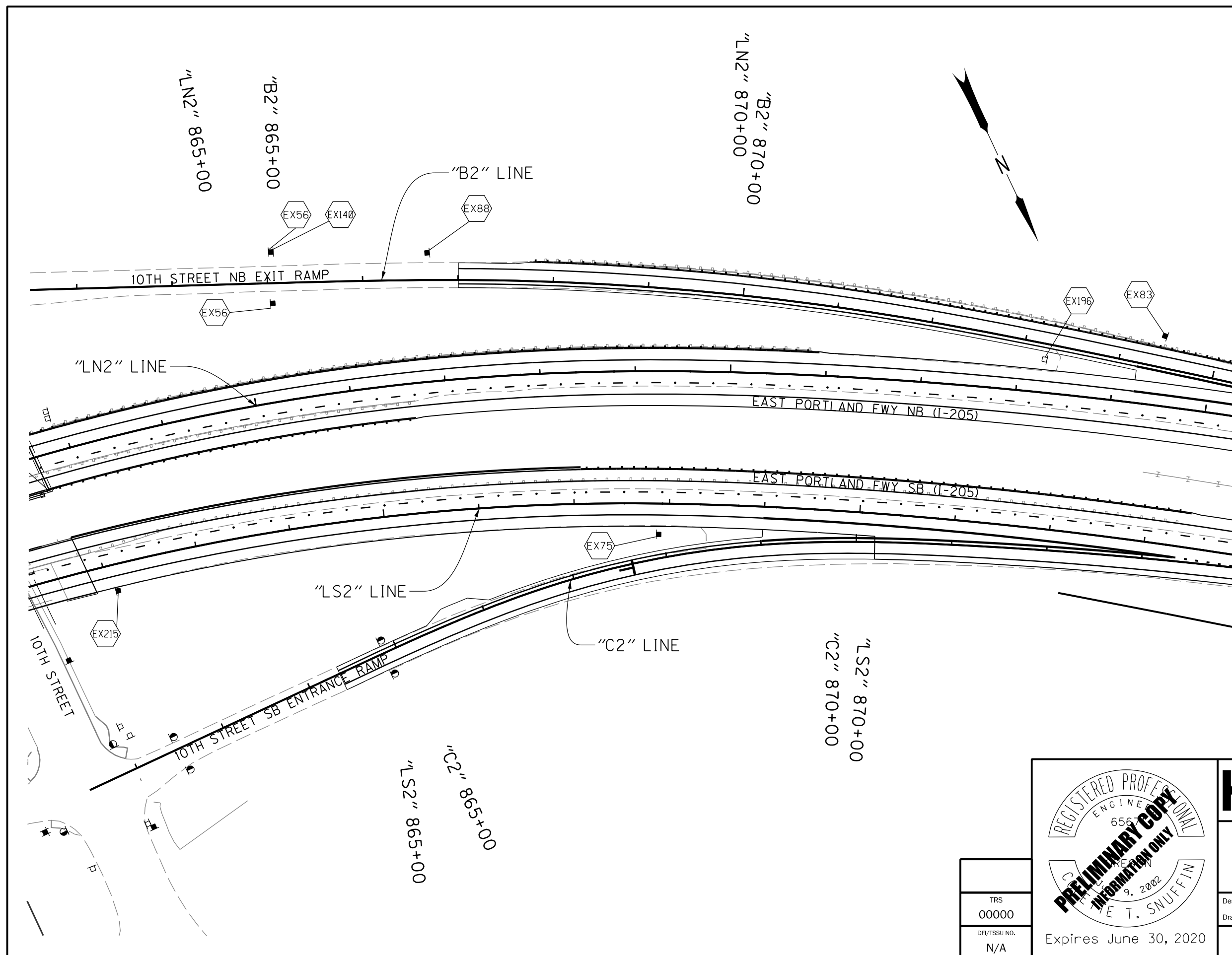
HDR	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

**EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY**

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin

PERMANENT SIGNING	SHEET NO. LA22
--------------------------	-------------------

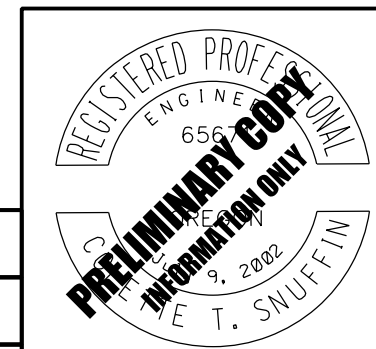
SIGNING PLAN
 I-205 M.P. 6.38 TO M.P. 6.16
 STA "Ln2" 864+00 TO "Ln2" 875+00
 STA "Ls2" 863+00 TO "Ls2" 873+00



NOTE:
 No signing work on this sheet.
 Included for continuity only.

NOTE:
 Existing signs not shown are to
 remain in place unless otherwise
 directed by the Engineer.

NOTE:
 The locations of sign installations shown
 are approx. with exact locations to be
 determined in the field.



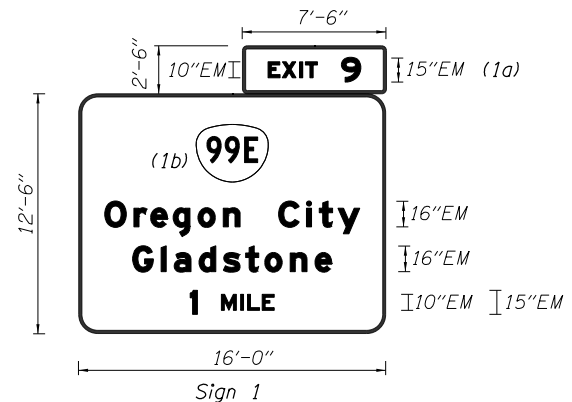
TRS	00000
DFI/TSSU NO.	N/A

Expires June 30, 2020

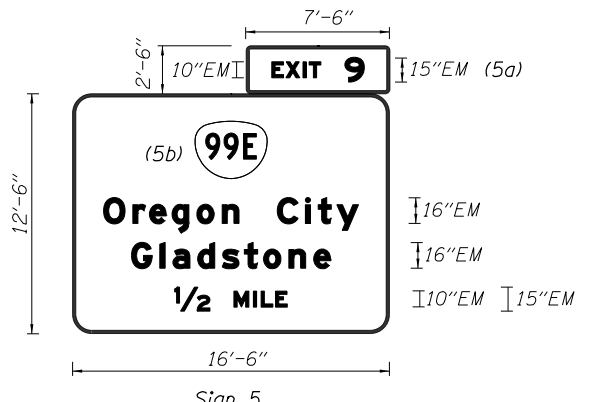
	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin

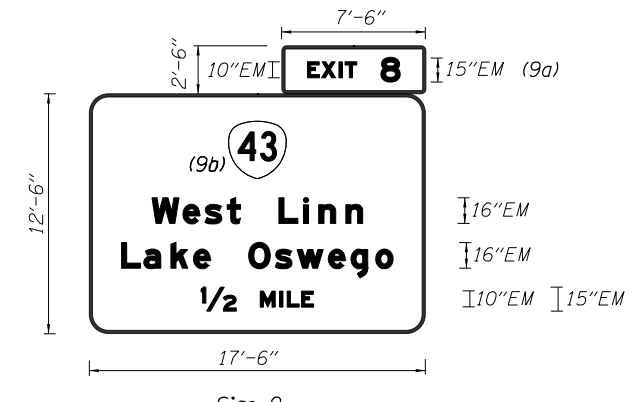
PERMANENT SIGNING	SHEET NO. LA23
--------------------------	-------------------



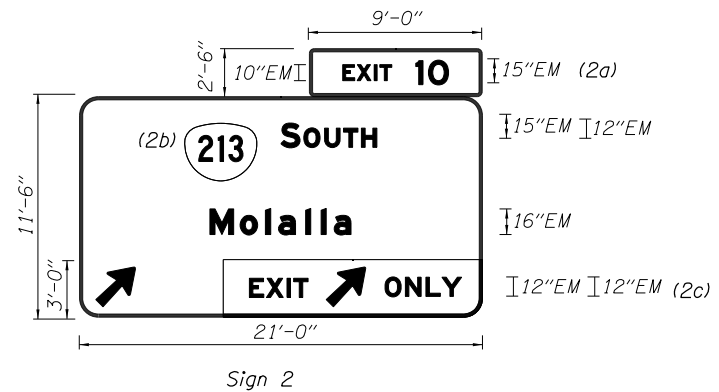
Sign 1



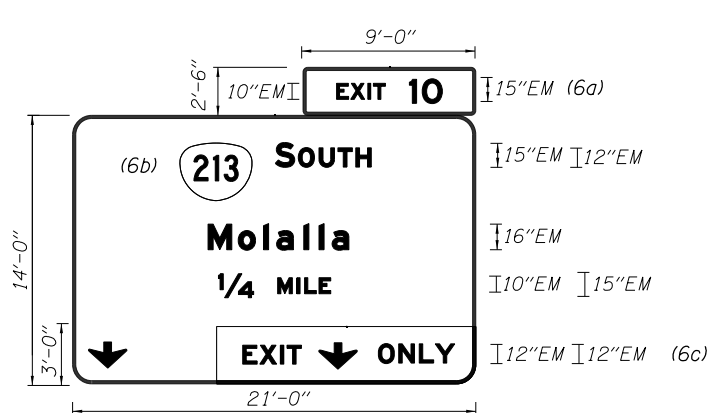
Sign 5



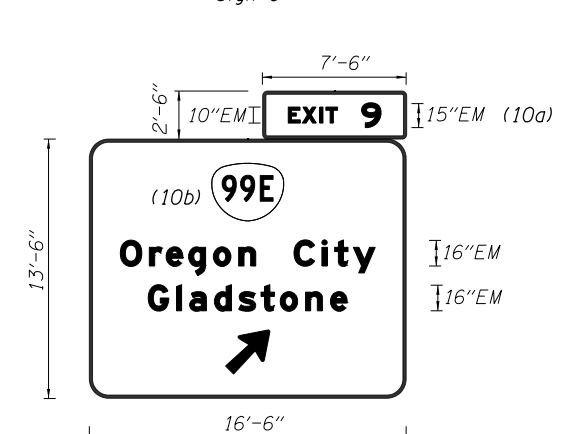
Sign 9



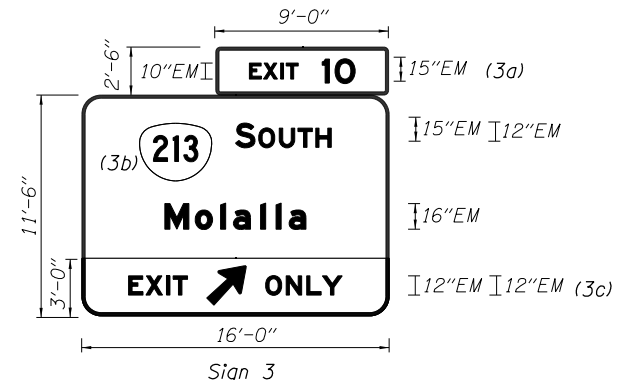
Sign 2



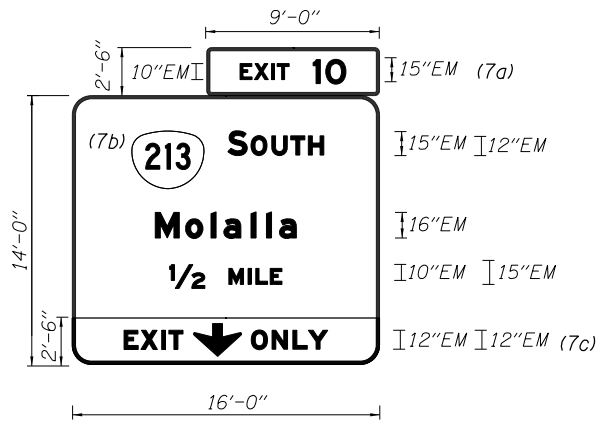
Sign 6



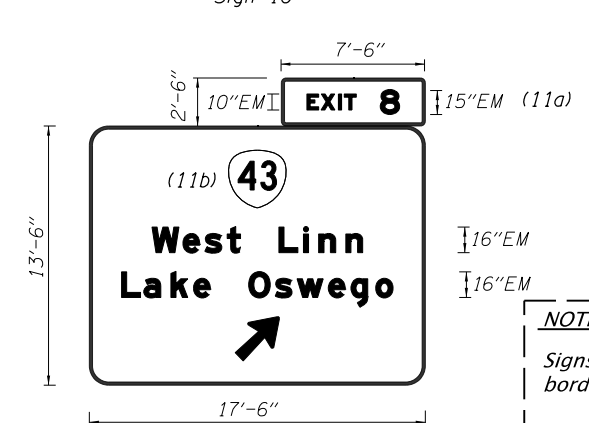
Sign 10



Sign 3

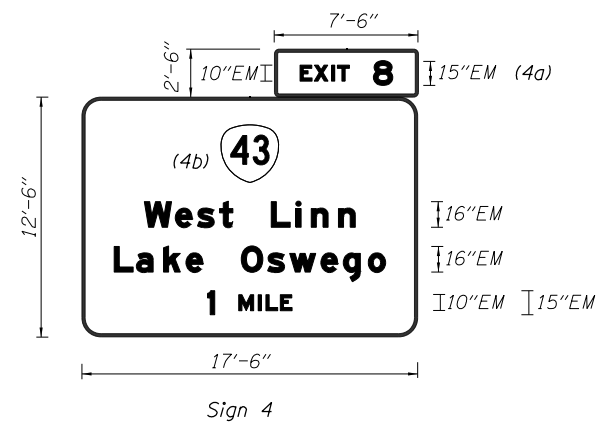


Sign 7

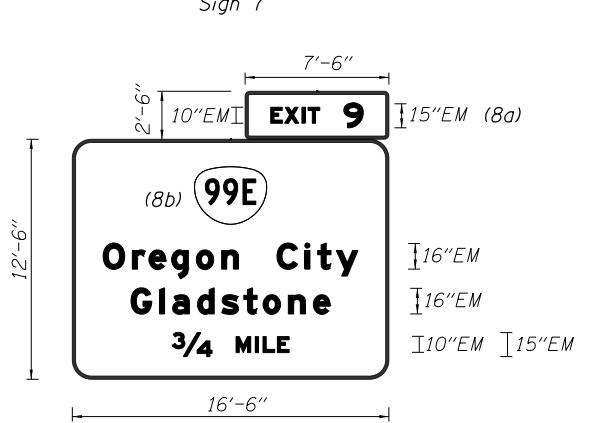


Sign 11

NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign

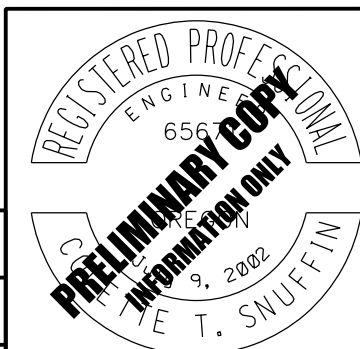


Sign 4



Sign 8

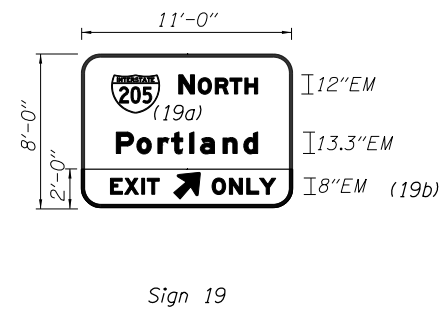
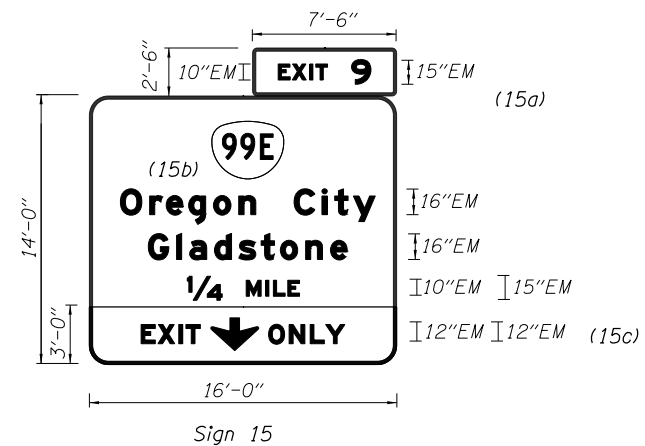
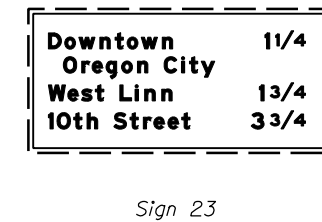
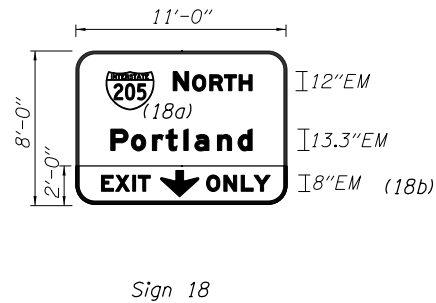
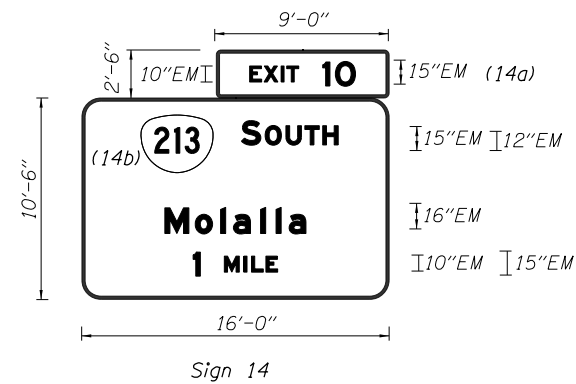
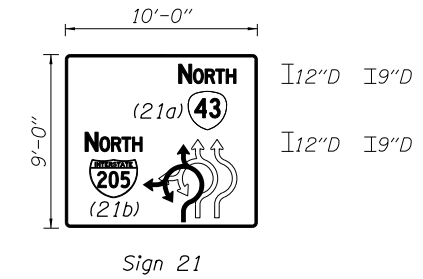
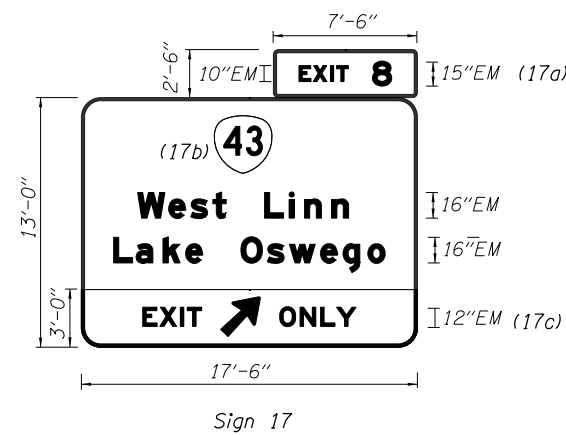
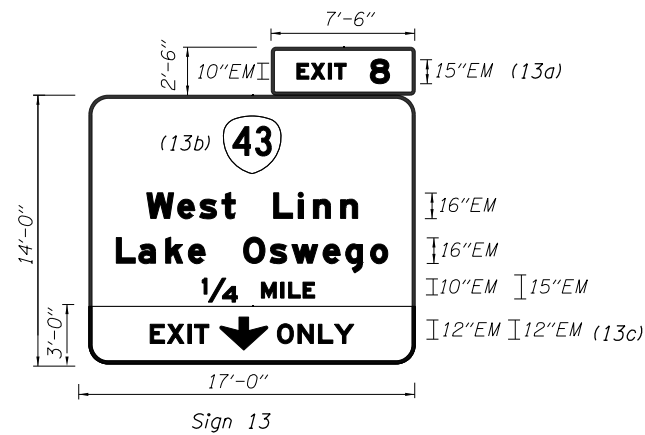
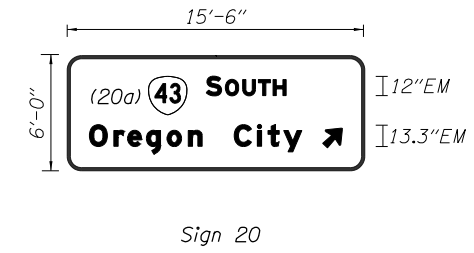
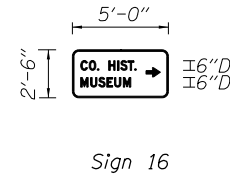
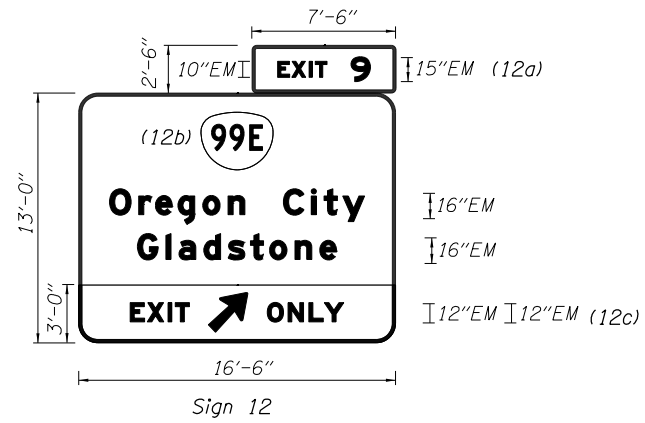
HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	
SHEET NO. LB01	



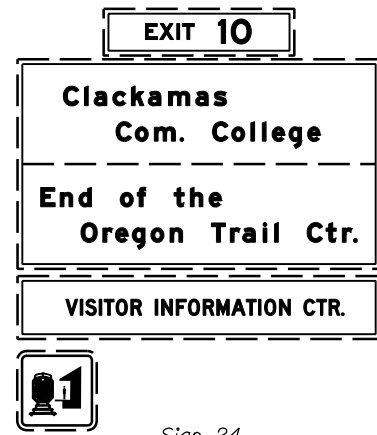
NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A

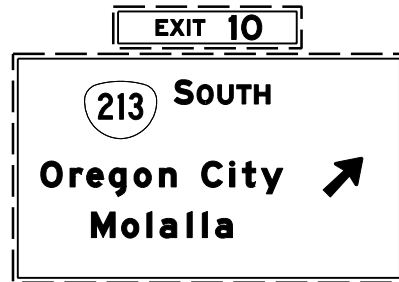
REGISTERED PROFESSIONAL ENGINEER
656
PRELIMINARY COPY
INFORMATION ONLY
FEBRUARY 9, 2020
T. SNUFFIN

Expires June 30, 2020

<p>HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700</p>	
<p>Designer: Colina Lieu Drafter: Colina Lieu</p>	<p>Reviewer: Simon Eng Checker: Colette Snuffin</p>
<p>PERMANENT SIGNING</p>	
<p>SHEET NO. LB02</p>	



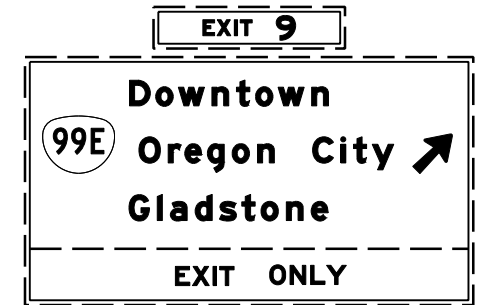
Sign 24



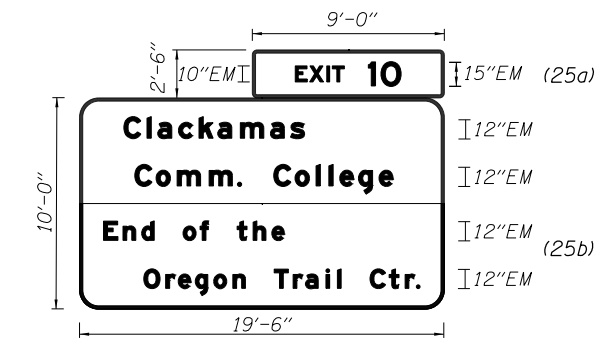
Sign 28



Sign 32



Sign 35



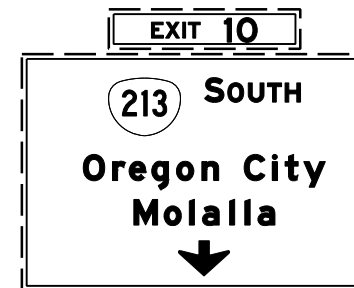
(25c) INFO D9-10
30"x30"

(25d) 1-12
30"x30"

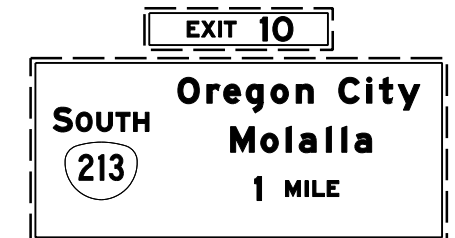
Sign 25



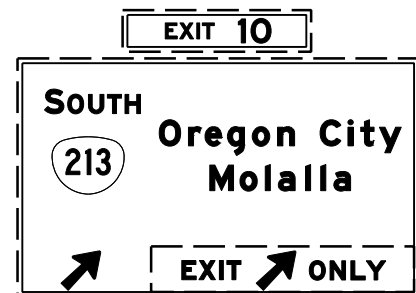
Sign 29



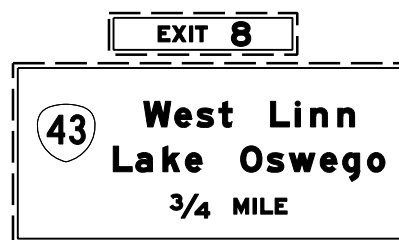
Sign 33



Sign 36



Sign 26



Sign 30

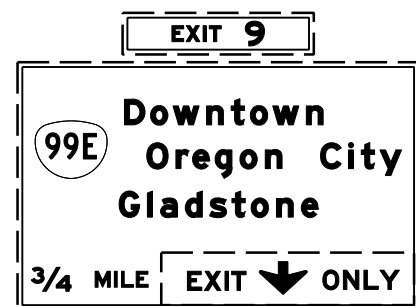


Sign 34

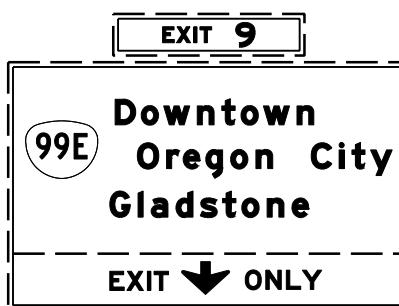


Sign 37

NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign

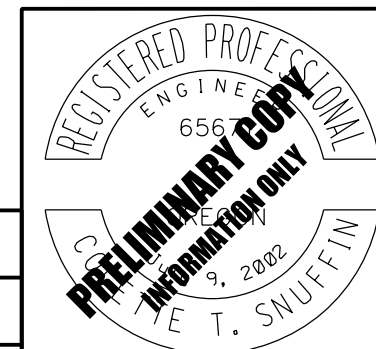


Sign 27



Sign 31

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



Expires June 30, 2020

HDR HDR ENGINEERING, INC
1001 SW 5TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



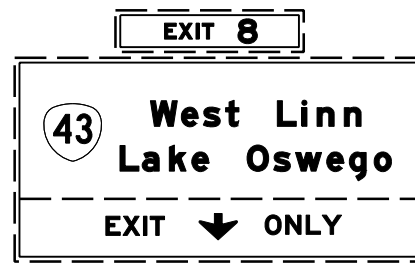
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Colina Lieu Reviewer: Simon Eng
Drafter: Colina Lieu Checker: Colette Snuffin

PERMANENT SIGNING

SHEET NO.
LB03



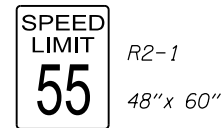
Sign 38



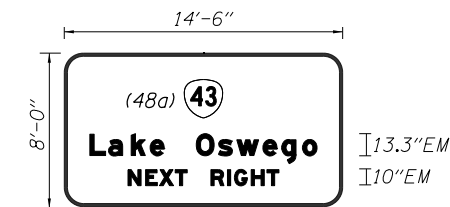
Sign 42



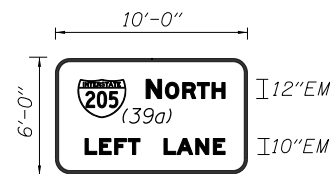
Sign 47



Sign 43



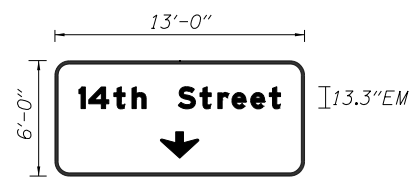
Sign 48



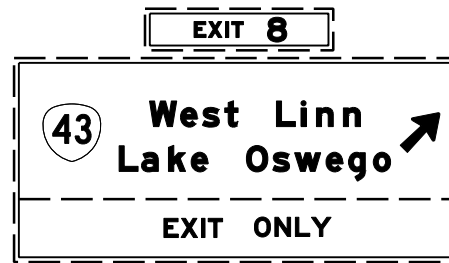
Sign 39



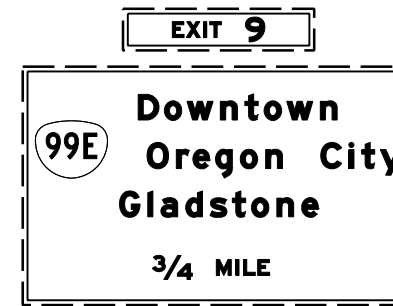
Sign 44



Sign 40

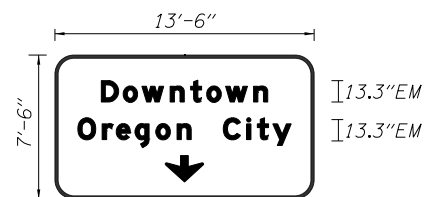


Sign 45

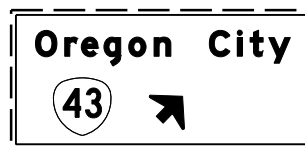


Sign 49

NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign

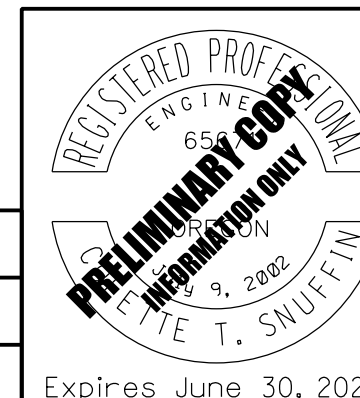


Sign 41



Sign 46

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



Expires June 30, 2020

	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	SHEET NO. LB04
PERMANENT SIGNING		



Sign 50

W13-2
48"x60"



Sign 56

R5-1a
42"x30"



Sign 62



Sign 67

W4-3
48"x48"



Sign 72



Sign 51

24"x18"



Sign 57



Sign 63

W11-1
36"x36"
W16-7P
30"x18"



Sign 68

W4-2R
48"x48"



Sign 73



Sign 52

W1-8R
36"x48"



Sign 58

R5-1
48"x48"



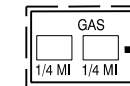
Sign 64



Sign 64



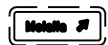
Sign 69



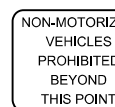
Sign 74



Sign 53



Sign 59



Sign 65

OR5-3B
36"x30"

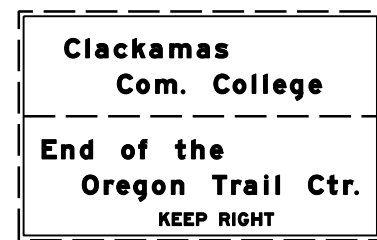


Sign 70



Sign 75

W4-1
48"x48"



Sign 54



Sign 60

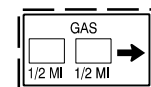


Sign 66

R4-7c
18"x30"



Sign 71



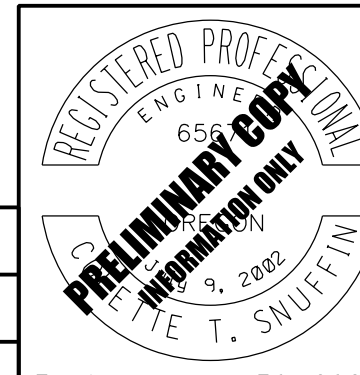
Sign 55



Sign 61

NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign

HWY: 064
M.P.: 6.16-11.06
TRS
00000
DFI/TSSU NO.
N/A



Expires June 30, 2020

HDR HDR ENGINEERING, INC
1001 SW 5TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.

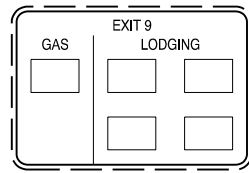
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Colina Lieu Reviewer: Simon Eng
Drafter: Colina Lieu Checker: Colette Snuffin

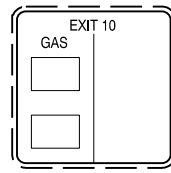
PERMANENT SIGNING

SHEET NO.
LB05

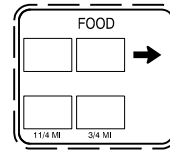
SIGNING DETAILS



Sign 76



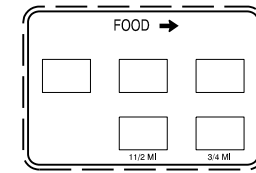
Sign 82



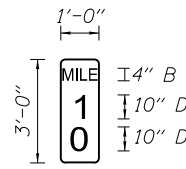
Sign 87



Sign 93



Sign 97



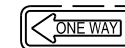
Sign 77



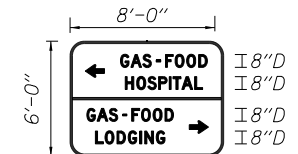
Sign 83



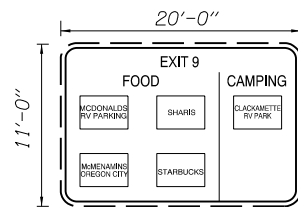
Sign 88



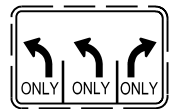
Sign 94



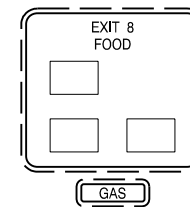
Sign 98



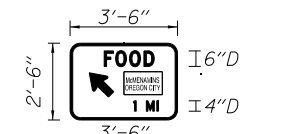
Sign 78



Sign 89



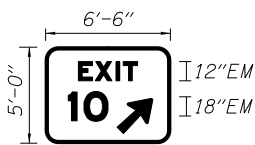
Sign 95



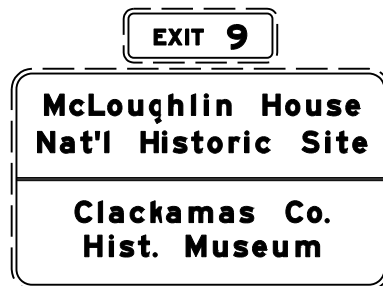
Sign 99 (99a)



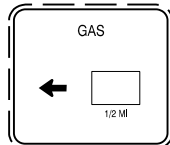
Sign 99



Sign 79



Sign 85



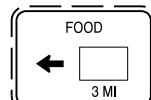
Sign 90

Not used

Sign 96



Sign 80

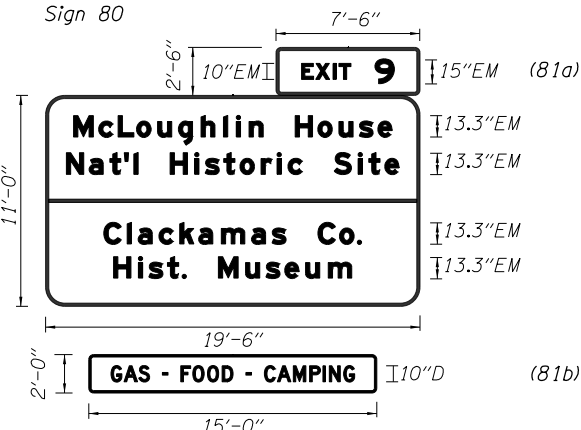


Sign 86

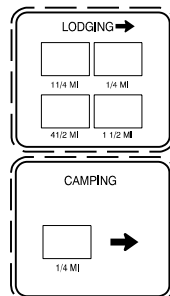


Sign 91

NOTE:
Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign
*For the northbound direction only

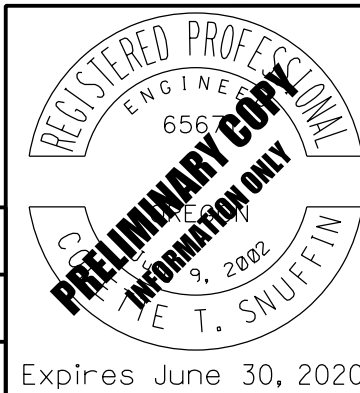


Sign 81

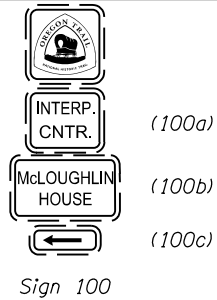


Sign 92

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	OREGON DEPARTMENT OF TRANSPORTATION
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	
SHEET NO. LB06	



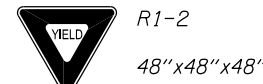
Sign 100

Not used

Sign 101



Sign 102



(103a)

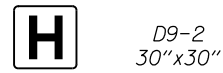
Sign 103



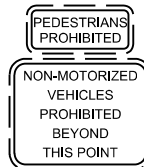
Sign 104



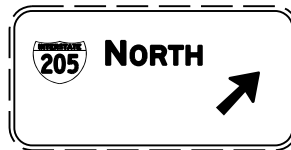
Sign 105



Sign 106



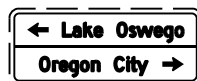
Sign 107



Sign 108



Sign 109



Sign 110



Sign 111



Sign 112



Sign 113



Sign 114



Sign 115



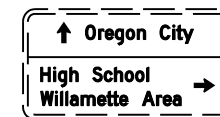
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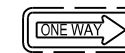
Sign 117



Sign 118



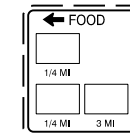
Sign 119



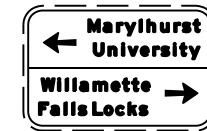
Sign 120



Sign 121



Sign 122



Sign 123



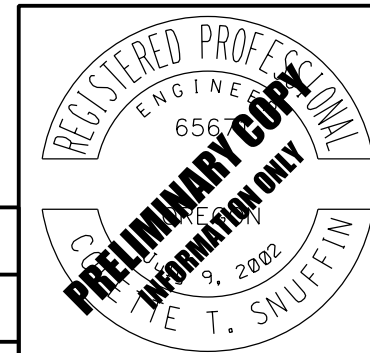
Sign 124



Sign 125

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HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



Expires June 30, 2020

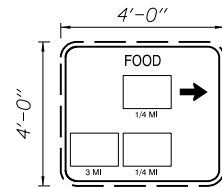
	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
PERMANENT SIGNING	
SHEET NO. LB07	

SIGNING DETAILS

(126a) PEDESTRIANS PROHIBITED R5-10c-12 24"x12"
 NON-MOTORIZED VEHICLES PROHIBITED BEYOND THIS POINT OR5-3B 36"x30"

(126b) NO PARKING UNDERGROUND SPRINKLERS 24"x18"
 Sign 126



Sign 127



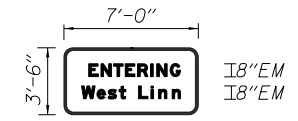
Sign 132



Sign 138



Sign 144



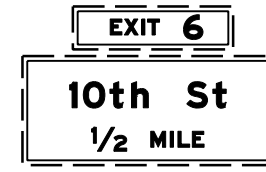
Sign 149



Sign 133



Sign 139



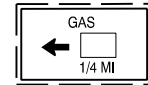
Sign 145



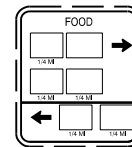
Sign 150



Sign 128



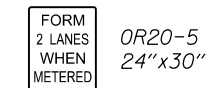
Sign 134



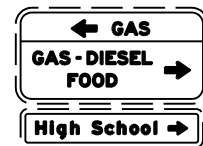
Sign 140

Not used

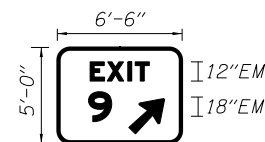
Sign 146



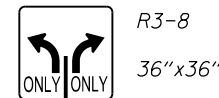
Sign 151



Sign 129



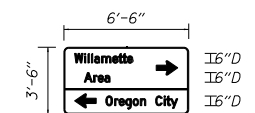
Sign 135



Sign 141



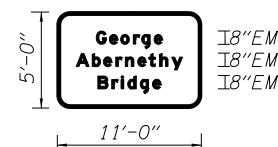
Sign 147



Sign 152



Sign 130



Sign 136

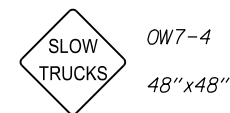


Sign 142

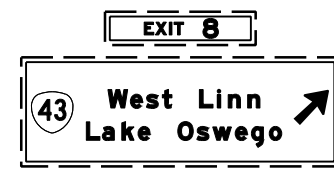
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Sign 148

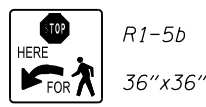
NOTE:
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Sign 131

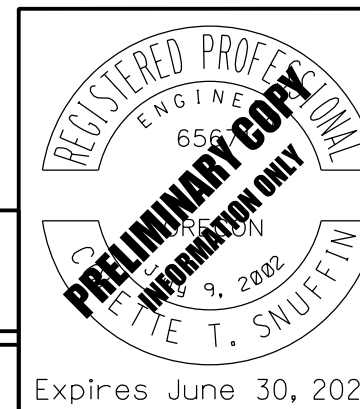


Sign 137




Sign 143

HWY: 064
 M.P.: 6.46-11.06
 00000
 DFI/TSSU NO.
 N/A



Expires June 30, 2020

HDR HDR ENGINEERING, INC
 1001 SW 5TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700

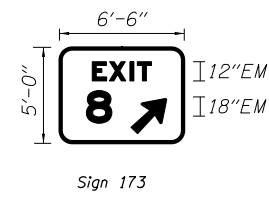
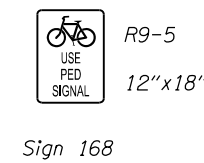
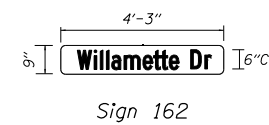
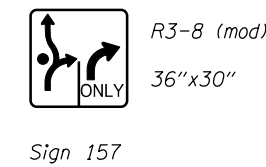
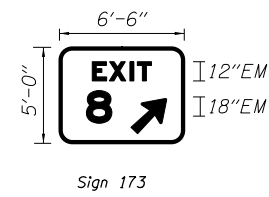
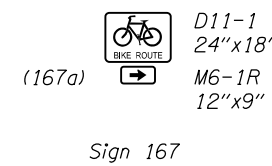
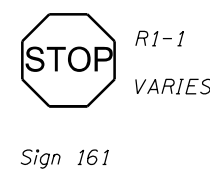
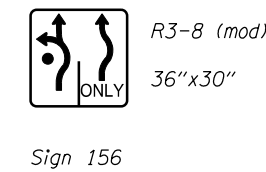
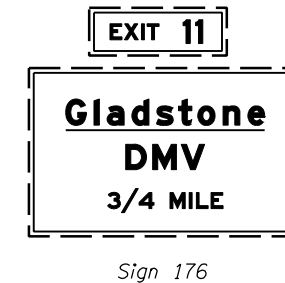
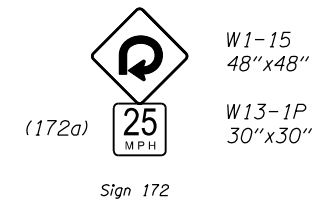
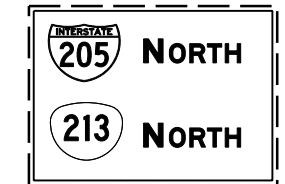
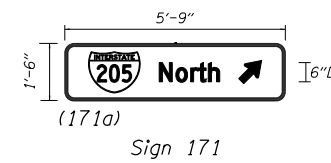
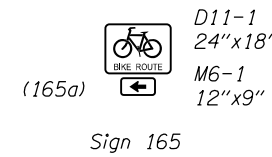
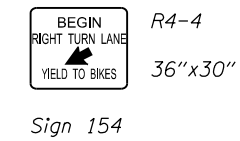
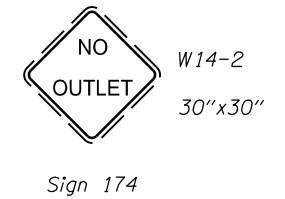
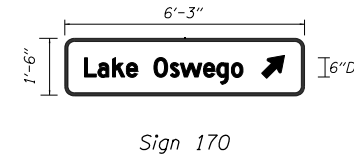
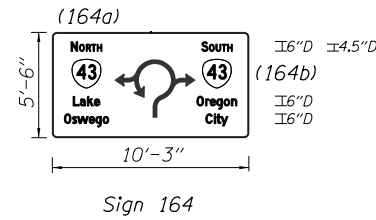
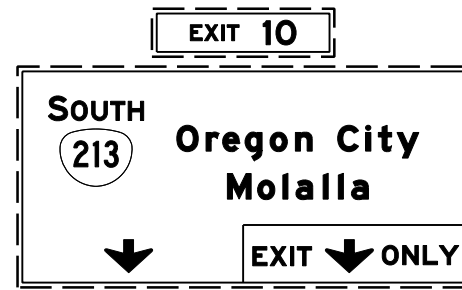
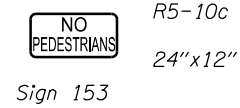


I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

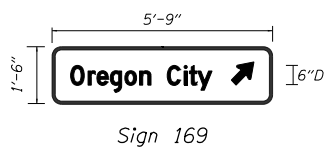
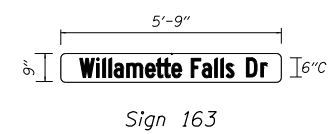
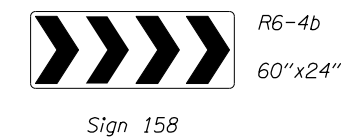
Designer: Colina Lieu Reviewer: Simon Eng
 Drafter: Colina Lieu Checker: Colette Snuffin

PERMANENT SIGNING SHEET NO. LB08

SIGNING DETAILS

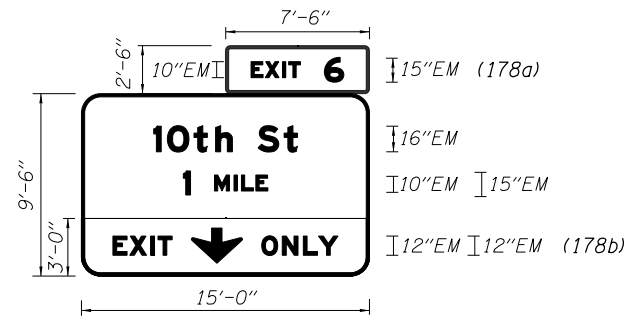


NOTE:
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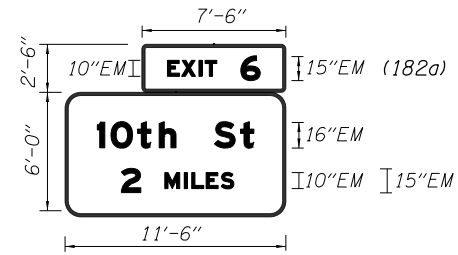


TRS HWY: 064 M.P.: 6.16-11.66 DF1/TSSU NO. N/A		HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
		I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Expires June 30, 2020		Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin
PERMANENT SIGNING		SHEET NO. LB09	

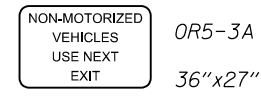
SIGNING DETAILS



Sign 178



Sign 182



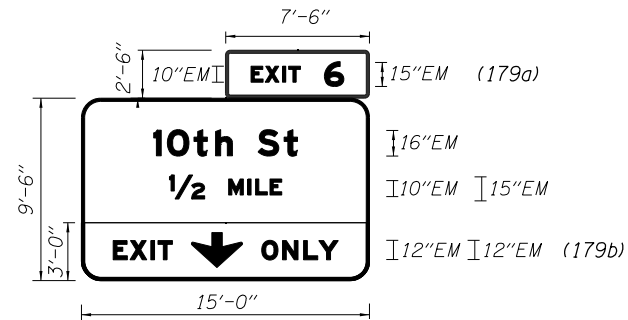
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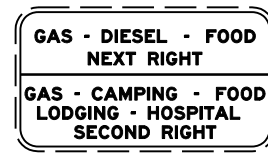
Sign 190



Sign 193



Sign 179



Sign 183



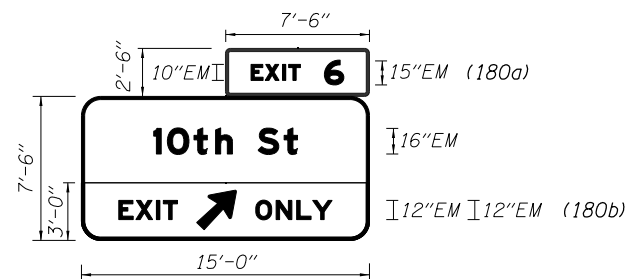
Sign 187



Sign 191



Sign 194



Sign 180



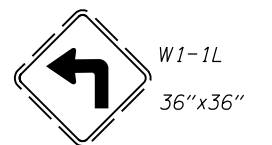
Sign 184



Sign 188



Sign 192



Sign 195

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Sign 181



Sign 185



Sign 189

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A

REGISTERED PROFESSIONAL ENGINEER
656
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THE T. SNUFFIN
9, 2002
Expires June 30, 2020

HDR HDR ENGINEERING, INC
1001 SW 5TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Colina Lieu Reviewer: Simon Eng
Drafter: Colina Lieu Checker: Colette Snuffin

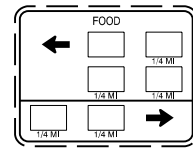
PERMANENT SIGNING

SHEET NO.
LB10

SIGNING DETAILS



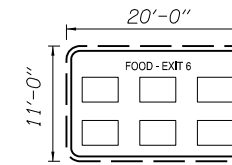
Sign 196



Sign 201



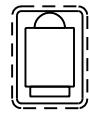
Sign 206



Sign 211



Sign 215



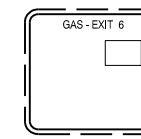
Sign 197



Sign 202



Sign 207



Sign 212



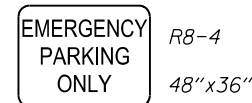
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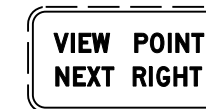
Sign 198

Not used

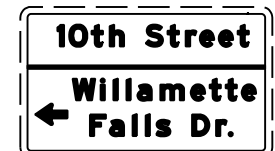
Sign 203



Sign 208



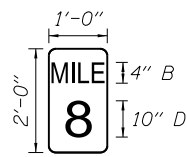
Sign 213



Sign 217



Sign 199



Sign 204



Sign 209

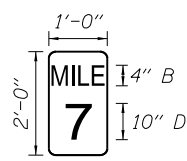


Sign 214

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Sign 200



Sign 205

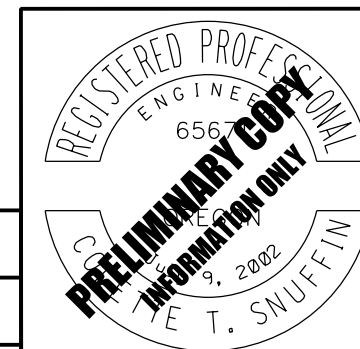


Sign 210

HWY: 064
M.P.: 6.16-11.06

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N/A



Expires June 30, 2020

HDR HDR ENGINEERING, INC
1001 SW 5TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



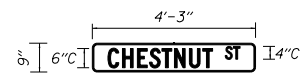
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Colina Lieu Reviewer: Simon Eng
Drafter: Colina Lieu Checker: Colette Snuffin

PERMANENT SIGNING

SHEET NO.
LB11



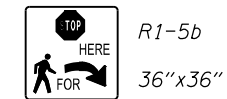
Sign 218



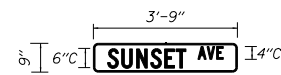
Sign 223



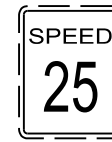
Sign 228



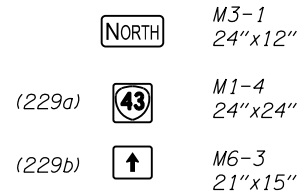
Sign 233



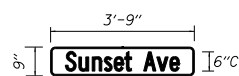
Sign 219



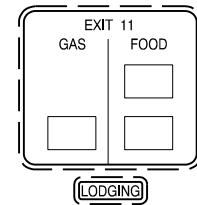
Sign 224



Sign 229



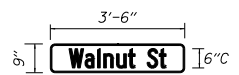
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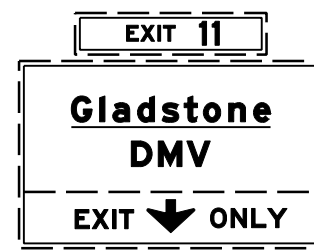
Sign 225



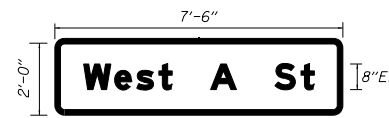
Sign 230



Sign 221

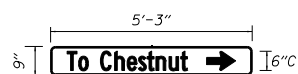


Sign 226



Sign 231

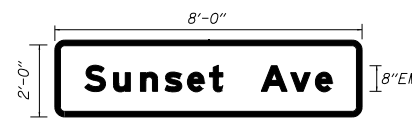
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Signs shown with broken borders are existing signs.
Signs shown with solid borders may indicate either a new or existing sign



Sign 222

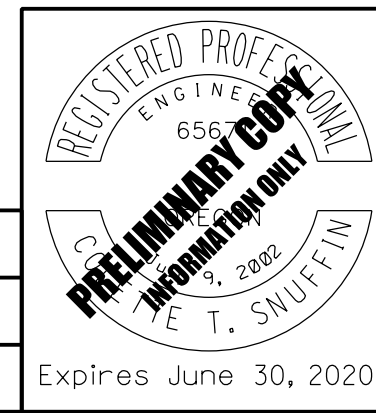


Sign 227



Sign 232

HWY: 064
M.P.: 6.16-11.06
TRS 00000
DFI/TSSU NO. N/A



	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu Drafter: Colina Lieu	Reviewer: Simon Eng Checker: Colette Snuffin	SHEET NO. LB12
PERMANENT SIGNING		

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE PLYWOOD SHEET ALUMINUM EXTRUDED ALUM. (TM675)	COLOR 1/					LEGEND	SIGN NO. 2/	TYPE OF SUPPORT																POST		FOOTING		REMARKS					
		WIDTH	HEIGHT		BACKGROUND	LEGEND						WOOD POST (TM670-TM671, TM676) SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689) TRIANGULAR BASE BREAKAWAY (TM602) H - FRAME MULTI-POST BREAKAWAY (TM220, TM600-TM601) ROUND PIPE SUPPORTS (WL-TM223-A.dwg) STAINLESS STEEL CLAMP (SSC) (TM677) SIGNAL POLE MOUNT (TM680) MAST ARM SIGN MOUNT (TM679) BRIDGE STRUCTURE MOUNT (TM677) CANTILEVER / BUTTERFLY (TM622-TM627) SIGN BRIDGE (TM606-TM612, TM614-TM620) EXIT NUMBER SIGN MOUNT (TM220, TM225) ROUTE MARKER FRAME (TM678) MILEPOST MARKER POST (TM221-TM222) CROSSWALK CLOSURE BARRICADE (TM490) VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES CUSTOM VARIABLE SUPPORT C 4X5.4 C 4X7.25 LENGTH	SECONDRARY SIGN (TM676 & TM678) LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/																				
						ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX									NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230 - TM233)																	
52	SB "L" 660+86 Rt.	36" (EX)	48" (EX)								52	✓																							Reinstall existing sign on new support.		
56	NB "A2" 703+40 Lt.	42"	30"	✓	R	SW					56																							Install sign on back of sign 99.			
56	NB "A2" 704+60 Rt.	42"	30"	✓	R	SW					56	✓																									
58	NB "A2" 701+71 Lt.	48"	48"	✓	R	SW					58	✓																									
58	NB "B4" 736+68 Lt.	48"	48"	✓	R	SW					58																								Install sign on back of sign 103.		
65	NB "B2" 709+45 Lt.	36"	30"	✓	W		BK	✓			65	✓																									
65	NB "Lc2" 742+59 Lt.	36"	30"	✓	W		BK	✓			65	✓																									
66	NB "A2" 700+87 Rt.	18"	30"	✓	Y			BK	✓		66		✓																								
67	NB "L" 654+55 Lt.	48"	48"	✓	Y			BK	✓		67	✓																									
67	SB "L" 704+50 Rt.	48"	48"	✓	Y			BK	✓		67	✓																									
67	NB "Lc2" 733+63 Lt.	48"	48"	✓	Y			BK	✓		67	✓																									
75	SB "L" 666+41 Rt.	48"	48"	✓	Y			BK	✓		75	✓																									
75	SB "Lc2" 743+40 Rt.	48"	48"	✓	Y			BK	✓		75	✓																									
77	NB "L" 672+19 Lt.	12"	36"	✓	G	SW			✓		77																										
77	SB "L" 672+19 Rt.	12"	36"	✓	G	SW			✓		77																										
78	SB "L" 679+02 Rt.	20'-0"(EX)	11'-0"(EX)								78L																										
78											78R																										
79	NB "L" 666+73 Lt.	6'-6"	5'-0"	✓	G		W			✓	79		✓																								
80	NB "E2" 669+15 Lt.	48"	60"	✓	Y			BK	✓		80	✓																									
80	NB "Lc2" 746+12 Lt.	48"	60"	✓	Y			BK	✓		80	✓																									
81	SB "L" 685+69 Rt.	19'-6"	11'-0"	✓	BR	SW					81L																										
81											81R																										
81a		2'-6"	7'-6"	✓	G		W				81a																										

- 1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN
RW=RED-WHITE

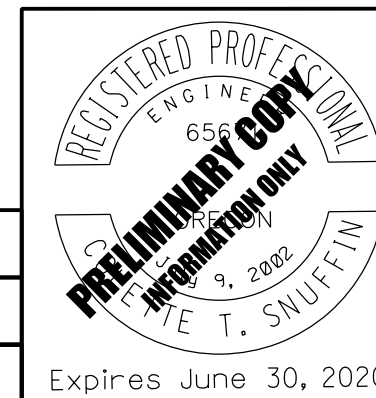
- 2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L=LEFT POST
C=CENTER POST
R=RIGHT POST

- 3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601, TM602 AND TM635.

- 4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

- 5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.

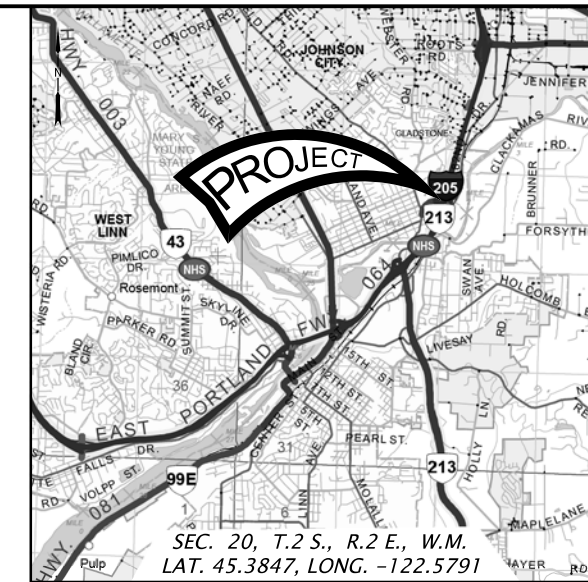
HWY: 064
M.P.: 8.48-11.06
TRS
00000
DFI/TSSU NO.
N/A



HDR	HDR ENGINEERING, INC 1001 SW 5TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700
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I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Colina Lieu	Reviewer: Simon Eng
Drafter: Colina Lieu	Checker: Colette Snuffin
SIGN AND POST DATA TABLE	
SHEET NO. LC05	

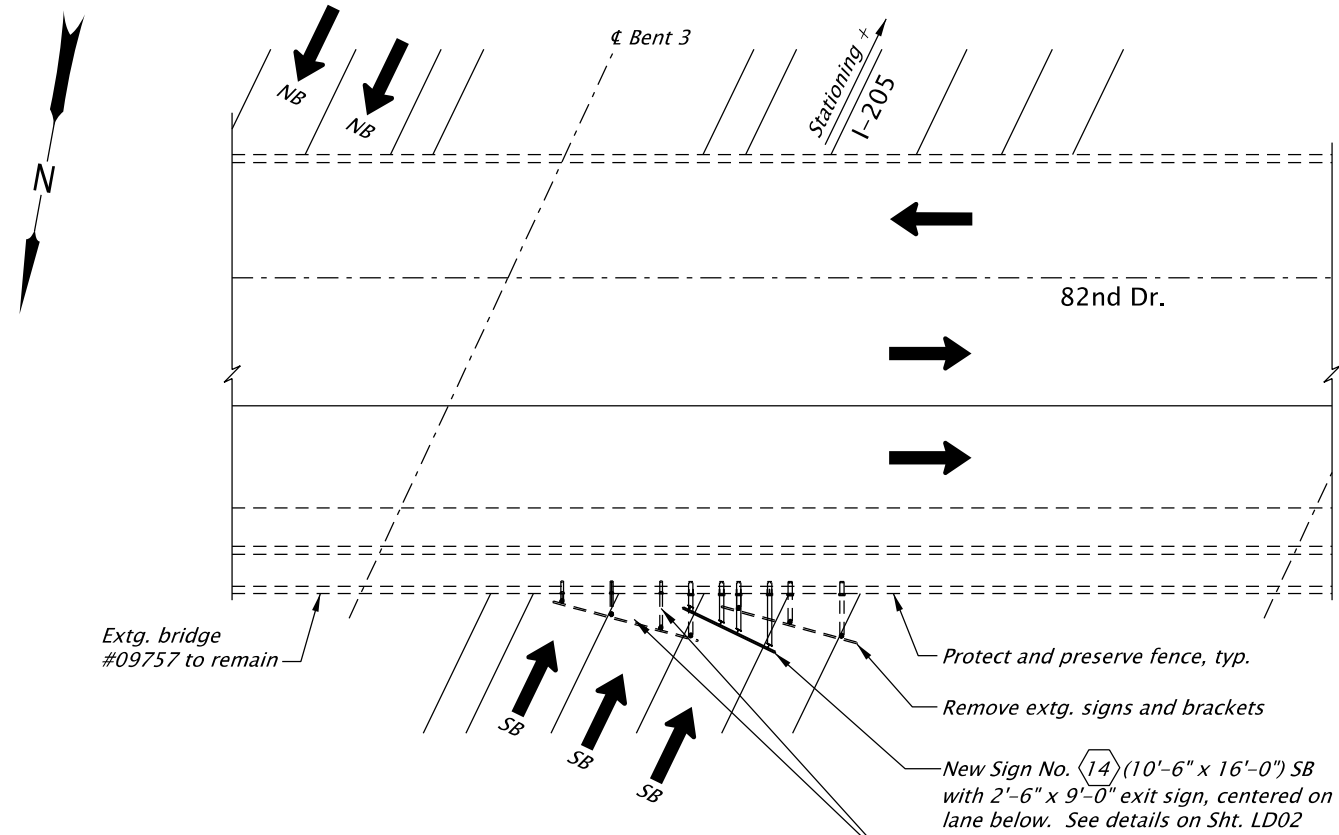
Existing Sign Bridge M.P. 11.04 SB



SEC. 20, T.2 S., R.2 E., W.M.
LAT. 45.3847, LONG. -122.5791

LOCATION MAP

No Scale



PLAN

Scale: 1"=30'

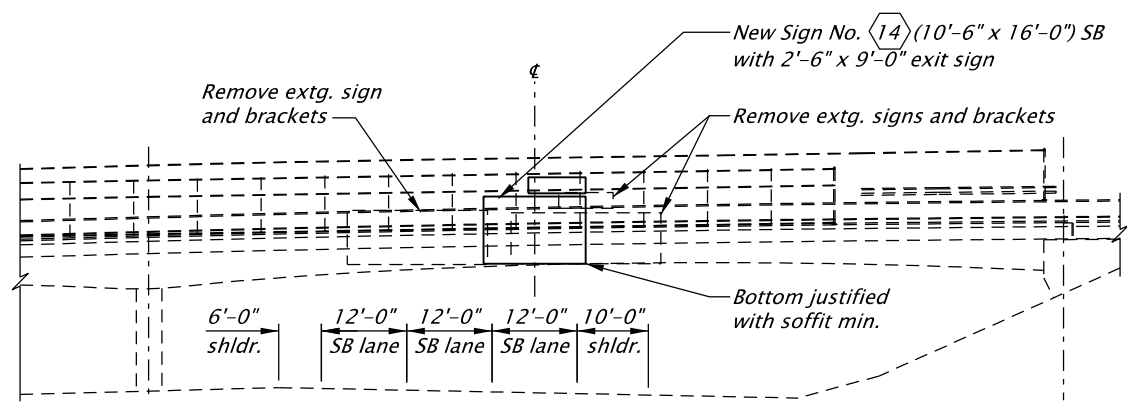
Extg. bridge #09757 to remain

Protect and preserve fence, typ.

Remove extg. signs and brackets

New Sign No. 14 (10'-6" x 16'-0") SB with 2'-6" x 9'-0" exit sign, centered on lane below. See details on Sht. LD02

Remove extg. sign and brackets



ELEVATION

Scale: 1"=30'

Remove extg. sign and brackets

New Sign No. 14 (10'-6" x 16'-0") SB with 2'-6" x 9'-0" exit sign

Remove extg. signs and brackets

Bottom justified with soffit min.

6'-0" shldr. 12'-0" SB lane 12'-0" SB lane 12'-0" SB lane 10'-0" shldr.

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Structure mounts are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st Edition, 2015 and interim revisions 2017.

Basic wind speed (1700 year recurrence interval) used for sign structure design is 115 mph, $G = 1.14$, $K_z = 1.0$ and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise.

All fasteners shall be ASTM A325 unless otherwise noted. All steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

Note:
Elevations are based on the North American Vertical Datum, 1988.



ACCOMPANIED BY DWGS.:
TM220, TM675

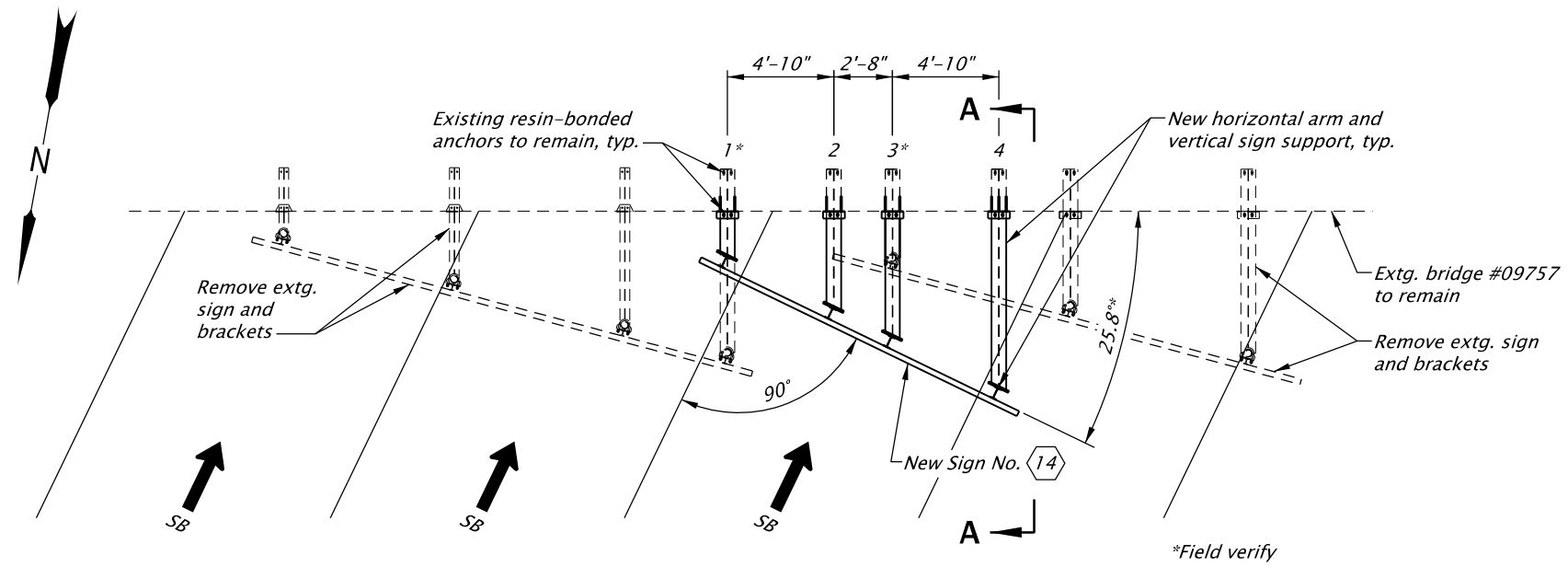
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 09757	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 11.04 SB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
------------------------	----------------------	--------------------	----------------------------	-------------------------	---------------------



EXPIRES: 06/30/2022

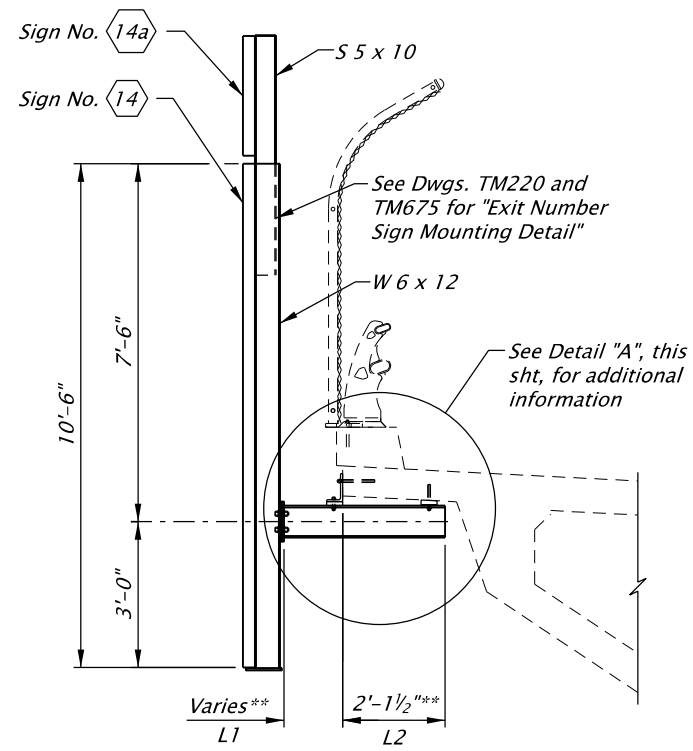
 DOWL <small>WWW.DOWL.COM</small>		
82nd Dr over Hwy 64 (Gladstone Intchg) I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD01
PLAN AND ELEVATION		SHEET NO. LD01



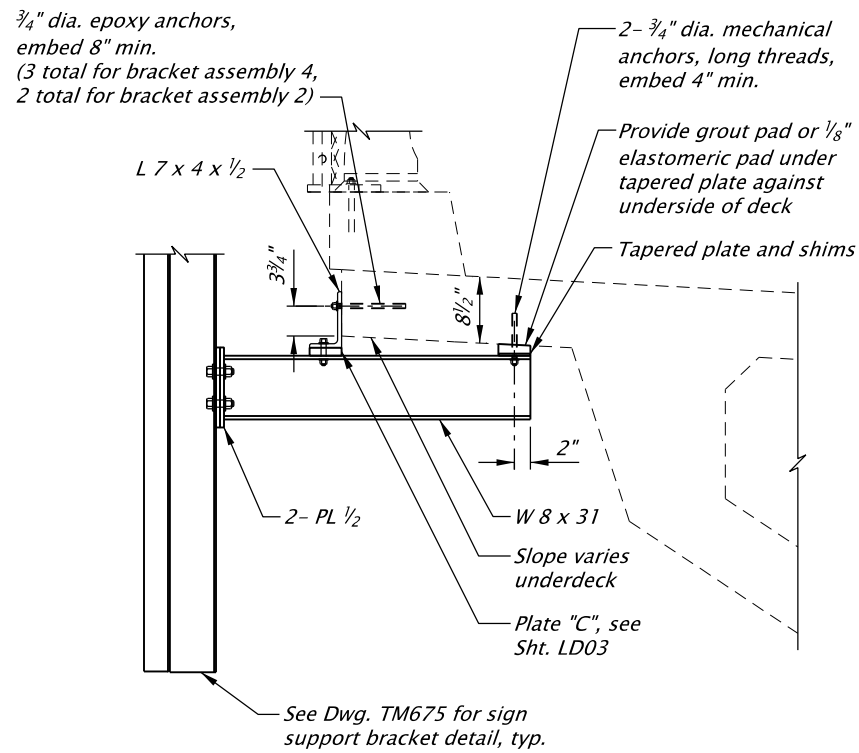
SIGN PLAN
Scale: 1/8"=1'-0"

Notes:

- *1. Bracket assemblies 1 & 3 reuse existing resin-bonded anchors. Contractor shall verify anchor pattern prior to fabrication.
- 2. Bracket assemblies 2 & 4 require new resin-bonded anchors.
- 3. All bracket assemblies require new horizontal arms, vertical sign supports, angles connectors, and plate connectors.



SECTION A-A
Scale: 1/4"=1'-0"



DETAIL "A"
Scale: 1/2"=1'-0"

TABLE "A"								
Sign No.	Brackets							
	1		2		3		4	
	L1	L2	L1	L2	L1	L2	L1	L2
14	1'-11 5/8"	2'-1 1/2"***	4'-3 5/8"	2'-1 1/2"***	5'-7"	2'-1 1/2"***	7'-11"	2'-1 1/2"***

***Field verify

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09757
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	M.P.: 11.04 SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



EXPIRES: 06/30/2022

82nd Dr over Hwy 64 (Gladstone Intchg)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD02
SIGN DETAILS		Scale: Full Size 1=1

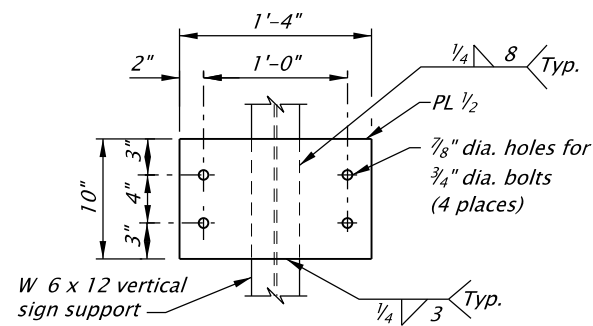


PLATE "A"

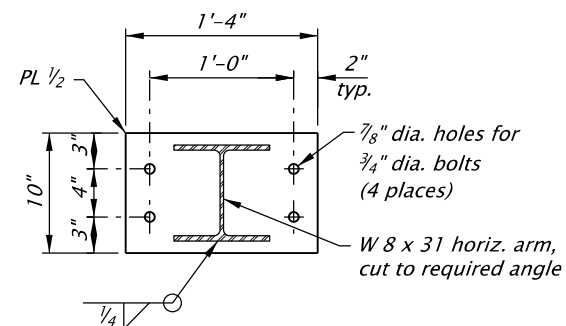


PLATE "B"

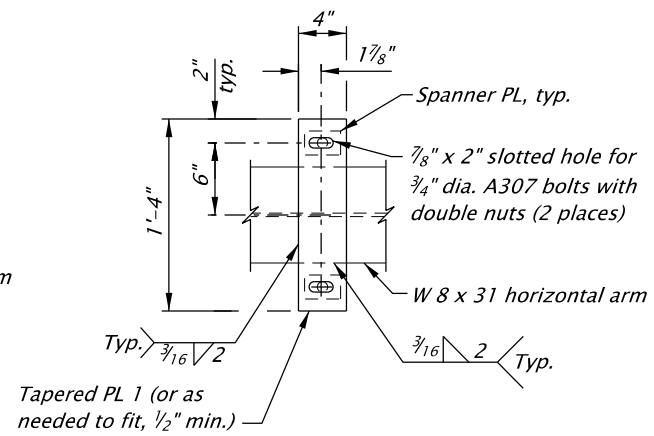
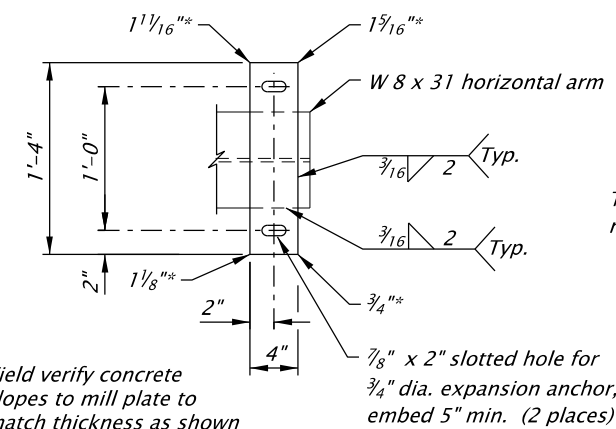
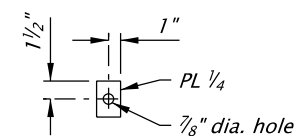


PLATE "C"



TAPERED SHIM

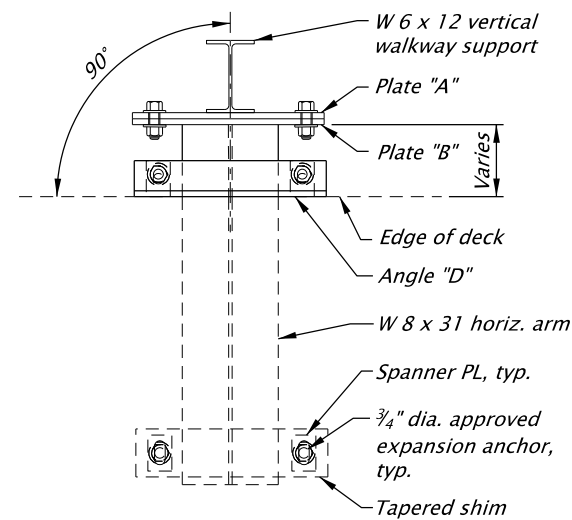
* Field verify concrete slopes to mill plate to match thickness as shown



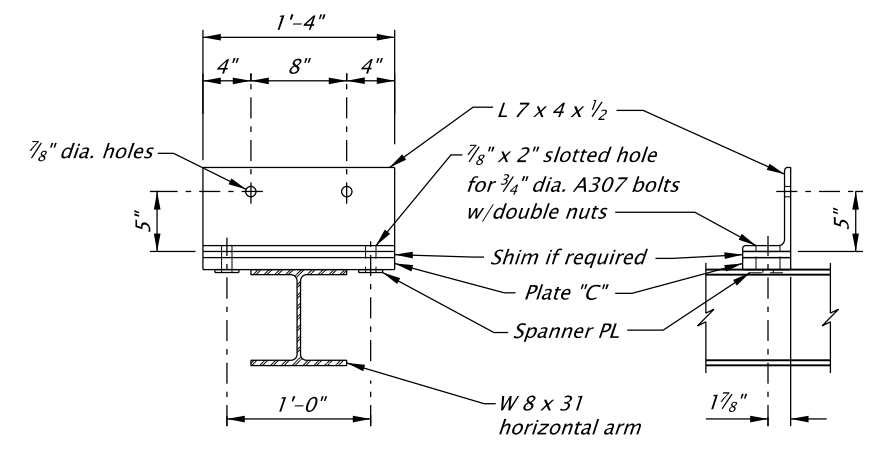
SPANNER PLATE

SIGN MOUNTING DETAILS

Scale: 3/4"=1'-0"



**PLAN
SUPPORT ASSEMBLY**



**ELEVATION
SIDE
ANGLE "D"**



CONNECTION DETAILS

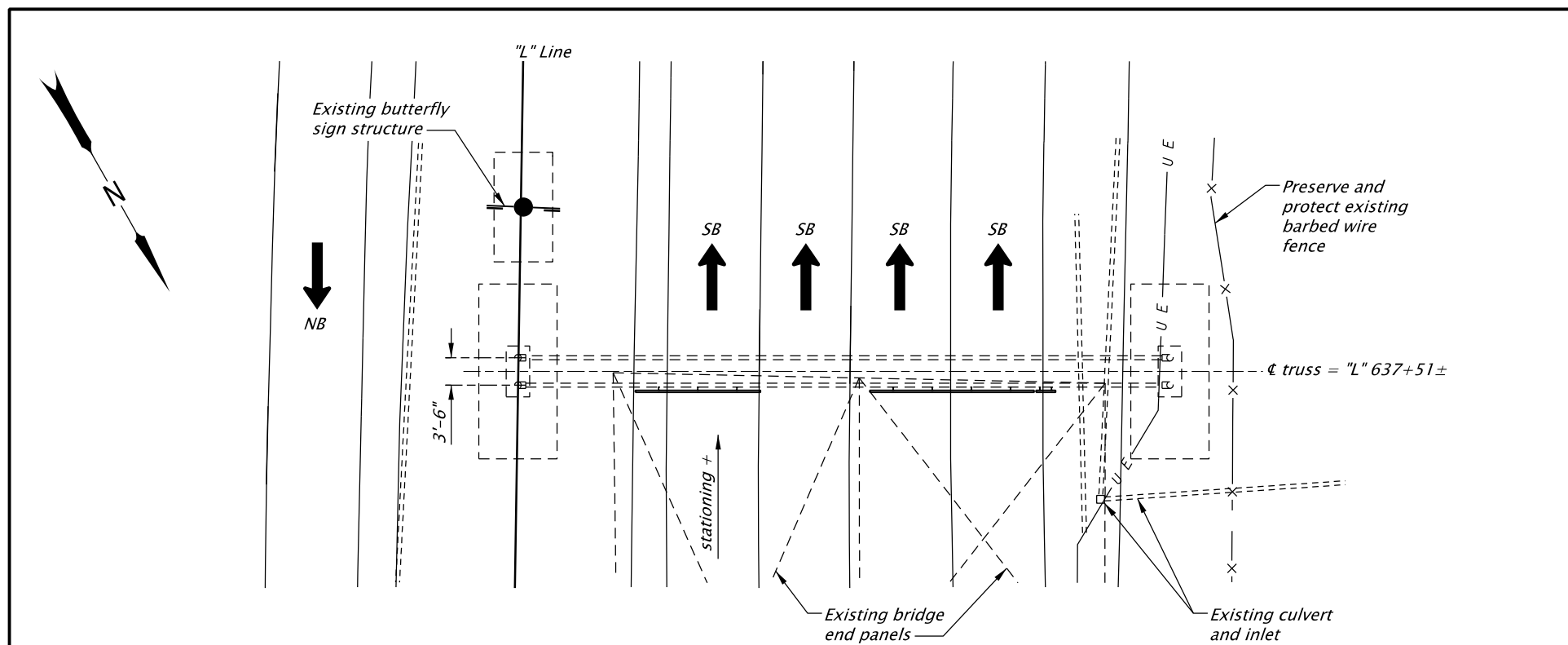
Scale: 3/4"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09757
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 11.04 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

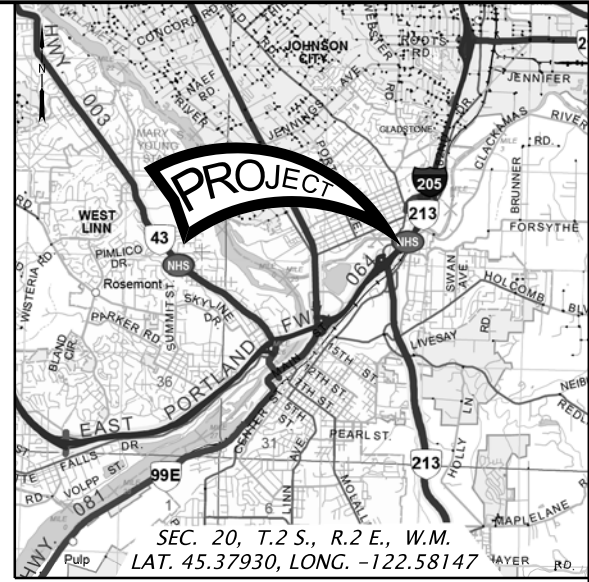


 DOWL <small>WWW.DOWL.COM</small>		
82nd Dr over Hwy 64 (Gladstone Intchg)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
SIGN DETAILS		SHEET NO. LD03



PLAN
Scale: 1"=20'

Existing Sign Bridge M.P. 10.68 SB



LOCATION MAP
No Scale

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Vertical structure mounts are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th edition, 2001 and 2002 interim revisions.

Basic wind speed (3 second gust) used for sign structure design is 110 mph, $G = 1.14$, $I_r = 1.0$ (50 year recurrence interval) and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise. All structural plates shall conform to ASTM A36, or ASTM A572, Grade 42.

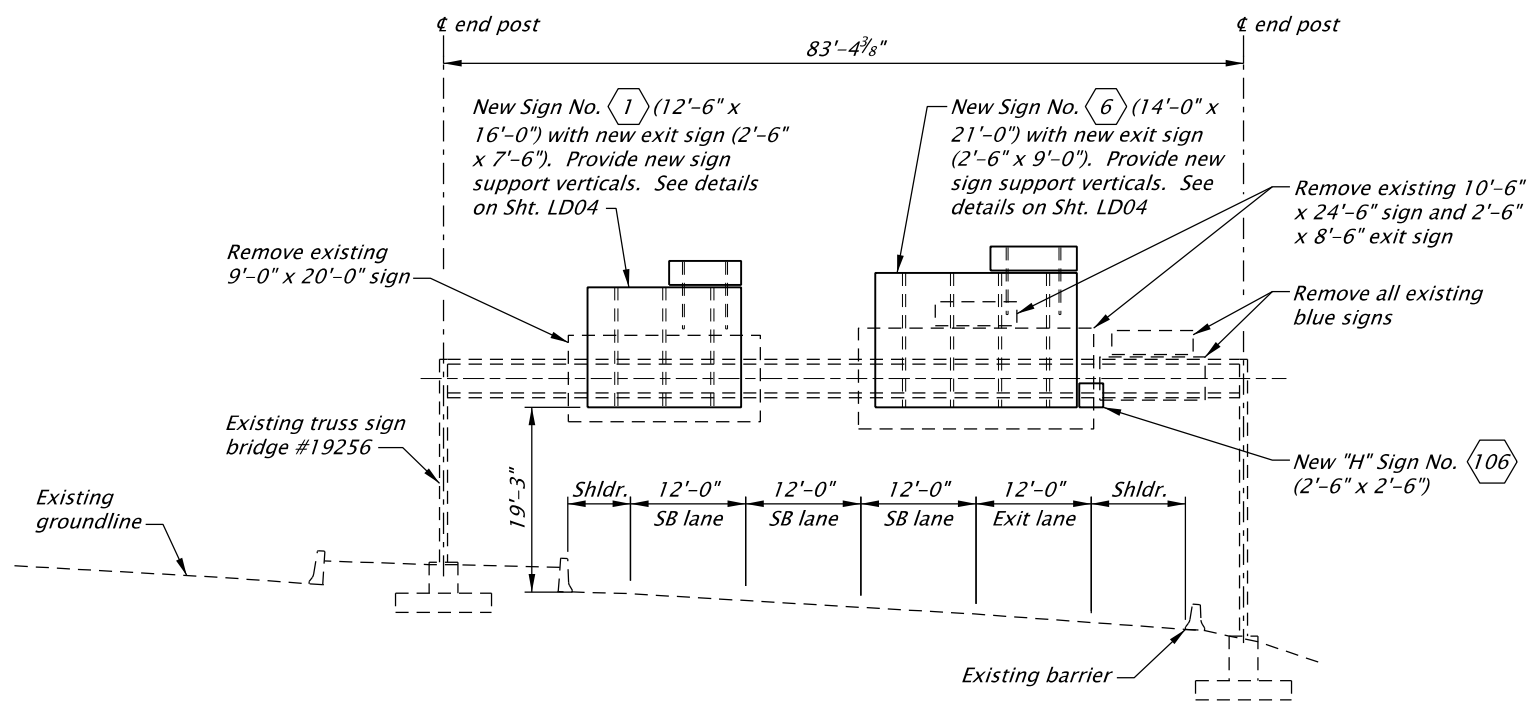
All fasteners shall be ASTM A325 unless otherwise noted. All structural steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

See Signing Plans and Dwgs. TM220, TM618 and TM675 for sign mounting details.

All welding shall conform to the current edition American Welding Society (AWS) D1.1.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



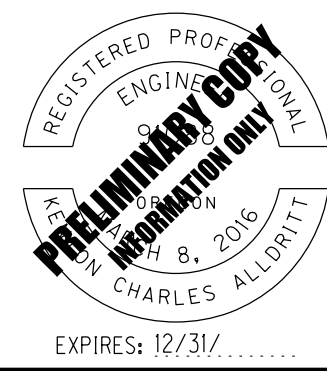
***ELEVATION**
Scale: 1"=20' *Elevation view is looking ahead on station, SB direction



Note:
Elevations are based on the North American Vertical Datum, 1988.

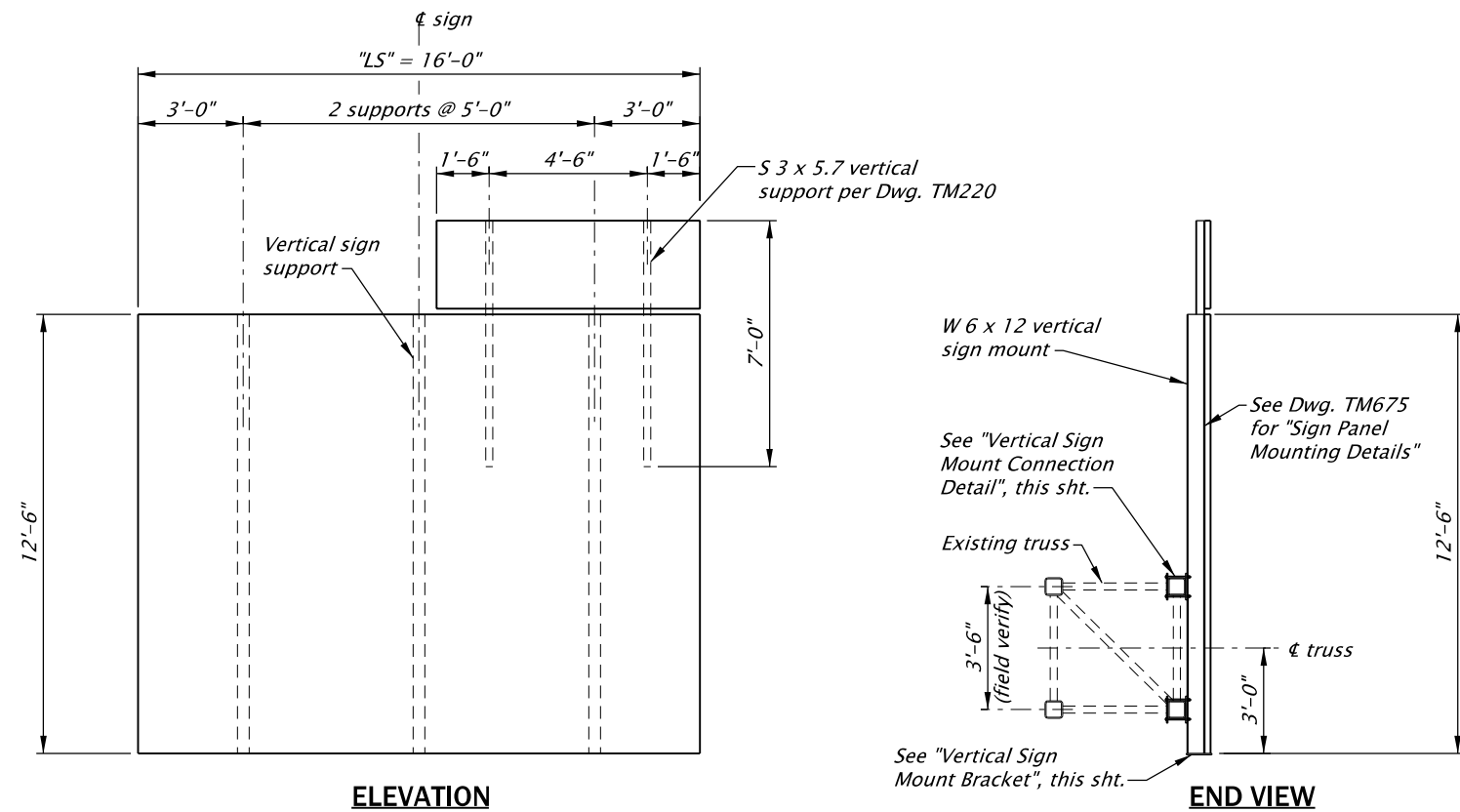
ACCOMPANIED BY DWGS.:
000000, TM220, TM618, TM675

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

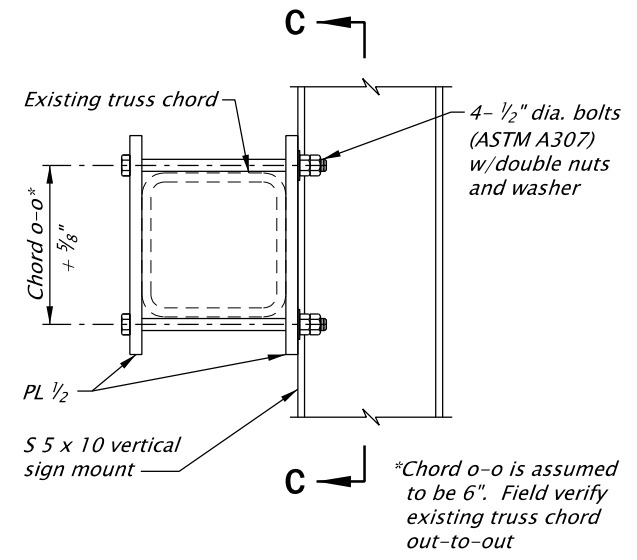
STRUCTURE NO.	19256
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 10.68 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



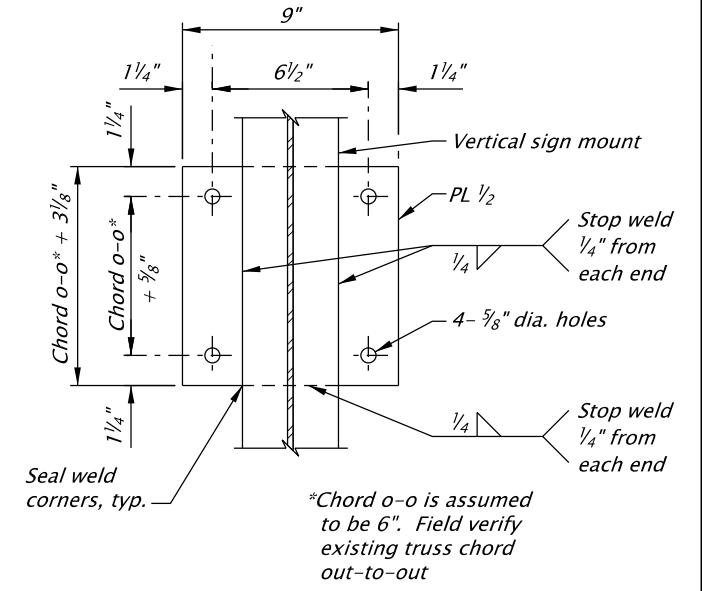
 DOWL <small>WWW.DOWL.COM</small>		
SIGN BRIDGE, HWY 64 SB @ MP 10.68 I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Kenton Alldritt, P.E.	Reviewer: Douglas Kirkpatrick, P.E.	PLAN AND ELEVATION
Drafter: Yuka Garzenelli	Checker: Peter G. Stocum, P.E., S.E.	
PLAN AND ELEVATION		SHEET NO. LD04



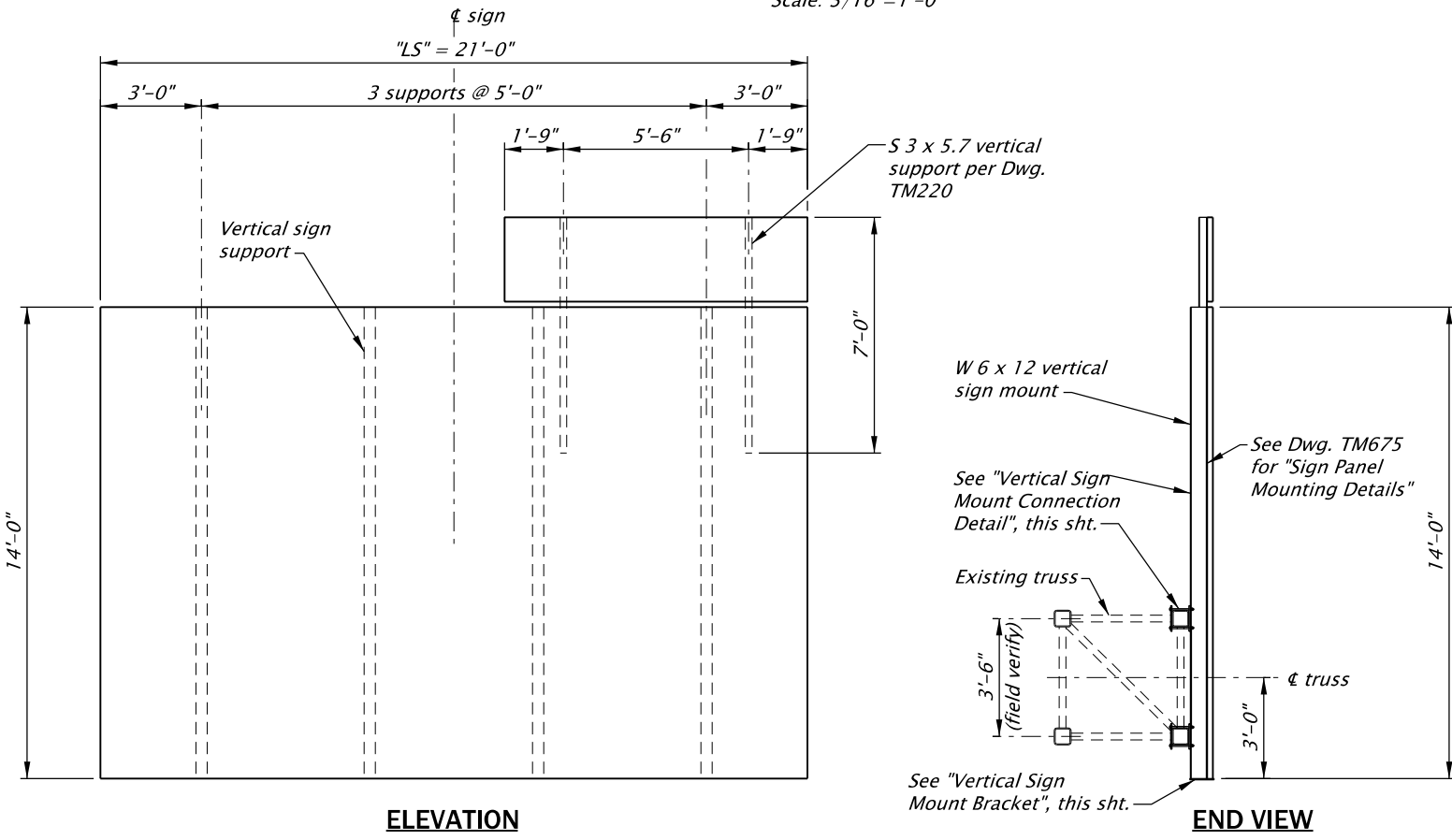
VERTICAL SIGN MOUNT - SIGN NO. 1
Scale: 3/16"=1'-0"



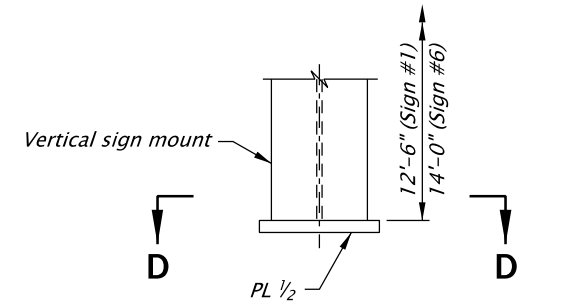
VERTICAL SIGN MOUNT CONNECTION DETAIL
Scale: 1 1/2"=1'-0"



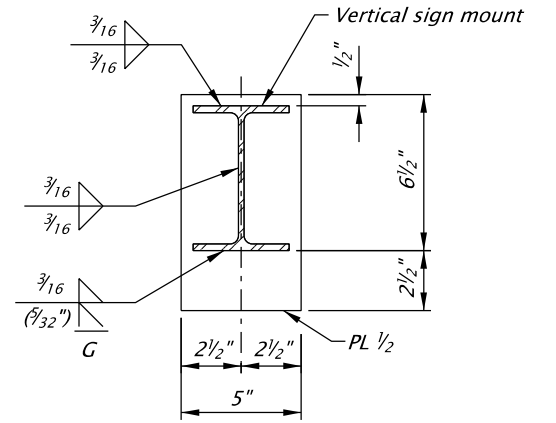
SECTION C-C
Scale: 1 1/2"=1'-0"



VERTICAL SIGN MOUNT - SIGN NO. 6 (SIMILAR FOR SIGN NO. 106)
Scale: 3/16"=1'-0"



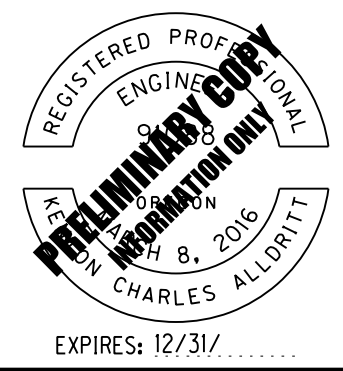
VERTICAL SIGN MOUNT BRACKET
Scale: 1 1/2"=1'-0"





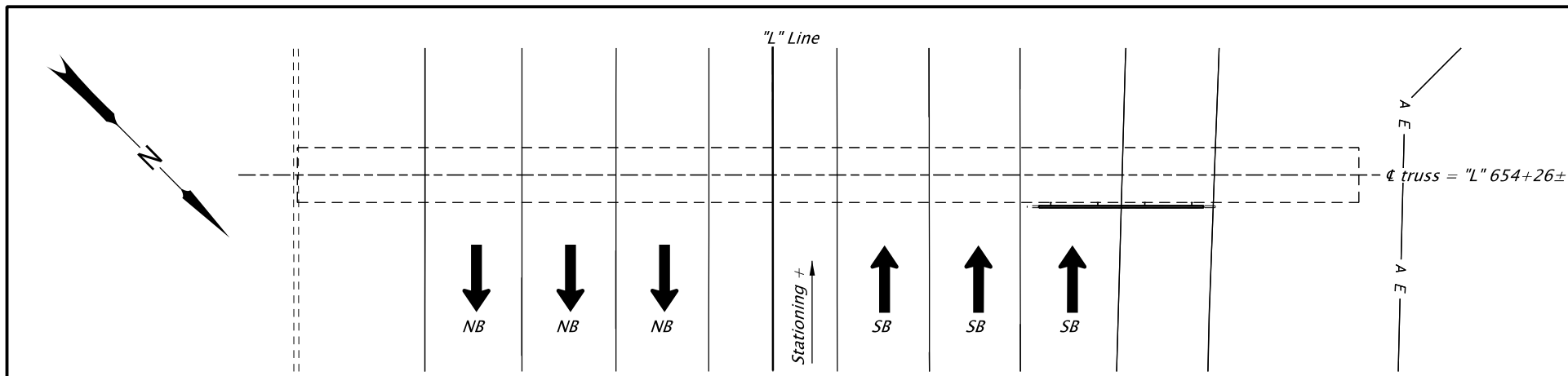
SECTION D-D
Scale: 1 1/2"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	19256
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 10.68 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

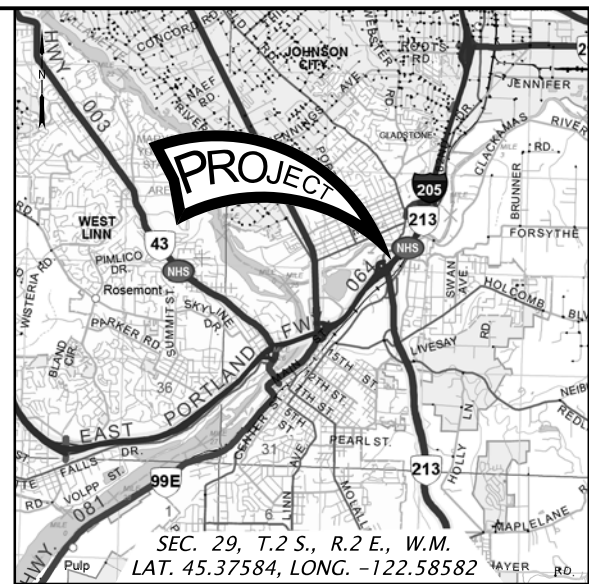


 DOWL <small>WWW.DOWL.COM</small>		
SIGN BRIDGE, HWY 64 SB @ MP 10.68 I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Kenton Alldritt, P.E.	Reviewer: Douglas Kirkpatrick, P.E.	SIGN DETAILS
Drafter: Yuka Garzenelli	Checker: Peter G. Stocum, P.E., S.E.	
SIGN DETAILS		SHEET NO. LD05

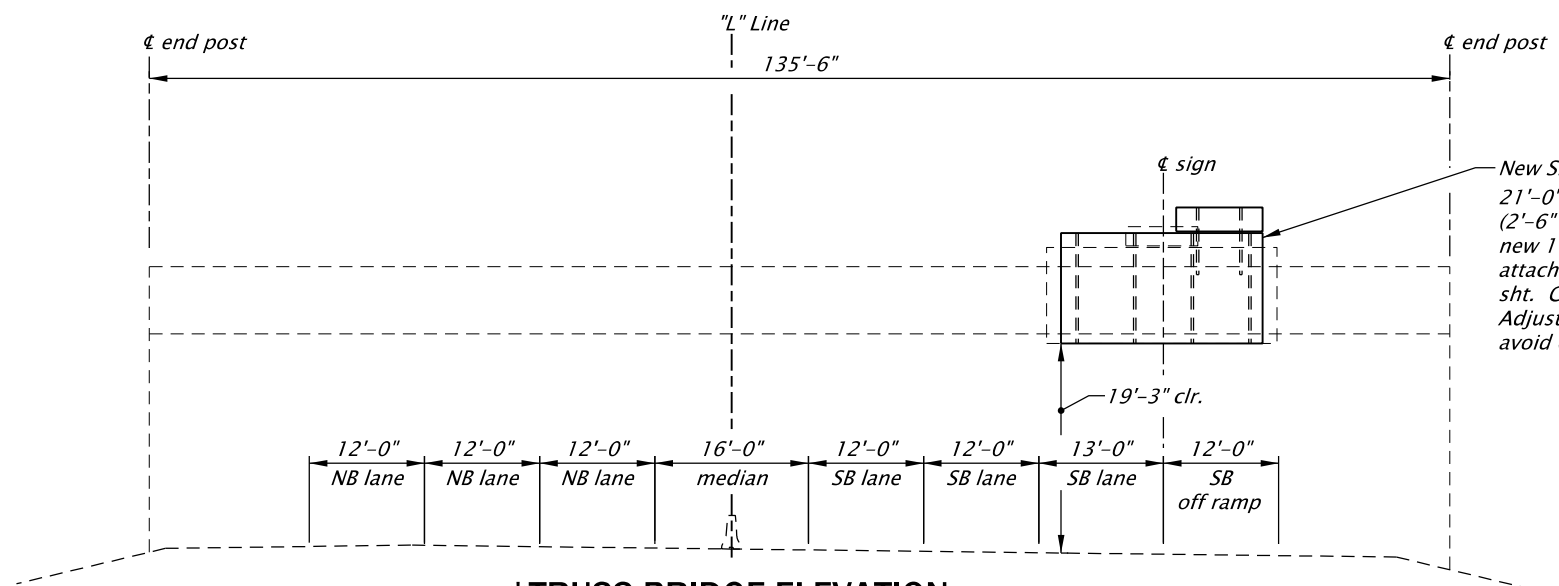


PLAN
Scale: 1"=20'

EXISTING SIGN BRIDGE M.P. 10.34 SB



LOCATION MAP
No Scale



***TRUSS BRIDGE ELEVATION**

Scale: 1"=20' *Elevation view is looking ahead on station, SB direction.

New Sign No. 2 (11'-6" x 21'-0") with new exit sign (2'-6" x 9'-0"). Provide four new 11'-6" high verticals and attachment. See details this sht. Centered over lane line. Adjust location of verticals to avoid existing connections

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Vertical structure mounts are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th edition, 2001 and 2002 interim revisions.

Basic wind speed (3 second gust) used for new sign support design only is 110 mph, $G = 1.14$, $I_r = 1.0$ (50 year recurrence interval) and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise. All structural plates shall conform to ASTM A36, or ASTM A572, Grade 42.

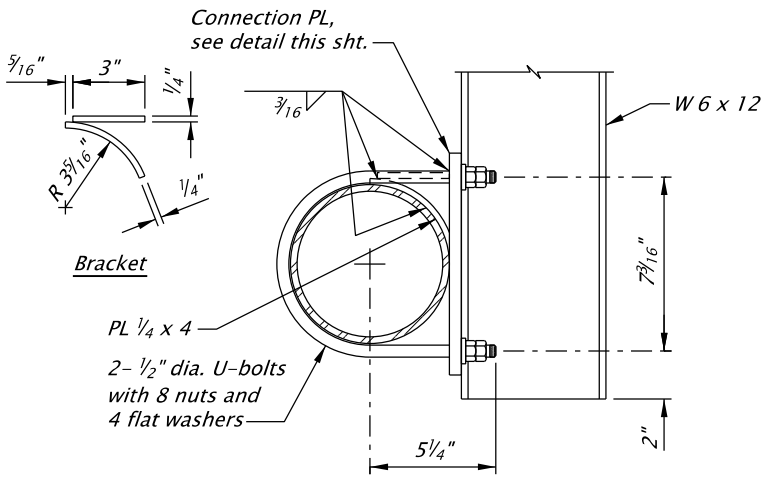
All fasteners shall be ASTM A325 unless otherwise noted. All structural steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

See Signing Plans and Dwgs. TM220, TM618 and TM675 for sign mounting details.

All welding shall conform to the current edition American Welding Society (AWS) D1.1.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



DETAIL A
Scale: 1 1/2"=1'-0"



CONNECTION PLATE DETAIL
Scale: 1 1/2"=1'-0"

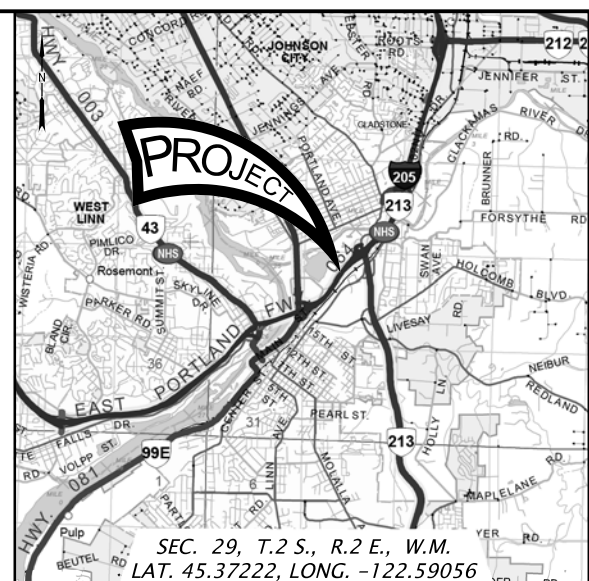
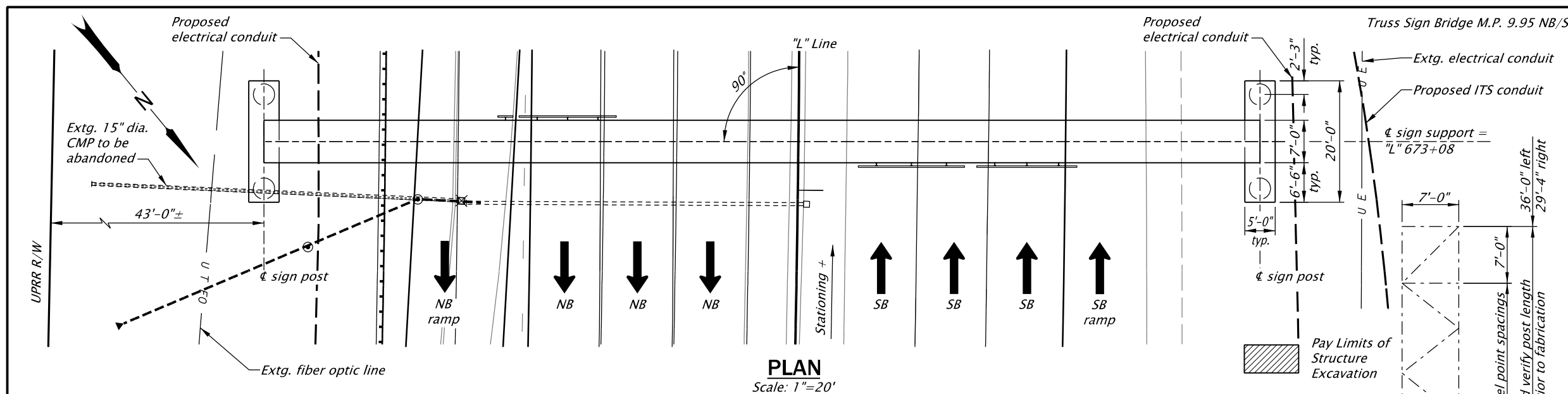
ACCOMPANIED BY DWGS.:
TM220, TM618, TM675

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	19257
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	M.P.: 10.34 SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



SIGN BRIDGE, HWY 64 SB @ MP 10.34	
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.
PLAN AND ELEVATION	
SHEET NO. LD06	



General Notes:

All materials and workmanship shall conform to the Oregon Standard Specifications for Construction 2018 and the Special Provisions. Truss type sign bridge structures are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, with 2001 and 2002 interim Revisions and Dwg. TM614 through TM620.

The sign support shall meet the requirements for span length, post height, and sign area, as shown on Dwg. TM614. Use sign bridge design for "S" = 148' to 167'.

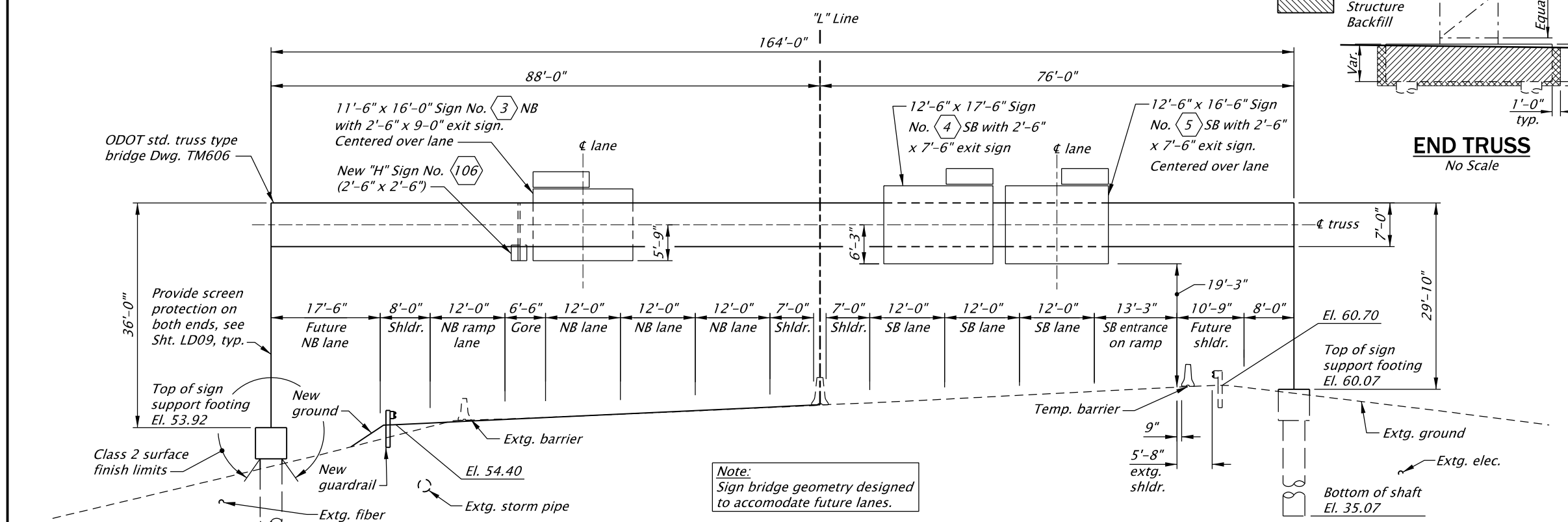
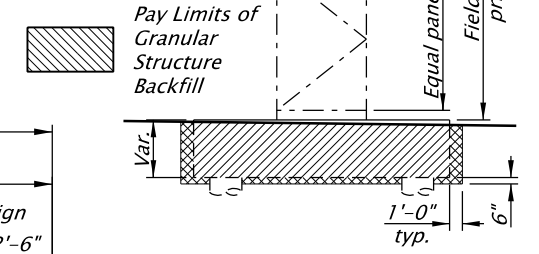
Sign support structure is designed for all items shown including future signs and lanes (by others).

Field verify conditions, elevations, dimensions, and span prior to fabrication. Field verify utility locations and conditions prior to construction.

See Traffic Plans for sign information.

Right of way line and wetland boundary are outside limits of view.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



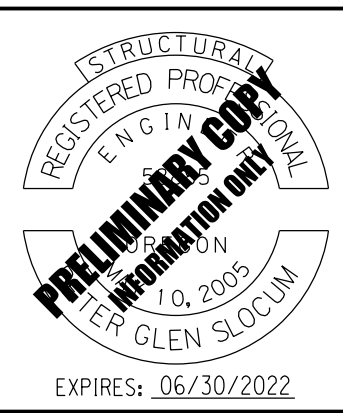
Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA (Left and Right are as seen while looking ahead on station)									
Sign Bridge	"S" Span	Foundation Sheet Number	Spread Footing Foundation Design Number See Dwg. TM619	"HP" Post Height see Dwg. TM614 (Field Verify)		"HF" Foundation Height see Dwg. TM619 (Field Verify)		Luminaires ("Yes" or "No") see Dwg. TM618	
				Left	Right	Left	Right		
At Station	M.P.								
"L" 673+08	9.95 NB/SB	164'-0"	LD02	N/A	36'-0"	29'-10"	N/A	N/A	No

ACCOMPANIED BY DWGS.:
000000, 000000, TM606,
TM614-TM620

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	M.P.: 9.95 NB/SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

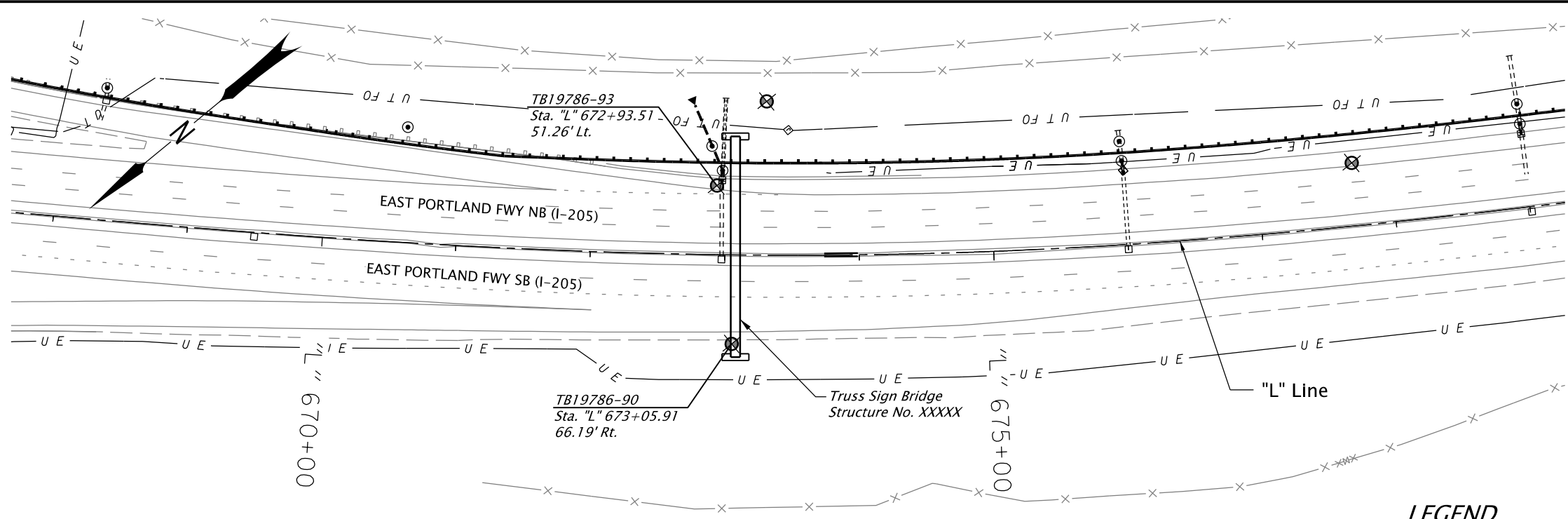


DOWL www.dowl.com
sn_Hwy064_MP9.95

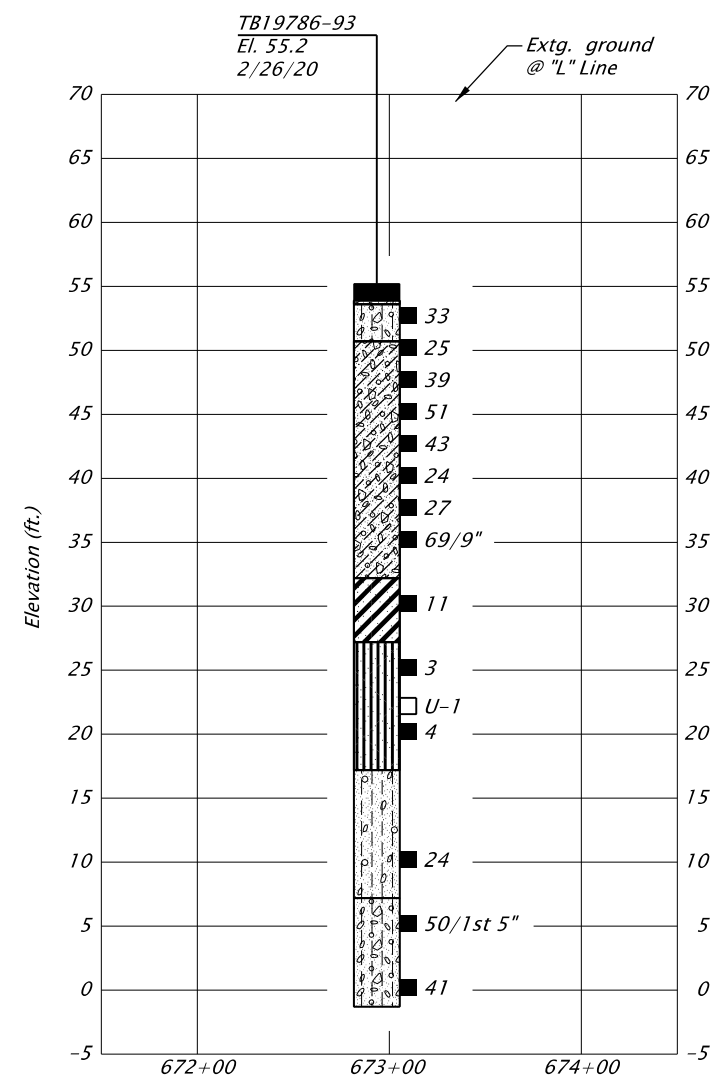
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Peter G. Slocum, P.E., S.E. Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli Checker: Wyatt Dean, E.I.

PLAN AND ELEVATION SHEET NO. LD07

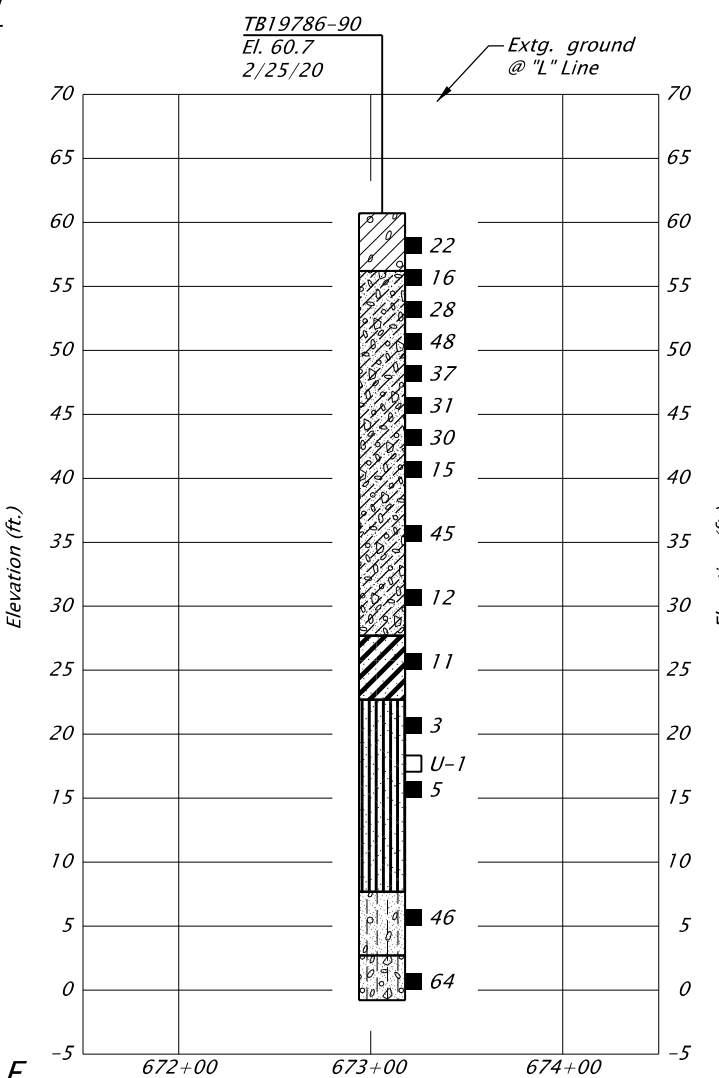


PLAN



PROFILE

Horiz. scale: 1"=100'
Vert. scale: 1"=15'



NOTE:
Elevations shown are based on
North American Vertical Datum 1988 (NAVD88).

UNIT DESCRIPTIONS

- ASPHALTIC CONCRETE
- BASE ROCK
- Sandy silty GRAVEL (GM); yellow-brown, non-plastic silt, damp to moist, dense, fine to coarse sand, fine to coarse subangular to subrounded gravel, (fill).
- Gravelly silty CLAY, some sand (CL); brown, low to medium plasticity, moist, very stiff, fine to coarse sand, fine to coarse subangular to subrounded gravel, (fill).
- Sandy clayey GRAVEL (GC); brown, low to medium plasticity clay, moist, medium dense to very dense, fine to coarse sand, fine to coarse angular to subrounded gravel, (fill).
- CLAY, some sand, trace gravel (CH); grey, high plasticity, moist, stiff, fine sand, coarse subangular gravel, (alluvium).
- Clayey SILT, some sand (MH); grey, low to medium plasticity, moist, soft to stiff, fine sand, micaceous, (alluvium).
- Gravelly silty SAND (SM); brown or grey, non-plastic to low plasticity silt, moist, medium dense to dense, fine to coarse sand, fine to coarse subangular to rounded gravel, (alluvium).
- Sandy silty GRAVEL (GM); grey or brown, non-plastic silt, moist, dense to very dense, fine to coarse sand, fine to coarse subangular to rounded gravel, (alluvium).

LEGEND

- = Geotech Test Boring (TB)
- 24 = Standard Penetration Test (SPT)
N-value
- U-1 = Shelby Tube Sample

Notes:
1. Borings were sampled with a hammer efficiency of 69.2%.
2. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
3. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.95 NB/SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OREGON 97330
BUS (541) 757-7645 FAX (541) 757-7650

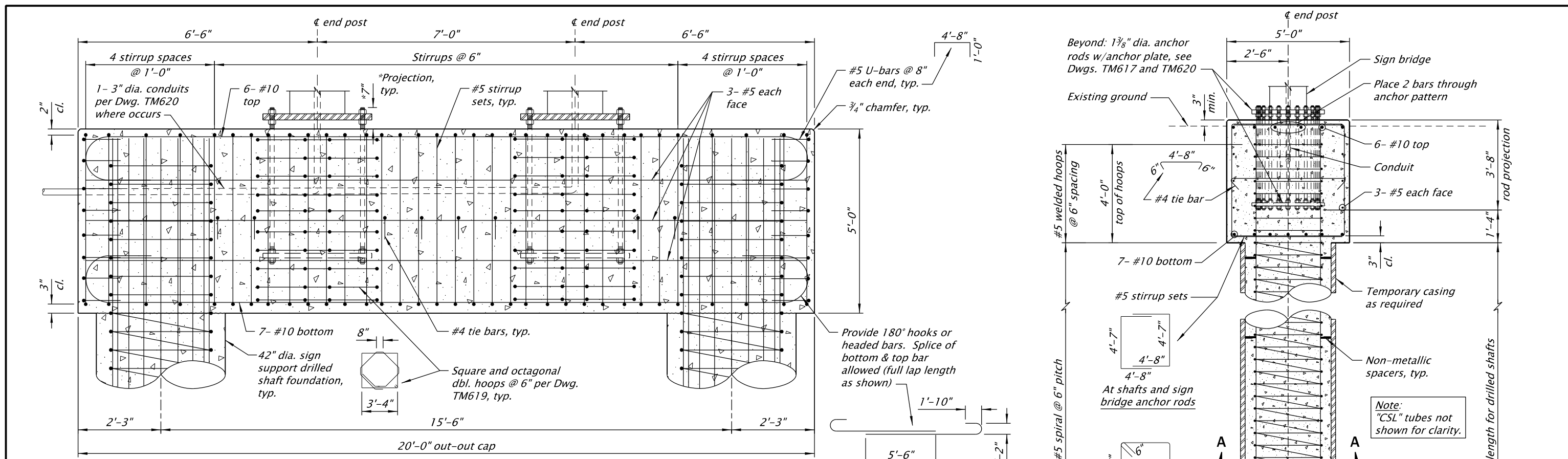
sn_Hwy064_MP9.95
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

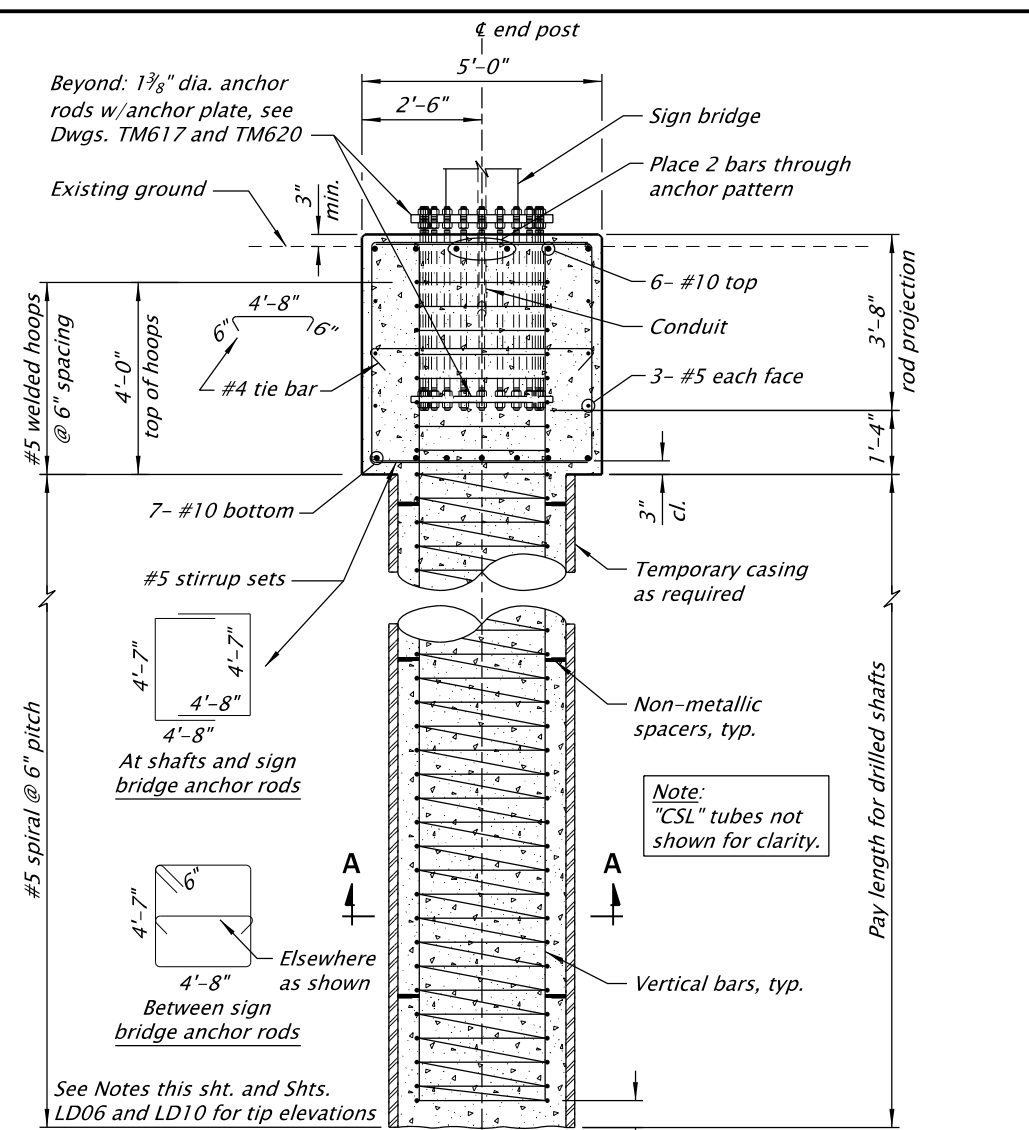
GEOTECHNICAL DATA



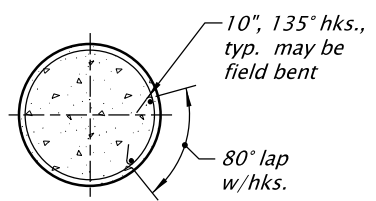
SHEET NO.
LD07A



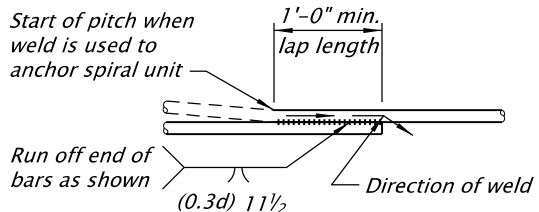
SIGN BRIDGE FOOTING DETAIL
Scale: 3/8"=1'-0"



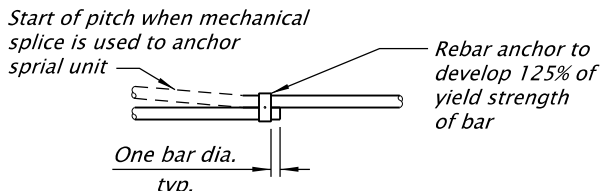
SECTION A-A
DRILLED SHAFT
Scale: 1/4"=1'-0"



LAPPED SPLICE OPTION



WELDED SPLICE OPTION



MECHANICAL SPLICE OPTION

SPIRAL SPLICE/TERMINATION DETAIL
No Scale

Drilled Shaft Notes:

Reinforced concrete drilled shafts shall be constructed in accordance with the "Oregon Standard Specifications for Construction" 2018 and the Special Provisions. Minimum tip elevations of drilled shafts shall be as shown on Plan and Elevation sheets.

Where groundwater is encountered and excavations are not dewatered, the concrete must be placed with a rigid pipe tremie in accordance with Section 00512.47(c).

Coordinate moving existing barrier for construction and traffic activities with ODOT.

Securely tie "CSL" tubes to reinforcement.

Cap concrete shall be Class 4000 - 3/4".

Drilled shaft concrete shall be Class 4000 - 3/8".

Use temporary casing as required. Permanent casing not permitted.

See Dwg. TM615 for notes not shown.

Spiral Notes:

Reinforcing steel shall conform to ASTM A615 (Grade 60) or A706.

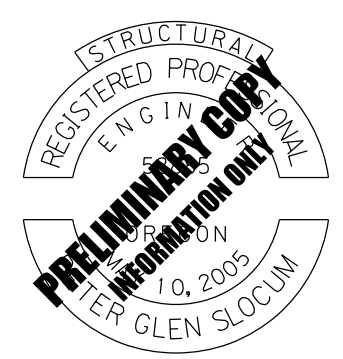
ASTM A706 spirals shall be used for all welded splices, except ASTM A615 (Grade 60), ASTM A82, or ASTM A496 may be used if copies of the chemical composition analysis are submitted and approved as weldable by the Engineer.

Make flare weld in direction shown.

Mechanical splice is not allowed for ASTM A82 spirals.

Spirals shall be terminated at each end or discontinuity with 1 1/2 extra turns and a splice to itself as shown.

STRUCTURE NO.	00000, 00000
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	M.P.: 9.95 NB/SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



EXPIRES: 06/30/2022

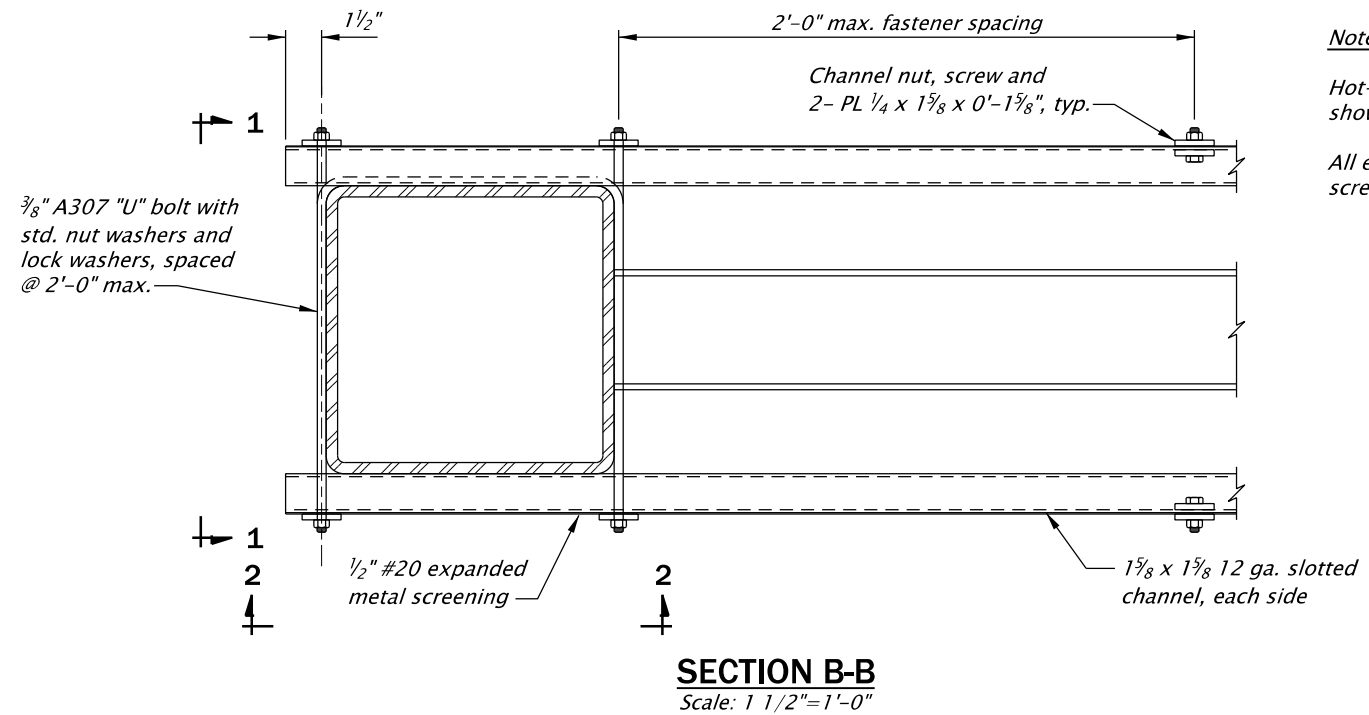
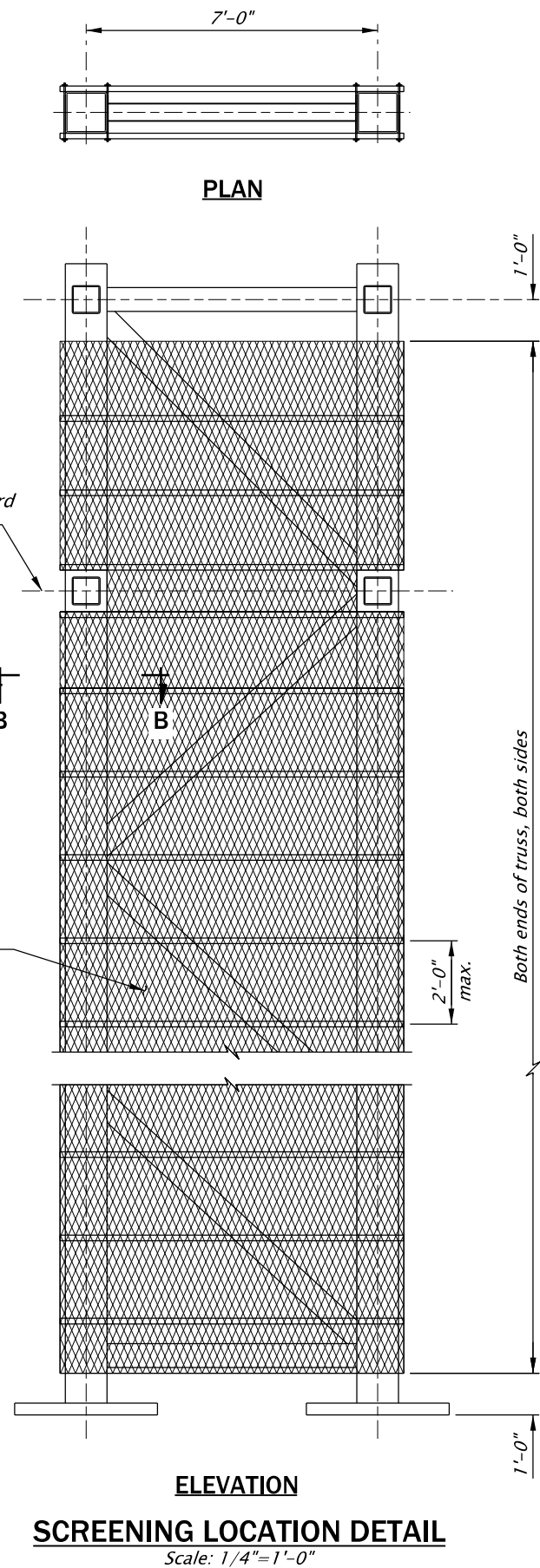
DOWL www.dowl.com
sn_Hwy064_MP9.95

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

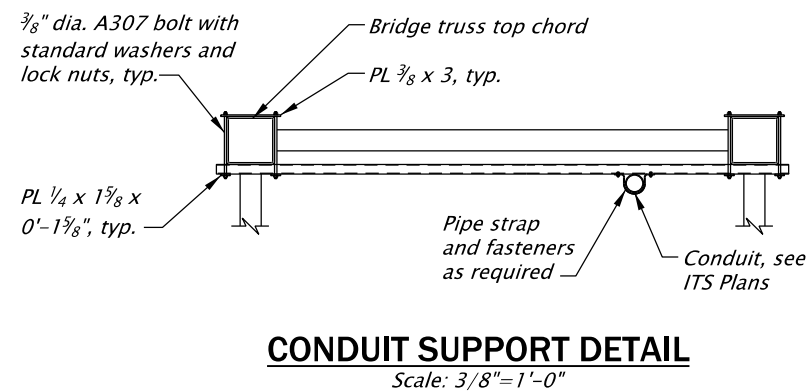
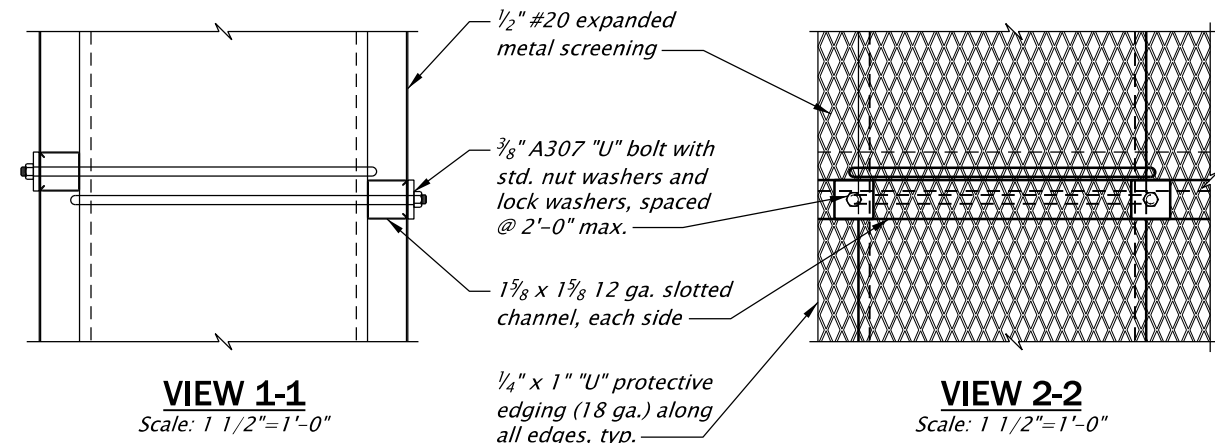
Designer: Peter G. Slocum, P.E., S.E. Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli Checker: Wyatt Dean, E.I.

SIGN BRIDGE DETAILS

SHEET NO.
LD08

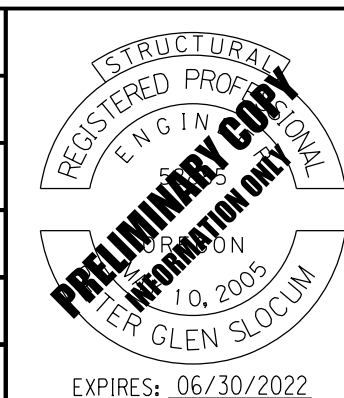




Notes:
 Hot-dip galvanize all steel shown on this sheet.
 All expanded flattened metal screening shall be ASTM F1267.

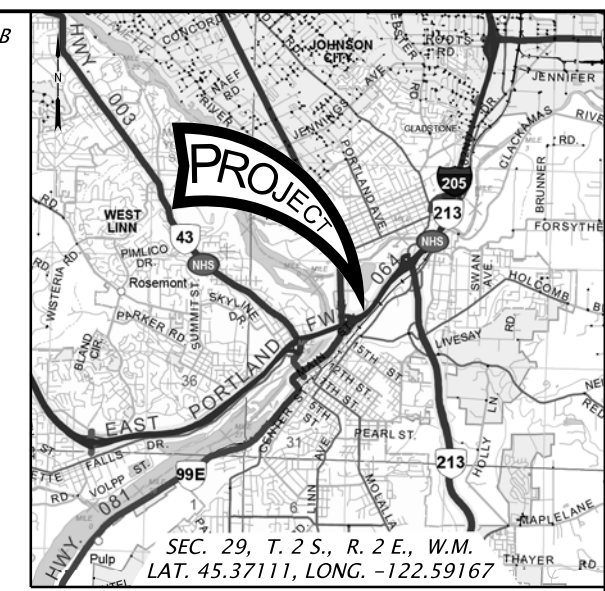
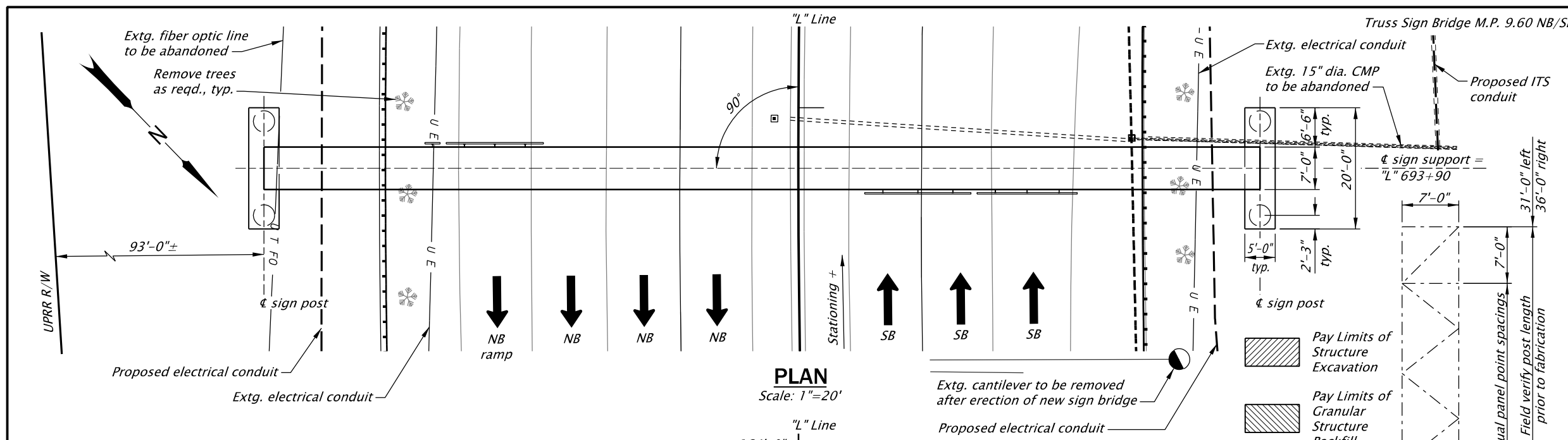


SCALE WARNING
 IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000, 00000
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.95 NB/SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



 DOWL <small>WWW.DOWL.COM</small> sn_Hwy064_MP9.95		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	SIGN BRIDGE DETAILS
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
SHEET NO. LD09		



Notes:

All materials and workmanship shall conform to the Oregon Standard Specifications for Construction 2018 and the Special Provisions. Truss type sign bridge structures are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, with 2001 and 2002 interim Revisions and Dwg. TM614 through TM620.

The sign support shall meet the requirements for span length, post height, and sign area, as shown on Dwg. TM614. Use sign bridge design for "S" = 148' to 167'.

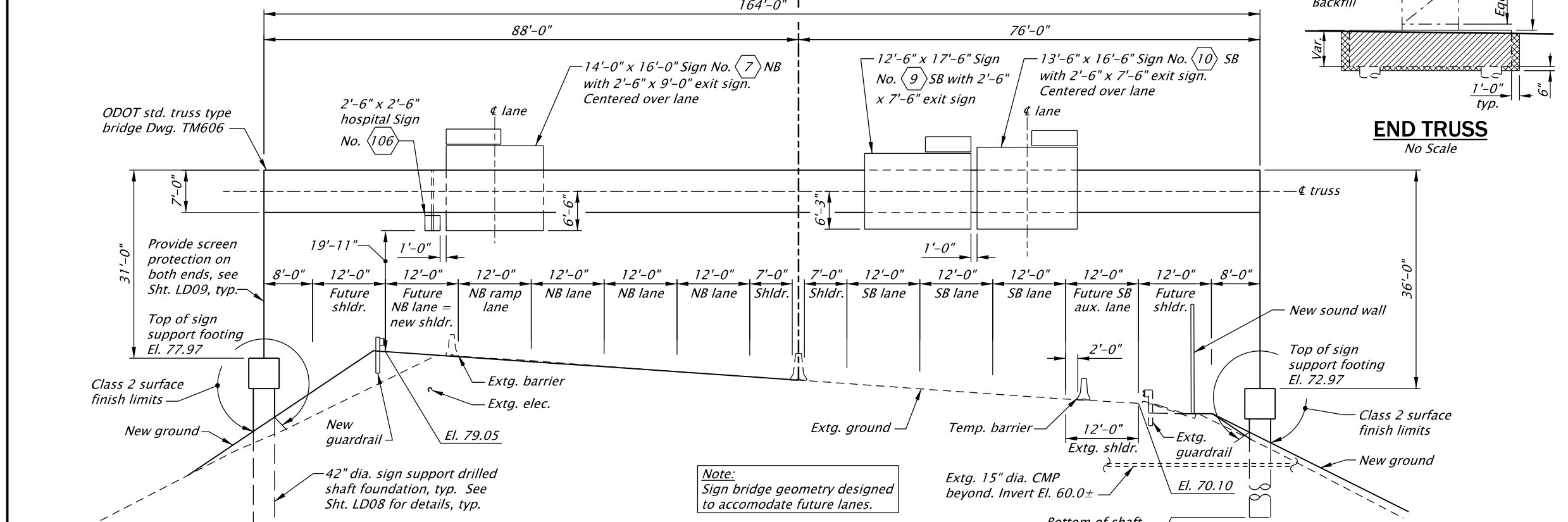
Sign support structure is designed for all items shown including future signs and lanes (by others).

Field verify conditions, elevations, dimensions, and span prior to fabrication. Field verify utility locations and conditions prior to construction.

See Traffic Plans for sign information.

Right of way line and wetland boundary are outside limits of view.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA
(Left and Right are as seen while looking ahead on station)

Sign Bridge	"S" Span	Foundation Sheet Number	Spread Footing Foundation Design Number See Dwg. TM619	"HP" Post Height see Dwg. TM614 (Field Verify)		"HF" Foundation Height see Dwg. TM619 (Field Verify)		Luminaires ("Yes" or "No") see Dwg. TM618	
				Left	Right	Left	Right		
At Station	M.P.								
"L" 693+90	9.60 NB/SB	164'-0"	LD02	N/A	31'-0"	36'-0"	N/A	N/A	No

ACCOMPANIED BY DWGS.:
000000, 000000, TM606,
TM614-TM620

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	M.P.: 9.60 NB/SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

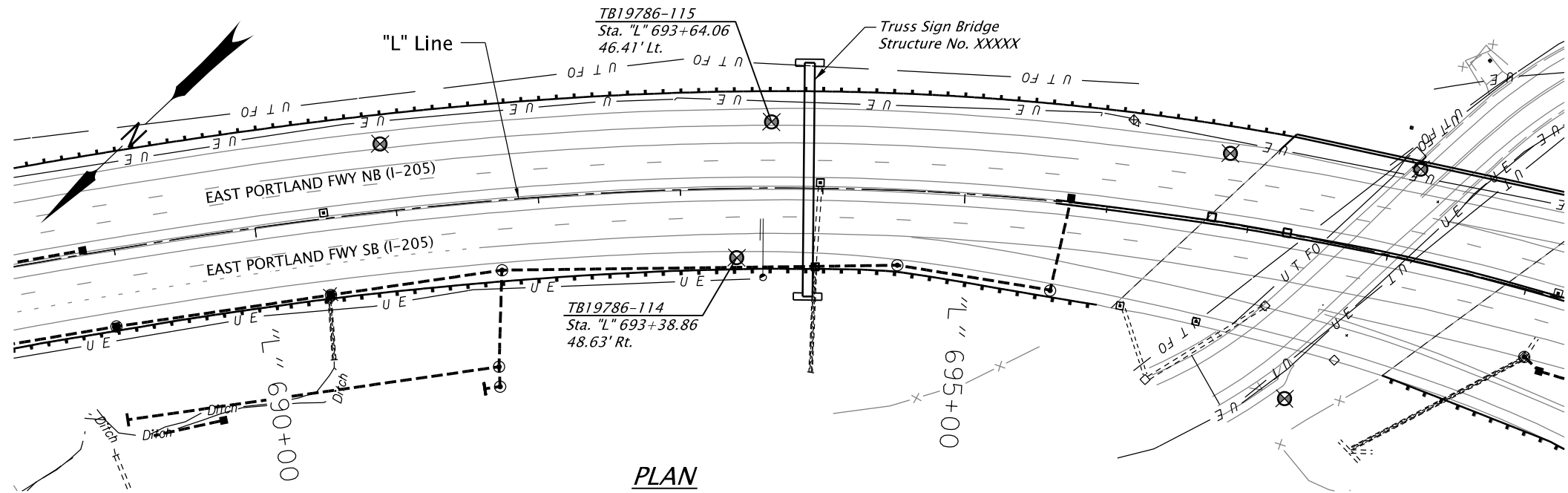


DOWL www.dowl.com
sn_Hwy064_MP9.60

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY









Designer: Peter G. Slocum, P.E., S.E. Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli Checker: Wyatt Dean, E.I.

PLAN AND ELEVATION SHEET NO. LD10






PLAN

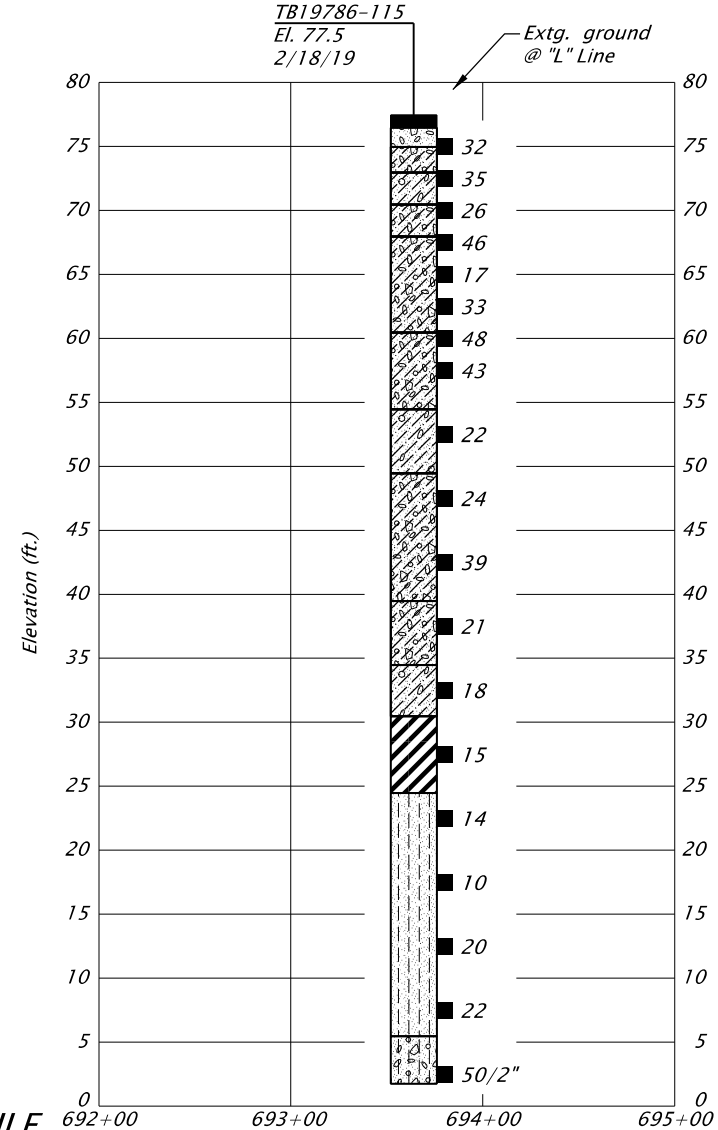
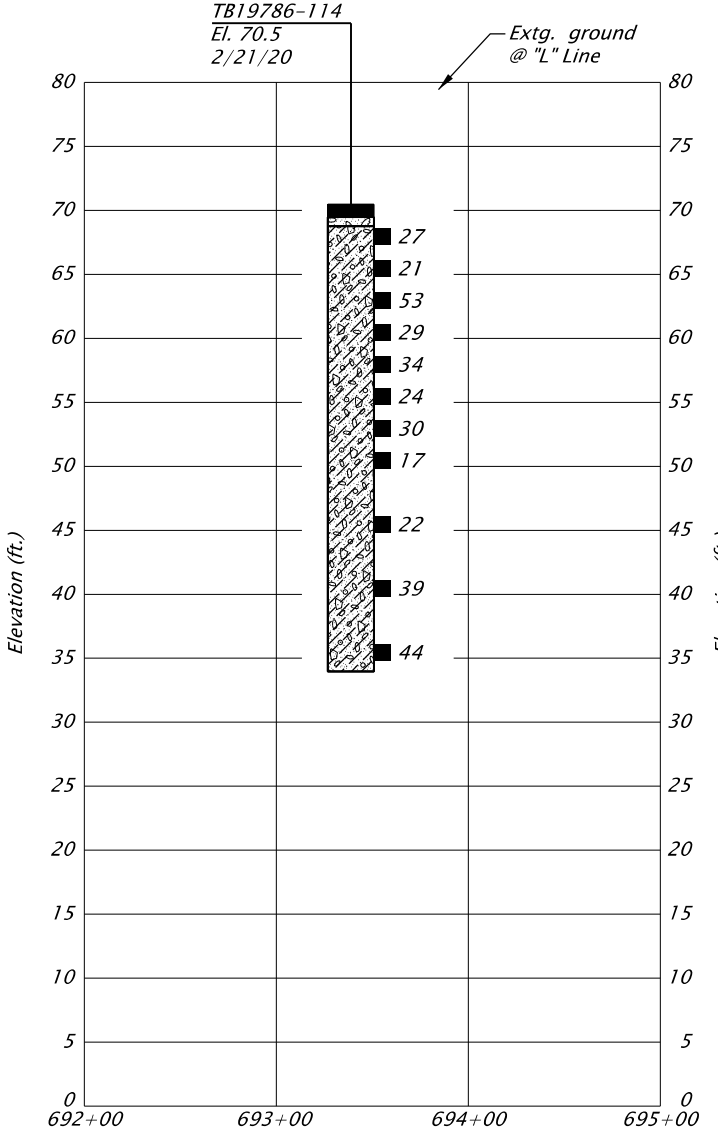
UNIT DESCRIPTIONS

-  ASPHALTIC CONCRETE
-  BASE ROCK
-  Clayey sandy GRAVEL or Sandy clayey GRAVEL (GC); grey to brown or orange-brown, medium plasticity clay, moist to wet, medium dense to very dense, fine to coarse sand, fine to coarse angular to subrounded gravel, (fill).
-  Sandy GRAVEL, some clay (GP-GC); red-brown and grey-brown, low to medium plasticity clay, wet, medium dense to dense, fine to coarse sand, fine to coarse angular to subangular gravel, (fill).
-  Gravelly clayey SAND or Clayey SAND, some gravel (SC); grey to brown or red-brown, moist to wet, medium dense to dense, fine to coarse sand, fine to coarse angular to subangular gravel, (fill).
-  CLAY (CH); grey, high plasticity, moist, stiff to very stiff, scattered organics and rootlets, (alluvium).
-  Silty SAND (SM); brown, non-plastic to low plasticity silt, moist to wet, loose to medium dense, fine to medium sand, micaceous, slight iron-oxidation and staining, (alluvium).
-  Sandy GRAVEL, some silt (GP-GM); grey, non-plastic silt, wet, very dense, fine to coarse sand, fine to coarse subangular to subrounded gravel, (alluvium).

LEGEND

-  = Geotech Test Boring (TB)
-  = Standard Penetration Test (SPT)
-  N-value

- Notes:**
- Borings were sampled with a hammer efficiency of 69.2% to 88.0%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.



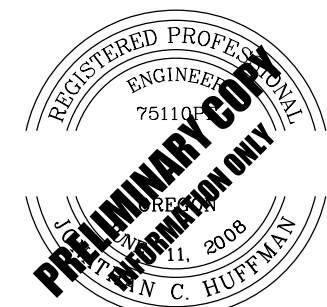
PROFILE

Horiz. scale: 1"=100'
Vert. scale: 1"=15'



NOTE:
Elevations shown are based on North American Vertical Datum 1988 (NAVD88).

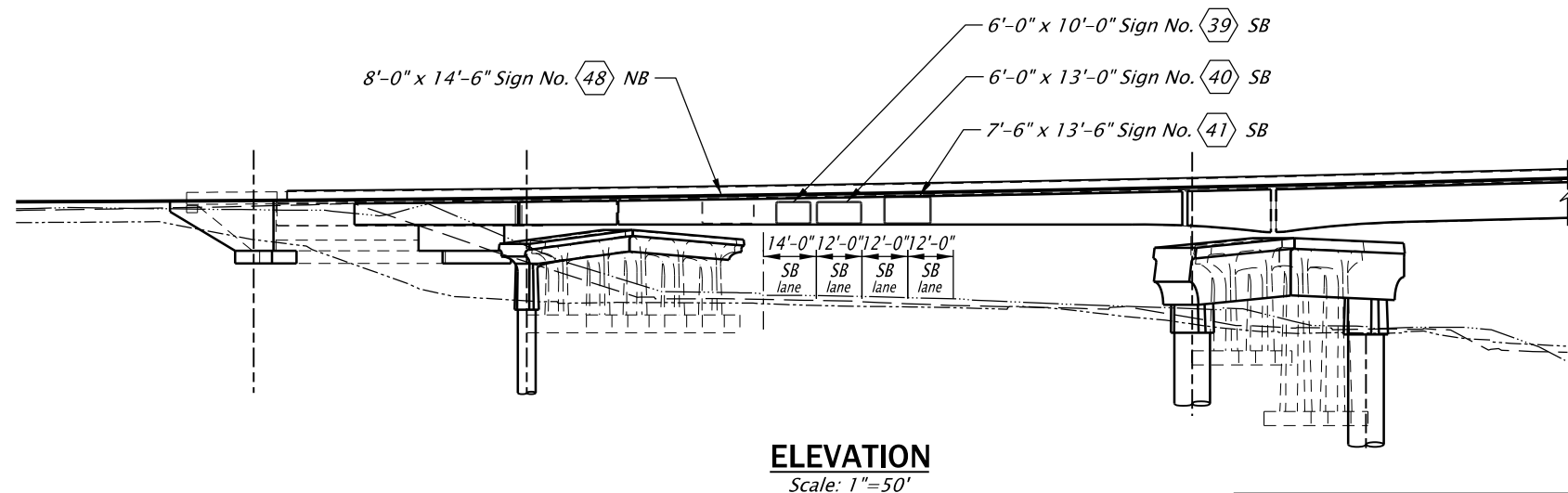
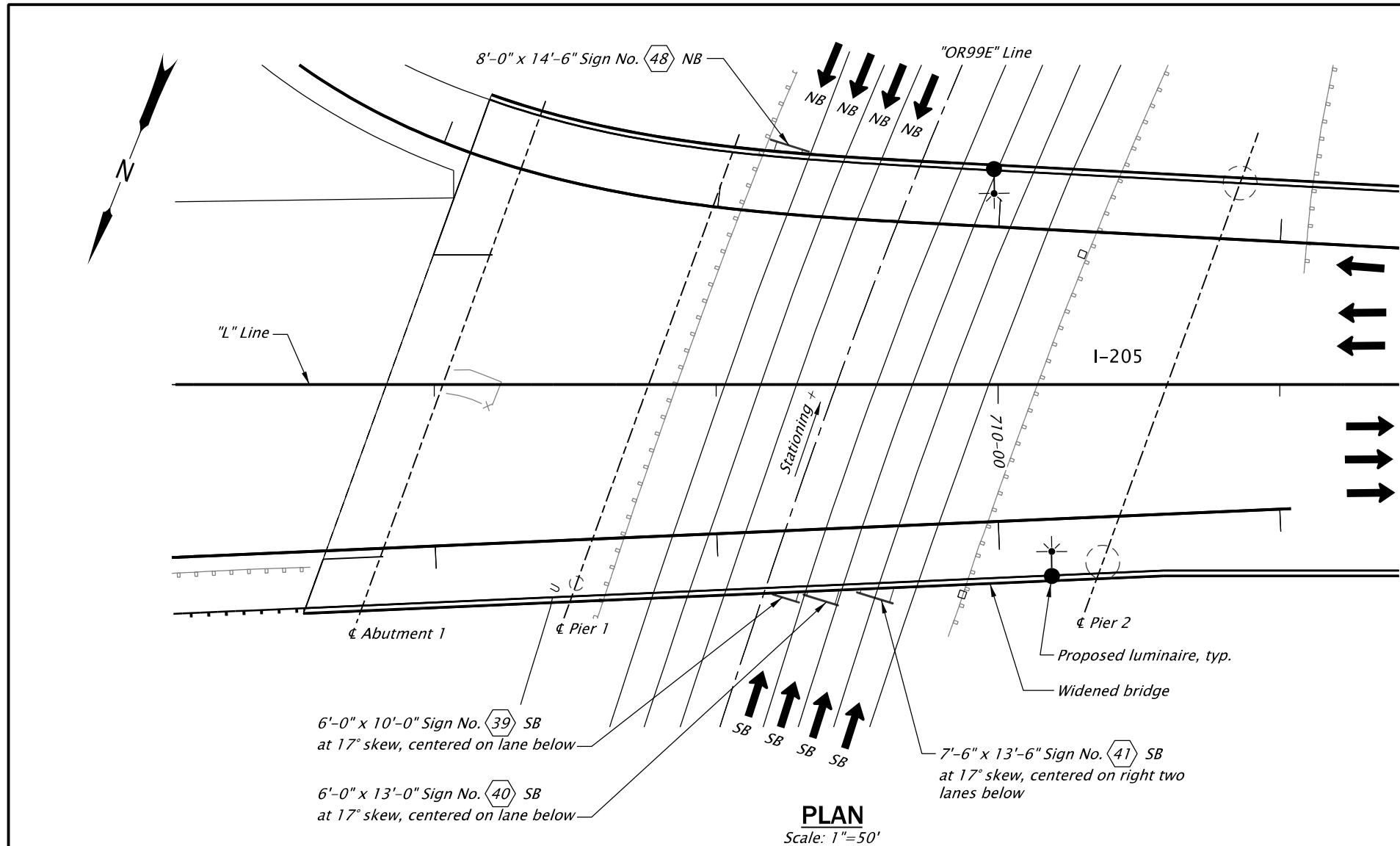
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.60 NB/SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

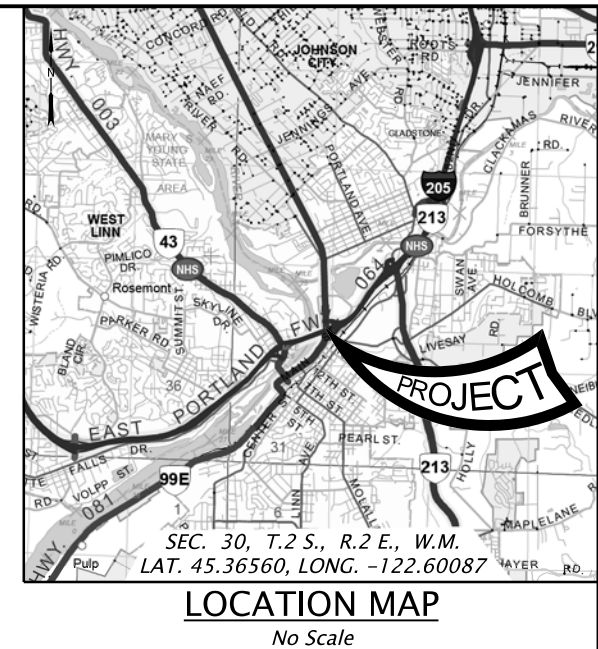


EXPIRES: 6/30/

 FOUNDATION ENGINEERING, INC. PROFESSIONAL GEOTECHNICAL SERVICES 820 NW CORNELL AVENUE CORVALLIS, OREGON 97330 BUS (541) 757-7645 FAX (541) 757-7650		
sn_Hwy064_MP9.60		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Jonathan Huffman, P.E., G.E.	Reviewer: David Running, P.E., G.E.	
Drafter: Yuka Garzenelli	Checker: Brooke Running, R.G., C.E.G.	
GEOTECHNICAL DATA		SHEET NO. LD10A



Signs on Existing Bridge M.P. 9.27 SB



General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Structure mounts are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st Edition, 2015 and interim revisions 2017.

Basic wind speed (1700 year recurrence interval) used for sign structure design is 115 mph, $G = 1.14$, $K_z = 1.0$ and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise.

All fasteners shall be ASTM A325 unless otherwise noted. All steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

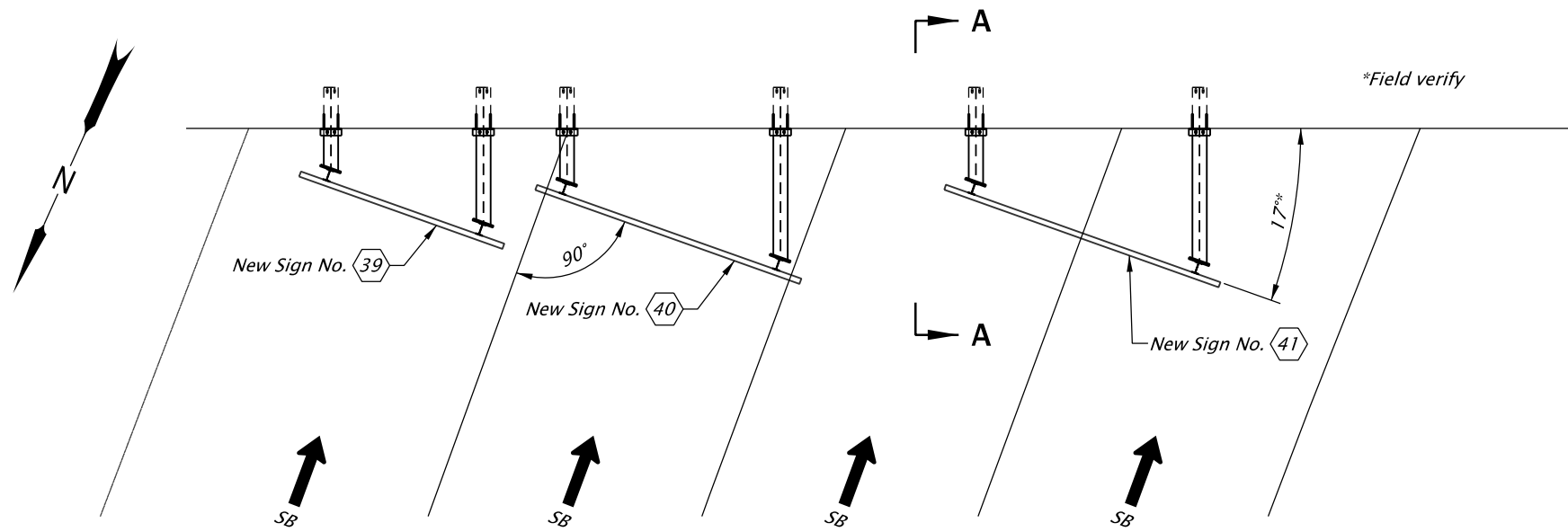
ACCOMPANIED BY DWGS.:
000000

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

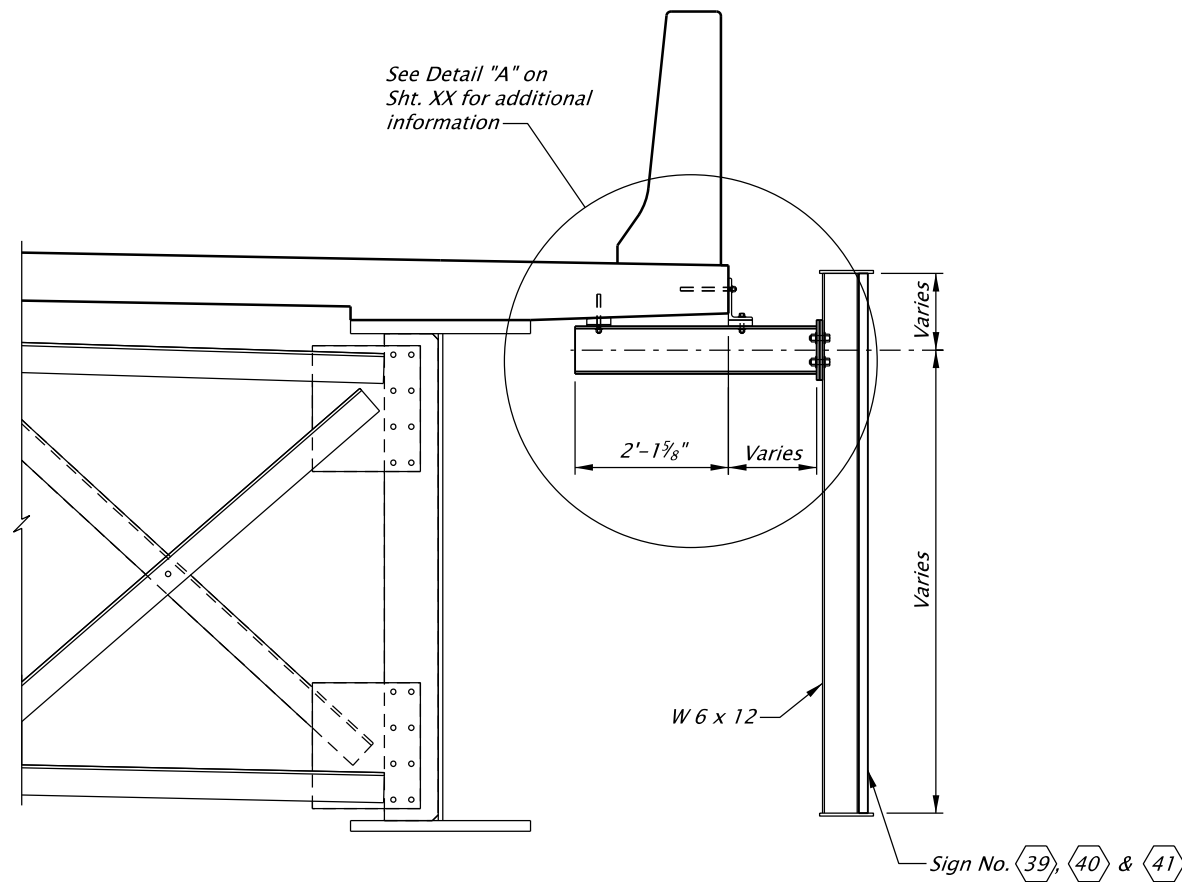
STRUCTURE NO.	09403
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	M.P.: 9.27 SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD11
PLAN AND ELEVATION		



SIGN PLAN
Scale: 1/8"=1'-0"



SECTION A-A
Scale: 3/8"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.27 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD12
SIGN DETAILS		

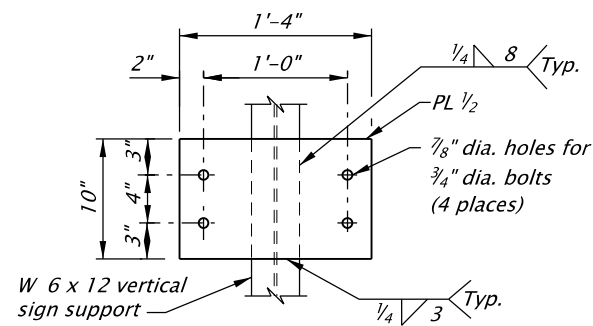


PLATE "A"

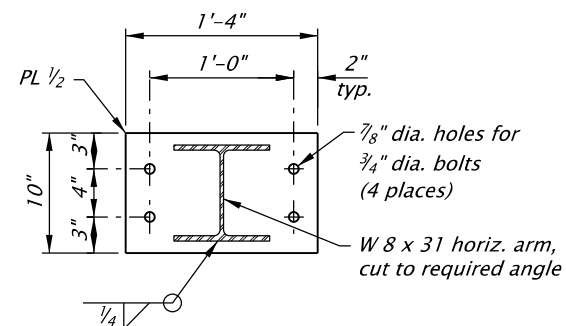


PLATE "B"

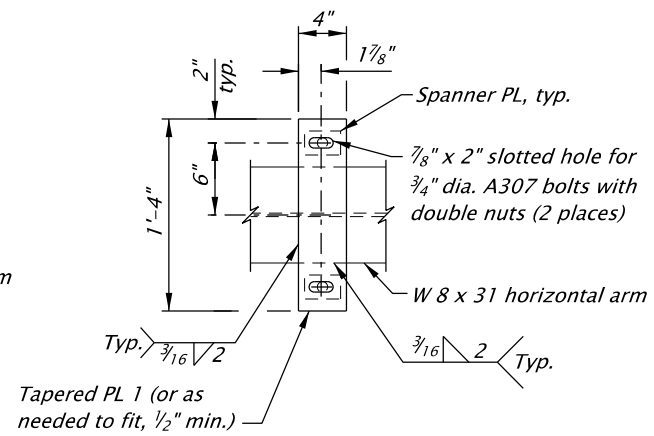
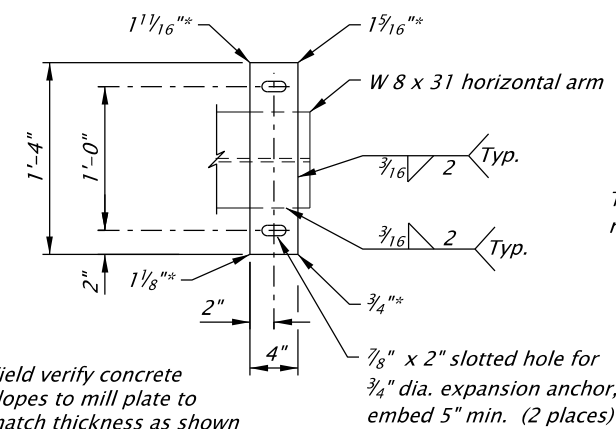
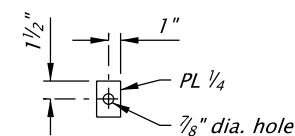


PLATE "C"



TAPERED SHIM

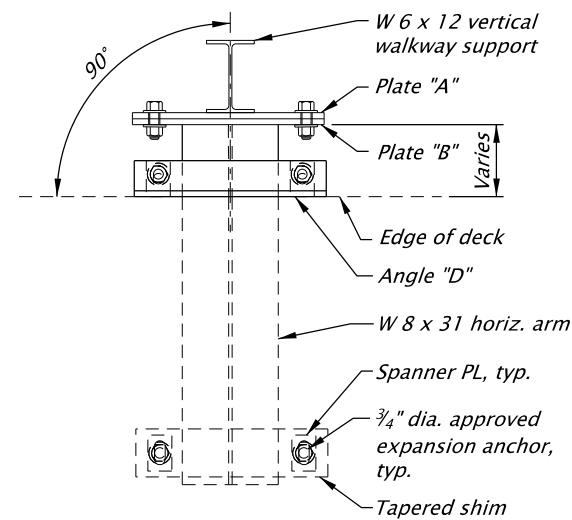
* Field verify concrete slopes to mill plate to match thickness as shown



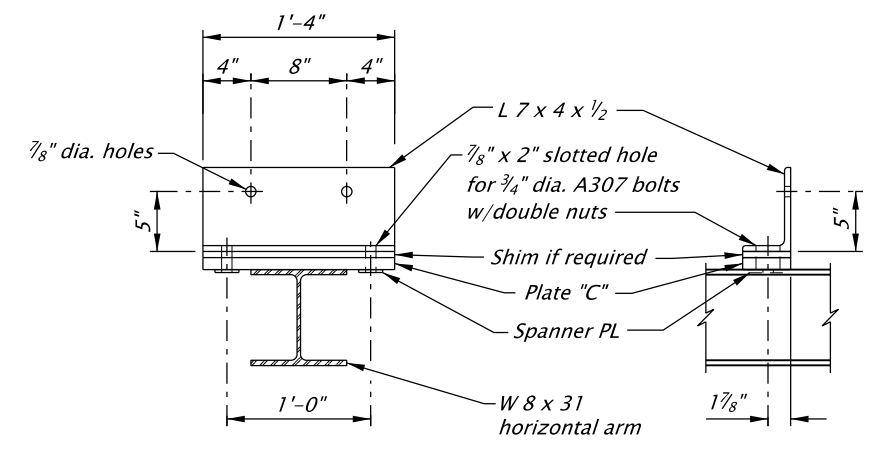
SPANNER PLATE

SIGN MOUNTING DETAILS

Scale: 3/4"=1'-0"



PLAN SUPPORT ASSEMBLY



ELEVATION SIDE ANGLE "D"



CONNECTION DETAILS

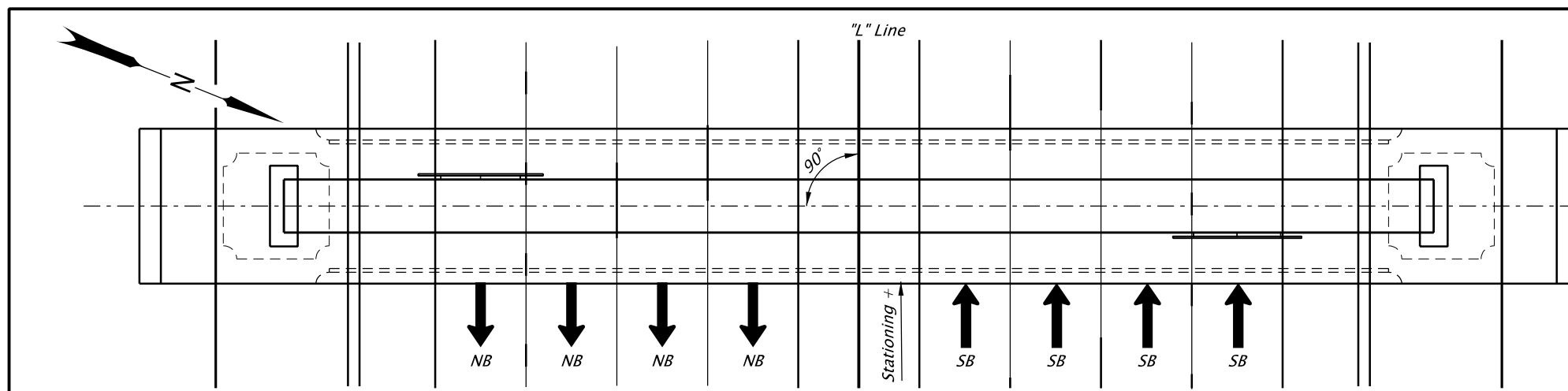
Scale: 3/4"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09403
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.27 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



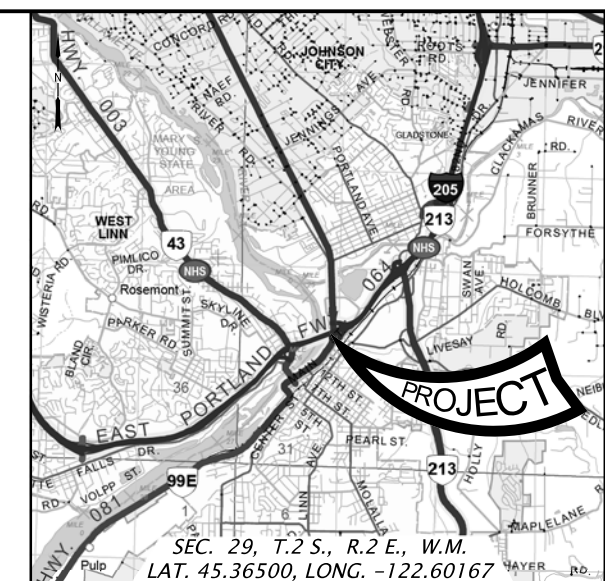
		
Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD13
SIGN DETAILS		SHEET NO. LD13



PLAN
Scale: 1"=20'

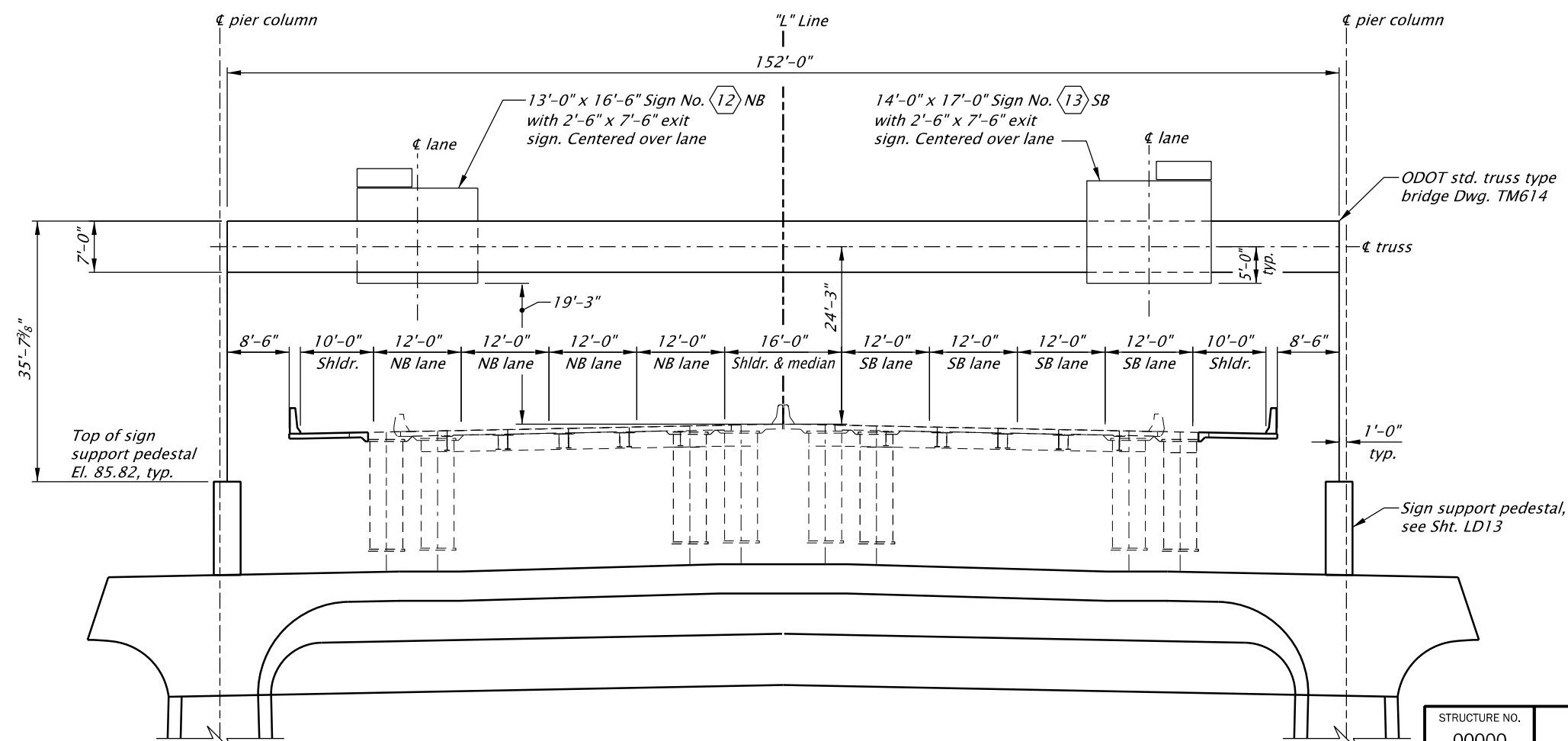
Truss Sign Bridge M.P. 9.22 NB/SB

€ sign support =
€ Pier 3 =
"L" 712+55



LOCATION MAP
No Scale

SEC. 29, T.2 S., R.2 E., W.M.
LAT. 45.36500, LONG. -122.60167



***TRUSS TYPE SIGN BRIDGE AT PIER 3 ELEVATION**
Scale: 1"=20'

*Elevation view is looking ahead on station SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA (Left and Right are as seen while looking ahead on station)									
Sign Bridge	"S" Span	Foundation Sheet Number	Spread Footing Foundation Design Number See Dwg. TM619	"HP" Post Height see Dwg. TM614 (Field Verify)		"HF" Foundation Height see Dwg. TM619 (Field Verify)		Luminaires ("Yes" or "No") see Dwg. TM618	
				Left	Right	Left	Right		
At Station	M.P.								
"L" 712+55	9.22 NB/SB	152'-0"	-	-	36'-0"	36'-0"	N/A	N/A	No

ACCOMPANIED BY DWGS.:
000000, TM614, TM620

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	M.P.: 9.22 NB/SB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



EXPIRES: 12/31/.....

<p>I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY</p>		
Designer: Kenton Alldritt, P.E.	Reviewer: Douglas Kirkpatrick, P.E.	
Drafter: Yuka Garzenelli	Checker: Peter G. Stocum, P.E., S.E.	
<p>PLAN AND ELEVATION</p>		<p>SHEET NO. LD14</p>

Notes:

All materials and workmanship shall conform to the Oregon Standard Specifications for Construction 2018 and the Special Provisions. Structure mounts are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, Sixth Edition, 2013, with 2015 interim Revisions.

Basic wind speed used for sign structure design is 110 mph, $G = 1.14$, $K_z = 1.39$ and Exposure C was used for design.

The sign support shall meet the requirements for span length, post height, and sign area, as shown on Dwg. TM614. Use sign bridge design for "S" = 149' to 167'.

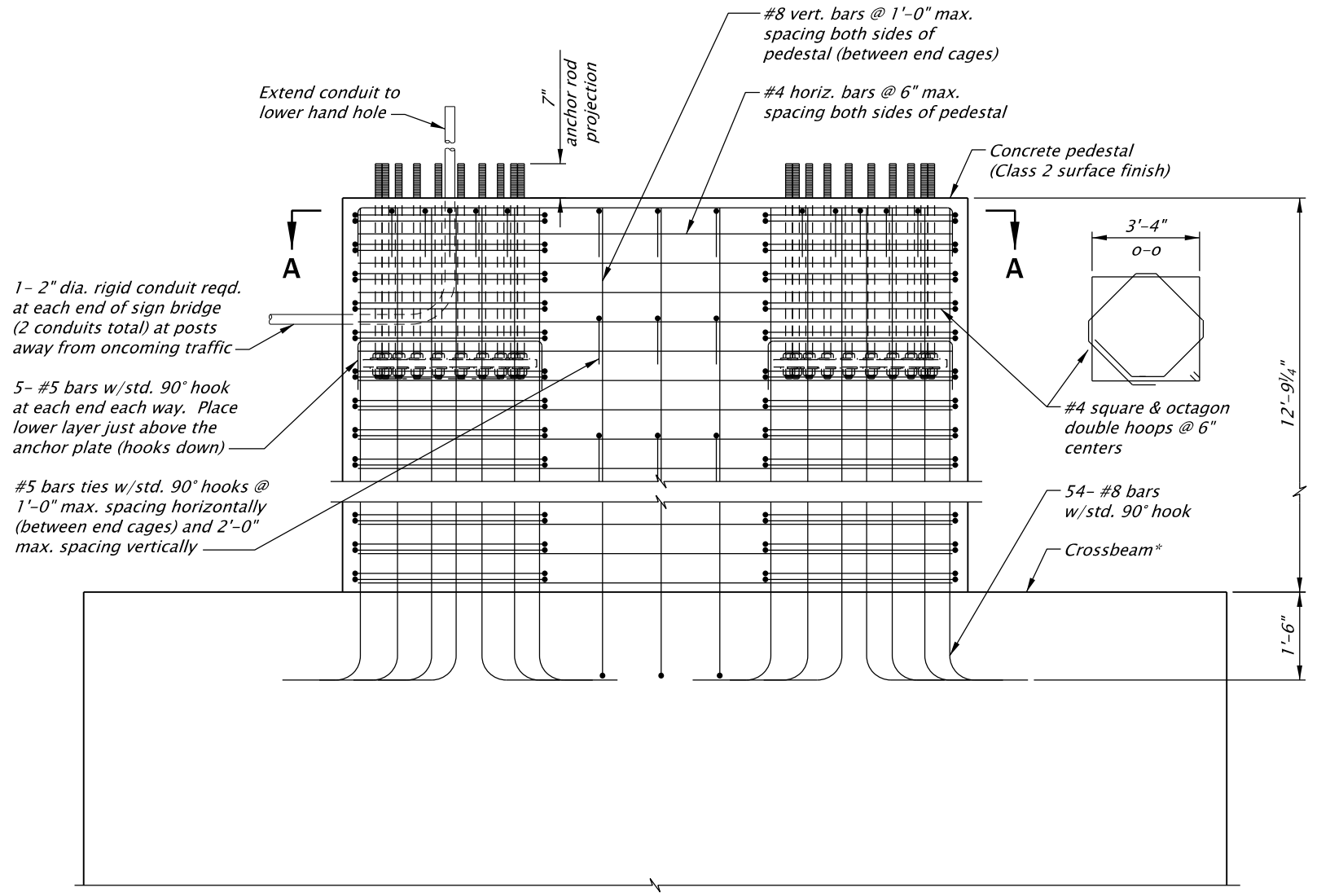
Sign support structure is designed for all items shown including future signs (by others).

Field verify conditions, elevations, dimensions, and span prior to fabrication. Field verify utility locations and conditions prior to construction.

See Traffic Plans for sign information.

Right of way line and wetland boundary are outside limits of view.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



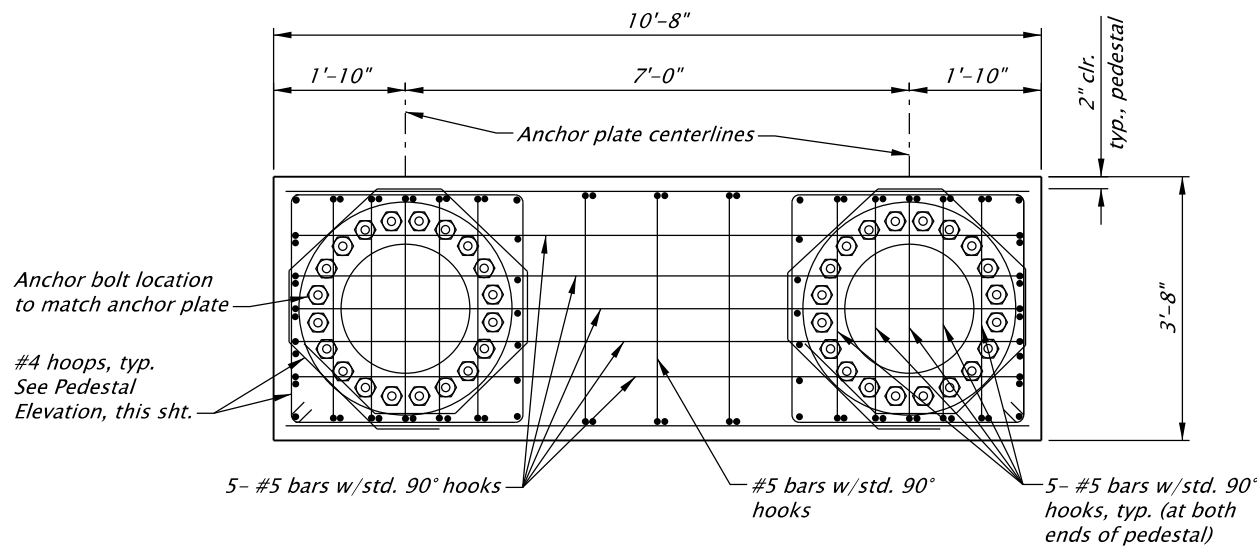
1- 2" dia. rigid conduit reqd. at each end of sign bridge (2 conduits total) at posts away from oncoming traffic

5- #5 bars w/std. 90° hook at each end each way. Place lower layer just above the anchor plate (hooks down)

#5 bars ties w/std. 90° hooks @ 1'-0" max. spacing horizontally (between end cages) and 2'-0" max. spacing vertically

PEDESTAL ELEVATION
Scale: 3/8"=1'-0"

*Reinforcement not shown for clarity. See Bridge Plans for crossbeam reinforcement



Anchor bolt location to match anchor plate

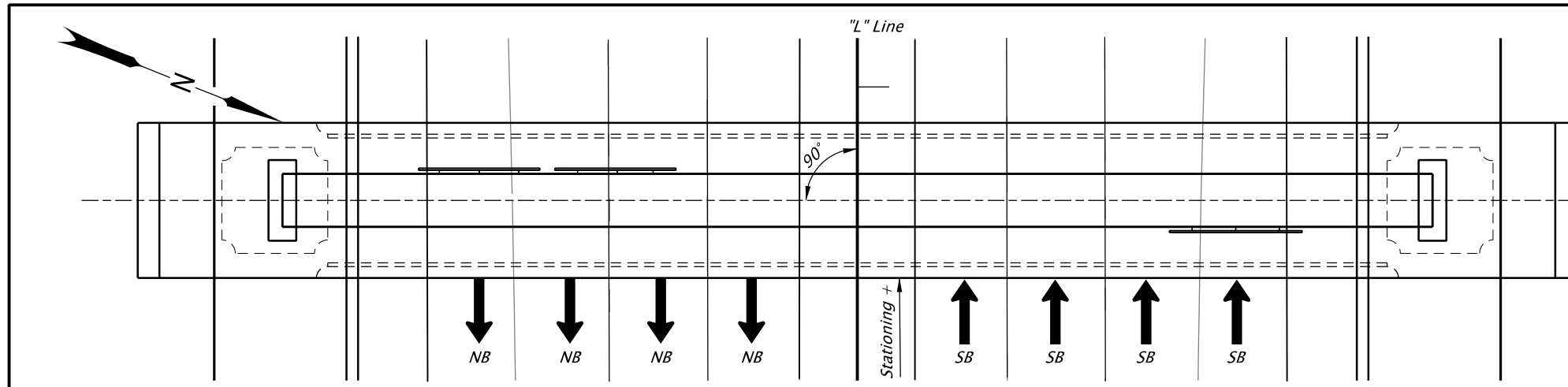
#4 hoops, typ. See Pedestal Elevation, this sht.

SECTION A-A
Scale: 3/8"=1'-0"

STRUCTURE NO. 00000, 00000
BDS DWG NO. 000000
CALC. BOOK 7084
HWY: 064 M.P.: 9.22 NB/SB
UNIT FILE CODE 00000
DFI/TSSU NO. N/A



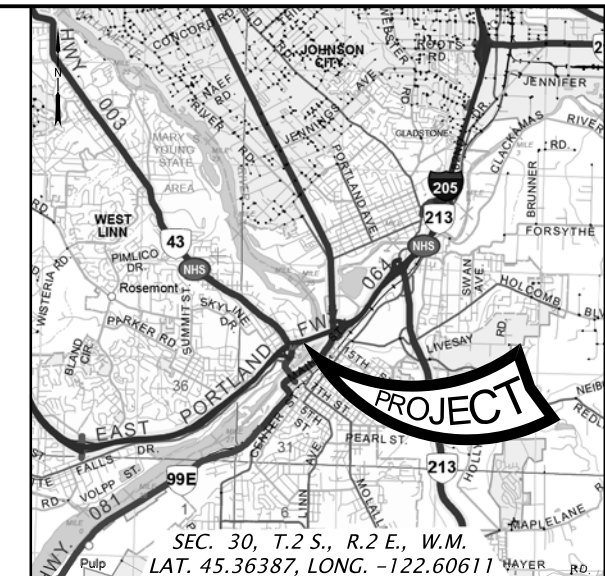
<p>I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY</p>		
Designer: Kenton Alldritt, P.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Peter G. Stocum, P.E., S.E.	SHEET NO. LD15
SIGN BRIDGE DETAILS		



PLAN
Scale: 1"=20'

Truss Sign Bridge M.P. 9.07 NB/SB

€ sign support =
€ Pier 6 =
"L" 722+85



LOCATION MAP
No Scale

Notes:

All materials and workmanship shall conform to the Oregon Standard Specifications for Construction 2018 and the Special Provisions. Structure mounts are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, Sixth Edition, 2013, with 2015 interim Revisions.

Basic wind speed used for sign structure design is 110 mph, $G = 1.14$, $K_z = 1.39$ and Exposure C was used for design.

The sign support shall meet the requirements for span length, post height, and sign area, as shown on Dwg. TM614. Use sign bridge design for "S" = 149' to 167'.

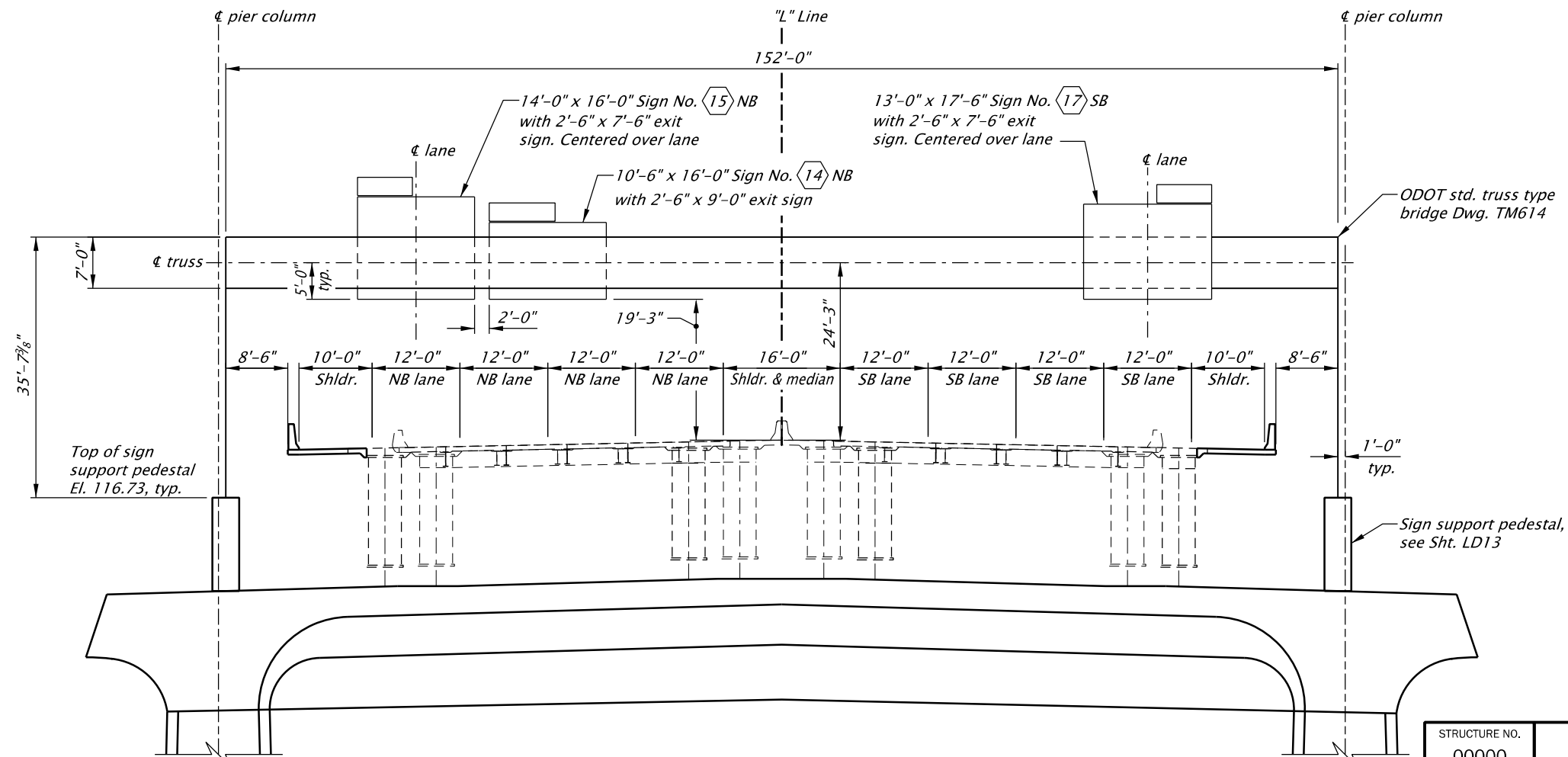
Sign support structure is designed for all items shown including future signs (by others).

Field verify conditions, elevations, dimensions, and span prior to fabrication. Field verify utility locations and conditions prior to construction.

See Traffic Plans for sign information.

Right of way line and wetland boundary are outside limits of view.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



***TRUSS TYPE SIGN BRIDGE AT PIER 6 ELEVATION**

Scale: 1"=20'

*Elevation view is looking ahead on station SB direction

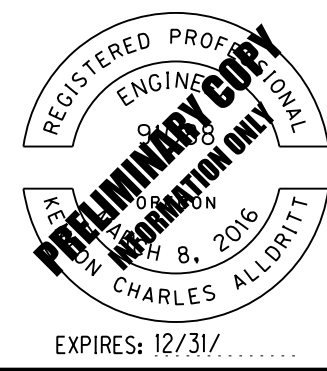
Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA (Left and Right are as seen while looking ahead on station)									
Sign Bridge	"S" Span	Foundation Sheet Number	Spread Footing Foundation Design Number See Dwg. TM619	"HP" Post Height see Dwg. TM614 (Field Verify)		"HF" Foundation Height see Dwg. TM619 (Field Verify)		Luminaires ("Yes" or "No") see Dwg. TM618	
				Left	Right	Left	Right	Left	Right
At Station	M.P.								
"L" 722+85	9.07 NB/SB	152'-0"	-	-	36'-0"	36'-0"	N/A	N/A	No

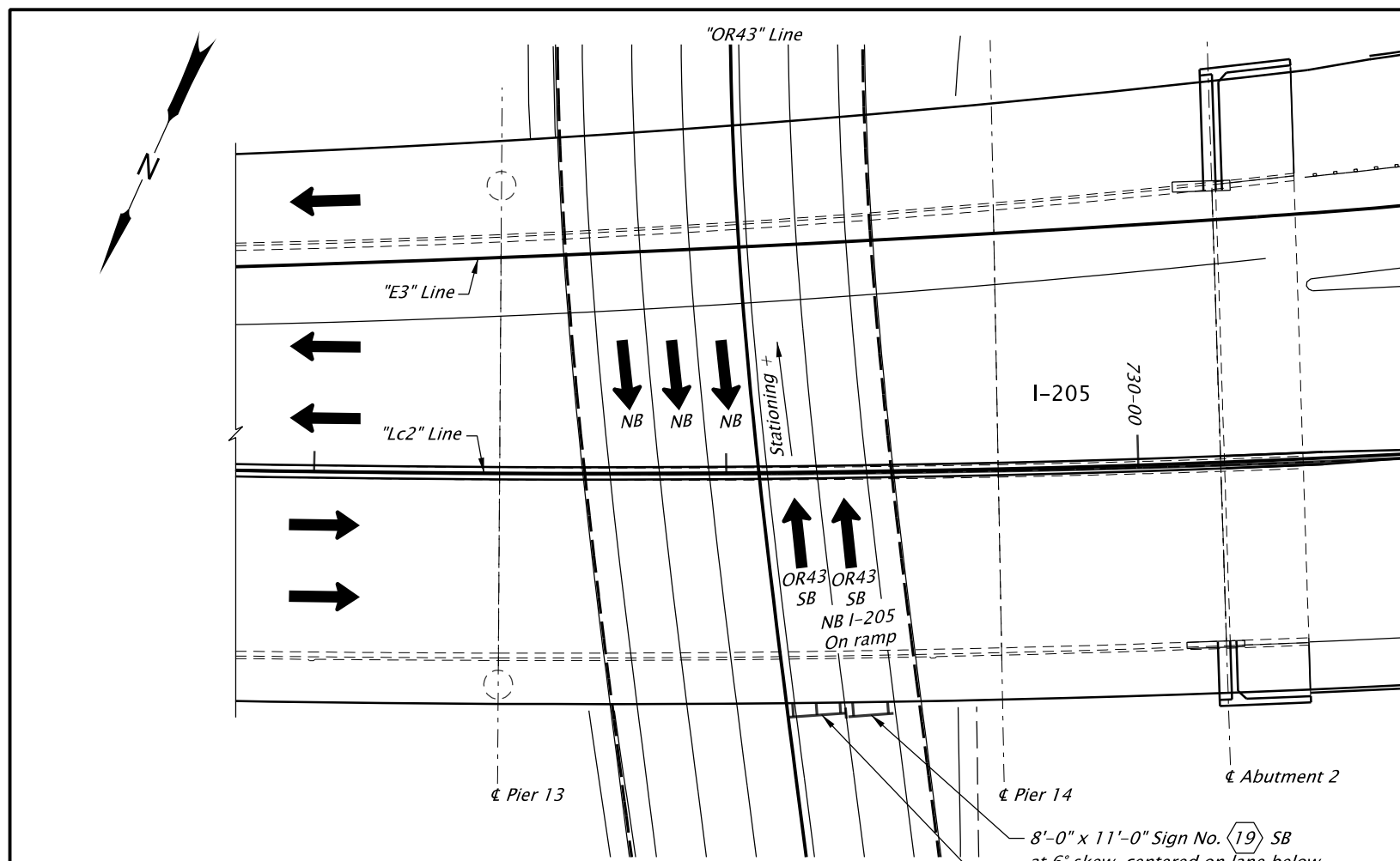
ACCOMPANIED BY DWGS.:
000000, TM614, TM620

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 9.07 NB/SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



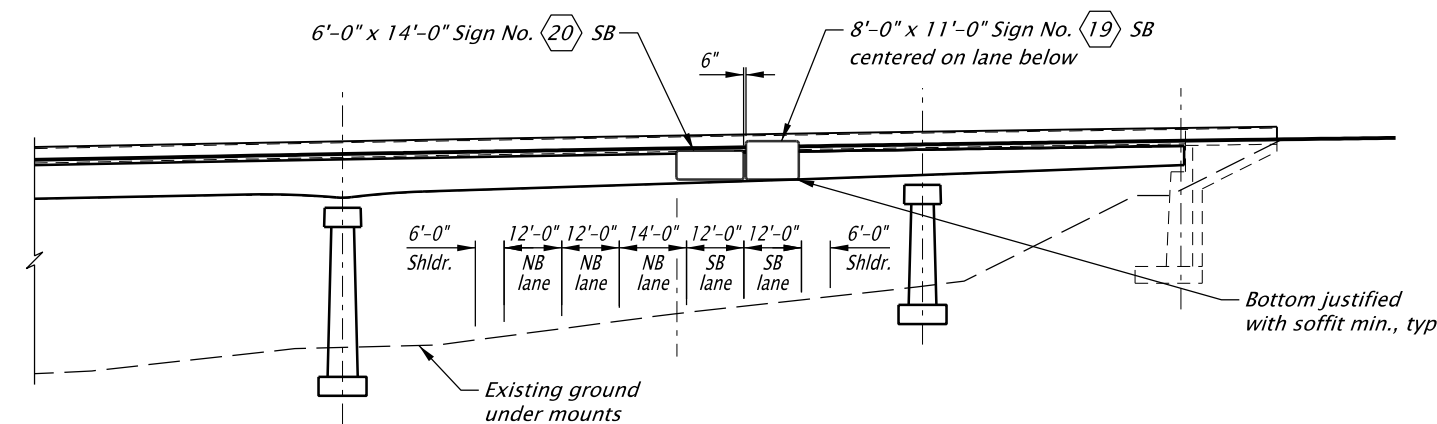
<p>I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY</p>		
Designer: Kenton Alldritt, P.E.	Reviewer: Douglas Kirkpatrick, P.E.	
Drafter: Yuka Garzenelli	Checker: Peter G. Stocum, P.E., S.E.	
<p>PLAN AND ELEVATION</p>		<p>SHEET NO. LD16</p>



PLAN
Scale: 1"=40'

8'-0" x 11'-0" Sign No. (19) SB
at 6° skew, centered on lane below

6'-0" x 14'-0" Sign No. (20) SB
at 6° skew

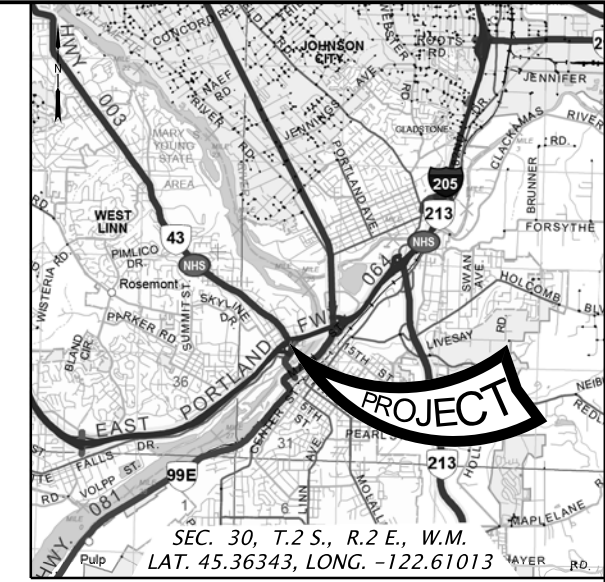


ELEVATION
Scale: 1"=40'

ACCOMPANIED BY DWGS.:
000000

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

Signs on Existing Bridge M.P. 8.69 SB



LOCATION MAP
No Scale

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Structure mounts are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st Edition, 2015 and interim revisions 2017.

Basic wind speed (1700 year recurrence interval) used for sign structure design is 115 mph, $G = 1.14$, $K_z = 1.0$ and Exposure C were used for design.

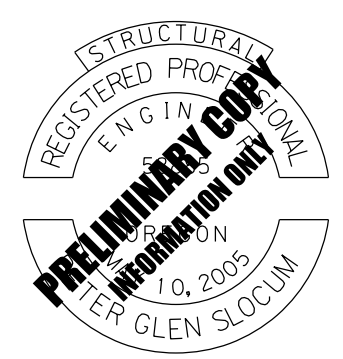
All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise.

All fasteners shall be ASTM A325 unless otherwise noted. All steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

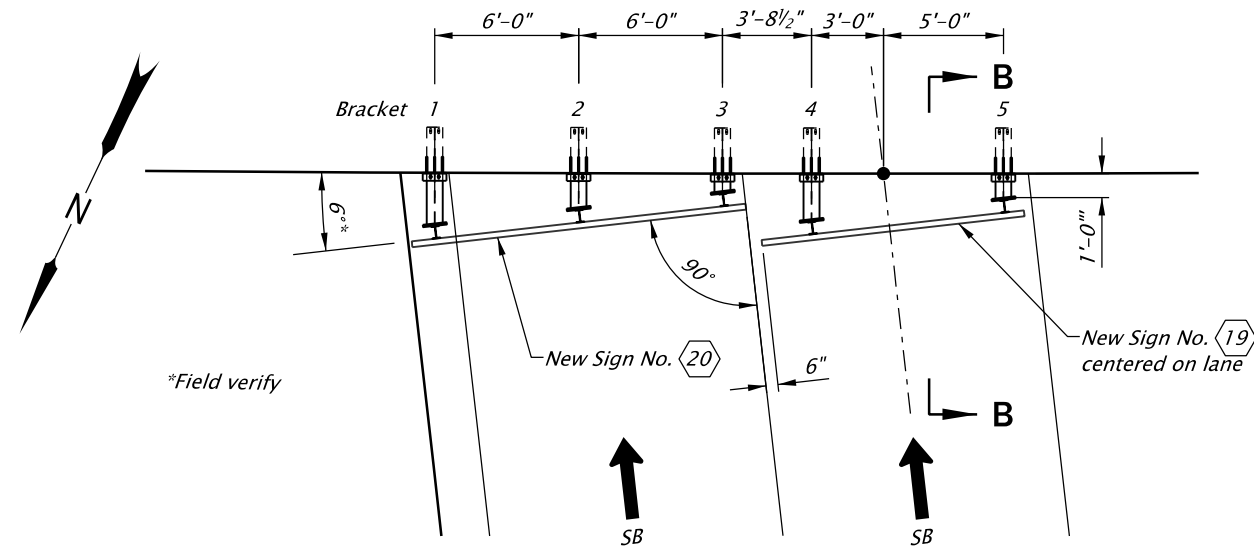
Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

STRUCTURE NO.	09403
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.69 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

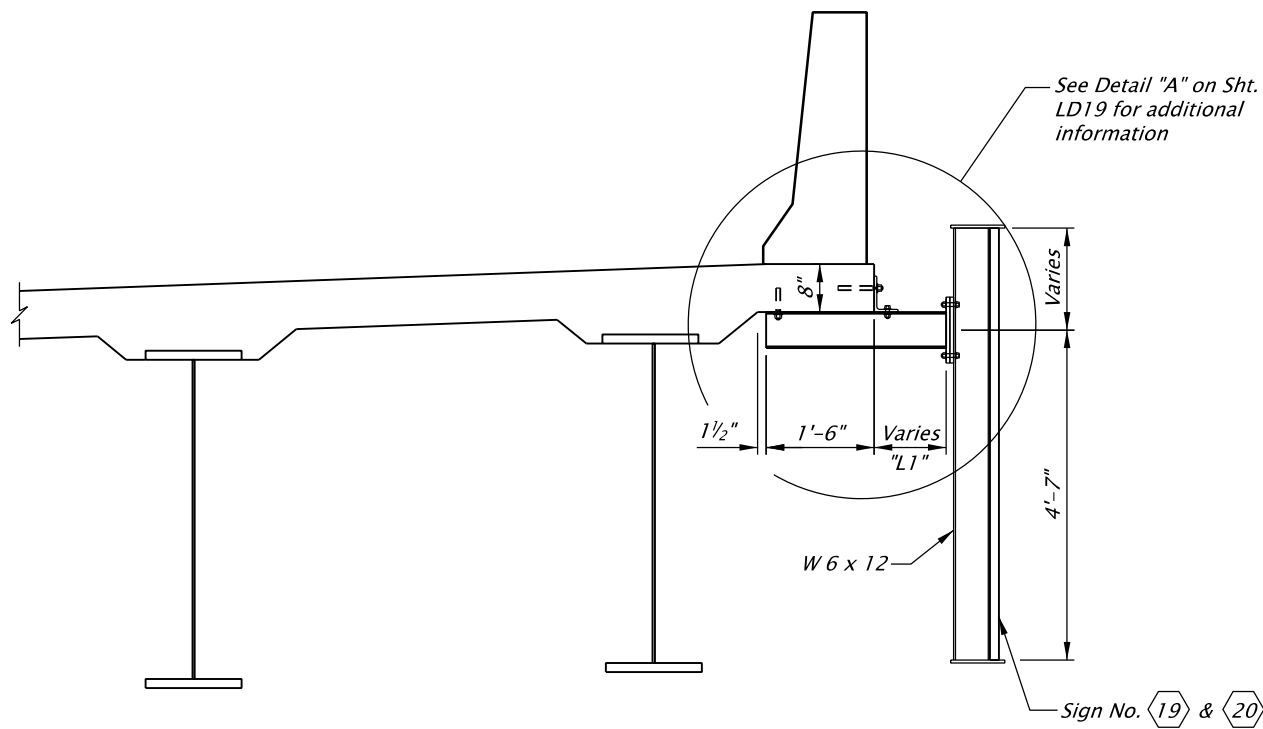


EXPIRES: 06/30/2022

Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)	
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.
PLAN AND ELEVATION	
SHEET NO. LD17	



SIGN PLAN
Scale: 1/8"=1'-0"



SECTION B-B
Scale: 3/8"=1'-0"

TABLE "A"

Sign No.	Brackets				
	1	2	3	4	5
19	-	-	-	1'-10"	1'-0"
20	2'-3"	1'-7 1/2"	1'-0"	-	-

STRUCTURE NO.	09403
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.69 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



DOWL WWW.DOWL.COM
Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Peter G. Slocum, P.E., S.E. Reviewer: Douglas Kirkpatrick, P.E.
Drafter: Yuka Garzenelli Checker: Wyatt Dean, E.I.

SIGN DETAILS SHEET NO. LD18

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

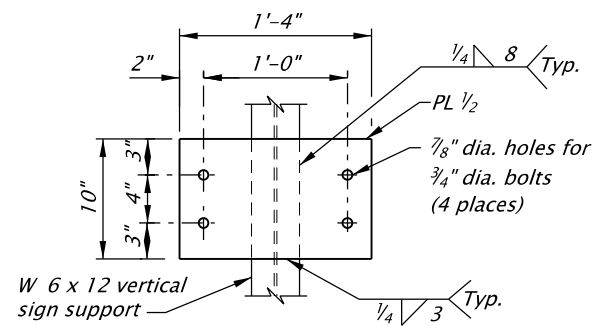


PLATE "A"

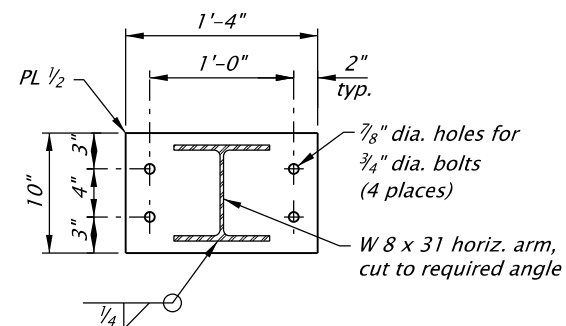


PLATE "B"

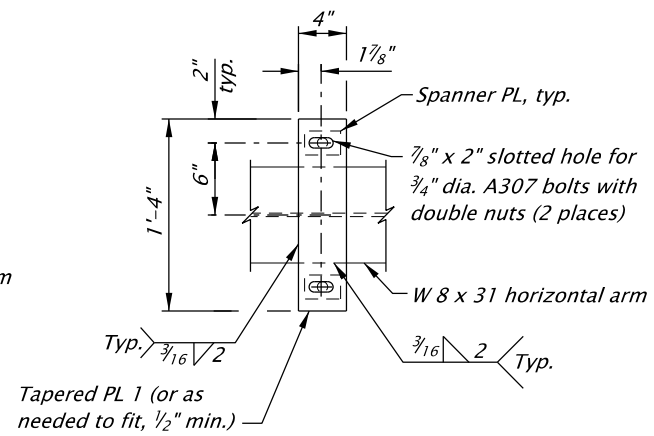
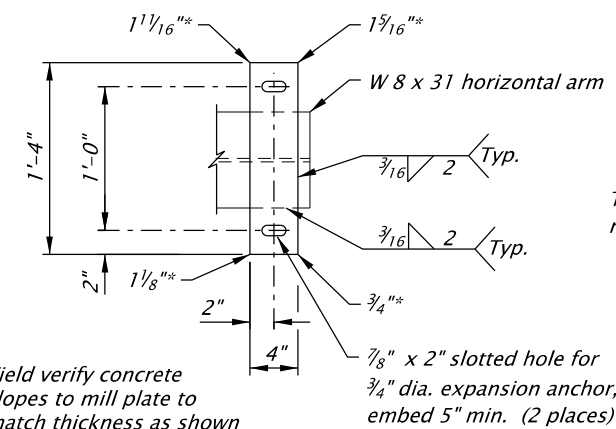
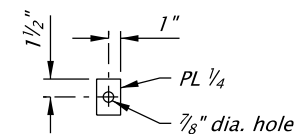


PLATE "C"



TAPERED SHIM

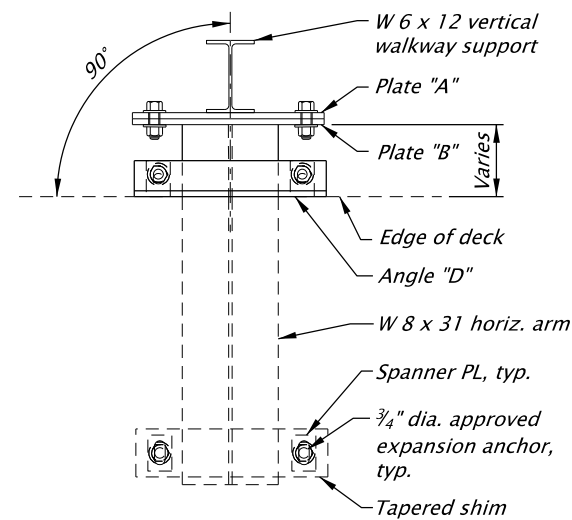
* Field verify concrete slopes to mill plate to match thickness as shown



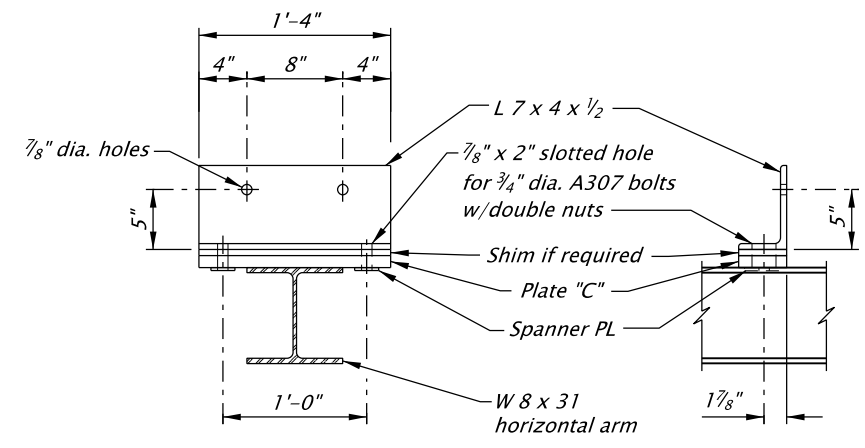
SPANNER PLATE

SIGN MOUNTING DETAILS

Scale: 3/4"=1'-0"



**PLAN
SUPPORT ASSEMBLY**



**ELEVATION
SIDE**

ANGLE "D"



CONNECTION DETAILS

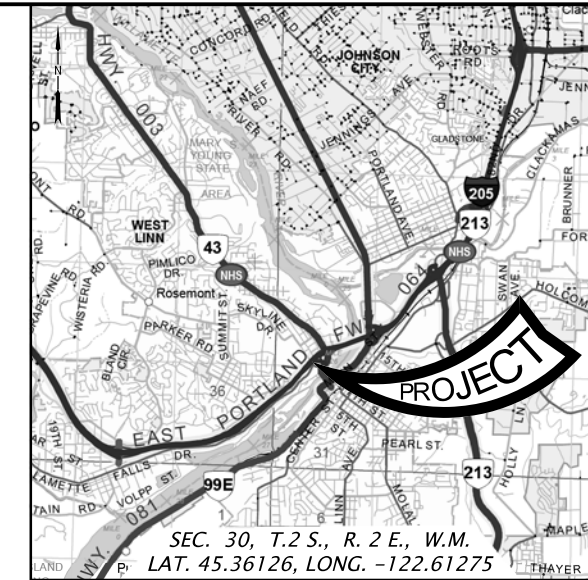
Scale: 3/4"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

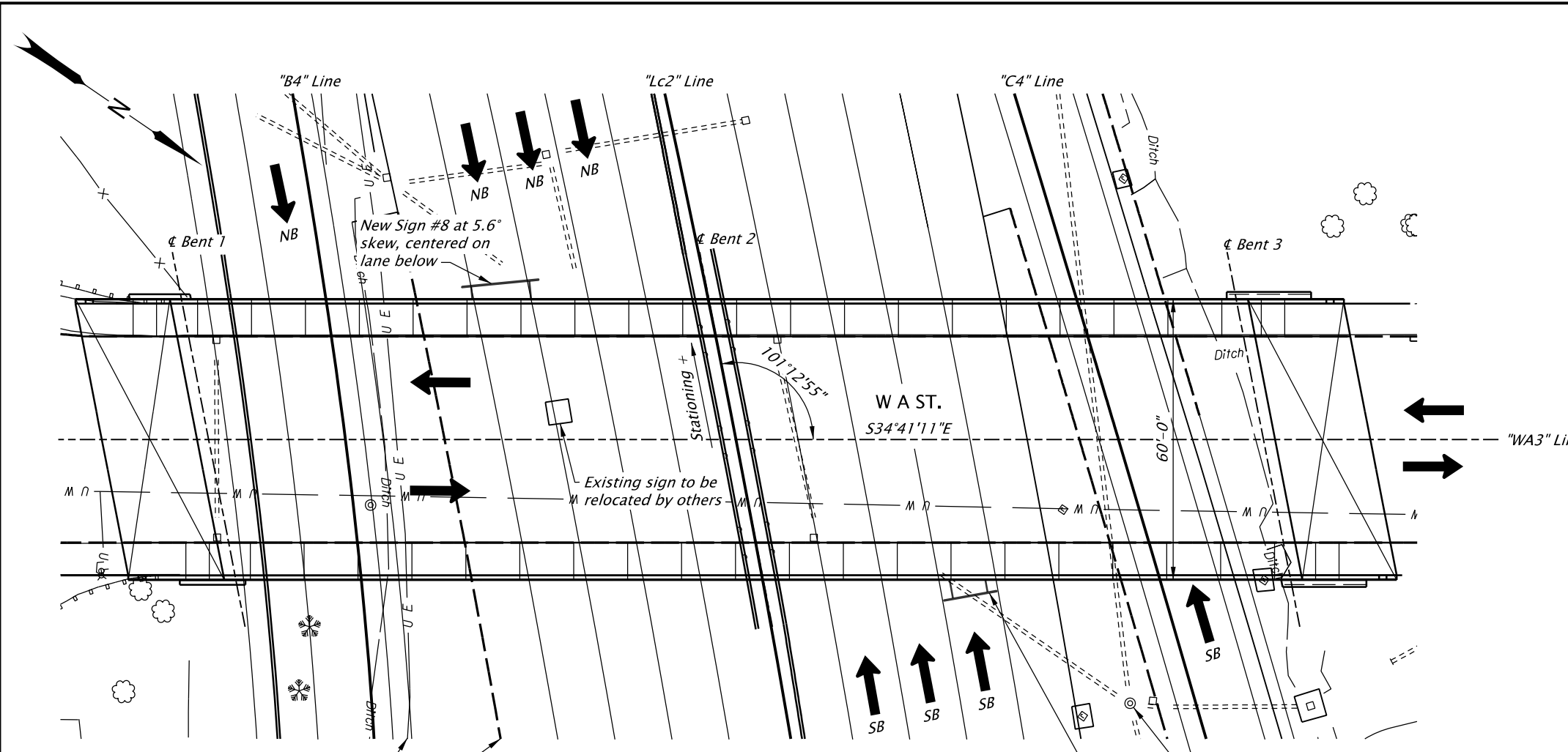
STRUCTURE NO.	09403
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.69 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



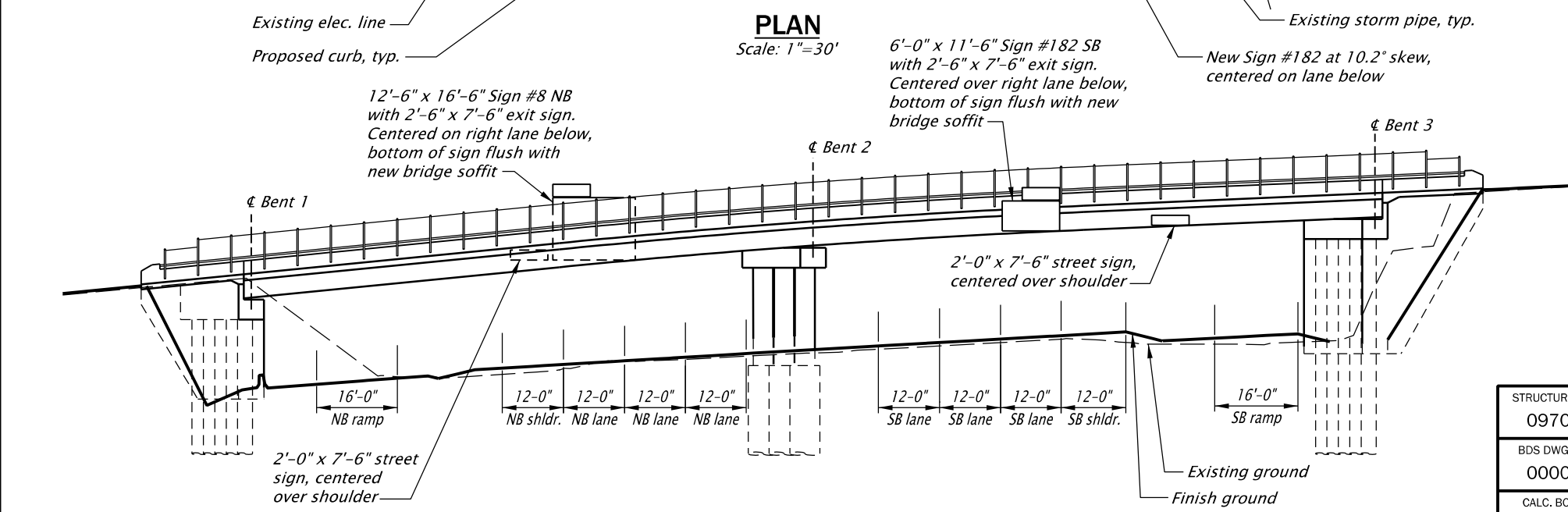
		
Willamette River & Hwy 1E & Hwy 3, Hwy 64 (George Abernethy)		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD19
SIGN DETAILS		SHEET NO. LD19



LOCATION MAP
No Scale



PLAN
Scale: 1"=30'



ELEVATION
Scale: 1"=30'

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Structure mounts are designed in accordance with the 5th Edition (2009) of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st Edition, 2015 and interim revisions 2017.

Basic wind speed (1700 year recurrence interval) used for sign structure design is 115 mph, $G = 1.14$, $K_z = 0.98$ and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise.

All fasteners shall be ASTM A325 unless otherwise noted. All steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

STRUCTURE NO.	09704
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	M.P.: 8.64 NB
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

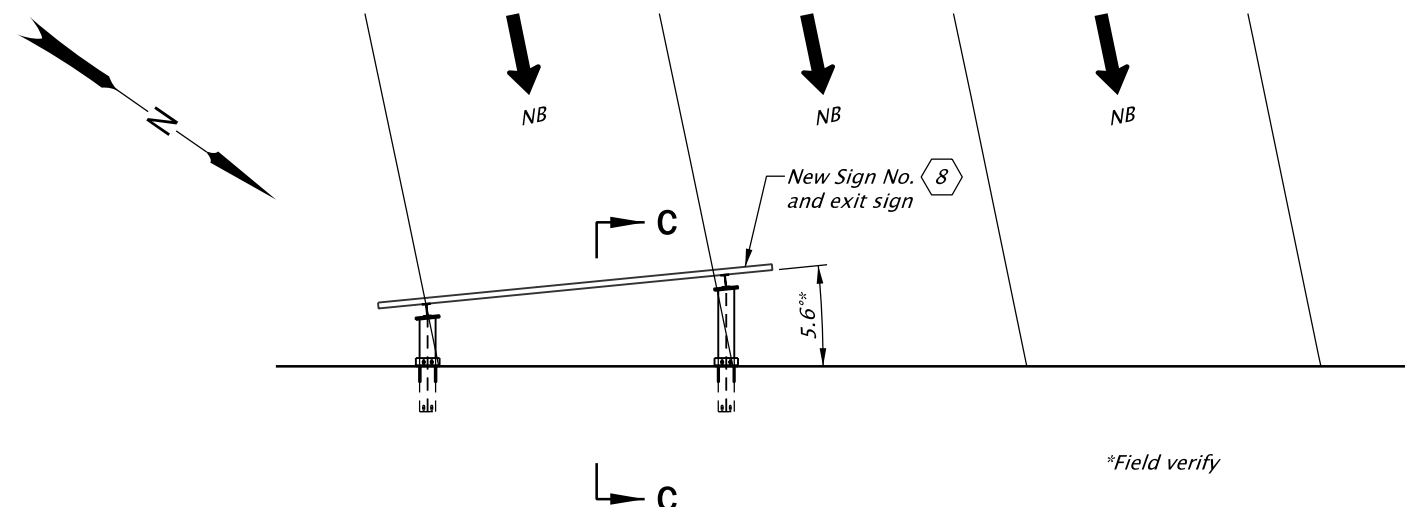


EXPIRES: 06/30/2022

ACCOMPANIED BY DWGS.:
TM220, TM675

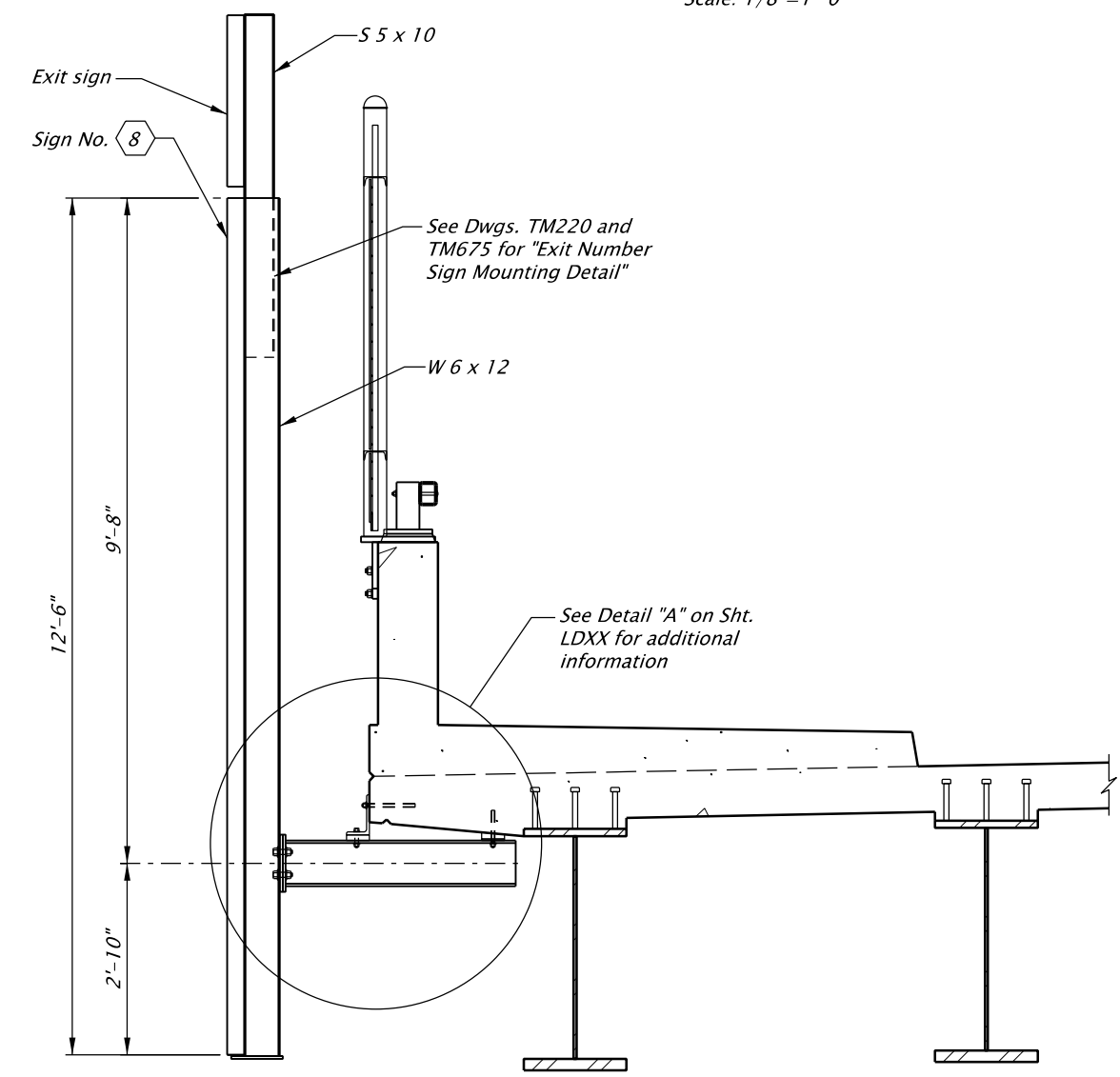
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

West A St (West Linn) over Hwy 64 I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	PLAN AND ELEVATION
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
PLAN AND ELEVATION		SHEET NO. LD20



*Field verify

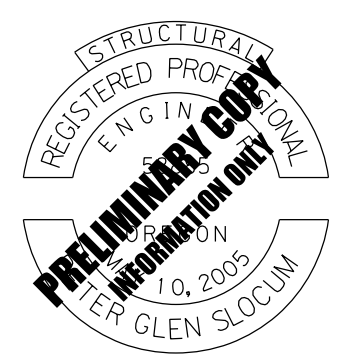
SIGN PLAN
Scale: 1/8"=1'-0"





SECTION C-C
Scale: 3/8"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09704
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.64 NB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



EXPIRES: 06/30/2022

 DOWL <small>WWW.DOWL.COM</small>		
West A St (West Linn) over Hwy 64 I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	SIGN DETAILS
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
		SHEET NO. LD21

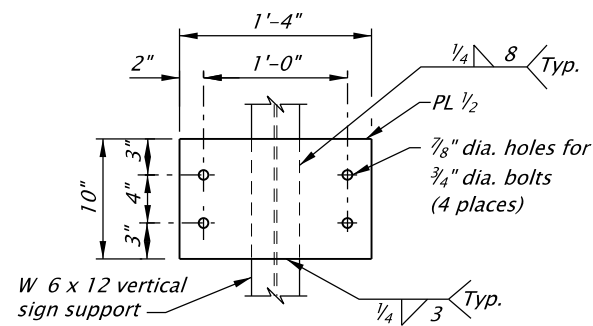


PLATE "A"

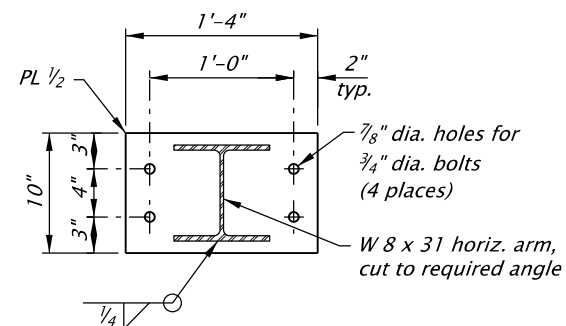


PLATE "B"

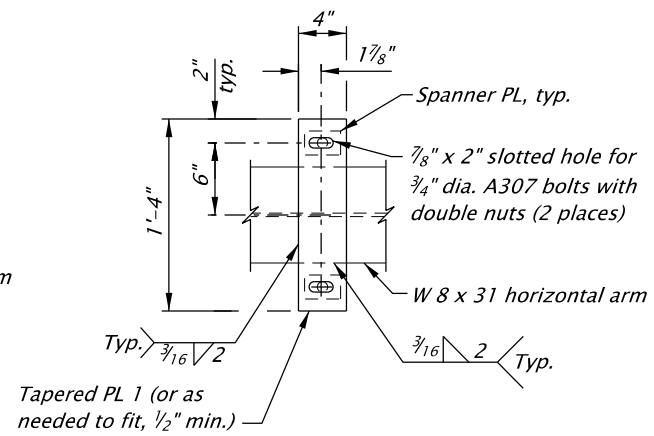
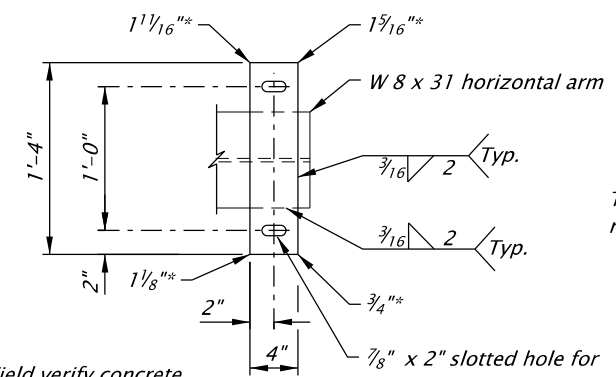
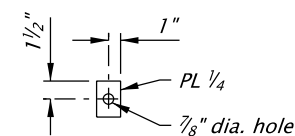


PLATE "C"

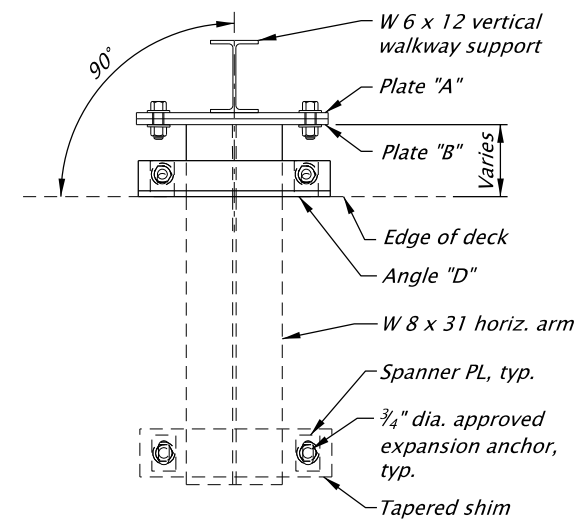


TAPERED SHIM

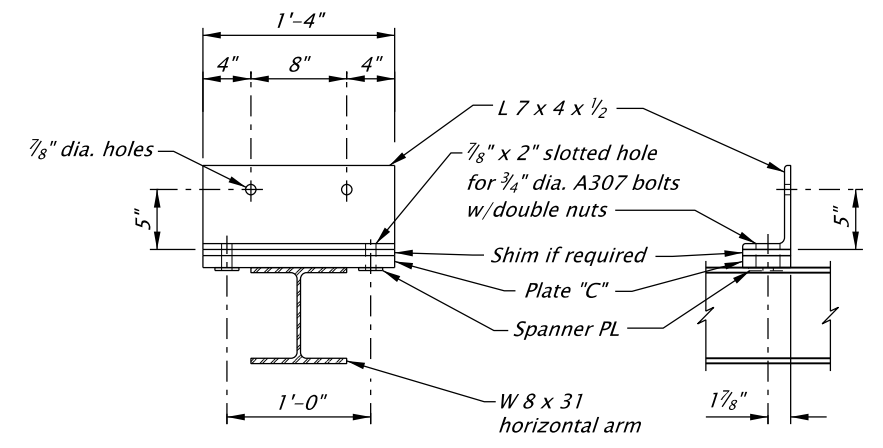
* Field verify concrete slopes to mill plate to match thickness as shown



SPANNER PLATE



**PLAN
SUPPORT ASSEMBLY**



**ELEVATION
SIDE
ANGLE "D"**

SIGN MOUNTING DETAILS

Scale: 3/4"=1'-0"



CONNECTION DETAILS

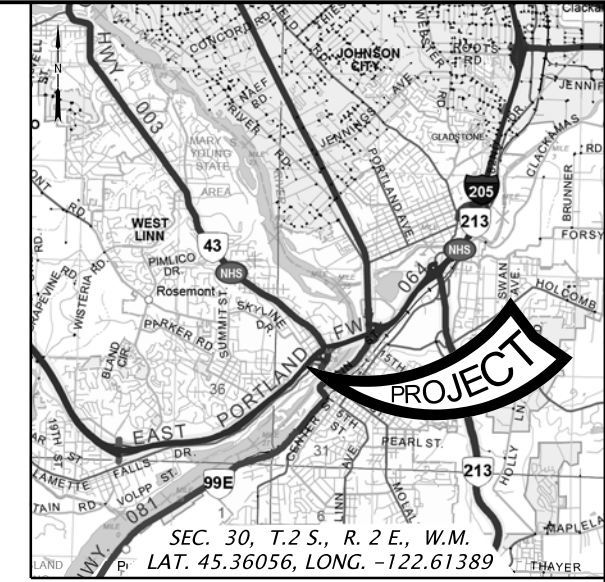
Scale: 3/4"=1'-0"

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09704
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.64 NB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

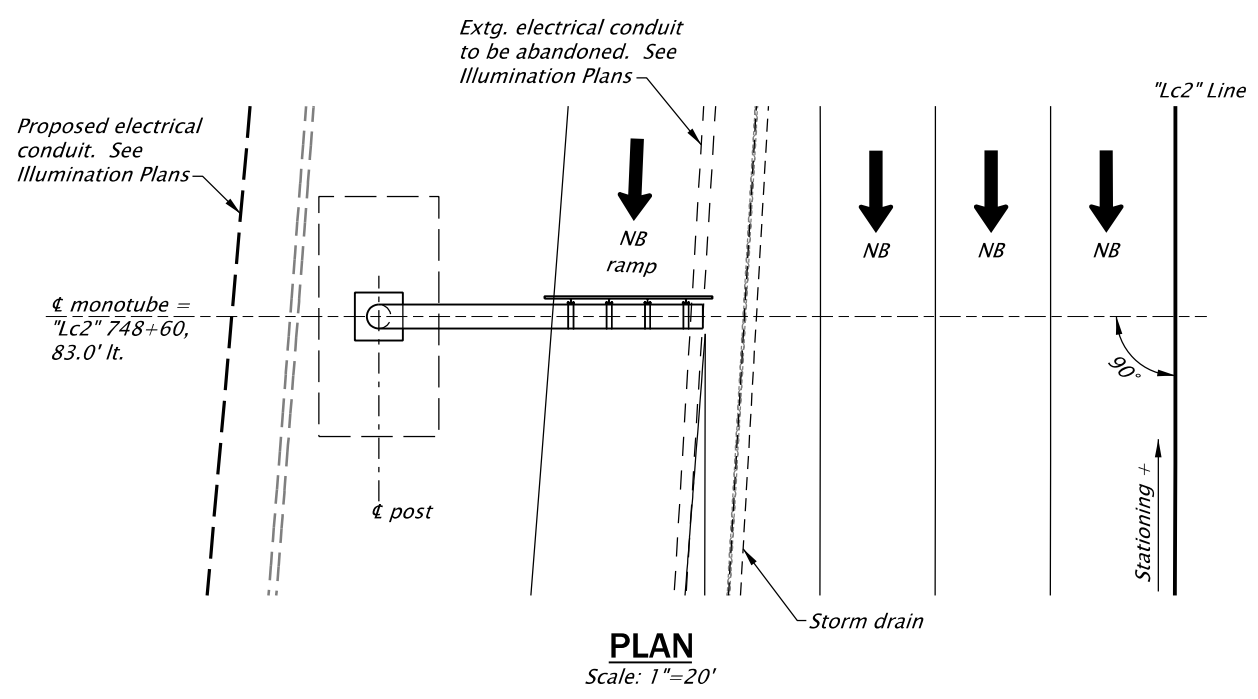


 DOWL <small>WWW.DOWL.COM</small>		
West A St (West Linn) over Hwy 64		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
SIGN DETAILS		SHEET NO. LD22

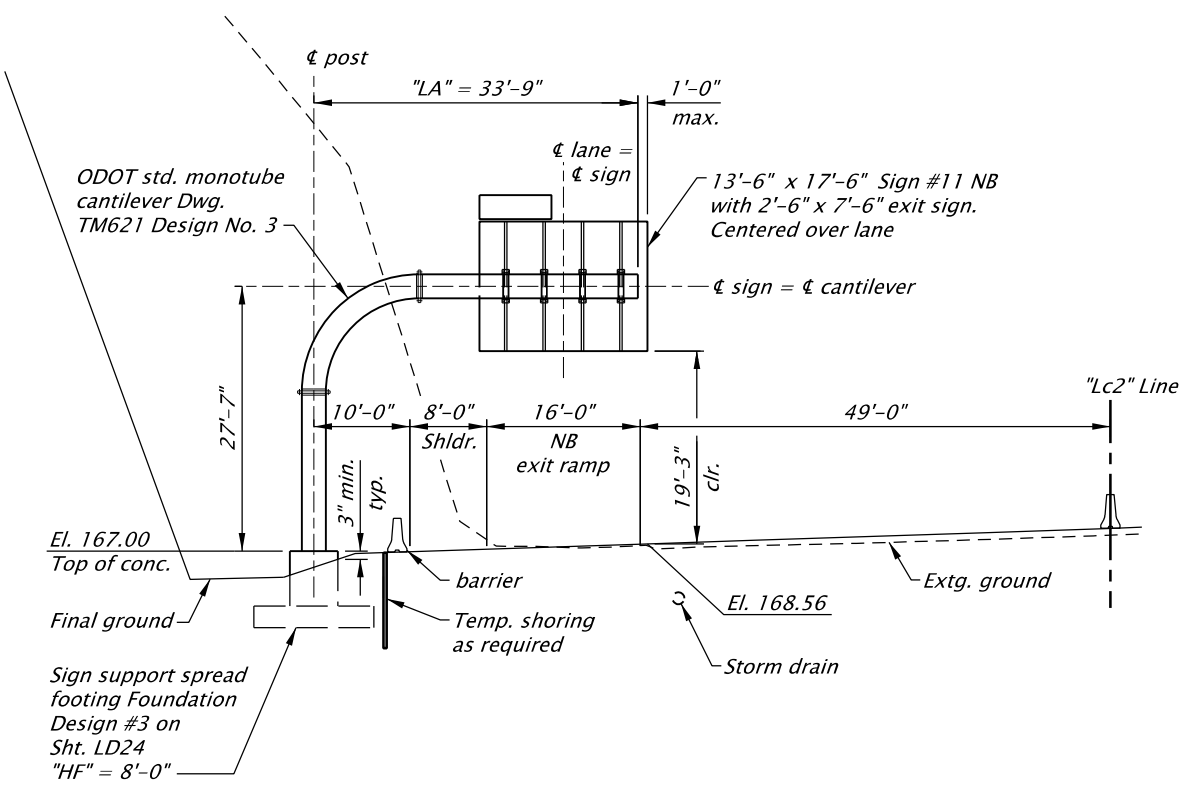


LOCATION MAP
No Scale

Monotube Cantilever M.P. 8.55 NB



PLAN
Scale: 1"=20'



***MONOTUBE CANTILEVER ELEVATION**
Scale: 1"=20' *Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"Lc2" 748+60	8.55 NB	33'-9"	TM627	3	27'-4½"
					No



ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 00000	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 8.55 NB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
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EXPIRES: 06/30/2022

 DOWL www.dowl.com sn_Hwy064_MP8.55		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD23
PLAN AND ELEVATION		

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Monotube cantilever sign structures are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions through 2017.

See Dwg. TM622 for General Notes.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown.

Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

See Traffic Plans for sign information.

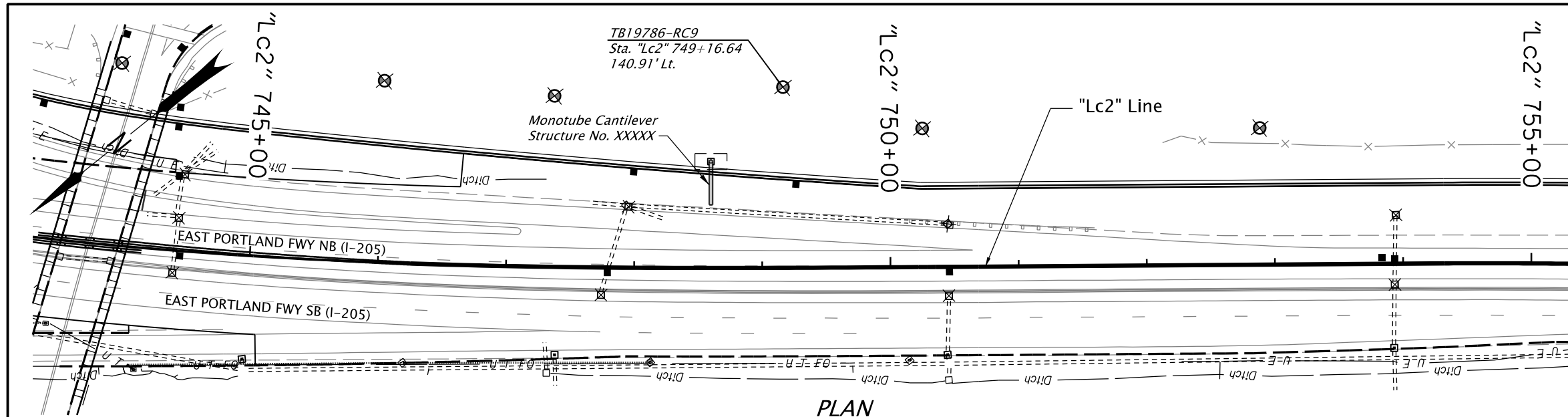
Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

Right of way is outside limits of view.

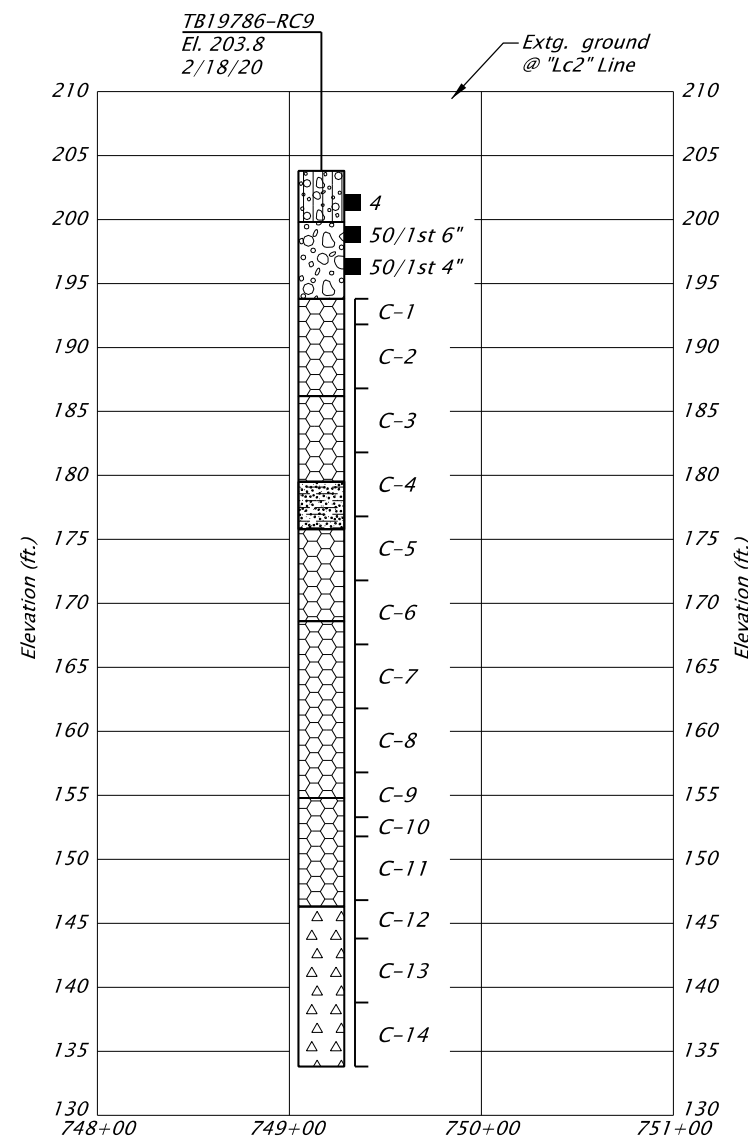
For sign mounting details, see Dwg. TM624.

Weathered and fractured bedrock at shallow depths is anticipated during hard rock excavation for the spread footing.

Backfilling around footing is required prior to erection.



PLAN



PROFILE

Horiz. scale: 1"=100'
Vert. scale: 1"=15'

NOTE:
Elevations shown are based on
North American Vertical Datum 1988 (NAVD88).

UNIT DESCRIPTIONS

Gravelly SILT, some sand (ML); yellow-brown, low plasticity, wet, soft to medium stiff, fine to coarse sand, fine angular to subrounded gravel, some rootlets, (matrix-supported colluvium)

Gravelly silty SAND to sandy GRAVEL, some cobbles and boulders (SM to GP); dark grey and brown, non-plastic silt, wet, very dense, fine to coarse sand, fine to coarse angular to subangular gravel, (clast-supported colluvium)

BASALT; grey, slightly weathered to fresh, medium hard to very hard (R3 to R5), very close to moderately close joints are planar and undulating, rough, and open, trace iron-staining and mineral infilling, some vesicles to highly vesicular, (Columbia River Basalt)

Sandy MUDSTONE, decomposed to moderately weathered, extremely soft to very soft (R0 to R1), inferred from core loss, (Vantage Horizon)

BASALT BRECCIA; grey, yellow and red, decomposed to slightly weathered, extremely soft to medium hard (R0 to R3), very close to close joints are undulating, rough, and open, some rubble zones, trace iron-staining and mineral infilling, some vesicles to highly vesicular, (Columbia River Basalt)

LEGEND

- = Geotech Test Boring (TB)
- = Standard Penetration Test (SPT)
N-value
- C-1 = Core Sample Interval
- % REC = Percent Core Sample Recovery
- RQD = Rock Quality Designation
- q_u = Unconfined Compressive Strength

- Notes:**
- Boring was sampled with a hammer efficiency of 85.0%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q _u (psi)
TB19786-RC9	C-1	100	R4 to R5	40	
	C-2	100	R4 to R5	74	15,958
	C-3	93	R3 to R5	68	
	C-4	46	R3 to R5	30	
	C-5	77	R3 to R5	20	
	C-6	100	R3 to R5	74	
	C-7	100	R4 to R5	42	16,290
	C-8	100	R4 to R5	81	
	C-9	100	R4 to R5	37	
	C-10	100	R4 to R5	47	
	C-11	100	R3 to R5	16	
	C-12	100	R0 to R3	39	
	C-13	30	R0 to R3	8	
	C-14	62	R0 to R3	27	

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.55 NB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
75110
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N. C. HUFFMAN
EXPIRES: 6/30/2008

FOUNDATION ENGINEERING, INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OREGON 97330
BUS (541) 757-7645 FAX (541) 757-7650

sn_Hwy064_MP8.55

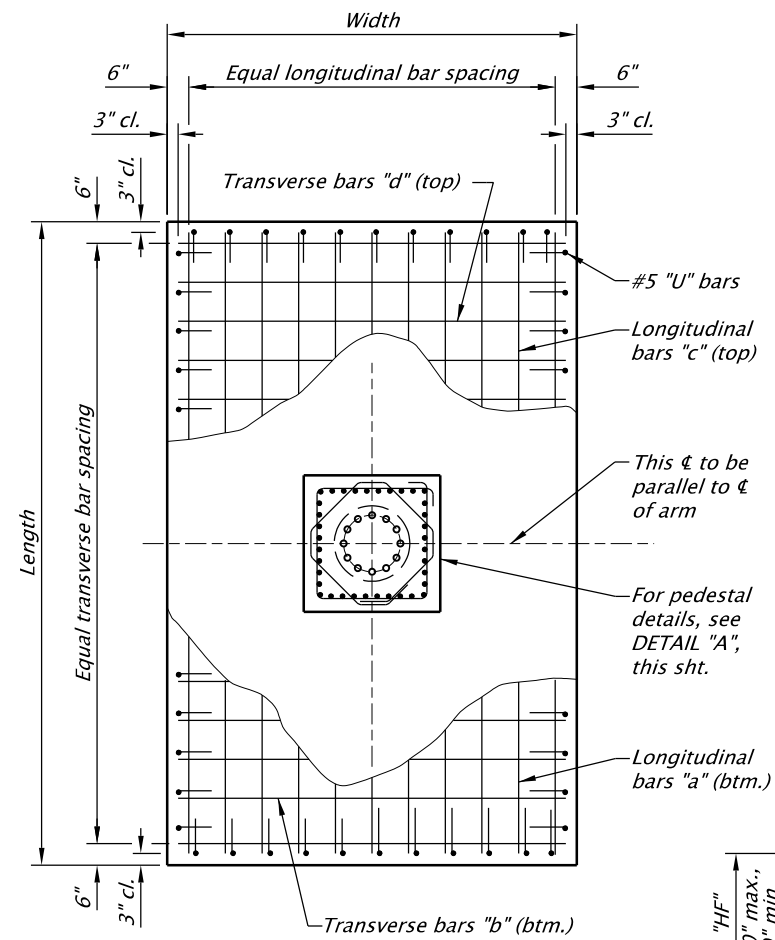
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

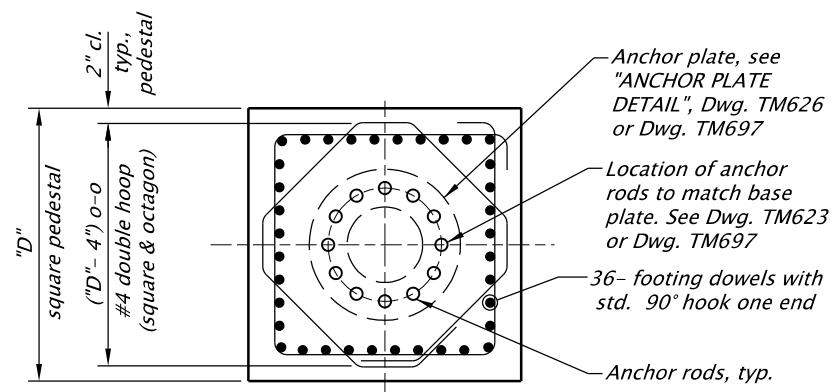
GEOTECHNICAL DATA SHEET NO. LD23A

SPREAD FOOTING DIMENSIONS AND REINFORCING								REACTIONS AT BASE PLATE (FACTORED)					
Cantilever Spread Footing Design No.	Footing		Pedestal	Reinforcing Steel				Force in vertical axis (lb)	Moment about axis perp. to sign (ft-lb)	Moment about axis parallel to sign (ft-lb)	Moment about vertical axis (ft-lb)	Shear normal to signs (lb)	Shear parallel to signs (lb)
	Length	Width	"D"	"a"	"b"	"c"	"d"						
1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	21'-0"	10'-6"	5'-0"	14 - #7	20 - #5	14 - #6	20 - #5	28,100	469,700	628,000	707,000	20,000	0
3	19'-0"	9'-6"	5'-0"	14 - #6	18 - #5	14 - #6	18 - #5	18,400	196,000	590,000	517,000	19,600	0
4	19'-0"	9'-6"	5'-0"	12 - #6	18 - #5	12 - #6	18 - #5	21,800	363,000	442,000	496,000	15,400	0
5	18'-0"	9'-0"	5'-0"	12 - #6	17 - #5	12 - #6	17 - #5	16,900	173,800	395,000	357,000	13,400	0

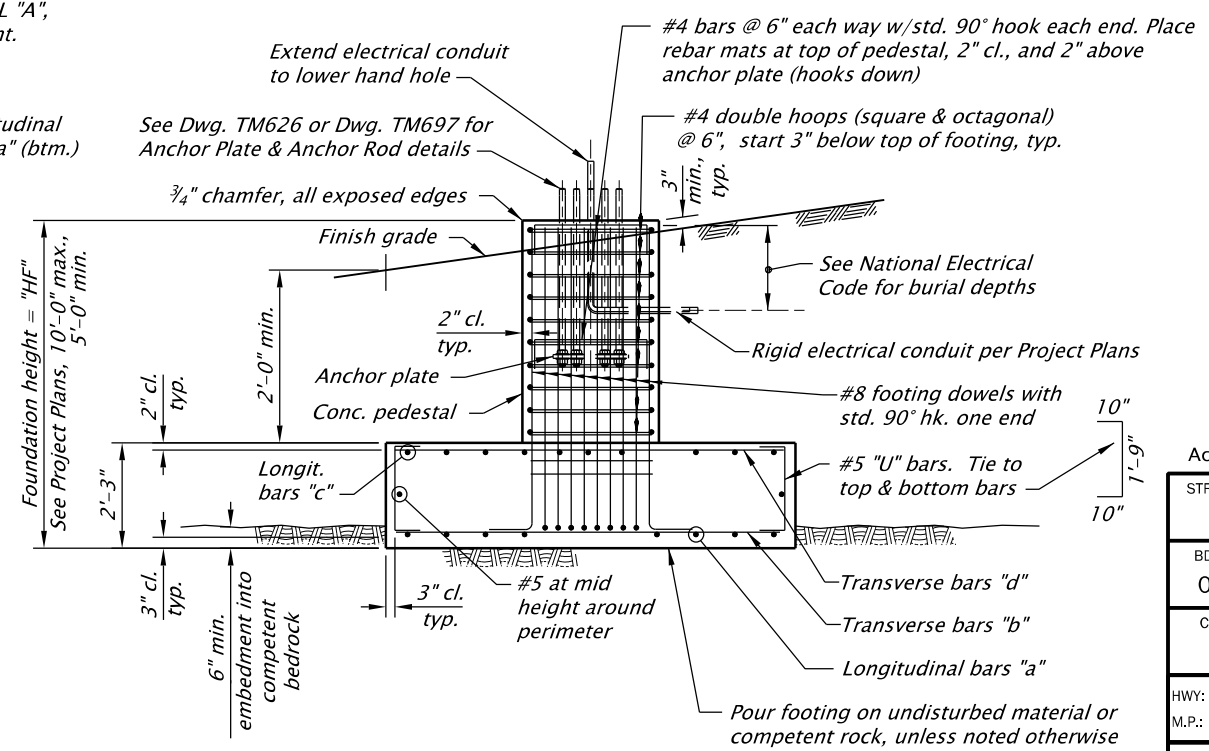
Advisory Note:
 The Standard reactions provided in the table are located at the base of the post and are the total reactions to the foundation due to Extreme I - Case 1 Loading (wind normal to sign). They include the loading from the maximum sign area listed on Dwg. TM622 or Dwg. TM693 or the maximum VMS loadings for the types listed, whichever produces the greatest reactions. Strength I and Extreme I Loadings are summarized in the calculation book.



PLAN
No Scale



DETAIL "A"
No Scale



ELEVATION - SPREAD FOOTING
No Scale

This Monotube Spread Footing drawing contains designs based on soil conditions provided by Foundation Engineering (FEI). These footings only pertain to a select few structures for the project where bedrock is present. The spread footing designs include consideration of one condition as follows:
 Non-buoyant conditions for stability calculations (compacted soil density of soil over footing = 120 lb/ft³, concrete density = 150 lb/ft³) with resistance factor = 0.5, nominal bearing resistance = 30,000 psf and factored bearing resistance of 15,000 psf.

The following uncoated splice lengths are for Class 3600 concrete and shall be used unless shown otherwise:



Bar size	#4	#5	#6	#7	#8	#9
Splice length (in.) (top bars)	2'-2"	2'-9"	3'-3"	3'-9"	4'-4"	4'-10"
Splice length (in.) (all others)	1'-8"	2'-1"	2'-6"	2'-11"	3'-4"	3'-9"

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

Accompanied by Dwg.: TM621, TM622, TM623, TM624, TM625, TM626, TM628

STRUCTURE NO.	00000, 00000
BDS DWG NO.	000000
CALC. BOOK	7084
HWY: 064	
M.P.: 8.55 NB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



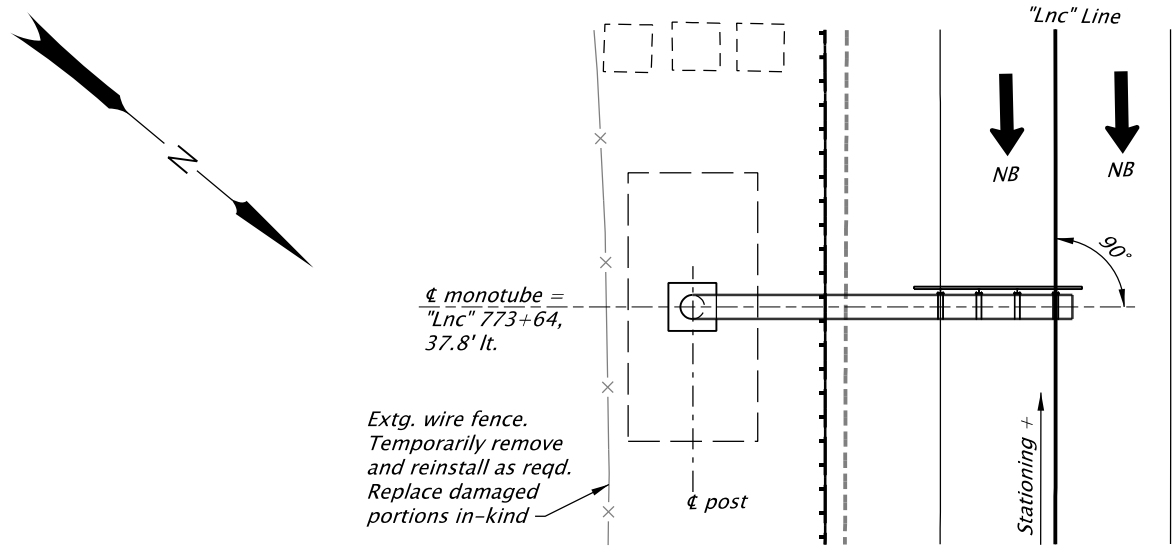
 www.dowl.com sn_Hwy064_MP8.55		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	MONOTUBE SPREAD FOOTING DETAILS
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
		SHEET NO. LD24

Monotube Cantilever M.P. 8.00 NB



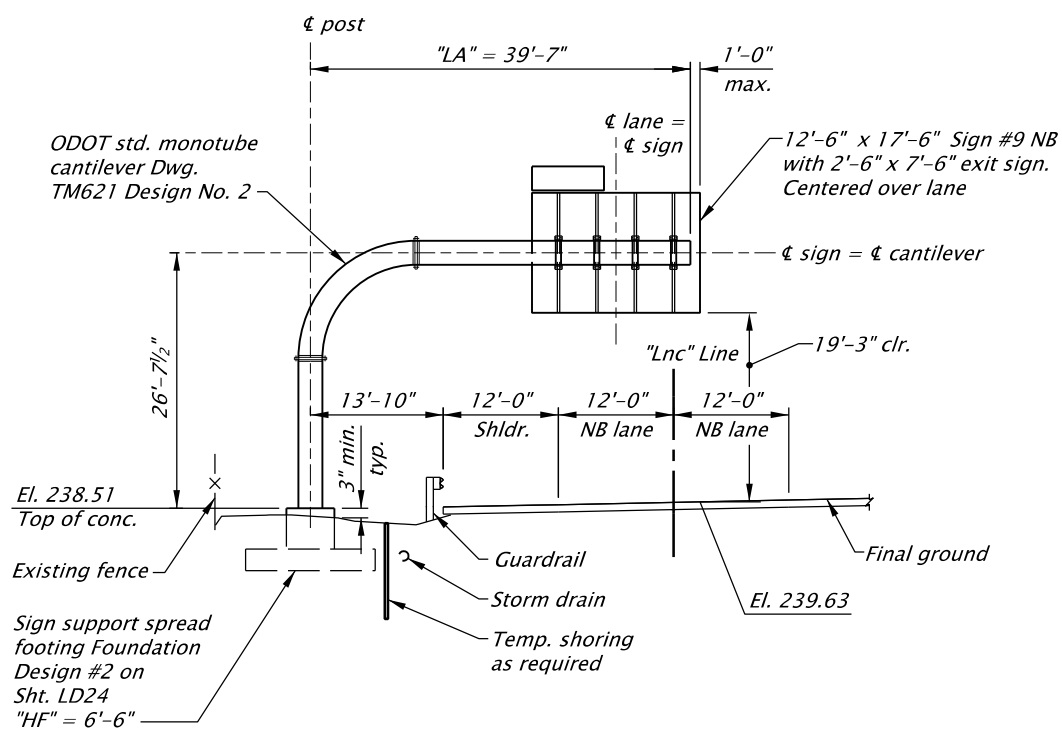
LOCATION MAP

No Scale



PLAN

Scale: 1"=20'



***MONOTUBE CANTILEVER ELEVATION**

Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"Lnc" 773+64	8.00 NB	39'-7"	TM627	2	26'-5"

ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING

IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 00000	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 8.00 NB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
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EXPIRES: 06/30/2022

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Monotube cantilever sign structures are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions through 2017.

See Dwg. TM622 for General Notes.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown.

Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

See Traffic Plans for sign information.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

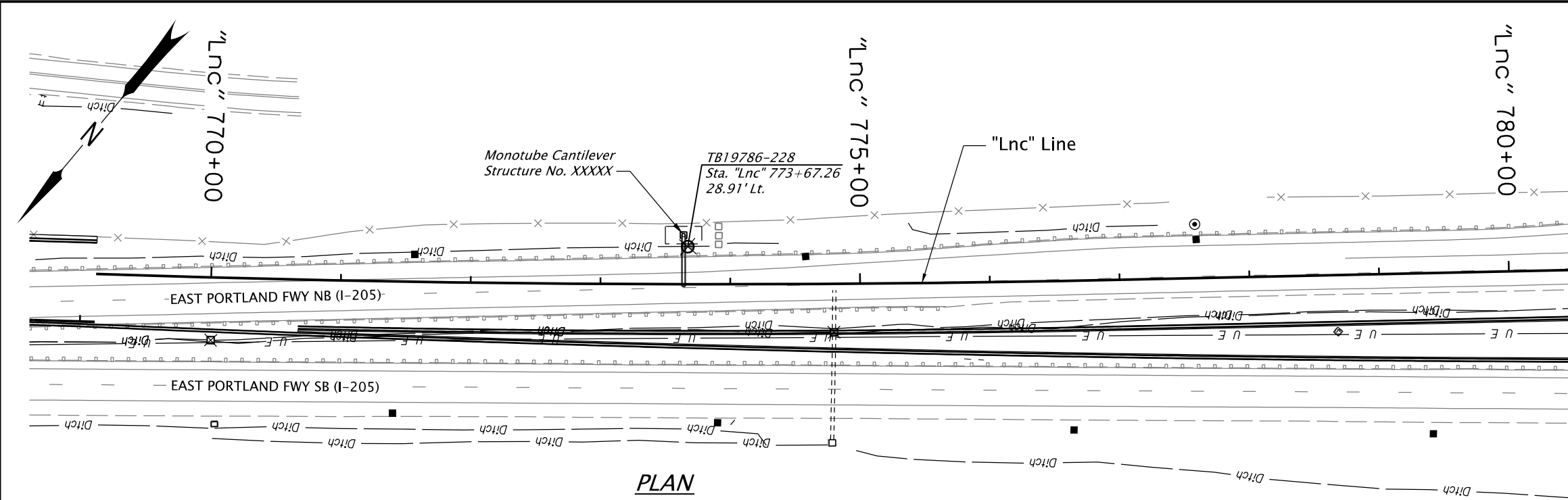
Right of way is outside limits of view.

For sign mounting details, see Dwg. TM624.

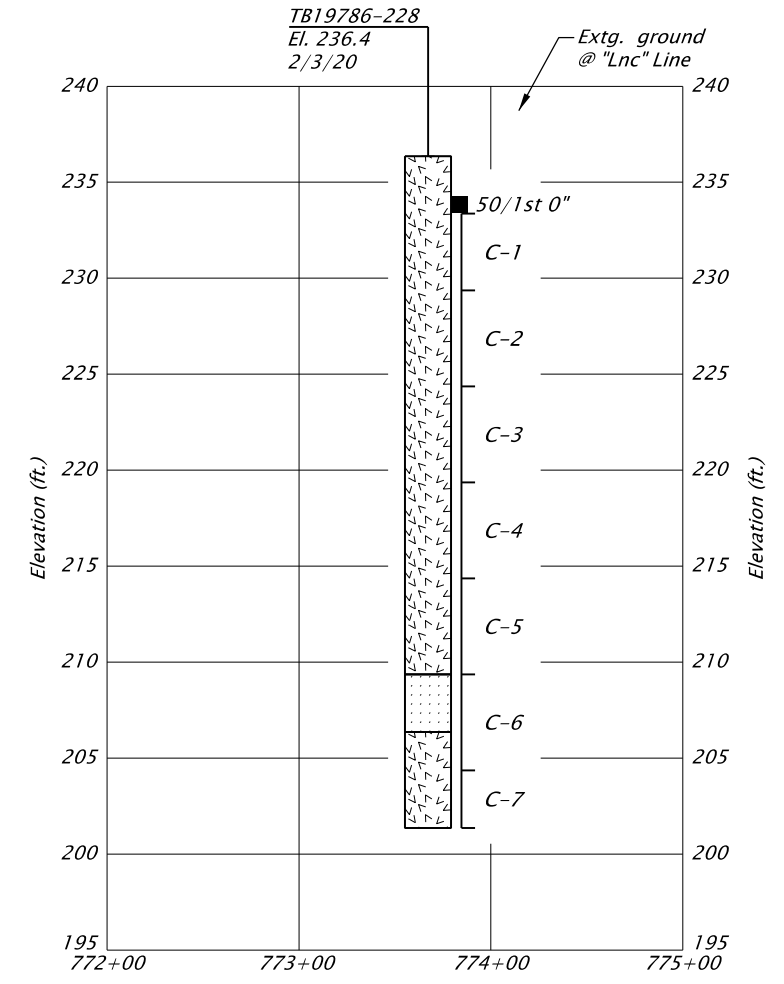
Weathered and fractured bedrock at shallow depths is anticipated during hard rock excavation for the spread footing.

Backfilling around footing is required prior to erection.

sn_Hwy064_MP8.00		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD25
PLAN AND ELEVATION		SHEET NO. LD25





PLAN





PROFILE
 Horiz. scale: 1"=100'
 Vert. scale: 1"=10'

NOTE:
 Elevations shown are based on
 North American Vertical Datum 1988 (NAVD88).

UNIT DESCRIPTIONS

-  **BASALT**, dark grey, moderately weathered to slightly weathered, very soft to very hard (R1 to R5), very close to moderately close joints are planar, undulating and irregular, rough, and open, some clay infilling, some vesicles, (Columbia River Basalt)
-  **SANDSTONE**, grey, slightly weathered, soft (R2), very close to close joints are planar to irregular, smooth to rough, and open, (possible erosional unconformity, Vantage Horizon)

LEGEND

-  = Geotech Test Boring (TB)
-  24 = Standard Penetration Test (SPT)
N-value
- C-1 = Core Sample Interval
- % REC = Percent Core Sample Recovery
- RQD = Rock Quality Designation
- q_u = Unconfined Compressive Strength

- Notes:**
- Boring was sampled with a hammer efficiency of 85.0%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q_u (psi)
TB19786-228	C-1	98	R5	58	22,642
	C-2	92	R4 to R5	88	
	C-3	100	R4 to R5	78	
	C-4	100	R1 to R2	93	
	C-5	72	R1 to R2	24	
	C-6	88	R2 to R5	48	
	C-7	100	R4 to R5	64	

SCALE WARNING
 IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 00000
BDS DWG NO. 00000
CALC. BOOK 7084
HWY: 064 M.P.: 8.00 NB
COUNTY 00000
DATE N/A

REGISTERED PROFESSIONAL ENGINEER
 75110
 J. N. C. HUFFMAN
 11, 2008
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 INFORMATION ONLY
 EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
 PROFESSIONAL GEOTECHNICAL SERVICES
 820 NW CORNELL AVENUE
 CORVALLIS, OREGON 97330
 BUS (541) 757-7645 FAX (541) 757-7650

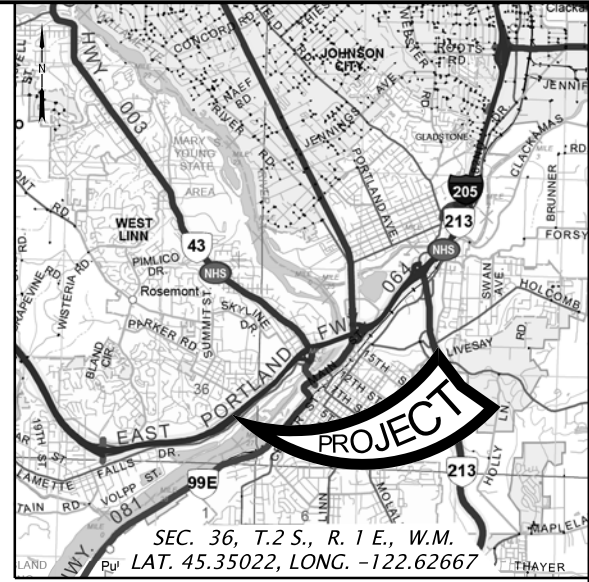


sn_Hwy064_MP8.00
I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

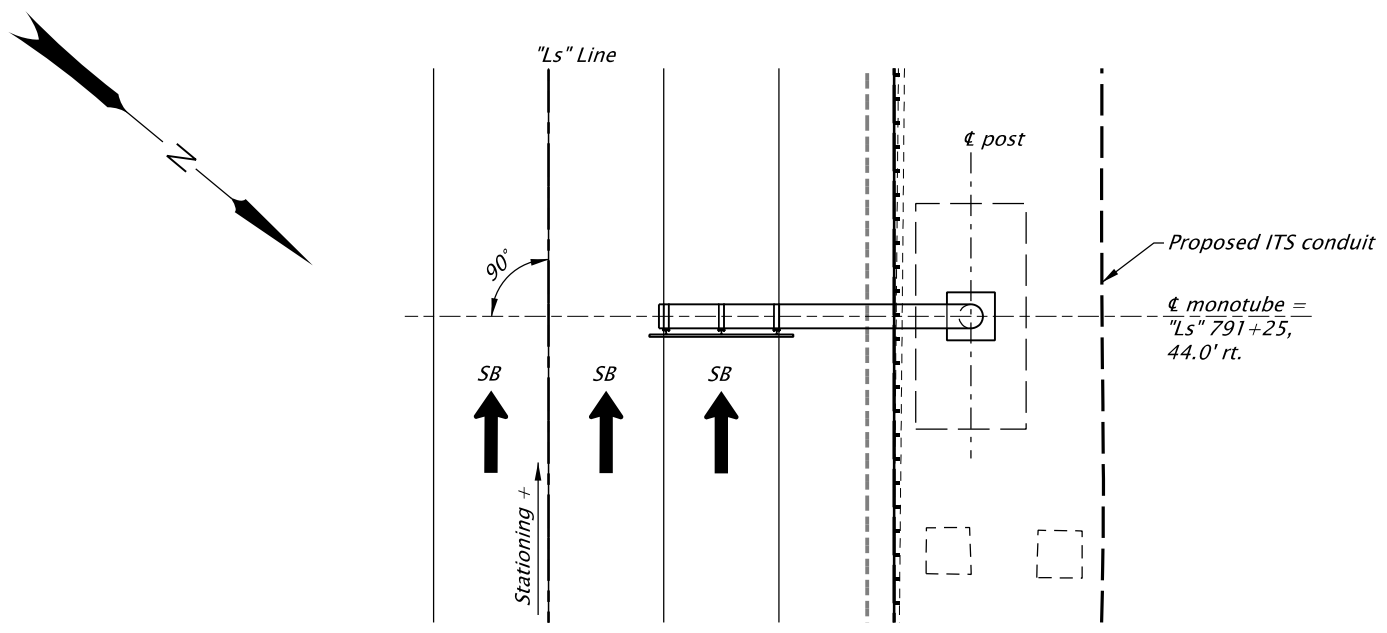
Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
 Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

GEOTECHNICAL DATA SHEET NO. LD25A

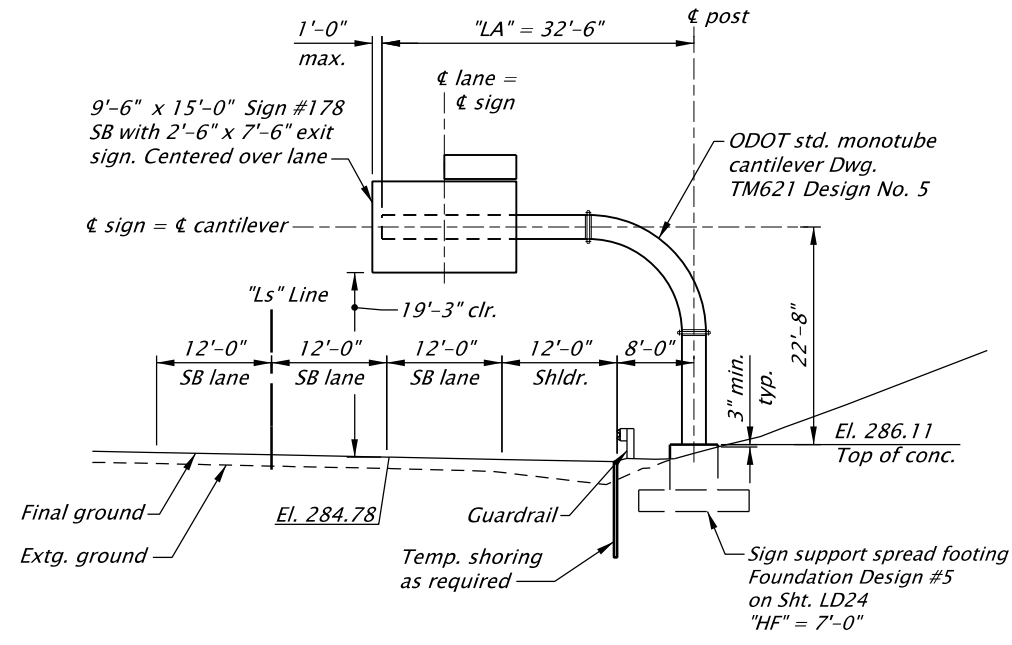
Monotube Cantilever M.P. 7.70 SB



LOCATION MAP
No Scale



PLAN
Scale: 1"=20'



*** MONOTUBE CANTILEVER ELEVATION**
Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

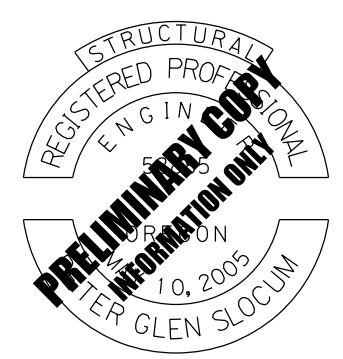
Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"Ls" 791+25	7.70 SB	32'-6"	TM627	5	22'-5 1/2"

ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 00000	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 7.70 SB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
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EXPIRES: 06/30/2022

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Monotube cantilever sign structures are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions through 2017.

See Dwg. TM622 for General Notes.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown.

Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

See Traffic Plans for sign information.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

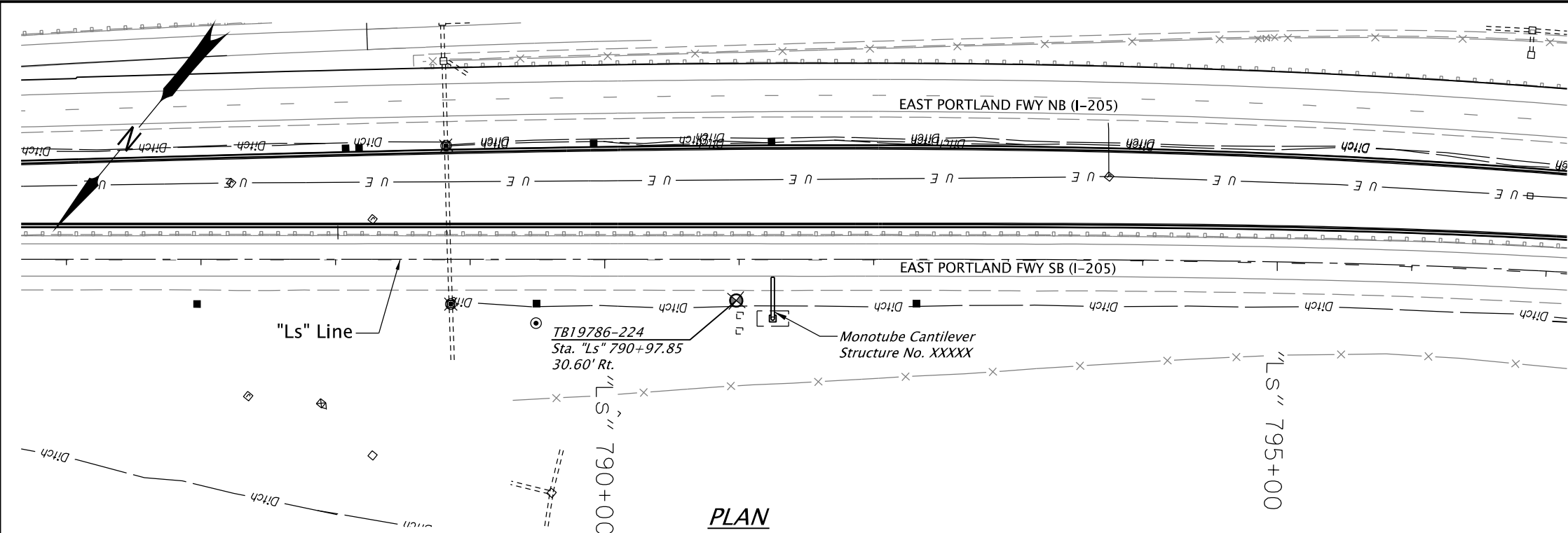
Right of way is outside limits of view.

For sign mounting details, see Dwg. TM624.

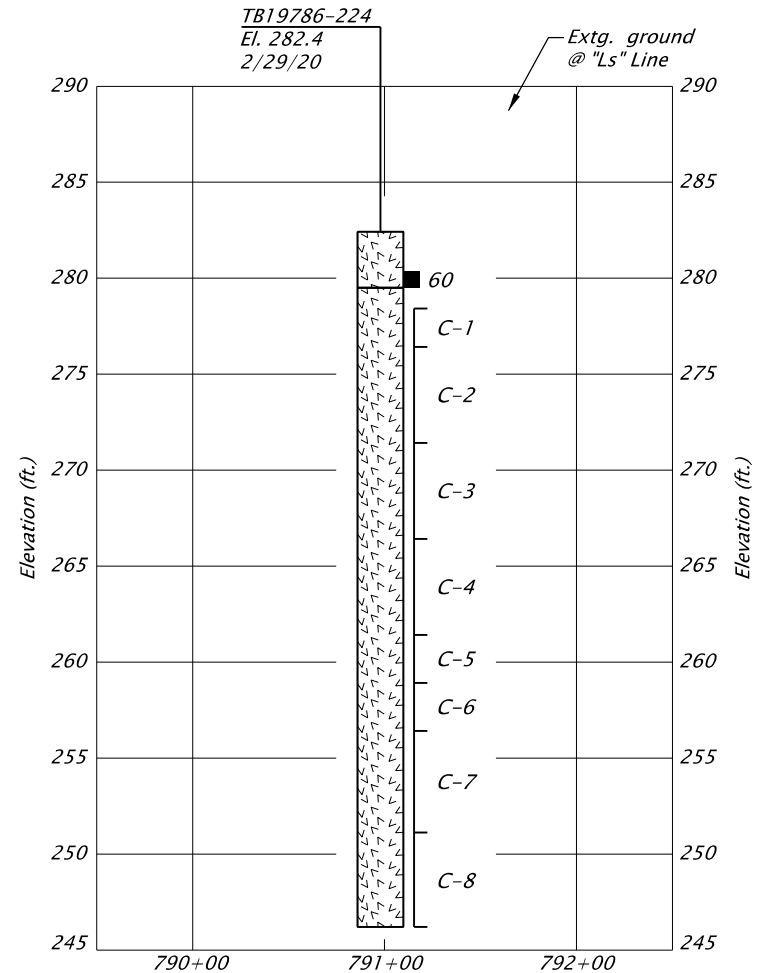
Weathered and fractured bedrock at shallow depths is anticipated during hard rock excavation for the spread footing.

Backfilling around footing is required prior to erection of structure.

www.DOWL.COM sn_Hwy064_MP7.70		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD26
PLAN AND ELEVATION		



PLAN



PROFILE

Horiz. scale: 1":100'
Vert. scale: 1":10'

NOTE:
Elevations shown are based on North American Vertical Datum 1988 (NAVD88).

UNIT DESCRIPTIONS

- BASALT; dark grey to brown, moderately weathered, soft (R2), very close joints are infilled with sandy clay, (Columbia River Basalt)
- BASALT; dark grey, slightly weathered to fresh, hard to very hard (R4 to R5), very close to moderately close joints are planar, undulating and irregular, rough, and open, some vesicles to highly vesicular, (Columbia River Basalt)

LEGEND

- = Geotech Test Boring (TB)
- 24 = Standard Penetration Test (SPT)
N-value
- C-1 = Core Sample Interval
- % REC = Percent Core Sample Recovery
- RQD = Rock Quality Designation
- q_u = Unconfined Compressive Strength

- Notes:**
- Boring was sampled with a hammer efficiency of 69.2%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q_u (psi)
TB19786-224	C-1	95	R5	80	19,264
	C-2	60	R4 to R5	0	
	C-3	100	R4 to R5	100	
	C-4	96	R4 to R5	48	
	C-5	100	R4 to R5	16	
	C-6	100	R4 to R5	63	
	C-7	100	R4 to R5	74	
	C-8	100	R4 to R5	72	

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 7.70 SB	
COUNTY	00000
DATE	N/A



EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OREGON 97330
BUS (541) 757-7645 FAX (541) 757-7650



sn_Hwy064_MP7.70
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

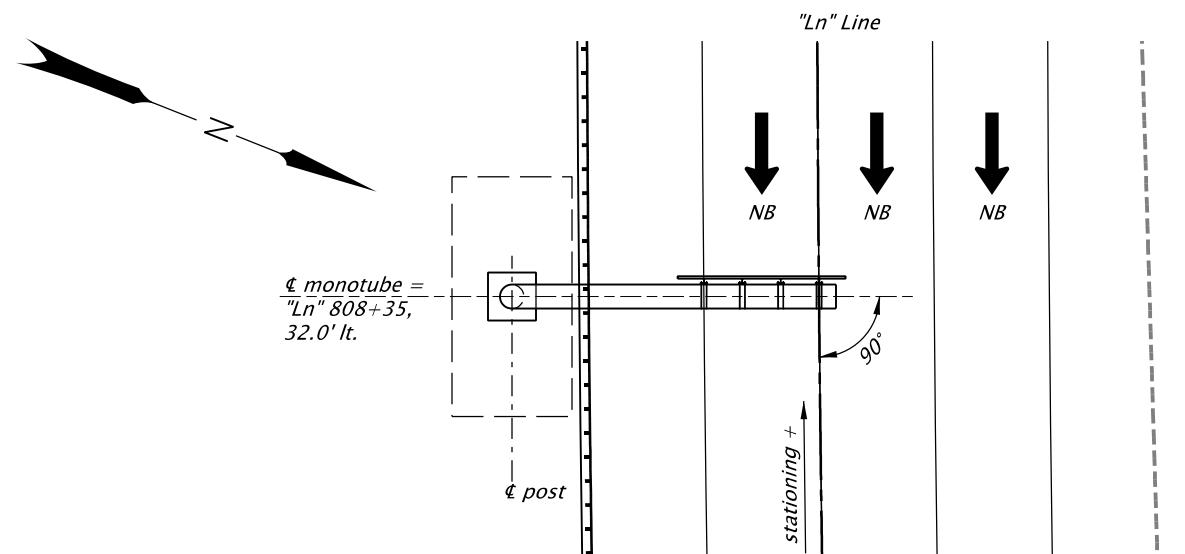
Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
 Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

GEOTECHNICAL DATA

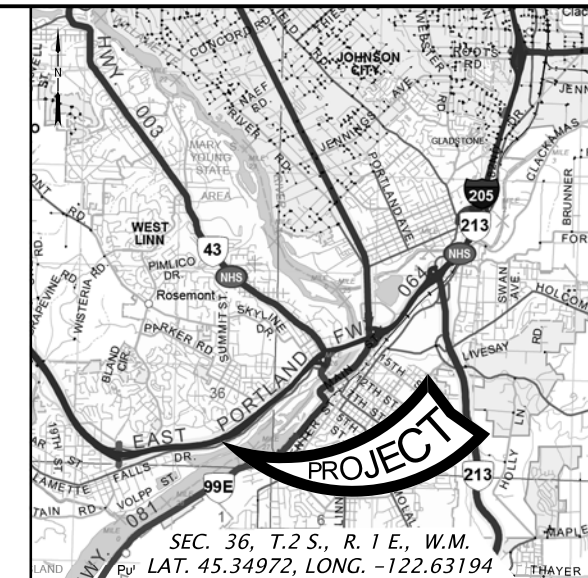
SHEET NO.
LD26A

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

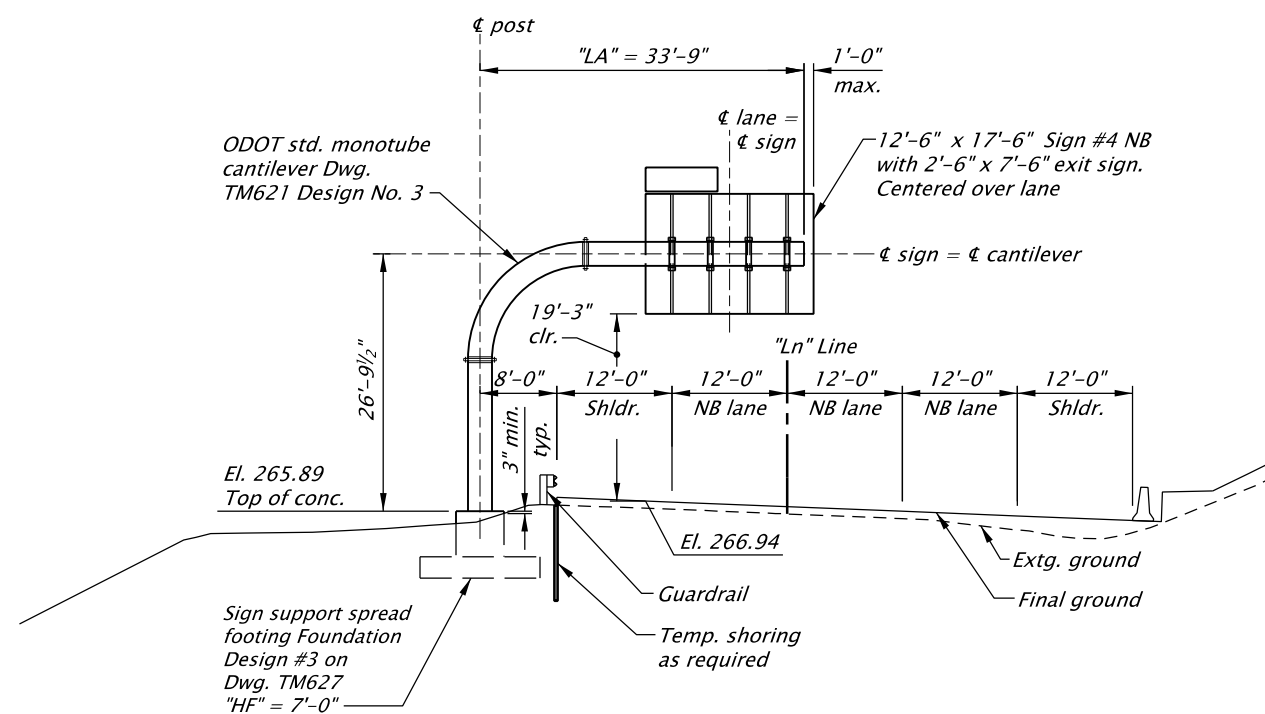
Monotube Cantilever M.P. 7.41 NB



PLAN
Scale: 1"=20'



LOCATION MAP
No Scale



***MONOTUBE CANTILEVER ELEVATION**

Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"Ln" 808+35	7.41 NB	33'-9"	TM627	3	26'-7"
					No

ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 00000	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 7.41 NB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
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EXPIRES: 06/30/2022

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

sn_Hwy064_MP7.41		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD27
PLAN AND ELEVATION		SHEET NO. LD27

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Monotube cantilever sign structures are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions through 2017.

See Dwg. TM622 for General Notes.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown.

Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

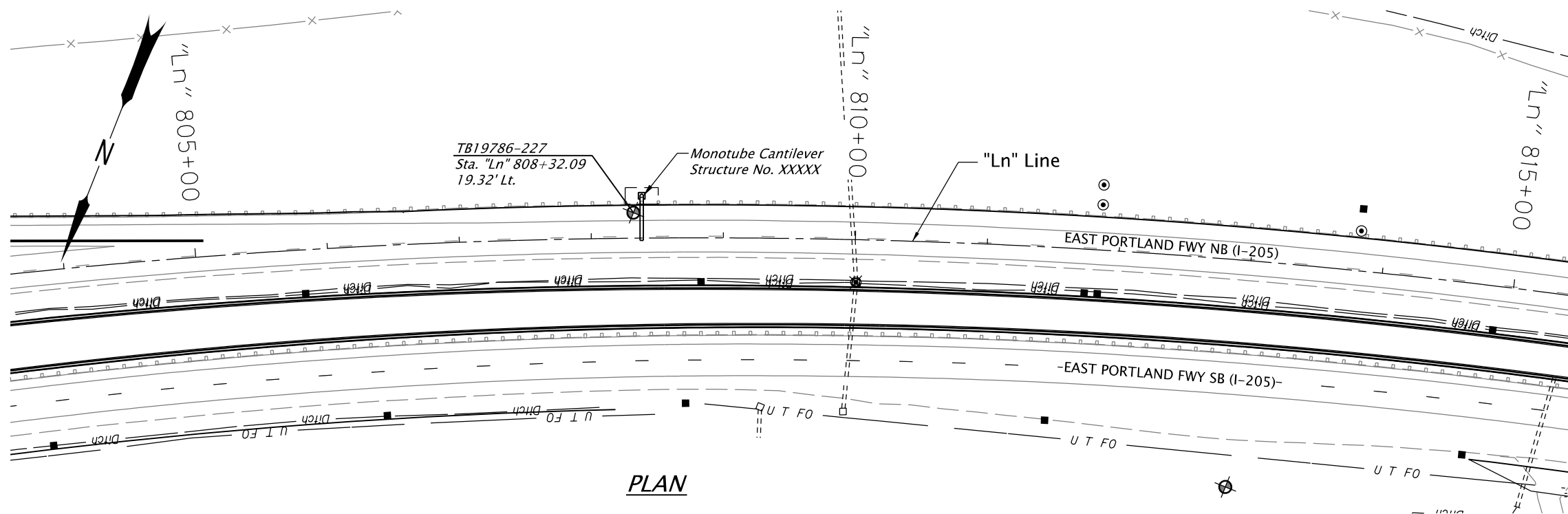
See Traffic Plans for sign information.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

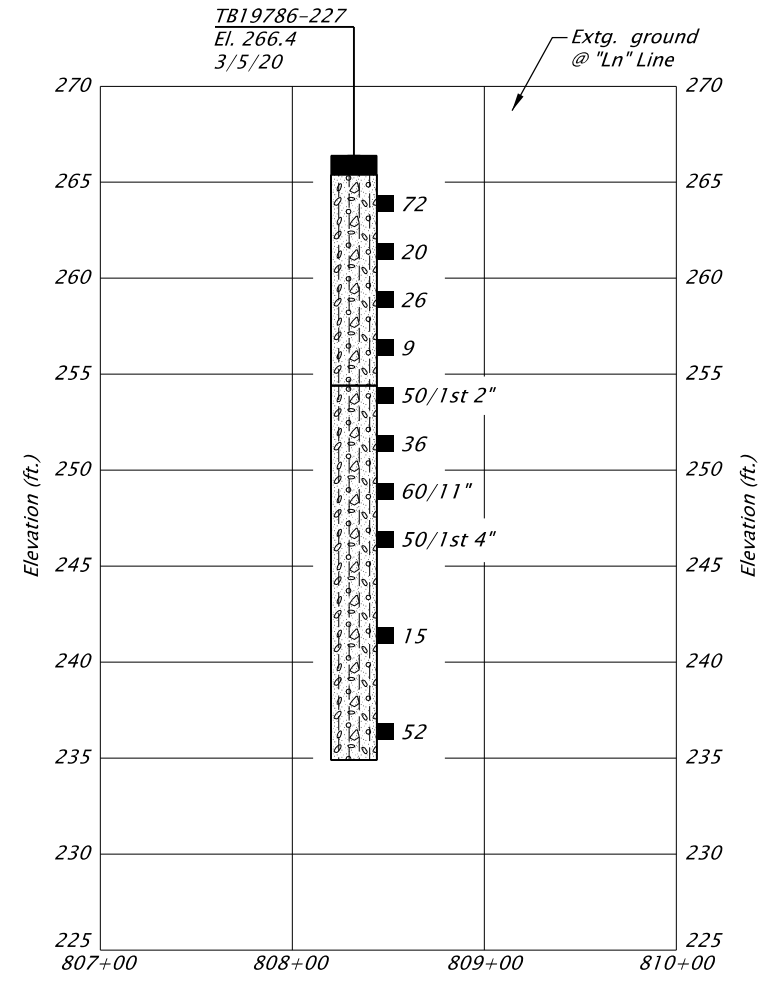
Right of way is outside limits of view.

For sign mounting details, see Dwg. TM624.

Backfilling around footing is required prior to erection of structure.



PLAN



PROFILE

Horiz. scale: 1"=100'
Vert. scale: 1"=10'

NOTE:
Elevations shown are based on
North American Vertical Datum 1988 (NAVD88).

UNIT DESCRIPTIONS

- ASPHALTIC CONCRETE (±12 inches)
- Sandy GRAVEL, some silt (GP-GM); grey-brown, low plasticity silt, moist, medium dense to very dense, fine to coarse sand, fine to coarse subangular basaltic gravel, (fill)
- GRAVEL, some sand, trace to some silt (GP to GP-GM); grey, low plasticity silt, moist, dense to very dense, fine to coarse sand, fine to coarse subangular basaltic gravel fragments, (possible fill or highly weathered Columbia River Basalt)

LEGEND

- = Geotech Test Boring (TB)
- 24 = Standard Penetration Test (SPT)
N-value

- Notes:
1. Boring was sampled with a hammer efficiency of 80.8%.
 2. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 3. Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 7.41 NB	
COUNTY	00000
DATE	N/A



EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OREGON 97330
BUS (541) 757-7645 FAX (541) 757-7650



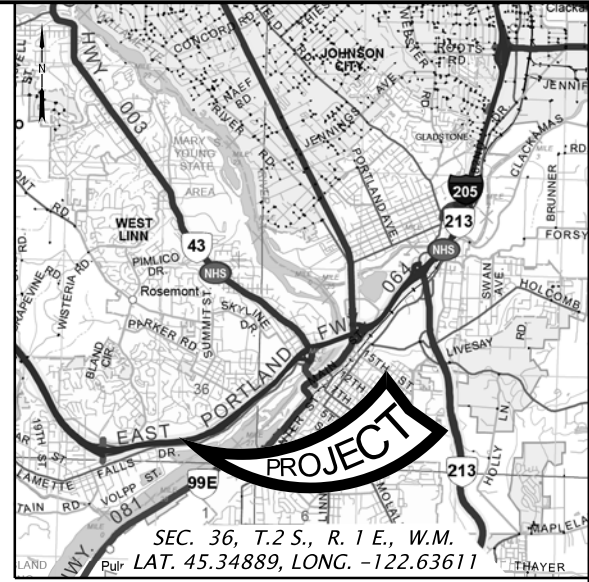
sn_Hwy064_MP7.41
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

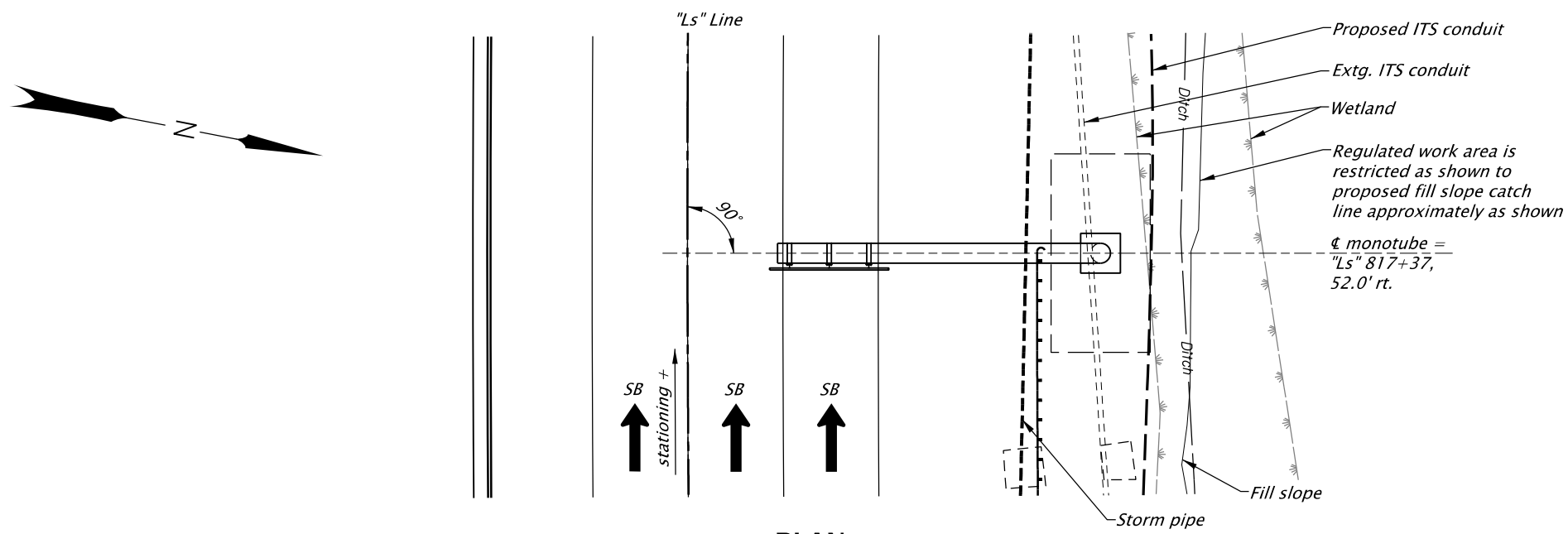
GEOTECHNICAL DATA

SHEET NO.
LD27A

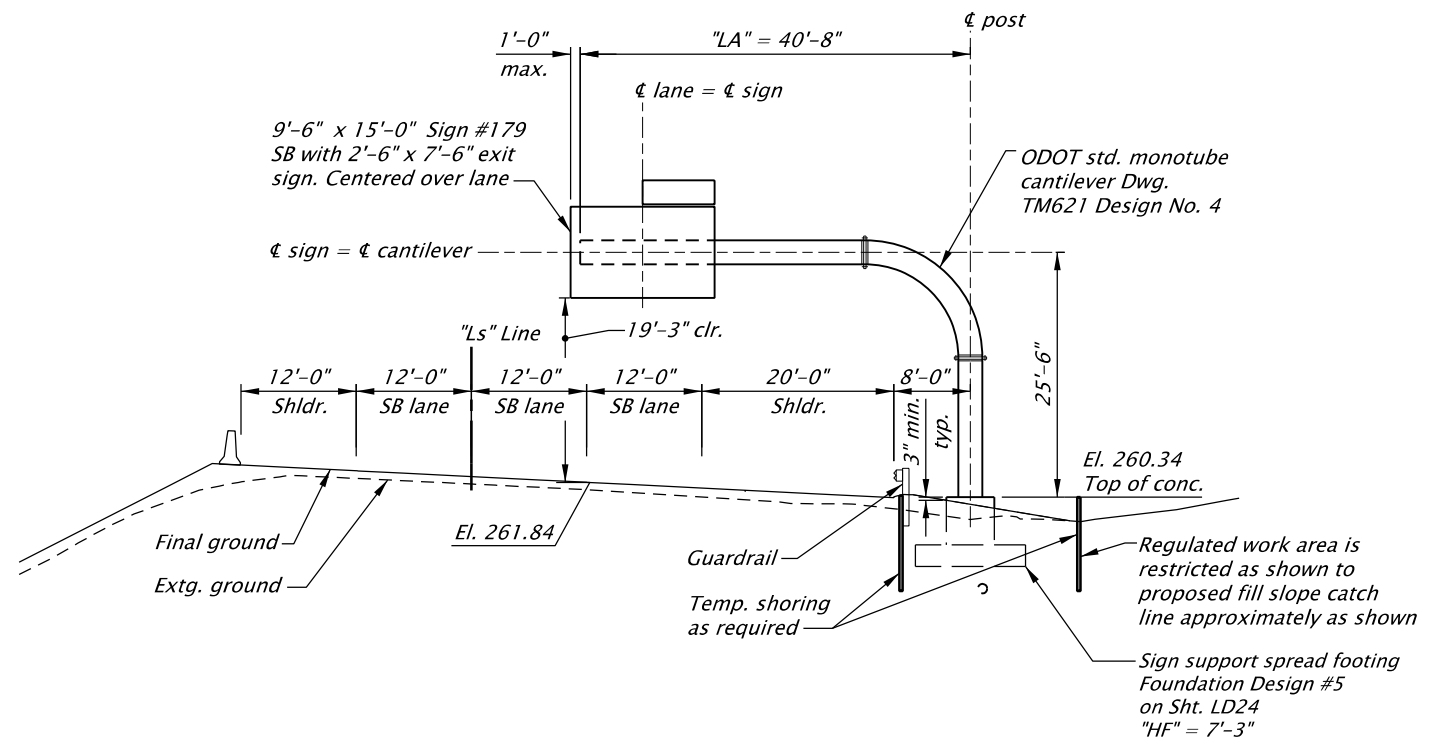
Monotube Cantilever M.P. 7.21 SB



LOCATION MAP
No Scale



PLAN
Scale: 1"=20'



***MONOTUBE CANTILEVER ELEVATION**

Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"Ls" 817+37	7.21 SB	40'-8"	TM627	5	25'-3/2"

ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 7.21 SB	
UNIT FILE CODE	00000
DPI/TSSU NO.	N/A



sn_Hwy064_MP7.21		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E.	Reviewer: Douglas Kirkpatrick, P.E.	
Drafter: Yuka Garzenelli	Checker: Wyatt Dean, E.I.	
PLAN AND ELEVATION		SHEET NO. LD28

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Monotube cantilever sign structures are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions through 2017.

See Dwg. TM622 for General Notes.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown.

Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

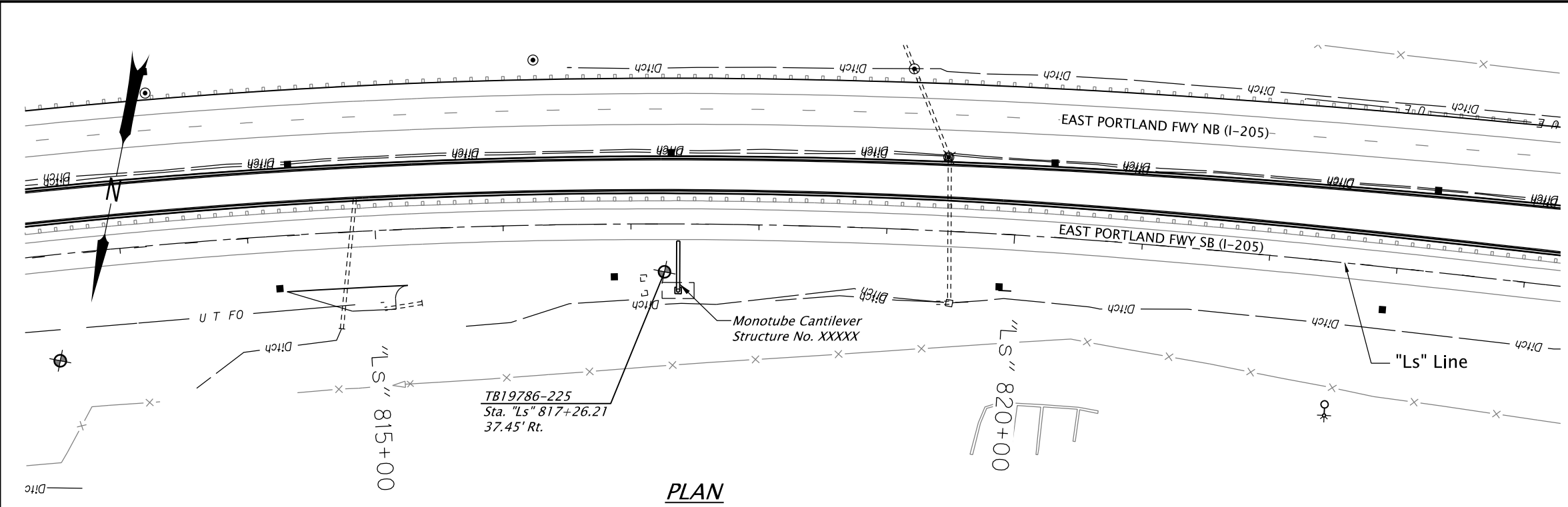
See Traffic Plans for sign information.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

Right of way is outside limits of view.

For sign mounting details, see Dwg. TM624.

Weathered and fractured bedrock at shallow depths is anticipated during hard rock excavation for the spread footing.

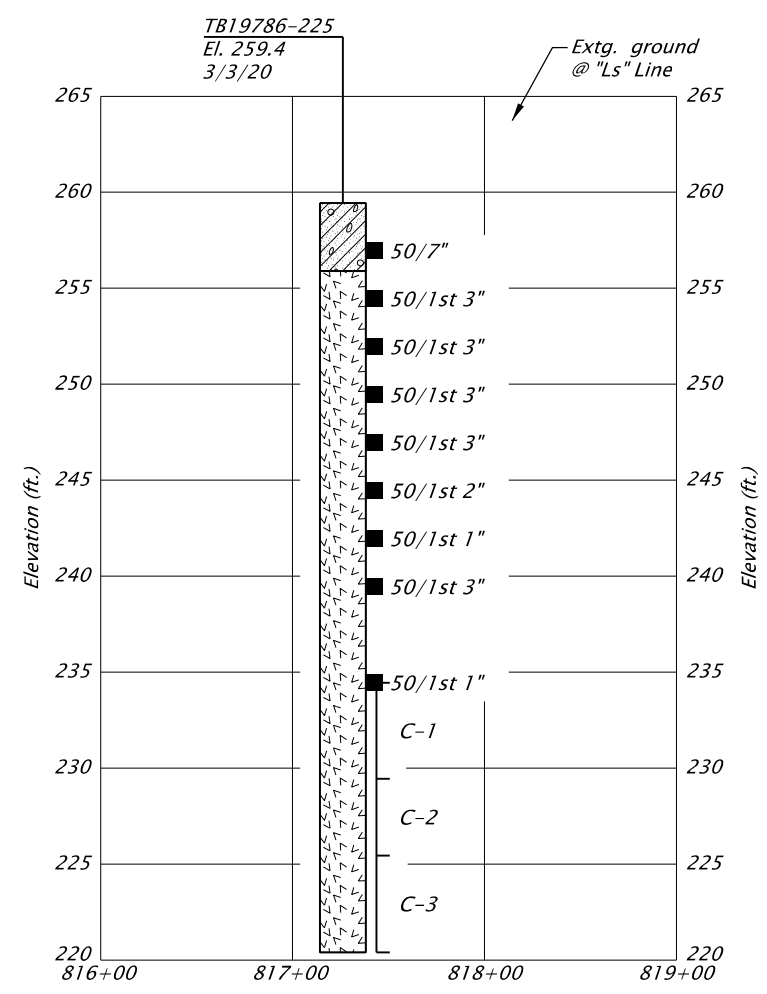


UNIT DESCRIPTIONS

- Gravelly silty CLAY, some sand (CL); grey-brown, medium plasticity, moist, hard, fine to coarse sand, fine to coarse subangular basaltic gravel, (possible fill or residual soil)
- BASALT; grey with iron-stained joints, highly to moderately weathered grading to slightly weathered, soft to hard (R2 to R4), very close to moderately close joints are planar to irregular, smooth to rough, and open, some vesicles, (Columbia River Basalt)

LEGEND

- = Geotech Test Boring (TB)
- 24 = Standard Penetration Test (SPT)
N-value
- C-1 = Core Sample Interval
- % REC = Percent Core Sample Recovery
- RQD = Rock Quality Designation
- q_u = Unconfined Compressive Strength



PROFILE
 Horiz. scale: 1"=100'
 Vert. scale: 1"=10'

NOTE:
 Elevations shown are based on North American Vertical Datum 1988 (NAVD88).

- Notes:
- Boring was sampled with a hammer efficiency of 80.8%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q_u (psi)
TB19786-225	C-1	100	R4	62	
	C-2	85	R4	29	
	C-3	100	R4	48	

SCALE WARNING
 IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 7.21 SB	
COUNTY	00000
DATE	N/A



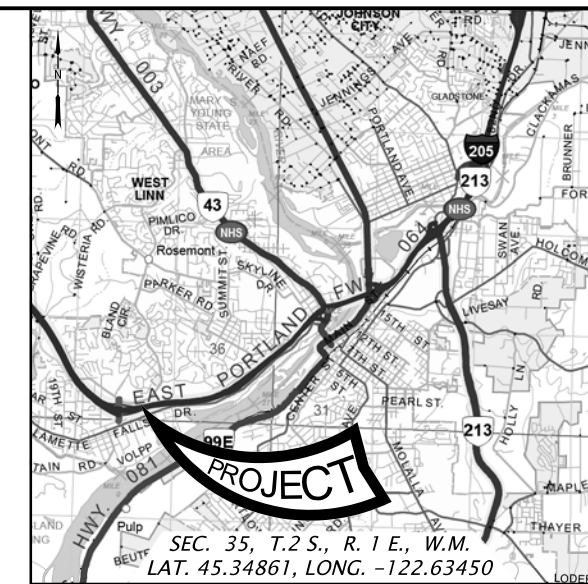
EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
 PROFESSIONAL GEOTECHNICAL SERVICES
 820 NW CORNELL AVENUE
 CORVALLIS, OREGON 97330
 BUS (541) 757-7645 FAX (541) 757-7650

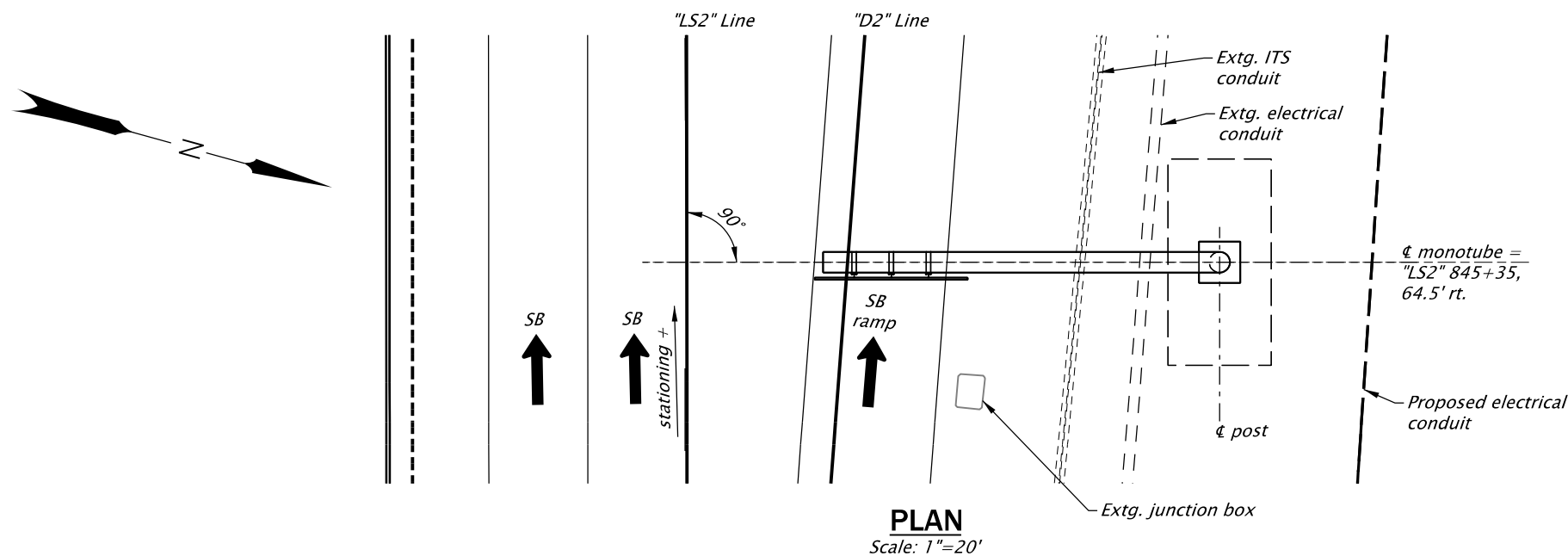


sn_Hwy064_MP7.21	
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jonathan Huffman, P.E., G.E.	Reviewer: David Running, P.E., G.E.
Drafter: Yuka Garzenelli	Checker: Brooke Running, R.G., C.E.G.
GEOTECHNICAL DATA	
SHEET NO. LD28A	

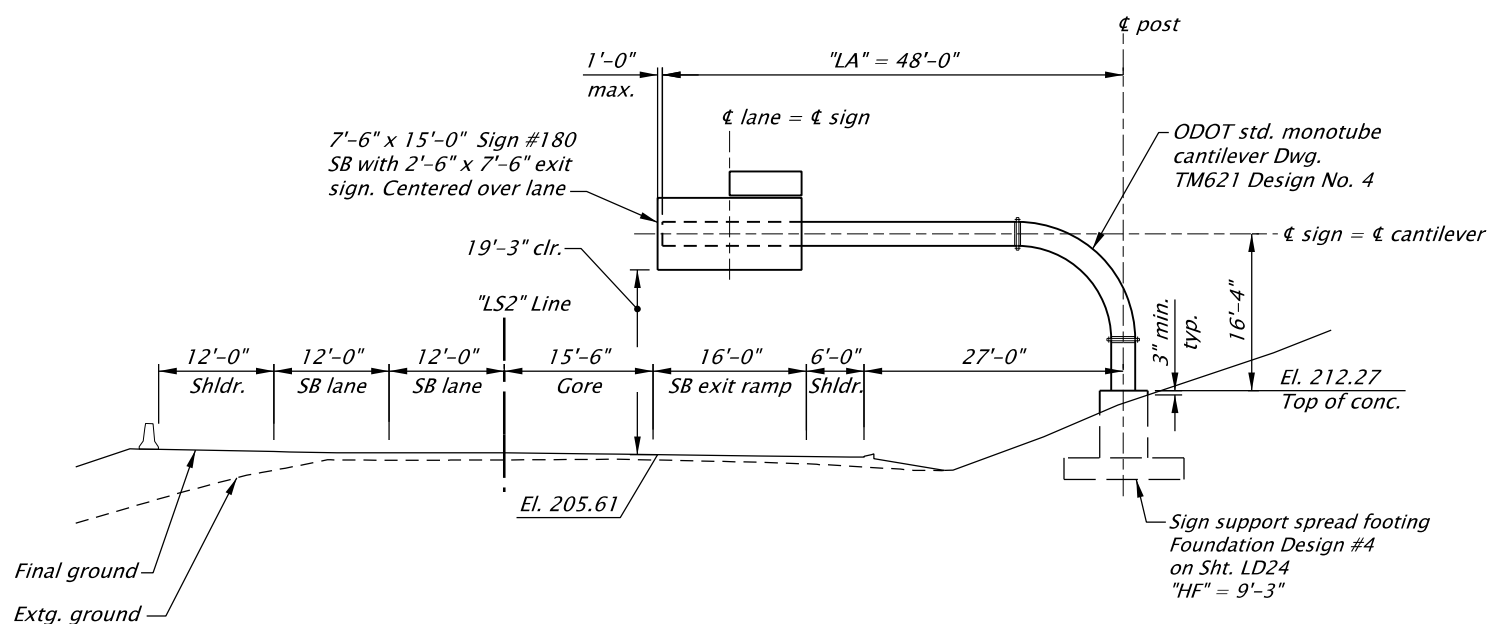
Monotube Cantilever M.P. 6.70 SB



LOCATION MAP
No Scale



PLAN
Scale: 1"=20'



***MONOTUBE CANTILEVER ELEVATION**

Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.

PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number	Post Length see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM624
At Station	M.P.				
"LS2" 845+35	6.70 SB	48'-0"	TM627	4	16'-1 1/2"

ACCOMPANIED BY DWGS.:
TM621-TM624, TM626, TM627

SCALE WARNING



IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

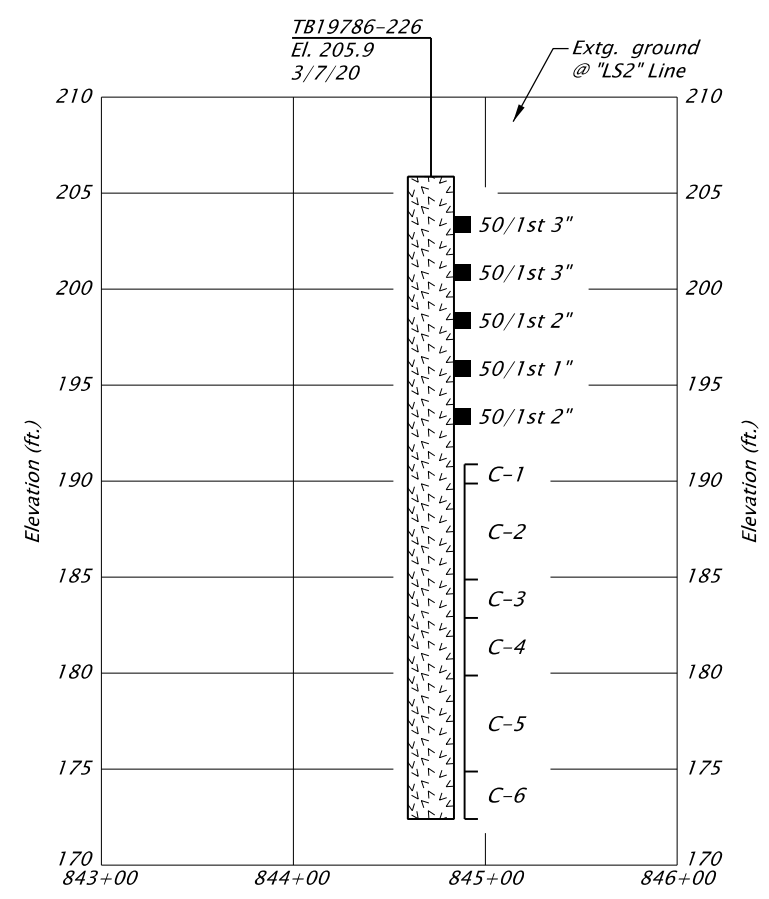
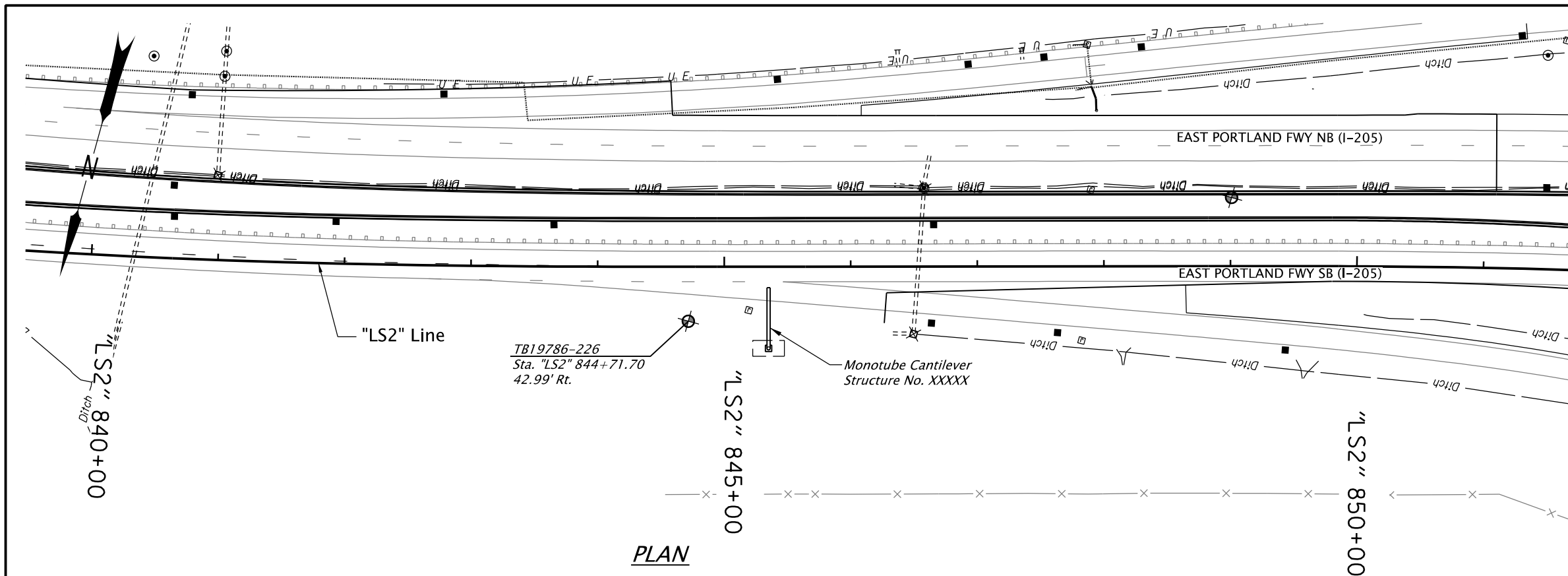
STRUCTURE NO. 00000	BDS DWG NO. 00000	CALC. BOOK 7084	HWY: 064 M.P.: 6.70 SB	UNIT FILE CODE 00000	DFI/TSSU NO. N/A
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EXPIRES: 06/30/2022

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

 DOWL www.dowl.com sn_Hwy064_MP6.70		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Reviewer: Douglas Kirkpatrick, P.E.		PLAN AND ELEVATION SHEET NO. LD29
Drafter: Yuka Garzenelli Checker: Wyatt Dean, E.I.		



UNIT DESCRIPTIONS

BASALT; dark grey with iron-stained joints, moderately to slightly weathered, soft to hard (R2 to R4), very close to moderately close joints are planar to irregular, smooth to rough, and open to closed, some sand and clay infilling, some vesicles, (Columbia River Basalt)

- LEGEND**
- = Geotech Test Boring (TB)
 - 24 = Standard Penetration Test (SPT)
N-value
 - C-1 = Core Sample Interval
 - % REC = Percent Core Sample Recovery
 - RQD = Rock Quality Designation
 - q_u = Unconfined Compressive Strength

- Notes:**
- Boring was sampled with a hammer efficiency of 85.0%.
 - Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
 - Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q_u (psi)
TB19786-226	C-1	100	R3 to R4	0	
	C-2	100	R3 to R4	12	
	C-3	100	R3 to R4	35	
	C-4	87	R3 to R4	13	
	C-5	100	R3 to R4	50	
	C-6	100	R3 to R4	52	

NOTE:
Elevations shown are based on North American Vertical Datum 1988 (NAVD88).

PROFILE
Horiz. scale: 1"=100'
Vert. scale: 1"=10'

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 064	
M.P.: 6.70 SB	
COUNTY	00000
DATE	N/A



EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
PROFESSIONAL GEOTECHNICAL SERVICES
820 NW CORNELL AVENUE
CORVALLIS, OREGON 97330
BUS (541) 757-7645 FAX (541) 757-7650

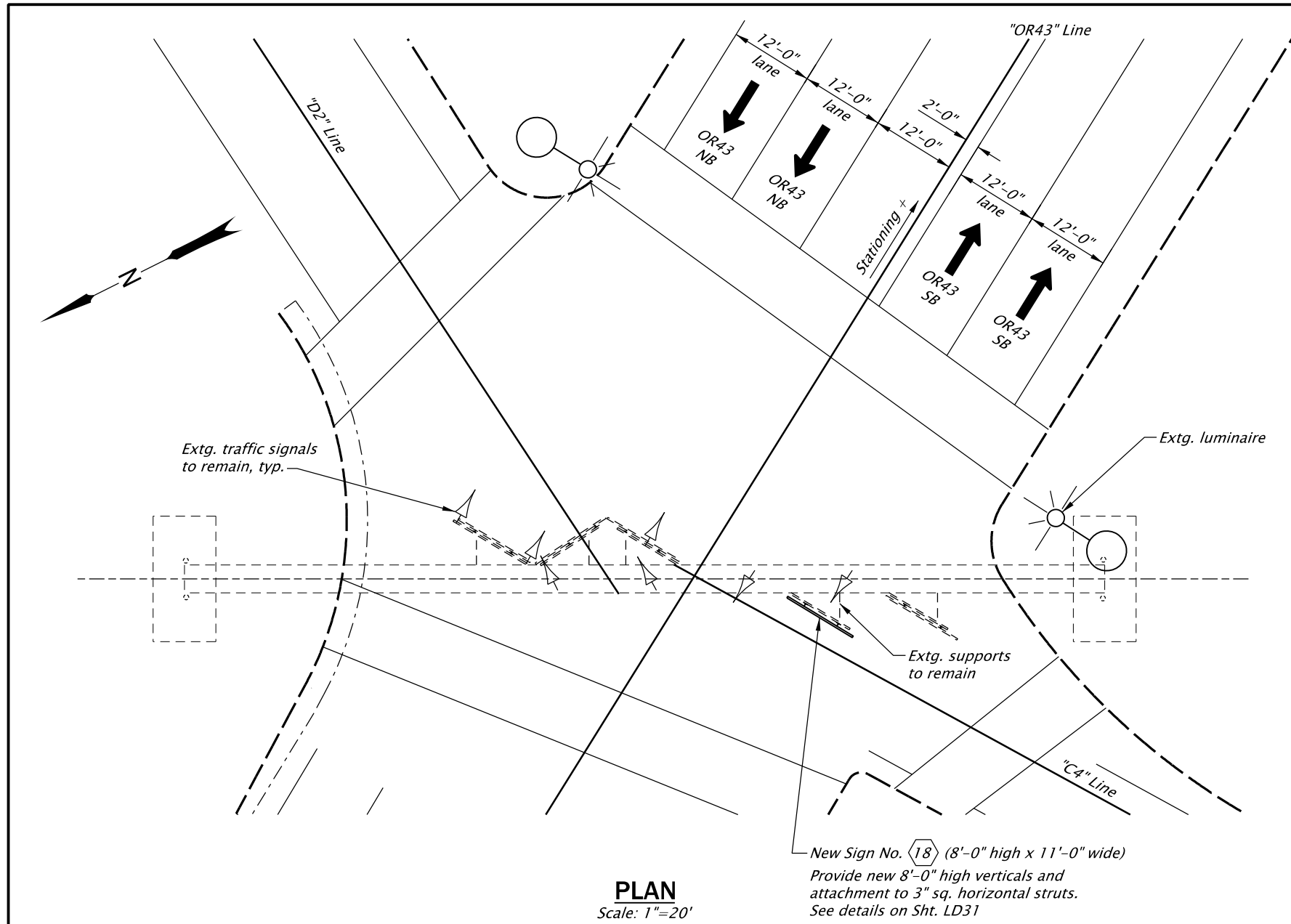


sn_Hwy064_MP6.70
I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

GEOTECHNICAL DATA

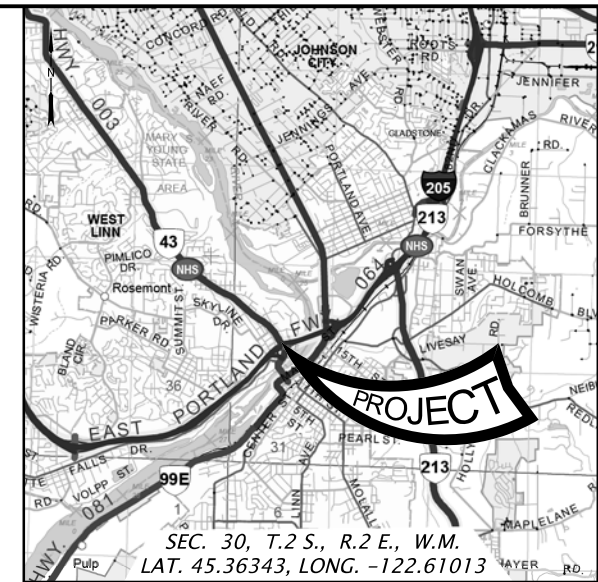
SHEET NO.
LD29A



PLAN
Scale: 1"=20'

New Sign No. 18 (8'-0" high x 11'-0" wide)
Provide new 8'-0" high verticals and attachment to 3" sq. horizontal struts.
See details on Sht. LD31

OR43 Existing Sign Bridge M.P. 11.13 SB



LOCATION MAP
No Scale

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Vertical structure mounts are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th edition, 2001 and 2002 interim revisions.

Basic wind speed (3 second gust) used for sign structure design is 110 mph, $G = 1.14$, $I_r = 1.0$ (50 year recurrence interval) and Exposure C were used for design.

All structural steel shapes shall conform to ASTM A572, Grade 50, or ASTM A992, unless noted otherwise. All structural plates shall conform to ASTM A36, or ASTM A572, Grade 42.

All fasteners shall be ASTM A325 unless otherwise noted. All structural steel and fasteners shall be hot-dip galvanized after fabrication, unless noted otherwise. The silicon content of the base metal shall be according to the Special Provisions for all hot-dip galvanized steel, unless noted otherwise.

Contractor shall field verify conditions, work, locations, elevations and all dimensions prior to beginning fabrication. Existing traffic lane and structural dimensions shown are approximate and should not be used as a basis for development of fabrication drawings.

See Signing Plans and Dwgs. TM220, TM618 and TM675 for sign mounting details.

All welding shall conform to the current edition American Welding Society (AWS) D1.1.

Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.



ACCOMPANIED BY DWGS.:
000000, TM220, TM618, TM675

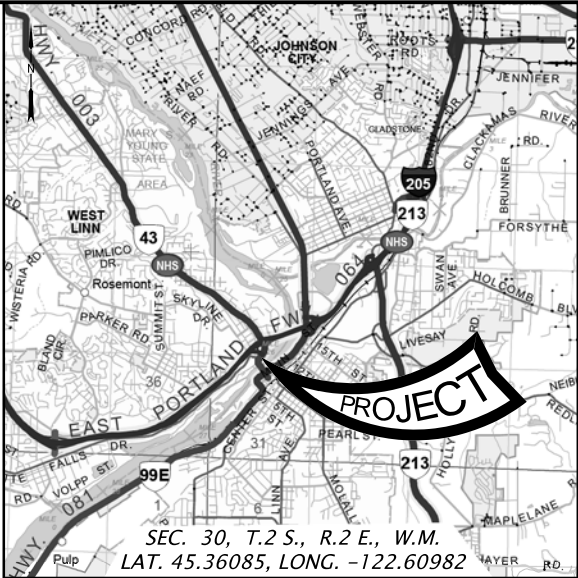
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	09816D
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 003	
M.P.: 11.13 SB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A

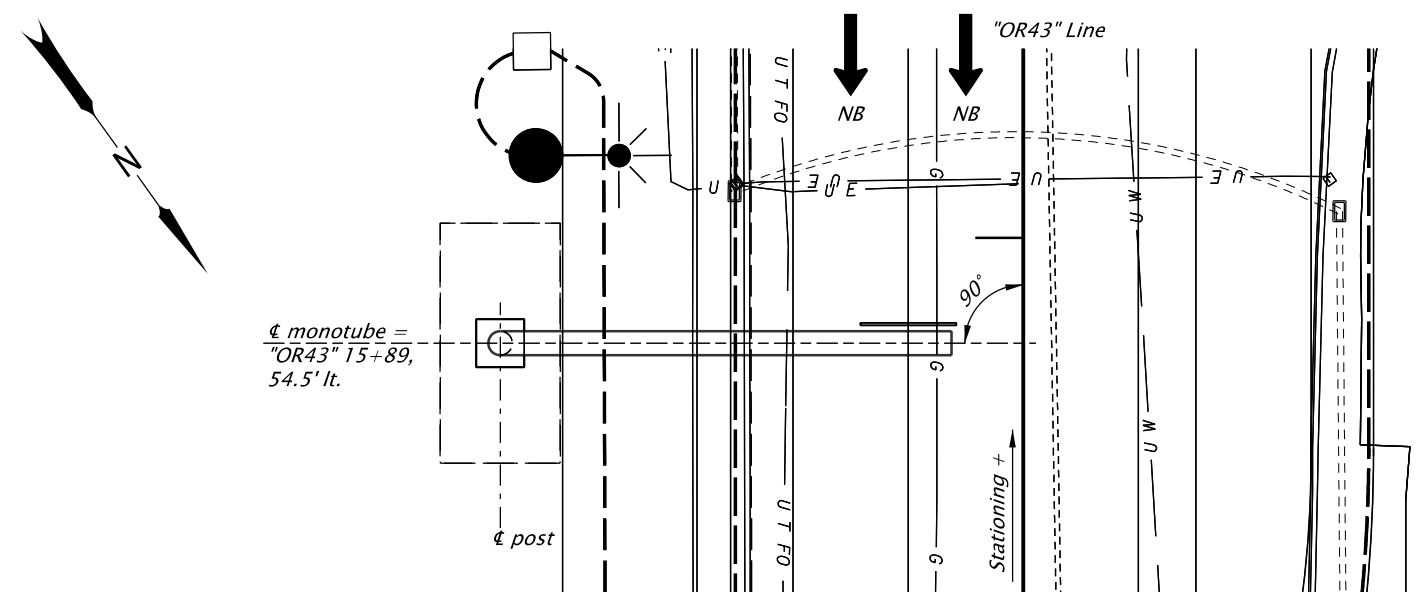


EXPIRES: 12/31/2016

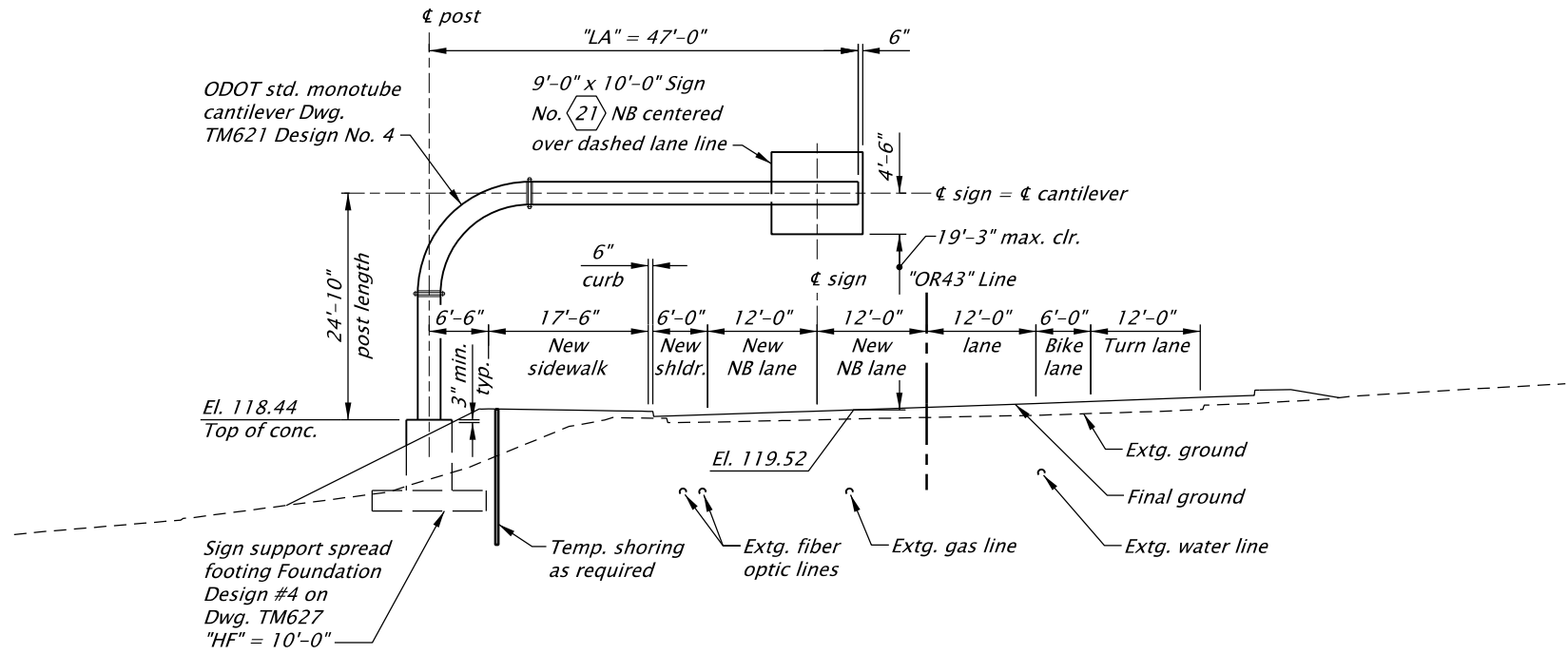
 DOWL <small>WWW.DOWL.COM</small>		
Sign Truss Br, Hwy 3 at MP 11.13 I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Kenton Alldritt, P.E.	Reviewer: Douglas Kirkpatrick, P.E.	SITE PLANS
Drafter: Yuka Garzenelli	Checker: Peter G. Stocum, P.E., S.E.	
		SHEET NO. LD30



LOCATION MAP
No Scale



PLAN
Scale: 1"=20'



***MONOTUBE CANTILEVER ELEVATION**
Scale: 1"=20'

*Elevation view is looking ahead on station, SB direction

Note:
Elevations are based on the North American Vertical Datum, 1988.



PROJECT DATA					
Sign Bridge	"LA"	Foundation Drawing Number	Spread Footing Foundation Design Number See Dwg. TM627	Post Height see Dwg. TM621 (Field Verify)	Luminaires ("Yes" or "No") see Dwg. TM625
At Station	M.P.				
"OR43" 15+89	11.31 NB	47'-0"	TM627	4	24'-7 1/2"
					No

ACCOMPANIED BY DWGS.:
TM621-TM627

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 003	
M.P.: 11.31 NB	
UNIT FILE CODE	00000
DFI/TSSU NO.	N/A



 DOWL www.dowl.com sn_Hwy003_MP11.31		
I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Peter G. Slocum, P.E., S.E. Drafter: Yuka Garzenelli	Reviewer: Douglas Kirkpatrick, P.E. Checker: Wyatt Dean, E.I.	SHEET NO. LD32
PLAN AND ELEVATION		SHEET NO. LD32

General Notes:

All materials and workmanship shall conform to the 2018 Oregon Standard Specifications for Construction and the Special Provisions. Structure mounts are designed in accordance with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1st edition, 2015 and interim revisions 2017.

See Dwg. TM622 for General Notes.

The sign support shall meet the requirements for 50'-0" span length, post height, and maximum sign area as shown on Dwg. TM621.

See Dwgs. TM621-TM624, TM626 and TM627 for details not shown. Use Design No. 4 in Dwg. TM621.

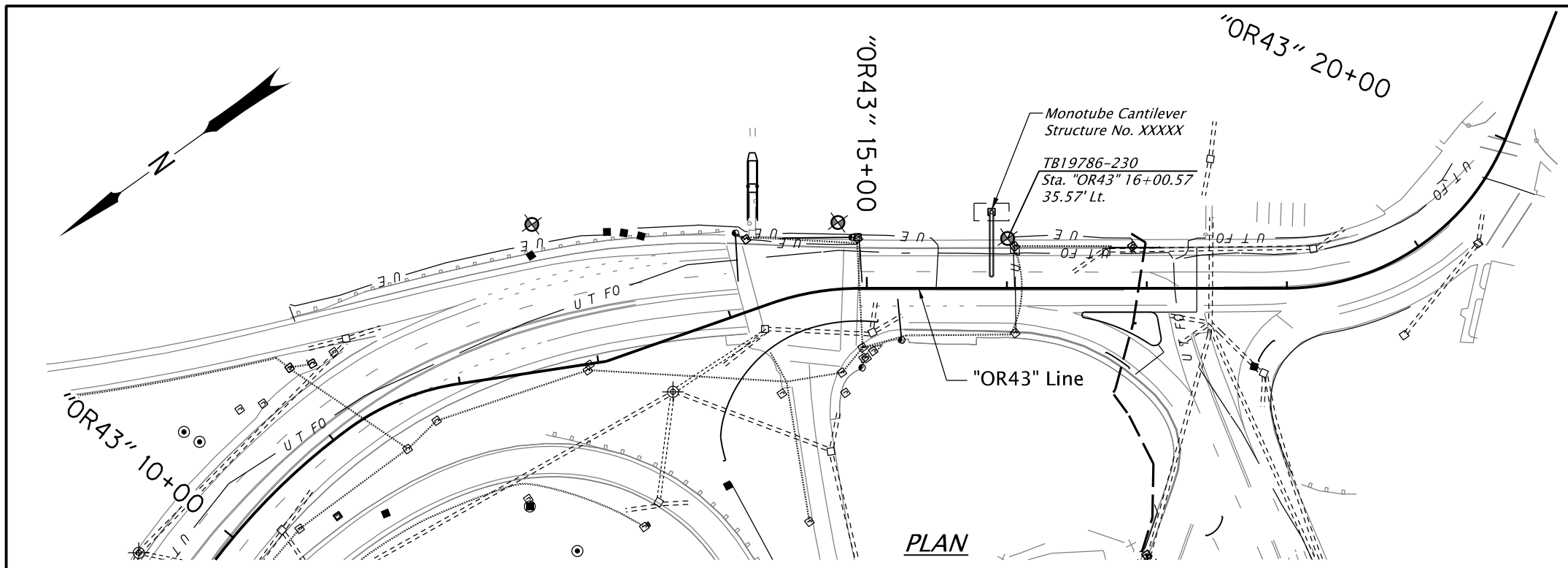
Field verify conditions, elevations, and span prior to fabrication. Field verify utility conditions and dimensions prior to construction.

See Traffic Plans for sign information.



Oregon law requires the rules set forth in OAR 952-001-0010 through 952-001-0090, adopted by the Oregon Utility Notification Center, to be observed. Copies of these rules may be obtained from the Center by calling 1-800-332-2344 or 811.

Right of way is outside limits of view.



For sign mounting details, see Dwg. TM624.



UNIT DESCRIPTIONS

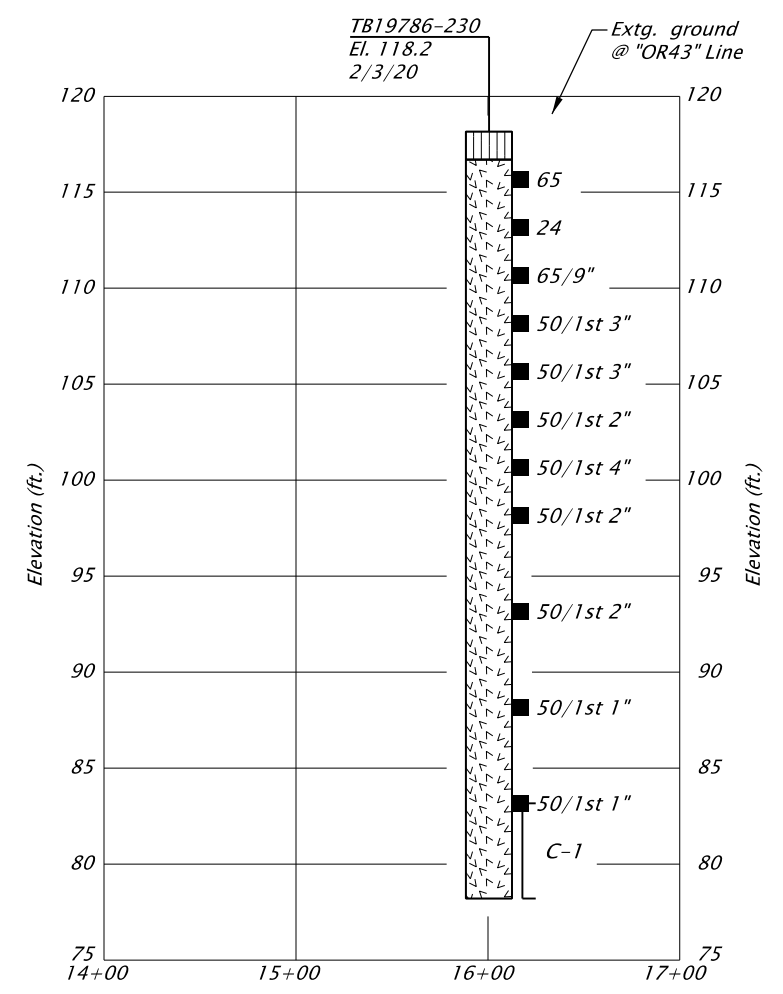
-  Sod and roots over SILT
-  BASALT; brown to dark grey with iron-stained joints, moderately weathered to fresh, soft to medium hard (R2 to R4), very close to close joints are planar to irregular and stepped, rough, and open, some silt infilling, (Columbia River Basalt)

LEGEND

-  = Geotech Test Boring (TB)
-  24 = Standard Penetration Test (SPT)
N-value
- C-1 = Core Sample Interval
- % REC = Percent Core Sample Recovery
- RQD = Rock Quality Designation
- q_u = Unconfined Compressive Strength

Notes:

- Boring was sampled with a hammer efficiency of 82.2%.
- Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. The drill logs used in compiling this drawing are available upon request. Contractor shall refer to geotechnical reports and drill logs and information contained therein.
- Refer to the ODOT Soil and Rock Classification Manual (1987) for a description of the terms used on this sheet.



PROFILE
 Horiz. scale: 1":100'
 Vert. scale: 1":10'

NOTE:
 Elevations shown are based on North American Vertical Datum 1988 (NAVD88).

SCALE WARNING
 IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

TEST BORING	CORE RUN	% REC	HARDNESS	RQD	q_u (psi)
TB19786-230	C-1	100	R3 to R4	38	

STRUCTURE NO.	00000
BDS DWG NO.	00000
CALC. BOOK	7084
HWY: 003	
M.P.: 11.31 NB	
COUNTY	00000
DATE	N/A



EXPIRES: 6/30/

FOUNDATION ENGINEERING, INC.
 PROFESSIONAL GEOTECHNICAL SERVICES
 820 NW CORNELL AVENUE
 CORVALLIS, OREGON 97330
 BUS (541) 757-7645 FAX (541) 757-7650



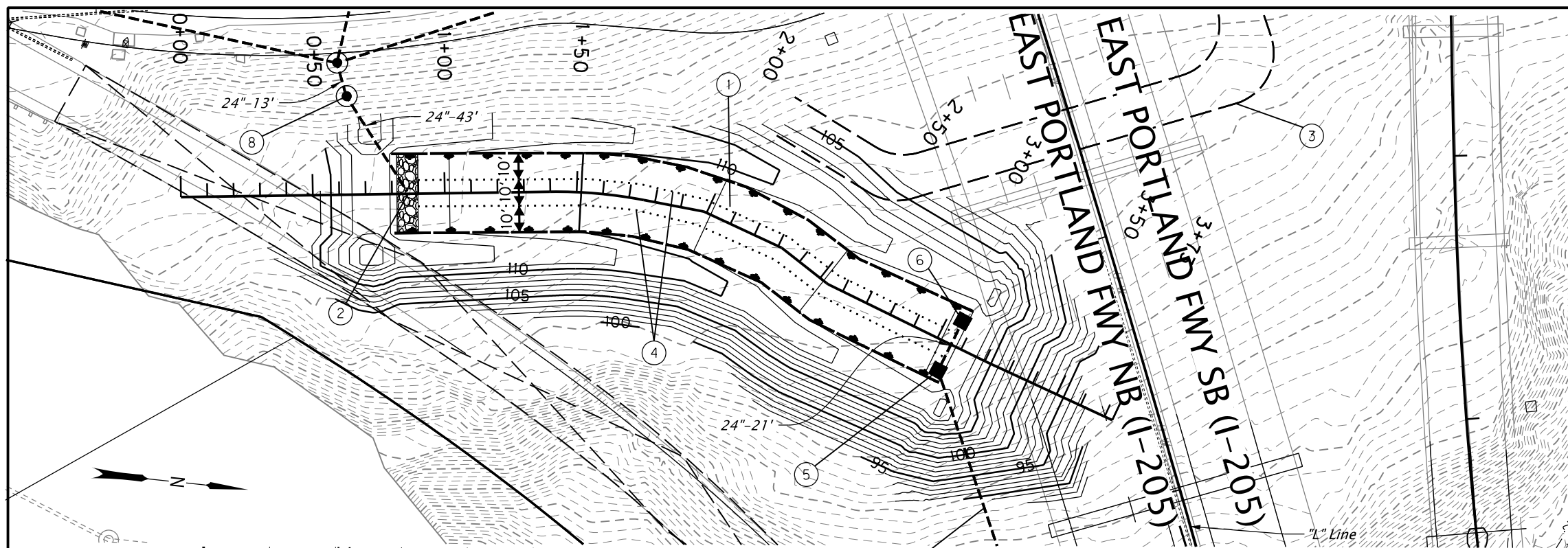
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I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Jonathan Huffman, P.E., G.E. Reviewer: David Running, P.E., G.E.
 Drafter: Yuka Garzenelli Checker: Brooke Running, R.G., C.E.G.

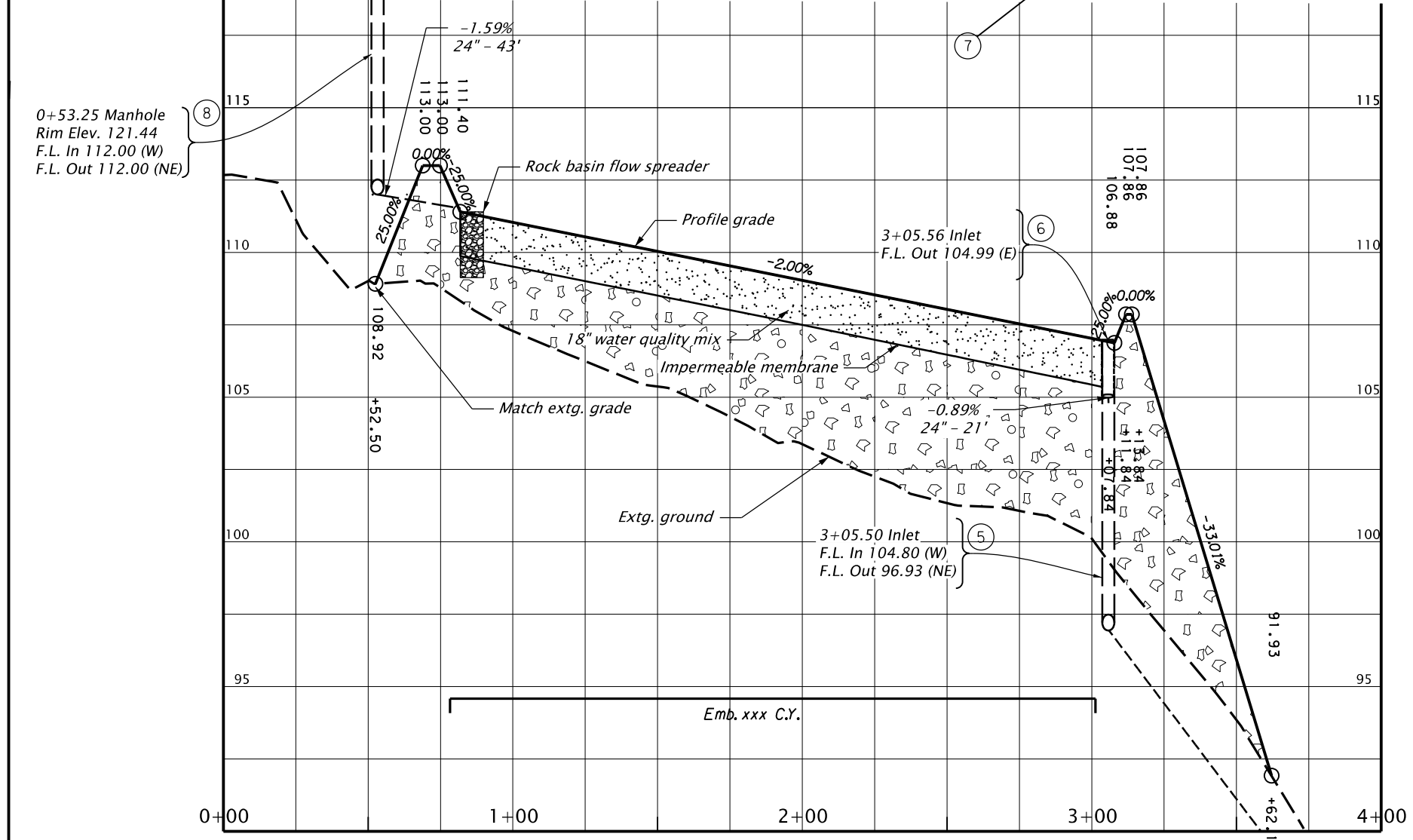
GEOTECHNICAL DATA SHEET NO. LD32A



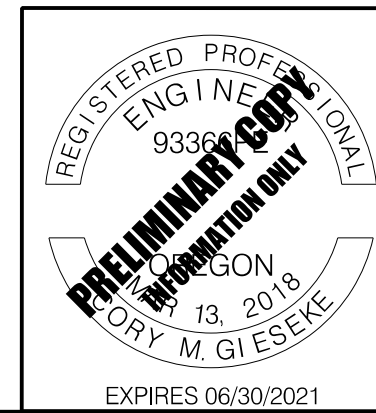
Attachment Y. Stormwater Plan



- ① Sta. 0+80.76 to Sta. 3+07.72 = Sta. "OR43" 10+12.40, 104.31' Lt. to Sta. "OR43" 8+77.47, 208.62' Lt.
Construct biofiltration swale
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA16)
- ② Sta. 0+86.13
Construct rock basin flow spreader
Inst. 24" storm sew. pipe - 43'
5' Depth
(For details, see sht. HA16)
- ③ Const. maintenance access road
Exc. - xx cu. yd.
Agg. base - xx ton
Subgrade geotextile - sq. yd.
(For details, see sht. HA17)
- ④ Construct biofiltration swale divider
(For details, see sht. HAXx)
- ⑤ Sta. 3+05.56, 10.11' Lt.
Const. type "D" inlet
Inst. 24" storm sew. pipe - 21'
5' Depth
- ⑥ Sta. 3+05.50, 10.87' Rt.
Const. type "D" inlet
- ⑦ See sht. HA07 for outfall details
- ⑧ Sta. 0+53.25, 37.24' Rt.
Const. pollution control manhole
Inst. 24" storm sew. pipe - 21'
10' Depth

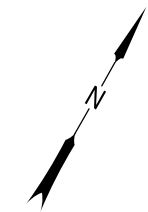
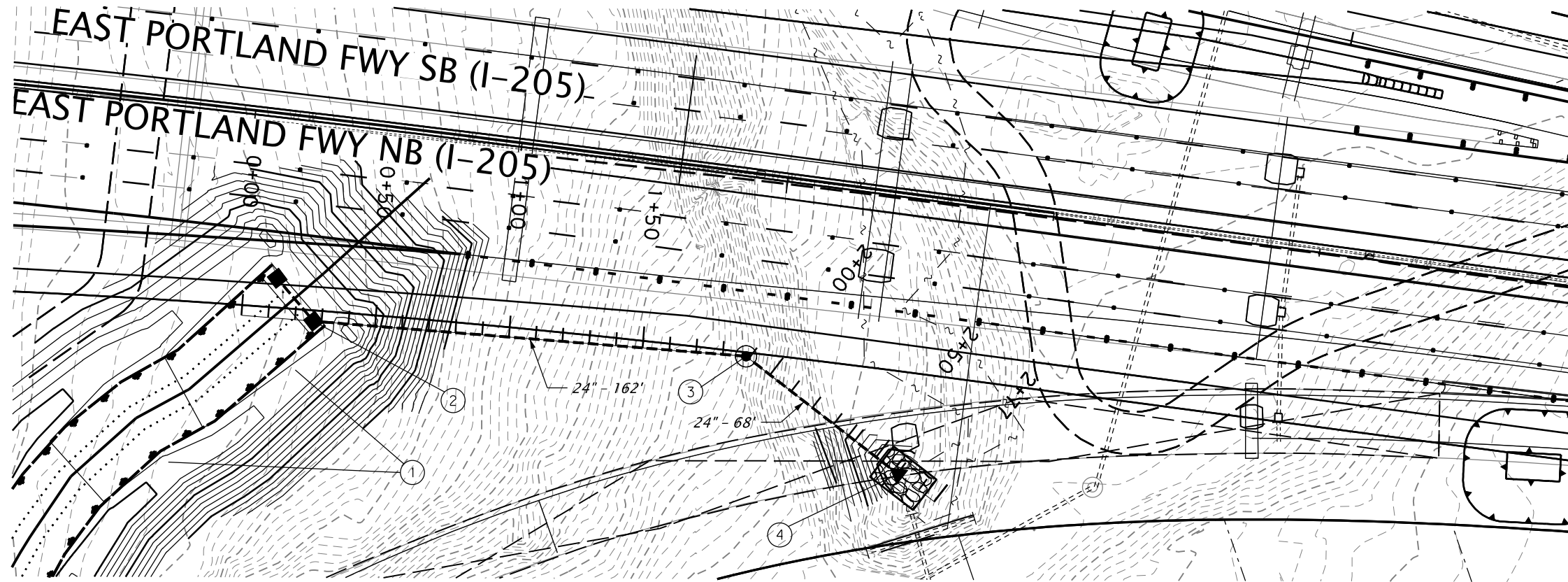


DFI no. #####

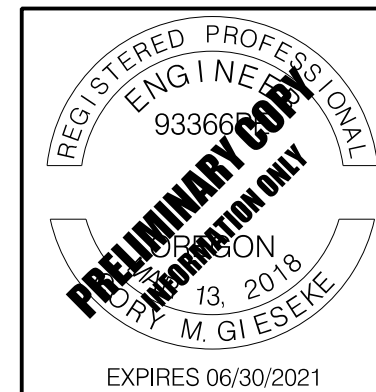
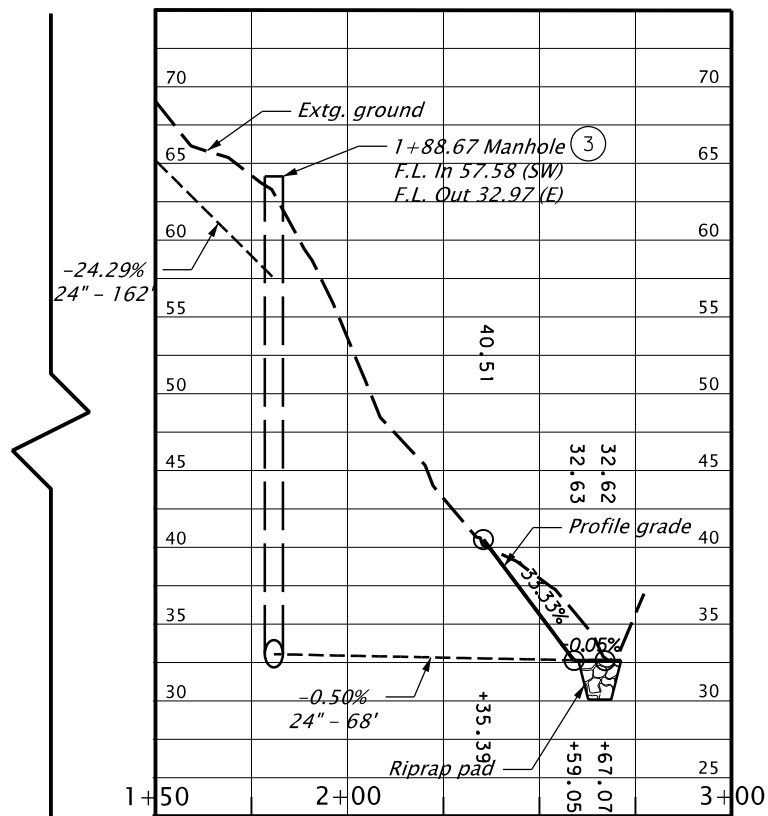
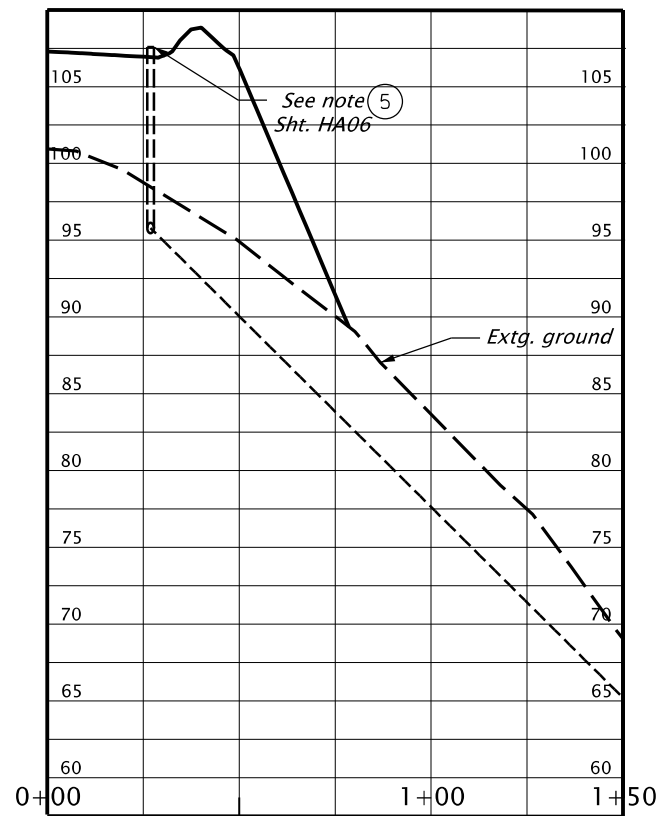


 HDR HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins
WATER QUALITY PLAN & PROFILE	
SHEET NO. HA06	

EAST PORTLAND FWY SB (I-205)
 EAST PORTLAND FWY NB (I-205)



- ① See sht. HA06, note 1
- ② See sht. HA06, note 5
- ③ Sta. 1+88.67
Const. outside drop manhole
Inst. 24" storm sew. pipe - 162'
20' Depth
- ④ Sta. 2+50.00
Construct riprap pad
Loose riprap (class 50) - 5.0 tons
Inst. 24" storm sew. pipe w/ sloped end section - 68'
5' Depth



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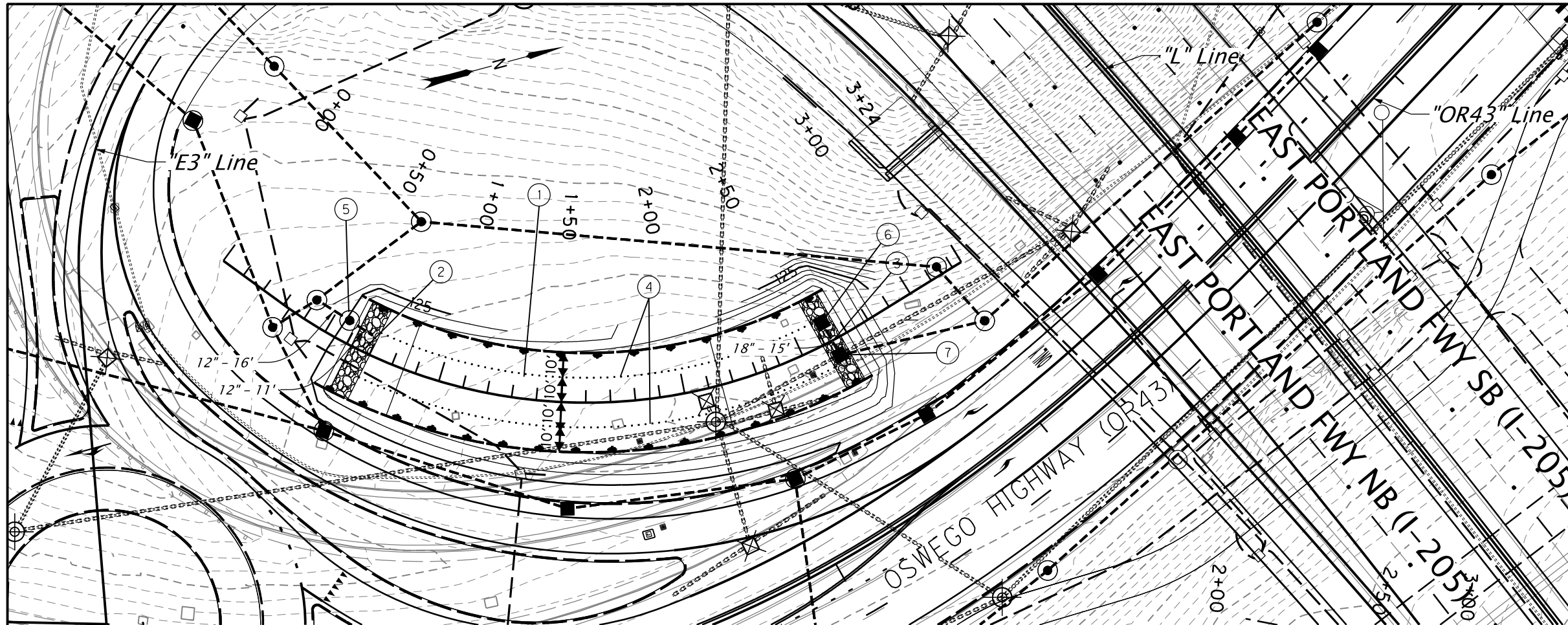
I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: _____ Reviewer: _____
 Drafter: _____ Checker: _____

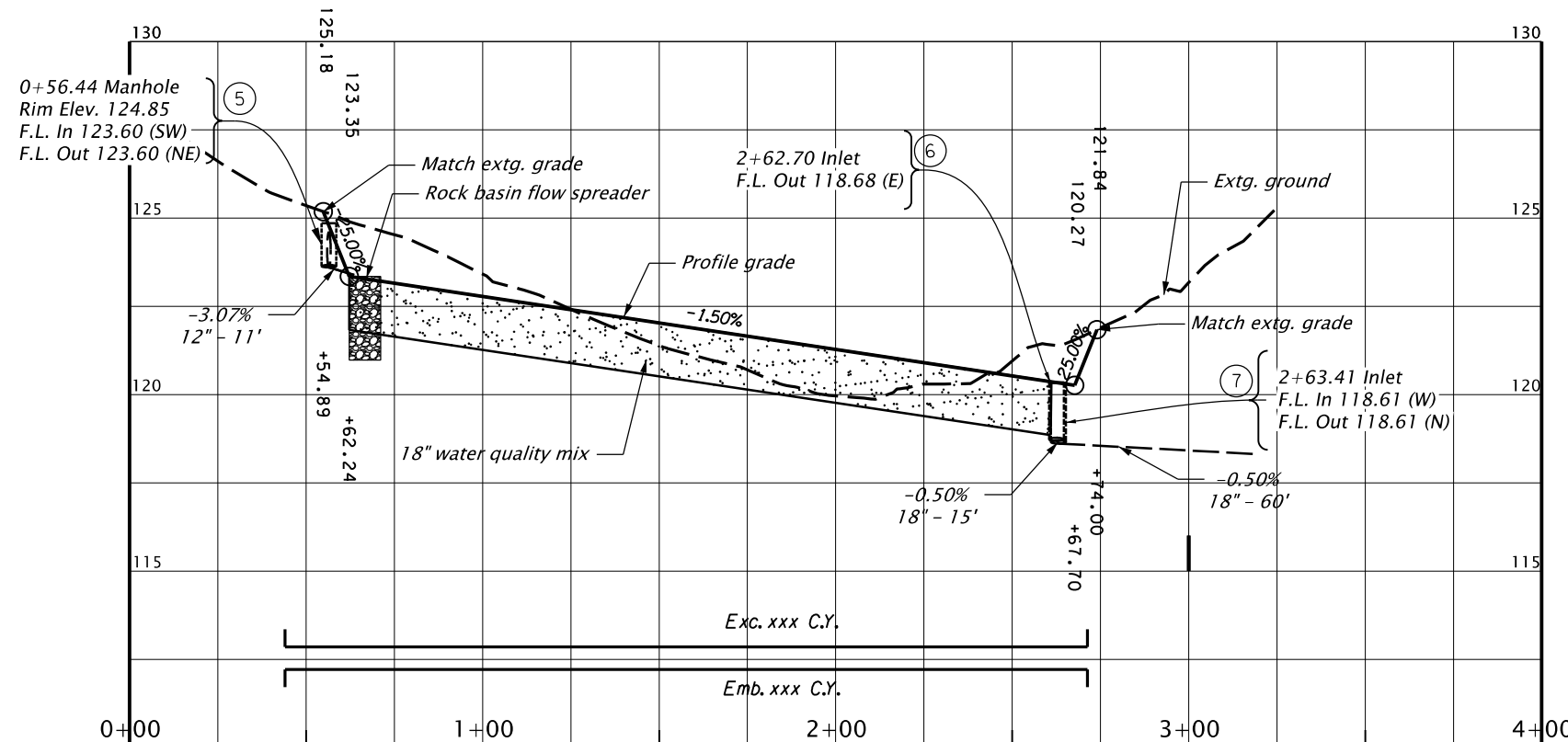
WATER QUALITY PLAN & PROFILE SHEET NO. HA07

FINAL ELECTRONIC DOCUMENT
 AVAILABLE UPON REQUEST

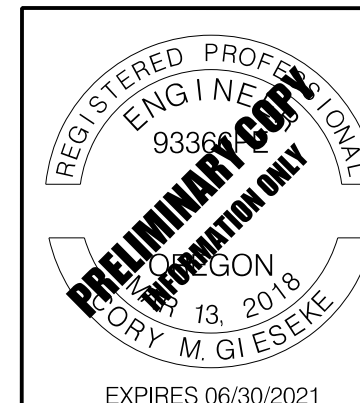
Rotation: 29.332° Scale: 1"=50'
 Vertical Scale: 1:4



- ① Sta. 0+59.27 to 2+69.56 = Sta. "E3" 740+37.28, 107.23' Lt. to Sta. "OR43" 9+52.79, 60.58' Rt. Construct biofiltration swale Inst. field facility marker (Type S2) - 2 (For details, see sht. HA16)
- ② Sta. 0+66.37 Construct rock basin flow spreader Install 12" storm sew. pipe - 11' 5' Depth (For details, see sht. HA16)
- ③ Sta. 2+62.73 Construct rock basin flow spreader (For details, see sht. HA16)
- ④ Construct biofiltration swale divider (For details, see sht. HAxx)
- ⑤ Sta. 0+56.44, 8.79' Lt. Const. pollution control manhole Inst. 12" storm sew. pipe - 16' 5' Depth
- ⑥ Sta. 2+62.70, 8.64' Lt. Const. type "D" inlet
- ⑦ Sta. 2+63.41, 6.55' Rt. Const. type "D" inlet Inst. 18" storm sew. pipe - 15' 5' Depth



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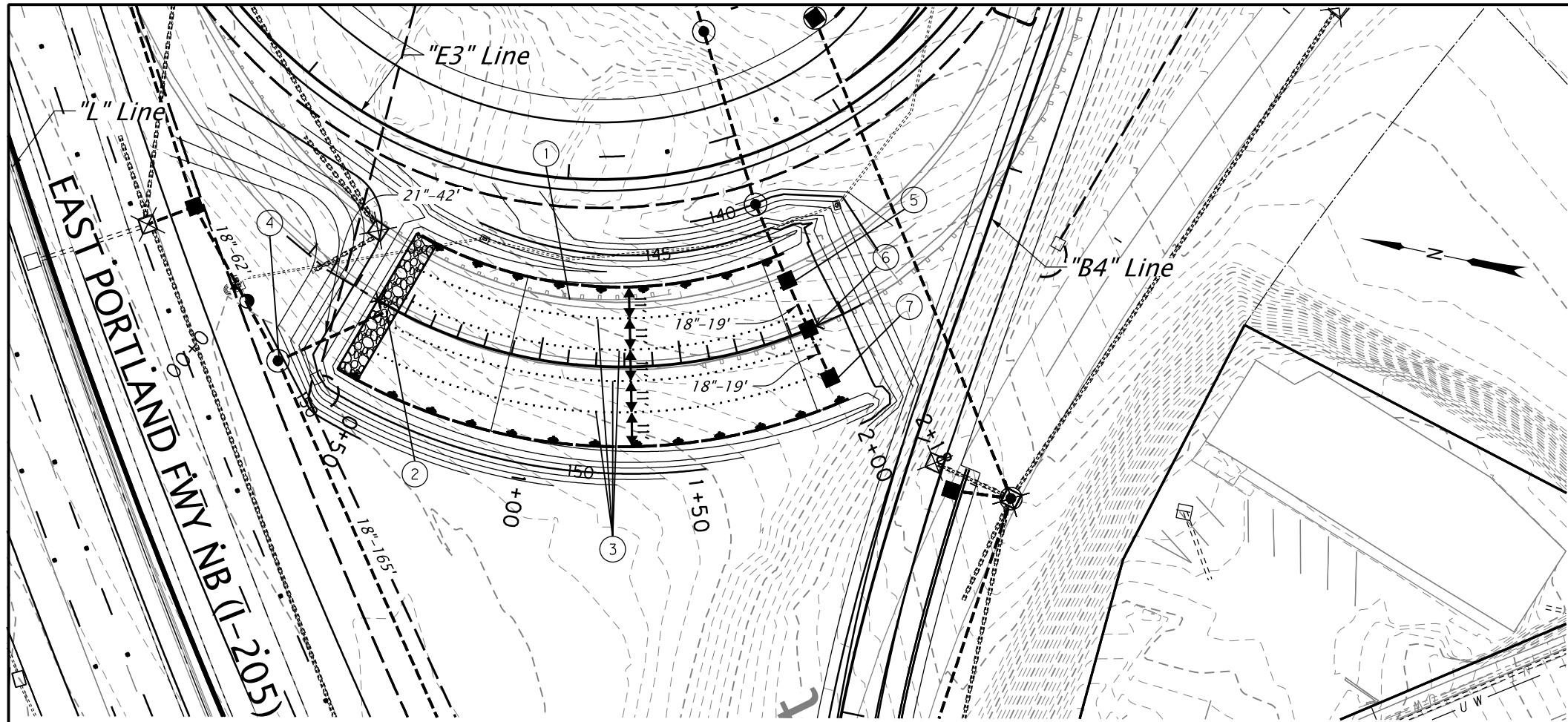
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Cory Gieseke Reviewer: Karen Tatman
Drafter: Morgan Tholl Checker: Christine Higgins

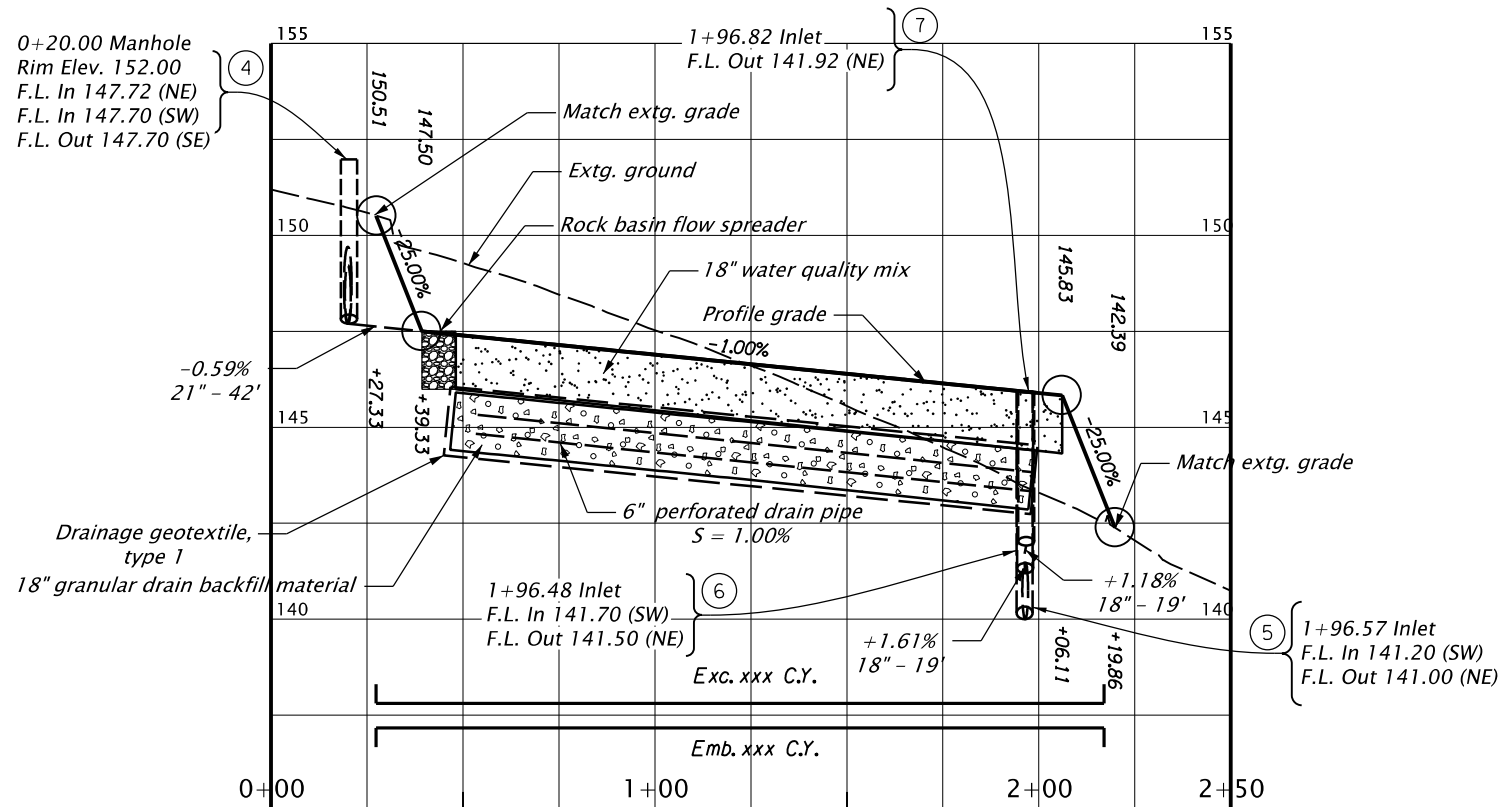
WATER QUALITY PLAN & PROFILE

SHEET NO.
HA08

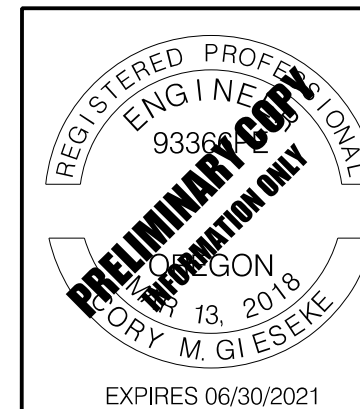
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Vertical Scale: 1:10



- ① Sta. 0+39.24 to Sta. 1+98.79 = Sta. "E3" 737+52.57, 56.87'
Rt. to Sta. "E3" 738+66.37, 64.42' Rt.
Construct biofiltration swale
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA16)
- ② Sta. 0+44.18, 0.00'
Construct rock basin flow spreader
Inst. 21" storm sew. pipe - 42'
5' Depth
(For details, see sht. HA16)
- ③ Construct biofiltration swale divider
(For details, see sht. HAXx)
- ④ Sta. 0+20.00, 36.16' Lt.
Const. pollution control manhole
Inst. 18" storm sew. pipe - 62'
5' Depth
Inst. 18" storm sew. pipe - 165'
5' Depth
- ⑤ Sta. 1+96.57, 18.41' Lt.
Const. type "D" inlet
Inst. 18" storm sew. pipe - 19'
5' Depth
- ⑥ Sta. 1+96.48, 0.21' Rt.
Const. type "D" inlet
Inst. 18" storm sew. pipe - 19'
5' Depth
- ⑦ Sta. 1+96.82, 18.86' Rt.
Const. type "D" inlet



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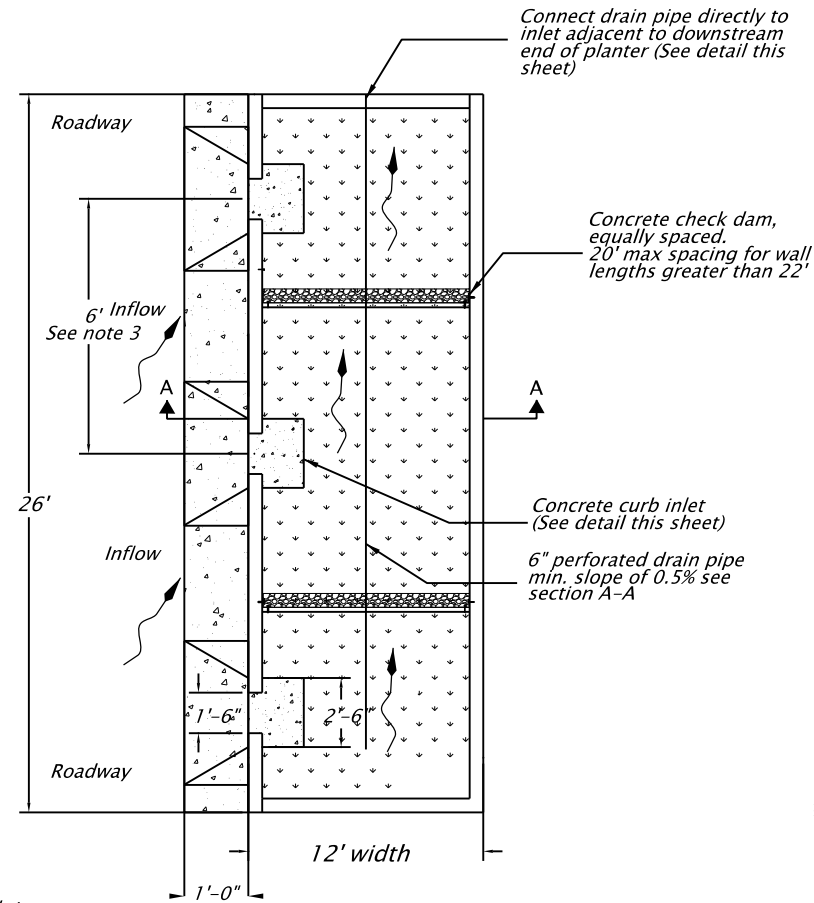


	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Cory Gieseke Drafter: Morgan Tholl		Reviewer: Karen Tatman Checker: Christine Higgins	
WATER QUALITY PLAN & PROFILE			SHEET NO. HA09

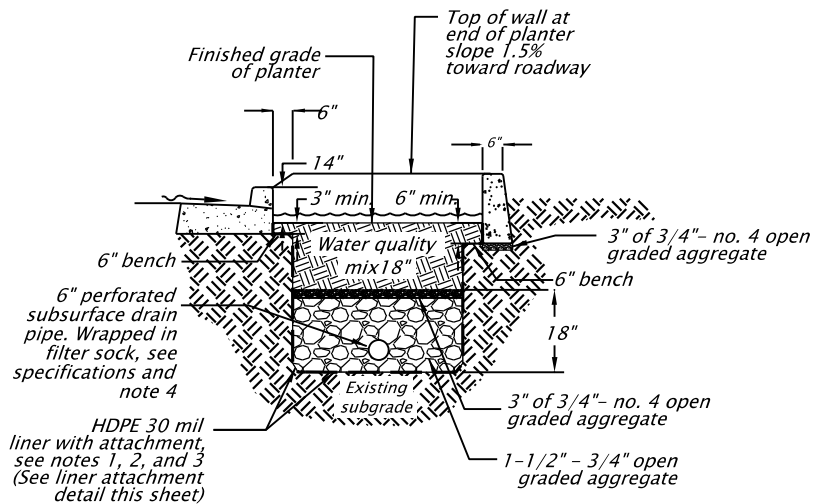
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Vertical Scale: 1"=5'

STORM WATER PLANTER



- Notes:
1. Match longitudinal slope of planter to slope of the road.
 2. If less than 18" is between splash pad and planter end wall, extend pad to wall.
 3. Install inlets (6' on center) on all sides of facility that are adjacent to parking lot.

PLAN VIEW

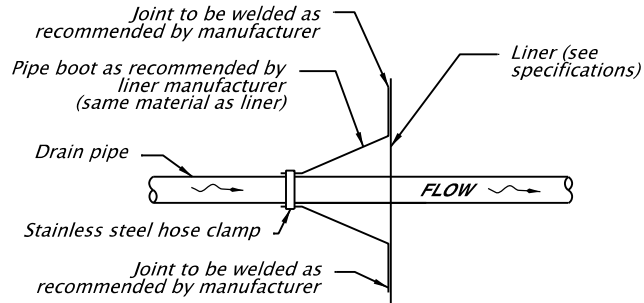


- Notes:
1. Partial or full liner required. See stormwater planter table (this sheet) for requirement.
 2. Partial liner located along side of planter adjacent to roadway.
 3. Full liner located along all sides of planter.
 4. Drain pipe only required for fully lined planters.
 5. Scarify the native soil 12" following the initial excavation and before installing water quality soil and rock.

SECTION A-A

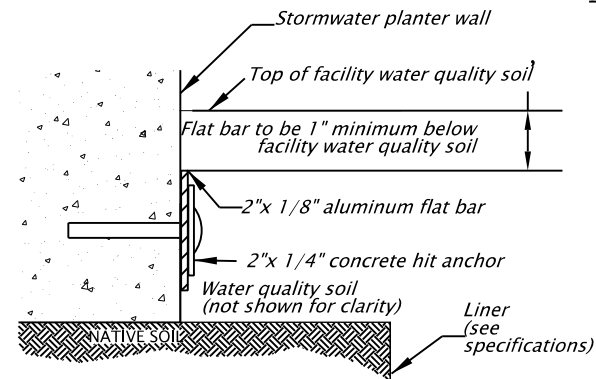
STORMWATER PLANTER DETAIL

NOT TO SCALE



PIPE BOOT

NOT TO SCALE

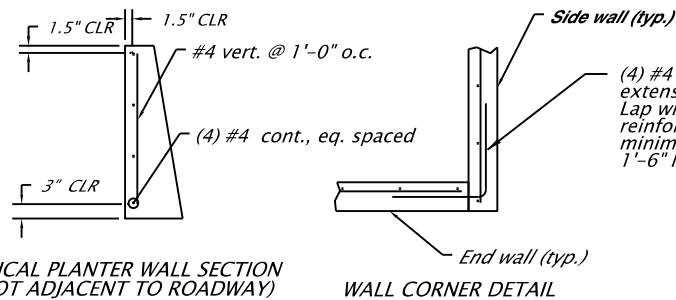


Notes:

1. Adhere liner to concrete with top coat moldable sealant, or approved equal.
2. Liner to extend from top of water quality soil to the bottom of excavation.
3. 3" of concrete is required on all sides of attachment. Adjust sidewalk depth as necessary.
4. Secure liner to concrete with 2" aluminum flat bar, placed as directed (around entire facility).
5. Attach flat bar with concrete hit anchors, 24" o.c.
6. Trim excess liner to the top of the flat bar.

LINER ATTACHMENT DETAIL

NOT TO SCALE



TYPICAL PLANTER WALL SECTION (NOT ADJACENT TO ROADWAY)

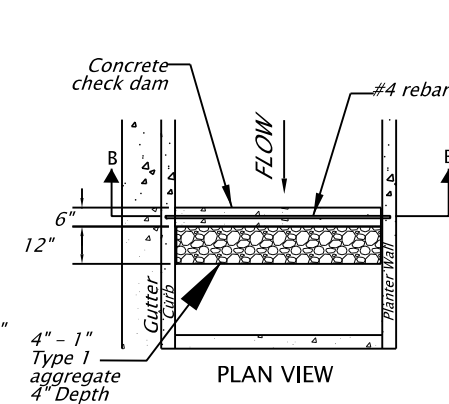
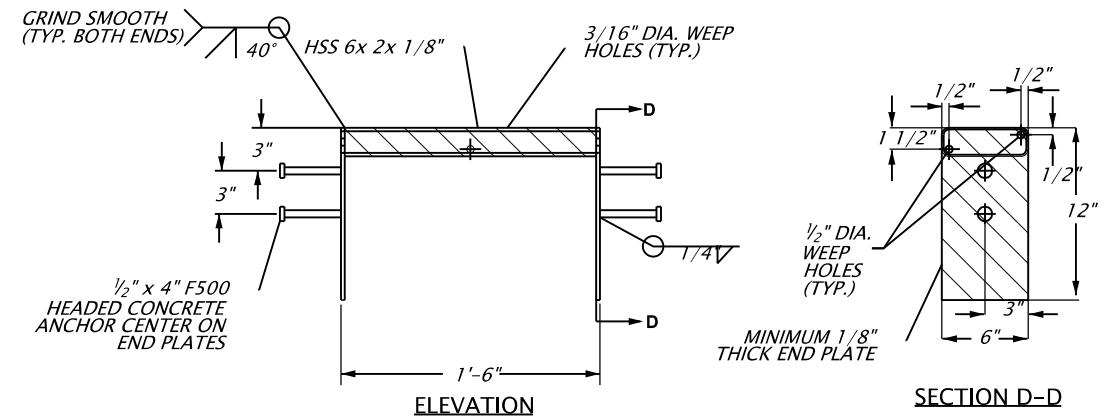
WALL CORNER DETAIL

Notes:

1. Top of planter walls to be 4" higher than adjacent sidewalk.
2. Bottom of planter walls to be 6" below top of water quality soil.

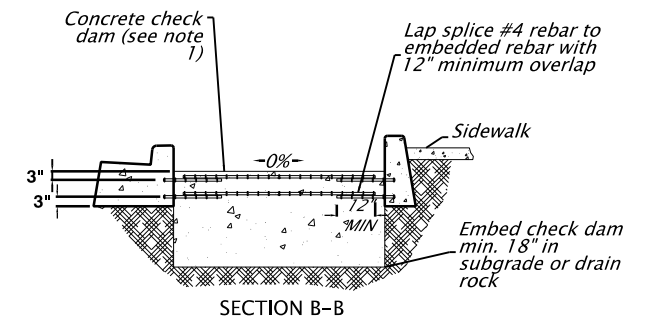
PLANTER WALL

NOT TO SCALE



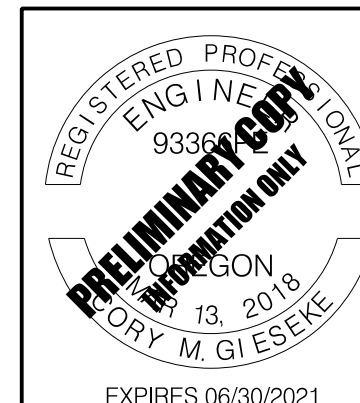
CONCRETE CHECK DAM

NOT TO SCALE



Notes:

1. Top of dam elevation to be 2" lower than upstream curb depression elevation.
2. Concrete to be 3,000 psi.
3. Embed #4 rebar 3" into curb and planter wall.



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CLACKAMAS COUNTY

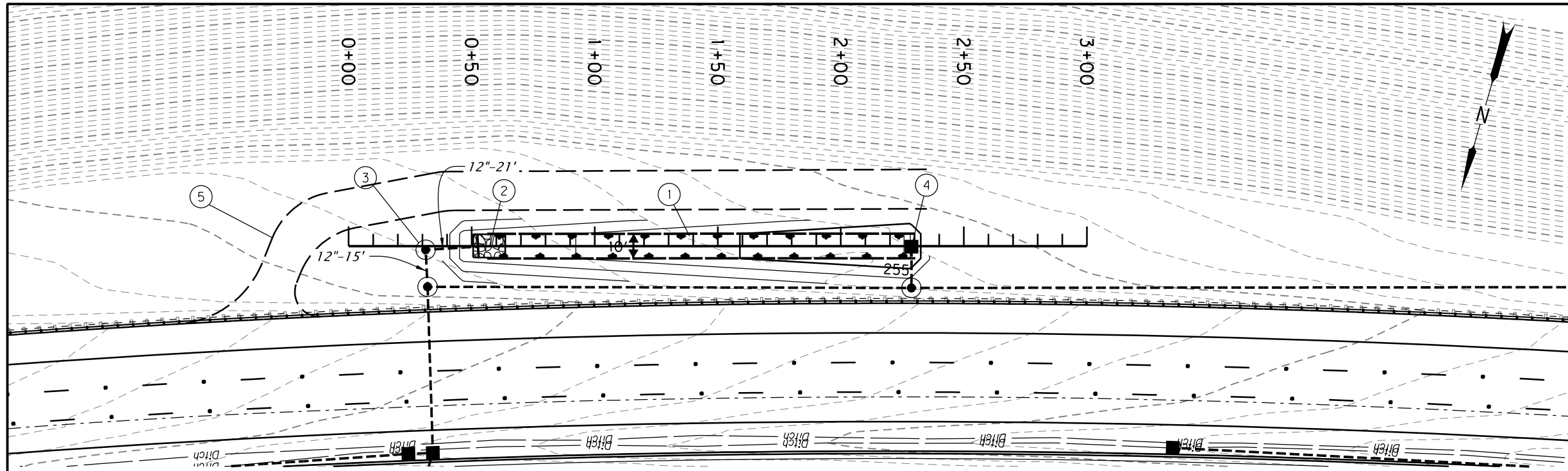
Designer: Cory Gieseke Reviewer: Karen Tatman
Drafter: Morgan Tholl Checker: Christine Higgins

WATER QUALITY DETAILS

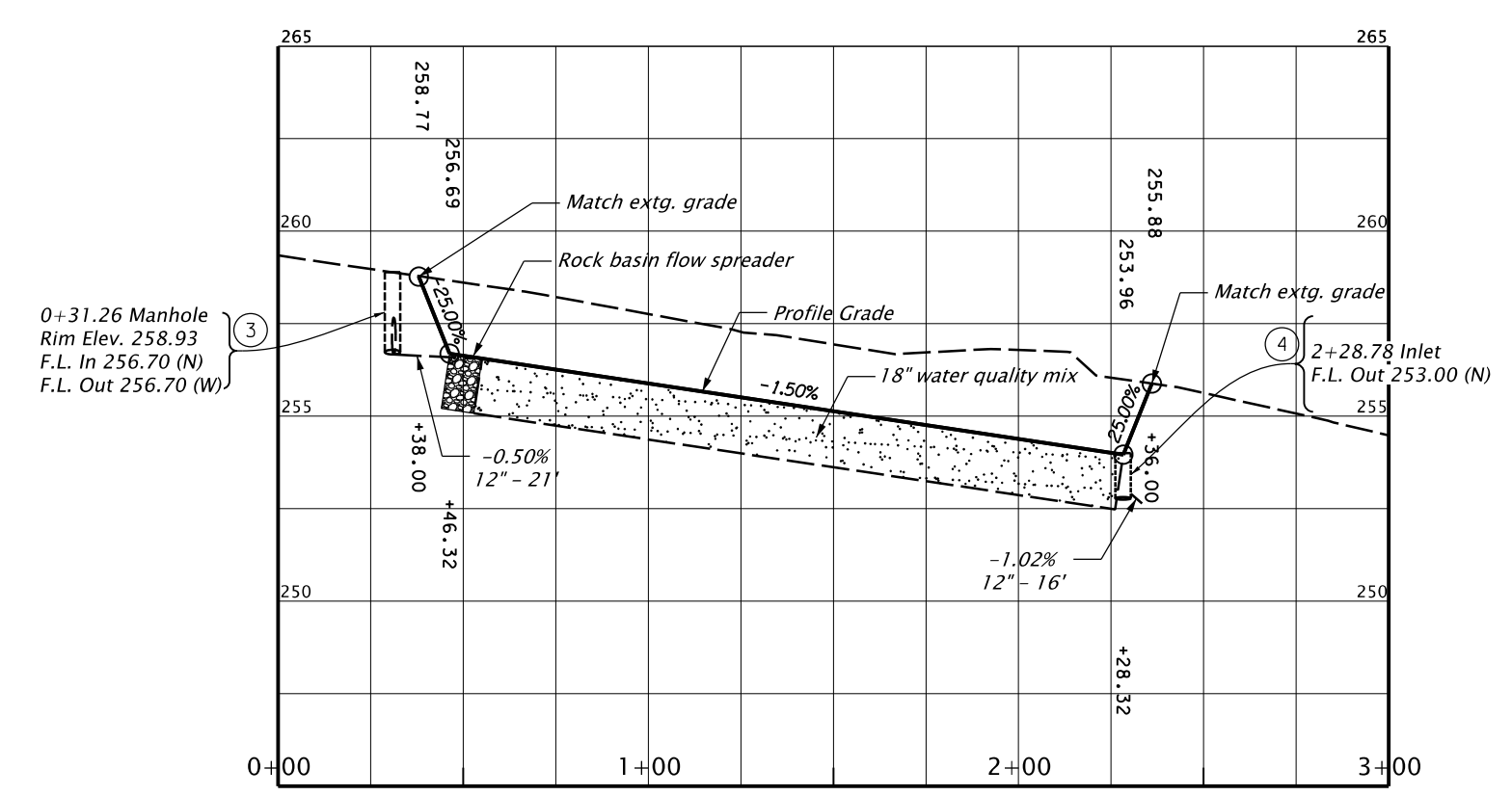
SHEET NO. HA10

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

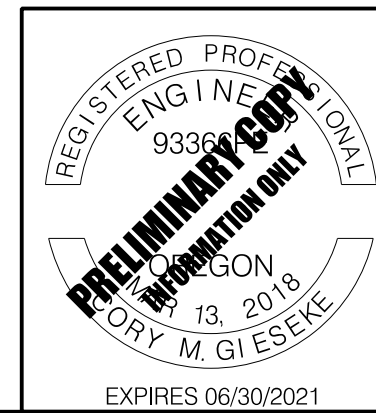
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- ① Sta. 0+56.01 to Sta. 2+30.32 =
Sta. "Ln" 812+11.63, 49.46' Lt. to
Sta. "Ln" 813+82.31, 47.34' Lt.
Construct bioretention swale
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA16)
- ② Sta. 0+57.34
Construct rock basin flow spreader
Inst. 12" storm sew. pipe - 21'
5' Depth
(For details, see sht. HA16)
- ③ Sta. 0+31.26, 1.40' Rt.
Const. pollution control manhole
Inst. 12" storm sew. pipe - 15'
5' Depth
- ④ Sta. 2+28.78, 0.00'
Const. type "D" inlet
- ⑤ Const. maintenance access road
Exc. - xx cu. yd.
Agg. base - xx ton
Subgrade geotextile - sq. yd.
(For details, see sht. HA17)



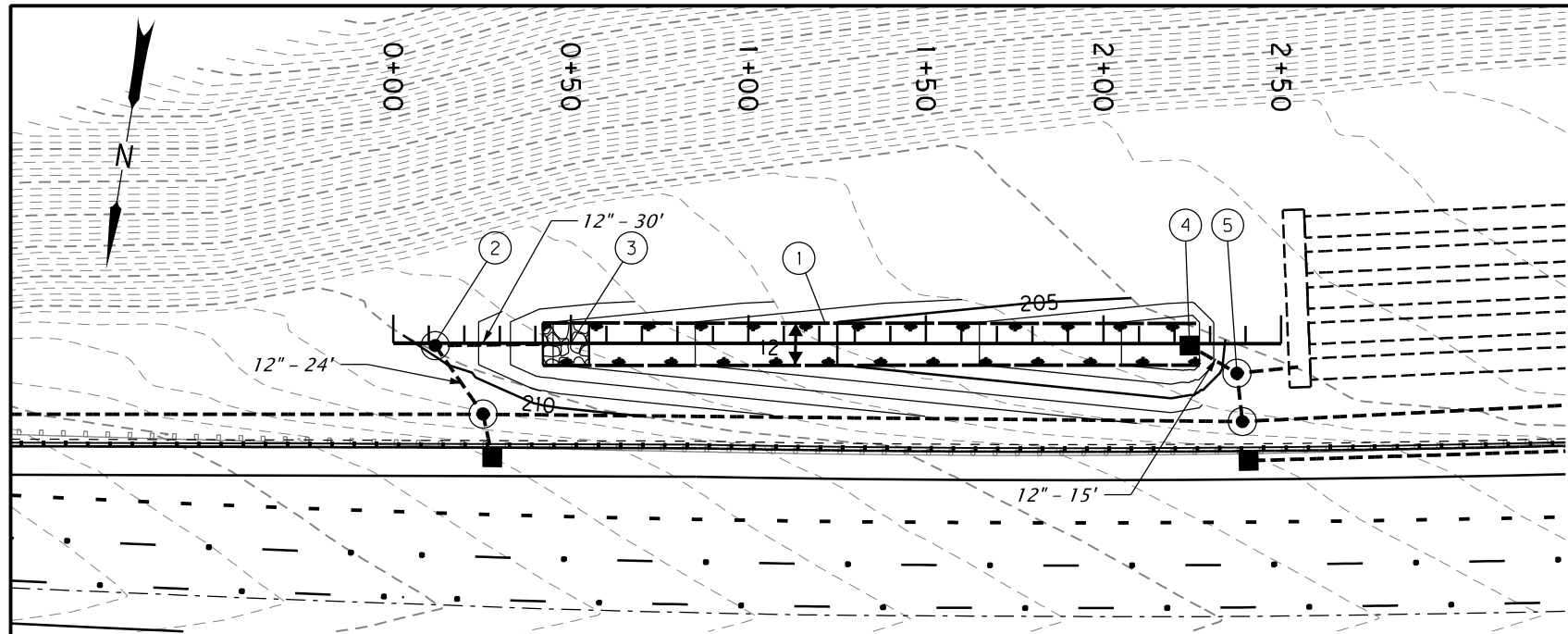
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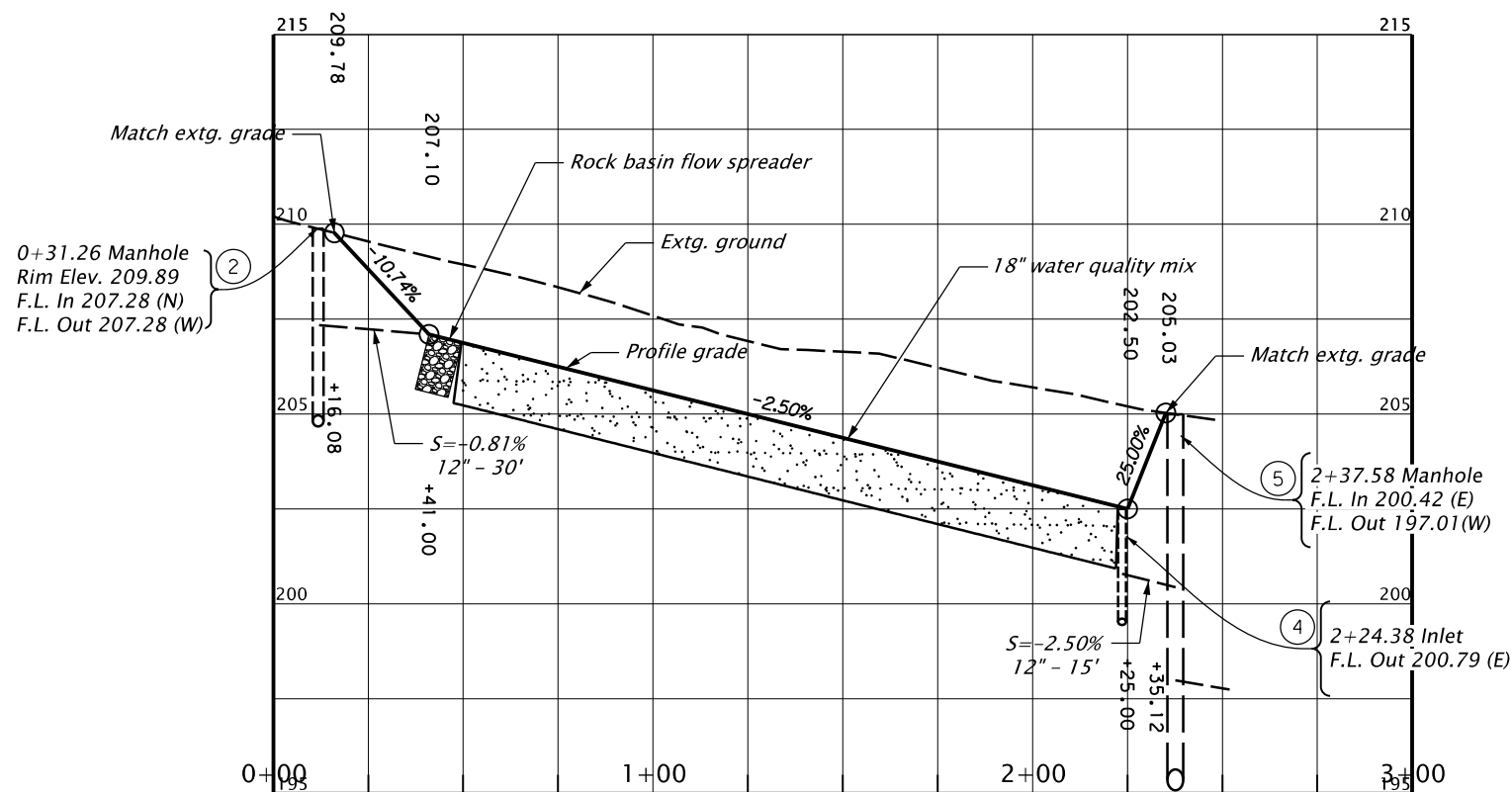
	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins	SHEET NO. HA11
WATER QUALITY PLAN & PROFILE		

EXPIRES 06/30/2021
FINAL ELECTRONIC DOCUMENT
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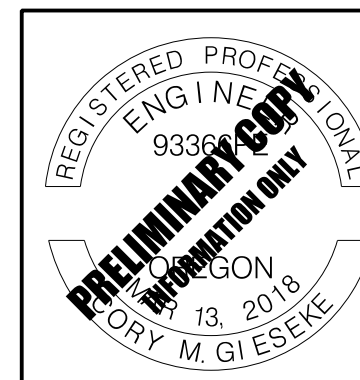
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Vertical Scale: 1:10



- ① Sta. 0+41.77 to Sta 2+24.40 = Sta. "Ln2" 836+82.56, 60.48' Lt. to Sta. "Ln2" 838+59.54, 61. 72' Lt.
Construct biofiltration swale
Inst. 12" storm sew. pipe - 30'
5' Depth
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA16)
- ② Sta. 0+31.26, 1.40' Rt.
Const. pollution control manhole
Inst. 12" storm sew. pipe - 24'
5' Depth
- ③ Sta. 0+48.66
Construct rock basin flow spreader
(For details, see sht. HA16)
- ④ Sta. 2+24.38, 0.38' Rt.
Const. type "D" inlet
- ⑤ Sta. 2+37.58, 8.32' Rt.
Const. diversion manhole
Inst. 12" storm sew. pipe - 15'
5' Depth



DFI no. #####



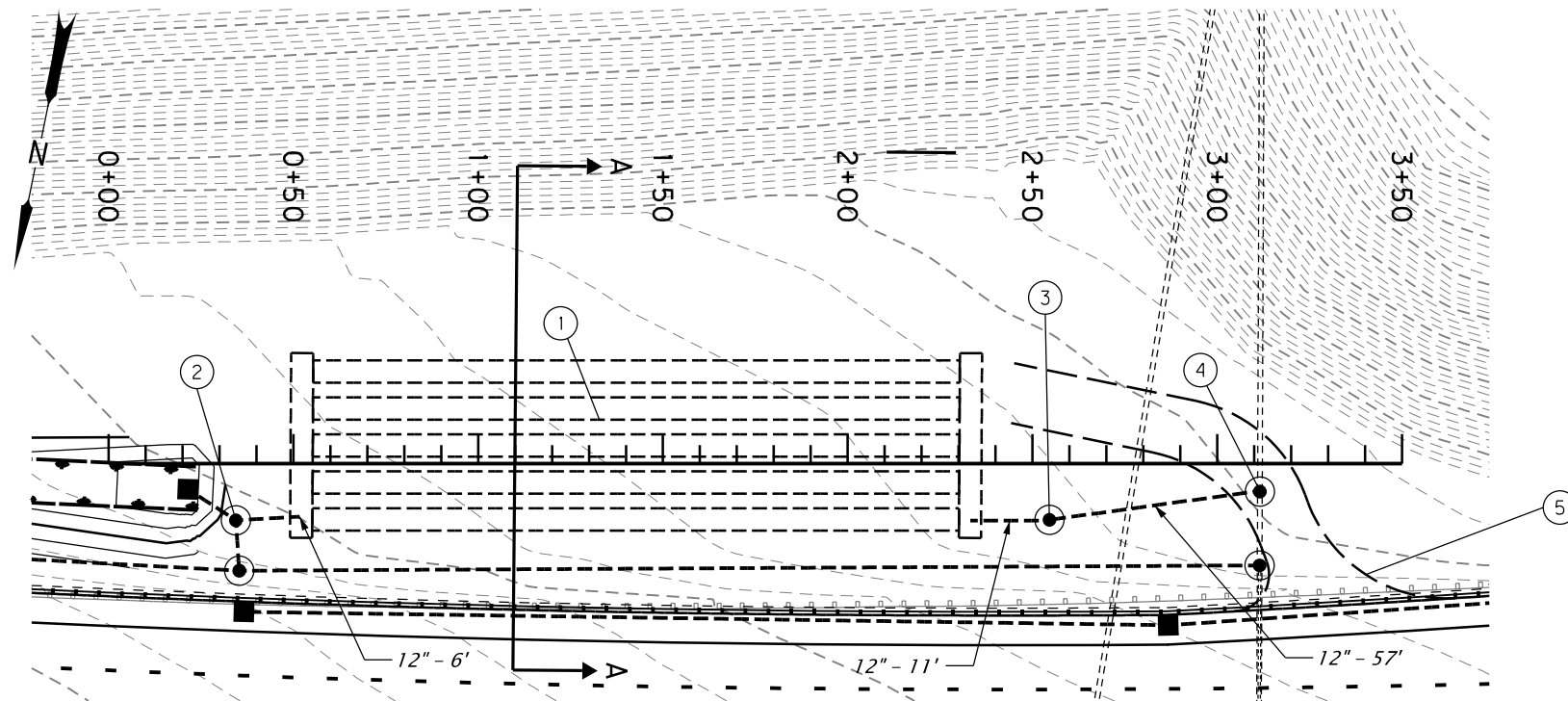
	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins
WATER QUALITY PLAN & PROFILE	
SHEET NO. HA12	

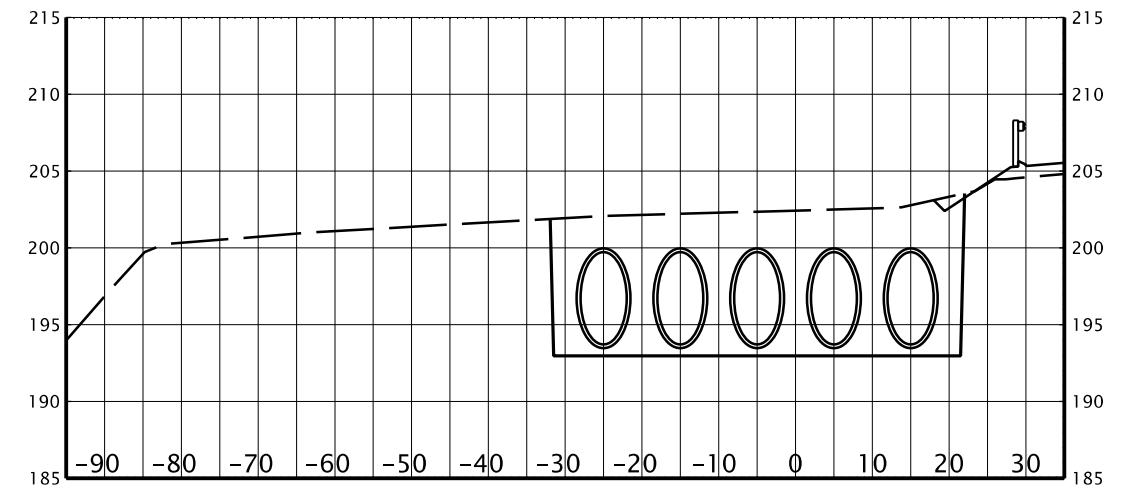
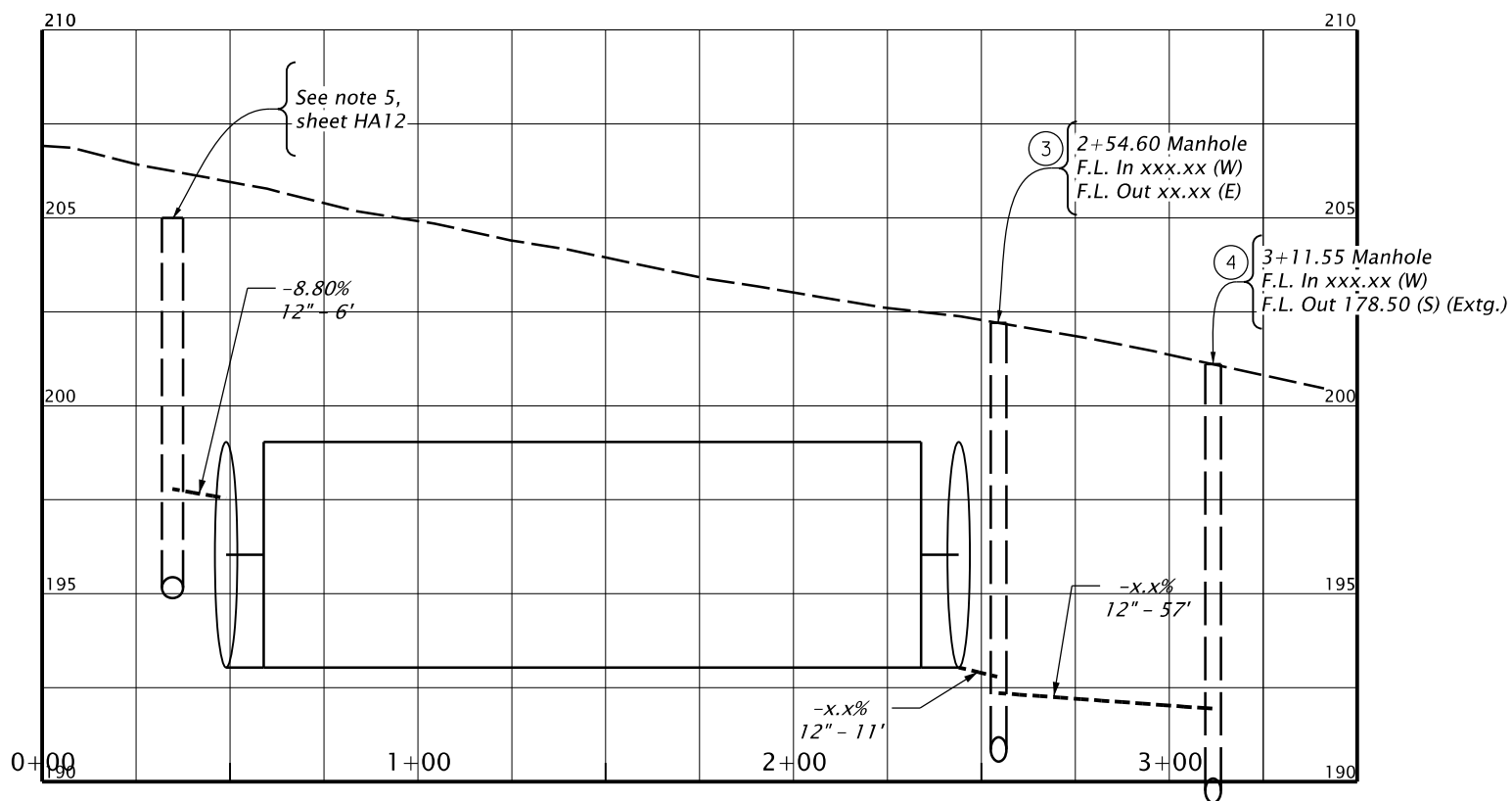
EXPIRES 06/30/2021

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Vertical Scale: 1:10

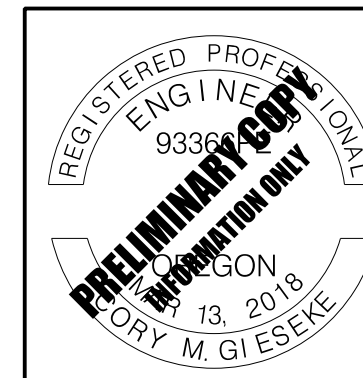


- ① Sta. 0+42.14 to Sta. 2+42.32 =
Sta. "Ln2" 838+80.48, 70.62' Lt. to
Sta "Ln2" 840+81.69, 75.39' Lt.
Const. underground detention system
Inst. 72" storm sew. pipe - 875'
20' Depth
Inst. field facility marker (Type S2) - 2
- ② See note 5, sht. HA12
- ③ Sta. 2+54.60, 15.20' Rt.
Const. storm sew. manhole
Inst. 12" storm sew. pipe - 11'
10' Depth
- ④ Sta. 3+11.55, 7.37' Rt.
Const. storm sew. manhole over existing pipe
Inst. 12" storm sew. pipe - 57'
20' Depth
- ⑤ Const. maintenance access road
Exc. - xx cu. yd.
Agg. base - xx ton
Subgrade geotextile - sq. yd.
(For details, see sht. HA17)



SECTION A-A

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PORTLAND, OR 97204-1134
503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Cory Gieseke

Reviewer: Karen Tatman

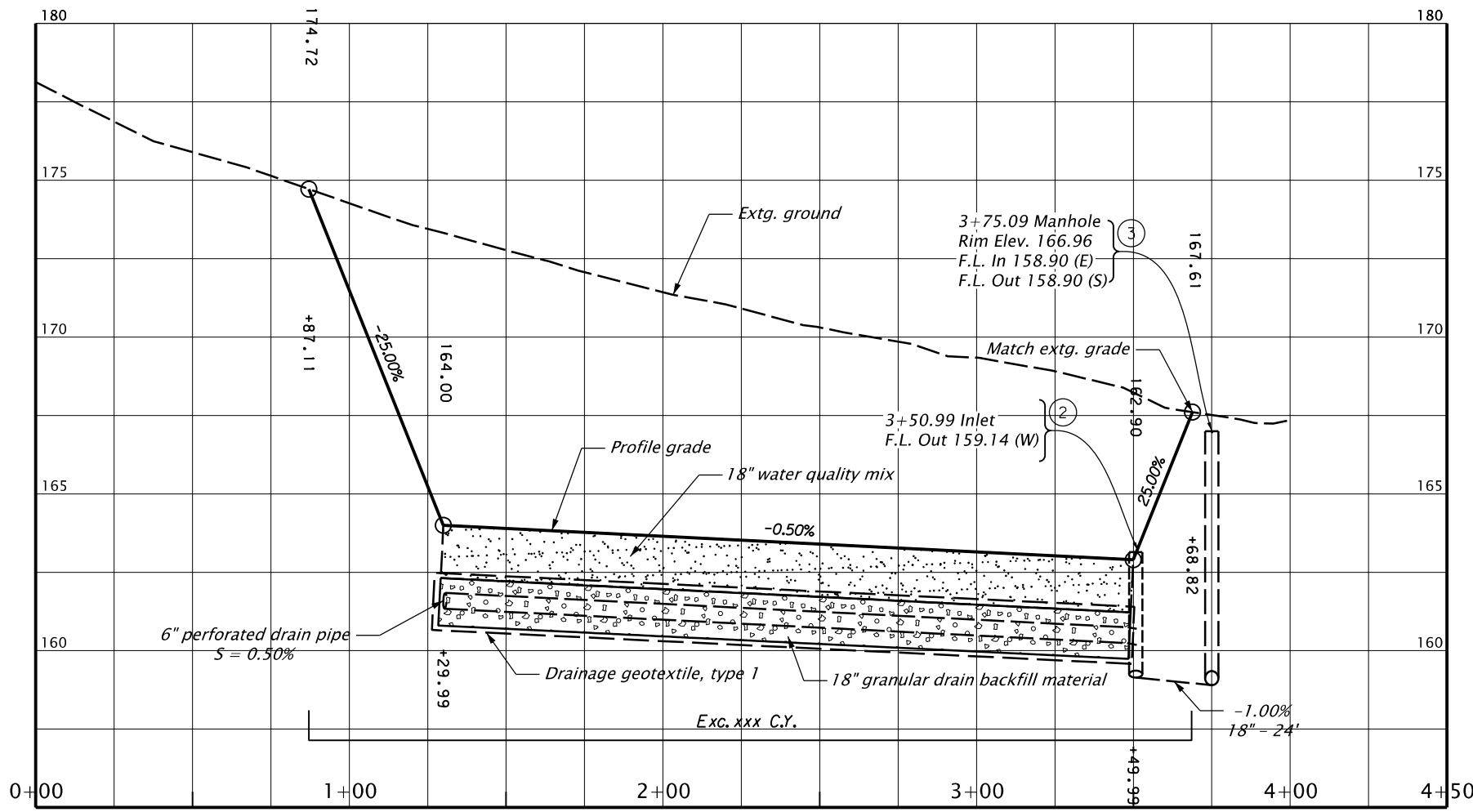
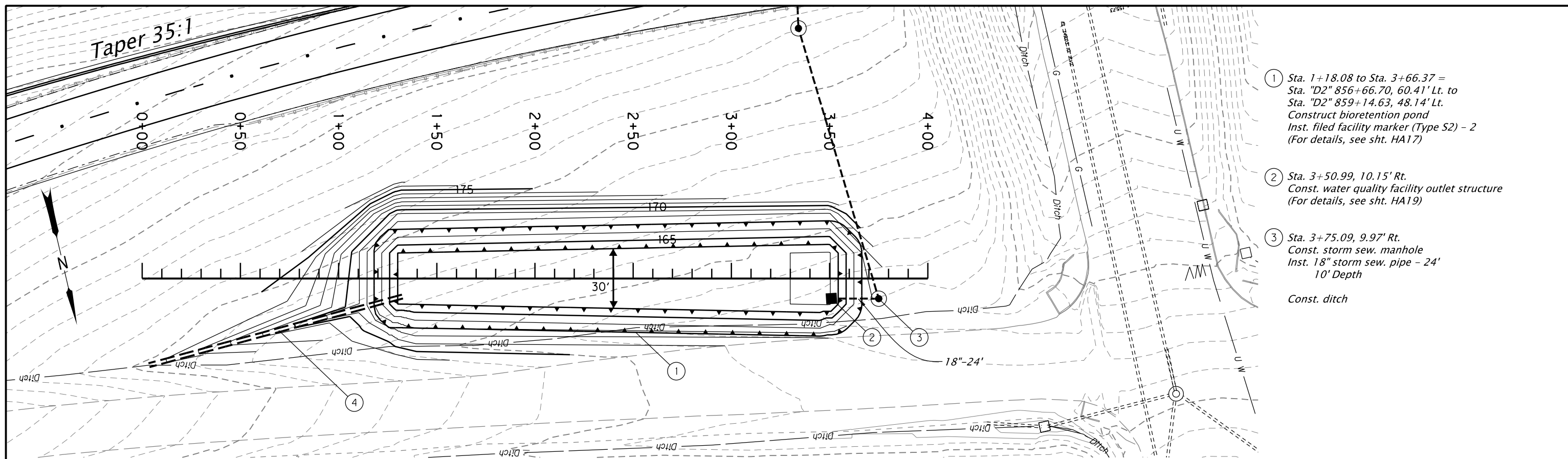
Drafter: Morgan Tholl

Checker: Christine Higgins

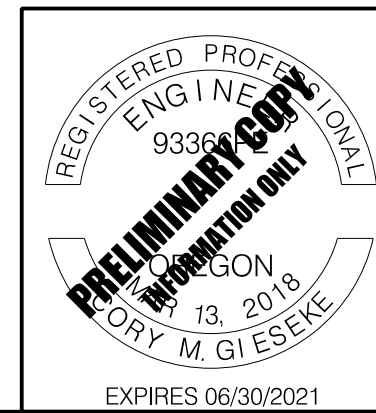
WATER QUALITY PLAN & PROFILE

SHEET NO.
HA13

Rotation: 223.5514° Scale: 1"=50'
Vertical Scale: 1:10



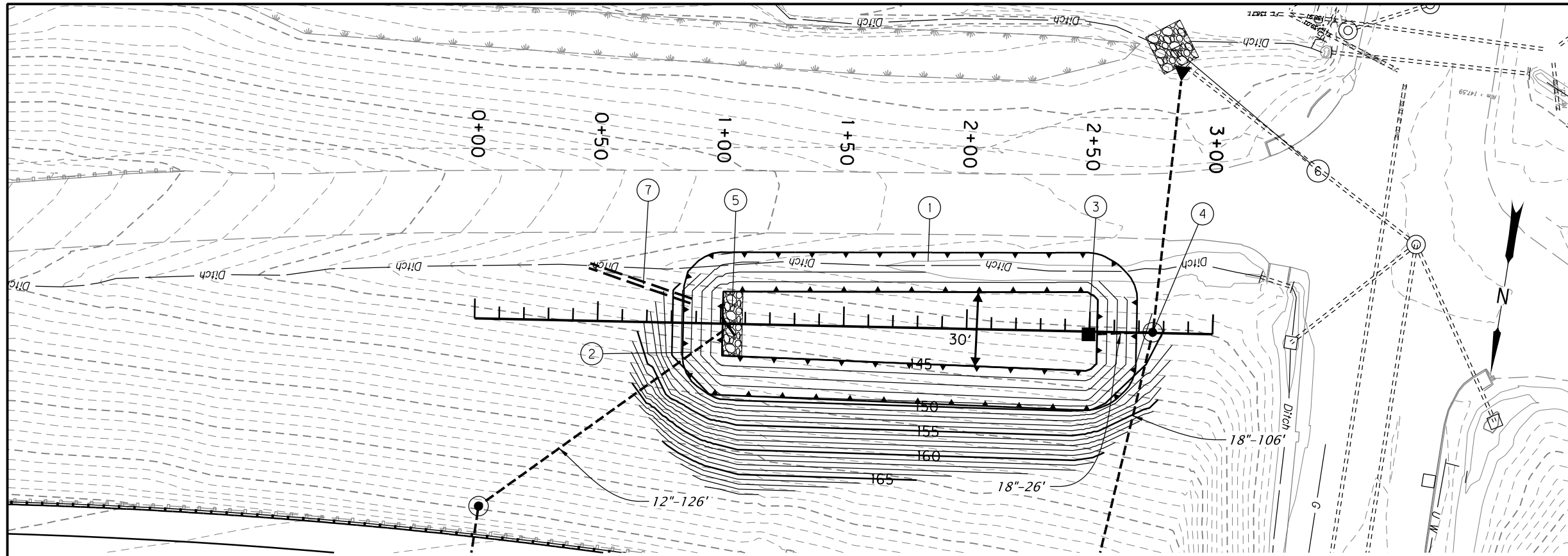
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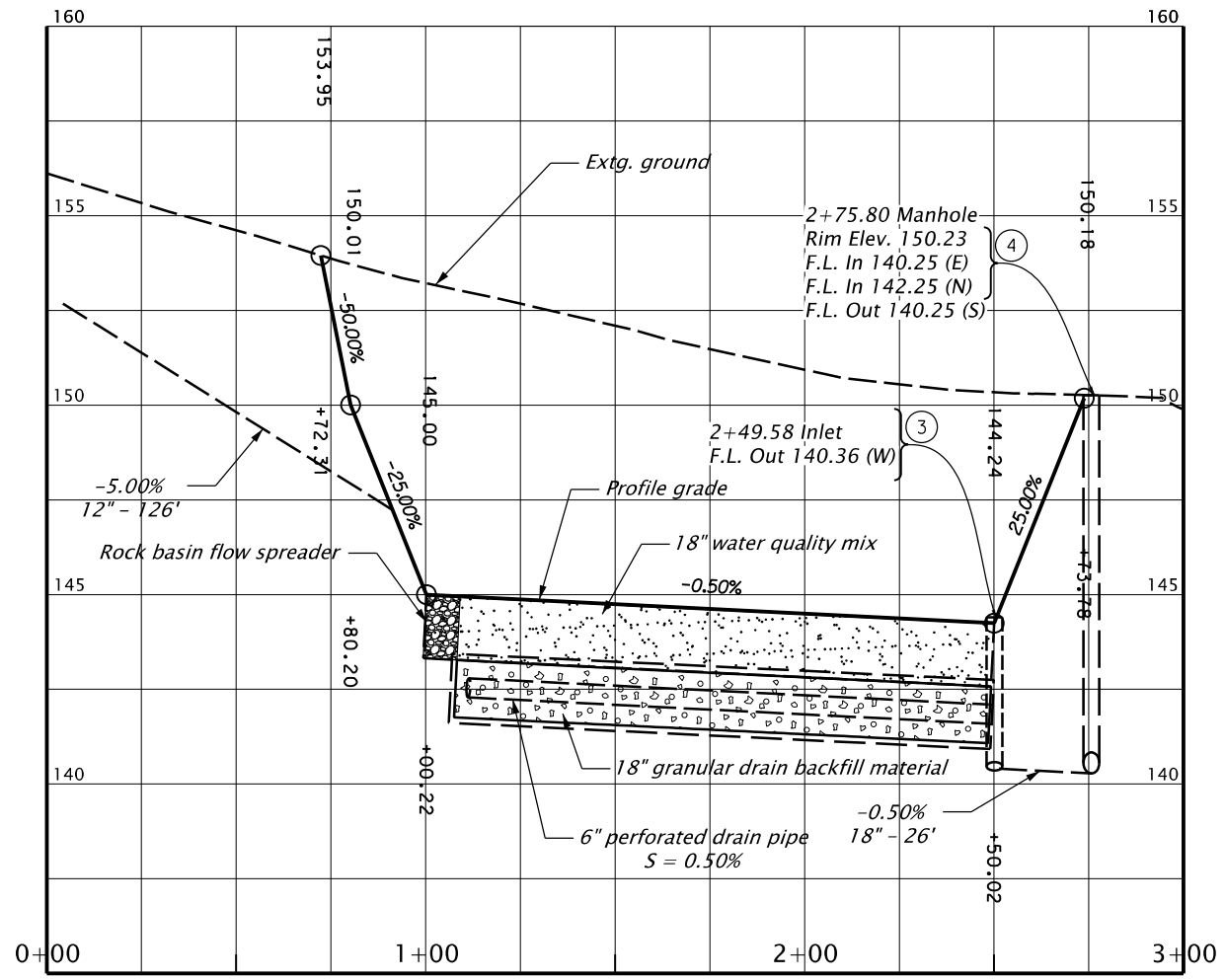
	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins	SHEET NO. HA14
WATER QUALITY PLAN & PROFILE		

FINAL ELECTRONIC DOCUMENT
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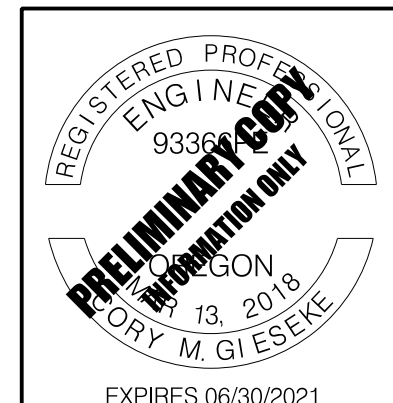
Rotation: 223.5514° Scale: 1"=50'
Vertical Scale: 1:10



- ① Sta. 0+84.80 to Sta. 2+69.05 =
Sta. "A2" 859+06.98, 45.55' Rt. to
Sta. "A2" 860+91.75, 46.62' Rt.
Construct bioretention pond
Inst. field facility marker (Type S2) - 2
(For details, see sht. HA17)
- ② Sta. 0+89.08, 11.96' Rt.
Inst. 12" storm sew. pipe - 126'
20' Depth
- ③ Sta. 2+49.58, 1.05' Rt.
Const. water quality facility outlet structure
(For details, see sht. HA19)
- ④ Sta. 2+75.80, 0.29' Lt.
Const. storm sew. manhole
Inst. 18" storm sew. pipe - 26'
5' Depth
Inst. 18" storm sew. pipe - 106'
10' Depth
- ⑤ Sta. 1+02.00
Const. rock basin flow spreader
(For details see sht. HA16)
- ⑥ Sta. 2+81.68, 115.50' Lt.
Const. rock basin flow spreader
(For details see sht. HA16)
- ⑦ Const. ditch



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CLACKAMAS COUNTY

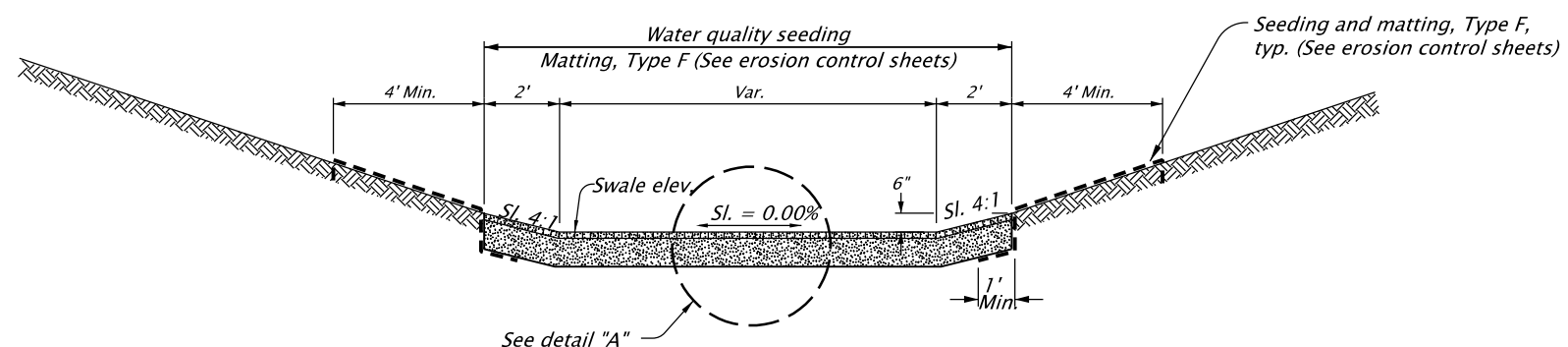
Designer: Cory Gieseke Reviewer: Karen Tatman
Drafter: Morgan Tholl Checker: Christine Higgins

WATER QUALITY PLAN & PROFILE

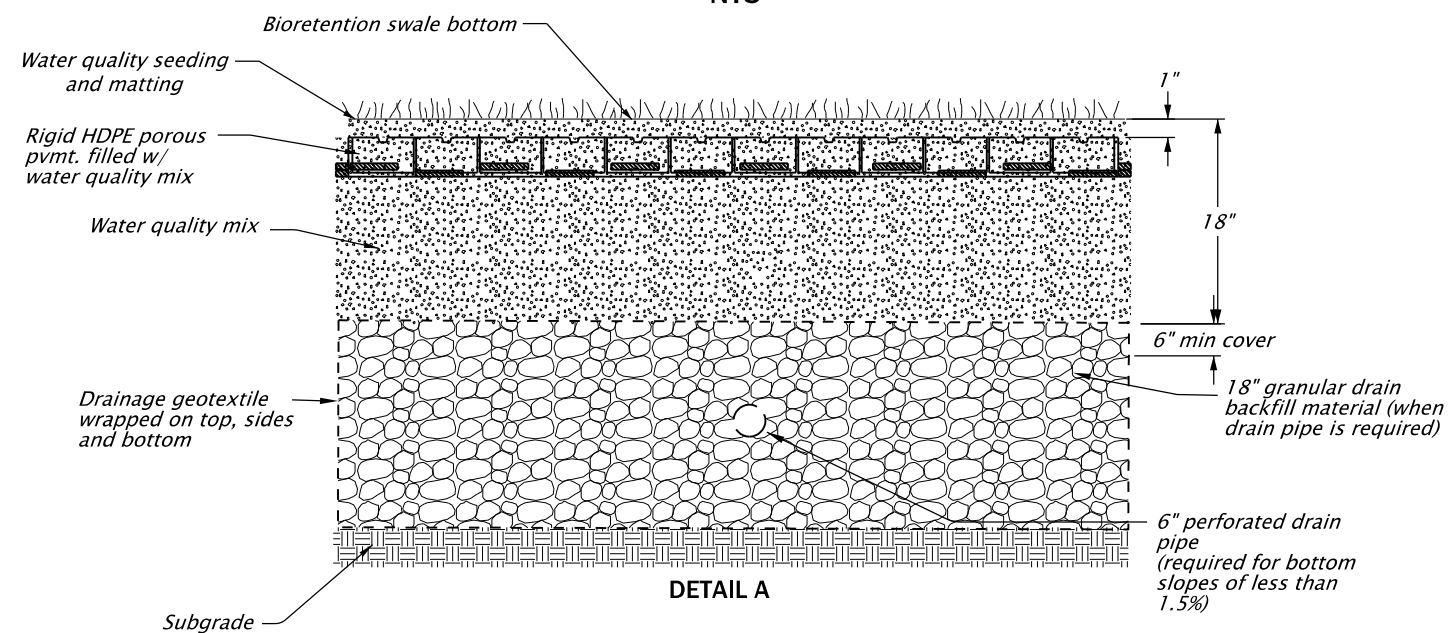
SHEET NO.
HA15

EXPIRES 06/30/2021
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Rotation: 223.5514° Scale: 1"=50'
Vertical Scale: 1:10

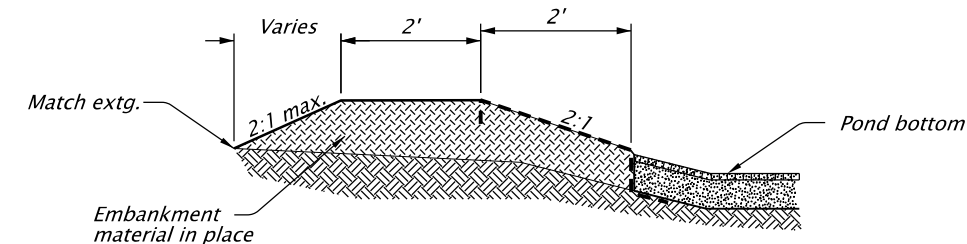


**BIOFILTRATION SWALE
NTS**

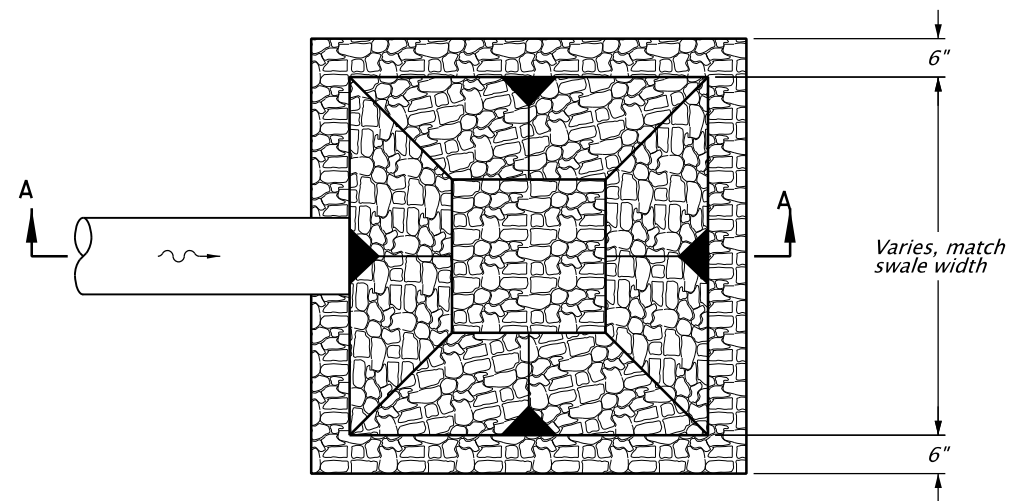


DETAIL A

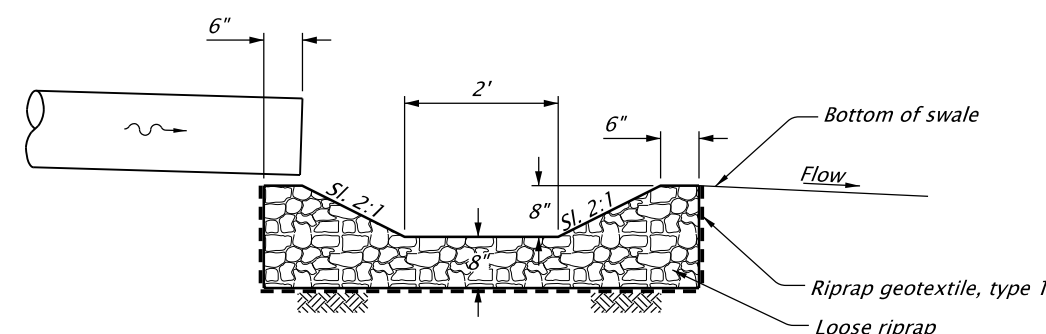
BIOFILTRATION SWALE TABLE			
Station	Facility DFI	Biofiltration Swale Bottom Width (feet)	Biofiltration Swale Bottom Length (feet)
"99E2" 108+94.90 to "99E2" 110+06.66	#	10	220
"99E2" 114+24.15 to "99E2" 115+28.87	#	10	220
"OR43" 10+12.40 to "OR43" 8+77.47	#	30	226
"A2" 859+06.98 to "A2" 860+91.75	#	40	205
"L" 691+52.97 to "L" 688+85.28	#	10	183
"D2" 856+66.70 to "D2" 859+14.63	#	30	220
"A2" 859+06.98 to "A2" 860+91.75	#	30	150



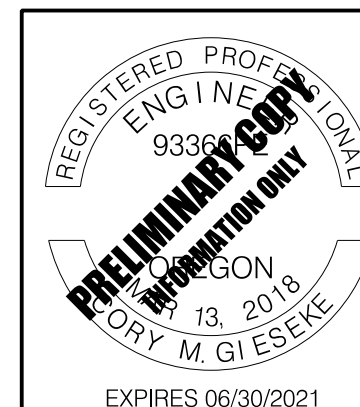
**BIORETENTION POND BERM
NTS**



**ROCK BASIN FLOW SPREADER
NTS**



SECTION A-A



HDR HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



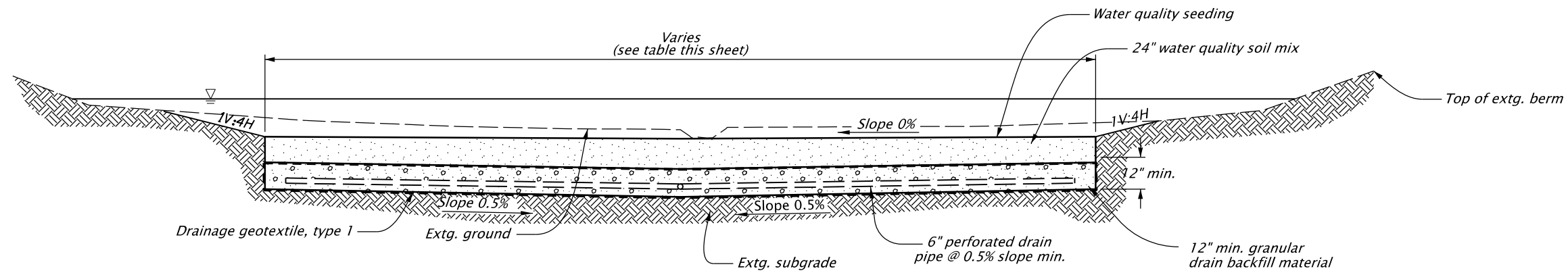
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Reviewer:
Drafter: Checker:

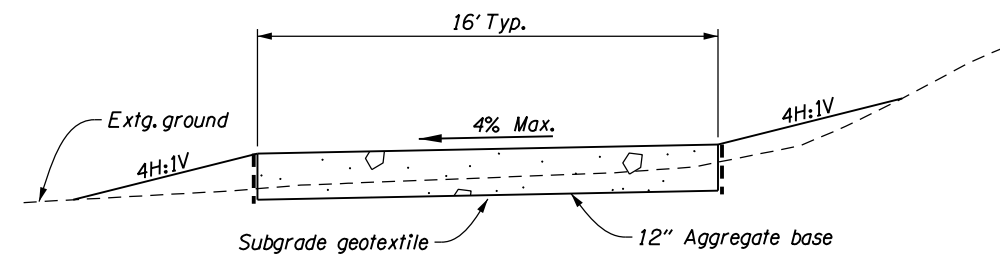
WATER QUALITY DETAILS

SHEET NO.
HA16

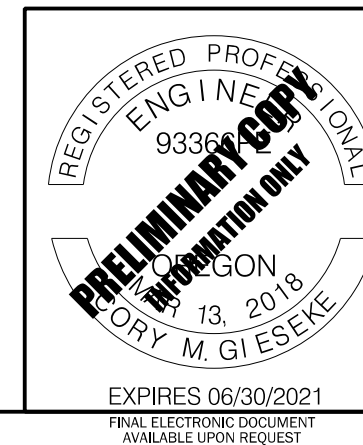


BIORETENTION POND SECTION
Scale: NTS

BIORETENTION POND TABLE			
Station	Facility DFI	Bioretention Pond Bottom Width (feet)	Bioretention Pond Length (feet)
"L" 665+46.16 to "L" 663+50.02	#	10	120
"L" 691+52.97 to "L" 688+85.28	#	10	183
"D2" 856+66.70 to "D2" 859+14.63	#	30	220
"A2" 859+06.98 to "A2" 860+91.75	#	30	150



MAINTENANCE ACCESS ROAD SECTION
NTS

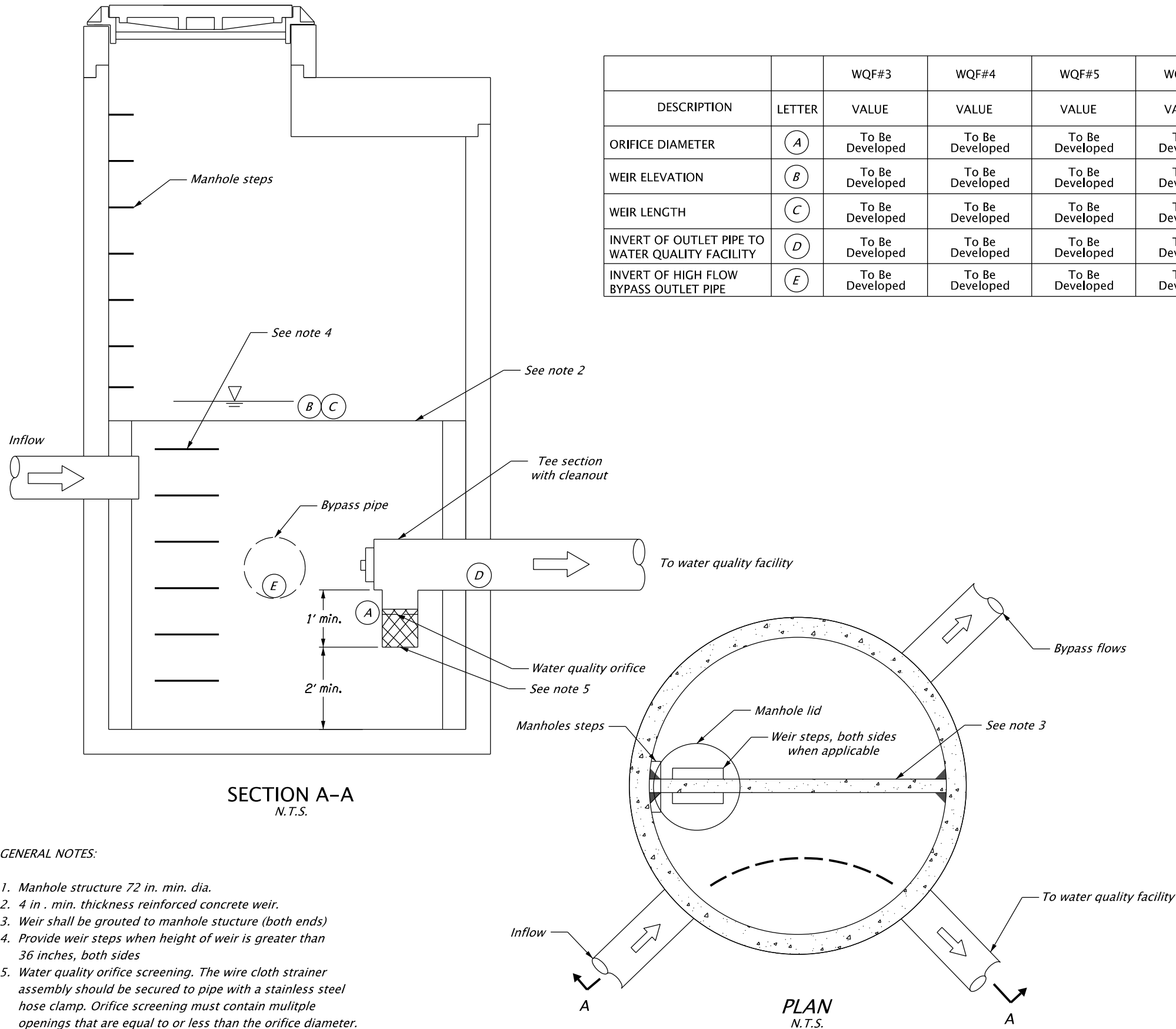


	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Cory Gieseke Drafter: Morgan Tholl	Reviewer: Karen Tatman Checker: Christine Higgins	SHEET NO. HA17
WATER QUALITY DETAILS		

EXPIRES 06/30/2021
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

DIVERSION MANHOLE

		WQF#3	WQF#4	WQF#5	WQF#6	WQF#7	WQF#8	WQF#11	WQF#12
DESCRIPTION	LETTER	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
ORIFICE DIAMETER	(A)	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed
WEIR ELEVATION	(B)	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed
WEIR LENGTH	(C)	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed
INVERT OF OUTLET PIPE TO WATER QUALITY FACILITY	(D)	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed
INVERT OF HIGH FLOW BYPASS OUTLET PIPE	(E)	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed	To Be Developed

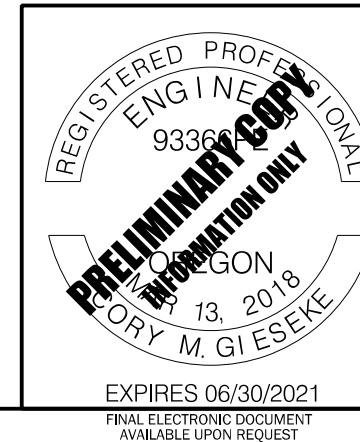


SECTION A-A
N.T.S.

PLAN
N.T.S.

GENERAL NOTES:

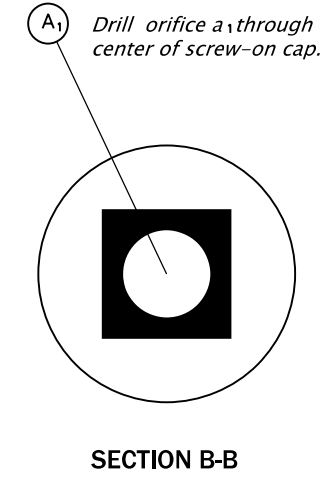
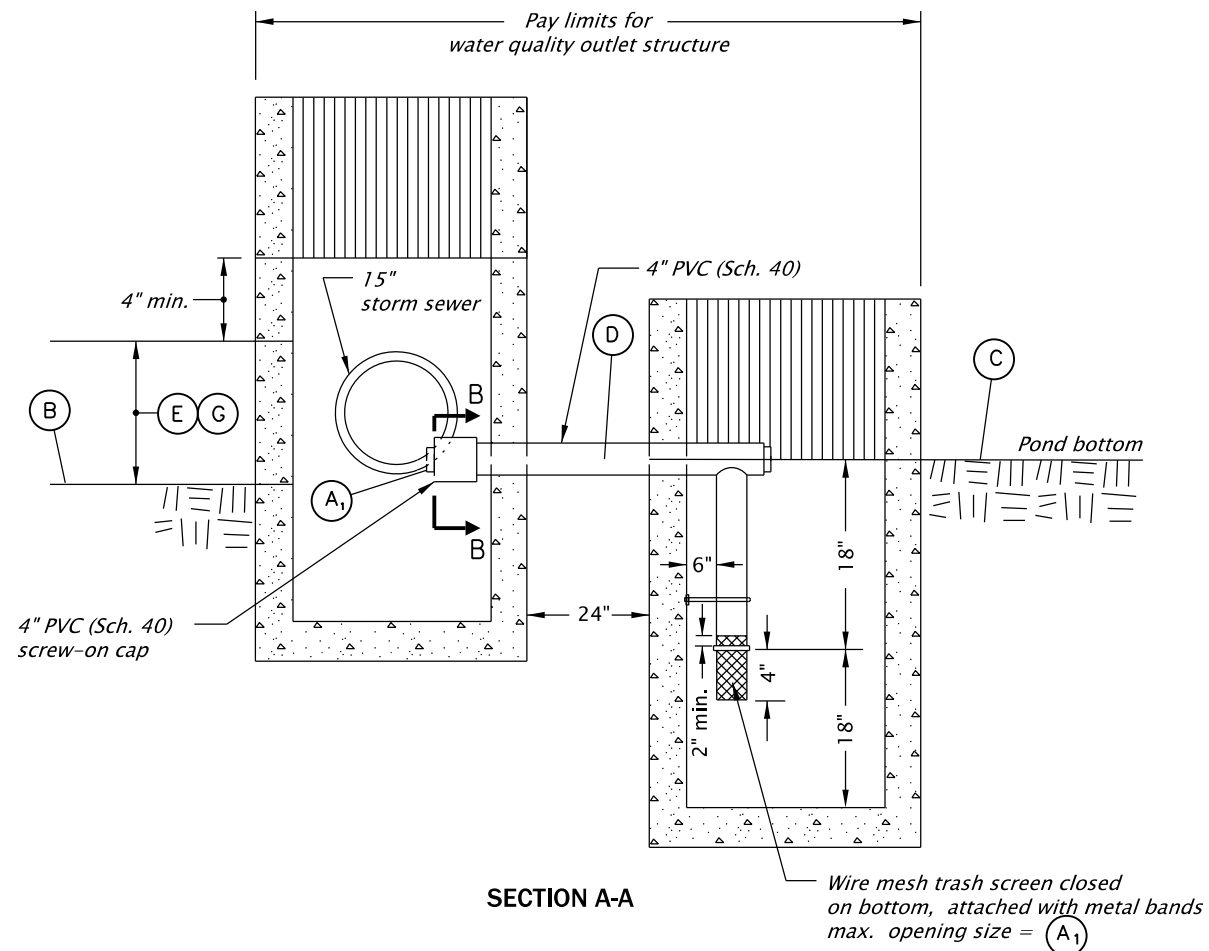
1. Manhole structure 72 in. min. dia.
2. 4 in. min. thickness reinforced concrete weir.
3. Weir shall be grouted to manhole structure (both ends)
4. Provide weir steps when height of weir is greater than 36 inches, both sides
5. Water quality orifice screening. The wire cloth strainer assembly should be secured to pipe with a stainless steel hose clamp. Orifice screening must contain multiple openings that are equal to or less than the orifice diameter.
6. Include tracer wire as shown in Standard Drawing RD336.



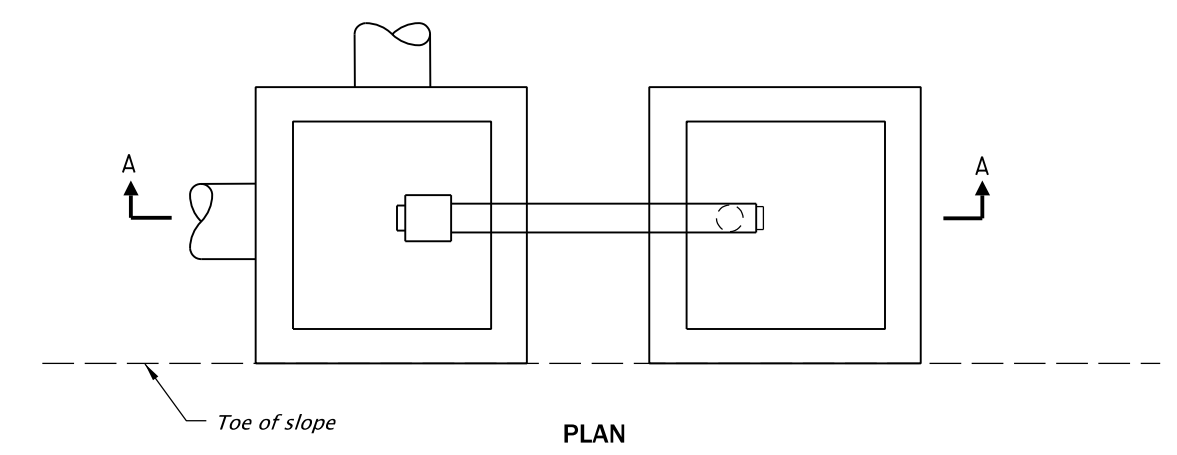
HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Cory Gieseke	Reviewer: Karen Tatman	
Drafter: Morgan Tholl	Checker: Christine Higgins	
WATER QUALITY DETAILS		SHEET NO. HA18

EXPIRES 06/30/2021
FINAL ELECTRONIC DOCUMENT
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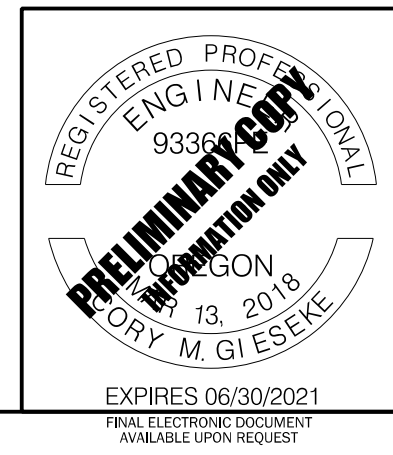
WATER QUALITY OUTLET STRUCTURE



Letter	Value (inch)	Description
A ₁	To Be Developed	Orifice diameter
A ₂	To Be Developed	Elev. of center of orifice
B	To Be Developed	Elev. of pond bottom
C	To Be Developed	Elev. of lip of inlet
D	To Be Developed	F.L. elev. of 4" PVC
E	To Be Developed	Pond design depth
F	To Be Developed	F.L. elev. of outfall pipe
G	To Be Developed	Pond design volume
H	To Be Developed	Elev. of lip of inlet



PLAN
POND BOTTOM

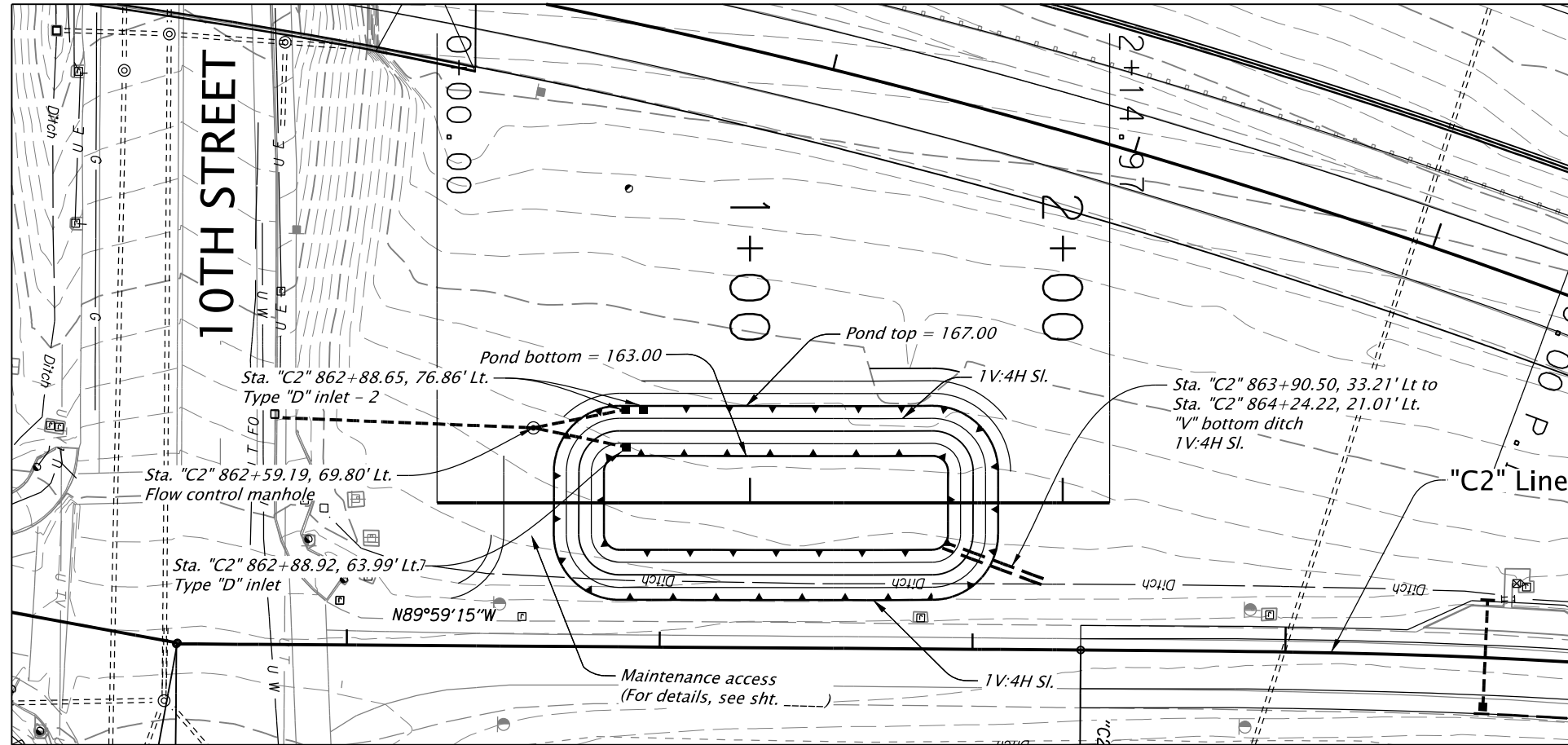


HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Cory Gieseke	Reviewer: Karen Tatman	WATER QUALITY DETAILS
Drafter: Morgan Tholl	Checker: Christine Higgins	
WATER QUALITY DETAILS		SHEET NO. HA19

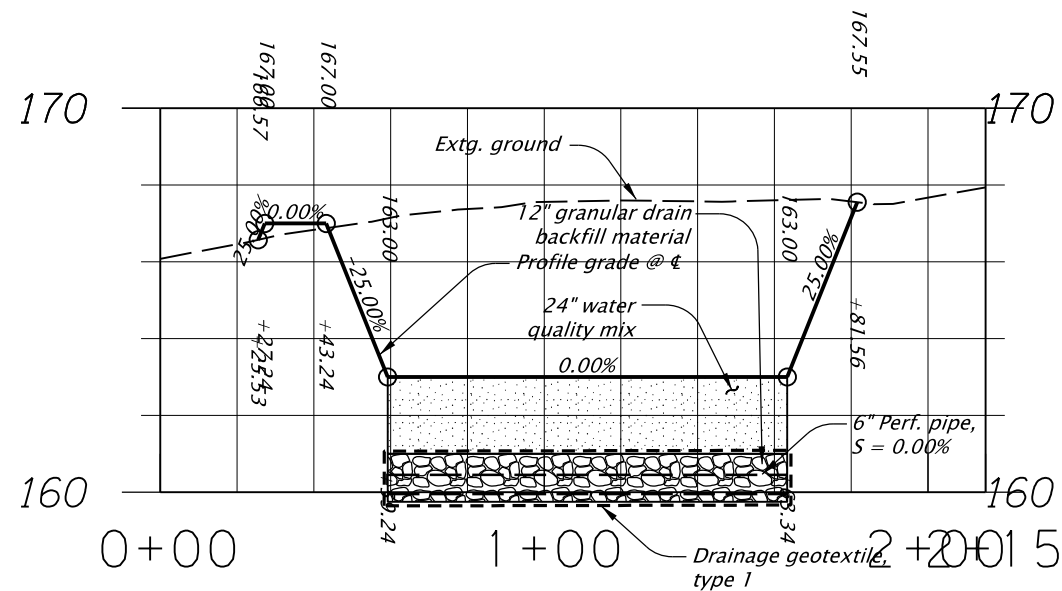
EXPIRES 06/30/2021
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



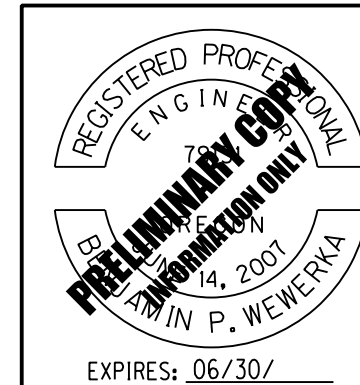
Pond 151





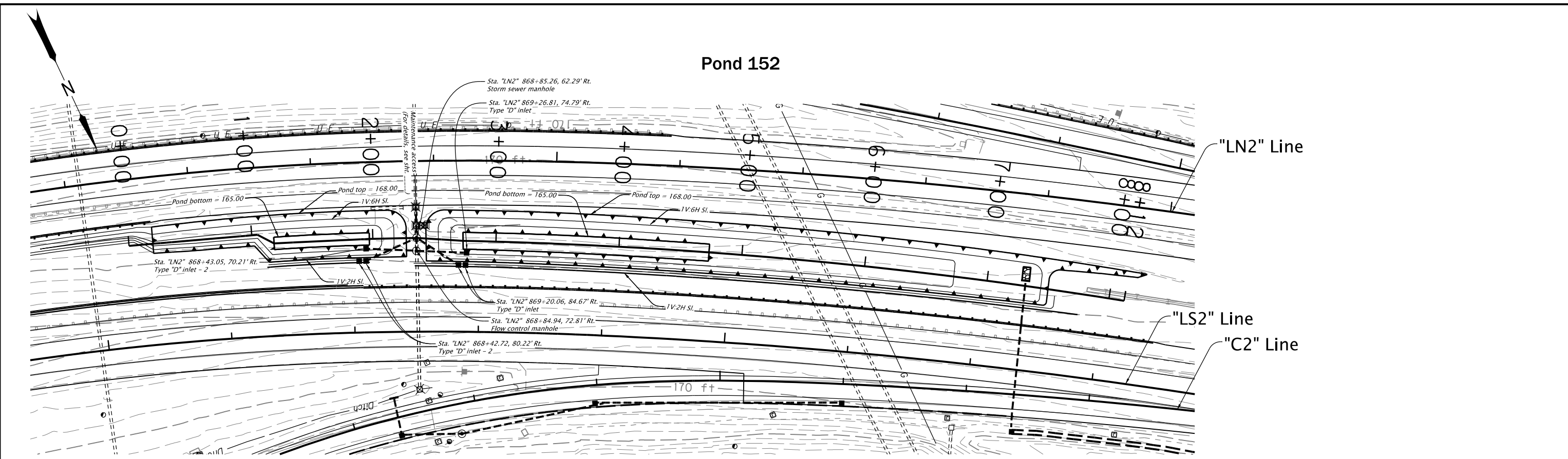
PLAN



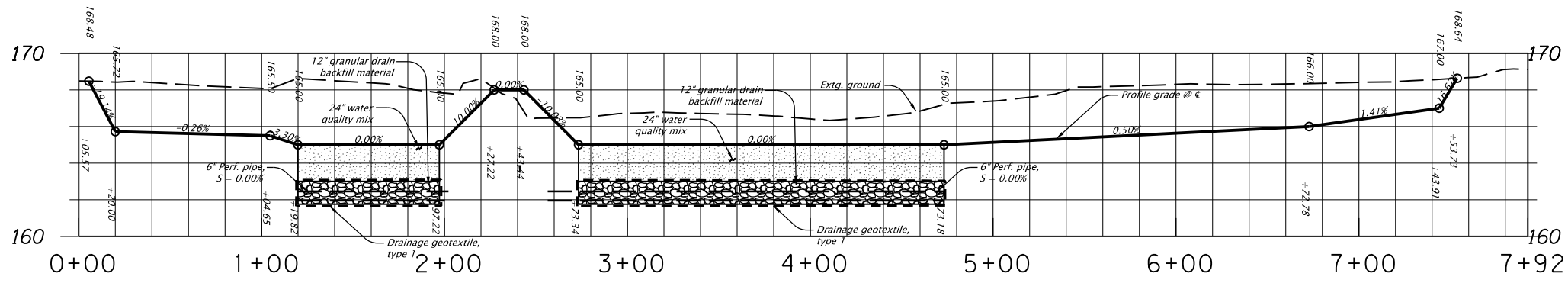
PROFILE



 DOWL <small>WWW.DOWL.COM</small>		
I-205: I-5 - OR213, PHASE 2 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY		
Designer: Nick Reid Drafter: Steve Wolfer	Reviewer: Jeff Bernardo Checker: Jaime Jordan	SHEET NO. HA04
STORMWATER FACILITY PLAN		



PLAN



PROFILE

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY COPY
 INFORMATION ONLY
 14, 2007
 AMIN P. WEWERKA
 EXPIRES: 06/30/

DOWL WWW.DOWL.COM

I-205: I-5 - OR213, PHASE 2 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Nick Reid Reviewer: Jeff Bernardo
 Drafter: Steve Wolfer Checker: Jaime Jordan

STORMWATER FACILITY PLAN SHEET NO. HA07



Attachment Z. Erosion and Sediment Control Plan

GENERAL NOTES:

The construction, adjustment, maintenance, and upgrading of these Erosion and Sediment Control measures is the responsibility of the contractor for the duration of the project to comply with Section 00280 of the Oregon Standard Specifications for construction and the NPDES 1200-CA permit.

Erosion and Sediment Control measures shown on this plan are for anticipated site conditions. Adjust or upgrade these measures for unexpected storm events to ensure that sediment and sediment-laden water does not leave the site.

Develop a revised plan of the Erosion and Sediment Control measures shown as required by Section 00280, Oregon Standard Specifications for Construction. Implement this plan for all clearing and grading activities and in segments applicable to each staging phase. Construct in such a manner so as to ensure that sediment and sediment-laden water does not enter the roadway or drainage system, or violate applicable water standards.

Install measures within the right-of-way unless directed otherwise.

Inlet protection for existing facilities shall be installed before construction begins and shall remain in place until all construction is completed and approved. The contractor shall protect all storm drain inlets within the work area and adjacent to the work limits within 100' outside all working, stockpile, and staging areas, including the first inlet downstream (at any distance). In the case of inlets to be removed, protection measures shall remain in place until the new inlet is constructed and connected to the drainage network, and the existing inlet has been disconnected from the existing drainage network. Inlet protection shall be installed on new inlets before they are connected to the existing drainage network.

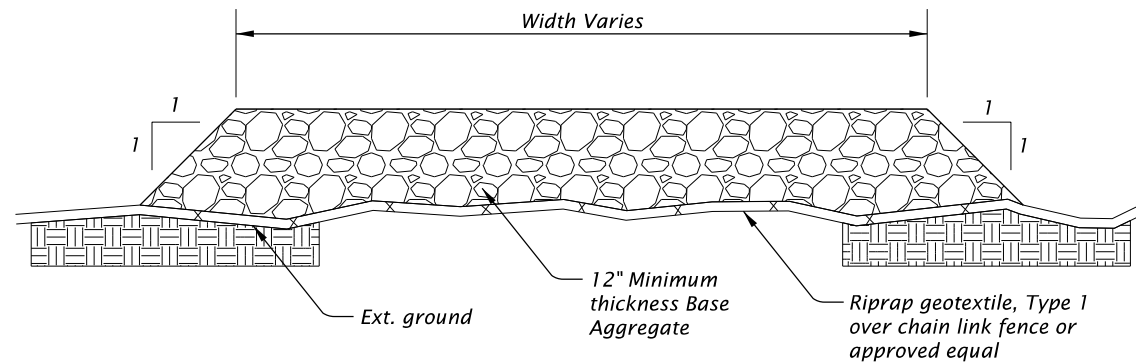
See section 00280 for material not shown in plans.

STANDARD DRAWINGS

- RD1000 Construction Entrances
- RD1005 Check Dams Type 1, 3 and 4
- RD1006 Check Dams Type 2 and 6
- RD1010 Inlet Protection Type 2, 3, 6, 7 10 and 11
- RD1015 Inlet Protection Type 4
- RD1030 Sediment Barrier Type 2, 3 and 4
- RD1031 Sediment Barrier Type 5 and 6
- RD1032 Sediment Barrier Type 8
- RD1033 Sediment Barrier Type 9
- RD1040 Sediment Fence
- RD1045 Temporary Slope Drain With Energy Dissipator
- RD1050 Temporary Scour Basin / Energy Dissipator
- RD1055 Slope and Channel Matting
- RD1060 Tire Wash Facility Type 1 and 2
- RD1065 Sediment Trap
- RD1070 Concrete Truck Wash Out

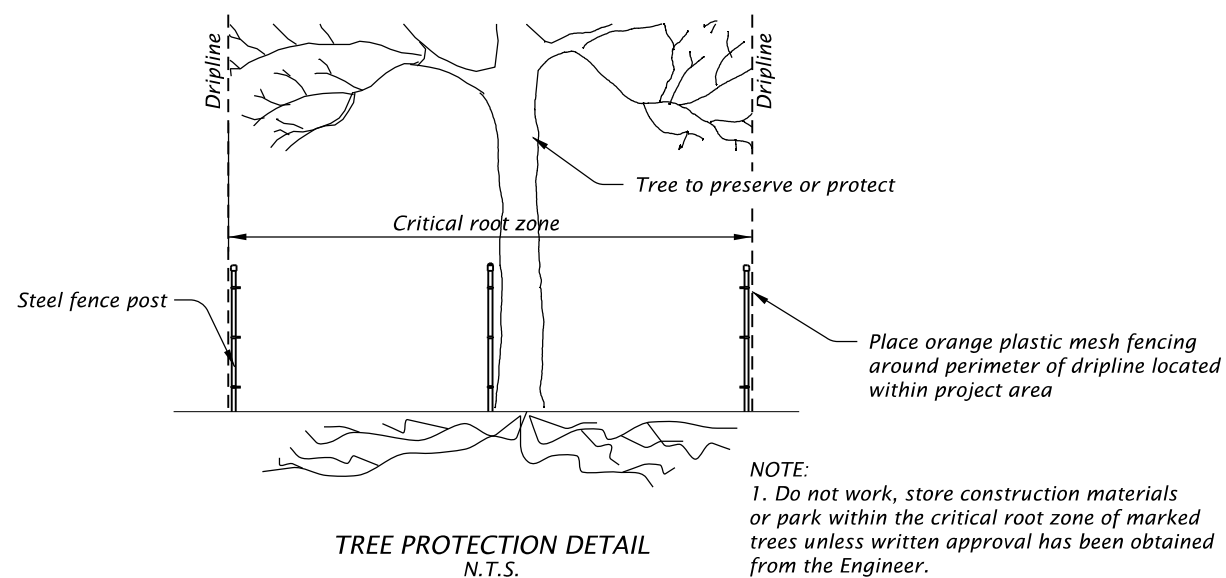
SEQUENCE OF WORK NOTES:

This Erosion and Sediment Control Plan has been prepared based upon the construction sequence represented in the Traffic Control Plan Sheets. This ESCP is not intended to supercede a construction sequencing plan. The ESCP is to be reviewed and revised to fit the actual construction sequence.

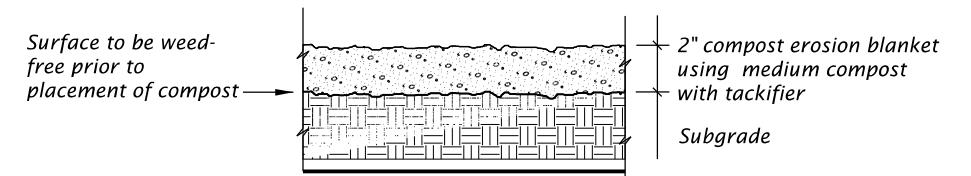


1. Existing ground shall grubbed to a depth 6".
2. Cover existing ground under Staging Area with riprap geotextile and either chain link fence or other approved geogrid type material and cover with Base Aggregate.
3. Applies to contractor staging within environmentally sensitive and regulated work areas.

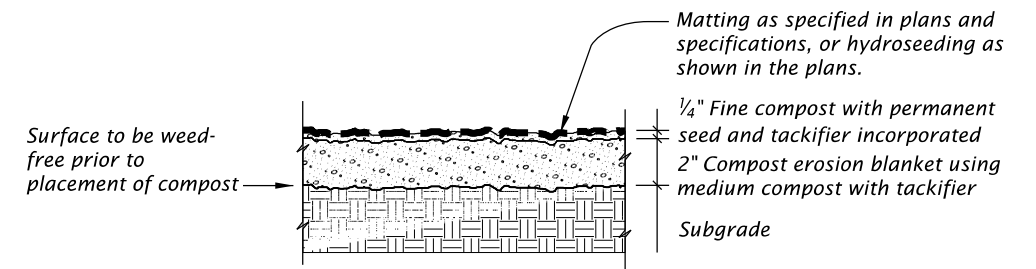
STAGING AREA DETAIL
N.T.S.



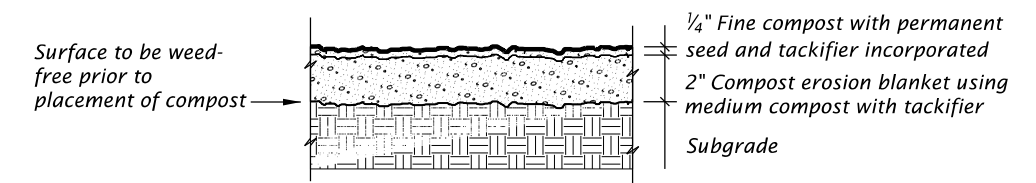
NOTE:
1. Do not work, store construction materials or park within the critical root zone of marked trees unless written approval has been obtained from the Engineer.



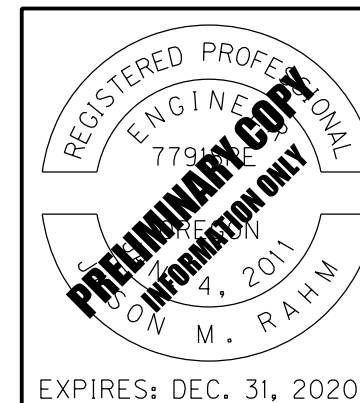
APPLICATION - TEMPORARY/PERMANENT MULCHING
N.T.S.



APPLICATION - STEEP SLOPES, SHALLOW DITCHES & BIO-SWALES
N.T.S.

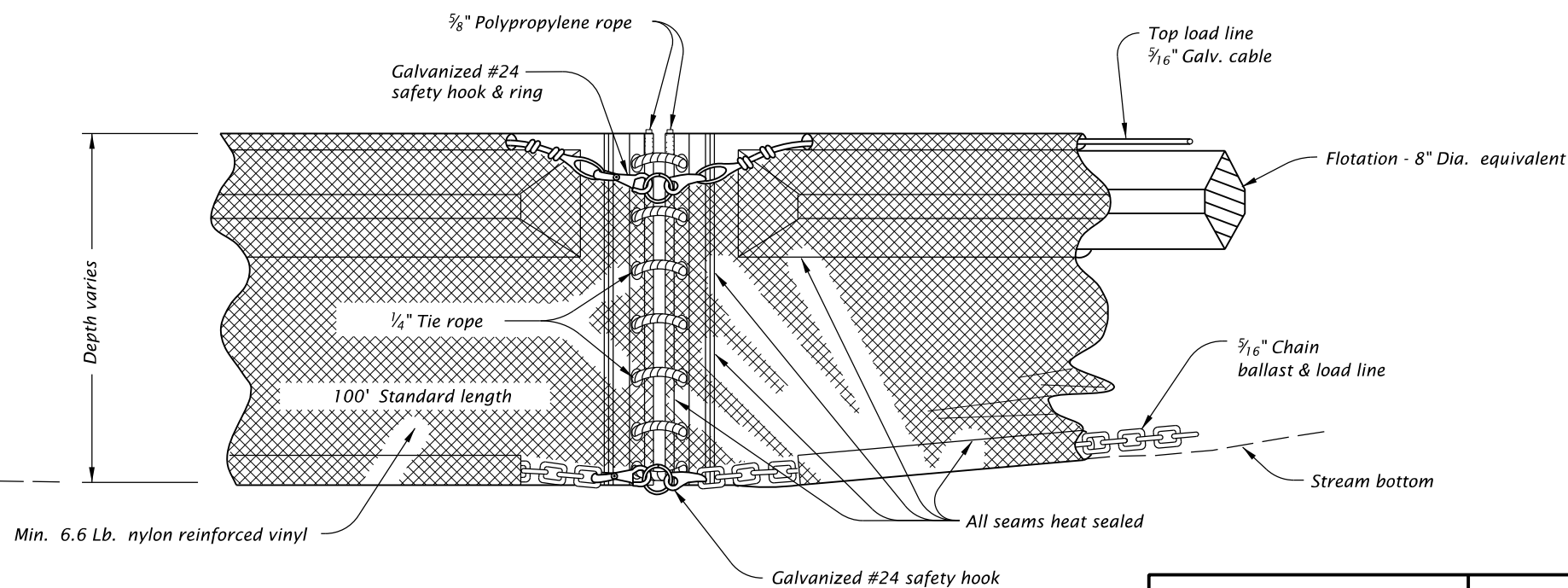
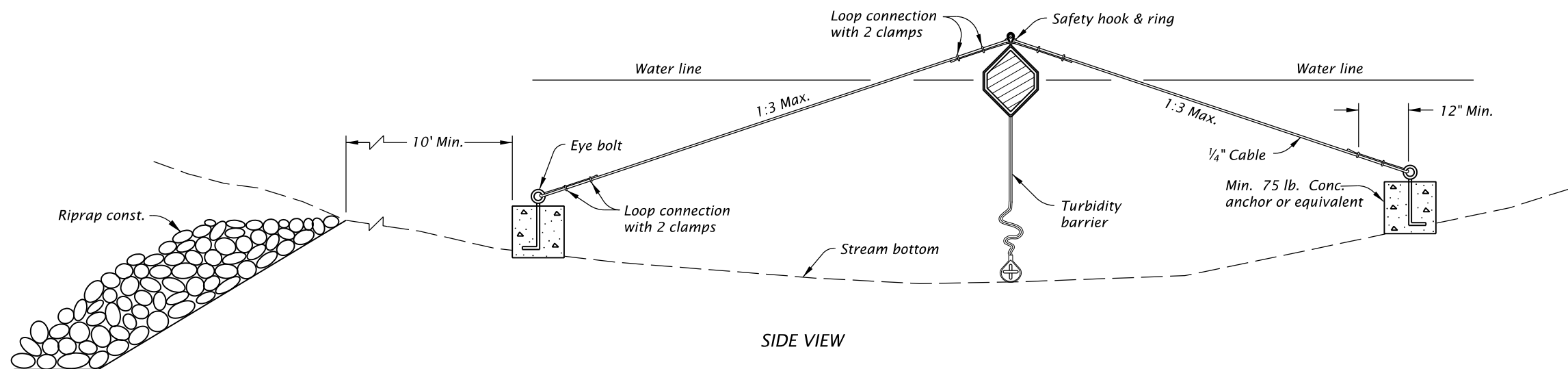


APPLICATION - TEMPORARY/PERMANENT VEGETATIVE COVER
N.T.S.



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB01
EROSION AND SEDIMENT CONTROL		

SEDIMENT BARRIER FLOATING

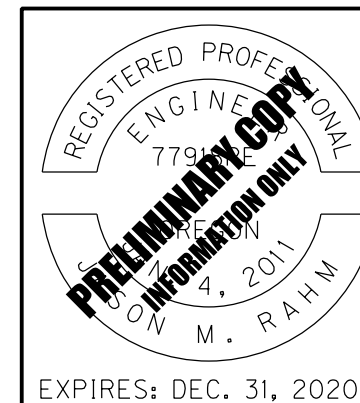


NOTE:

Components of this barrier may be similar or identical to proprietary designs. Any infringement on the proprietary rights of the designer shall be the sole responsibility of the contractor. Substitutions shall be as approved by the engineer.

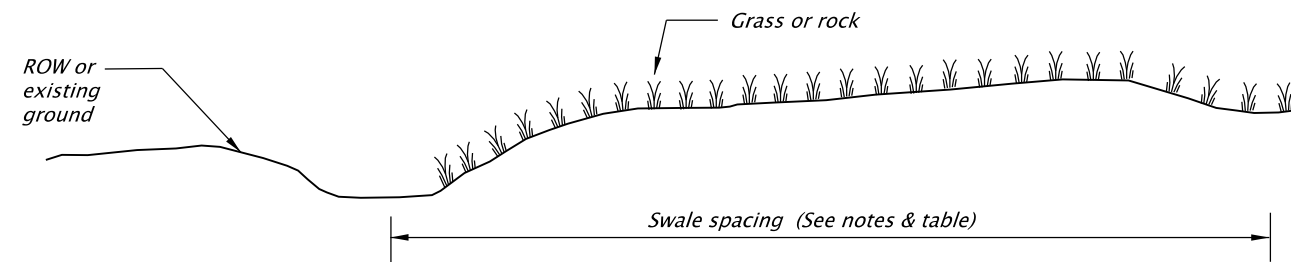
ANCHOR ASSEMBLY

TURBIDITY BARRIER



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB02
EROSION AND SEDIMENT CONTROL		

TEMPORARY INTERCEPTOR SWALE TYPE 1



SECTION

Swale Spacing	
Slope	Spacing
3-5%	300'
5-10%	200'
10-25%	100'
25-50%	50'

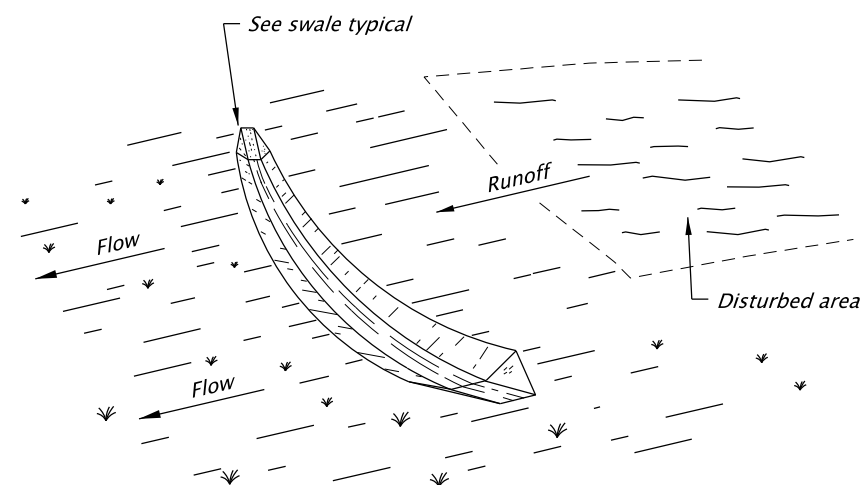
Notes:

Bottom width = 24" minimum at a 0% grade.

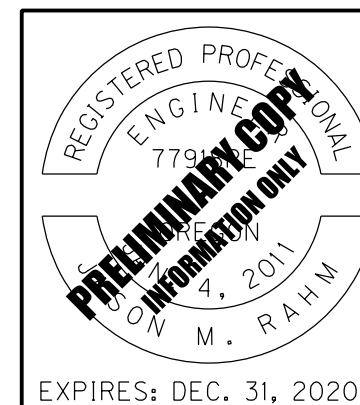
Depth = 12" minimum

Side slope = 1:2 or flatter

Grade = maximum 5 percent with positive drainage to a suitable outlet (such as sedimentation pond)



Notes:
Discharge onto undisturbed area
or alternate sediment trapping device



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1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm

Reviewer: Matt Steigleder

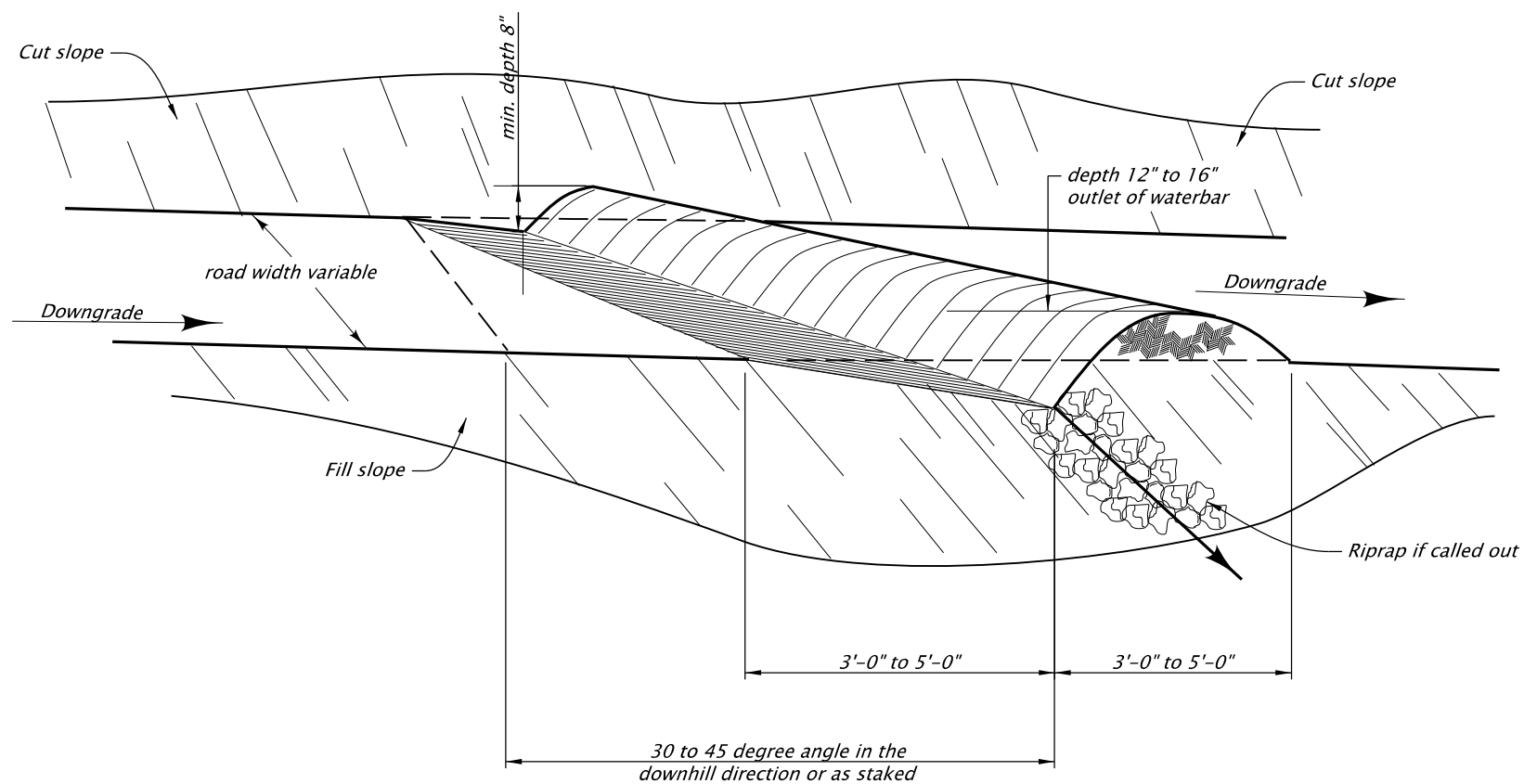
Drafter: Connor Donovan

Checker: Brendan LeBlanc

EROSION CONTROL DETAILS

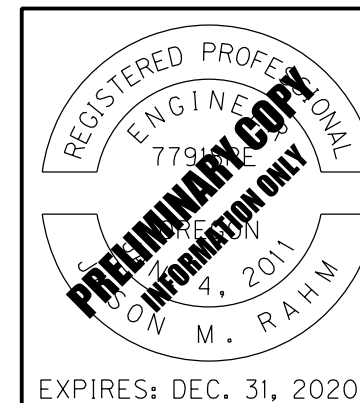
SHEET NO.
FB03

WATERBAR



NOTES:

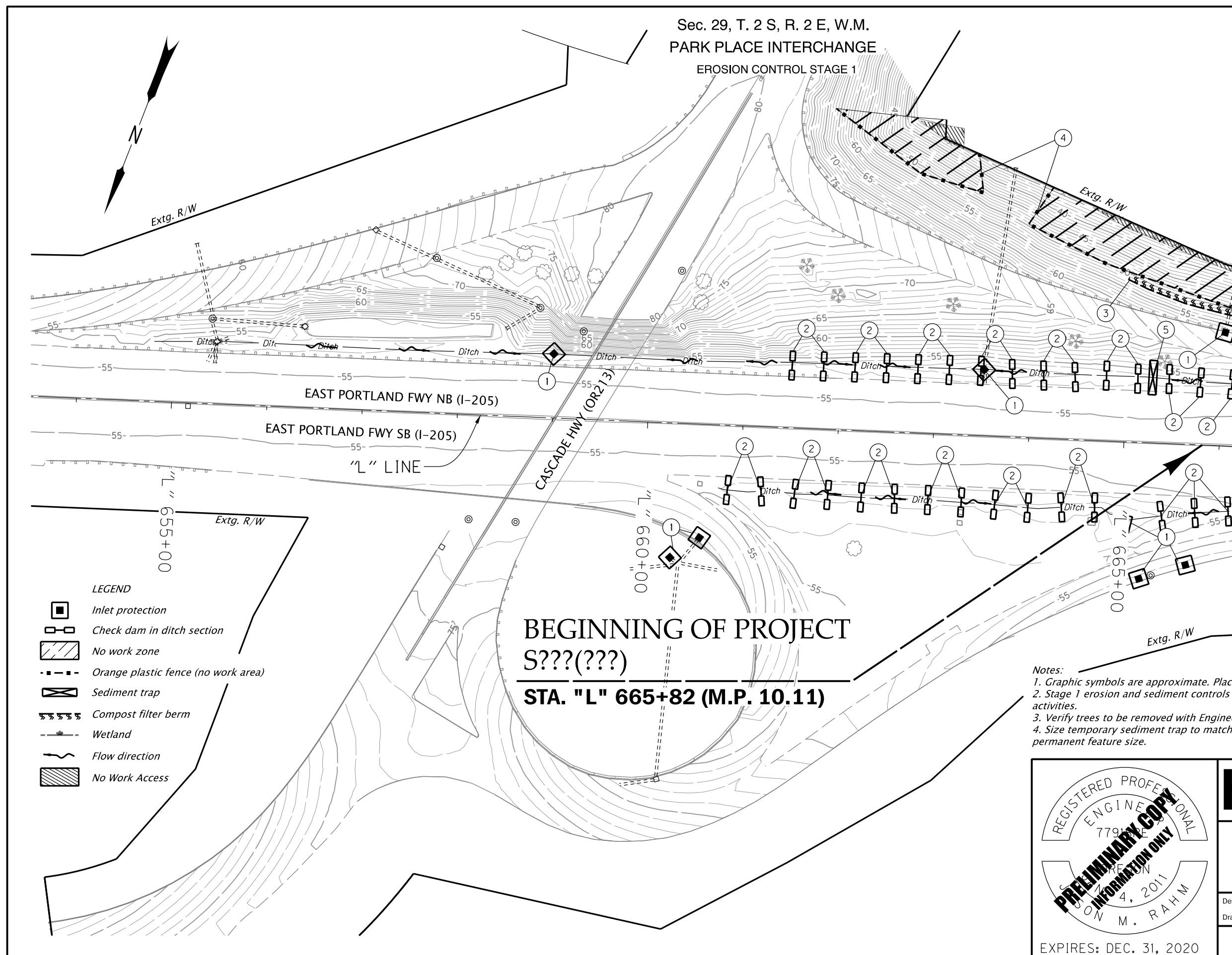
1. Begin waterbars at the intersection of the roadbed and cut slope, and run across the entire width of the roadbed.
2. Ensure waterbars have a free flowing outlet for drainage.
3. When stakes or flagging are used to locate waterbars, they designate the outlet location of the waterbar.
4. Ensure that waterbars allow for passage of a standard 4 x 4 pickup truck.



 HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc
EROSION CONTROL DETAILS	
SHEET NO. FB04	

Sec. 29, T. 2 S, R. 2 E, W.M.
PARK PLACE INTERCHANGE
EROSION CONTROL STAGE 1

- ① Const. inlet protection, (Type 3) - 8 (See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 30 (See drg. no. RD1006)
- ③ Install sediment barrier - 834' (Type 9, Compost filter berm) (See drg. no. RD1033)
- ④ Install orange plastic mesh fencing
- ⑤ Const. temp. sediment trap (See drg. no. RD1065)



BEGINNING OF PROJECT
S???(???)
STA. "L" 665+82 (M.P. 10.11)

- LEGEND**
- Inlet protection
 - Check dam in ditch section
 - No work zone
 - Orange plastic fence (no work area)
 - Sediment trap
 - Compost filter berm
 - Wetland
 - Flow direction
 - No Work Access

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. Size temporary sediment trap to match proposed water quality swale. See HA series for permanent feature size.

REGISTERED PROFESSIONAL
ENGINEER
7791 SE
PORTLAND, OREGON
JULY 4, 2011
M. RAHM

PRELIMINARY COPY
FOR INFORMATION ONLY

EXPIRES: DEC. 31, 2020

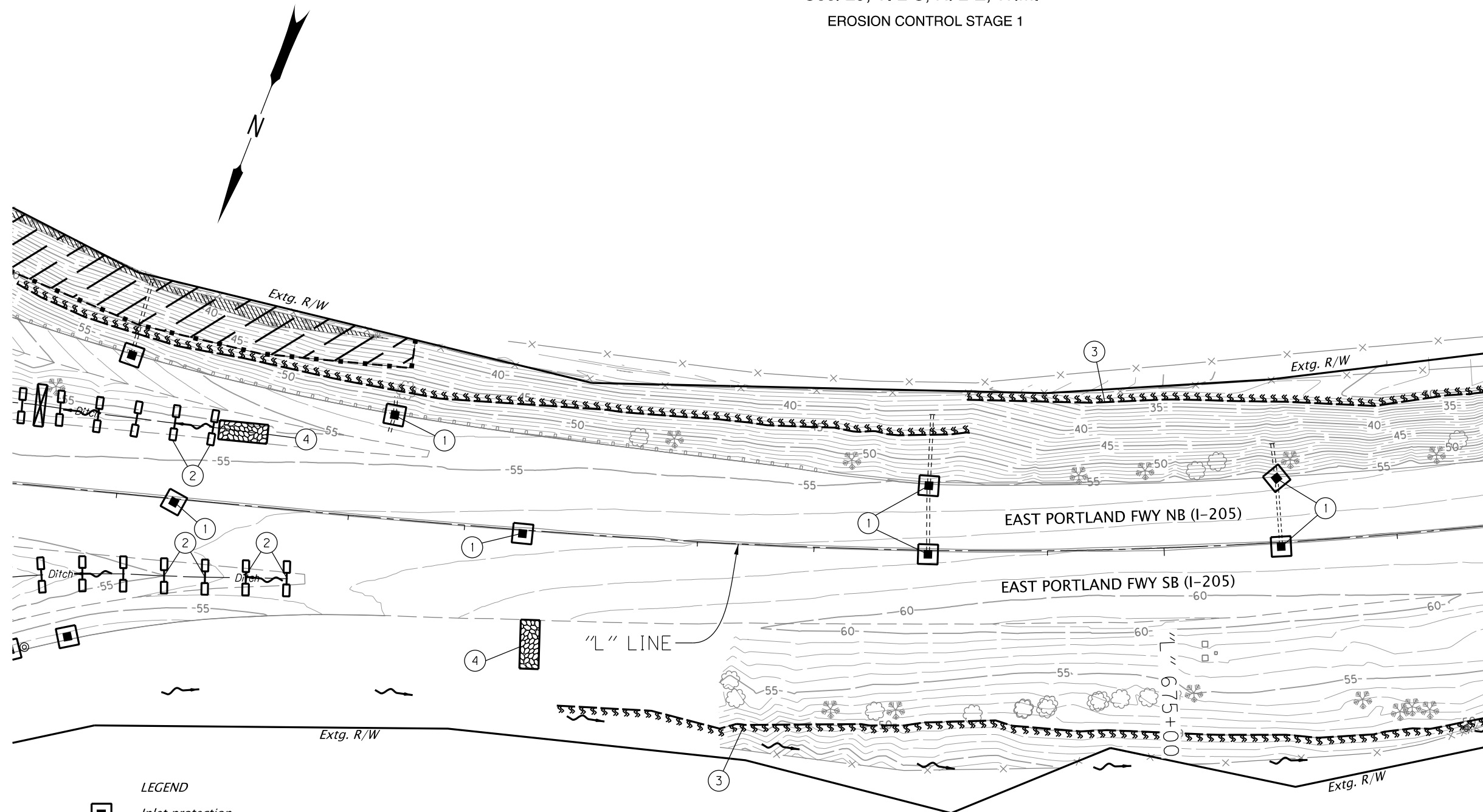
HDR HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB05

- ① Const. inlet protection, (Type 3) - 7
(See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 6
(See drg. no. RD1006)
- ③ Install sediment barrier - 2,960'
(Type 9, Compost filter berm)
(See drg. no. RD1033)
- ④ Const. construction entrance - 2
(Type 1)
(See drg. no. RD1000)

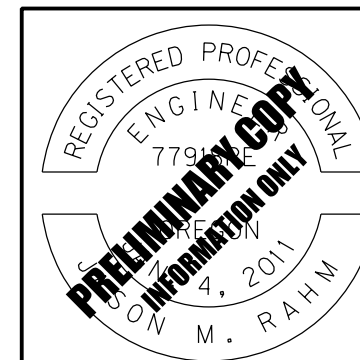


LEGEND

- Inlet protection
- Check dam in ditch section
- No work zone
- Orange plastic fence (no work area)
- Wetland
- Compost filter berm
- Flow direction
- Construction entrance
- No Work Access

Notes:

- 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
- 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
- 3. Verify trees to be removed with Engineer prior to removal.



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

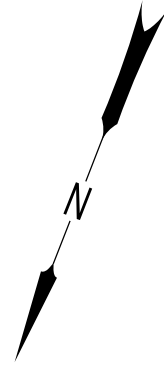
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB06
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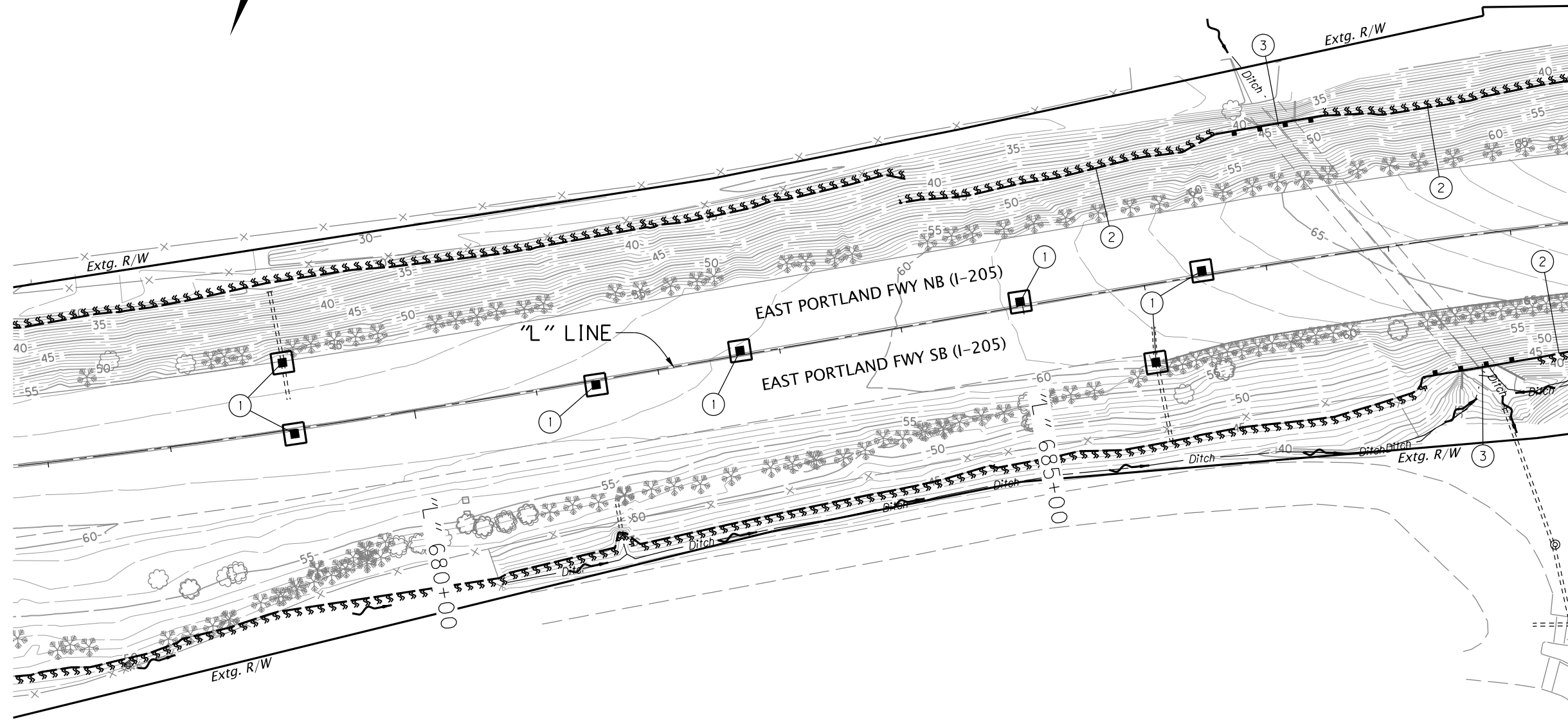
Sec. 29, T. 2 S, R. 2 E, W.M.

EROSION CONTROL STAGE 1

??V-???

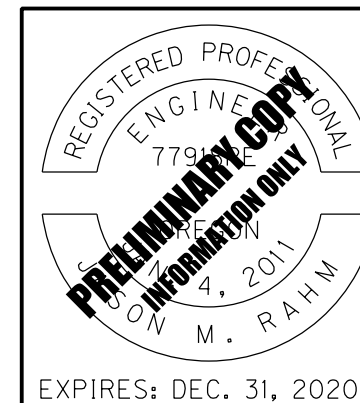


- ① Const. inlet protection - 7
(Type 3)
(See drg. no. RD1010)
- ② Install sediment barrier, (Type 9) - 1,929'
(See drg. no. RD1033)
- ③ Const. supported sediment fence - 182'



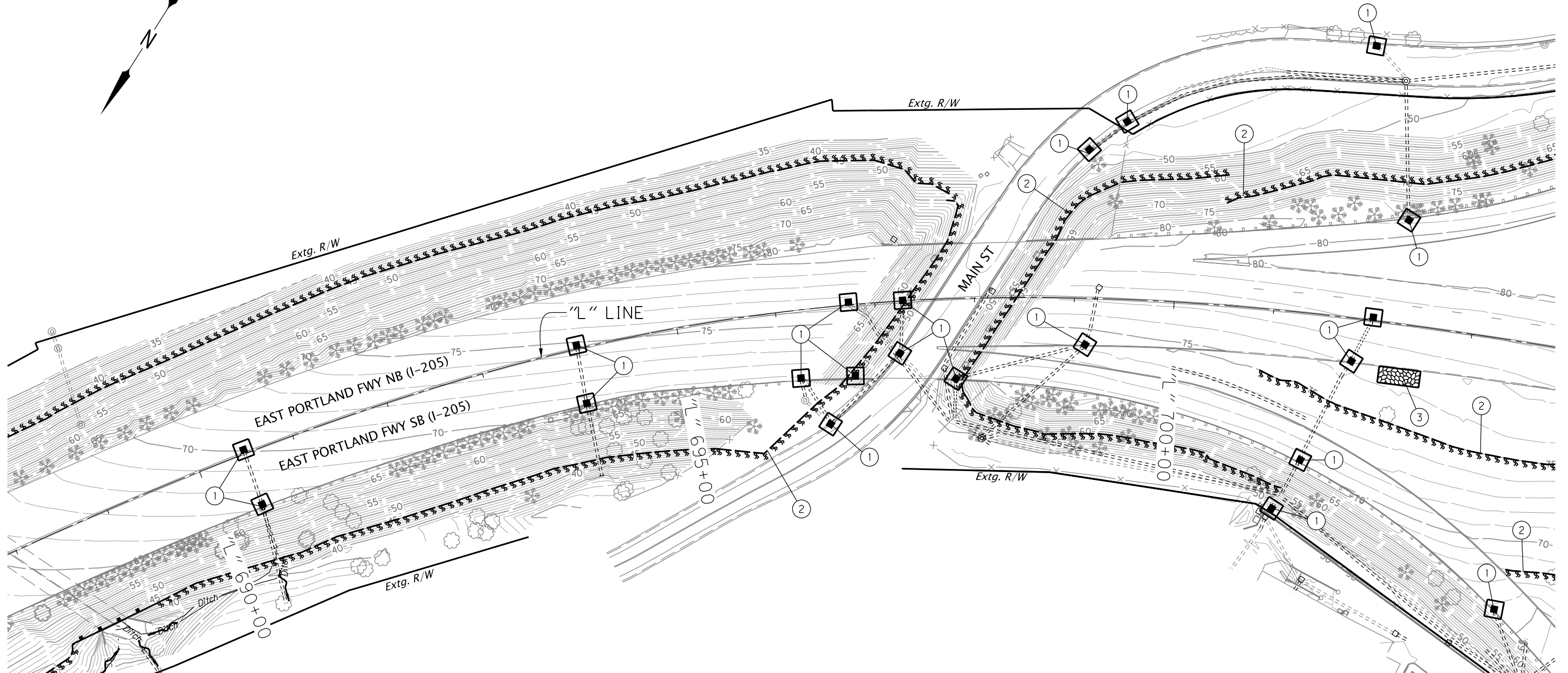
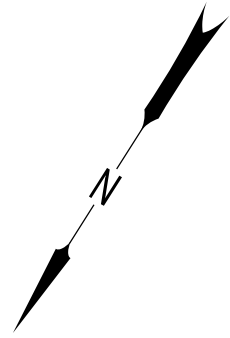
- LEGEND**
- Inlet protection
 - Compost filter berm
 - Sediment fence
 - Flow direction

Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.












	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB07	

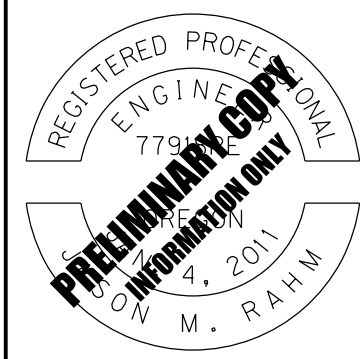



LEGEND

-  Inlet protection
-  Compost filter berm
-  Ordinary High Water
-  Sediment fence
-  Flow direction
-  Construction entrance
-  1 Const. inlet protection, (Type 3) - 22 (See drg. no. RD1010)
-  2 Install sediment barrier - 2,323' (Type 9, Compost filter berm) (See drg. no. RD1033)
-  3 Const. construction entrance - 1 (Type 1) (See drg. no. RD1000)

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
3. Verify trees to be removed with Engineer prior to removal.



HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

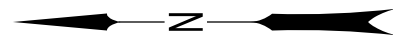
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB08
-------------------------------------	-------------------

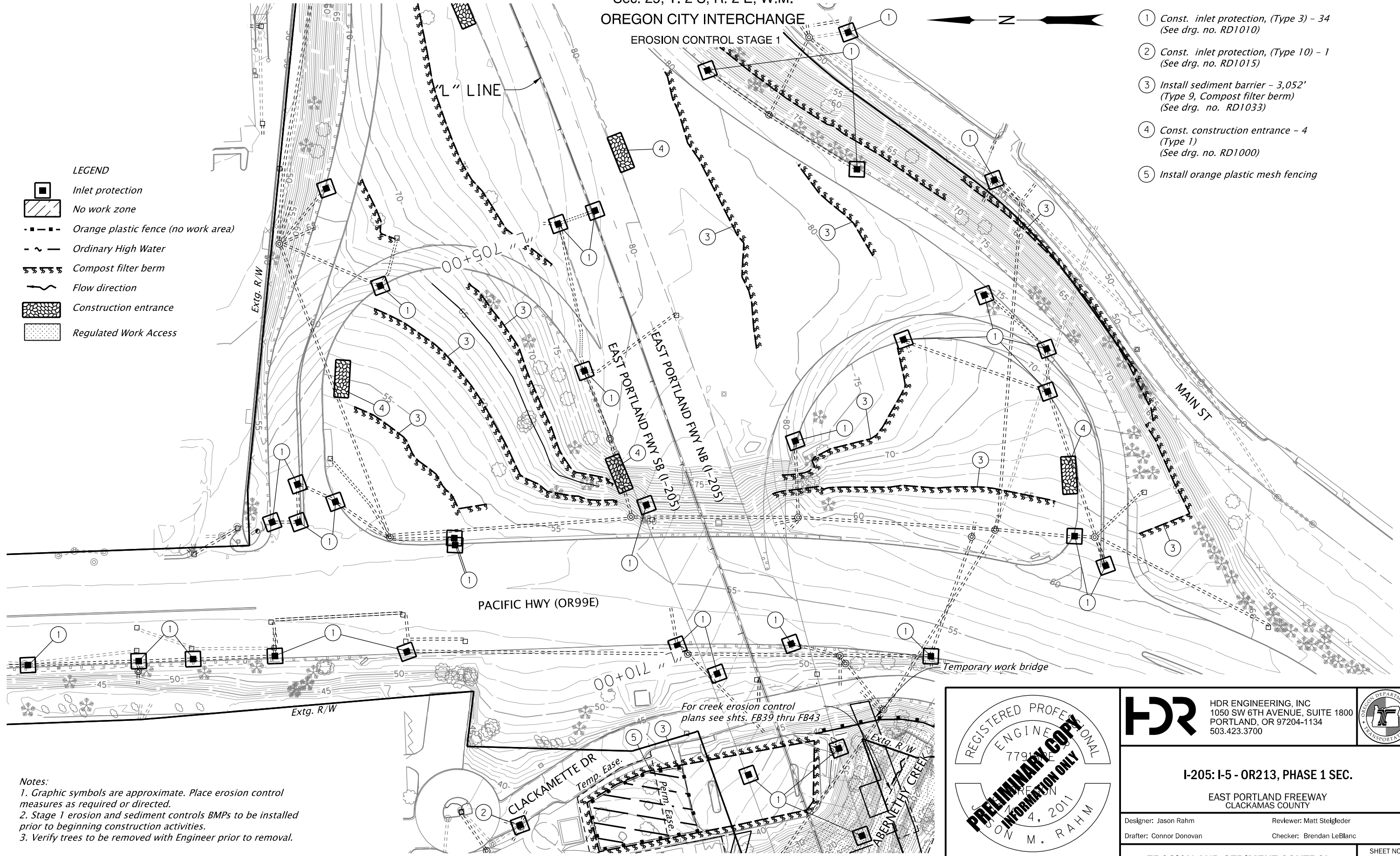
Sec. 29, T. 2 S, R. 2 E, W.M.
OREGON CITY INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???



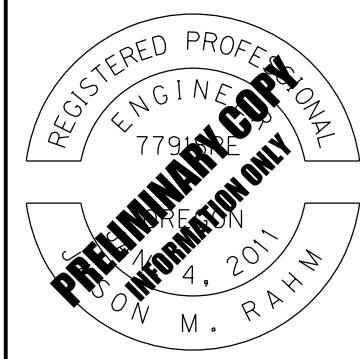
- ① Const. inlet protection, (Type 3) - 34
(See drg. no. RD1010)
- ② Const. inlet protection, (Type 10) - 1
(See drg. no. RD1015)
- ③ Install sediment barrier - 3,052'
(Type 9, Compost filter berm)
(See drg. no. RD1033)
- ④ Const. construction entrance - 4
(Type 1)
(See drg. no. RD1000)
- ⑤ Install orange plastic mesh fencing

- LEGEND**
- Inlet protection
 - No work zone
 - Orange plastic fence (no work area)
 - Ordinary High Water
 - Compost filter berm
 - Flow direction
 - Construction entrance
 - Regulated Work Access



Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.

For creek erosion control plans see shts. FB39 thru FB43

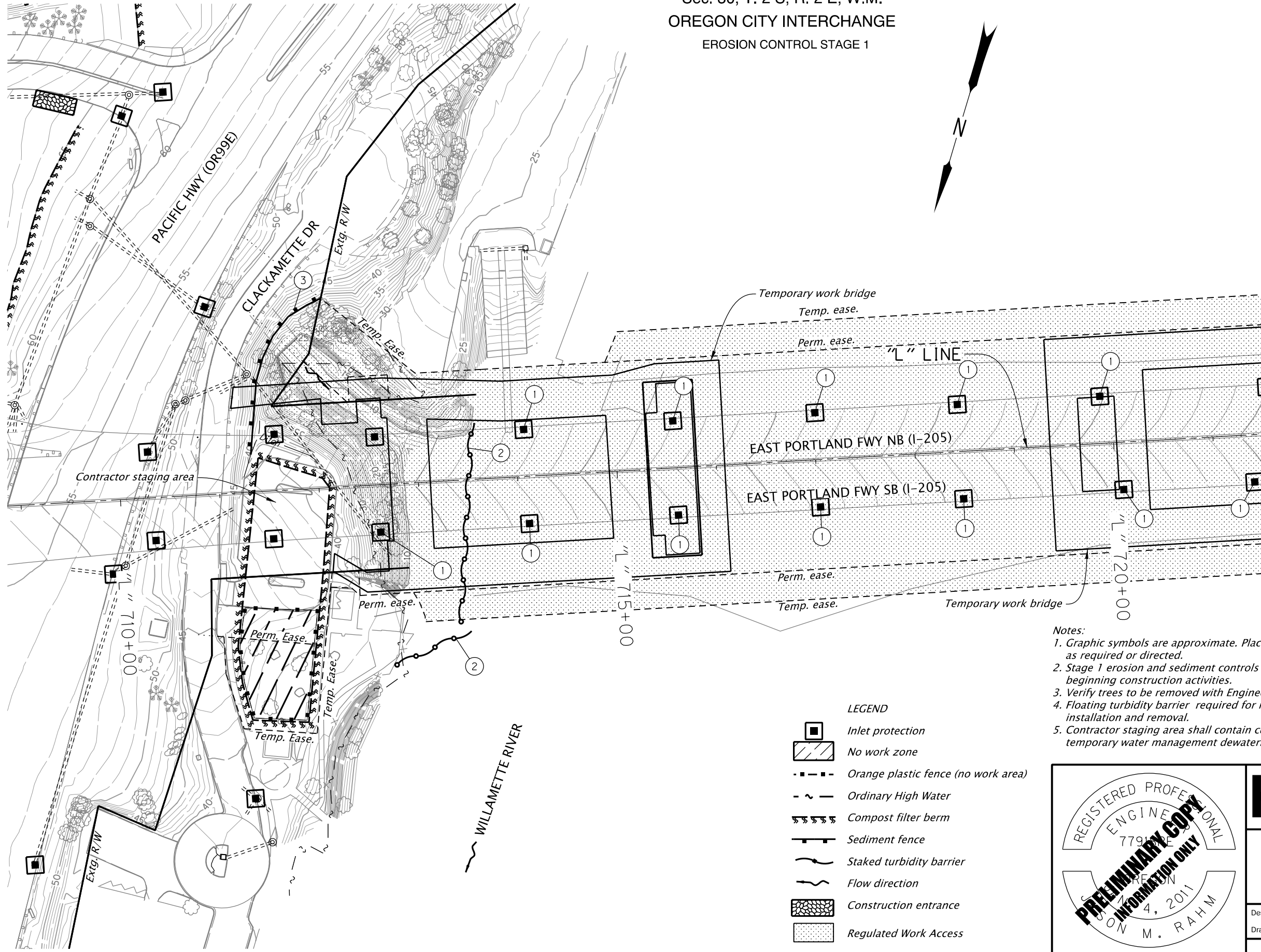


HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB09	

Sec. 30, T. 2 S, R. 2 E, W.M.
OREGON CITY INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???

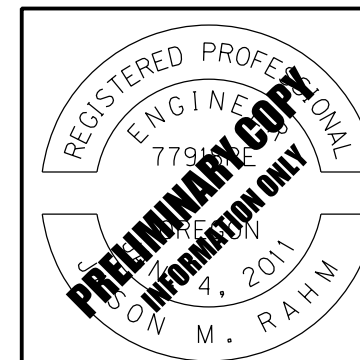


- ① Const. inlet protection - 12 (Type 3) (See drg. no. RD1010)
- ② Const. turbidity barrier - 818' (For details, see sht. FB02)
- ③ Const. supported sediment fence - 185'

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. Floating turbidity barrier required for rip rap removal and cofferdam installation and removal.
 5. Contractor staging area shall contain concrete washout facility and temporary water management dewatering treatment.

LEGEND

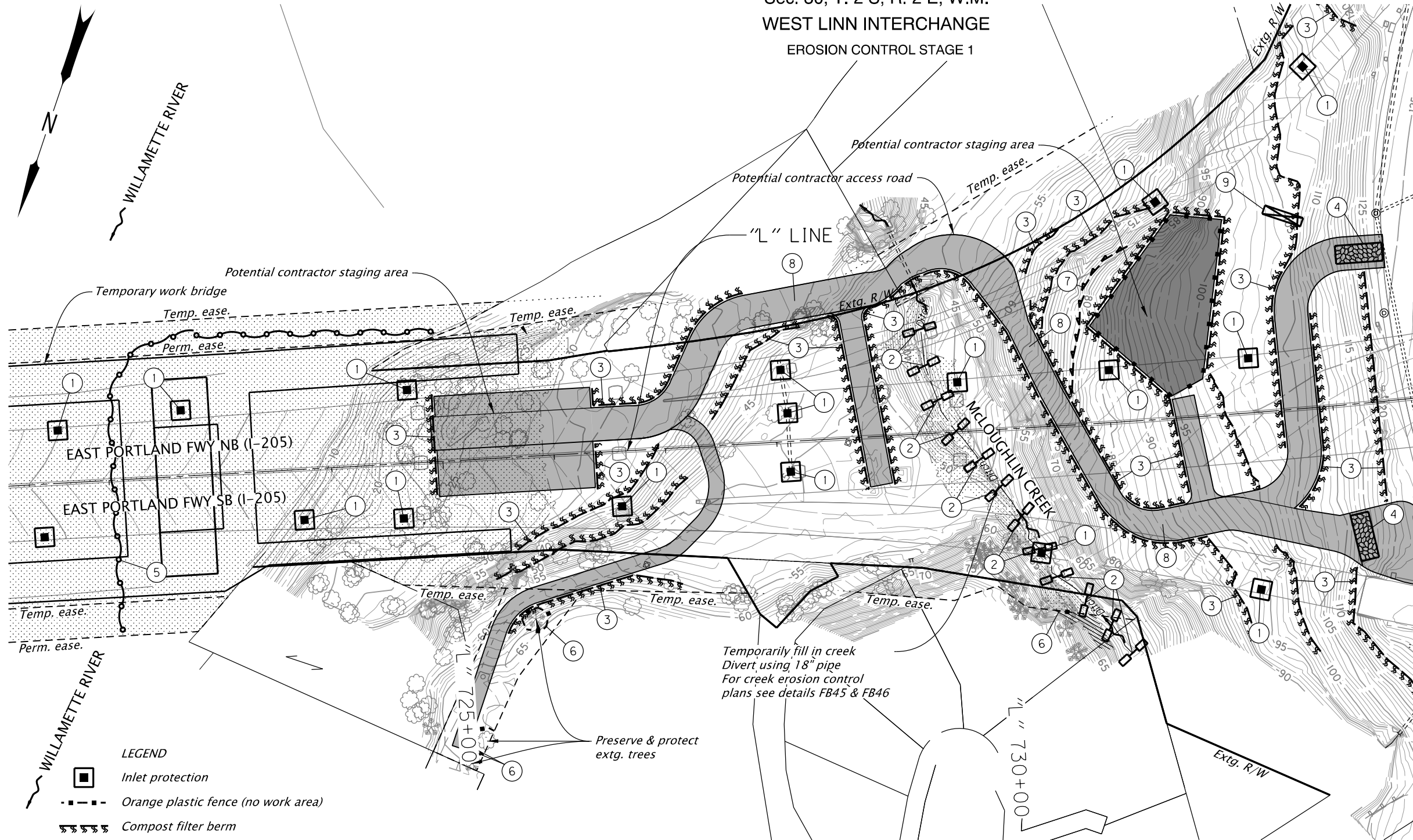
	Inlet protection
	No work zone
	Orange plastic fence (no work area)
	Ordinary High Water
	Compost filter berm
	Sediment fence
	Staked turbidity barrier
	Flow direction
	Construction entrance
	Regulated Work Access



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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB10
EROSION AND SEDIMENT CONTROL		

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???



- 1 Const. inlet protection - 16 (Type 3) (See drg. no. RD1010)
- 2 Const. check dam, (Type 6) - 12 (See drg. no. RD1006)
- 3 Install sediment barrier - 4,472' (Type 9) (See drg. no. RD1033)
- 4 Const. construction entrance - 2 (Type 1) (See drg. no. RD1000)
- 5 Const. turbidity barrier - 529' (For details, see sht. FB02)
- 6 Install orange plastic mesh fencing
- 7 Const. temp. interceptor swale, type 1 (For details, see sht. FB03)
- 8 Const. temp. waterbar (For details, see sht. FB04)
- 9 Const. temp. sediment trap (See drg. no. RD1065)

LEGEND

- Inlet protection
- Orange plastic fence (no work area)
- Compost filter berm
- Wetland
- Ordinary High Water
- Temp. interceptor swale
- Sediment trap
- Flow direction
- Construction entrance
- Access road
- Regulated Work Access
- No Work Access

Temporarily fill in creek
 Divert using 18" pipe
 For creek erosion control
 plans see details FB45 & FB46

Preserve & protect
 extg. trees

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. Floating turbidity barrier required for rip rap removal and cofferdam installation and removal.
 5. Contractor staging area shall contain concrete washout facility and temporary water management dewatering treatment.
 6. Size temporary sediment trap to match proposed water quality swale. See HA series for permanent feature size.

REGISTERED PROFESSIONAL
 ENGINEER
 779
 JASON M. RAHM
 APR 4, 2011
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 1050 SW 6TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
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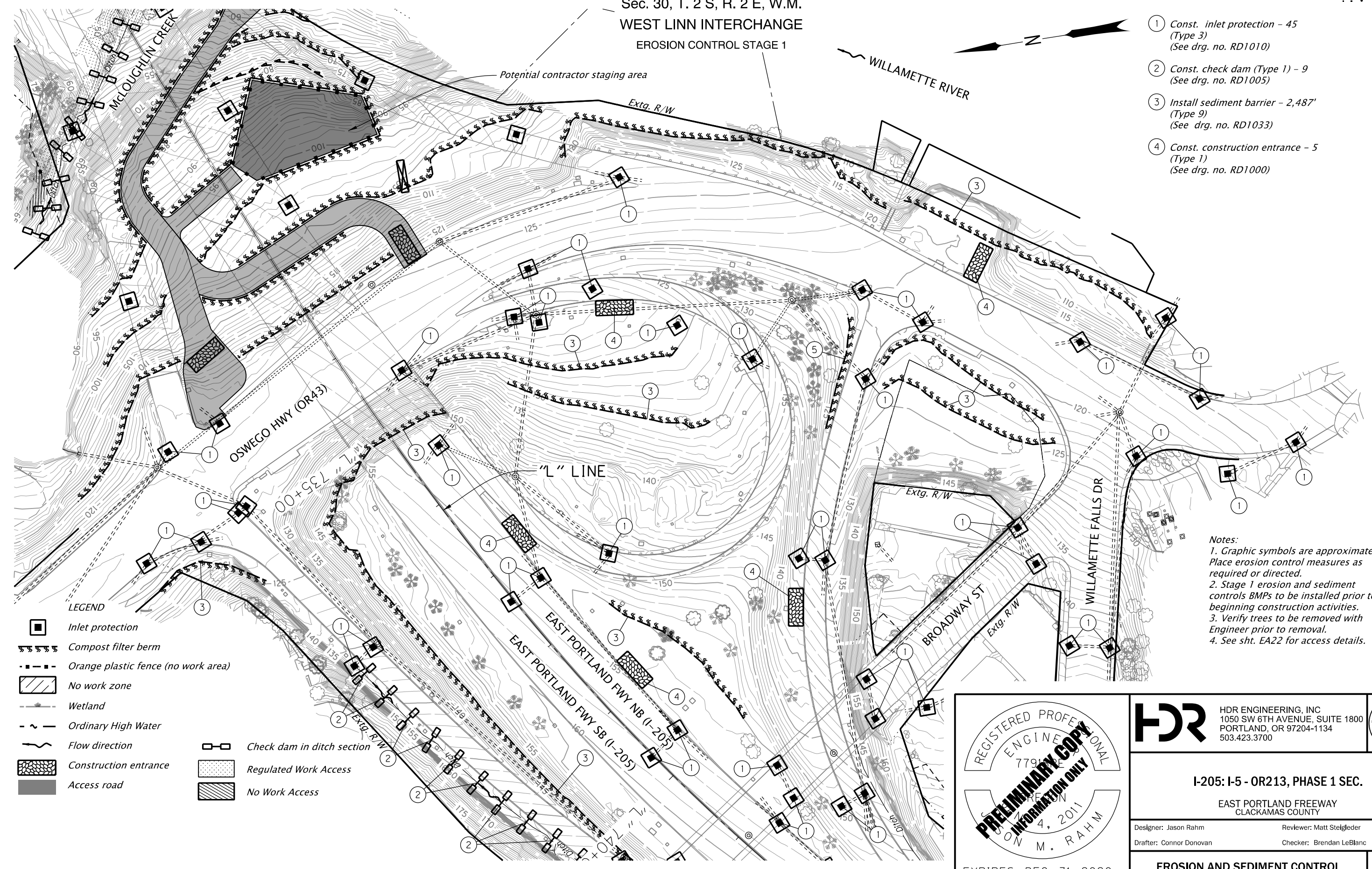
I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB11

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???



- ① Const. inlet protection - 45 (Type 3) (See drg. no. RD1010)
- ② Const. check dam (Type 1) - 9 (See drg. no. RD1005)
- ③ Install sediment barrier - 2,487' (Type 9) (See drg. no. RD1033)
- ④ Const. construction entrance - 5 (Type 1) (See drg. no. RD1000)

Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. See sht. EA22 for access details.

LEGEND

- Inlet protection
- Compost filter berm
- Orange plastic fence (no work area)
- No work zone
- Wetland
- Ordinary High Water
- Flow direction
- Construction entrance
- Access road
- Check dam in ditch section
- Regulated Work Access
- No Work Access

REGISTERED PROFESSIONAL ENGINEER
 7791
 M. RAHM
 APR 4, 2011
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 CLACKAMAS COUNTY

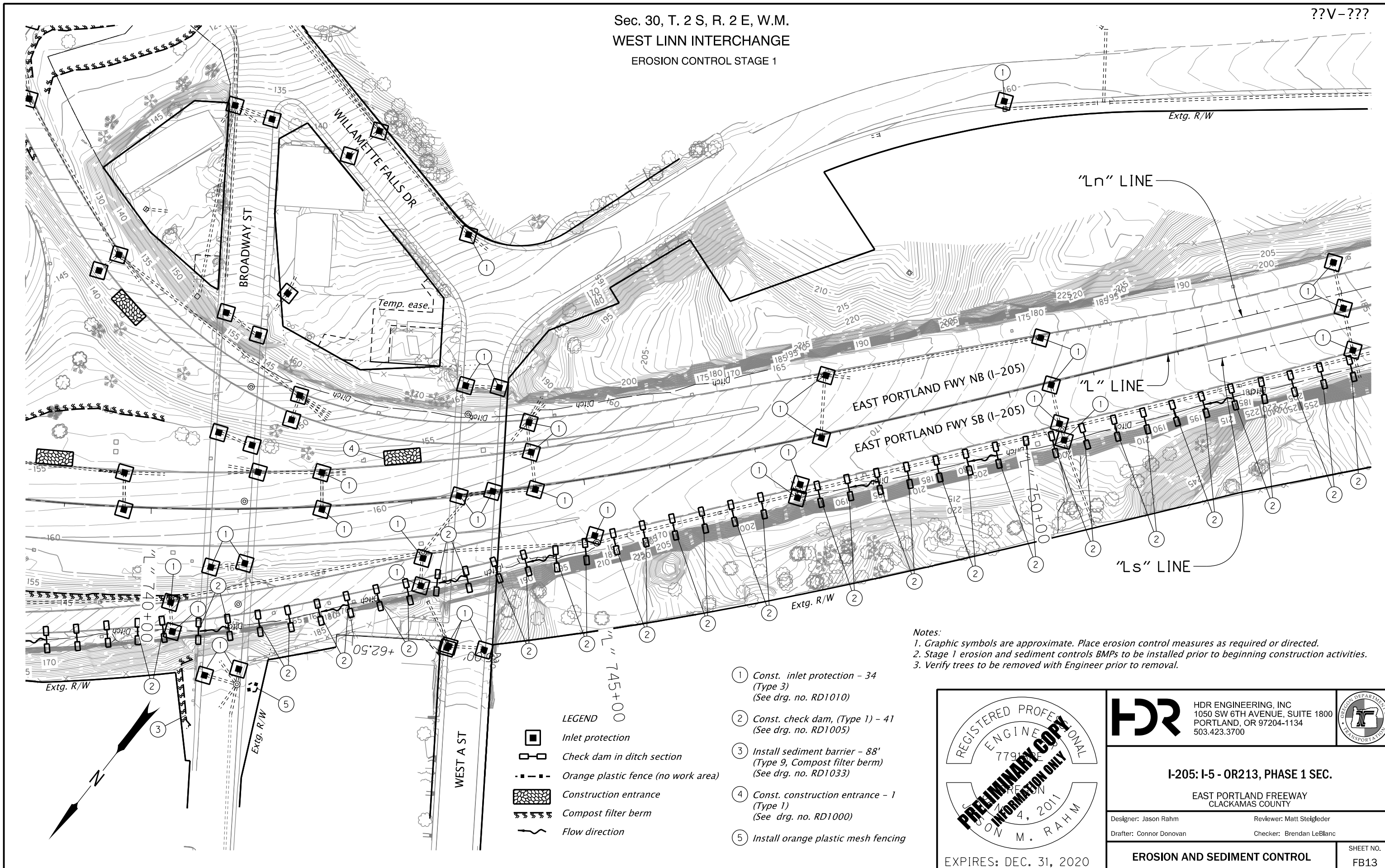
Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL

SHEET NO.
FB12

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 1

??V-???



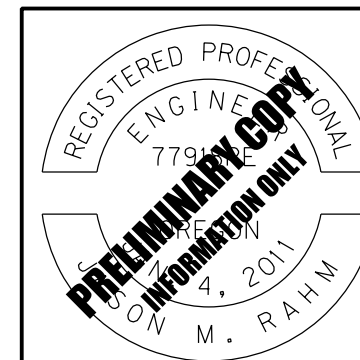
Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
3. Verify trees to be removed with Engineer prior to removal.

LEGEND

- Inlet protection
- Check dam in ditch section
- Orange plastic fence (no work area)
- Construction entrance
- Compost filter berm
- Flow direction

- 1 Const. inlet protection - 34 (Type 3) (See drg. no. RD1010)
- 2 Const. check dam, (Type 1) - 41 (See drg. no. RD1005)
- 3 Install sediment barrier - 88' (Type 9, Compost filter berm) (See drg. no. RD1033)
- 4 Const. construction entrance - 1 (Type 1) (See drg. no. RD1000)
- 5 Install orange plastic mesh fencing

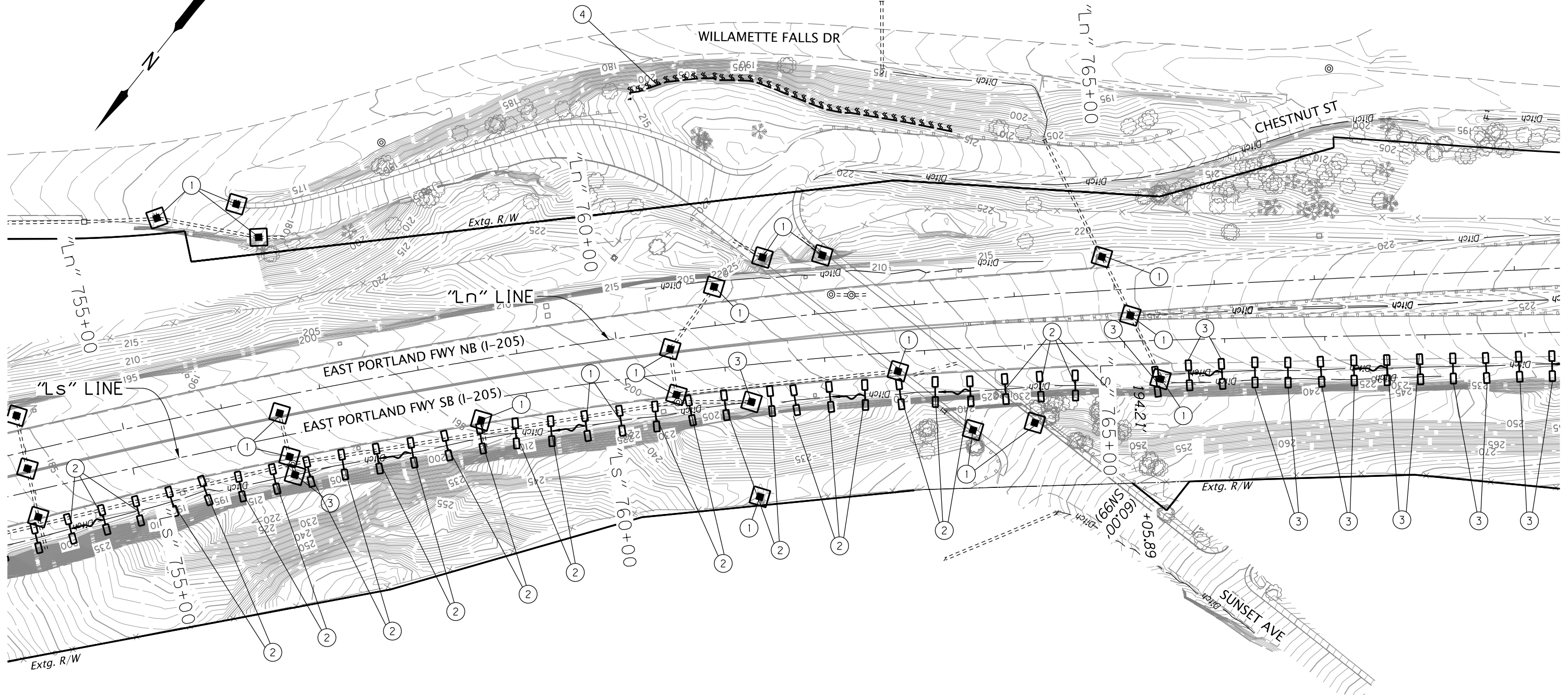


HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB13
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EROSION CONTROL STAGE 1



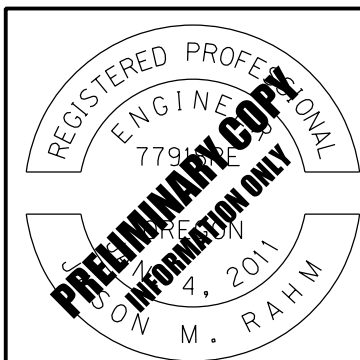
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- ② Const. check dam, (Type 1) - 31 (See drg. no. RD1005)
- ③ Const. check dam, (Type 6) - 13 (See drg. no. RD1006)
- ④ Install sediment barrier - 339' (Type 9, Compost filter berm) (See drg. no. RD1033)

LEGEND

- Inlet protection
- Check dam in ditch section
- Compost filter berm
- Flow direction

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
3. Verify trees to be removed with Engineer prior to removal.



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HDR HDR ENGINEERING, INC
1050 SW 6TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
Drafter: Connor Donovan Checker: Brendan LeBlanc

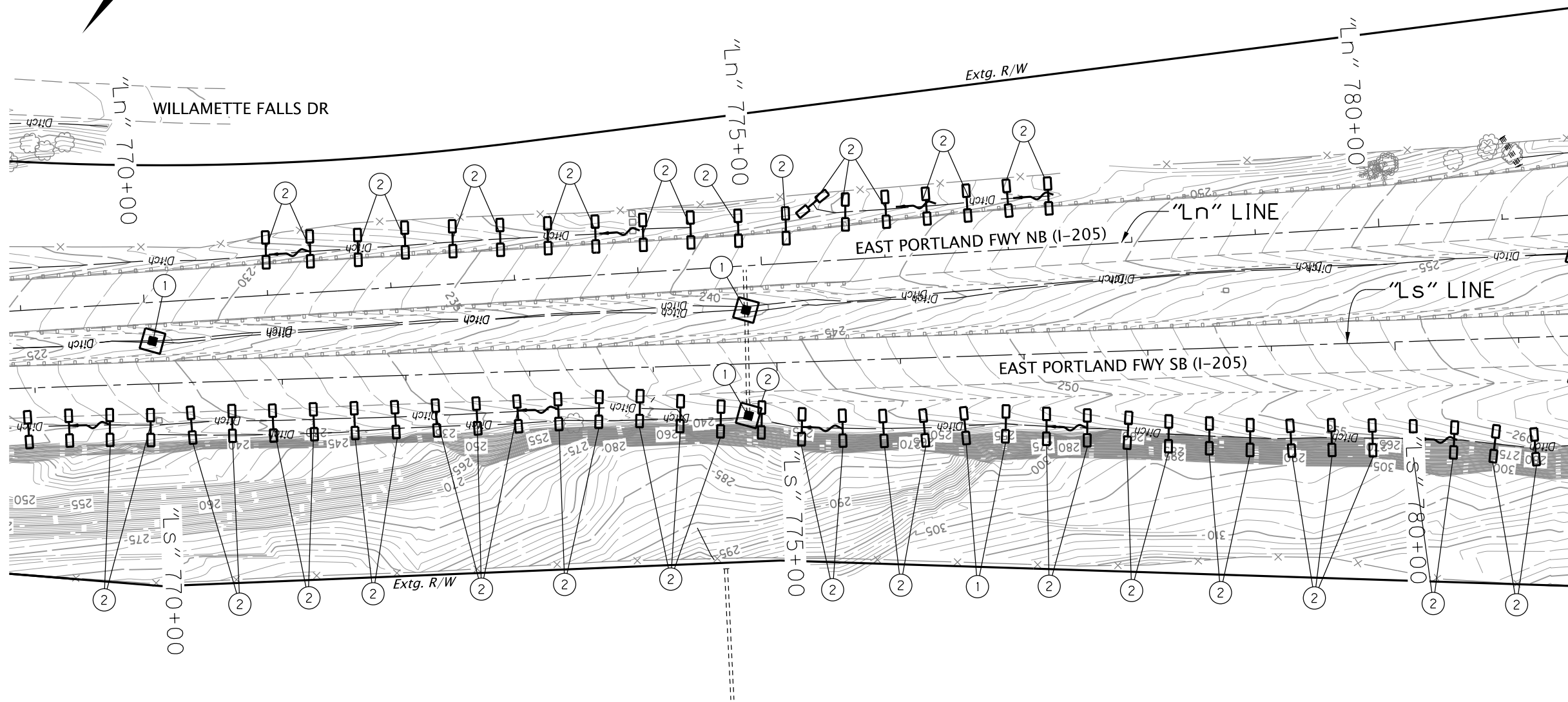
EROSION AND SEDIMENT CONTROL SHEET NO. FB14

Sec. 31, T. 2 S, R 2 E & Sec. 36, T. 2 S, R. 1 E, W.M.




EROSION CONTROL STAGE 1

??V-???

- ① Const. check dam, (Type 6) - 55
(See drg. no. RD1006)
- ② Const. inlet protection - 3
(Type 3)
(See drg. no. RD1010)



LEGEND

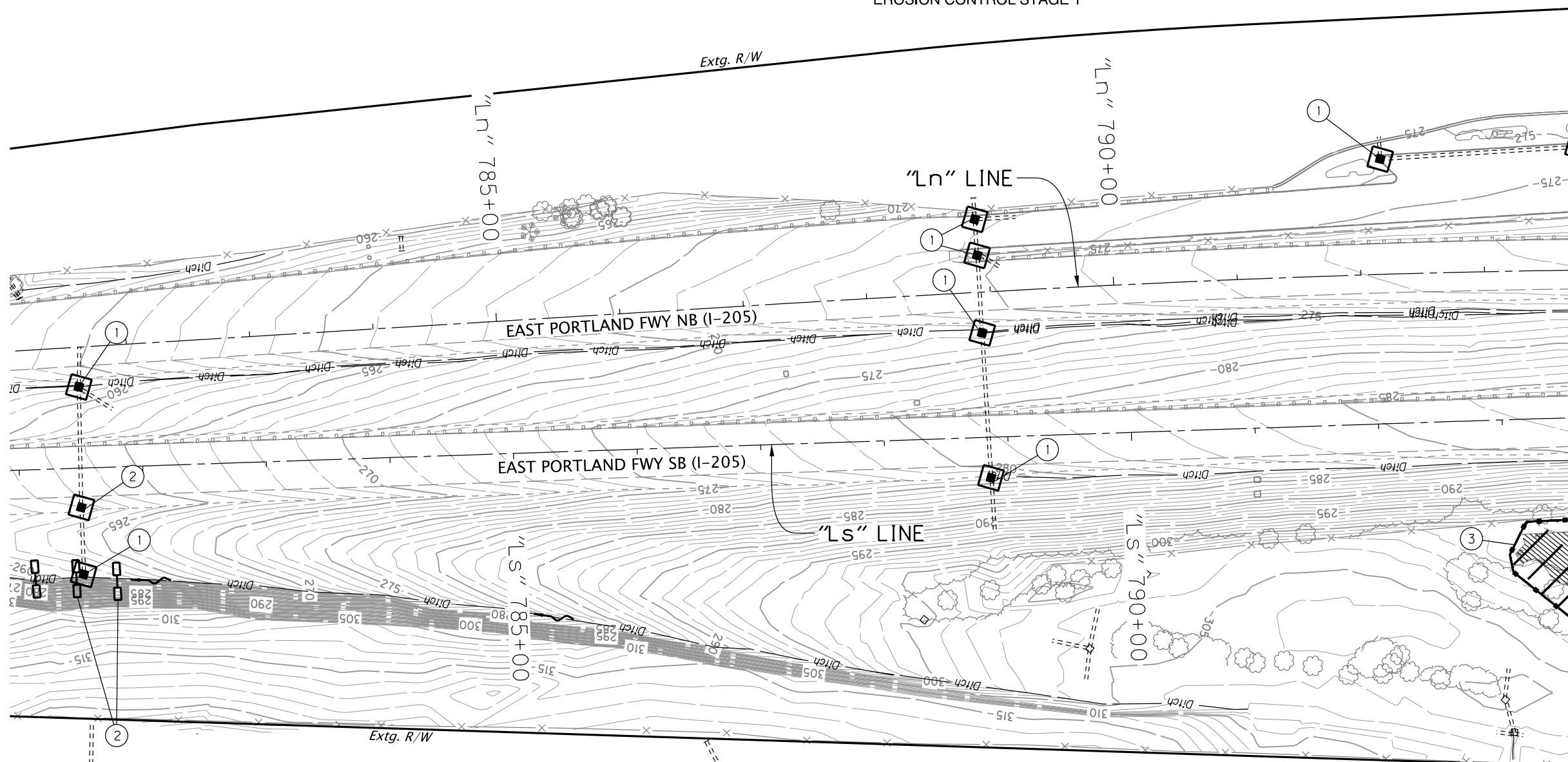
-  Inlet protection
-  Check dam in ditch section
-  Flow direction

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.

REGISTERED PROFESSIONAL
ENGINEER
779142
M. RAHM
JUL 4, 2011
EXPIRES: DEC. 31, 2020

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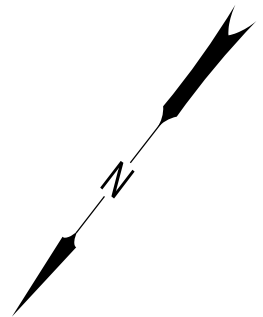
 HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	 OREGON DEPARTMENT OF TRANSPORTATION
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB15	



- ① Const. inlet protection - 8 (Type 3) (See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 2 (See drg. no. RD1006)
- ③ Install orange plastic mesh fencing

LEGEND

- Inlet protection
- Check dam in ditch section
- Flow direction
- Orange plastic fence (no work area)
- Wetland
- Compost filter berm
- No Work Access



Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.

REGISTERED PROFESSIONAL ENGINEER
 7791
 M. RAHM
 APR 4, 2011
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HDR HDR ENGINEERING, INC
 1050 SW 6TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

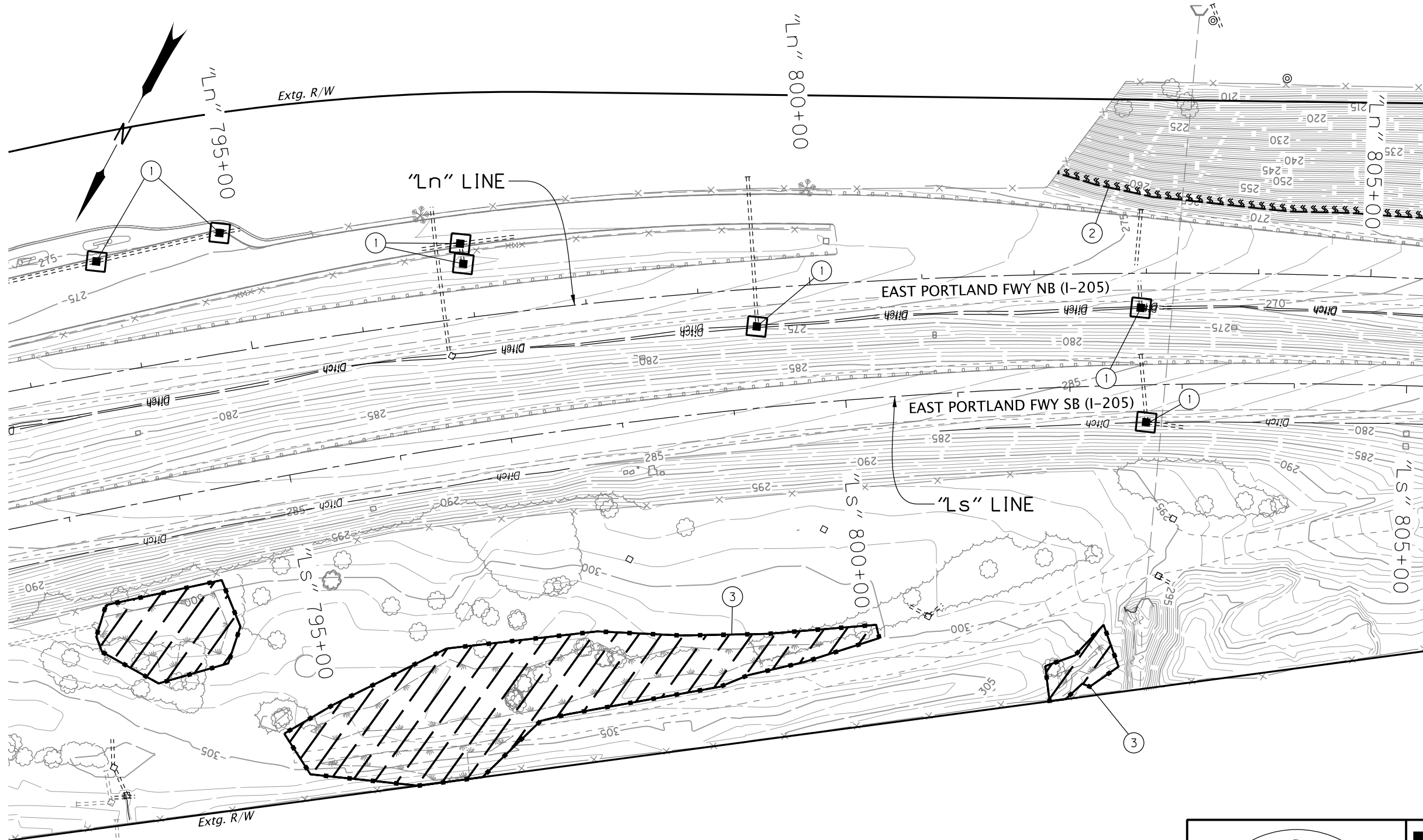
Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB16

Sec. 36, T. 2 S, R. 1 E, W.M.

EROSION CONTROL STAGE 1

??V-???



- ① Const. inlet protection - 7 (Type 3) (See drg. no. RD1010)
- ② Install sediment barrier - 4,993' (Type 9, Compost filter berm) (See drg. no. RD1033)
- ③ Install orange plastic mesh fencing

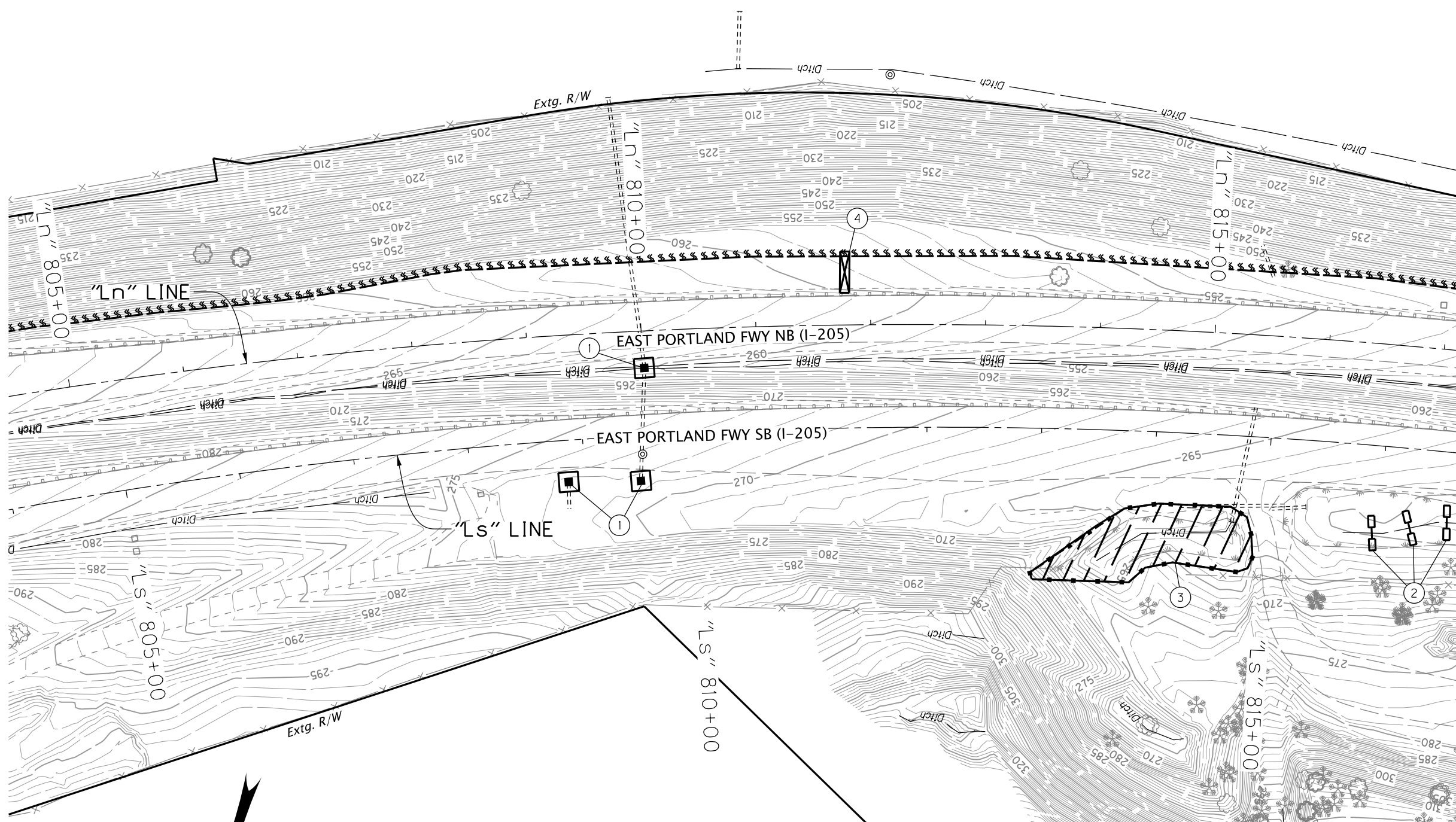
LEGEND

- Inlet protection
- Check dam in ditch section
- Compost filter berm
- Flow direction
- Orange plastic fence (no work area)
- Wetland
- No Work Access

Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.



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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB17
EROSION AND SEDIMENT CONTROL		



- ① Const. inlet protection - 3
(Type 3)
(See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 3
(See drg. no. RD1006)
- ③ Install orange plastic mesh fencing
- ④ Const. temp. sediment trap
(See drg. no. RD1065)

LEGEND

- Inlet protection
- Check dam in ditch section
- Compost filter berm
- Flow direction
- Orange plastic fence (no work area)
- Sediment trap
- Wetland
- No Work Access
- Regulated Work Access

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
3. Verify trees to be removed with Engineer prior to removal.
4. Size temporary sediment trap to match proposed water quality swale. See HA series for permanent feature size.

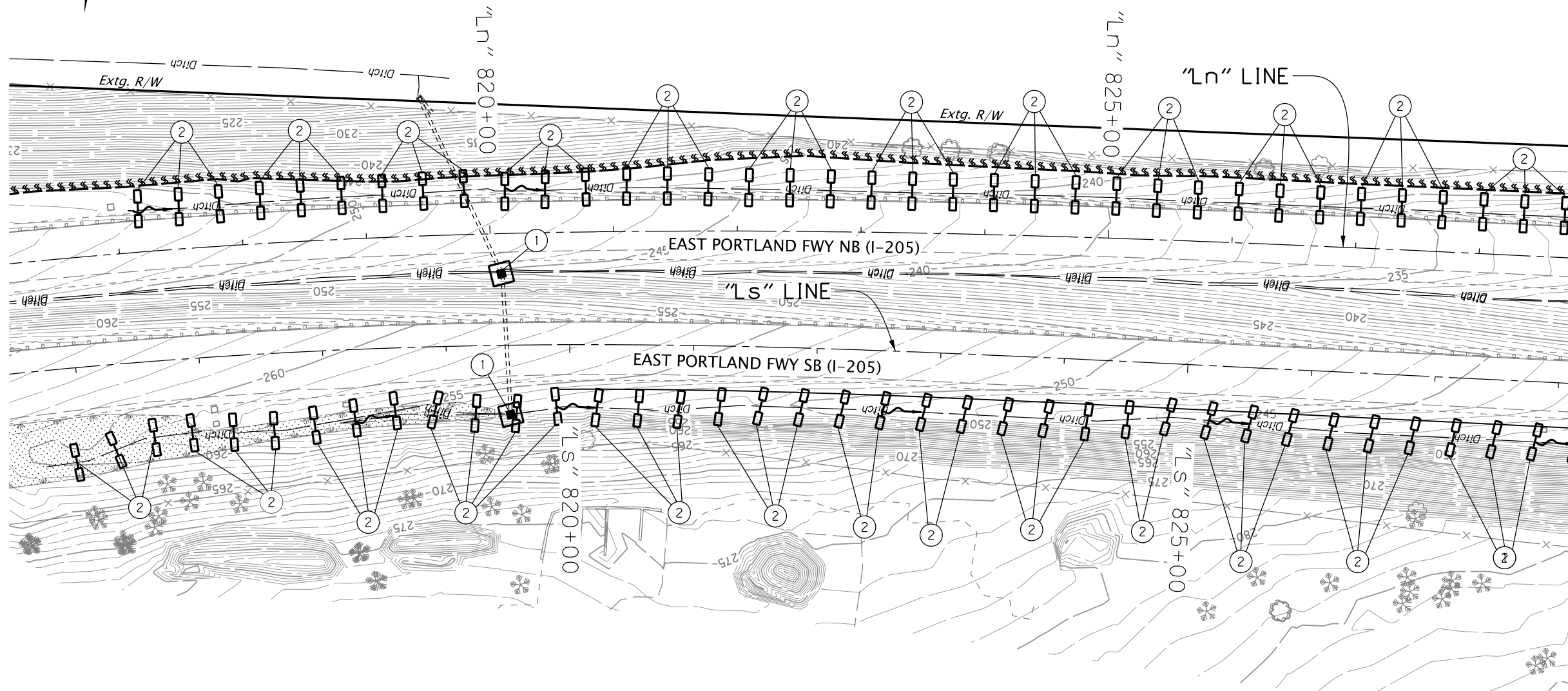
REGISTERED PROFESSIONAL
ENGINEER
779124
JASON M. RAHM
NOV 4, 2011
EXPIRES: DEC. 31, 2020

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I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB18	



- ① Const. inlet protection - 2
(Type 3)
(See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 73
(See drg. no. RD1006)



LEGEND

- Inlet protection
- Check dam in ditch section
- Compost filter berm
- Flow direction

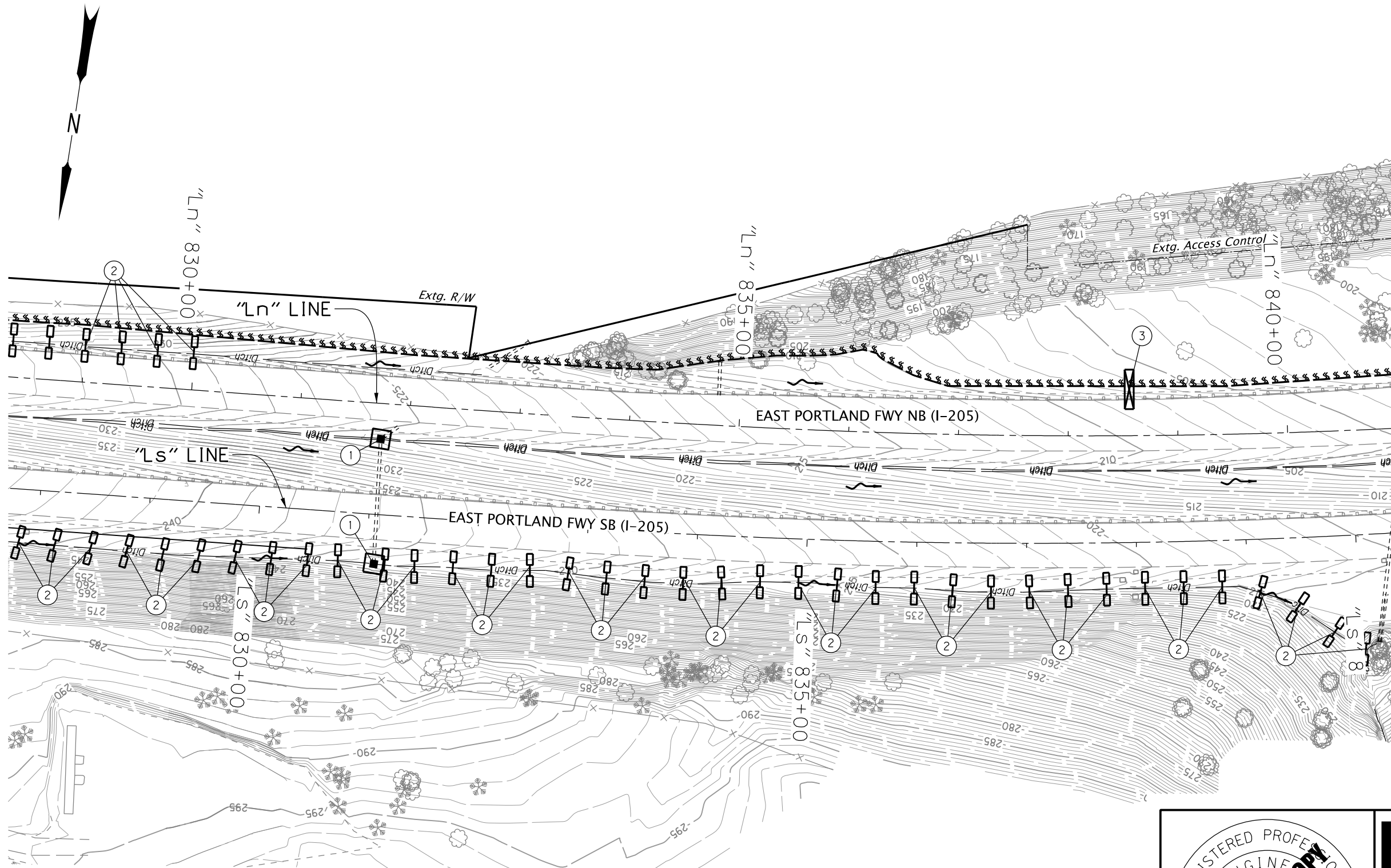
Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.



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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB19	

- ① Const. inlet protection - 2
(Type 3)
(See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 41
(See drg. no. RD1006)
- ③ Const. temp. sediment trap
(See drg. no. RD1065)



LEGEND

- Inlet protection
- Check dam in ditch section
- Compost filter berm
- Sediment trap
- Flow direction

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.
 4. Size temporary sediment trap to match proposed water quality swale. See HA series for permanent feature size.

REGISTERED PROFESSIONAL ENGINEER
 7791 SE
 M. RAHM
 APR 4, 2011
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 503.423.3700

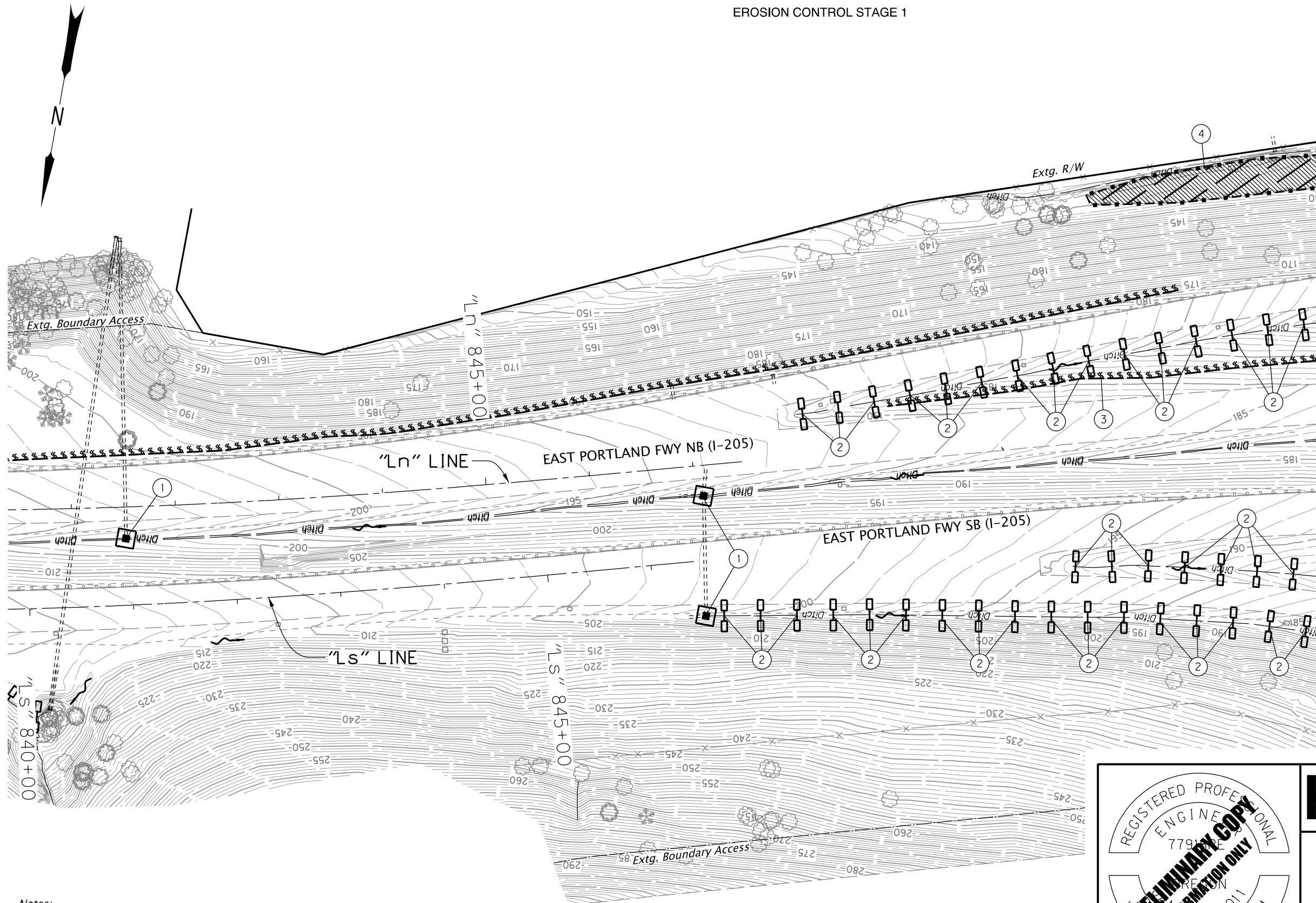
I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB20

Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 1

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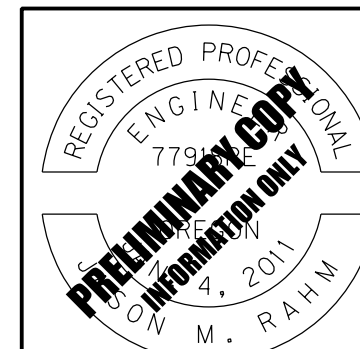


- ① Const. inlet protection - 3
(Type 3)
(See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 39
(See drg. no. RD1006)
- ③ Install sediment barrier - 1,202'
(Type 9, Compost filter berm)
(See drg. no. RD1033)
- ④ Install orange plastic mesh fencing

LEGEND

-  Inlet protection
-  Compost filter berm
-  Check dam in ditch section
-  Flow direction
-  No work zone
-  Wetland
-  Ordinary High Water
-  No Work Access

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.



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HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

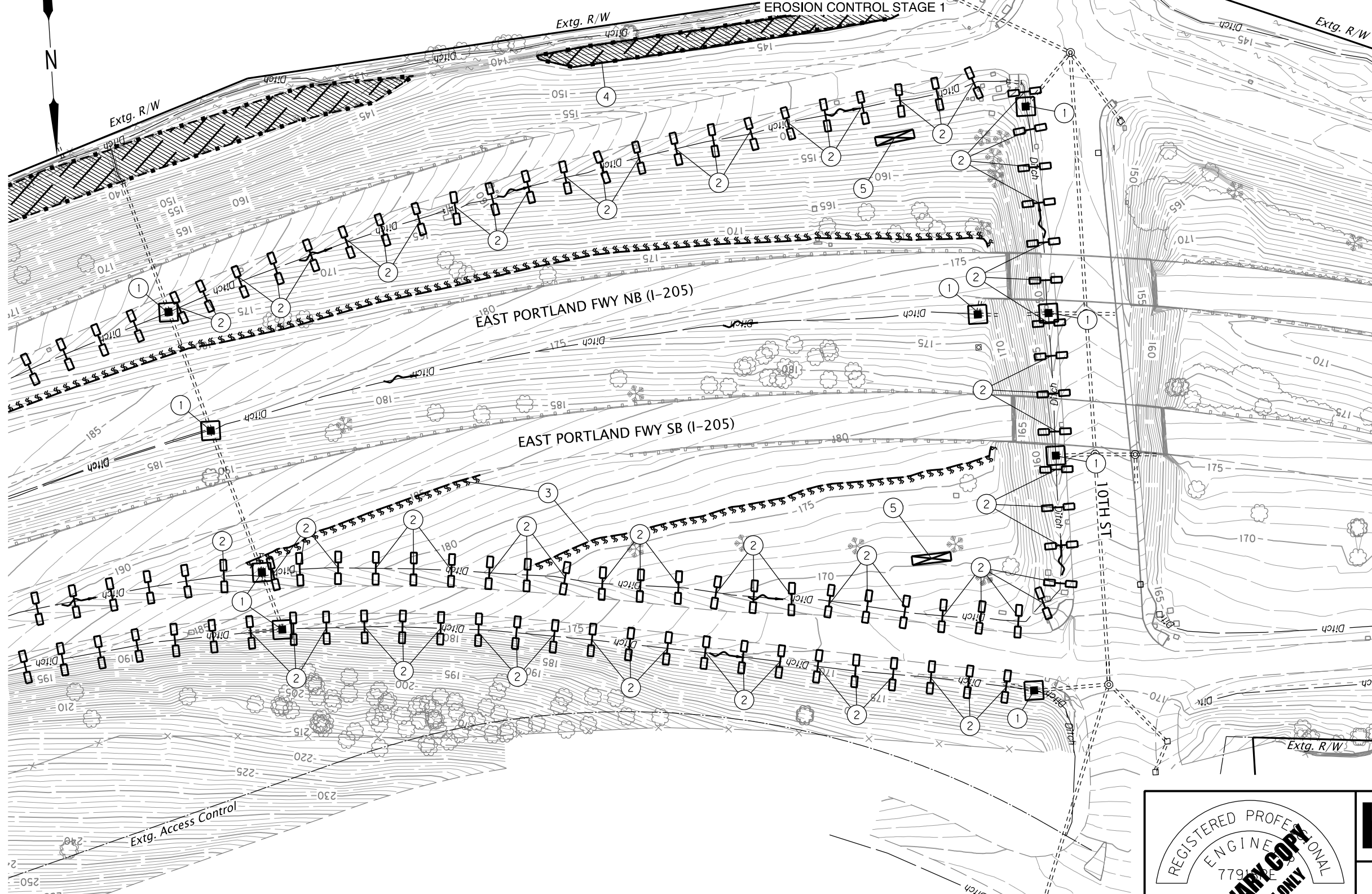
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB21
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Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE

??V-???

EROSION CONTROL STAGE 1

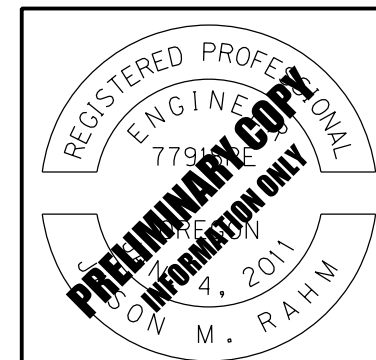


- 1 Const. inlet protection - 9 (Type 3) (See drg. no. RD1010)
- 2 Const. check dam, (Type 6) - 81 (See drg. no. RD1006)
- 3 Install sediment barrier - 676' (Type 9, Compost filter berm) (See drg. no. RD1033)
- 4 Install orange plastic mesh fencing
- 5 Const. temp. sediment trap (See drg. no. RD1065)

LEGEND

- Inlet protection
- Compost filter berm
- Check dam in ditch section
- Sediment trap
- Flow direction
- Wetland
- Ordinary High Water
- No Work Access
- No work zone

Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 1 erosion and sediment controls BMPs to be installed prior to beginning construction activities.
 3. Verify trees to be removed with Engineer prior to removal.



EXPIRES: DEC. 31, 2020

	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

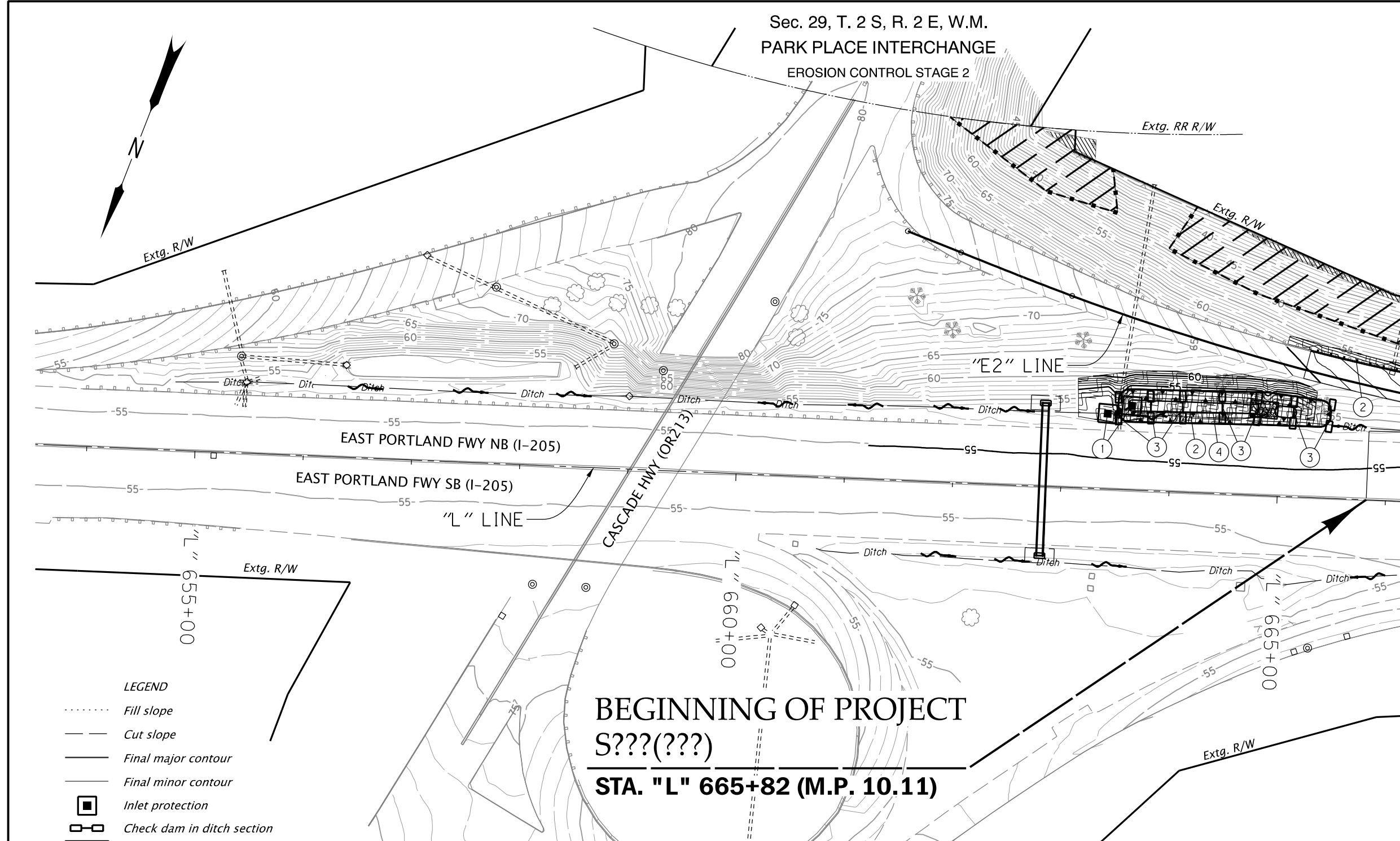
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB22
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Sec. 29, T. 2 S, R. 2 E, W.M.
PARK PLACE INTERCHANGE

EROSION CONTROL STAGE 2

- ① Const. inlet protection, (Type 3) - 2
(See drg. no. RD1010)
- ② Install compost erosion blanket - 1,553 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 7
(See drg. no. RD1006)
- ④ Install matting - 625 sq. yd.
(Flexible channel liner, Type F)
(See drg. no. RD1055)



LEGEND

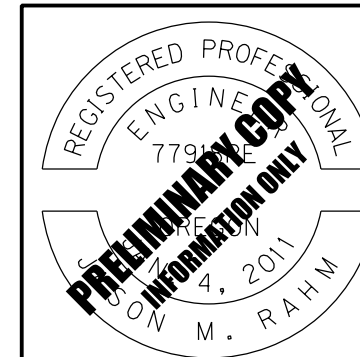
- Fill slope
- Cut slope
- Final major contour
- - - Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ No work zone
- · - · - Orange plastic fence (no work area, from Stage 1)
- ▨ Matting, Type F
- ~ Wetland
- ~ - Ordinary High Water
- ~ Compost blanket
- ~ Flow direction
- ▨ No Work Access

BEGINNING OF PROJECT
S???(???)

STA. "L" 665+82 (M.P. 10.11)

Notes:

- 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
- 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
- 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
- 4. See LA sheet series for permanent planting and seeding.
- 5. See HA sheets for water quality features and seeding.
- 6. Verify trees to be removed with Engineer prior to removal.

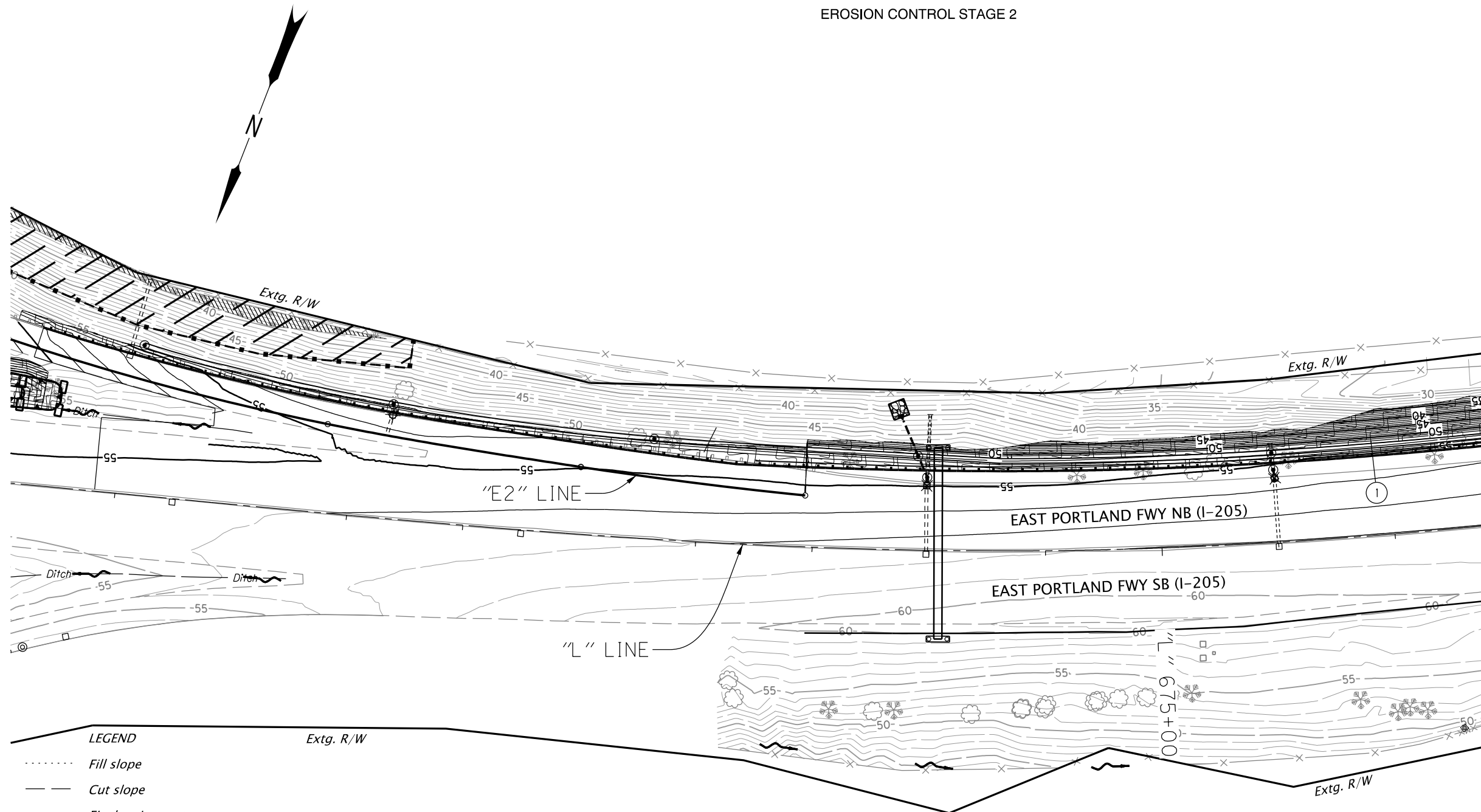


HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB23
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① Install compost erosion blanket - 7,538 sq. yd.
(For details, see sht. FB01)

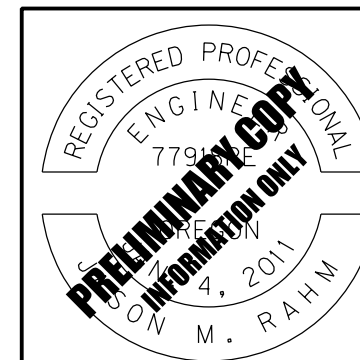


LEGEND

- Extg. R/W
- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ No work zone
- - - Orange plastic fence (no work area, from Stage 1)
- ▨ Matting, Type F
- ~ Wetland
- ~ Ordinary High Water
- ▨ Compost blanket
- ~ Flow direction
- ▨ No Work Access

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
4. See LA sheet series for permanent planting and seeding.
5. See HA sheets for water quality features and seeding.
6. Verify trees to be removed with Engineer prior to removal.



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

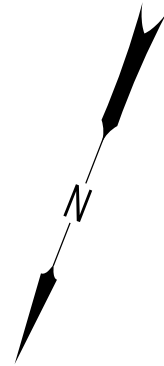
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB24
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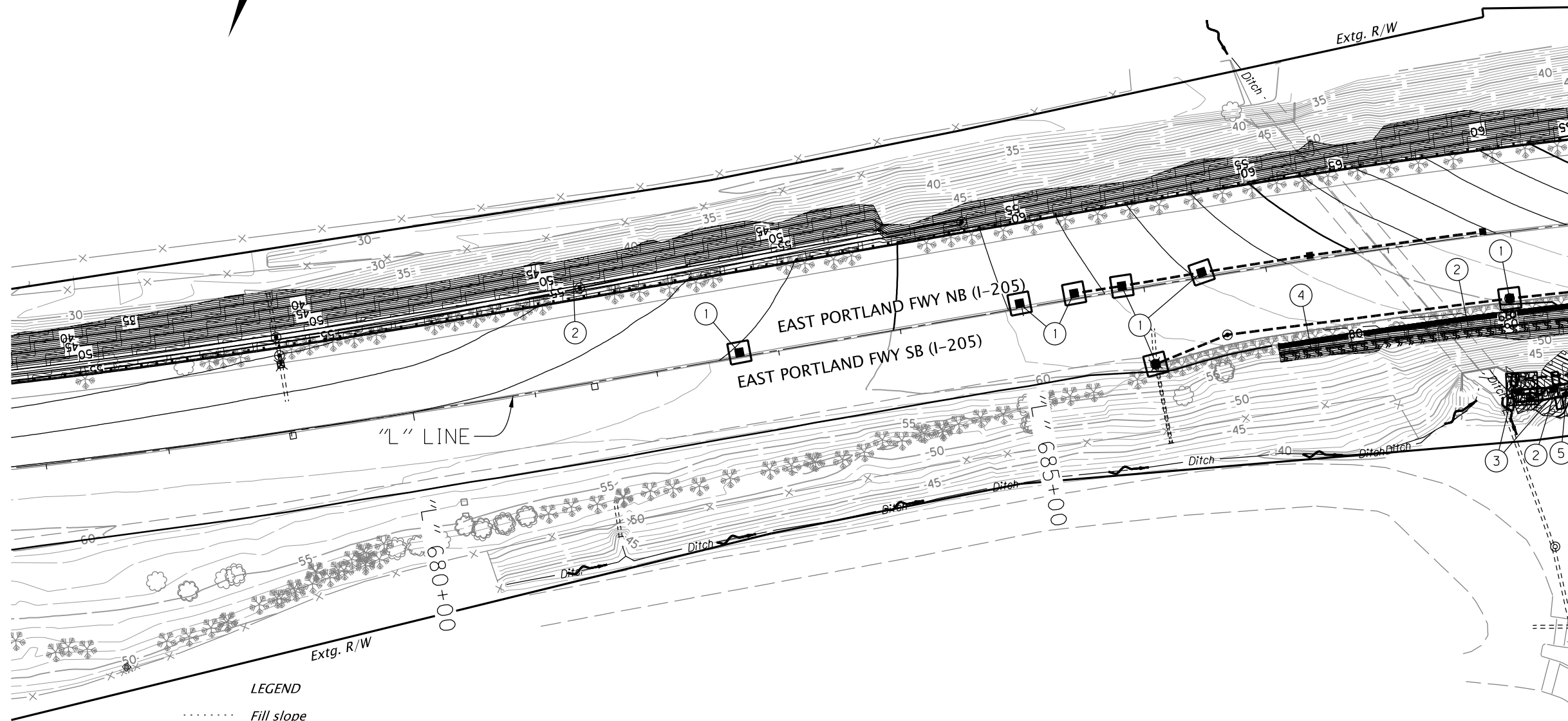
Sec. 30, T. 2 S, R. 2 E, W.M.

EROSION CONTROL STAGE 2

??V-???



- ① Const. inlet protection, (Type 3) - 7
(See drg. no. RD1010)
- ② Install compost erosion blanket - 2,600 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 2
(See drg. no. RD1006)
- ④ Install sediment barrier, (Type 9) - 836'
(See drg. no. RD1033)
- ⑤ Install matting - 281 sq. yd.
(Flexible channel liner, Type F)
(See drg. no. RD1055)

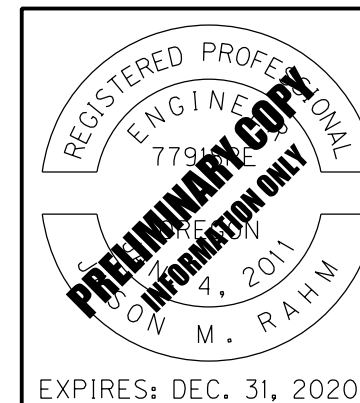


LEGEND

- Fill slope
- Cut slope
- Final major contour
- - - Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ Matting, Type F
- - - Orange plastic fence (no work area, from Stage 1)
- ▧ Compost blanket
- ~ Flow direction

Notes:

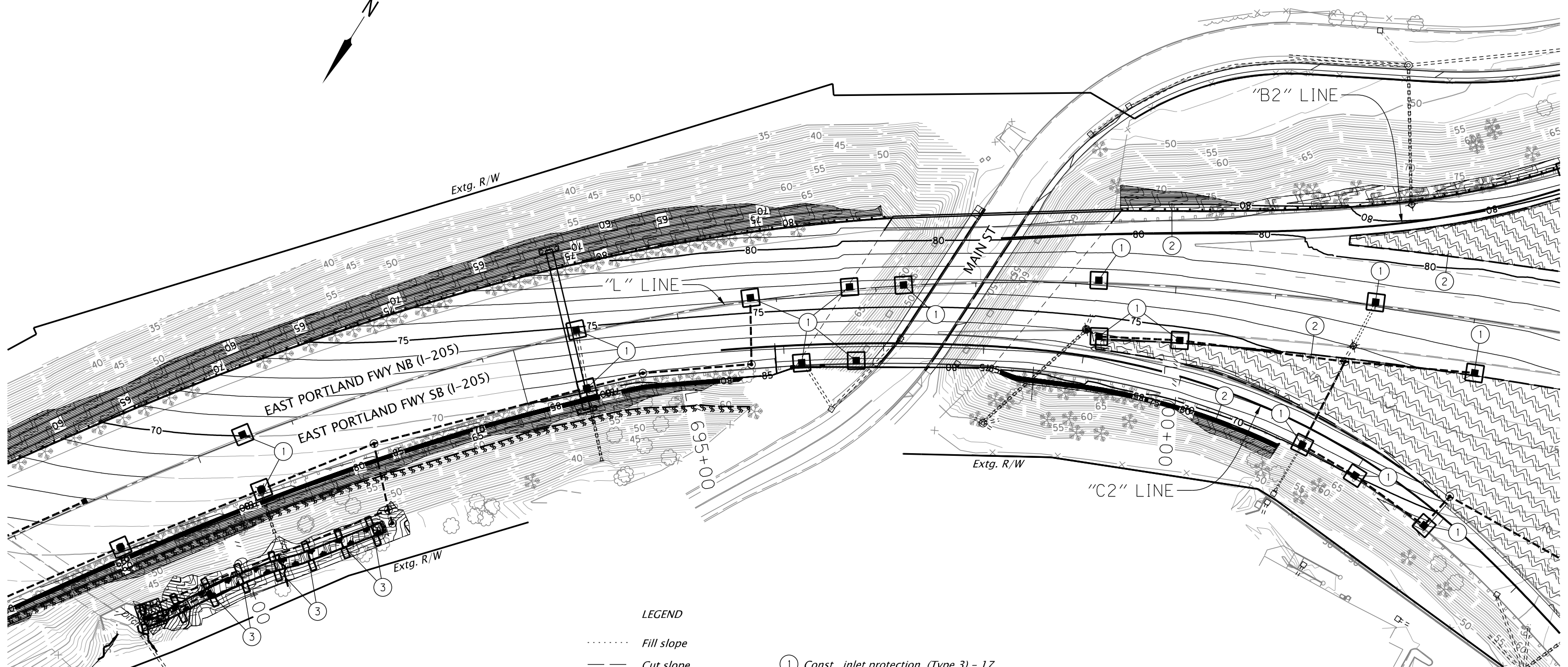
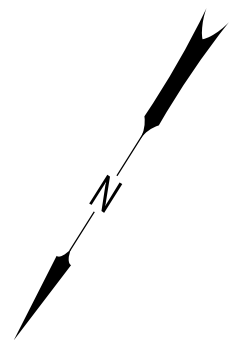
- 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
- 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
- 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
- 4. See LA sheet series for permanent planting and seeding.
- 5. See HA sheets for water quality features and seeding.
- 6. Verify trees to be removed with Engineer prior to removal.



HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB25
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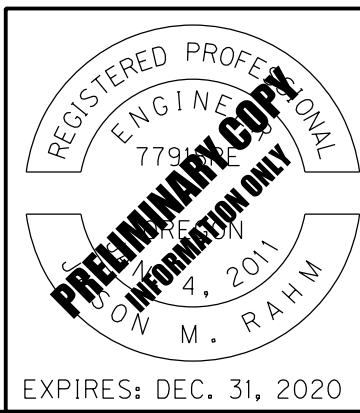


LEGEND

- Fill slope
- Cut slope
- Inlet protection
- Final major contour
- Final minor contour
- ▨ Compost blanket
- ▩ Matting, Type F
- Flow direction
- ▬▬▬ Compost filter berm

- ① Const. inlet protection, (Type 3) - 17
(See drg. no. RD1010)
- ② Install compost erosion blanket - 16,945 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 6
(See drg. no. RD1006)

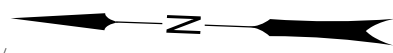
Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB26	

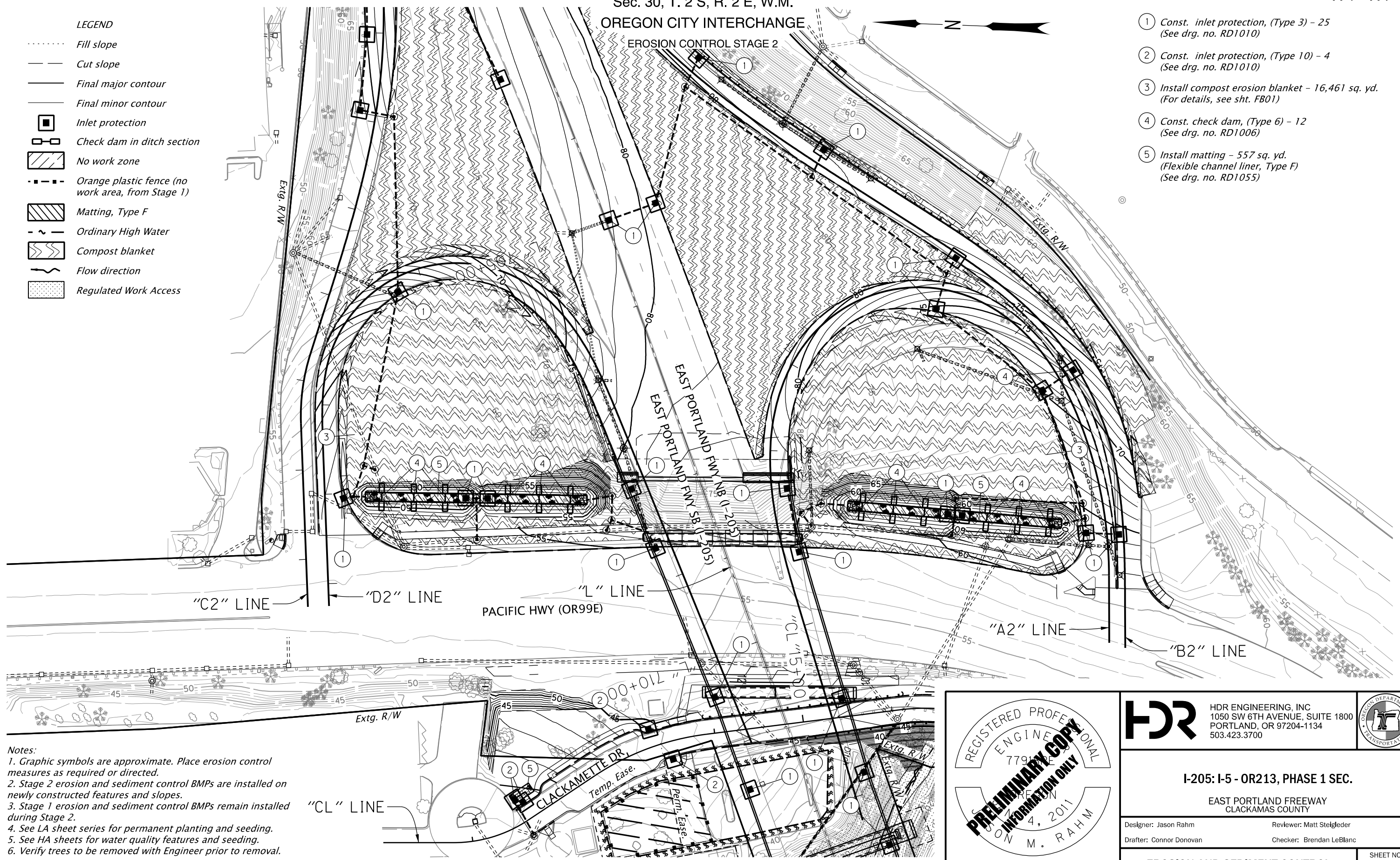
Sec. 30, T. 2 S, R. 2 E, W.M.
OREGON CITY INTERCHANGE
EROSION CONTROL STAGE 2



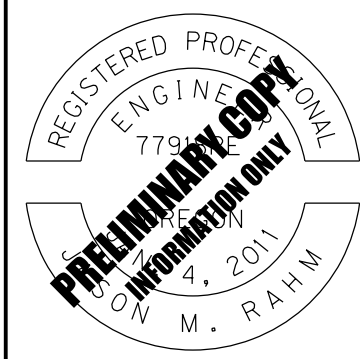
LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- Check dam in ditch section
- No work zone
- Orange plastic fence (no work area, from Stage 1)
- Matting, Type F
- Ordinary High Water
- Compost blanket
- Flow direction
- Regulated Work Access

- ① Const. inlet protection, (Type 3) - 25 (See drg. no. RD1010)
- ② Const. inlet protection, (Type 10) - 4 (See drg. no. RD1010)
- ③ Install compost erosion blanket - 16,461 sq. yd. (For details, see sht. FB01)
- ④ Const. check dam, (Type 6) - 12 (See drg. no. RD1006)
- ⑤ Install matting - 557 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)



- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



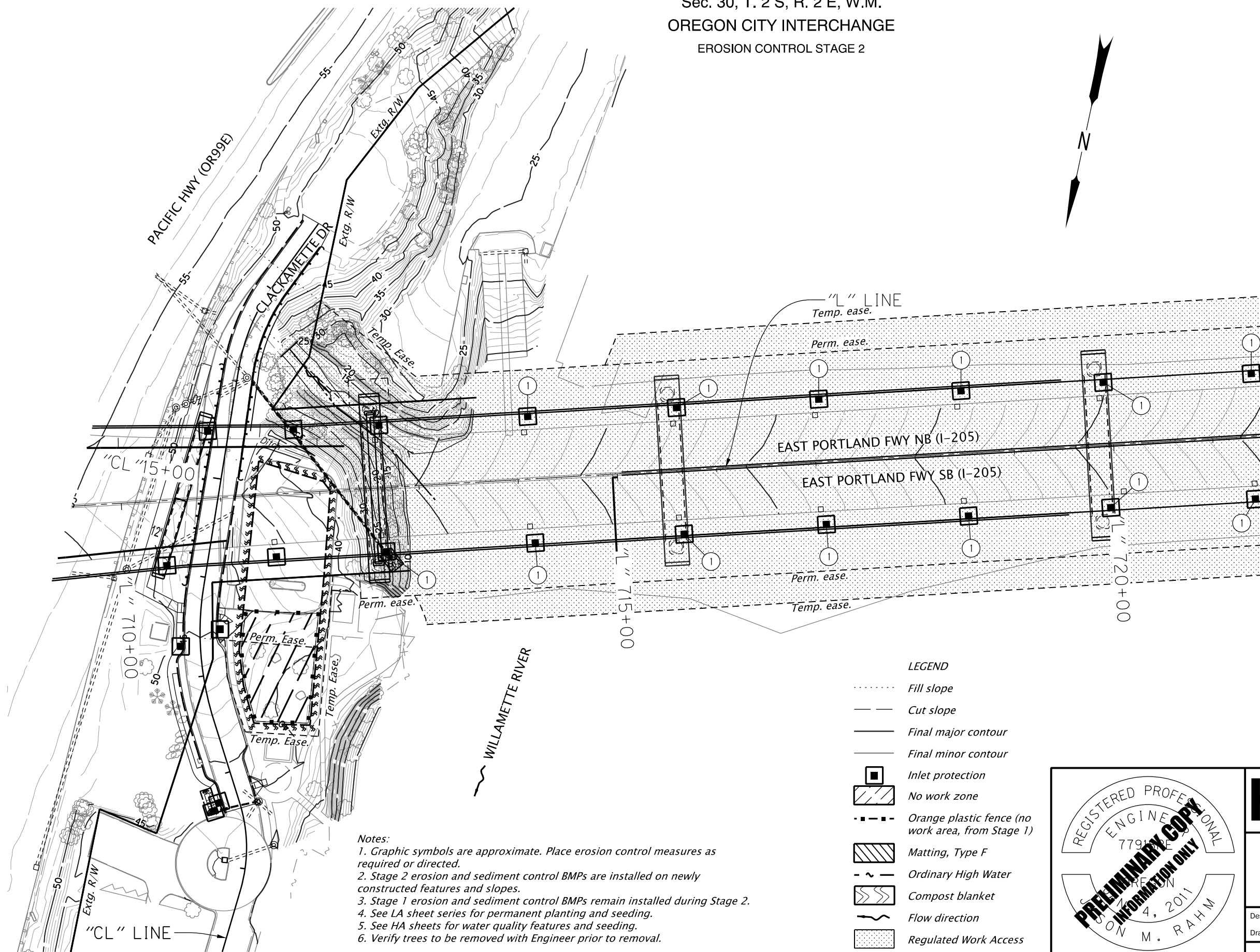
HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700

I-205: I-5 - OR213, PHASE 1 SEC.	
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB27	

Sec. 30, T. 2 S, R. 2 E, W.M.
OREGON CITY INTERCHANGE
 EROSION CONTROL STAGE 2

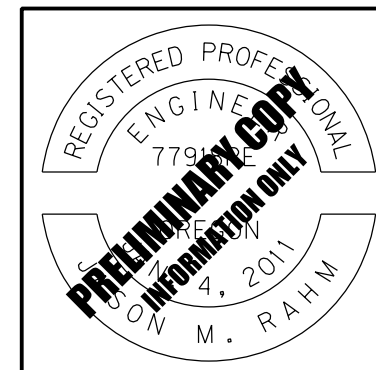
??V-???

① Const. inlet protection - 13
 (Type 3)
 (See drg. no. RD1010)



- Notes:**
- Graphic symbols are approximate. Place erosion control measures as required or directed.
 - Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 - Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 - See LA sheet series for permanent planting and seeding.
 - See HA sheets for water quality features and seeding.
 - Verify trees to be removed with Engineer prior to removal.

- LEGEND**
- Fill slope
 - Cut slope
 - Final major contour
 - Final minor contour
 - Inlet protection
 - No work zone
 - Orange plastic fence (no work area, from Stage 1)
 - Matting, Type F
 - Ordinary High Water
 - Compost blanket
 - Flow direction
 - Regulated Work Access



EXPIRES: DEC. 31, 2020

	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

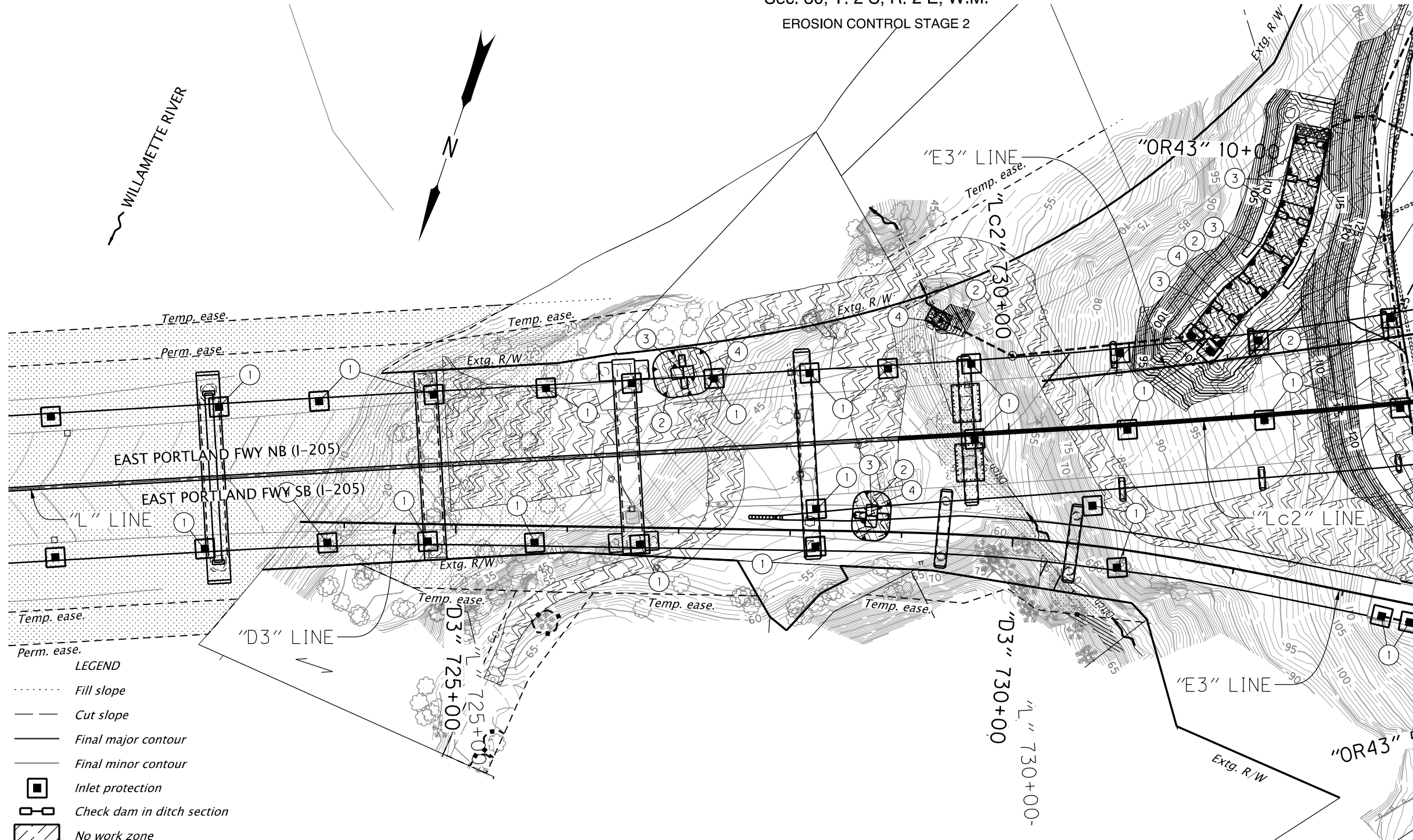
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB28
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Sec. 30, T. 2 S, R. 2 E, W.M.

EROSION CONTROL STAGE 2

??V-???

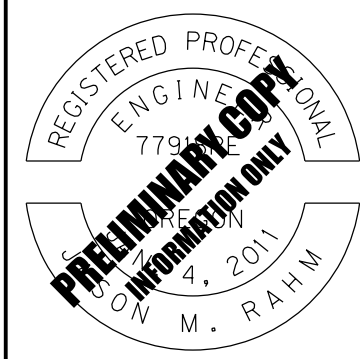


- 1 Const. inlet protection, (Type 3) - 29 (See drg. no. RD1010)
- 2 Install compost erosion blanket - 7,189 sq. yd. (For details, see sht. FB01)
- 3 Const. check dam, (Type 6) - 9 (See drg. no. RD1006)
- 4 Install matting - 1,156 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)

- LEGEND**
- Fill slope
 - Cut slope
 - Final major contour
 - Final minor contour
 - Inlet protection
 - Check dam in ditch section
 - ▨ No work zone
 - - - - Orange plastic fence (no work area, from Stage 1)
 - ▨ Matting, Type F
 - ~ - Ordinary High Water
 - Wetland
 - Compost blanket
 - Flow direction
 - Regulated Work Access
 - No Work Access

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
4. See LA sheet series for permanent planting and seeding.
5. See HA sheets for water quality features and seeding.
6. Verify trees to be removed with Engineer prior to removal.



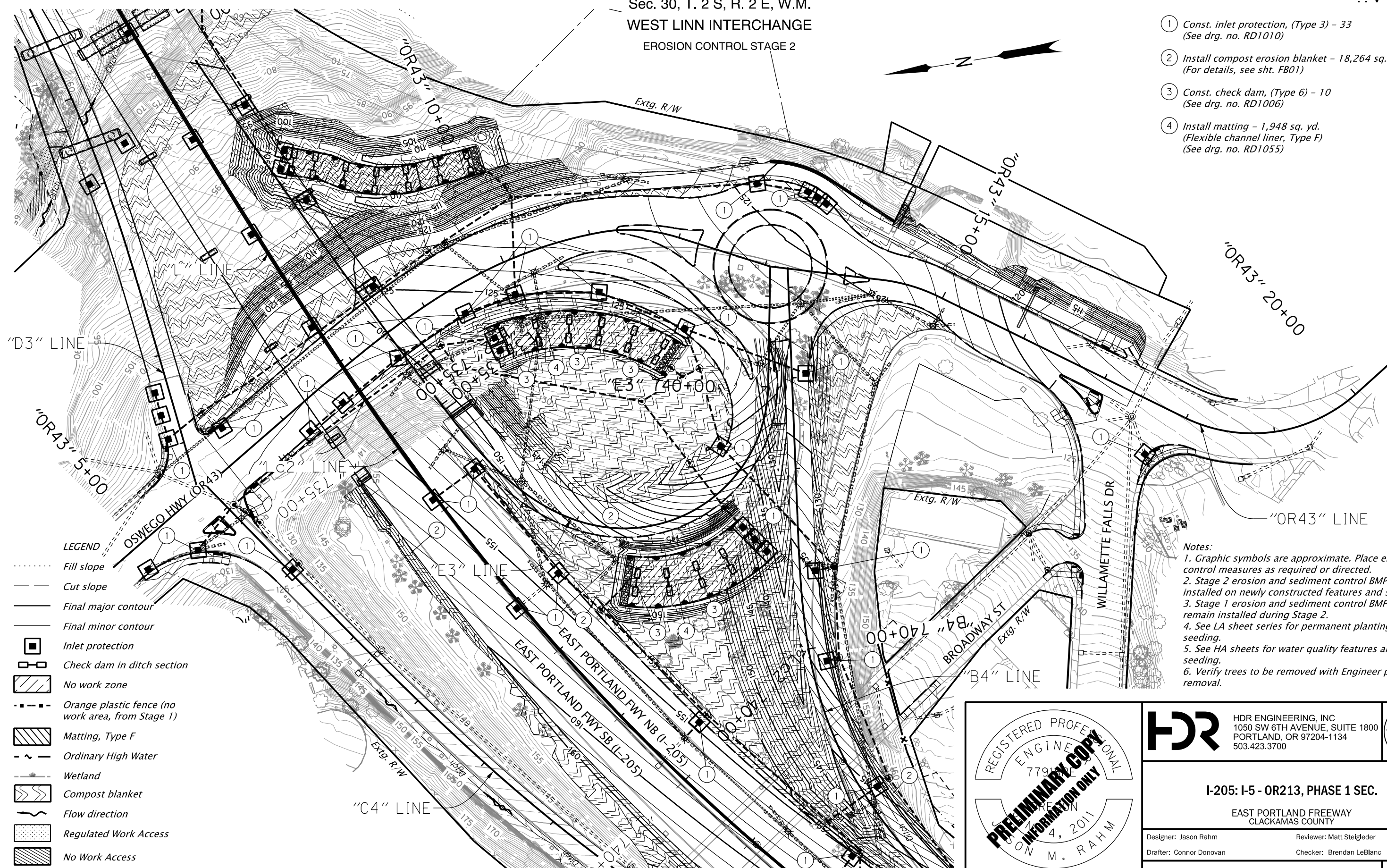
HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB29	

Sec. 30, T. 2 S, R. 2 E, W.M.
WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 2

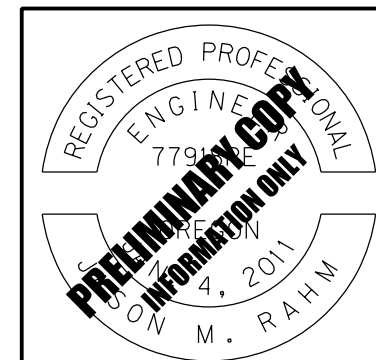
??V-???

- ① Const. inlet protection, (Type 3) - 33
(See drg. no. RD1010)
- ② Install compost erosion blanket - 18,264 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 10
(See drg. no. RD1006)
- ④ Install matting - 1,948 sq. yd.
(Flexible channel liner, Type F)
(See drg. no. RD1055)



- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.

- LEGEND
- Fill slope
 - Cut slope
 - Final major contour
 - - - Final minor contour
 - Inlet protection
 - Check dam in ditch section
 - ▨ No work zone
 - - - Orange plastic fence (no work area, from Stage 1)
 - ▨ Matting, Type F
 - ~ - Ordinary High Water
 - Wetland
 - Compost blanket
 - Flow direction
 - Regulated Work Access
 - No Work Access



HDR HDR ENGINEERING, INC
 1050 SW 6TH AVENUE, SUITE 1800
 PORTLAND, OR 97204-1134
 503.423.3700

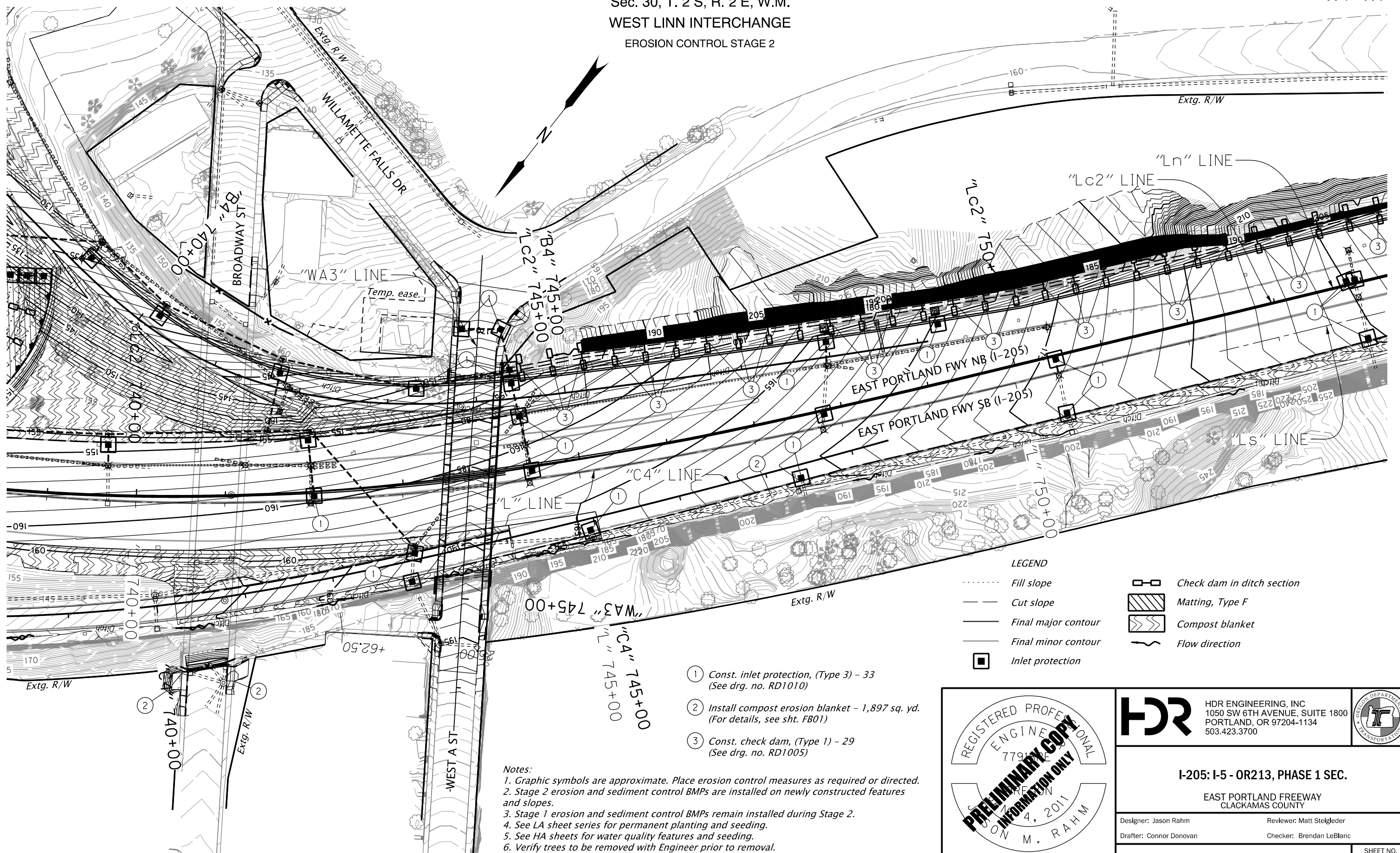
I-205: I-5 - OR213, PHASE 1 SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
 Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL SHEET NO. FB30

Sec. 30, T. 2 S, R. 2 E, W.M.
 WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 2

??V-???

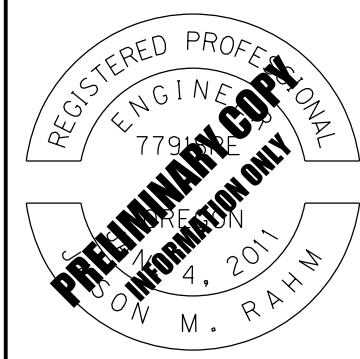


LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ Matting, Type F
- ▩ Compost blanket
- ~ Flow direction

- ① Const. inlet protection, (Type 3) - 33
(See drg. no. RD1010)
- ② Install compost erosion blanket - 1,897 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 1) - 29
(See drg. no. RD1005)

Notes:
 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



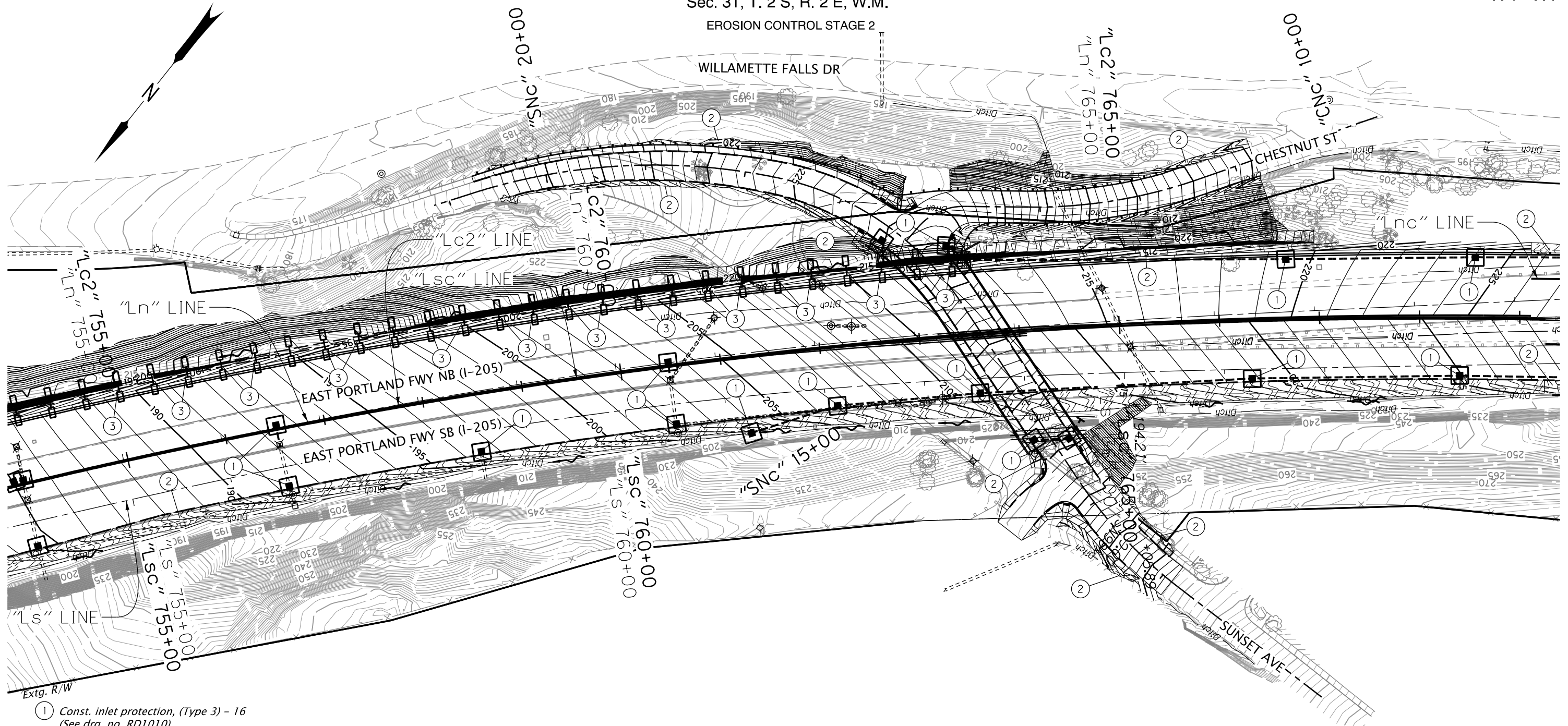
	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB31	

Sec. 31, T. 2 S, R. 2 E, W.M.

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EROSION CONTROL STAGE 2



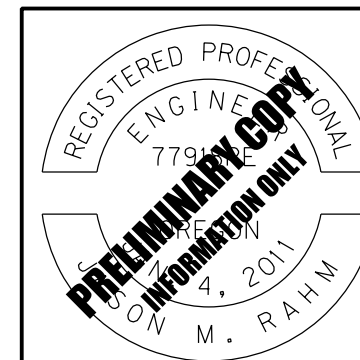
- ① Const. inlet protection, (Type 3) - 16
(See drg. no. RD1010)
- ② Install compost erosion blanket - 8,605 sq. yd.
(For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 24
(See drg. no. RD1006)

Notes:

1. Graphic symbols are approximate. Place erosion control measures as required or directed.
2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
4. See LA sheet series for permanent planting and seeding.
5. See HA sheets for water quality features and seeding.
6. Verify trees to be removed with Engineer prior to removal.

LEGEND

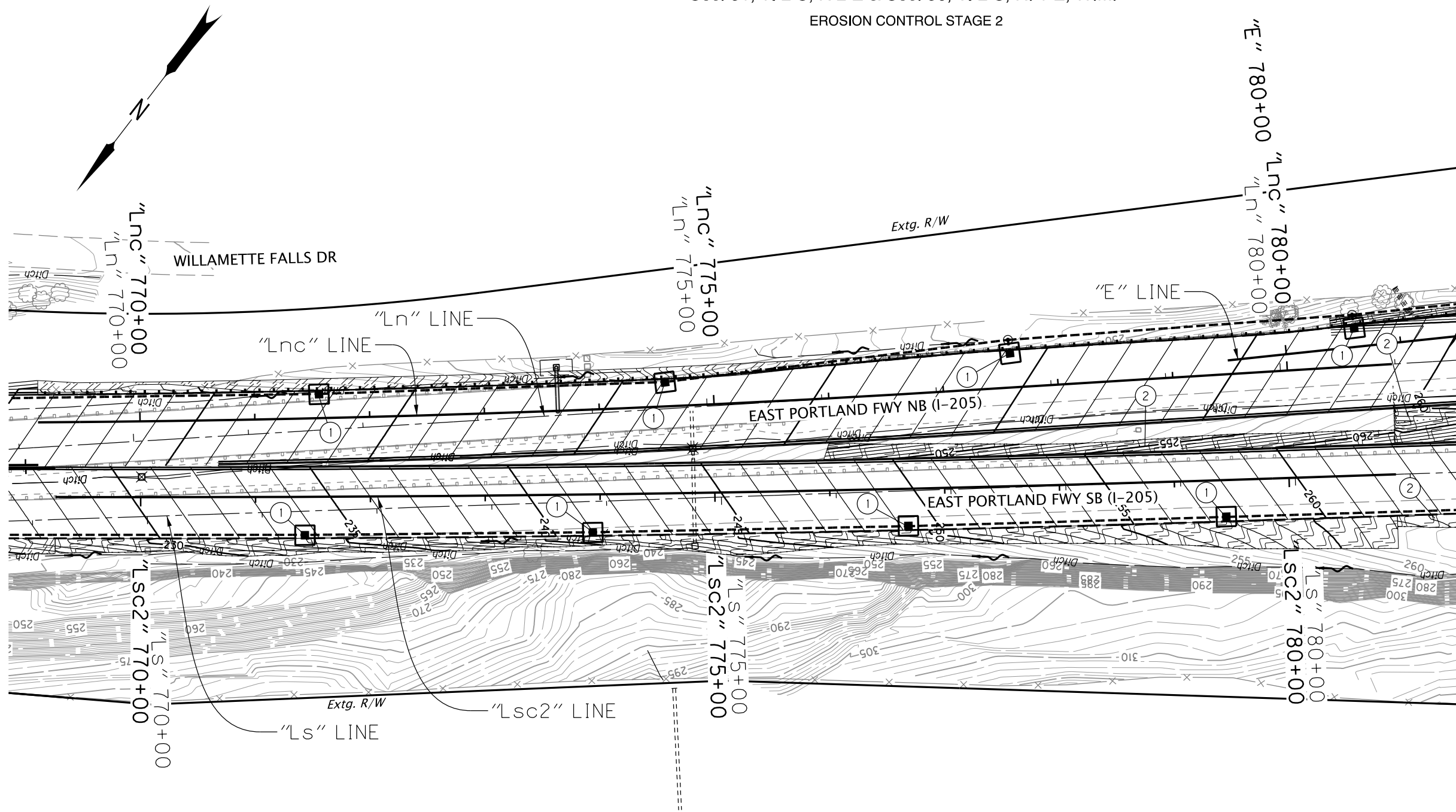
- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- Check dam in ditch section
- ▨ Compost blanket
- Flow direction



HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB32
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- ① Const. inlet protection, (Type 3) - 8 (See drg. no. RD1010)
- ② Install compost erosion blanket - 27,187 sq. yd. (For details, see sht. FB01)

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.

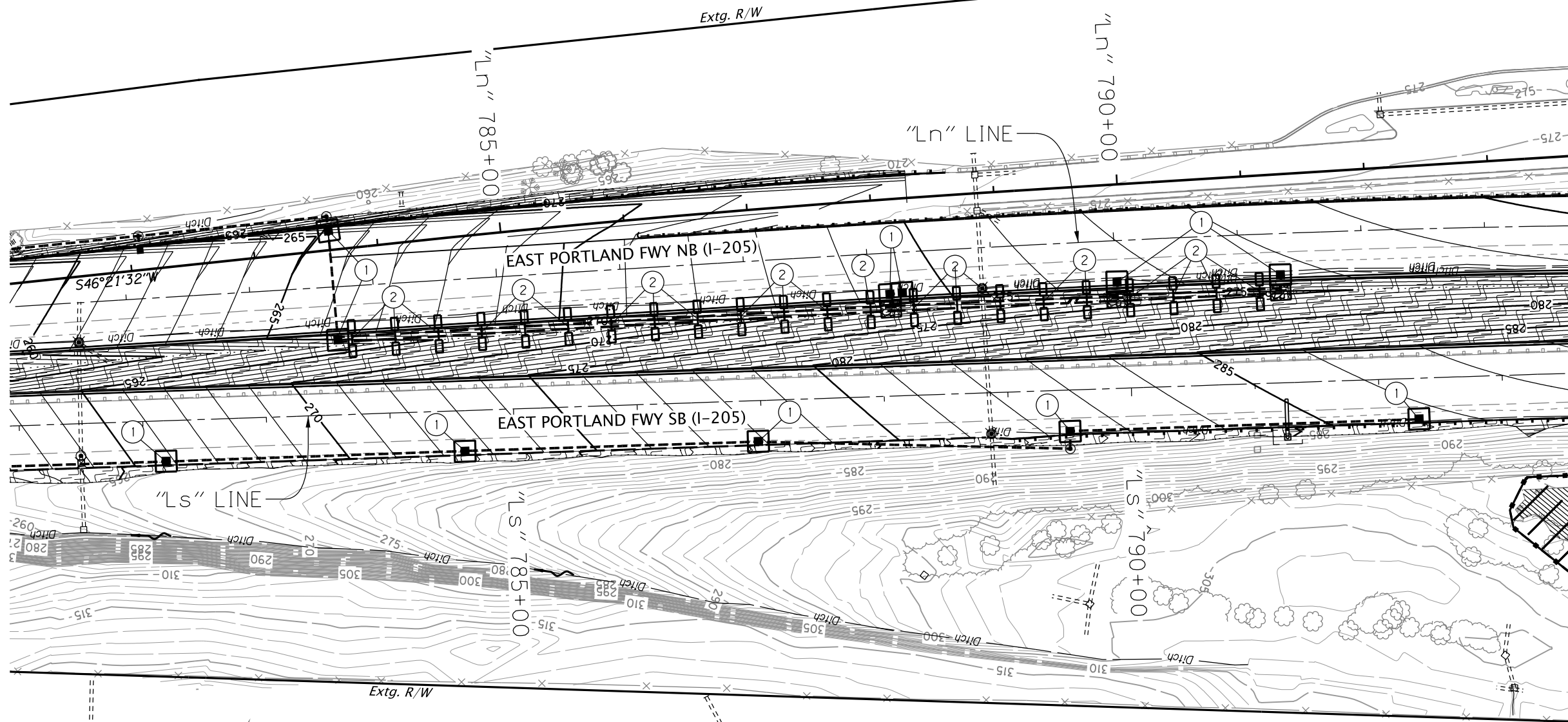
LEGEND

	Fill slope
	Cut slope
	Final major contour
	Final minor contour
	Inlet protection
	Check dam in ditch section
	Compost blanket
	Flow direction

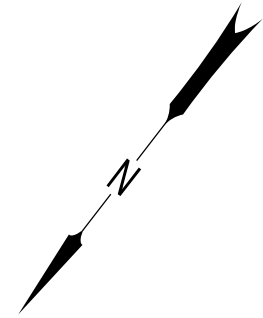


HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB33	



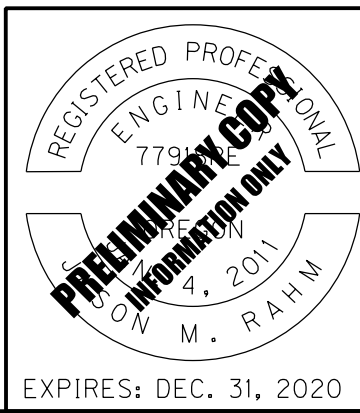
- ① Const. inlet protection - 11 (Type 3) (See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 22 (See drg. no. RD1006)



LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- No work zone
- Check dam in ditch section
- Orange plastic fence (no work area, from Stage 1)
- Compost blanket
- Flow direction
- No Work Access

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

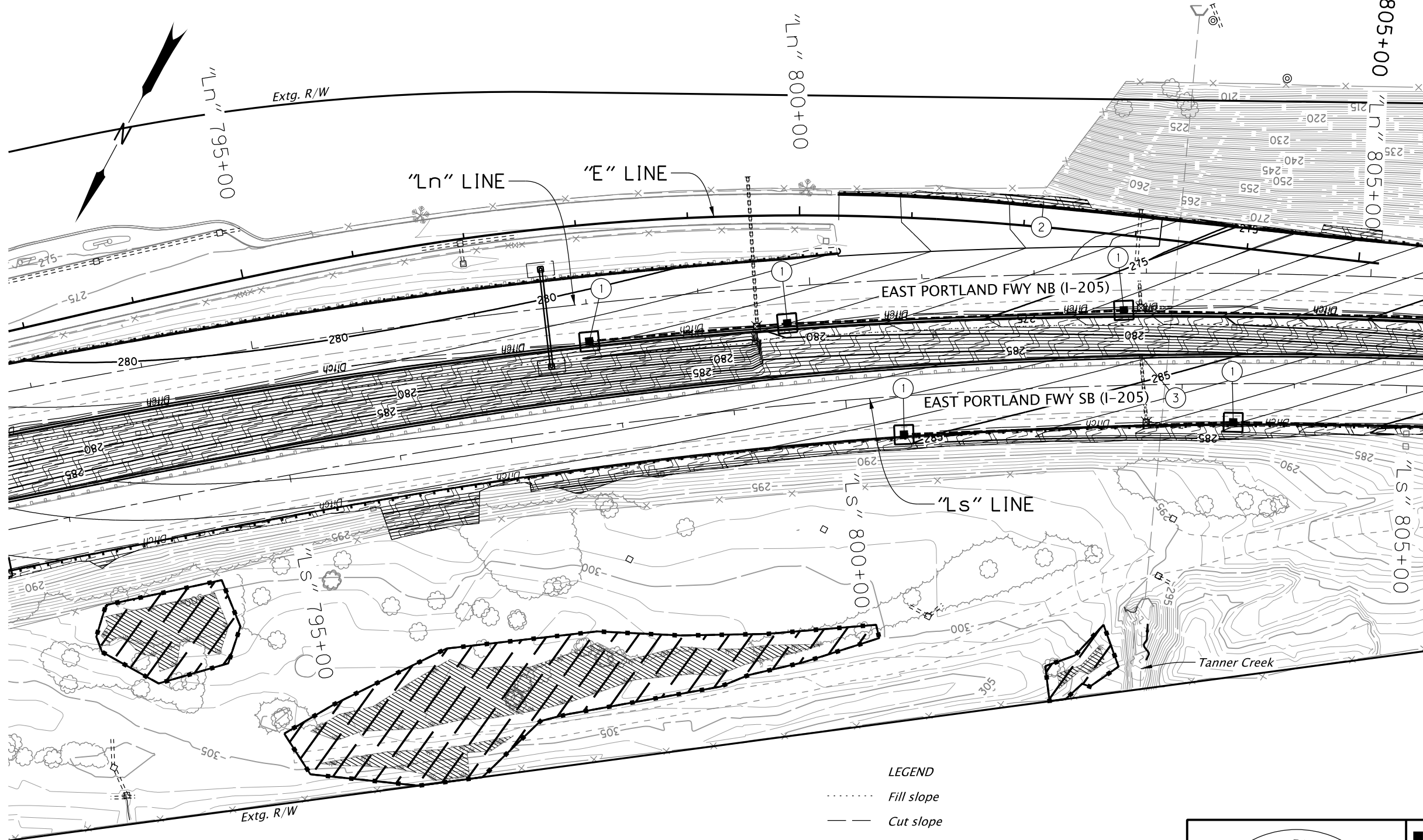
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL	SHEET NO. FB34
-------------------------------------	--------------------------

Sec. 36, T. 2 S, R. 1 E, W.M.

EROSION CONTROL STAGE 2

??V-???



- ① Const. inlet protection, (Type 3) - 5 (See drg. no. RD1010)
- ② Install compost erosion blanket - 257 sq. yd. (For details, see sht. FB01)
- ③ Const. temp. slope drain (See drg. no. RD1045)

LEGEND

- Fill slope
- Cut slope
- Final major contour
- - - Final minor contour
- Inlet protection
- ▨ No work zone
- · - · - Orange plastic fence (no work area, from Stage 1)
- ▧ Compost blanket
- Flow direction
- ▩ No Work Access

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

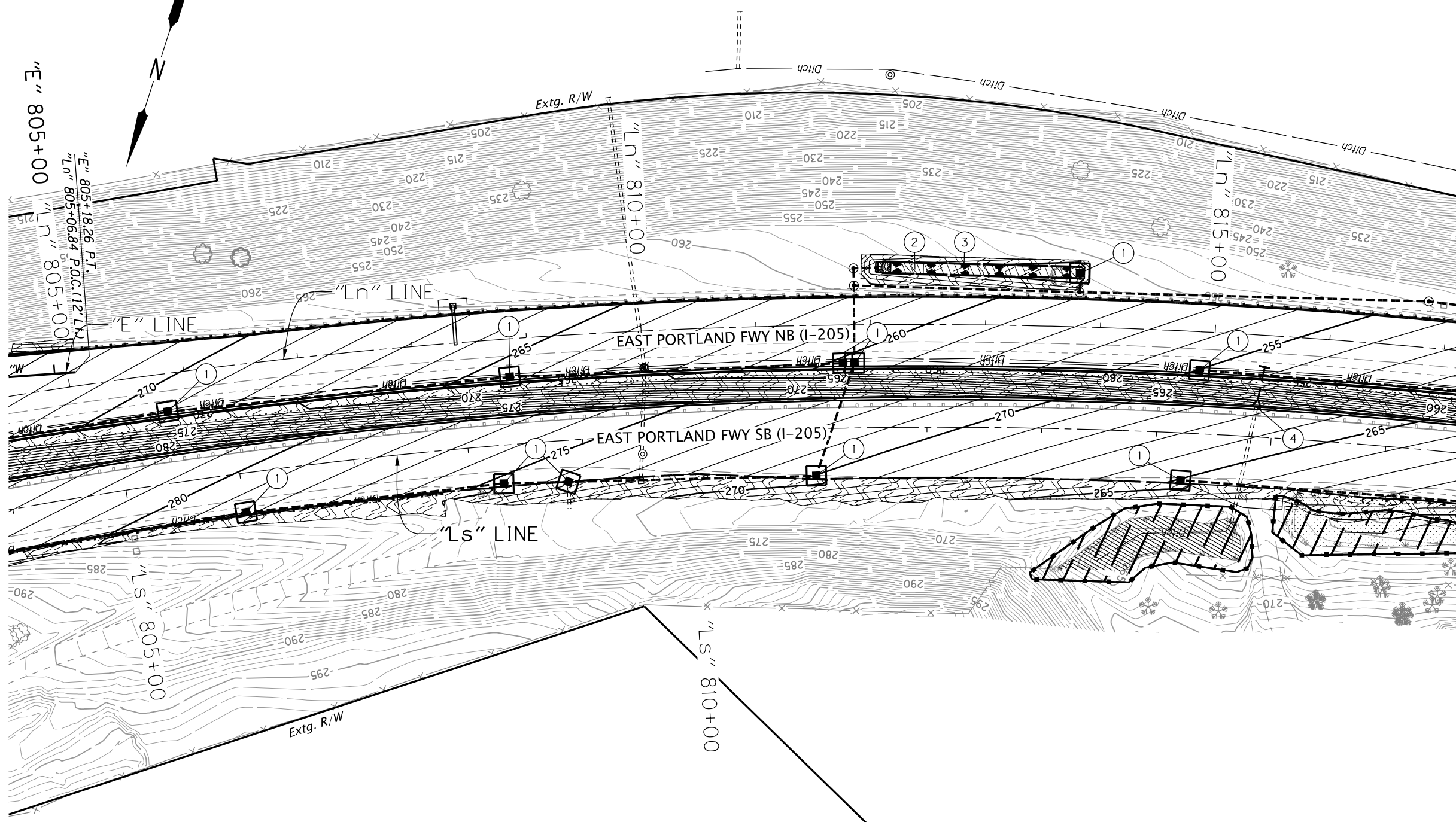
EROSION AND SEDIMENT CONTROL	SHEET NO. FB35
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Sec. 36, T. 2 S, R. 1 E, W.M.

EROSION CONTROL STAGE 2

??V-???

"E" 805+00
"Ln" 805+00
"E" 805+18.26 P.I.
"Ln" 805+06.84 P.O.C. (12' Lx)



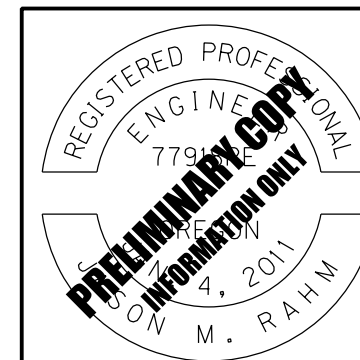
- ① Const. inlet protection - 11 (Type 3) (See drg. no. RD1010)
- ② Install compost erosion blanket - 552 sq. yd. (For details, see sht. FB01)
- ③ Install matting - 41 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)
- ④ Const. temp. slope drain (See drg. no. RD1045)

LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- ▨ No work zone
- Check dam in ditch section
- ┌ Temporary slope drain with energy dissipator
- Wetland
- ~ Flow direction
- ▨ Compost blanket
- ▨ Matting, Type F
- - - Orange plastic fence (no work area)
- ▨ No Work Access
- ▨ Regulated Work Access

Notes:

- 1. Graphic symbols are approximate. Place erosion control measures as required or directed.
- 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
- 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
- 4. See LA sheet series for permanent planting and seeding.
- 5. See HA sheets for water quality features and seeding.
- 6. Verify trees to be removed with Engineer prior to removal.



EXPIRES: DEC. 31, 2020

HDR	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc

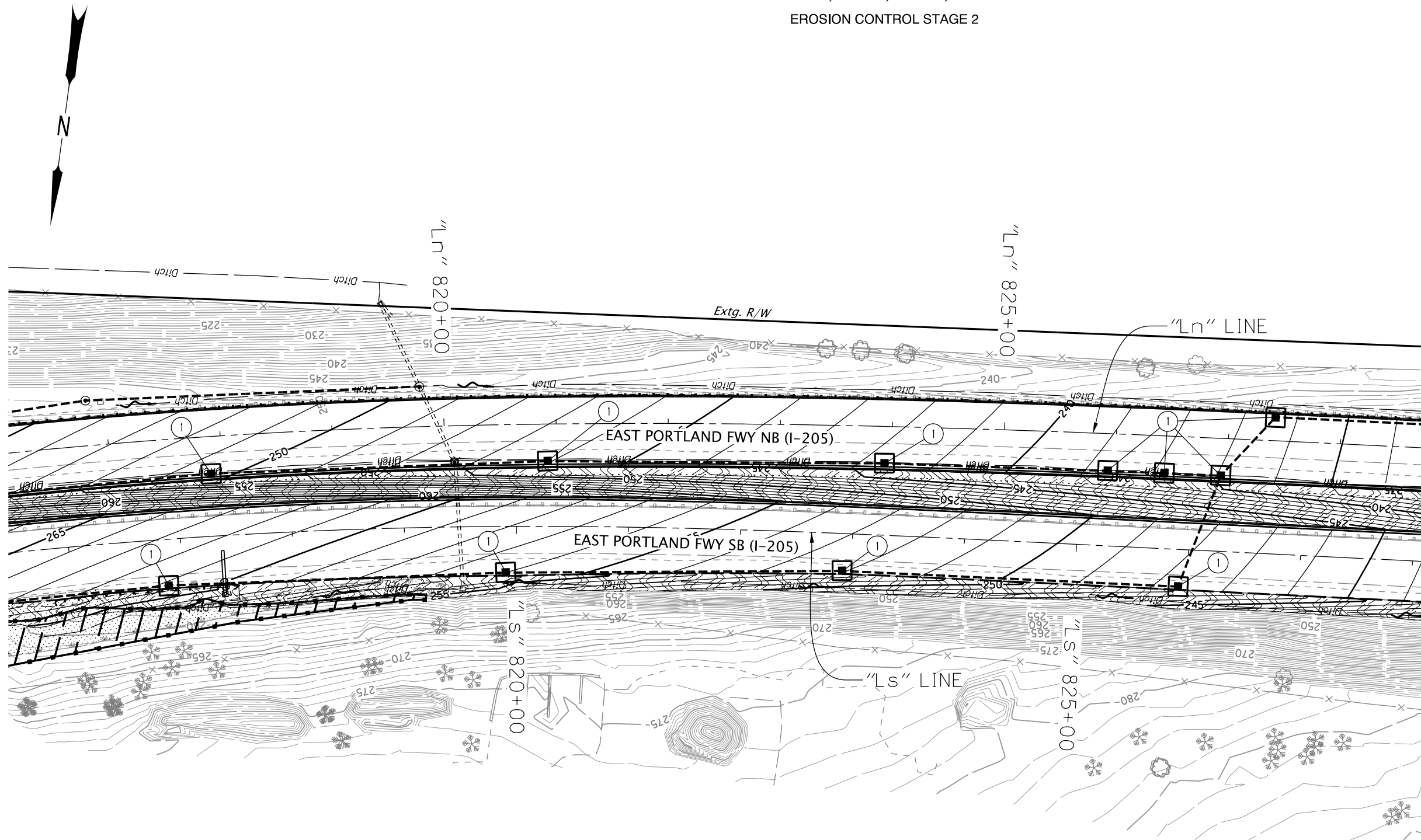
EROSION AND SEDIMENT CONTROL	SHEET NO. FB36
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Sec. 36, T. 2 S, R. 1 E, W.M.

EROSION CONTROL STAGE 2

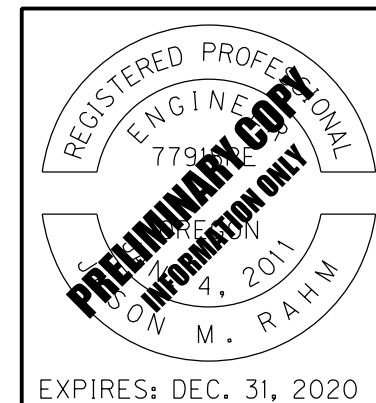
??V-???

1 Const. inlet protection - 11
(Type 3)
(See drg. no. RD1010)



- LEGEND**
- Fill slope
 - Cut slope
 - Final major contour
 - Final minor contour
 - Inlet protection
 - ▨ No work zone
 - ▧ Wetland
 - ~ Flow direction
 - ▨ Compost blanket
 - - - Orange plastic fence (no work area)
 - ▨ No Work Access
 - ▨ Regulated Work Access

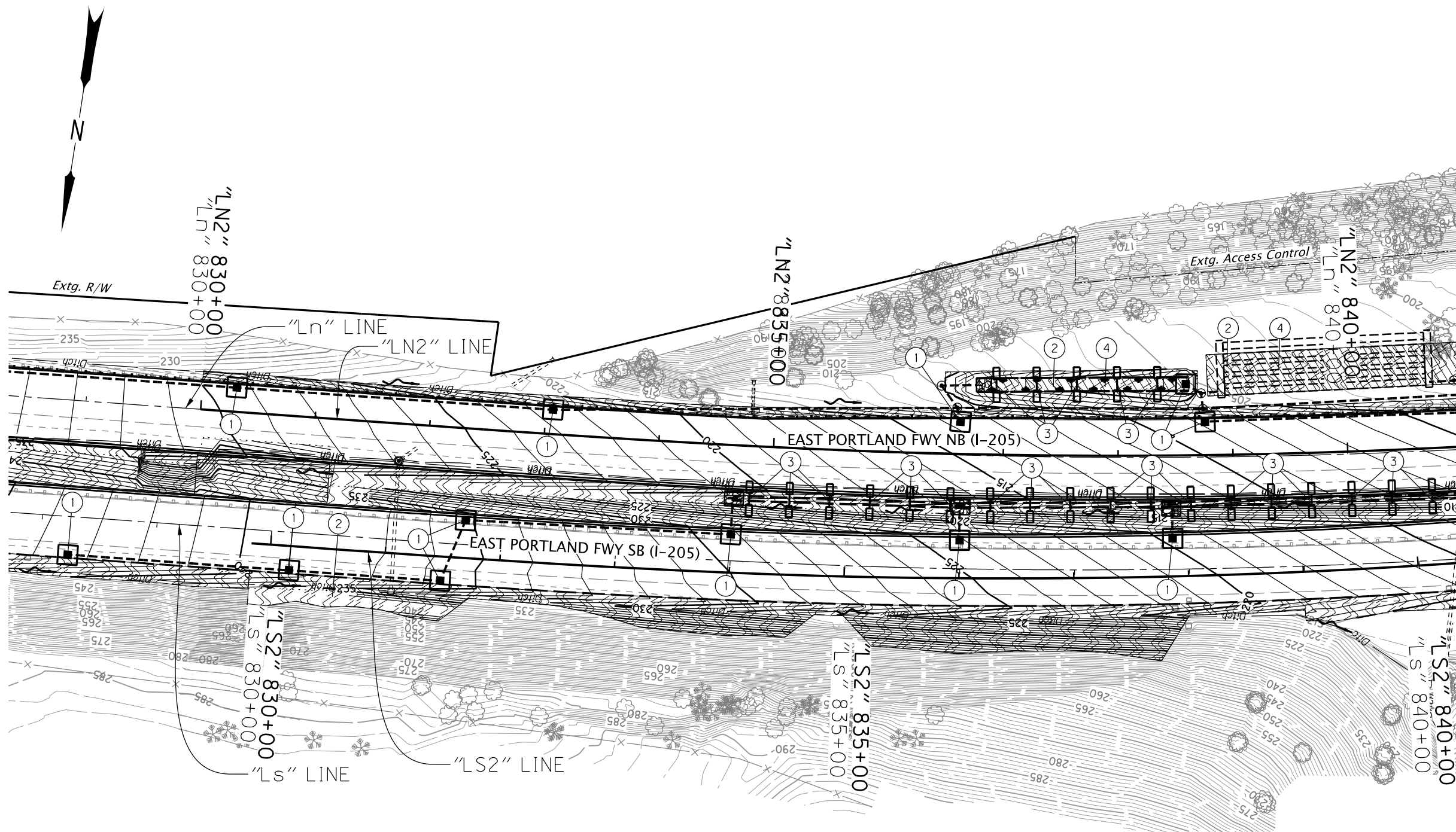
- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



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	I-205: I-5 - OR213, PHASE 1 SEC.	

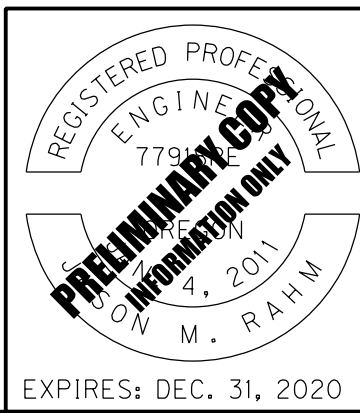
EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB37	

- ① Const. inlet protection - 12 (Type 3) (See drg. no. RD1010)
- ② Install compost erosion blanket - 10,652 sq. yd. (For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 23 (See drg. no. RD1006)
- ④ Install matting - 1,143 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)



- LEGEND**
- Fill slope
 - Cut slope
 - Final major contour
 - Final minor contour
 - Inlet protection
 - ▨ No work zone
 - ⊕ Check dam in ditch section
 - Flow direction
 - ▨ Compost blanket
 - ▨ Matting, Type F

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.

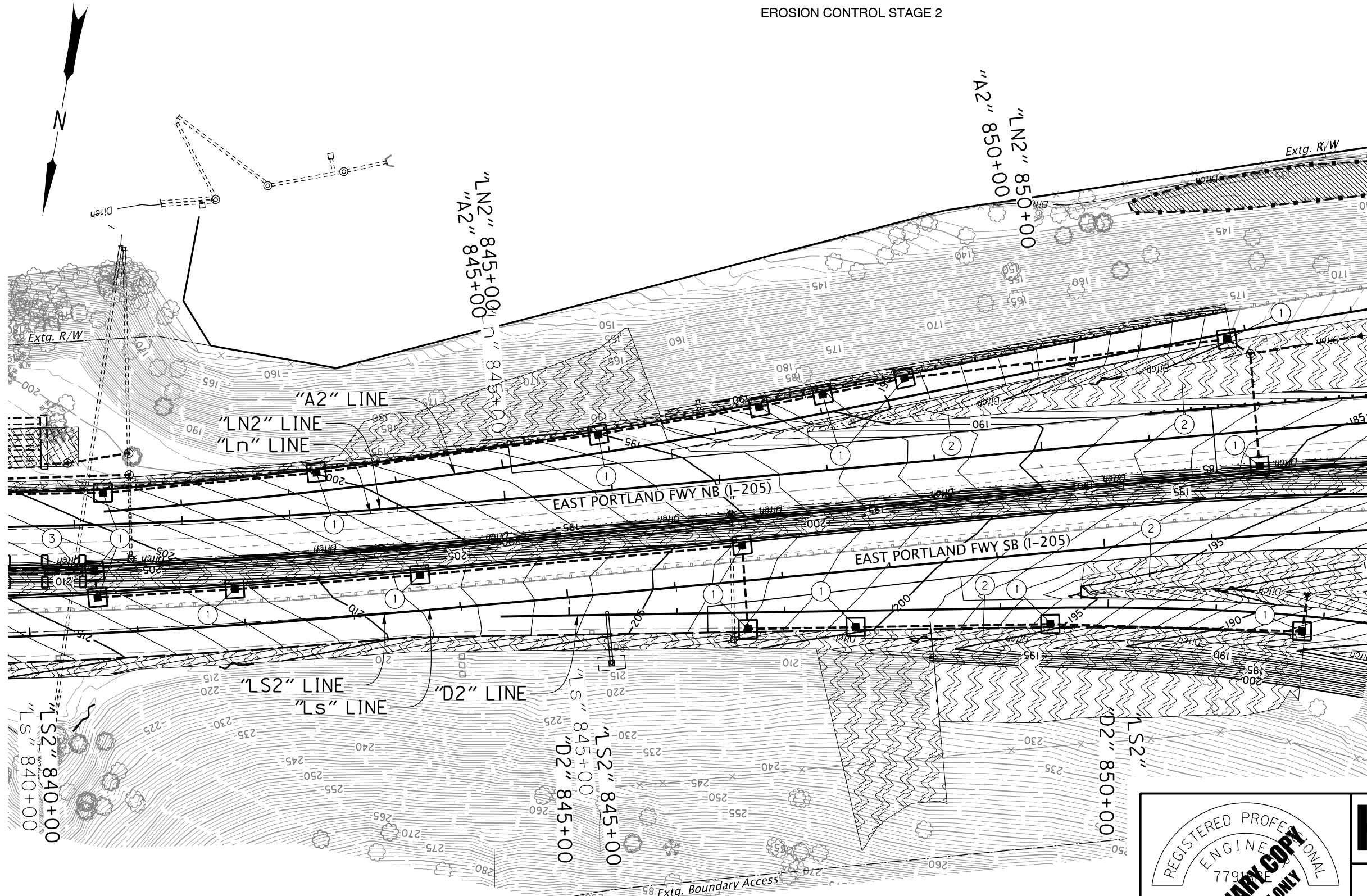


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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	

Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB38	

Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE
 EROSION CONTROL STAGE 2

??V-???

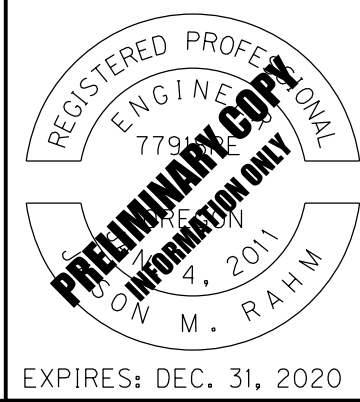


- ① Const. inlet protection - 16 (Type 3) (See drg. no. RD1010)
- ② Install compost erosion blanket - 26,775 sq. yd. (For details, see sht. FB01)
- ③ Const. check dam, (Type 6) - 1 (See drg. no. RD1006)

LEGEND

	Fill slope
	Cut slope
	Final major contour
	Final minor contour
	Inlet protection
	No work zone
	Wetland
	Ordinary High Water
	Flow direction
	Compost blanket
	Matting, Type F
	Orange plastic fence (no work area, from Stage 1)
	No Work Access

- Notes:**
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.

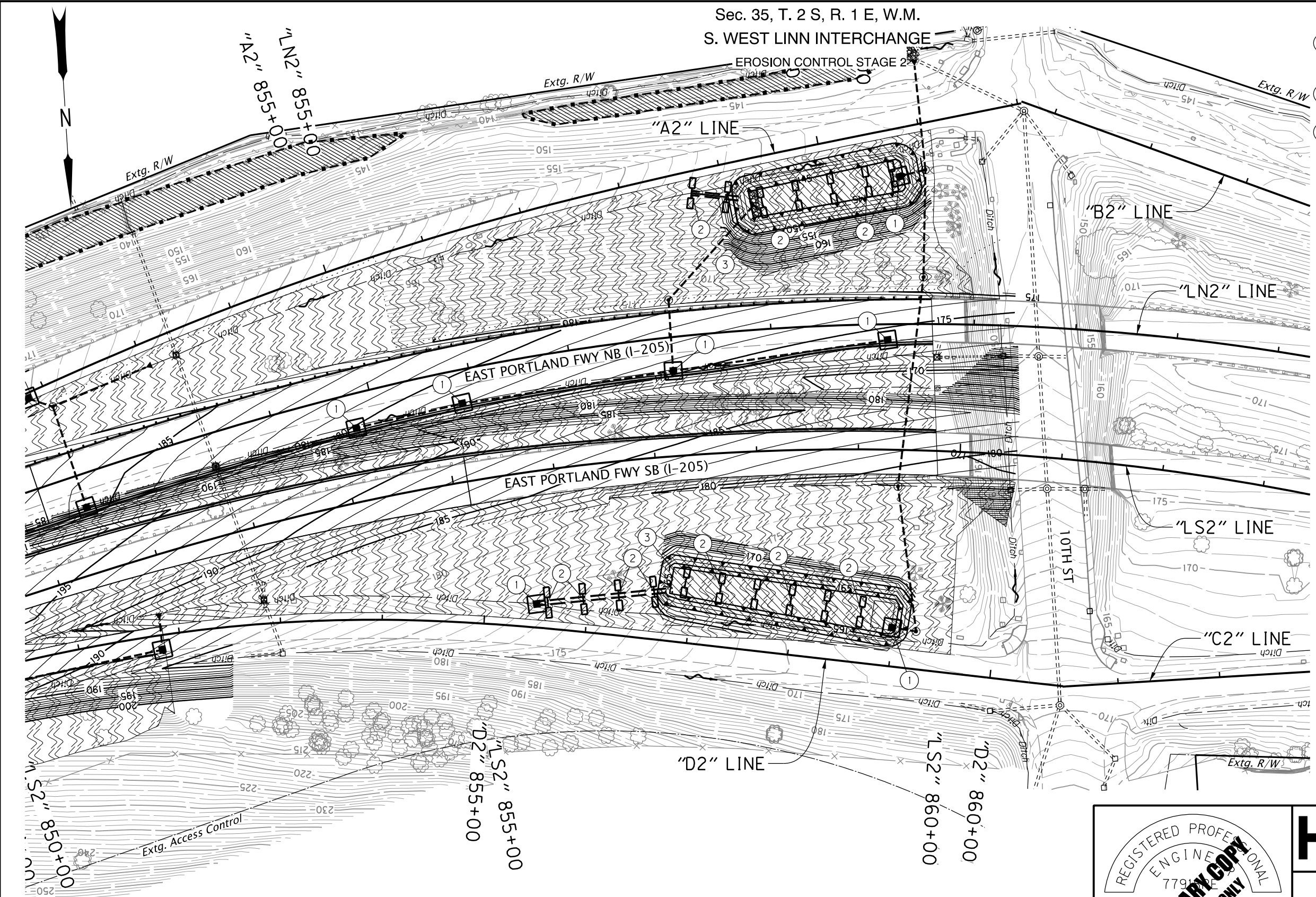


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	I-205: I-5 - OR213, PHASE 1 SEC.	

EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm	Reviewer: Matt Steigleder
Drafter: Connor Donovan	Checker: Brendan LeBlanc
EROSION AND SEDIMENT CONTROL	
SHEET NO. FB39	

Sec. 35, T. 2 S, R. 1 E, W.M.
S. WEST LINN INTERCHANGE

??V-???



- ① Const. inlet protection - 7 (Type 3) (See drg. no. RD1010)
- ② Const. check dam, (Type 6) - 17 (See drg. no. RD1006)
- ③ Install matting - 2,699 sq. yd. (Flexible channel liner, Type F) (See drg. no. RD1055)

LEGEND

- Fill slope
- Cut slope
- Final major contour
- Final minor contour
- Inlet protection
- ▨ No work zone
- Check dam in ditch section
- Wetland
- - - Ordinary High Water
- ~ Flow direction
- ▨ Compost blanket
- ▨ Matting, Type F
- - - Orange plastic fence (no work area, from Stage 1)
- ▨ No Work Access

- Notes:
1. Graphic symbols are approximate. Place erosion control measures as required or directed.
 2. Stage 2 erosion and sediment control BMPs are installed on newly constructed features and slopes.
 3. Stage 1 erosion and sediment control BMPs remain installed during Stage 2.
 4. See LA sheet series for permanent planting and seeding.
 5. See HA sheets for water quality features and seeding.
 6. Verify trees to be removed with Engineer prior to removal.



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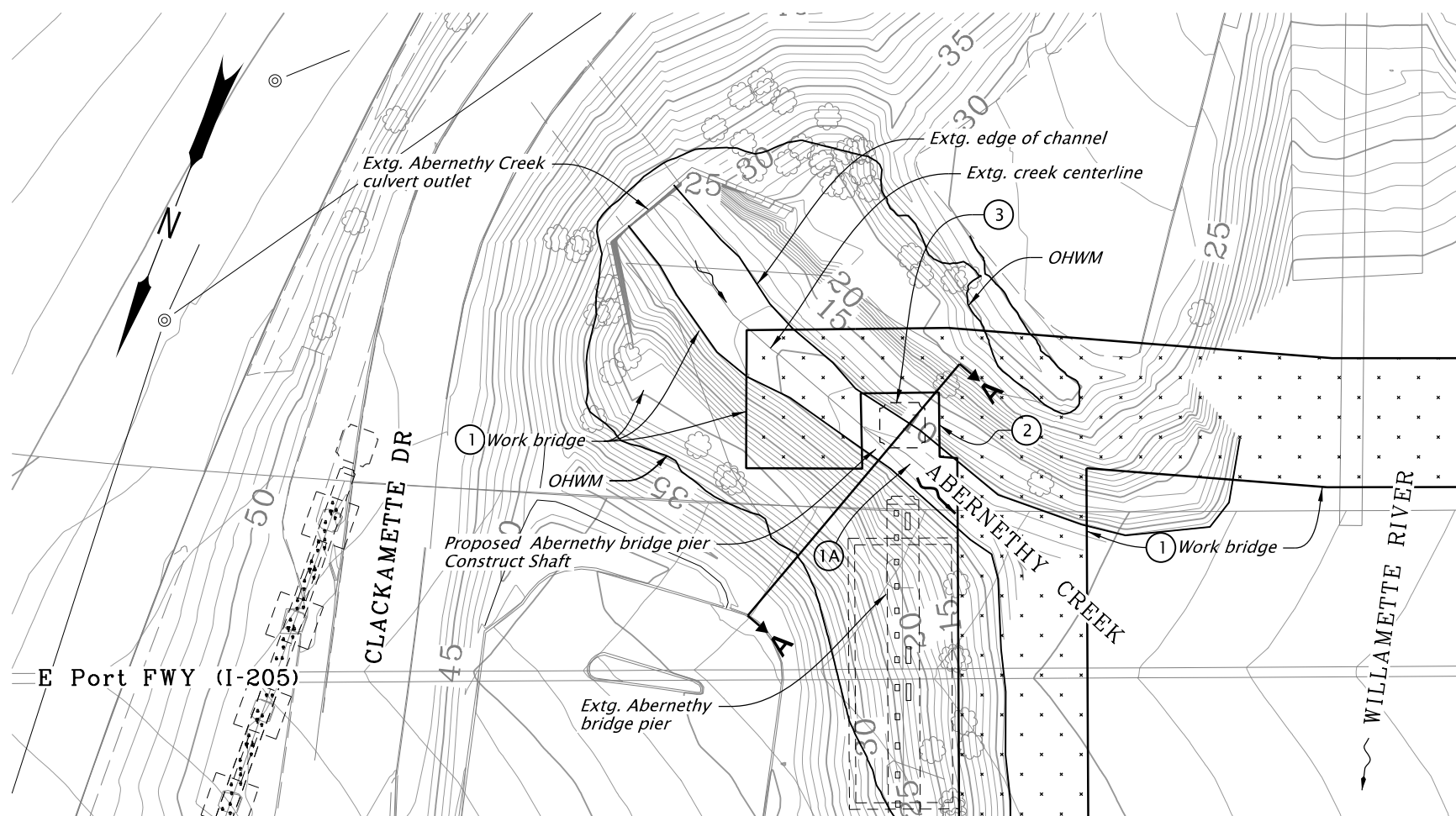
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL

SHEET NO.
FB40



**Abernethy Creek - Phase 1
(In-water-work activity)
Construct temporary work
bridge and Pier 3, south side.**

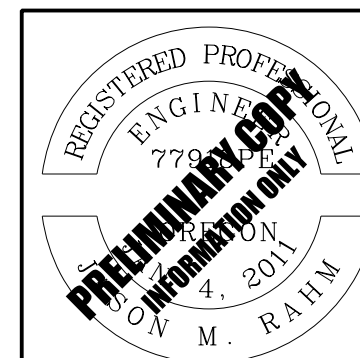
CONSTRUCTION SEQUENCE

- ①A Remove existing rip rap (as required)
- ① Install temporary work bridge
- ② Install temporary shoring at Pier 3
- ③ Construct shaft

LEGEND

- Fill slope
- Cut slope
- Ordinary High Water
- ~ Flow direction
- Temp. work bridge

- Note:*
1. Work bridge location and temporary work access is shown for reference only and is subject to change.
 2. Temporary work access must accommodate existing flow rates for Abernethy Creek. See sht. XX for additional shoring details.
 3. See sht. FB 24 for section A-A.



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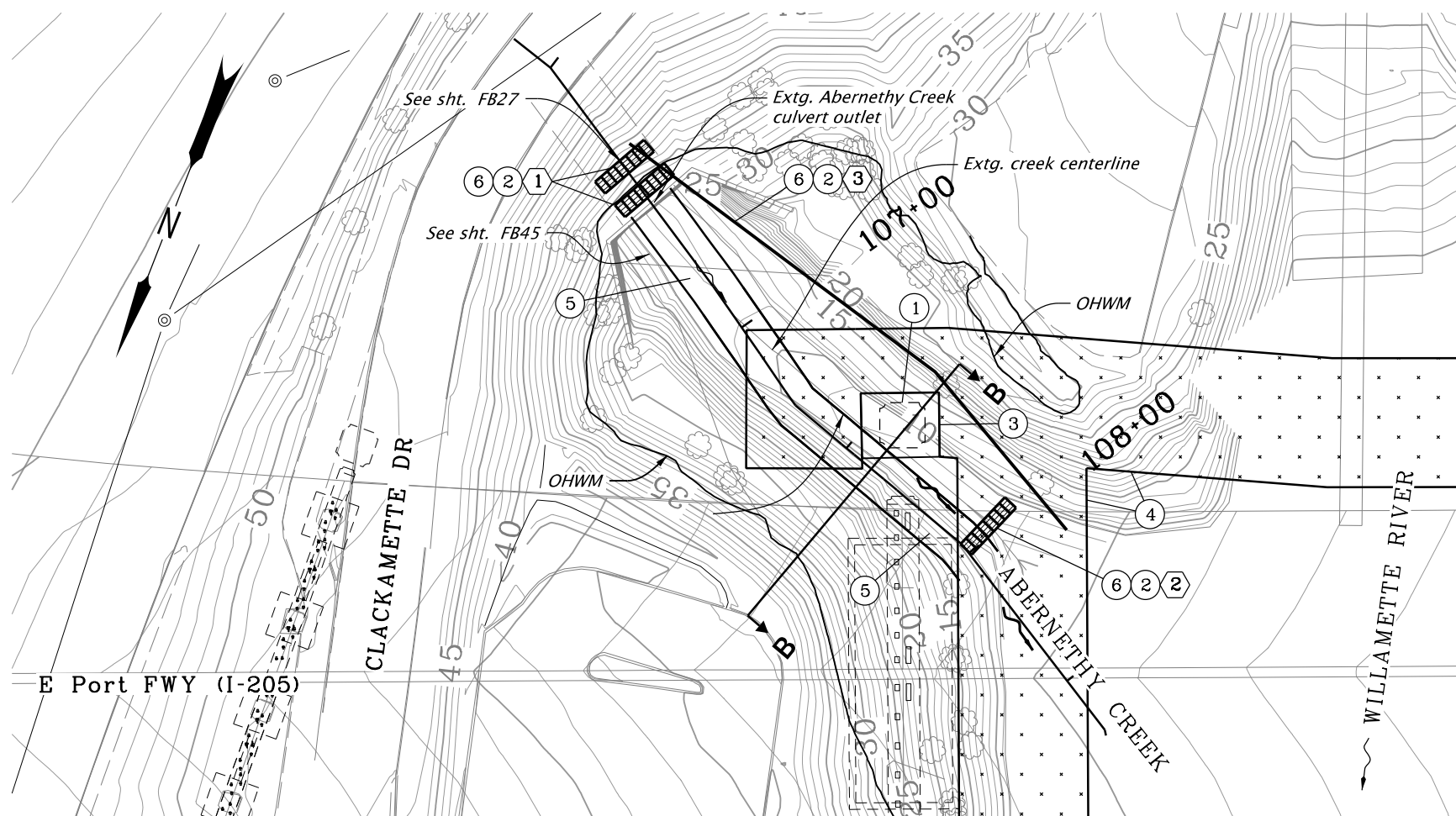
I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm Reviewer: Matt Steigleder
Drafter: Connor Donovan Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL

SHEET NO.
FB41



**Abernethy Creek Construction - Phase 2
(In-water-work)
Complete Pier 3 south side architectural
treatment and channel restoration**

LEGEND

- Fill slope
- Cut slope
- Ordinary High Water
- ~ Flow direction

CONSTRUCTION SEQUENCE

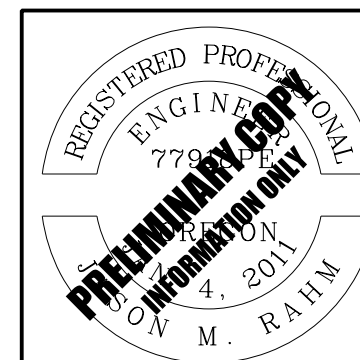
- ① Complete architectural finish on Pier 3 southern shaft
- ② Install temporary water management features
- ③ Remove coffer dam at southern shaft of Pier 3
- ④ Remove work bridge
- ⑤ Realign Abernethy Creek and install channel restoration features. See FCXX for details.
- ⑥ Remove temporary water management features

FULL ISOLATION NOTES:

- ① Isolating the work site upstream: Install single primary sandbag barrier across the stream channel. If Needed, install secondary sandbag barrier. Downstream: Install sandbag barrier.
- ② Install sandbag barrier downstream from work area. Location to be set based on topography and easements available.
- ③ Size the temporary water management facility based on site conditions. Route water around work area using pipe, pump or combination. The discharge table below can be used to estimate the size of the bypass pipe and/or pump.

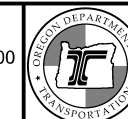
Notes:

1. Work bridge location and temporary work access is shown for reference only and is subject to change.
2. Temporary work access must accommodate existing flow rates for Abernethy Creek. See sht. FB43 for additional shoring details.



EXPIRES: DEC. 31, 2020

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I-205: I-5 - OR213, PHASE 1 SEC.

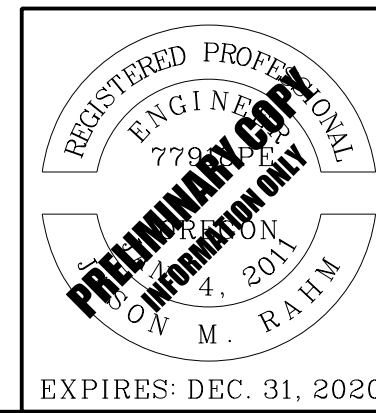
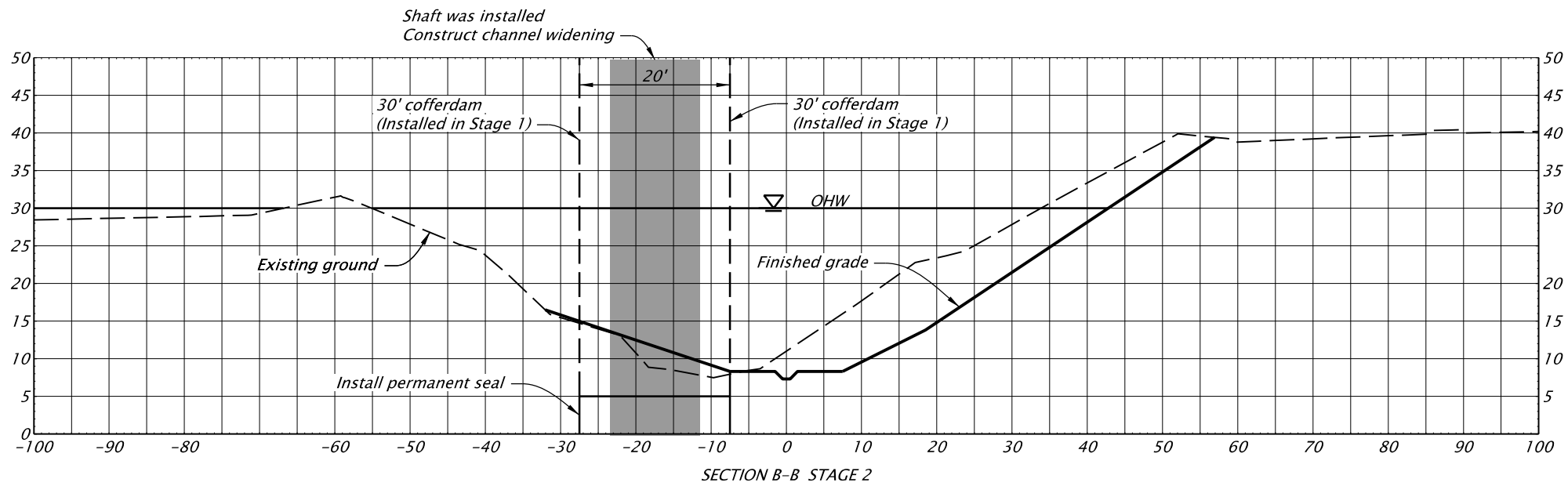
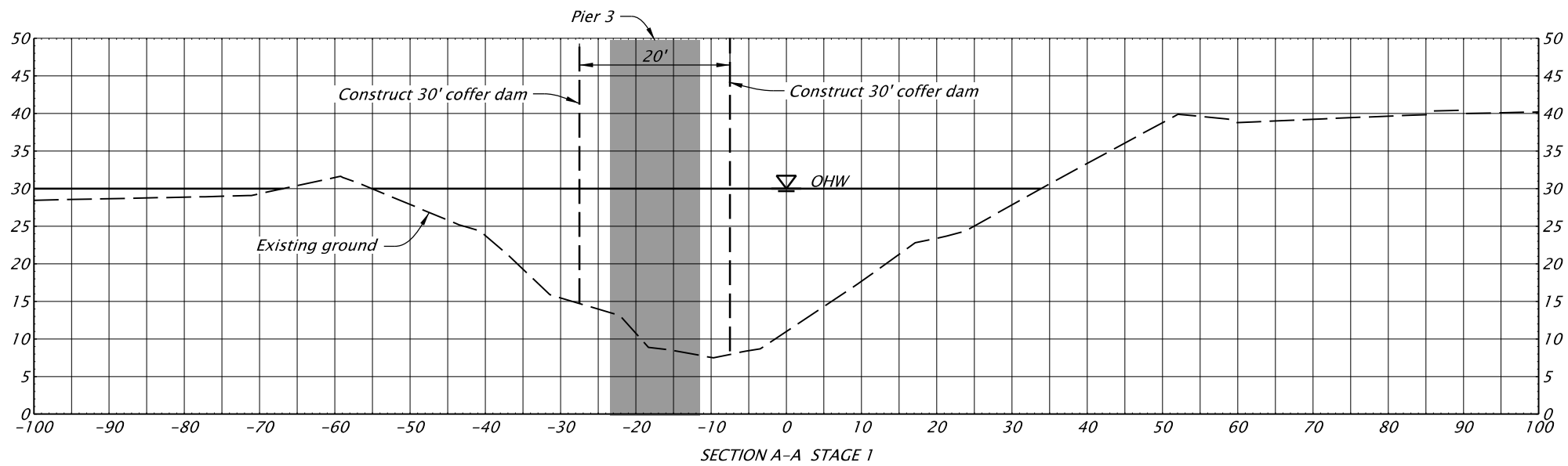
EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm
Drafter: Connor Donovan

Reviewer: Matt Steigleder
Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL

SHEET NO.
FB42

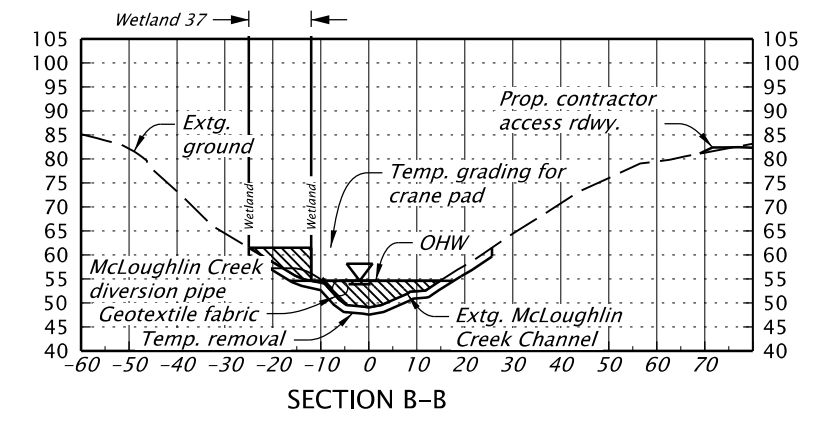
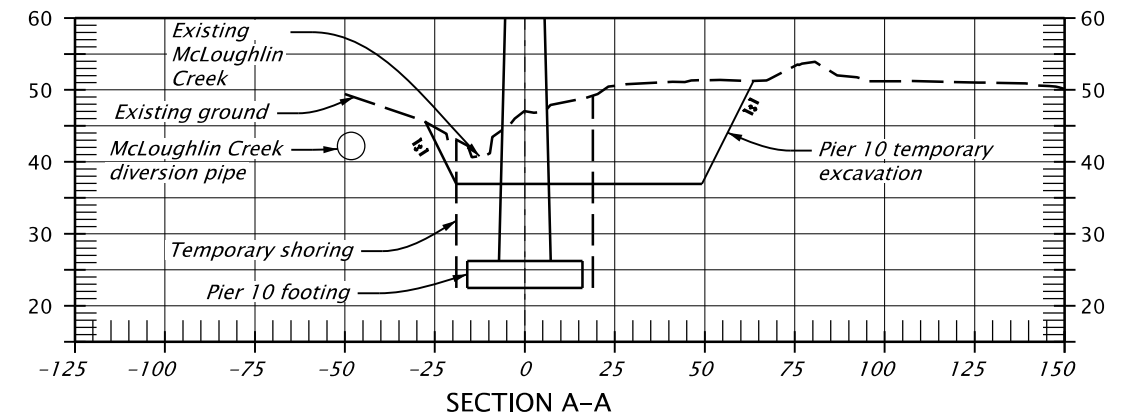


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	I-205: I-5 - OR213, PHASE 1 SEC. EAST PORTLAND FREEWAY CLACKAMAS COUNTY	
Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB43
EROSION AND SEDIMENT CONTROL		

**McLoughlin Creek - Phase 1
Construct temporary dike
(In-water-work activities)
Construct shaft**



- LEGEND**
- Fill slope
 - Cut slope
 - Orange plastic fence (no work area)
 - Temporary diversion pipe
 - Sandbag barrier line
 - No work zone
 - ~ Flow direction
 - Wetland
 - Ordinary High Water
 - Temporary access

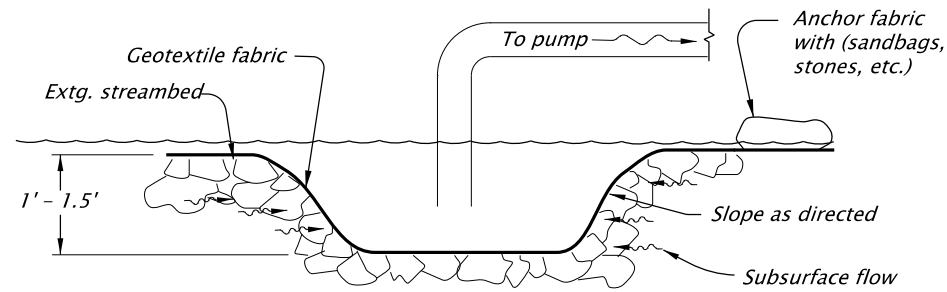


- Note:**
- For additional erosion control details not shown, see FB27.
- Creek work below OHW cannot exceed 18 months. Install and remove temporary water diversion during in-water work window.
- ① Install temporary BMPs and flow diversion
 - ② Install temporary diversion pipe (18" dia.)
 - ③ Construct shaft
 - ④ Install orange plastic fence (no work area)
 - ⑤ Remove existing pile cap and bridge column



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Designer: Jason Rahm Drafter: Connor Donovan	Reviewer: Matt Steigleder Checker: Brendan LeBlanc	SHEET NO. FB44
EROSION AND SEDIMENT CONTROL		

TEMPORARY WATER MANAGEMENT FACILITY



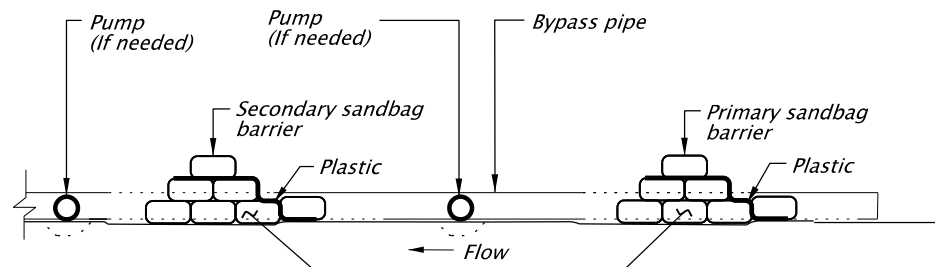
SUMP DETAIL
NTS

GENERAL NOTES:

The implementation of this Temporary Water Management Plan and the construction, maintenance, replacement and upgrading of this facility is the responsibility of the contractor until all construction is completed and approved.

The Temporary Water Management Facility shown on this plan is the minimum requirements for anticipated site conditions. During the construction periods, this facility shall be upgraded for unexpected storm events and to insure that sediment and sediment-laden water does not leave the site.

Remove all Temporary Water Management features and restore site as per plans and specifications.



NOTE:
Width and depth of sandbag barrier will vary depending on site and stream flow conditions.

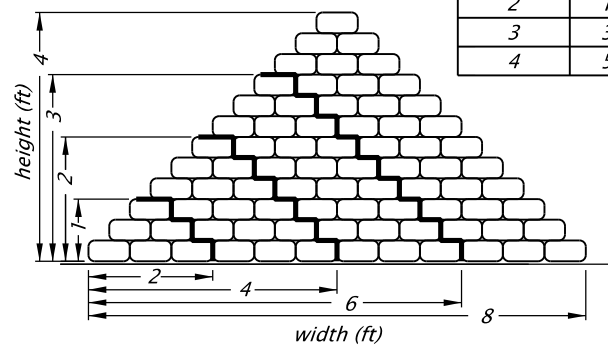
Remove large material to create an even bed to install sandbag barrier

SANDBAG BARRIER SECTION

A common recommendation is to make the sandbag barrier twice as wide as its height (e.g., a one foot high wall would have a base width of 2 feet). This is the minimum width-to-height ratio that should be used to construct a sandbag barrier. This is based on each bag having a placed dimension of about 4 to 5 inches high by 9 to 10 inches wide by 14 inches long. This is a 30 pound bag of dry sand.

The estimated number of bags needed for 100 linear feet of barrier that is twice as wide as its height is:

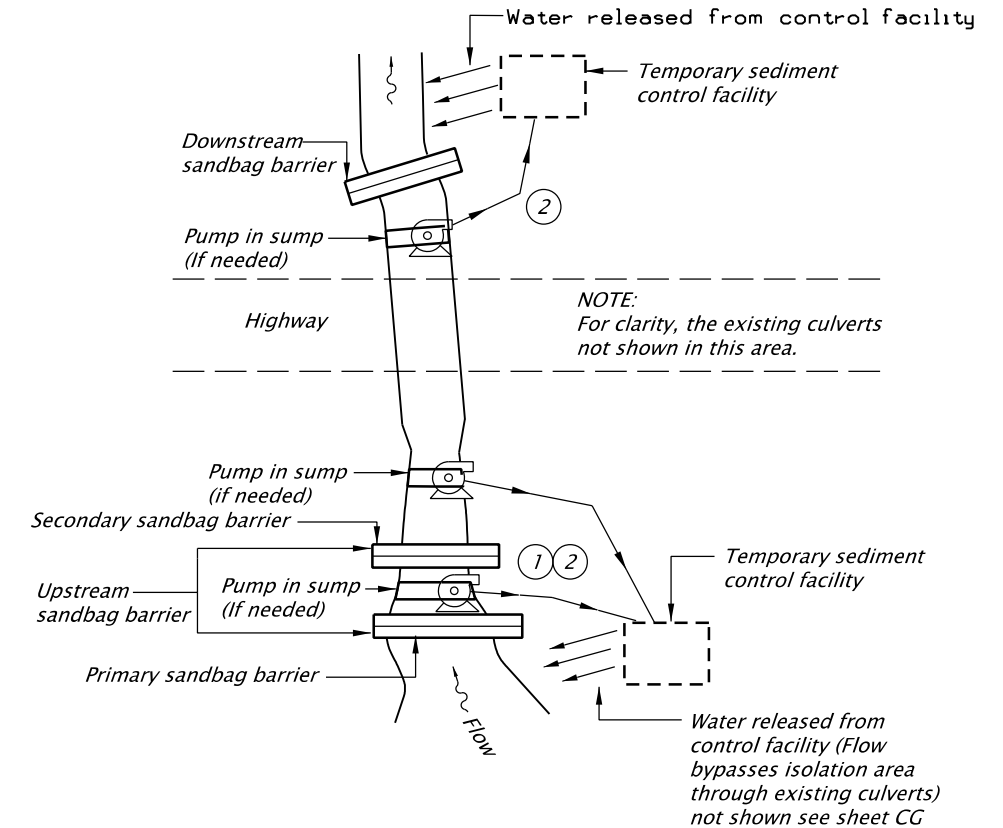
Height (ft)	# bags
1	600
2	1700
3	3000
4	5500



- LEGEND:**
- Sandbag barrier line
 - Sediment control facility
 - Sump pump

FULL ISOLATION NOTES:

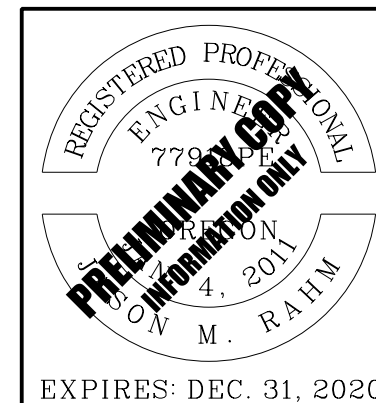
- ① See sheet FB22 note.
- ② See sheet FB22 note.



NOTE:
For clarity, the existing culverts not shown in this area.

COMBINED PUMP/GRAVITY BYPASS DETAIL

NTS



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PORTLAND, OR 97204-1134
503.423.3700



I-205: I-5 - OR213, PHASE 1 SEC.

EAST PORTLAND FREEWAY
CLACKAMAS COUNTY

Designer: Jason Rahm

Reviewer: Matt Steigleder

Drafter: Connor Donovan

Checker: Brendan LeBlanc

EROSION AND SEDIMENT CONTROL

SHEET NO.

FB45