

HUNNELL ROAD:  
LOCO ROAD TO TUMALO ROAD PROJECT  
100% SUBMITTAL

DESCHUTES COUNTY, OREGON  
OCTOBER, 2022

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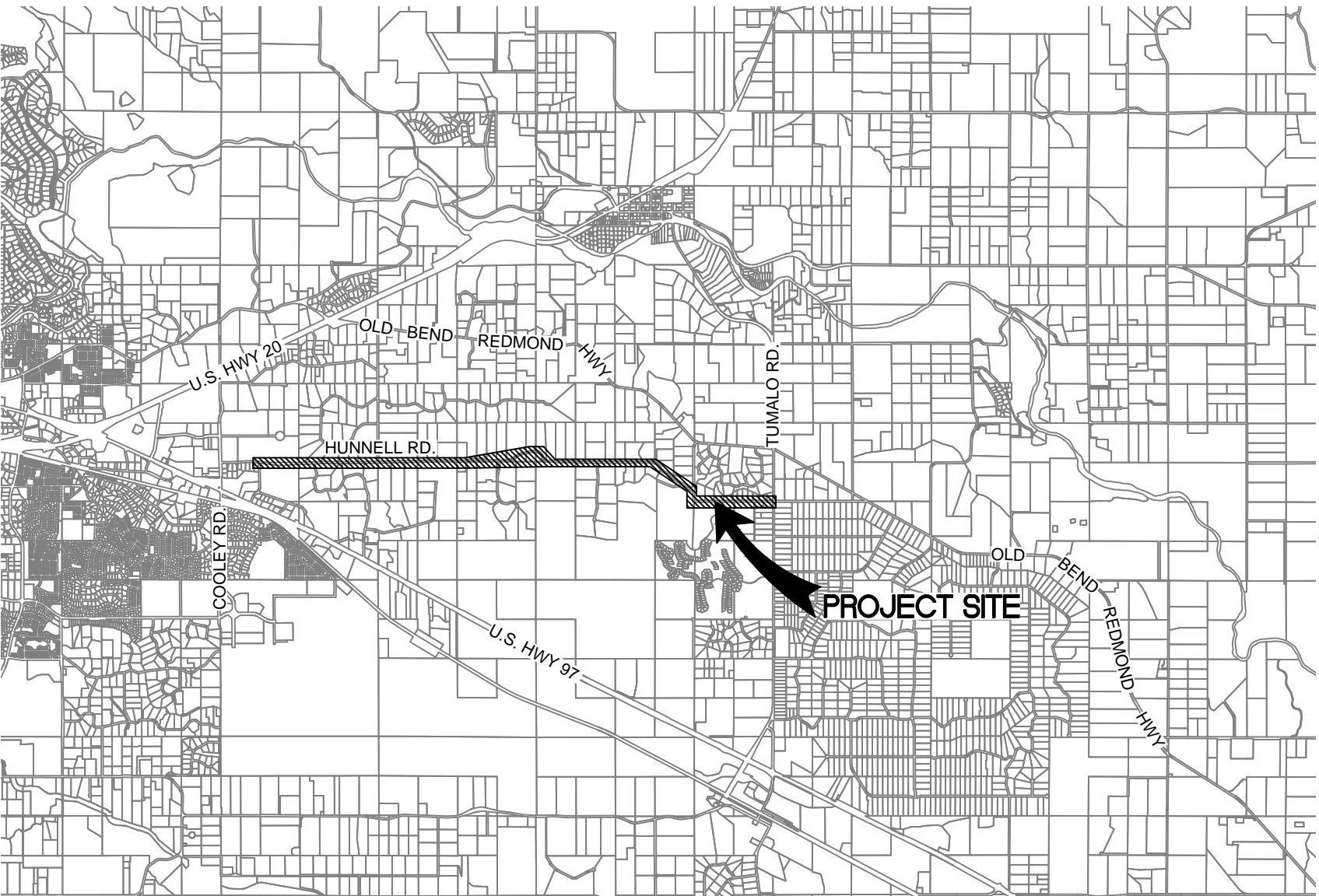
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- RD1040 SEDIMENT FENCE



VICINITY MAP

SCALE: 1" = 5000'

OWNER & CLIENT:

DESCHUTES COUNTY  
CONTACT: CODY SMITH, PE  
61150 SE 27TH STREET  
BEND, OR 97702  
(541) 322-7113

CIVIL ENGINEER &  
LAND SURVEYOR:

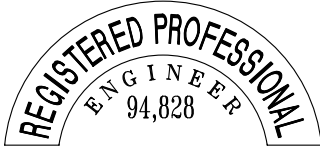
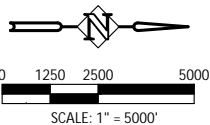
HARPER HOUF PETERSON RIGHELLIS INC.  
CONTACT: NICOLAS SPEROS, PE  
250 NW FRANKLIN AVENUE, SUITE 404  
BEND, OR 97703  
(541) 318-1161

GEOTECHNICAL ENGINEER

THE WALLACE GROUP, INC.  
62915 NE 18TH STREET, SUITE 1  
BEND, OR 97701  
(541) 382-4707

TRAFFIC ENGINEER

KITTELSON & ASSOCIATES  
1001 SW EMKAY DRIVE, SUITE 140  
BEND, OR 97702  
(541) 312-8300



EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

COVER SHEET  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	G01
JOB NO.	DCO-01



P:\03-Band\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\DCO-01\_G02-General Notes.dwg

FOUND MONUMENT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	422210.43	3297281.65	3291.53	1/2"IRRPC
2	421773.71	3297244.26	3292.99	1/2"IRRPC
3	421218.58	3297302.20	3298.72	1/2"IRRPC
4	420224.33	3297274.65	3293.30	1/2"IRRPC
5	420202.73	3296856.92	3301.65	1/2"IRRPC
6	419707.35	3296551.28	3304.28	1/2"IRRPC
7	419384.32	3296339.89	3293.76	1/2"IRRPC
8	418578.04	3295935.66	3304.48	1/2"IRRPC
9	417569.46	3295973.08	3321.09	1/2"IRRPC
10	416698.62	3295925.31	3343.95	1/2"IRRPC
11	415962.59	3295967.48	3351.37	1/2"IRRPC
12	415449.92	3295879.22	3339.81	1/2"IRRPC
13	415155.35	3295722.01	3351.61	1/2"IRRPC
14	414913.71	3295563.19	3350.72	1/2"IRRPC
15	414476.82	3295650.99	3356.32	1/2"IRRPC
16	414085.18	3295866.60	3363.84	1/2"IRRPC
17	413763.02	3295951.41	3365.09	1/2"IRRPC
18	413078.66	3295856.60	3383.77	1/2"IRRPC
19	412714.94	3295936.47	3392.16	1/2"IRRPC
20	411857.16	3295964.36	3394.91	1/2"IRRPC
21	410942.96	3295922.92	3404.89	1/2"IRRPC
22	410044.29	3295943.39	3428.98	1/2"IRRPC
23	409403.98	3295964.97	3427.58	1/2"IRRPC
24	408913.24	3295979.34	3433.33	1/2"IRRPC
25	408453.45	3295942.46	3431.92	1/2"IRRPC
26	407975.21	3295943.64	3445.45	1/2"IRRPC
27	407433.75	3295959.02	3451.48	1/2"IRRPC
28	406994.52	3295972.48	3447.92	1/2"IRRPC
29	406606.10	3296020.19	3475.57	BP
30	405983.86	3295953.64	3468.44	1/2"IRRPC
31	404828.09	3295998.13	3459.32	BP
32	404371.47	3295917.28	3466.94	BP
322	423809.16	3297248.32	3325.90	1/2"IRRPC
323	422937.18	3297243.80	3306.15	1/2"IRRPC
326	422880.34	3295315.37	3274.76	BP

LEGEND:

	RIGHT-OF-WAY LINE
	CENTER LINE
	EASEMENT LINE
	(E) TAX LOT LINE
	(E) CONTOUR LINE
	(P) CONTOUR LINE
	(E) WATER LINE
	(E) IRRIGATION LINE
	(P) WATER LINE
	(P) IRRIGATION LINE
	(E) OVERHEAD WIRE
	(E) UNDERGROUND ELECTRIC
	(E) FIBER OPTIC LINE
	(E) TELEPHONE LINE
	(E) FENCE LINE
	(P) FENCE LINE
	(P) GRADING CATCHLINE
	(P) SEDIMENT FENCE
	(E) WATER METER
	(E) WATER VALVE
	(E) IRRIGATION VALVE
	(E) FIRE HYDRANT
	(E) WATER BOX
	(E) IRRIGATION BOX
	(E) WATER MANHOLE
	(E) TELECOM MANHOLE
	(E) WATER VAULT
	(E) TELECOM VAULT
	(E) POWER VAULT
	(E) POWER METER
	(E) POWER RISER
	(E) TELECOM RISER
	(E) FIBER OPTIC RISER
	(E) SIGN & POST
	(E) POWER POLE
	(E) MAILBOX
	(E) BOULDER

GENERAL NOTES

- ALL WORK SHOWN ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS AND THE OREGON STATE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION," REVISED 2021.
- THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE COUNTY OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS. LOCATIONS SHOWN ARE APPROXIMATE AND TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT SHOWN HEREIN.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF ORS CHAPTER 757. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO EXCAVATING, BORING, OR POTHOLING. ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS OR ARRANGE FOR THE RELOCATION OF ANY UTILITIES IN CONFLICT AS DETERMINED BY THE ENGINEER.
- PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION BY ANY MEANS NECESSARY.
- UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL FILL COMPLETELY THE REMAINING PORTION(S) OF ABANDONED UTILITIES WITH CSLM OR GROUT, PER COUNTY REQUIREMENTS.
- TOPOGRAPHIC SURVEY BY HARPER HOUF PETERSON RIGHELLIS, INC. DATED OCTOBER 2020. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY, WAYS, MEANS, AND METHODS OF CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT AND VERIFY ALL EXISTING CONDITIONS BEFORE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS AND OTHERWISE VERIFY ALL DIMENSIONS AND EXISTING CONSTRUCTION CONDITIONS INDICATED AND/OR SHOWN ON THE PLANS. SHOULD ANY ERRORS OR INCONSISTENCY EXIST, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL REPORTED TO THE ENGINEER IN WRITING FOR CLARIFICATION OR CORRECTION.
- THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITIES TO THE PUBLIC RIGHT-OF-WAY AND EASEMENTS IDENTIFIED ON THE PLANS UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE PROPERTY OWNER.
- THE CONTRACTOR SHALL NOTIFY RESIDENTS WITHIN THE PROJECT AREA A MINIMUM OF TWO BUSINESS DAYS PRIOR TO STARTING WORK, PROVIDING DOOR HANGERS LISTING THE CONTRACTOR'S CONTACT INFORMATION.
- ALL SURVEY MONUMENTS ON THE SUBJECT SITE, OR THAT MAY BE SUBJECT TO DISTURBANCE WITHIN THE CONSTRUCTION AREA, OR THE CONSTRUCTION OF ANY OFF-SITE IMPROVEMENTS SHALL BE ADEQUATELY REFERENCED AND PROTECTED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. IF THE SURVEY MONUMENTS ARE DISTURBED, MOVED, RELOCATED, OR DESTROYED AS A RESULT OF ANY CONSTRUCTION, THE PROJECT SHALL, AT IT'S COST, RETAIN THE SERVICES OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF OREGON TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY OREGON STATE LAW. A COPY OF ANY RECORDED SURVEY SHALL BE SUBMITTED TO COUNTY STAFF.
- DEMO & REMOVE EXISTING TREES AND VEGETATION WHERE IT IS IN CONFLICT WITH OR IS IMPACTED BY PROPOSED IMPROVEMENTS.

CONSTRUCTION ACCESS & TRAFFIC CONTROL NOTES

- CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS FOR COUNTY REVIEW AND APPROVAL PRIOR TO THE START OF WORK. ALL TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE 2009 EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OREGON SUPPLEMENT, AND 2011 OTTCH.
- THE CONTRACTOR SHALL KEEP THE WORK AREAS IN A NEAT AND SIGHTLY CONDITION FREE OF DEBRIS AND LITTER FOR THE DURATION OF THE PROJECT.
- ALL DISTURBED AREAS INCLUDING ROADS AND ACCESS ROUTES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AT NO COST TO OWNER.
- CONTRACTOR SHALL MONITOR TEMPORARY TRAFFIC CONTROL DEVICES AND REVISE BASED ON ON-SITE WORK CONDITIONS, OR AS DIRECTED BY THE ENGINEER OR COUNTY.
- CONTRACTOR SHALL PROVIDE NOTIFICATION TO EMERGENCY SERVICES AND AFFECTED RESIDENCES PRIOR TO CHANGES IN TRAFFIC PATTERNS.
- CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

GRADING & ESC NOTES

- CONTRACTOR SHALL REMOVE AND DISPOSE OF REFUSE TREES, STUMPS, BRUSH, ROOTS, AND OTHER UNACCEPTABLE MATERIAL OFF-SITE. MATERIAL SHALL BE DISPOSED OF IN SUCH A MANNER AS TO MEET LOCAL REGULATIONS. SOME STUMPS AND TREES MAY QUALIFY AS HABITAT LOGS/ROOTS.
- THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AS DETAILED ON THE ESC PLAN SHEETS.

VERTICAL DATUM

CENTRAL OREGON COORDINATES SYSTEM (NGVD29) AS DETERMINED BY MULTIPLE AVERAGED GPS READINGS ON CONTROL POINTS SPANNING THE LENGTH OF THE PROJECT.

HORIZONTAL DATUM

HORIZONTAL DATUM IS CENTRAL OREGON COORDINATE SYSTEM, ESTABLISHED FROM MULTIPLE AVERAGED GPS OBSERVATIONS ON CONTROL POINTS 323, A 1/2" IRON ROD WITH RED PLASTIC CAP ON THE NORTHWEST CORNER OF THE INTERSECTION OF HUNNELL ROAD AND TUMALO ROAD AND 31, A COPPER PLUG SET IN THE EAST SIDEWALK OF HUNNELL ROAD SOUTH OF LOCO ROAD.



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
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DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				

**Harper Houf Peterson Righellis Inc.**  
ENGINEERS\*PLANNERS  
LANDSCAPE ARCHITECTS\*SURVEYORS  
250 NW Fanklin Ave, Suite 404, Bend, OR 97703  
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100% SUBMITTAL

GENERAL NOTES  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

EXPIRES: 06/30/24

SHEET NO.  
**G02**

JOB NO.  
DCO-01

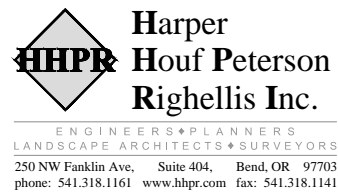


P:\03-Band\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\G03\Sheets\ DCO-01\_G03-G05 Typical Sections.dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

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DATE:	10.28.2022

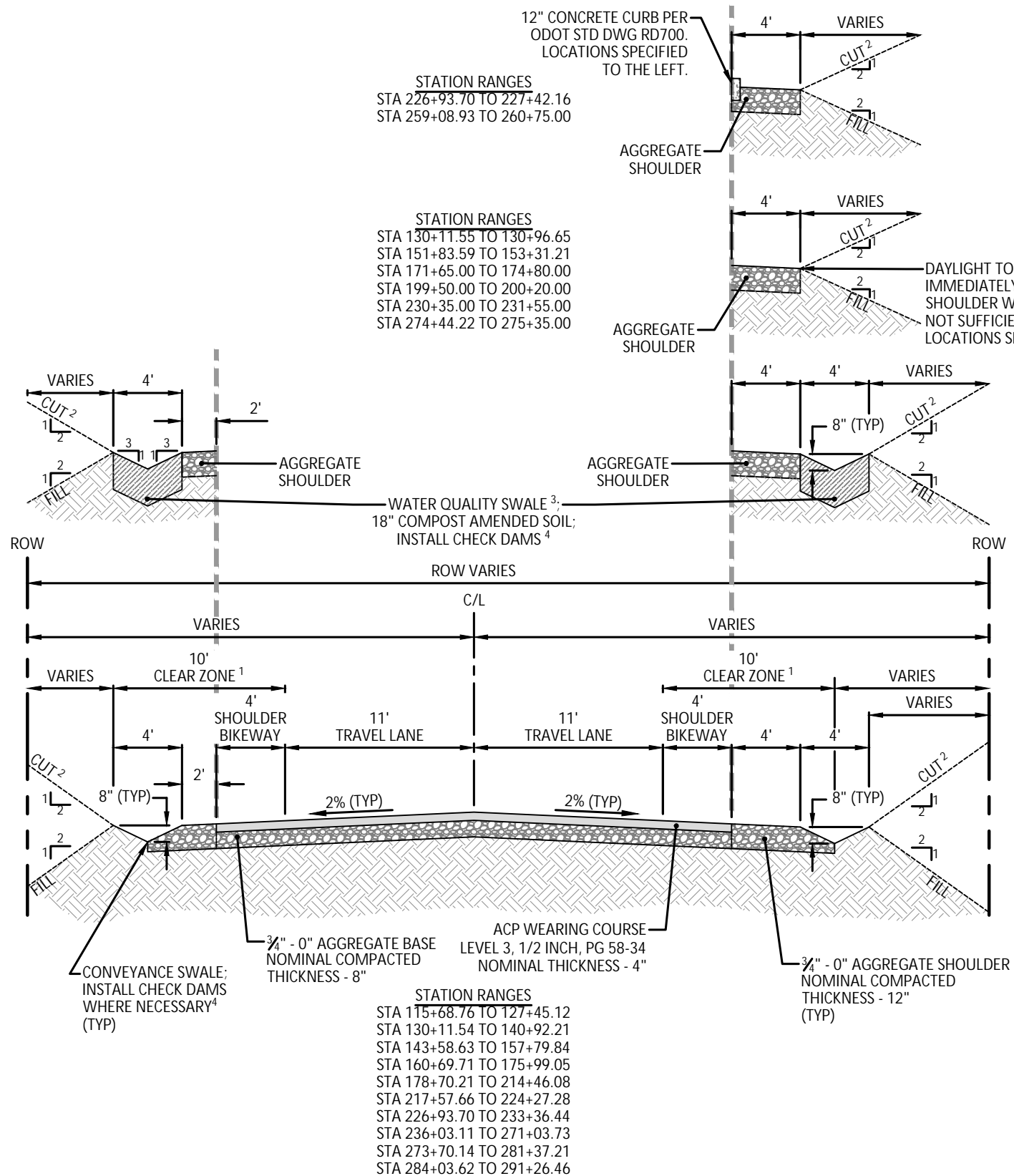


100% SUBMITTAL

TYPICAL SECTIONS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



SHEET NO.	G03
JOB NO.	DCO-01

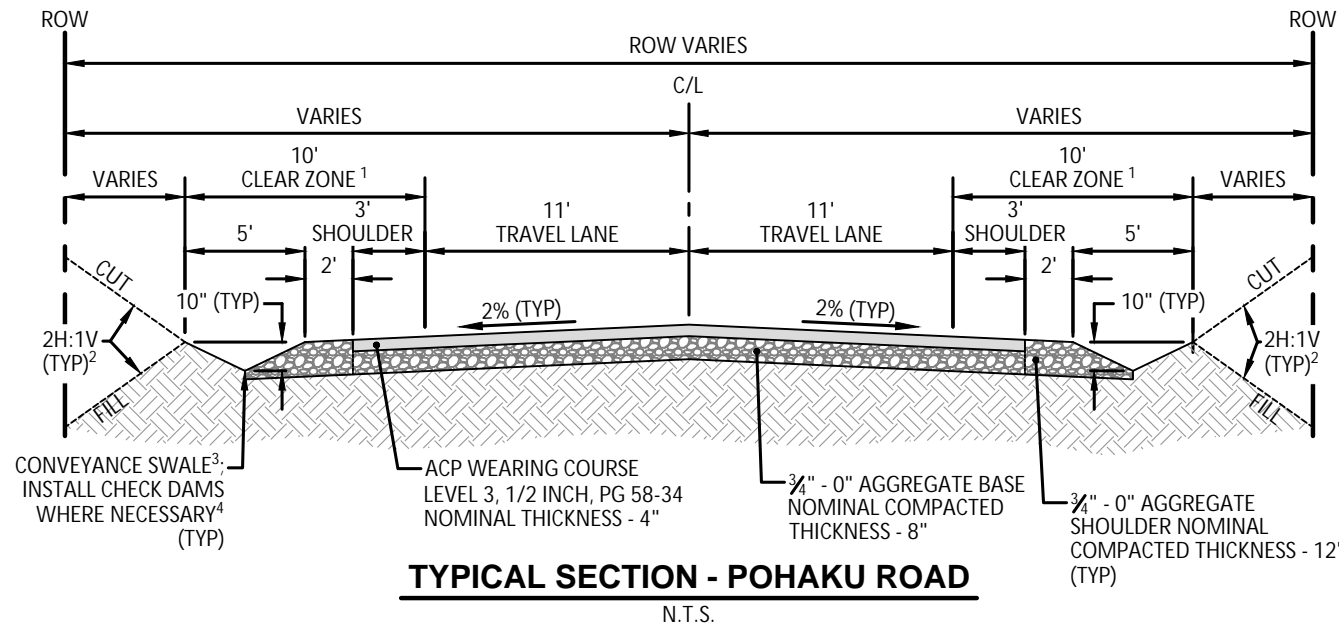
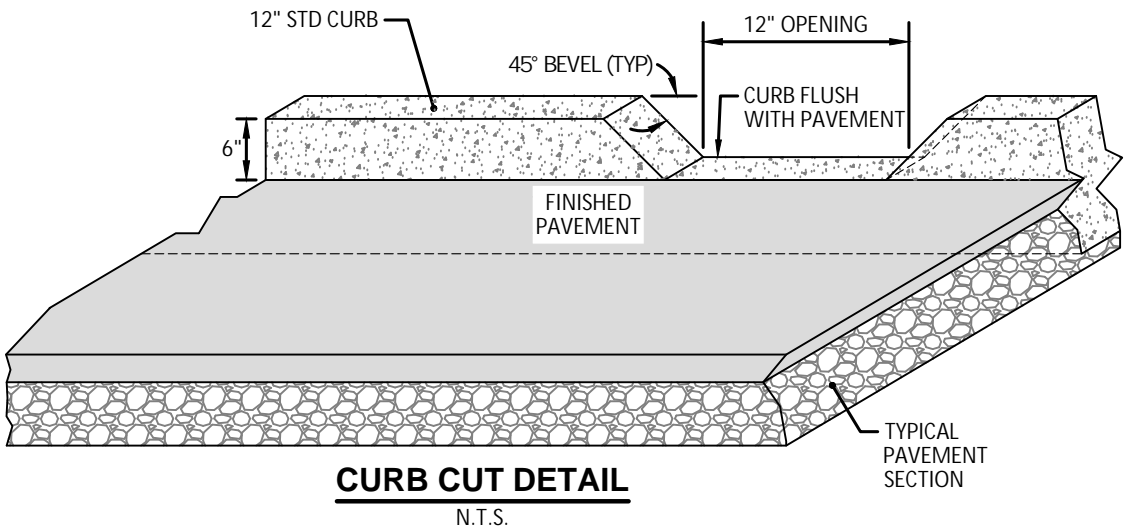
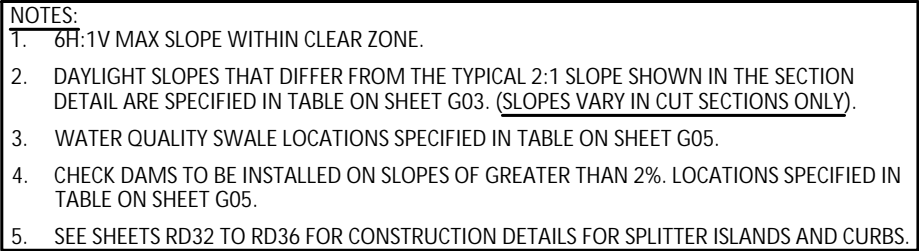


DAYLIGHT CUT SLOPE VARIATIONS					
NUMBER	LEFT		RIGHT		SLOPE
	BEGIN STA	END STA	BEGIN STA	END STA	
1	114+50	117+60	114+65	117+60	0.5:1
2	121+00	122+85			1:1
3			121+30	123+00	1:1
4			137+45	138+20	1:1
5			149+40	150+00	1:1
6	155+00	157+20	155+00	157+20	1:1
7			159+15	160+42	1:1
8	172+40	173+25			1:1
9	178+70	179+35			1:1
10			181+30	182+10	1:1
11			187+30	188+90	1:1
12			199+45	200+25	1:1
13			205+10	209+00	1:1
14			224+80	225+10	1:1
15	228+45	229+70			1:1
16			228+60	229+20	1:1
17			239+00	240+40	1:1
18			248+90	249+40	1:1
19			275+00	275+81	1:1

\* SLOPES GREATER THAN 2:1 REQUIRE REVIEW AND APPROVAL FROM GEOTECHNICAL ENGINEER.

- NOTES:
- 6H:1V MAX SLOPE WITHIN CLEAR ZONE.
  - DAYLIGHT SLOPES THAT DIFFER FROM THE TYPICAL 2:1 SLOPE SHOWN IN THE SECTION DETAIL ARE SPECIFIED IN TABLE ON THIS SHEET. (SLOPES VARY IN CUT SECTIONS ONLY).
  - WATER QUALITY SWALE LOCATIONS SPECIFIED IN TABLE ON SHEET G05.
  - CHECK DAMS TO BE INSTALLED ON SLOPES OF GREATER THAN 2%. LOCATIONS SPECIFIED IN TABLE ON SHEET G05.





# 100% SUBMITTAL



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
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DATE	NO.	DESCRIPTION		
R E V I S I O N S			DATE:	10.28.2022



**Harper  
Houf Peterson  
Righellis Inc.**

ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS

250 NW Franklin Ave, Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1144

TYPICAL SECTIONS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.

# G04

JOB NC

DCO-01



P:\03-Band\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\SS\Sheets\ DCO-01\_G03-G05 Typical Sections.dwg

WATER QUALITY SWALE DATA						
NUMBER	PLAN SHEET	LOCATION	BEGIN STA	END STA	LENGTH	R/L
1	EC01	LOW POINT	114+45	116+34	189	R,L
2	EC01	LOW POINT	119+46	121+41	195	R,L
3	EC02	DRAINAGE CURB	126+06	127+50	144	R
4	EC02	LOW POINT	126+06	127+73	167	L
5	EC02	DRIVEWAY #1	127+97	128+36	39	L
6	EC03	LOW POINT	139+47	141+40	193	R,L
7	EC03	DRIVEWAY#2	145+59	145+81	22	R
8	EC03	DRIVEWAY #3	147+32	147+92	60	R
9	EC03-EC04	LOW POINT	147+42	149+34	192	L
10	EC03-EC04	LOW POINT	148+07	149+34	127	R
11	EC04	LOW POINT	157+96	158+10	14	R
12	EC04	DRAINAGE CURB	160+65	160+96	31	R
13	EC05	DRIVEWAY #8	168+31	168+83	52	L
14	EC05	LOW POINT	168+47	169+76	129	R
15	EC05	LOW POINT	169+07	169+76	69	L
16	EC05	HARRIS WAY	171+45	171+65	20	R
17	EC05-EC06	LOW POINT	171+95	173+82	187	L
18	EC06	DRAINAGE CURB	174+80	175+00	20	R
19	EC06	LOW POINT	178+65	179+81	116	R
20	EC06	LOW POINT	178+90	180+16	126	L
21	EC06	DWY #11 & #13	180+05	180+66	61	R
22	EC06	DRIVEWAY #12	180+35	180+86	51	L
23	EC06	DRIVEWAY #13	180+87	181+28	41	R
24	EC07	DRIVEWAY #17	185+63	185+79	16	R
25	EC07	DRIVEWAY #18	187+30	187+74	44	L
26	EC07	DRIVEWAY #19	188+90	189+29	39	L
27	EC07	LOWE LANE	191+97	192+51	54	R
28	EC07	LOW POINT	193+28	195+05	177	L
29	EC07	LOW POINT	193+80	195+05	125	R
30	EC08	DRIVEWAY #21	198+27	198+54	27	R
31	EC08	DRAINAGE CURB	199+12	199+50	38	R
32	EC08	LOW POINT	199+56	201+27	171	L
33	EC08	LOW POINT	200+20	201+52	132	R
34	EC09	LOW POINT	211+28	213+40	212	R
35	EC09	DRIVEWAY #26	211+52	212+25	73	L
36	EC09	DRIVEWAY #26	212+56	213+40	84	L
37	EC09	DRAINAGE CURB	214+82	215+05	23	R
38	EC09	DRIVEWAY #27	214+91	215+14	23	L
39	EC10	DRIVEWAY #31	226+84	227+00	16	L
40	EC10	SUNBEAM LANE*	227+37	227+68	31	R

WATER QUALITY SWALE DATA						
NUMBER	PLAN SHEET	LOCATION	BEGIN STA	END STA	LENGTH	R/L
41	EC10	DRAINAGE CURB	230+10	230+35	25	R
42	EC10	DRIVEWAY #32	230+24	230+49	25	L
43	EC10-EC11	LOW POINT	231+55	233+44	189	R
44	EC10	LOW POINT	231+72	232+86	114	L
45	EC11	DRIVEWAY #34	235+45	236+06	61	R
46	EC11	DRIVEWAY #35	236+27	236+45	18	L
47	EC11	DRIVEWAY #36	237+68	238+06	38	R
48	EC11	LOW POINT	238+10	239+99	189	L
49	EC11	LOW POINT	238+28	239+99	171	R
50	EC11	DRIVEWAY #40	243+15	243+32	17	R
51	EC11	DRIVEWAY #41	243+82	243+95	13	L
52	EC12	DRIVEWAY #42	247+30	247+55	25	R
53	EC12	DRIVEWAY #43	247+43	247+68	25	L
54	EC12	LOW POINT	249+07	250+76	169	R
55	EC12	LOW POINT	249+07	251+00	193	L
56	EC12	DRIVEWAY #45	251+33	251+65	32	L
57	EC12	DRIVEWAY #46	251+70	251+96	26	R
58	EC12	DRIVEWAY #47	254+06	254+22	16	R
59	EC12	DRIVEWAY #48	254+40	254+58	18	L
61	EC13	DRAINAGE CURB	260+70	261+04	34	R
62	EC13	LOW POINT	262+74	263+37	77	L
63	EC13	DRIVEWAY #51	263+48	264+70	122	R
64	EC13	LOW POINT	264+55	266+80	225	L
65	EC13	LOW POINT	265+03	267+85	282	R
66	EC14	LOW POINT	269+87	273+18	331	R
67	EC14	LOW POINT	270+88	272+15	127	L
68	EC14	DRIVEWAY #55	272+29	273+18	89	L
69	EC14	DRIVEWAY #60	275+35	276+34	99	R
70	EC14	DRIVEWAY #59	275+56	275+89	33	L
71	EC14	DWY #59 & #61	276+10	276+81	71	L
72	EC14	LOW POINT	276+53	278+54	201	R
73	EC14	LOW POINT	277+06	278+19	113	L
74	EC14	DWY #62 & #64	278+35	279+76	141	L
75	EC15	LOW POINT	281+83	284+20	237	R,L
76	EC15	DRIVEWAY #70	287+62	287+86	24	R
77	EC15	DRIVEWAY #71	287+96	288+20	24	L
78	EC15	DWY #72 & #74	289+53	289+99	46	R
79	EC15	DWY #73 & 75	290+09	290+65	56	L
80	EC15	DRIVEWAY #74	290+16	290+28	12	R
81	EC15	DRIVEWAY #75	290+91	291+27	36	L

CHECK DAM DATA							
PLAN SHEET	BEGIN STA	END STA	R/L	LENGTH	MAX GRADE	MAX SPACING	QUANTITY*
EC01-EC02	122+77	125+20	R,L	243	3.85%	100	3
EC02	128+33	129+83	L	150	3.29%	100	2
EC02-EC03	135+05	139+15	R,L	410	5.30%	100	5
EC03	144+52	147+08	R,L	256	3.00%	100	3
EC04	155+58	158+04	R,L	246	5.74%	100	3
EC04-EC05	158+04	161+66	L	362	4.70%	100	4
EC05	165+61	168+09	R,L	248	4.20%	100	3
EC06	174+00	175+00	R,L	100	2.40%	100	1
EC06	176+50	178+50	L	200	3.70%	100	2
EC06-EC07	184+62	190+13	R,L	551	4.60%	100	6
EC07-EC08	195+95	199+17	R,L	322	2.50%	100	4
EC08-EC09	208+30	211+20	R,L	290	4.30%	100	3
EC09	215+00	217+00	L	200	4.00%	100	2
EC09-EC10	220+16	221+30	R,L	114	2.10%	100	2
EC10	224+10	227+00	L	290	4.90%	100	3
EC10	229+30	230+50	R,L	120	2.70%	100	2
EC11	234+32	236+45	L	213	3.70%	100	3
EC11	236+45	237+75	R,L	130	3.70%	100	2
EC11-EC12	242+37	248+69	R,L	632	5.20%	100	7
EC12	251+39	255+83	R,L	444	4.30%	100	5
EC12	259+22	261+12	L	190	3.60%	100	2

- \*NOTES:  
1. CONSTRUCT CHECK DAMS PER ODOT STD DWG RD1005, AGGREGATE CHECK DAM - TYPE 1.  
2. CHECK DAMS TO HAVE A HEIGHT OF 4".  
3. QUANTITY IS # OF DAMS PER SIDE OF ROAD.



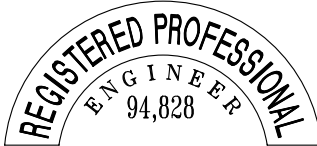
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



**Harper Houf Peterson Righellis Inc.**  
ENGINEERS\*PLANNERS  
LANDSCAPE ARCHITECTS\*SURVEYORS  
250 NW Fanklin Ave, Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRAINAGE DATA  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

SHEET NO.

G05

JOB NO.

DCO-01

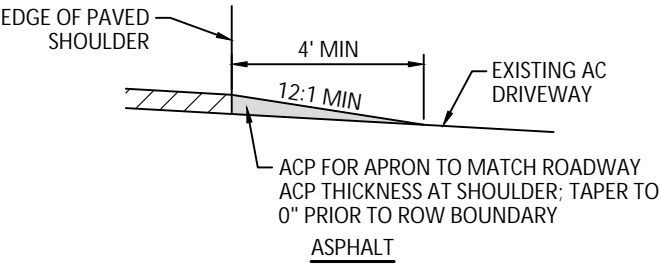
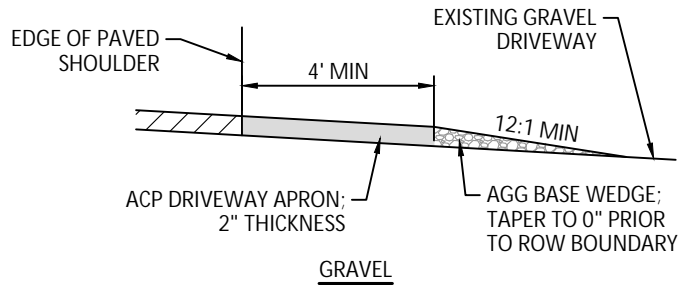
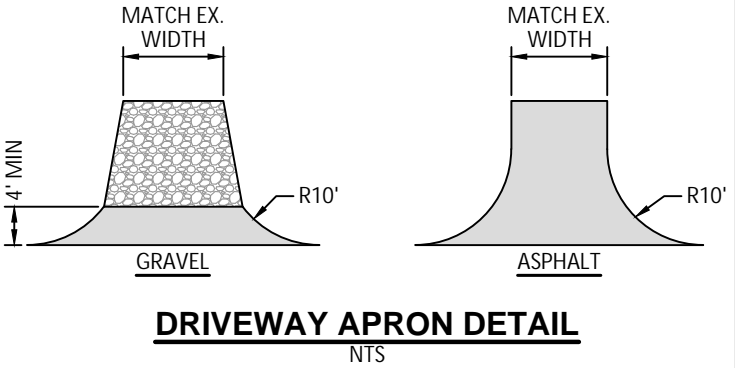
100% SUBMITTAL



P:\03-Band\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\DCO-01\_G06 Driveway Data.dwg

DRIVEWAY DATA								
#	PLAN SHEET	STATION (C/L APRON)	L / R	ASPHALT/ GRAVEL	EP ELEV @ DRIVEWAYC/L	BACK OF DRIVEWAY ELEV @ DRIVEWAY C/L	LENGTH (FT)	(P) SLOPE (%)
1	RD03	127+86	L	GRAVEL	3446.59	3446.58	13.4	-0.07%
2	RD06	145+90	R	ASPHALT	SEE SHEET RD45 FOR MORE INFORMATION			
3	RD06	148+00	R	GRAVEL	3426.23	3424.79	15	-9.60%
4	RD07	150+37	R	ASPHALT	3427.83	3427.84	15	0.07%
5	RD07	151+70	R	GRAVEL	3428.91	3428.43	15	-3.20%
6	RD07	153+13	R	GRAVEL	SEE SHEET RD38 FOR MORE INFORMATION			
7	RD07	154+69	L	ASPHALT	3430.62	3429.91	15	-4.73%
8	RD10	268+95	L	GRAVEL	3396.97	3395.76	15	-8.07%
9	RD10	171+51	L	ASPHALT	3394.38	3395.53	15	7.67%
10	RD11	175+76	L	GRAVEL	3396.20	3397.96	15	11.73%
11	RD12	179+93	R	GRAVEL	3388.41	3387.83	15	-3.87%
12	RD12	180+26	L	GRAVEL	3388.59	3387.25	15	-8.93%
13	RD12	180+77	R	GRAVEL	3389.19	3388.92	15	-1.80%
14	RD12	182+35	L	ASPHALT	3391.77	3390.81	15	-6.40%
15	RD12	182+39	R	GRAVEL	3391.83	3391.56	15	-1.80%
16	RD12	183+08	L	GRAVEL	3392.93	3392.03	15	-6.00%
17	RD13	185+92	R	ASPHALT	SEE SHEET RD45 FOR MORE INFORMATION			
18	RD13	187+80	L	ASPHAT	SEE SHEET RD45 FOR MORE INFORMATION			
19	RD13	189+34	L	ASPHALT	SEE SHEET RD46 FOR MORE INFORMATION			
20	RD14	195+22	L	GRAVEL	3366.49	3368.08	15	10.60%
21	RD15	198+63	R	ASPHALT	SEE SHEET RD46 FOR MORE INFORMATION			
22	RD15	201+36	L	GRAVEL	3356.95	3356.39	15.2	-3.68%
23	RD16	203+95	L	GRAVEL	3358.37	3357.15	16.4	-7.44%
24	RD16	205+77	L	GRAVEL	SEE SHEET RD47 FOR MORE INFORMATION			
25	RD16	207+18	L	ASPHALT	SEE SHEET RD47 FOR MORE INFORMATION			
26	RD17	212+41	L	GRAVEL	3340.65	3339.99	15	-4.40%
27	RD17	214+70	L	GRAVEL	3343.65	3343.51	15	-0.93%
28	RD18	218+14	L	ASPHALT	3352.52	3351.82	15	-4.67%
29	RD19	222+41	L	GRAVEL	3348.09	3347.25	15	-5.60%
30	RD19	224+21	R	ASPHALT	SEE SHEET RD48 FOR MORE INFORMATION			
31	RD20	227+11	L	ASPHALT	SEE SHEET RD41 FOR MORE INFORMATION			
32	RD20	230+60	L	GRAVEL	3324.30	3322.76	15	-10.27%
33	RD20	232+98	L	GRAVEL	3321.39	3319.29	28.4	-7.39%
34	RD21	236+15	R	ASPHALT	SEE SHEET RD48 FOR MORE INFORMATION			
35	RD21	236+56	L	GRAVEL	3313.03	3312.71	15	-2.13%
36	RD21	238+15	R	GRAVEL	3308.95	3310.20	15	8.33%
37	RD22	240+71	R	GRAVEL	3310.32	3313.45	22.5	13.91%
38	RD22	241+63	R	GRAVEL	3310.81	3311.94	15	7.53%

DRIVEWAY DATA								
#	PLAN SHEET	STATION (C/L DRIVEWAY)	L / R	ASPHALT/ GRAVEL	EP ELEV @ DRIVEWAYC/L	BACK OF DRIVEWAY ELEV @ DRIVEWAY C/L	LENGTH (FT)	(P) SLOPE (%)
39	RD22	242+18	L	GRAVEL	SEE SHEET RD49 FOR MORE INFORMATION			
40	RD22	243+44	R	GRAVEL	3306.49	3305.02	15	-9.80%
41	RD22	244+01	L	GRAVEL	SEE SHEET RD49 FOR MORE INFORMATION			
42	RD23	247+68	R	GRAVEL	3292.17	3291.68	17.1	-2.87%
43	RD23	247+79	L	ASPHALT	3291.89	3291.46	15	-2.87%
44	RD23	250+92	R	ASPHALT	SEE SHEET RD50 FOR MORE INFORMATION			
45	RD24	251+26	L	GRAVEL	SEE SHEET RD50 FOR MORE INFORMATION			
46	RD24	251+63	R	ASPHALT	SEE SHEET RD50 FOR MORE INFORMATION			
47	RD24	253+92	R	GRAVEL	3297.08	3294.96	37.4	-5.67%
48	RD24	254+30	L	GRAVEL	3298.71	3297.63	15	-7.20%
49	RD25	258+82	R	GRAVEL	SEE SHEET RD51 FOR MORE INFORMATION			
50	RD25	259+94	L	GRAVEL	SEE SHEET RD52 FOR MORE INFORMATION			
51	RD26	264+87	R	ASPHALT	SEE SHEET RD53 FOR MORE INFORMATION			
52	RD26	267+73	L	GRAVEL	SEE SHEET RD54 FOR MORE INFORMATION			
53	RD27	269+35	L	GRAVEL	3295.10	3292.88	25	-8.88%
54	RD27	270+80	L	GRAVEL	3294.67	3293.38	15	-8.60%
55	RD27	271+58	L	GRAVEL	3294.44	3293.02	15.3	-9.28%
56	RD27	272+22	L	GRAVEL	3294.19	3293.21	15	-6.53%
57	RD27	274+17	L	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
58	RD27	274+37	R	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
59	RD27	274+82	L	GRAVEL	SEE SHEET RD55 FOR MORE INFORMATION			
60	RD28	275+99	L	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
61	RD28	276+44	R	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
62	RD28	276+93	L	GRAVEL	SEE SHEET RD56 FOR MORE INFORMATION			
63	RD28	278+27	L	GRAVEL	3291.47	3289.85	15	-10.80%
64	RD28	278+67	R	GRAVEL	3291.67	3289.75	15	-12.80%
65	RD28	279+83	L	GRAVEL	3293.33	3292.37	15	-6.40%
66	RD29	281+36	L	GRAVEL	3292.85	3291.33	15	-10.13%
67	RD29	284+15	L	ASPALT	3292.21	3291.38	15	-5.53%
68	RD29	285+08	R	GRAVEL	3292.68	3292.06	15	-4.13%
69	RD29	286+13	L	GRAVEL	3293.71	3292.90	15	-5.40%
70	RD29	286+70	R	ASPHALT	3294.66	3294.47	15	-1.27%
71	RD29	287+50	R	GRAVEL	3296.29	3294.66	15	-10.87%
72	RD30	287+89	L	ASPHALT	3297.31	3296.59	15	-4.80%
73	RD30	289+43	R	GRAVEL	3300.63	3298.96	15	-11.13%
74	RD30	290+00	L	GRAVEL	3301.76	3301.35	15	-2.73%
75	RD30	290+08	R	GRAVEL	3301.96	3300.93	15	-6.87%
76	RD30	290+78	L	ASPHALT	3303.75	3303.14	15	-4.07%
77	RD26	1+17 (POHAKU RD)	R	GRAVEL	SEE SHEET RD42 FOR MORE INFORMATION			
78	RD26	1+30 (POHAKU RD)	L	ASPALT	SEE SHEET RD42 FOR MORE INFORMATION			



NOTE: MAINTAIN POSITIVE DRAINAGE AT DRIVEWAY LOCATIONS

### DRIVEWAY TRANSITIONS



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION		
R E V I S I O N S			DATE:	10.28.2022



**Harper**  
**Hoof Peterson**  
**Righellis Inc.**

ENGINEERS\*PLANNERS  
LANDSCAPE ARCHITECTS\*SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

## DRIVEWAY DATA

# HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

## DESCHUTES COUNTY, OREGON

100% SUBMITTAL

SHEET NO.

G06

JOB NO.

DCO-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\ DCO-01\_G07 Fence Data.dwg




			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



**Harper  
Houf Peterson  
Righellis Inc.**  
ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS  
250 NW Franklin Ave, Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

100% SUBMITTAL

FENCE DATA  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

SHEET NO.  
**G07**

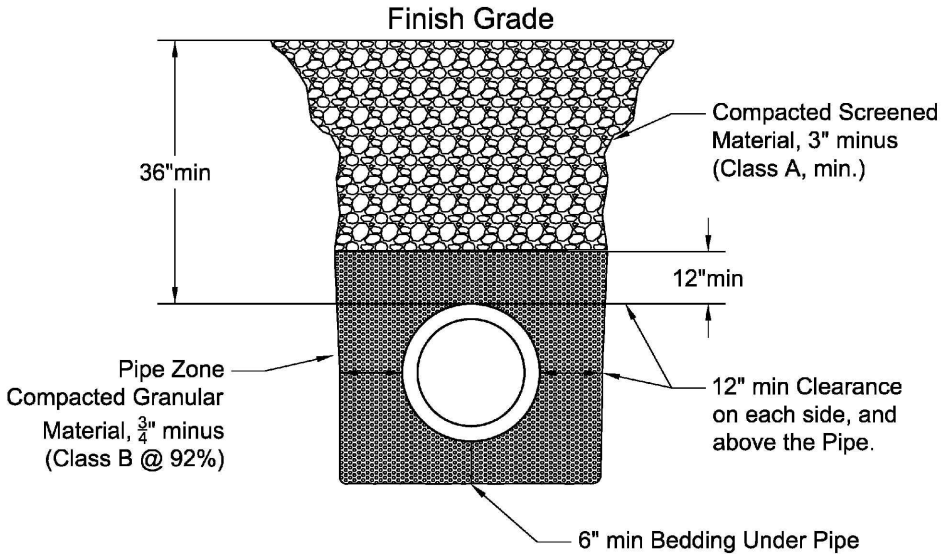
JOB NO.  
DCO-01

FENCE CONSTRUCTION DATA														
#	PLAN SHEET(S)	DEMO LIMITS				DEMO LENGTH (FT)	REBUILD LIMITS				REBUILD LENGTH (FT)	FENCE TYPE	COMMENTS	TAXLOT AFFECTED
		START		END			START		END					
		STATION	OFFSET	STATION	OFFSET		STATION	OFFSET	STATION	OFFSET				
1	RD02	123+53	27.0'L	123+66	27.0'L	13	N/A					SMOOTH WIRE	REMOVE; DO NOT REPLACE	171209C000200
2	RD03	124+92	37.6'R	126+64	29.3'R	185	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209C000200
3	RD03	129+46	28.4'R	129+85	28.8'R	39	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209B000800
4	RD05	141+94	29.3'R	142+91	29.7'R	97	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	171209B001200
5	RD11	175+45	22.8'R	177+56	29.3'R	212	N/A					4-WIRE JUNIPER	REMOVE; DO NOT REPLACE	1712040000502
6	RD15	197+18	24.9'L	197+59	28.7'L	41	SAME AS DEMO				41	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	1712040000225
7A	RD17	209+09	30.0'L	210+56	30.0'L	228	209+09	30.0'L	210+56	30.0'L	139	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	1612330000907
7B	RD17	210+76	3.9'R	211+82	26.2'L	120	210+56	30.0'L	211+82	30.0'L	119	WOOD POST & TYPE 1	REMOVE & REINSTALL	1612330000906
8	RD23	247+91	30.0'L	248+96	30.0'L	115	N/A					WOOD POST / MESH	REMOVE; DO NOT REPLACE	161233B001100
9	RD24-RD25	254+89	30.0'R	258+10	30.0'R	363	254+89	30.0'R	258+10	30.0'R	321	WHITE VINYL 3-RAIL	REMOVE & REINSTALL	161233B000100
10A	RD26	264+60	30.0'L	268+73	22.9'L	510	264+60	30.0'L	268+72	54.6'L	369	WOOD POST / MESH (NO TOP)	REMOVE & REINSTALL	161228C001600
10B	RD26-RD27	268+73	22.9'L	269+62	23.8'L	88	268+73	29.8'L	269+62	23.8'L	89	WOOD POST / MESH (NO TOP)	REMOVE & REINSTALL; RELOCATE EXISTING GATE ACCESS	161228C001500
11	RD26-RD27	267+68	30.0'R	274+28	23.9'R	671	N/A					TREATED 3-RAIL 2X8 ON 6X8	REMOVE; DO NOT REPLACE	161228DC00100
12	RD27-RD28	274+48	23.5'R	275+26	27.2'R	99	274+60	30.0'R	275+35	30.0'R	75	MIX-TYPE 1 / WOOD POST	REMOVE & REINSTALL	161228DC00099
13A	RD29	281+41	26.8'L	283+05	25.1'L	164	281+40	30.0'L	283+05	30.0'L	165	TYPE 2	REPLACE	161228C001000
13B	RD29	283+05	25.1'L	283+70	24.3'L	65	283+05	30.0'L	283+70	30.0'L	65	MIX-CEDAR PICKET / POST & MESH	PROTECT IN PLACE; CONSULT ENGINEER IF REMOVAL IS REQUIRED	161228C000900



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\G8\Sheets\ DCO-01\_G08 Water Details.dwg

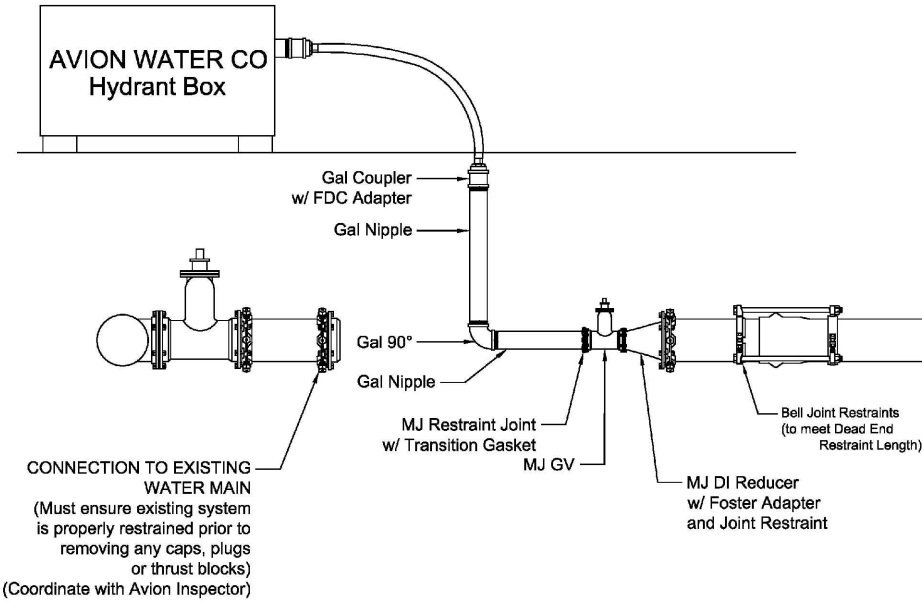
AVION WATER CO, INC.  
GENERAL TRENCH DETAIL



- NOTES:
1. MUST ADHERE TO CITY AND COUNTY ROW SPECIFICATIONS, when applicable.
  2. Pipe bedded in compact granular material to the centerline of the pipe, 6" minimum under the pipe.
  3. Compacted granular material, 12" above top of pipe.
  4. Compaction testing shall be performed at the top of pipe zone, 12" min above waterline. Compaction testing shall meet 92% and tested every 100ft.

DWN BY: TEL	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-081-0003 Construction Standards.	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	NOT TO SCALE
DATE: April 2022			REV/DATE
			REV/DATE
			REV/DATE

AVION WATER CO  
FULL SEPARATION CHLORINATION  
Hot Stick Chlorination Detail



TESTING AND FLUSHING

Flushing needs to meet AWWA Standards (3.0ft/sec)  
4"-10" Mainline - May use (1) 2 1/2" Hydrant Port and (1) Hydrant Box  
12"-16" Mainline - May use (2) 2 1/2" Hydrant Ports and (2) Hydrant Boxes  
Any Mainline 18" and above or any proposed flushing variation must be verified by Avion Water Inspector

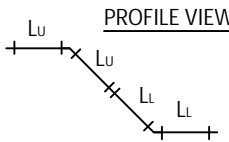


DWN BY: TEL	Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-081-0003 Construction Standards.	AVION WATER CO 60813 PARRELL RD BEND, OR 97702	NOT TO SCALE
DATE: JAN 2022			REV/DATE
			REV/DATE
			REV/DATE

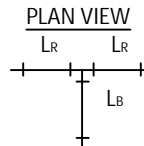
HOT STICK CONNECTION AFTER FLUSHING  
Pipe and sleeves to be hand chlorinated

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
HORIZONTAL BENDS	MIN. RESTRAINED LENGTH FROM END OF BEND
4" - 45°	7'
4" - 90°	15'
12" - 22.5°	8'

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS		
VERTICAL BENDS	MIN RESTRAINED LENGTH UPPER SIDE (LU)	MIN RESTRAINED LENGTH LOWER SIDE (LL)
4" - 45°	14'	3'
12" - 45°	37'	8'



RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS		
TEES	MIN RESTRAINED LENGTH ALONG RUN (LR)**	MIN RESTRAINED LENGTH ALONG BRANCH (LB)
12" x 12"	12'	22'

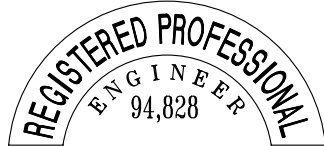


\*\* LENGTH ALONG RUN FROM TEE SHALL EXTEND THE MINIMUM SPECIFIED IN THE TABLE IN EACH DIRECTION FROM THE TEE AND SHALL BE SOLID PIPE WITHOUT JOINTS, FITTING, ETC.

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
REDUCERS	MIN RESTRAINED LENGTH
12" x 4"	76'

RESTRAINED LENGTH FOR DUCTILE IRON FITTINGS	
DEAD ENDS	MIN RESTRAINED LENGTH
4"	34'
12"	84'

100% SUBMITTAL



OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS  
EXPIRES: 06/30/24

WATER DETAILS

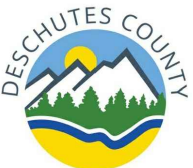
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.

G08

JOB NO.

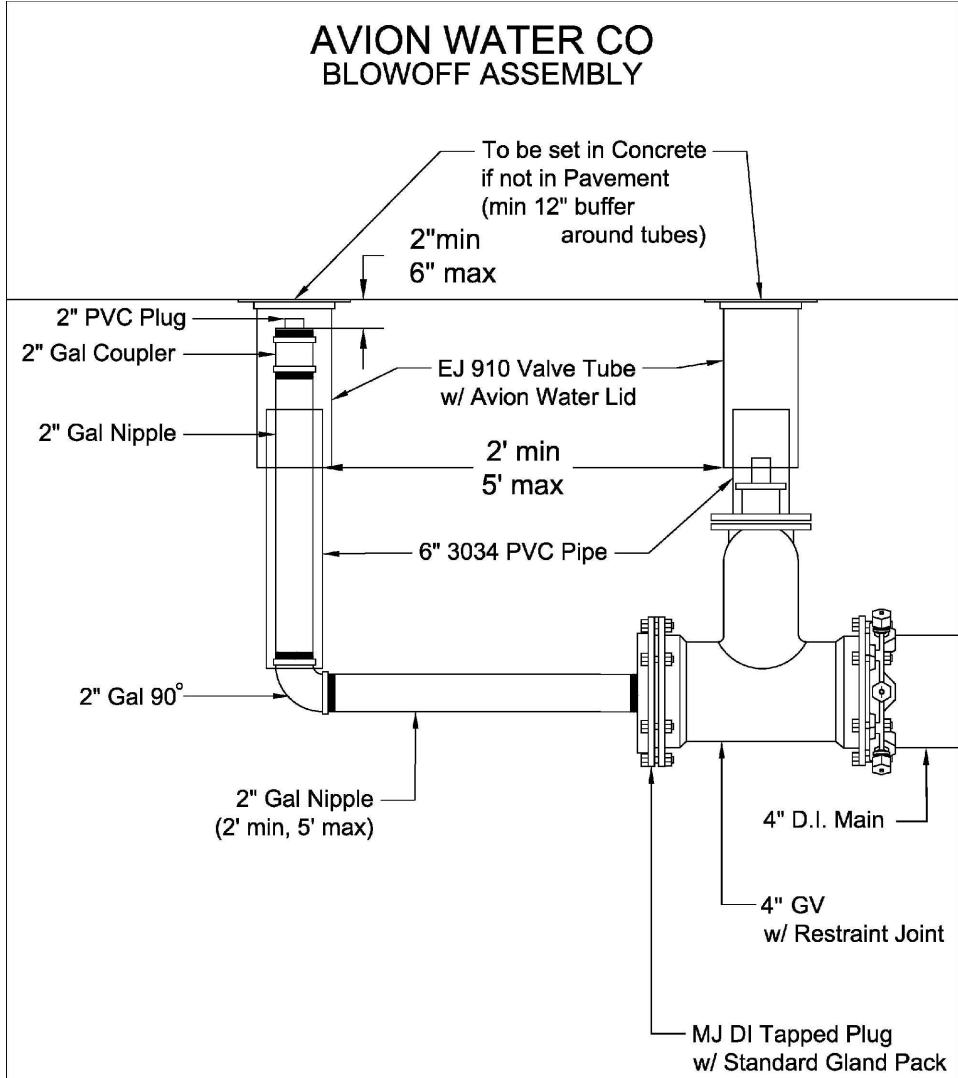
DCO-01



			DESIGNED: HHPR TEAM
			DRAWN: MD
			CHECKED: NS
			DATE: 10.28.2022
DATE	NO.	DESCRIPTION	
R E V I S I O N S			

Harper  
Houf Peterson  
Righellis Inc.  
ENGINEERS \* PLANNERS  
LANDSCAPE ARCHITECTS \* SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141





DWN BY: TEL

DATE: JAN 2022



Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.

AVION WATER CO

60813 PARRELL RD BEND, OR 97702

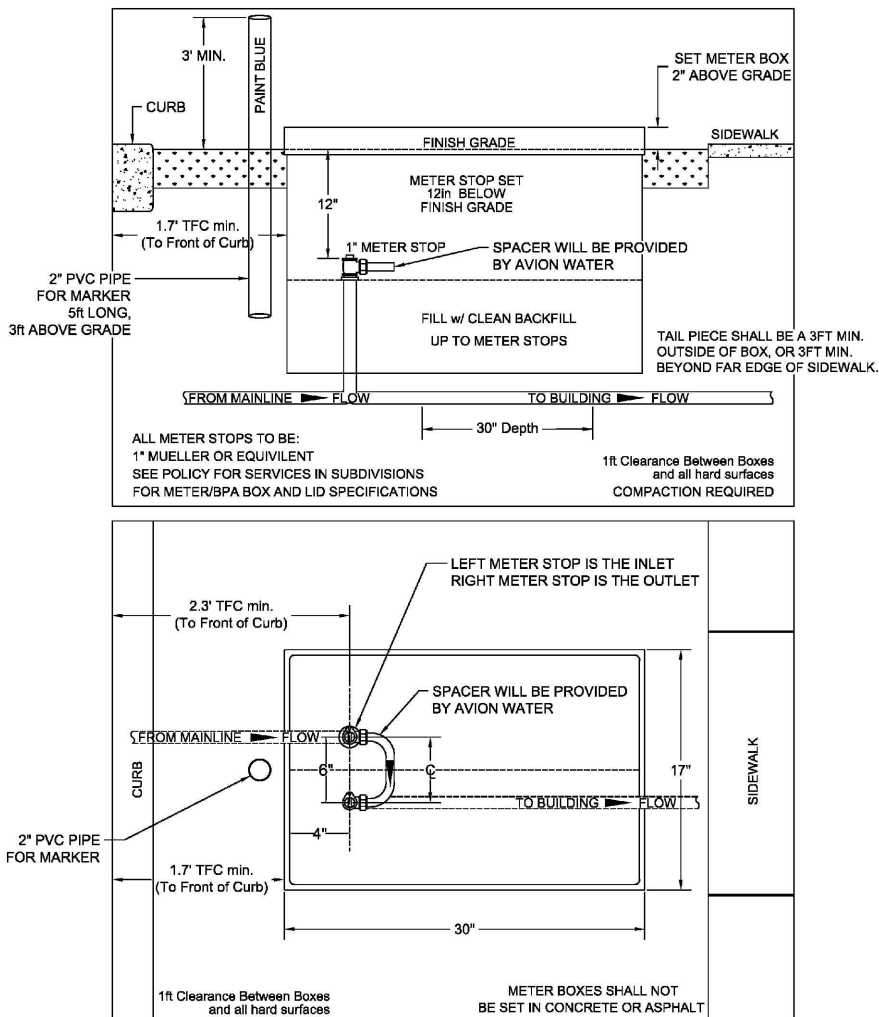
2" BLOW OFF

NOT TO SCALE

RE/DATE

RE/DATE

RE/DATE



DWN BY: TEL

DATE: Jan 2022



Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.

AVION WATER CO

60813 PARRELL RD BEND, OR 97702

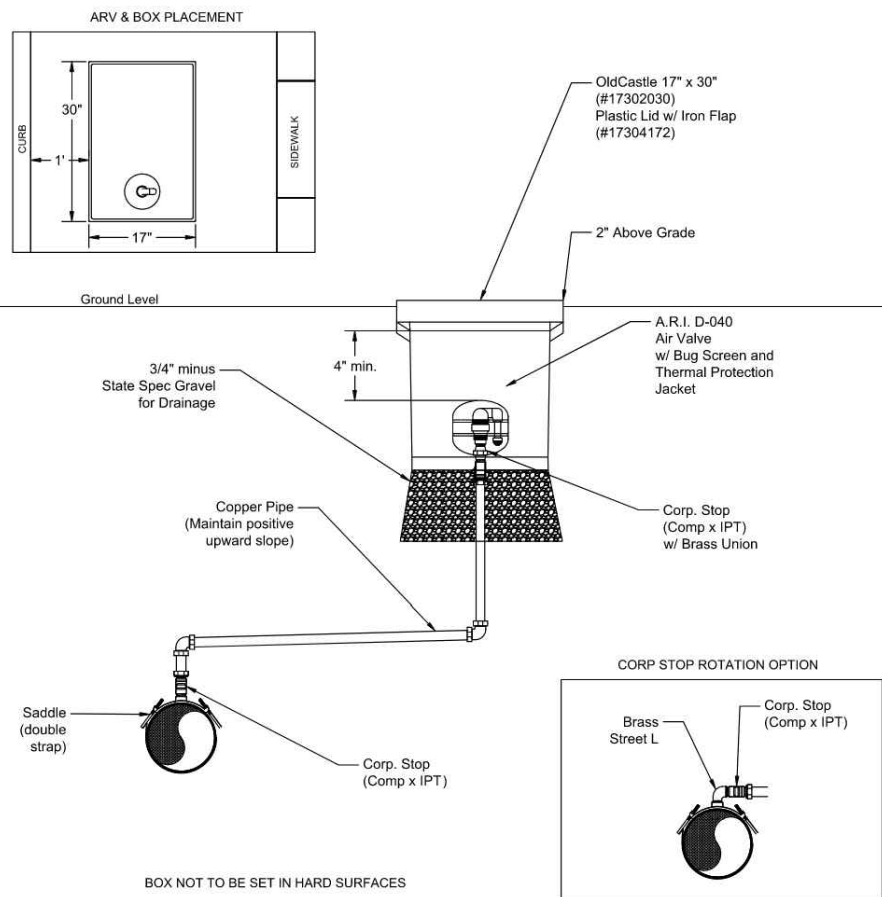
3/4" & 1" METER INSTALLATION

NOT TO SCALE

RE/DATE

RE/DATE

RE/DATE



DWN BY: TEL

DATE: JAN 2022



Avion design specifications do not relieve the developer, engineer, or contractor from responsibility to design and construct the water system in accordance with good engineering and construction practices. Must adhere to OAR 333-061-0050 Construction Standards.

AVION WATER CO

60813 PARRELL RD BEND, OR 97702

AIR RELIEF

METER BOX APPLICATIONS

NOT TO SCALE

RE/DATE

RE/DATE

RE/DATE



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION		
R E V I S I O N S				
			DATE:	10.28.2022



Harper

Houf Peterson

Righellis Inc.

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LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

WATER DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24

SHEET NO.  
G09

JOB NO.  
DCO-01




## PLAN & PROFILE

The logo for Deschutes County is a circular emblem. The top half of the circle is blue, representing the sky, with a yellow sun partially obscured by a white mountain peak. Below the mountain is a green forest of evergreen trees. The bottom half of the circle is yellow, representing a river or lake, with a blue wavy line indicating the water's surface. The words "DESCHUTES COUNTY" are written in a semi-circle above the emblem.

### SPLITTER ISLAND DETAILS

The map illustrates a proposed road alignment in the Redmond area. The alignment is shown as a thick black line with stationing from 0+00 to 293+71. The map includes labels for major roads: U.S. HWY 20, OLD BEND REDMOND HWY, COOLEY RD, LOCOR RD, BOWERY LN, ROGERS RD, LOWE LN, SUNBEAM LN, POHAKU RD (RD 31), and TUMALO RD. The alignment crosses several of these roads. Station markers are placed every 200 feet, with specific points labeled from 01 to 30. A north arrow is located in the upper right corner.

## INTERSECTION DETAILS

 **Harper  
Houf Peterson  
Righellis Inc.**

---

ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS

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phone: 541.318.1161 [www.hhpr.com](http://www.hhpr.com) fax: 541.318.1141

## DRIVEWAY DETAILS

ROADWAY DESIGN SHEET INDEX  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019

NICOLAS G. SPEROS

EXPIRES: 06/30/24

# 100% SUBMITTAL

SHEET NO.

RD00

JOB NO.

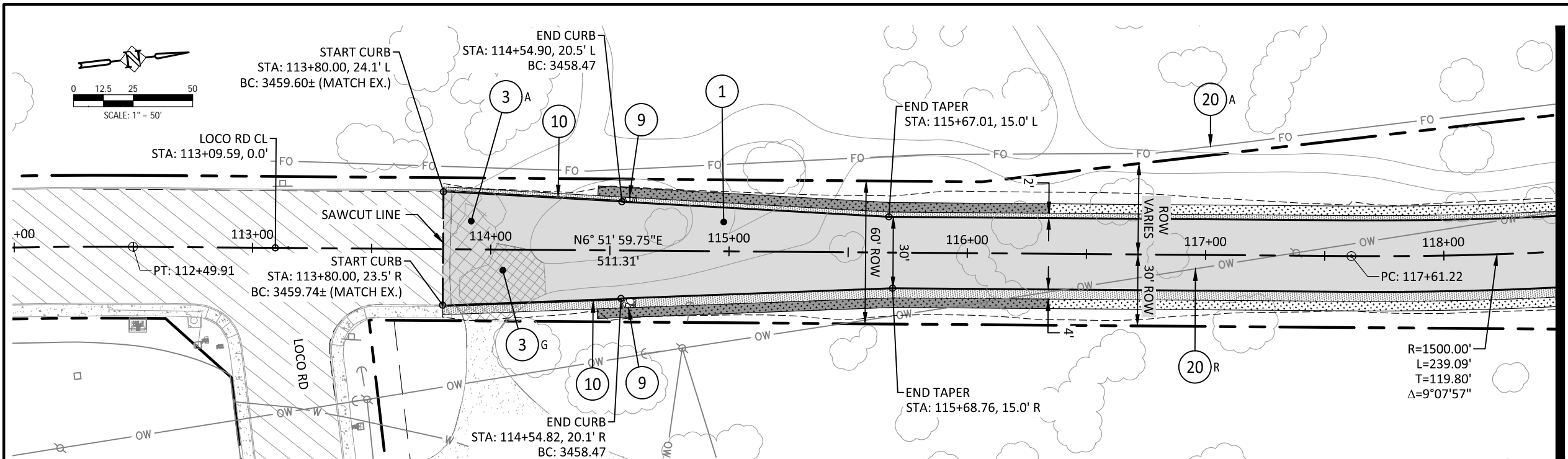
DC0-01



CONSTRUCTION NOTES:

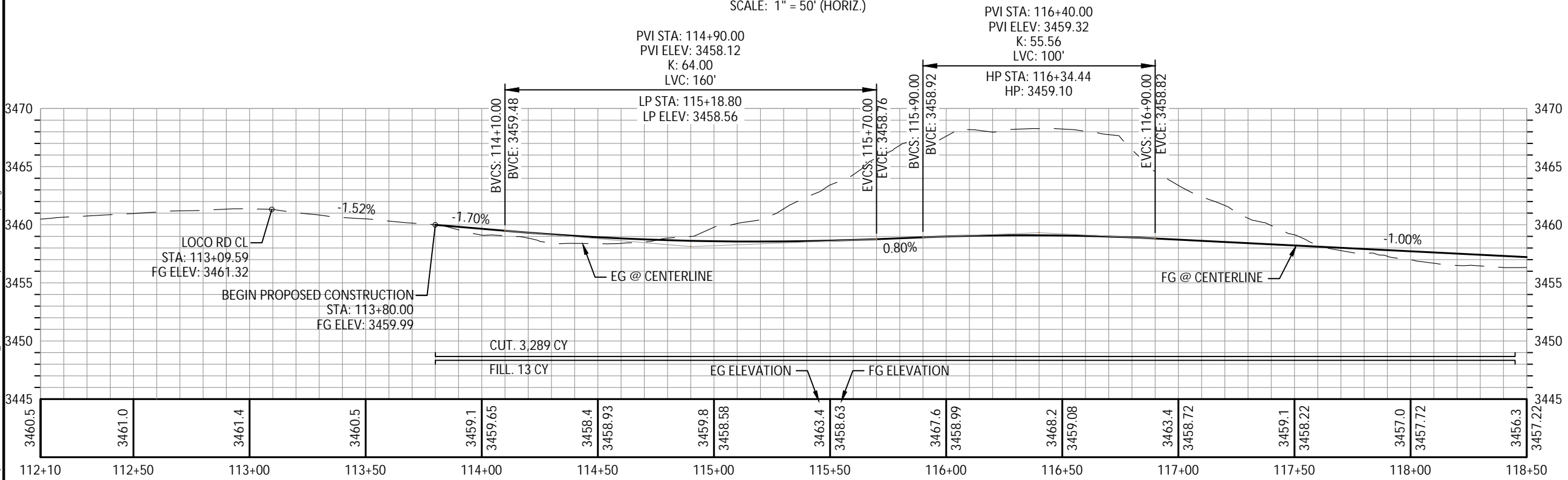
- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
- 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
- 9 INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
- 10 CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
- 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

MATCHLINE STA 118+50 SEE SHEET RD02



STA 112+00 TO 118+50 - PLAN

SCALE: 1" = 50' (HORIZ.)



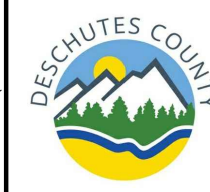
STA 112+00 TO 118+50 - PROFILE

SCALE: 1" = 50' (HORIZ.)  
1" = 10' (VERT.)

100% SUBMITTAL



EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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PLAN & PROFILE - STA 112+00 TO 118+50  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD01**  
JOB NO.  
DC0-01

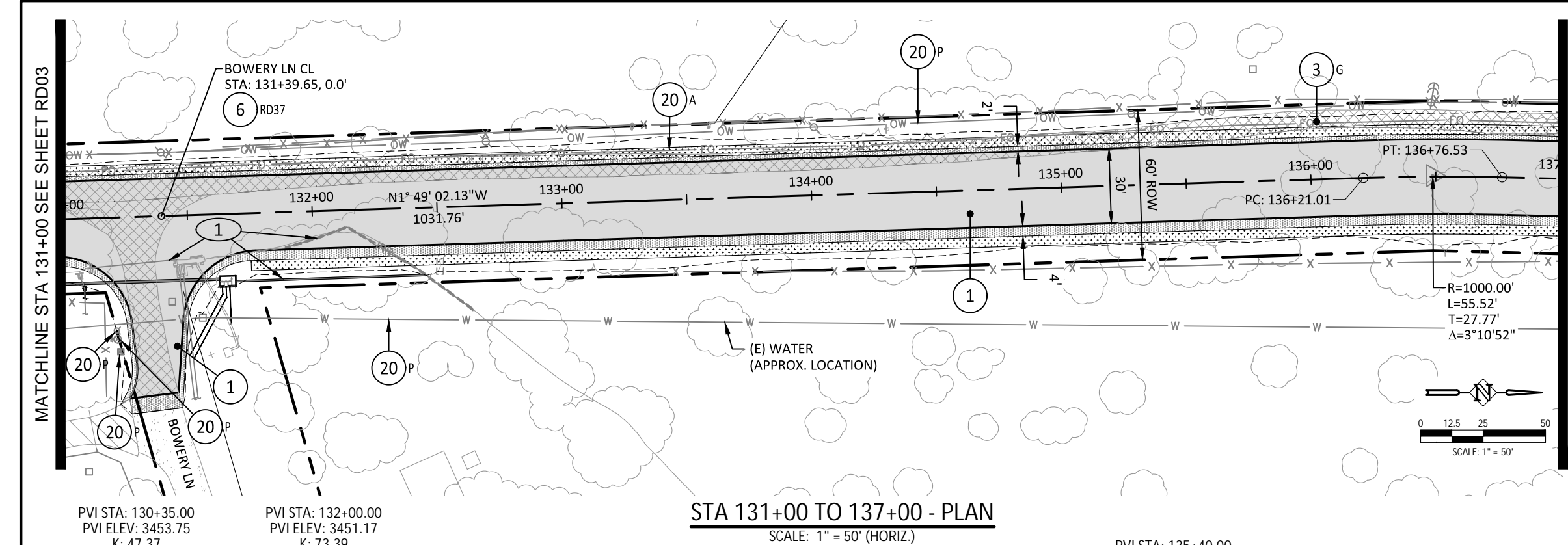




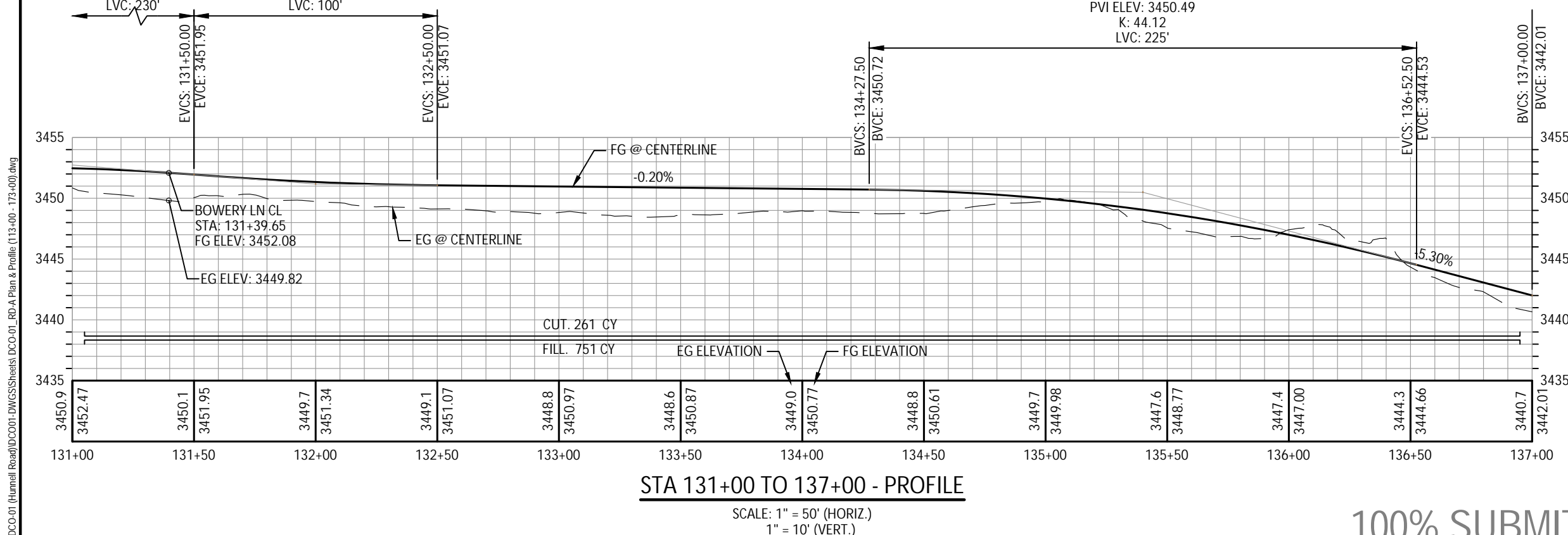








- CONSTRUCTION NOTES:**
- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
  - 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
  - 6 PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
  - 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.
- IRRIGATION CANAL NOTES:**
- 1 EXISTING OPEN-CHANNEL IRRIGATION FACILITY TO BE RECONSTRUCTED AS PIPED FACILITY. SEE SHEET CX02 FOR MORE INFORMATION.



100% SUBMITTAL

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24

			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				

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PLAN & PROFILE - STA 131+00 TO 137+00

**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**

DESCHUTES COUNTY, OREGON

SHEET NO.

**RD04**

JOB NO. DCO-01









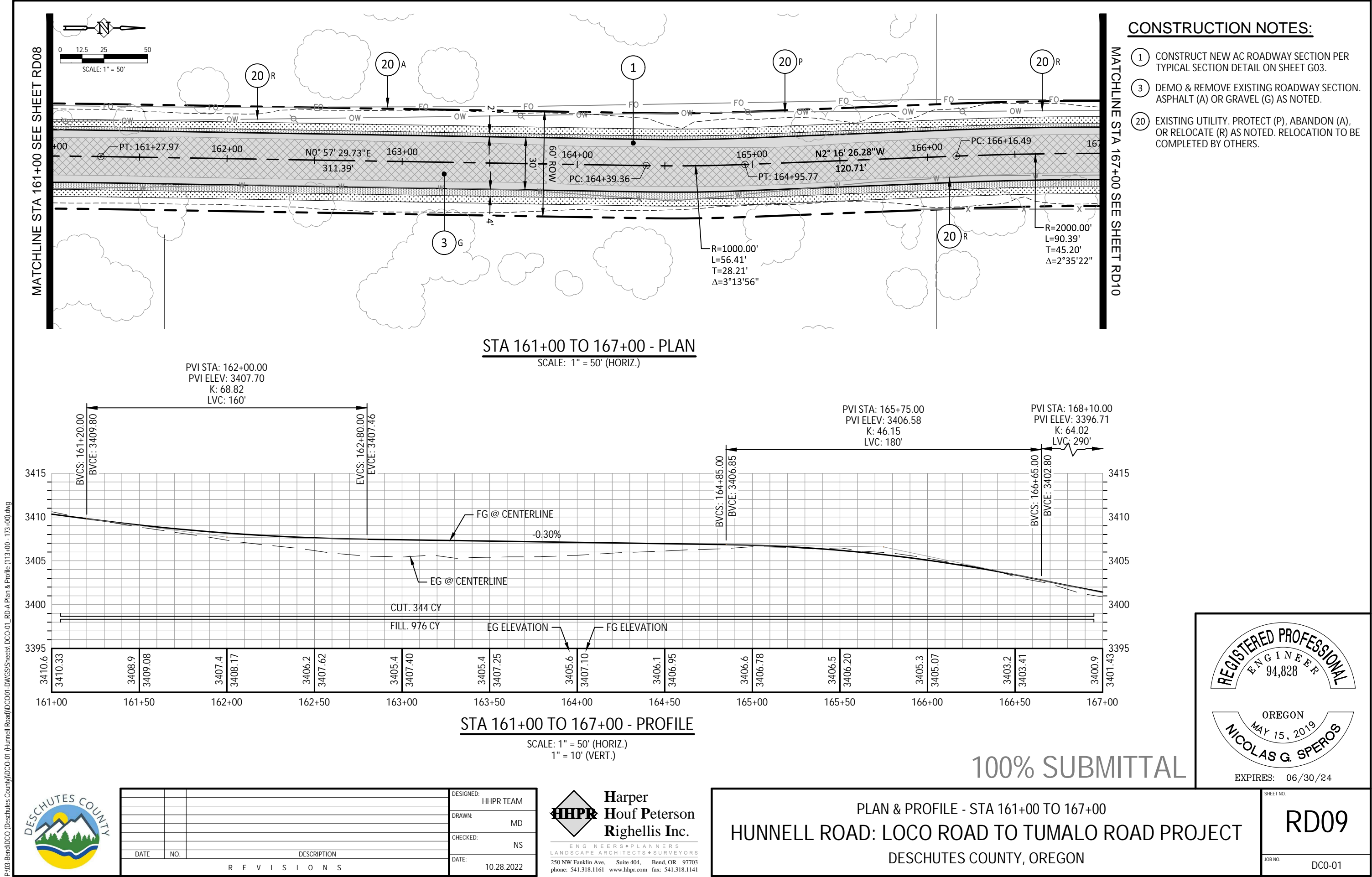








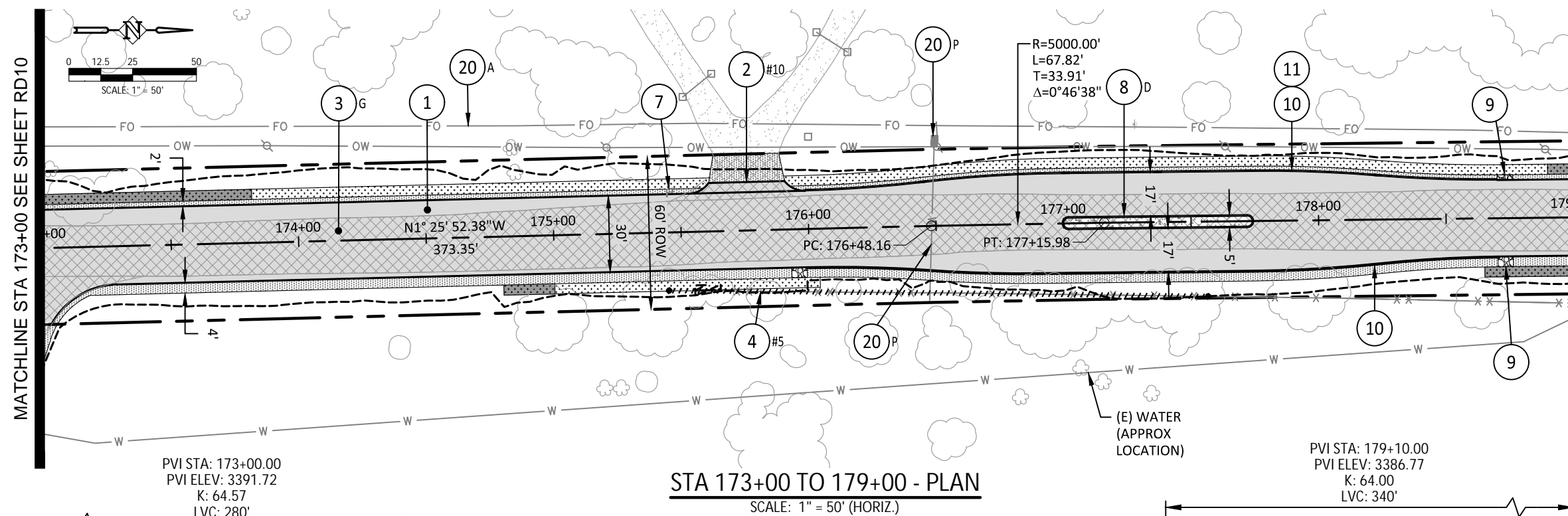




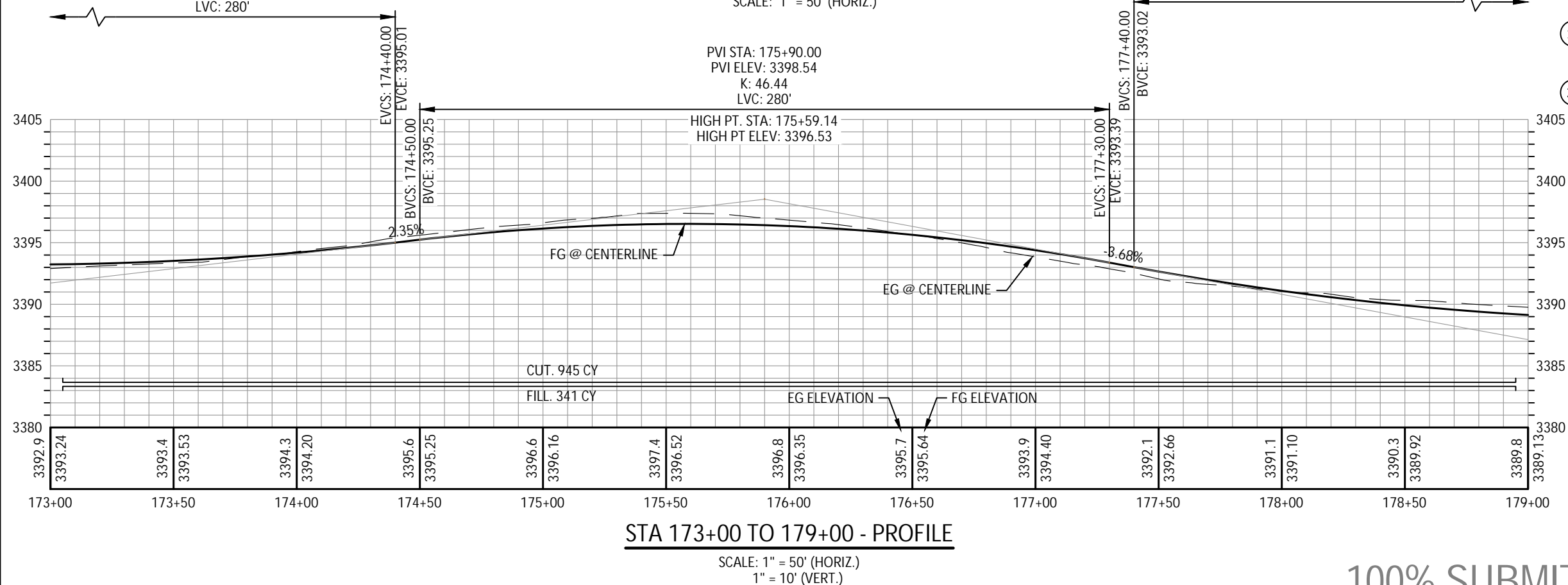








- ## CONSTRUCTION NOTES:
- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
  - 2 CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
  - 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
  - 4 REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
  - 7 REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
  - 8 CONSTRUCT CONCRETE ISLAND WITH MOUNTABLE CURB PER ODOT STD DWG RD705. SEE SHEETS RD32-RD36 FOR MORE INFORMATION.
  - 9 INSTALL 6-FT LONG, 12" DEPTH, RIPRAP BASIN IN PLACE OF AGGREGATE SHOULDER.
  - 10 CONSTRUCT STANDARD CONCRETE CURB PER ODOT STD DWG RD700. (H=12"; E=6")
  - 11 CONSTRUCT CURB CUTS ALONG CURB PER DETAIL ON SHEET G04. SEE SHEETS RD32-RD36 FOR EXACT LOCATIONS.
  - 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



# 100% SUBMITTAL

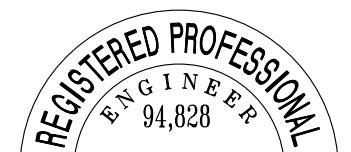


			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



**Harper  
Houf Peterson  
Righellis Inc.**

PLAN & PROFILE - STA 173+00 TO 179+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

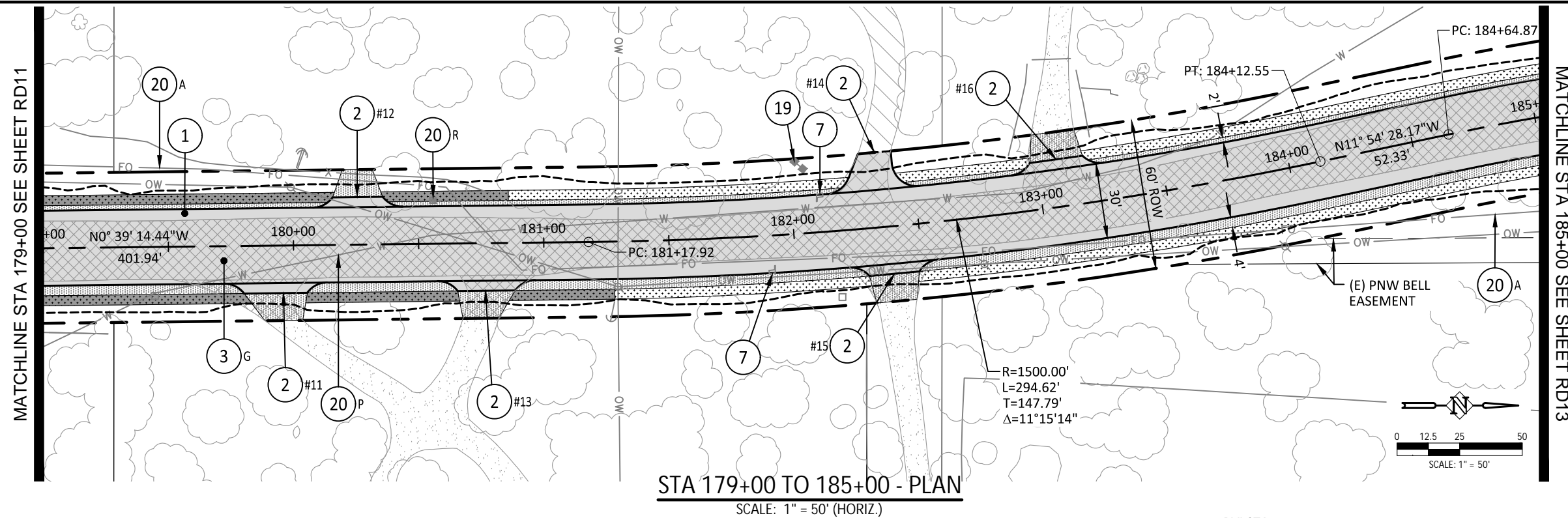
SHEET NO.

RD11

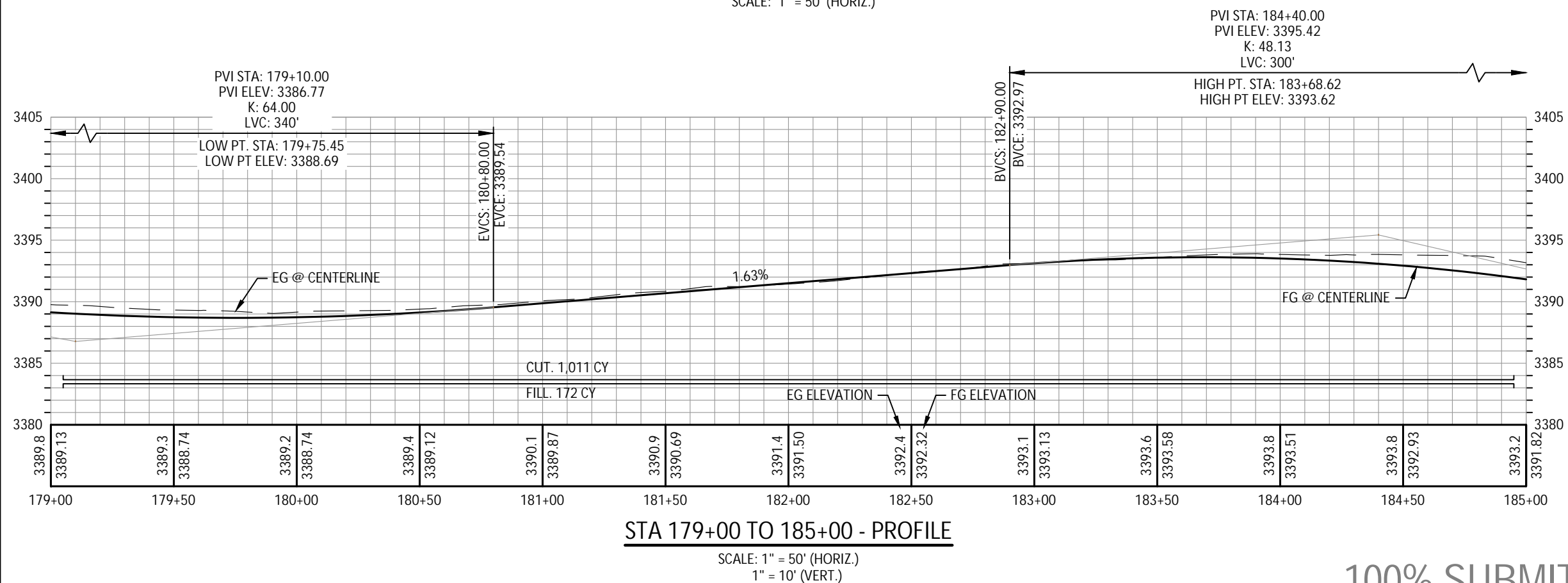
JOB NO. \_\_\_\_\_

DC0-01





- ## CONSTRUCTION NOTES:
1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
  2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
  3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
  7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
  19. EXISTING PROPERTY SIGN. PROTECT IN PLACE.
  20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.




# 100% SUBMITTAL



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



 **Harper  
Houf Peterson  
Righellis Inc.**

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PLAN & PROFILE - STA 179+00 TO 185+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

SHEET NO.

RD12

JOB NO. DC0-01

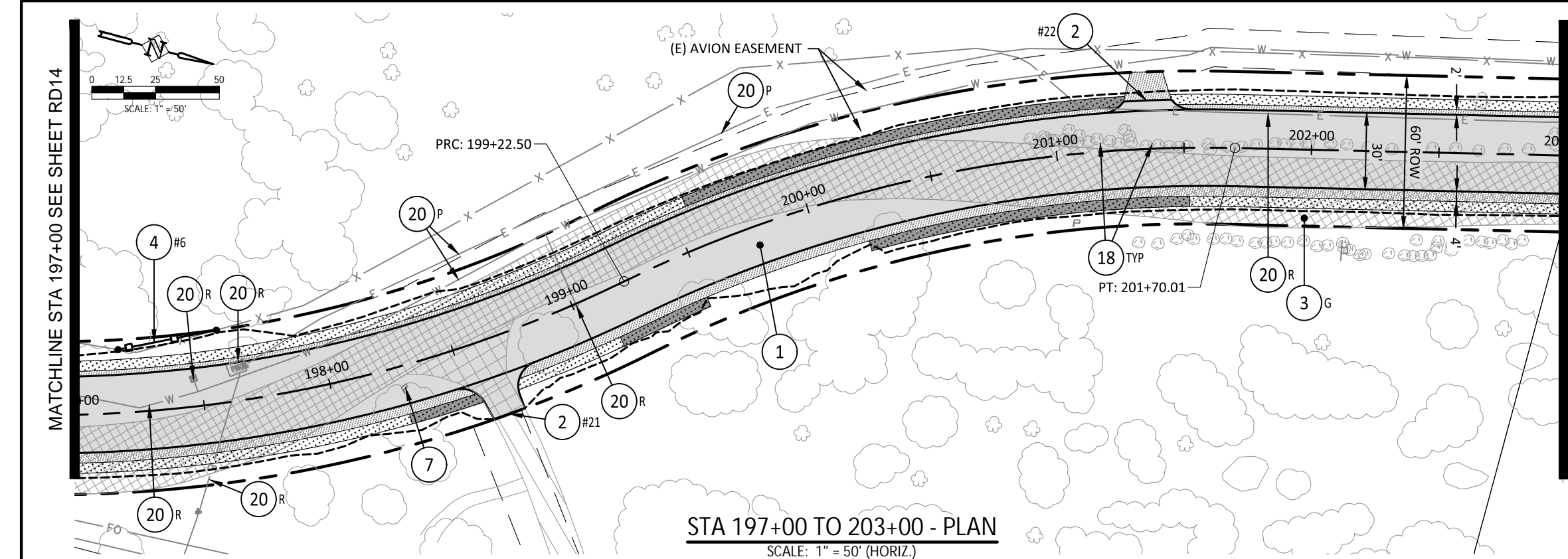






JOB NO. DC0-01

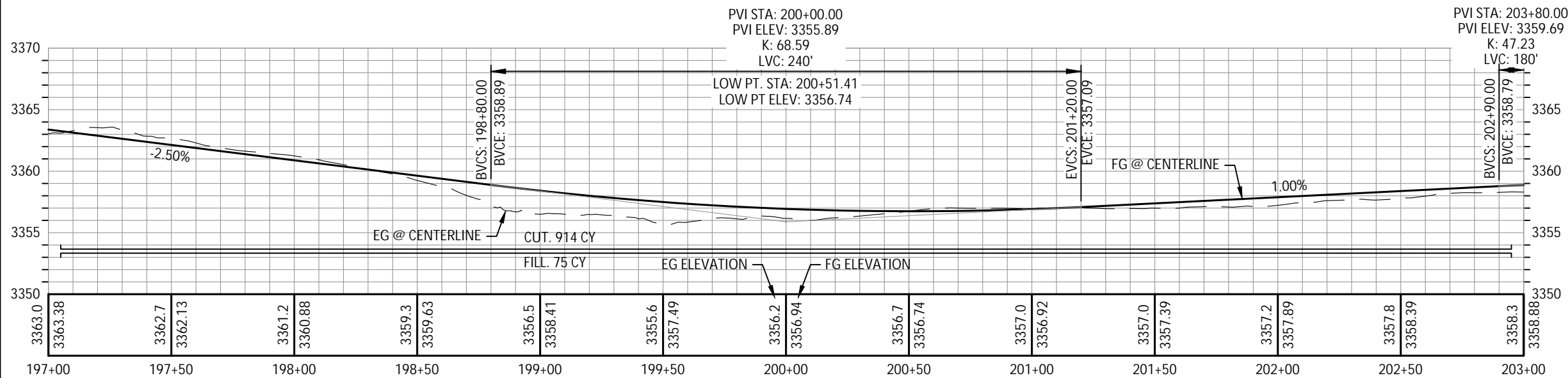




STA 197+00 TO 203+00 - PLAN  
SCALE: 1" = 50' (HORIZ.)

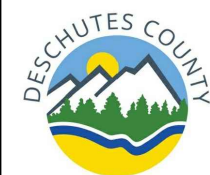
CONSTRUCTION NOTES:

1. CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
2. CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
3. DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
4. REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
7. REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
18. EXISTING BOULDER. REMOVE AND RELOCATE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS.
20. EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 197+00 TO 203+00 - PROFILE  
SCALE: 1" = 50' (HORIZ.)  
1" = 10' (VERT.)

100% SUBMITTAL



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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PLAN & PROFILE - STA 197+00 TO 203+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

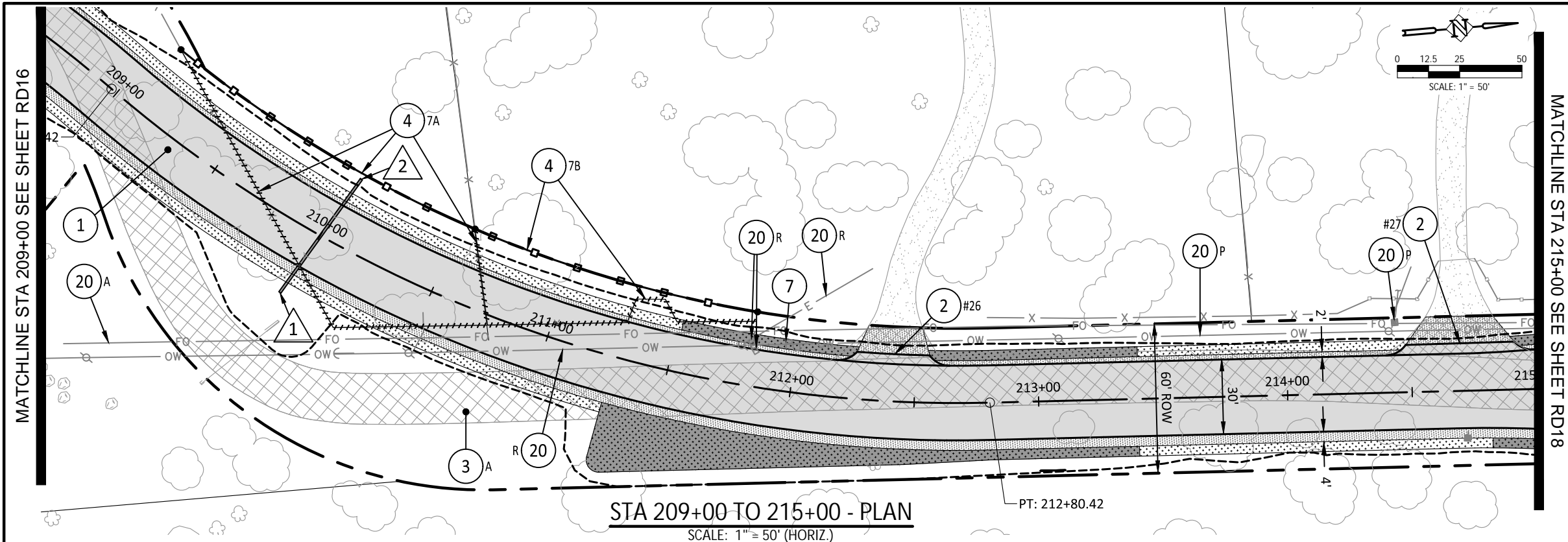
**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

SHEET NO.	RD15
JOB NO.	DC0-01

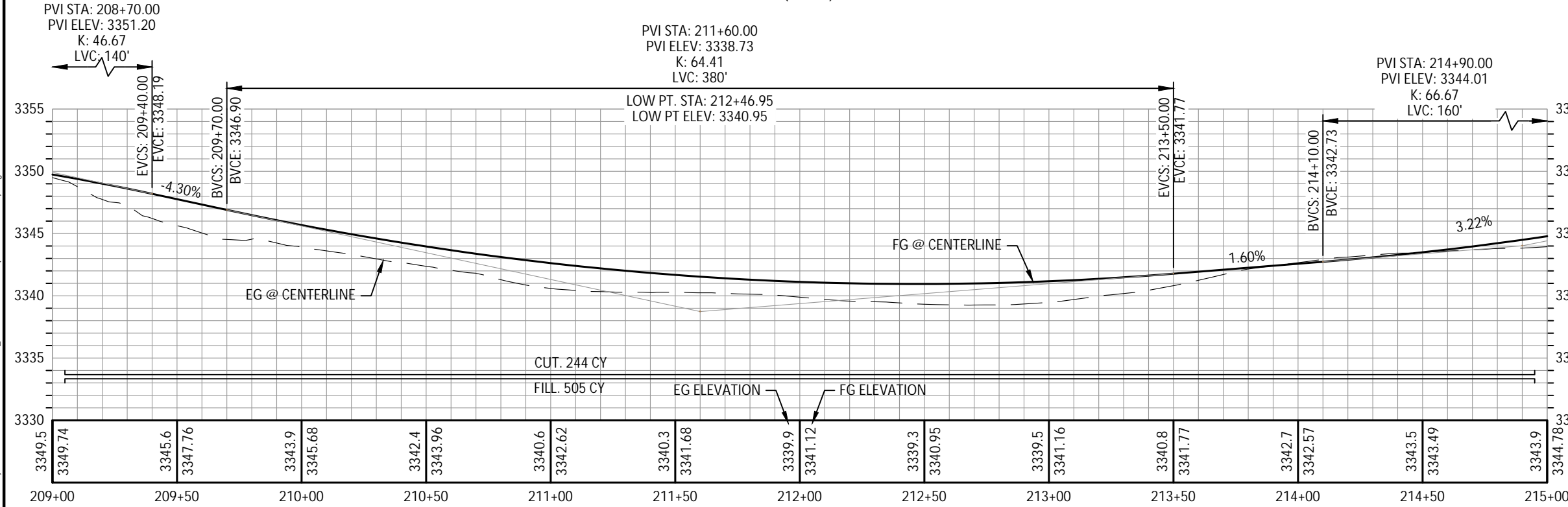




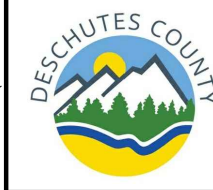




- CONSTRUCTION NOTES:**
- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
  - 2 CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
  - 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
  - 4 REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
  - 7 REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
  - 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



- STORM SEWER NOTES:**
- 1 STA 209+97.26, 27.9' R  
CULVERT INLET  
12" IE = 3343.50  
CONSTRUCT 56.0 LF 12" CMP CULVERT @  
S = -0.5% TO OUTLET. SEE STORM SEWER NOTE 2.
  - 2 STA 210+03.40, 27.8' L  
CULVERT OUTLET  
12" IE = 3343.20



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED: HHPR TEAM  
DRAWN: MD  
CHECKED: NS  
DATE: 10.28.2022

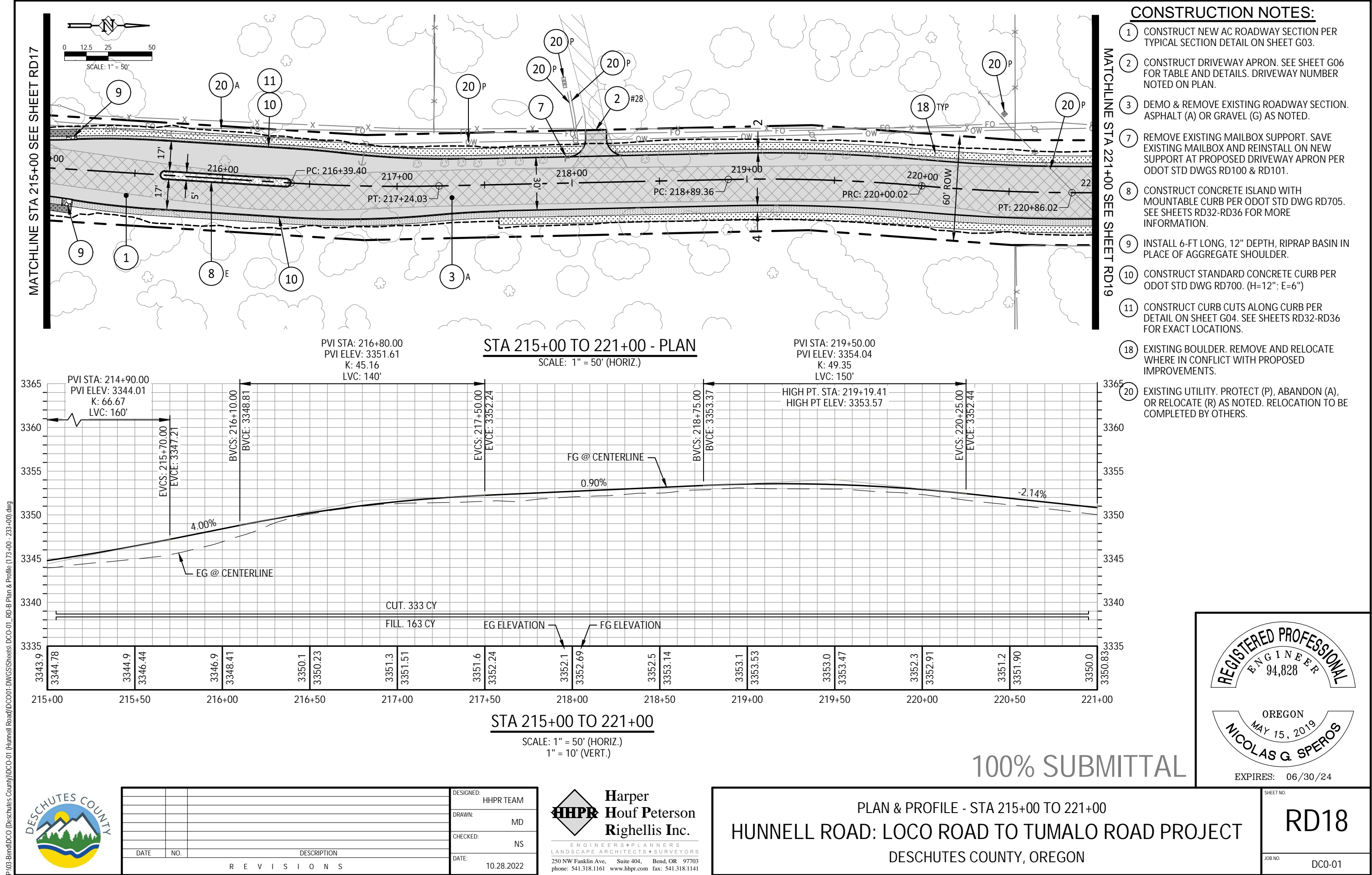
**Harper Houf Peterson Righellis Inc.**  
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PLAN & PROFILE - STA 209+00 TO 215+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

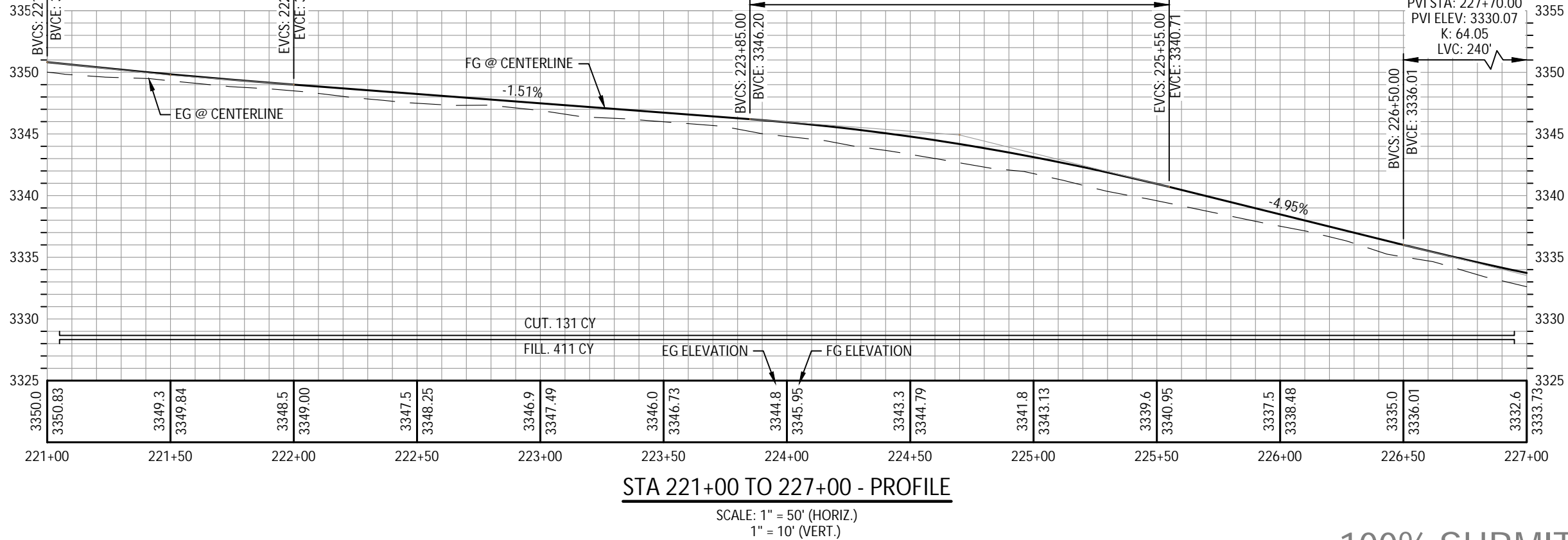
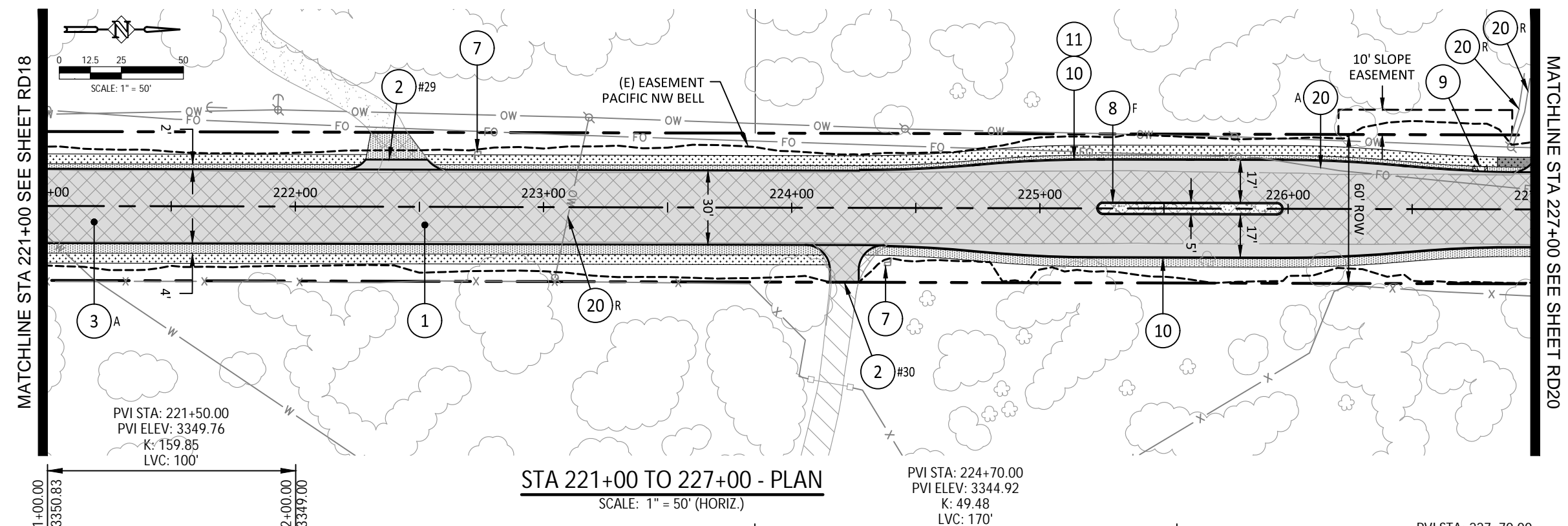
SHEET NO.  
**RD17**  
JOB NO.  
DC0-01

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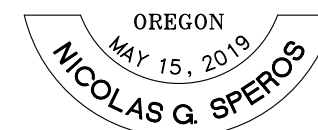








- CONSTRUCTION NOTES:



EXPIRES: 06/30/24



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



**Harper  
Houf Peterson  
Righellis Inc.**

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LANDSCAPE ARCHITECTS ♦ SURVEYORS

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PLAN & PROFILE - STA 221+00 TO 227+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET M







JOB NO. DC0-01



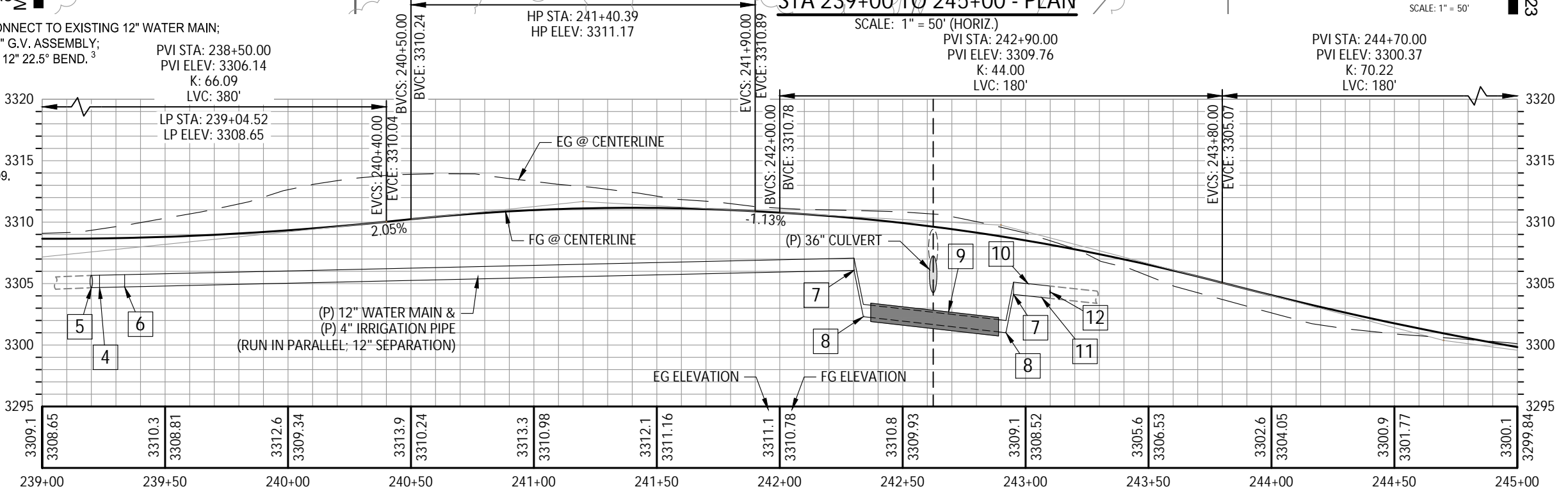
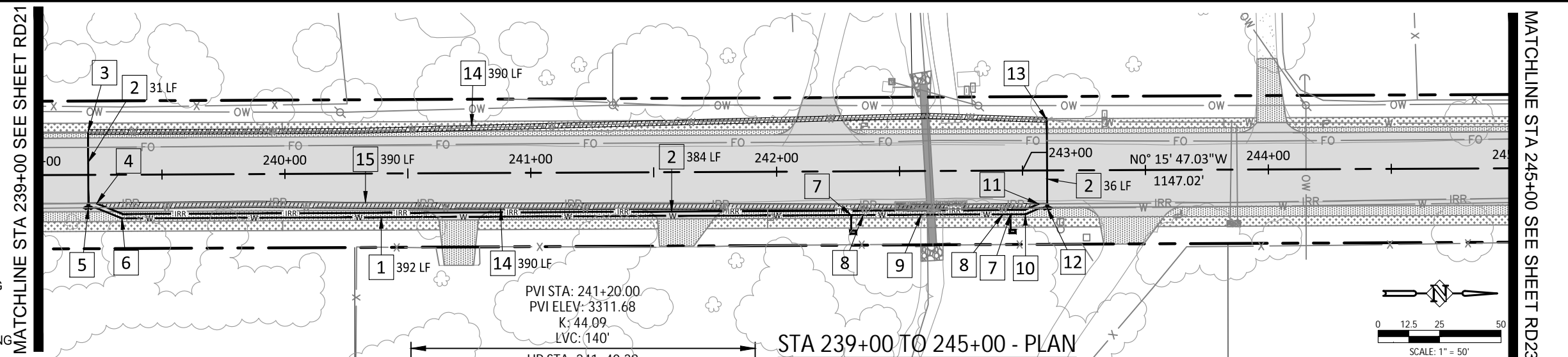




- 1 CONSTRUCT 12" D.I. WATER PIPE.  
SEE PLAN FOR LENGTH.
- 2 CONSTRUCT 4" D.I. WATER PIPE.  
SEE PLAN FOR LENGTH.
- 3 STA 239+20.00, 17.4' L  
CUT EXISTING 4" WATER MAIN; INSTALL 1 - 4" 90°  
BEND <sup>3</sup>; CONNECT TO EXISTING 4" DOMESTIC  
WATER MAIN CONTINUING SOUTH.
- 4 STA 239+23.36, 11.6' R  
CUT EXISTING 4" IRRIGATION LINE;  
INSTALL 1 - 4" 22.5° BEND <sup>3</sup>; CONNECT TO EXISTING  
4" IRRIGATION MAIN CONTINUING SOUTH.
- 5 STA 239+20.00, 13.4' R  
12" WAT: INSTALL STRADDLE BLOCK <sup>4</sup>; CUT EXISTING  
12" WATER MAIN; INSTALL 1 - 12" TEE <sup>3</sup>;  
SOUTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; CO  
WEST LEG: INSTALL 1 - 12" x 4" REDUCER <sup>3</sup>; 1 - 4"  
NORTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; 1 -

- 6 STA 239+33.57, 17.7' R<sup>2</sup>  
12" WAT: INSTALL 1 - 12" 22.5° BEND.<sup>3</sup>  
4" IRR: INSTALL 1 - 4" 22.5° BEND.<sup>3</sup>
  - 7 STA 242+30.23, 17.7' R & 242+95.08, 17.7' R<sup>2</sup>  
12" WAT: INSTALL 1 - 12" 45° VERTICAL BEND<sup>3</sup>;  
1 - AIR RELIEF VALVE PER DETAIL ON SHEET G09.  
4" IRR: INSTALL 1 - 4" 45° VERTICAL BEND.<sup>3</sup>
  - 8 STA 242+34.00, 17.7' R & STA 242+92.00, 17.7' R<sup>2</sup>  
12" WAT: INSTALL 1 - 12" 45° VERTICAL BEND<sup>3</sup>;  
4" IRR: INSTALL 1 - 4" 45° VERTICAL BEND.<sup>3</sup>
  - 9 STA 242+37.00, 17.7' R TO 242+89.00, 17.7' R<sup>2</sup>  
12" WAT: 12" WATER PIPE TO BE ENCASED IN 18"  
SDR17 HDPE PIPE WITH WELDED JOINTS.  
4" IRR: 4" IRRIGATION PIPE TO BE ENCASED IN  
10" SDR17 HDPE PIPE WITH WELDED JOINTS.
  - 10 STA 243+01.08, 17.7' R<sup>2</sup>  
12" WAT: INSTALL 1 - 12" 22.5° BEND.<sup>3</sup>  
4" IRR: INSTALL 1 - 4" 22.5° BEND.<sup>3</sup>
  - 11 STA 243+06.53, 13.6' R  
CUT EXISTING 4" IRRIGATION LINE; INSTALL  
1 - 4" 22.5° BEND<sup>3</sup>; CONNECT TO EXISTING  
4" IRRIGATION MAIN CONTINUING SOUTH.
  - 12 STA 243+10.00, 15.4' R  
12" WAT: INSTALL STRADDLE BLOCK<sup>4</sup>; CUT EXISTING 12" WATER MAIN;  
INSTALL 1 - 12" TEE<sup>3</sup>;  
SOUTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; 1 - 12" 22.5° BEND<sup>3</sup>;  
WEST LEG: INSTALL 1 - 12" x 4" REDUCER<sup>3</sup>; 1 - 4" G.V. ASSEMBLY;  
NORTH LEG: INSTALL 1 - 12" G.V. ASSEMBLY; CONNECT TO EXISTING
  - 13 STA 243+10.00, 20.5' L  
CUT EXISTING 4" WATER MAIN; INSTALL 1 - 4" 90° BEND;  
CONNECT TO EXISTING 4" DOMESTIC WATER MAIN  
CONTINUING NORTH.
  - 14 DEMO & REMOVE EXISTING WATER PIPE TO LIMITS  
SHOWN ON PLAN. SEE PLAN FOR LENGTH.
  - 15 DEMO & REMOVE EXISTING IRRIGATION PIPE TO  
LIMITS SHOWN ON PLAN. SEE PLAN FOR LENGTH.

1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS. CONTRACTOR TO COORDINATE WATER MAIN SHUT-OFF WITH AVION WATER COMPANY.
2. STATION & OFFSET REPRESENTS POSITION OF PROPOSED 12" WATER MAIN FITTINGS. PROPOSED 4" IRRIGATION PIPE AND FITTINGS SHALL RUN IN PARALLEL AT 12" SEPARATION, OFFSET TO THE WEST.
3. RESTRAIN FITTINGS PER TABLE ON SHEET G08.
4. STRADDLE BLOCK SIZING SHALL BE APPROVED BY AVION WATER PRIOR TO CONSTRUCTION. APPROXIMATE DIMENSIONS: 6' WIDTH X 2' LENGTH X 5' DEPTH WITH #4 BAR REINFORCEMENT 12" O.C. BOTH WAYS.

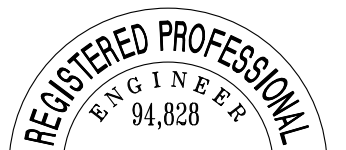


SCALE: 1" = 50' (HORIZ.)  
1" = 10' (VERT.)

Diagram illustrating the layout of the 100' x 100' plot, showing various lines and their labels:

- W (E) WATER LINE
- IRR (E) IRRIGATION LINE
- W (P) WATER LINE
- IRR (P) IRRIGATION LINE
- IRR DEMO IRRIGATION LINE
- W DEMO WATER LINE

# 100% SUBMITTAL



EXPIRES: 06/30/24



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



**Harper  
Houf Peterson  
Righellis Inc.**

ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS

250 NW Fanklin Ave, Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

WATER MAIN RELOCATION PLAN & PROFILE - STA 239+00 TO 245+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	RD22.1
JOB NO.	DC0-01



ENGINEERS ♦ PLANNERS  
LANDSCAPE ARCHITECTS ♦ SURVEYORS

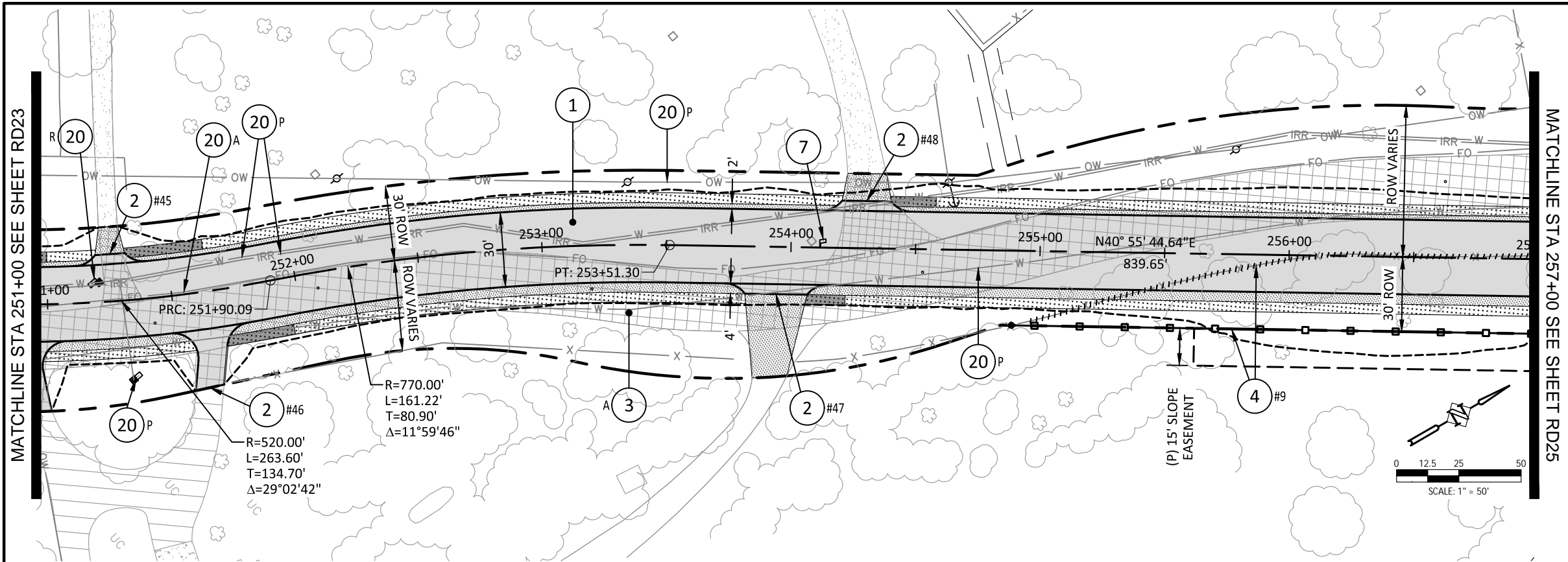
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250 NW Fanklin Ave, Suite 404, Bend, OR 97703  
phone: 541.318.1161 [www.hhpr.com](http://www.hhpr.com) fax: 541.318.1141



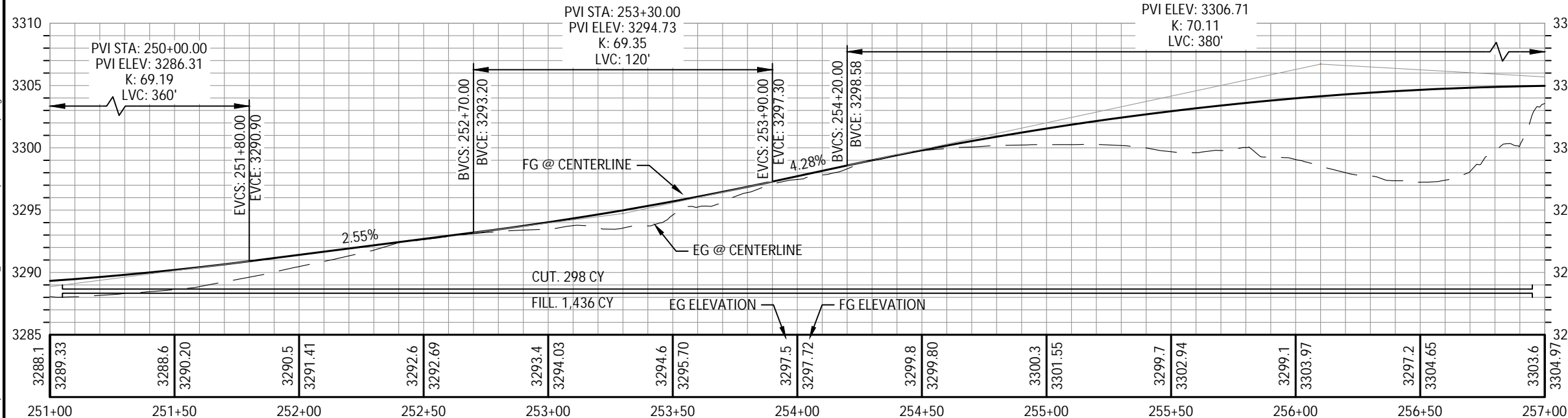
CONSTRUCTION NOTES:

- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
- 2 CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
- 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
- 4 REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
- 7 REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
- 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.



STA 251+00 TO 257+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

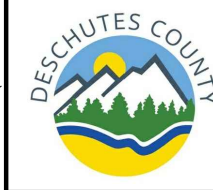


STA 251+00 TO 257+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)  
1" = 10' (VERT.)

100% SUBMITTAL

REGISTERED PROFESSIONAL  
ENGINEER  
94,828  
OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS  
EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

PLAN & PROFILE - STA 251+00 TO 257+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

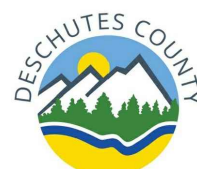
SHEET NO.  
**RD24**  
JOB NO.  
DC0-01







P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_RD-C Plan & Profile (233-00 - 293+00).dwg



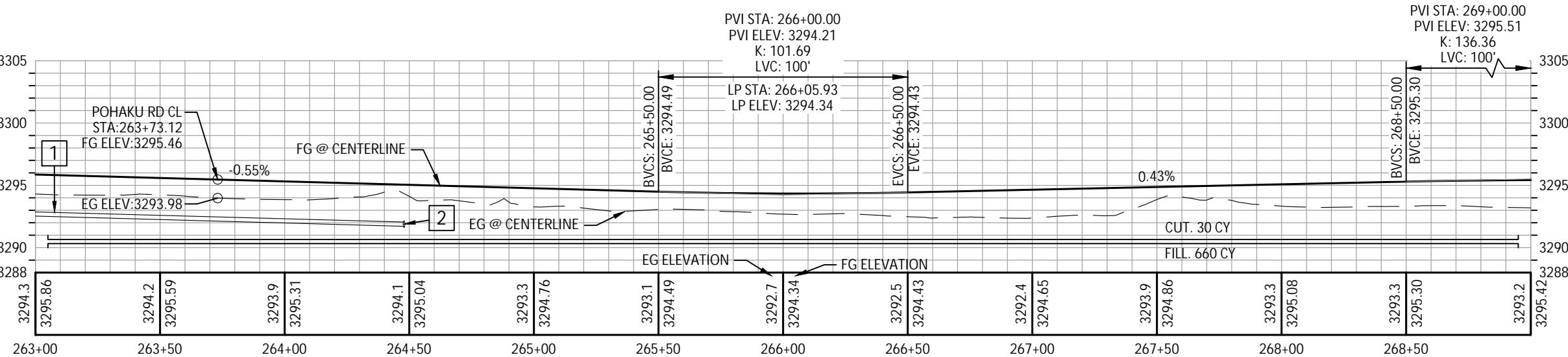
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

Harper Houf Peterson Righellis Inc.  
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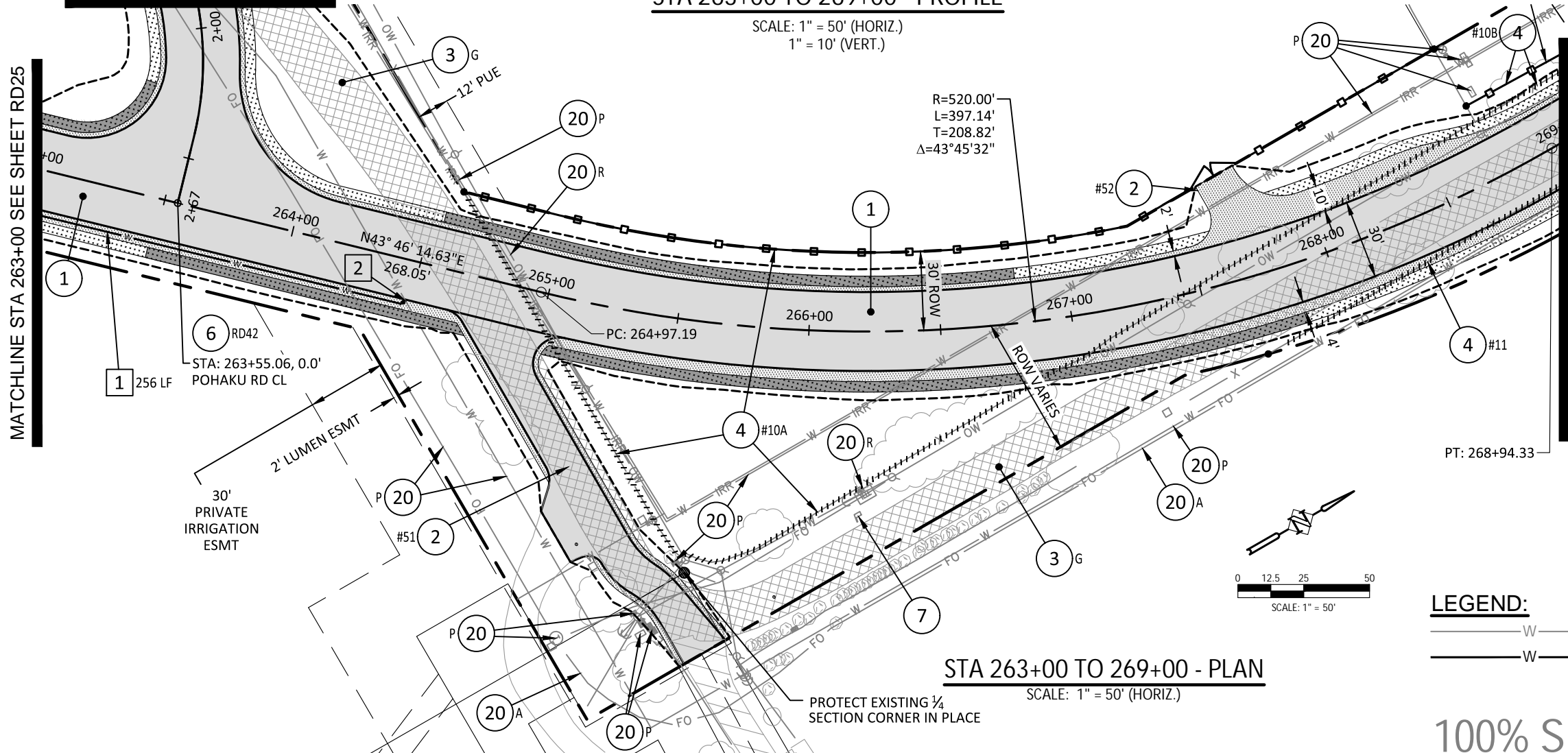
MATCHLINE STA 263+00 SEE SHEET RD25

MATCHLINE STA 269+00 SEE SHEET RD27



STA 263+00 TO 269+00 - PROFILE

SCALE: 1" = 50' (HORIZ.)  
1" = 10' (VERT.)



STA 263+00 TO 269+00 - PLAN

SCALE: 1" = 50' (HORIZ.)

LEGEND:

- W — (E) WATER LINE
- W — (P) WATER LINE

CONSTRUCTION NOTES:

- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
- 2 CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
- 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
- 4 REMOVE EXISTING FENCE WHERE IT CONFLICTS WITH PROPOSED IMPROVEMENTS. SEE SHEET G07 FOR TABLE AND DETAILS. SEGMENT # SHOWN ON PLAN. VERIFY WITH ENGINEER PRIOR TO REBUILDING OR REPLACING FENCE.
- 6 PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
- 7 REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
- 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

WATER MAIN NOTES: 1

- 1 CONSTRUCT 4" D.I. WATER PIPE. SEE PLAN FOR LENGTH.
- 2 STA 264+47.91, 15.5' R HOT TAP EXISTING 12" WATER MAIN; INSTALL 1 - 4" ON 12" TAPPING SLEEVE WITH THRUST BLOCKING; 1 - 4" G.V. ASSEMBLY; 1 - 4" 45° BEND. 2

NOTES:  
1. ALL WATER IMPROVEMENTS TO BE CONSTRUCTED PER AVION WATER COMPANY STANDARDS AND SPECIFICATIONS. SEE SHEETS G08 AND G09 FOR STANDARD DETAILS.  
2. RESTRAIN FITTINGS PER TABLE ON SHEET G08.

REGISTERED PROFESSIONAL  
ENGINEER  
94,828  
OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS  
EXPIRES: 06/30/24

PLAN & PROFILE - STA 263+00 TO 269+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	RD26
JOB NO.	DCO-01

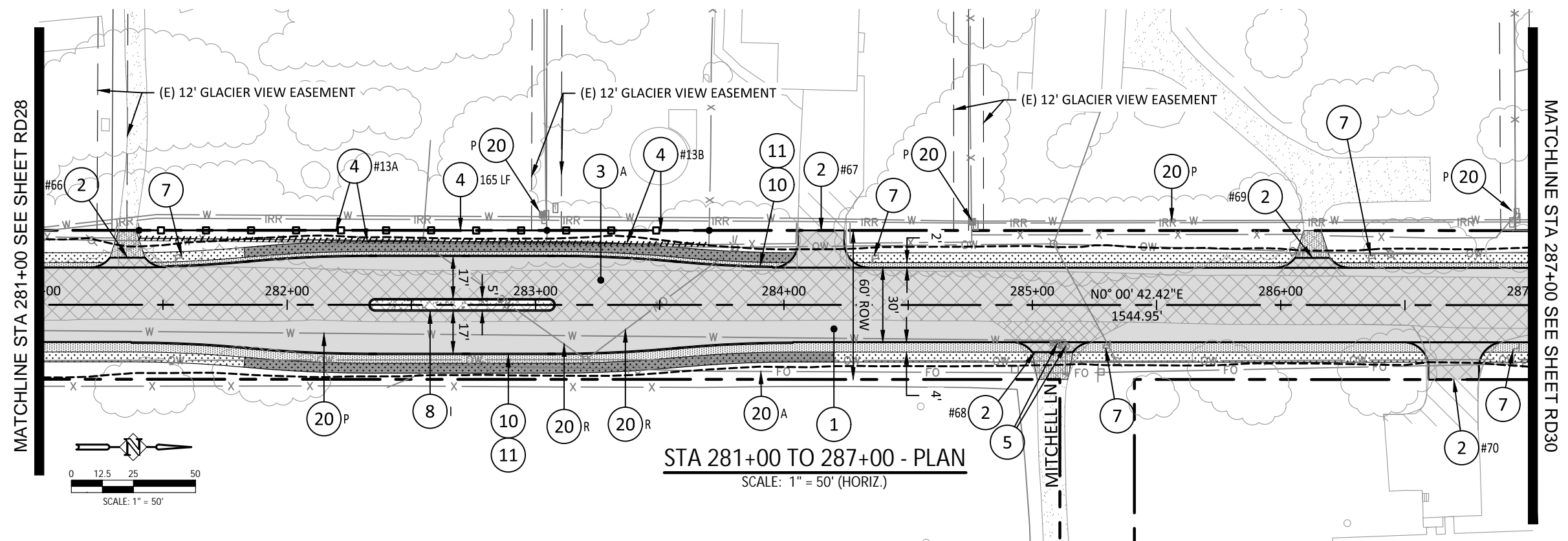








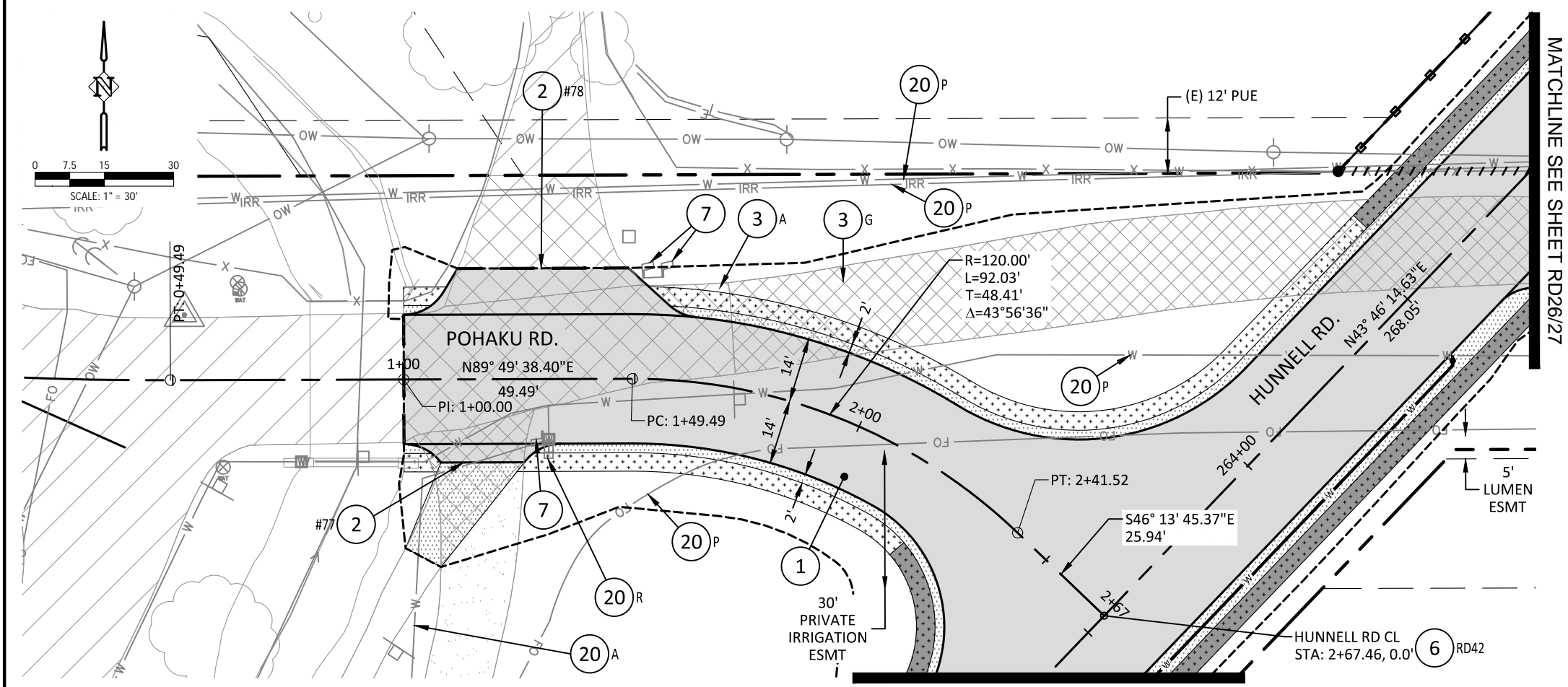




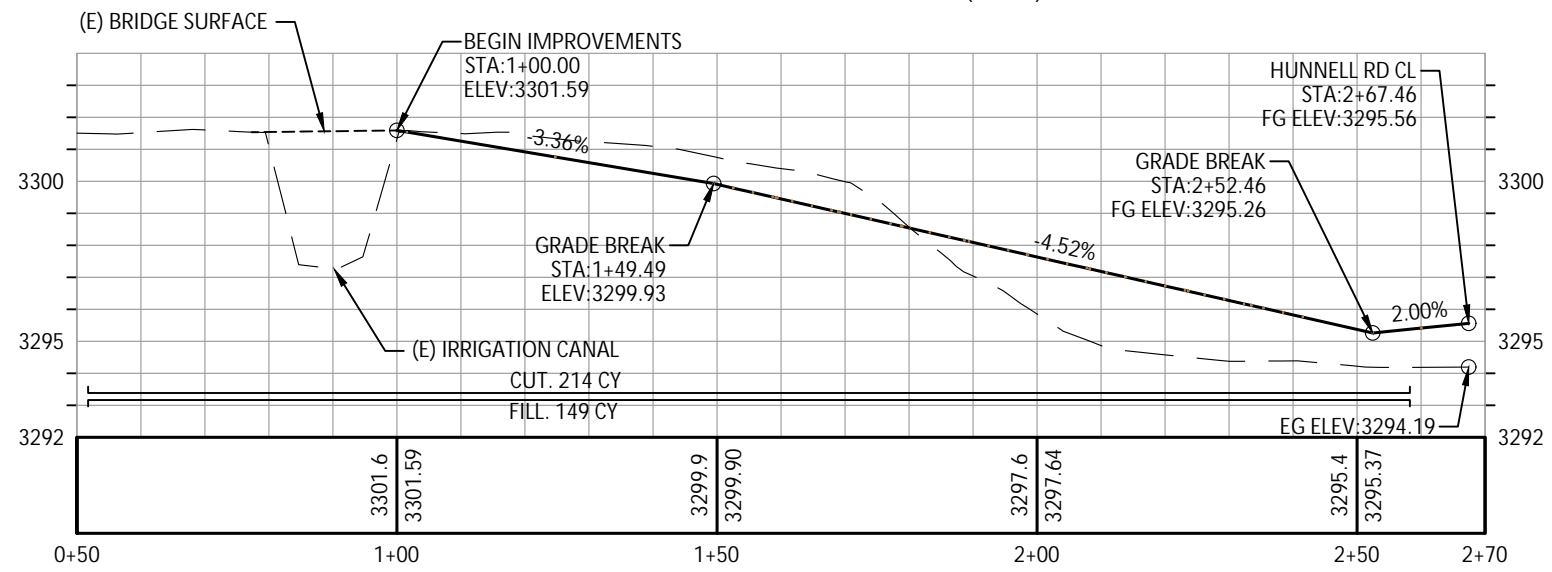


E:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWGSSheets\DCO-01\_RD-C\_Plan & Profile (233-00 - 293+00).dwg





POHAKU RD. INTERSECTION - PLAN  
SCALE: 1" = 30' (HORIZ.)



POHAKU RD. INTERSECTION - PROFILE  
SCALE: 1" = 30' (HORIZ.)  
SCALE: 1" = 6' (VERT.)

CONSTRUCTION NOTES:

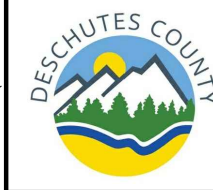
- 1 CONSTRUCT NEW AC ROADWAY SECTION PER TYPICAL SECTION DETAIL ON SHEET G03.
- 2 CONSTRUCT DRIVEWAY APRON. SEE SHEET G06 FOR TABLE AND DETAILS. DRIVEWAY NUMBER NOTED ON PLAN.
- 3 DEMO & REMOVE EXISTING ROADWAY SECTION. ASPHALT (A) OR GRAVEL (G) AS NOTED.
- 6 PROPOSED INTERSECTION IMPROVEMENT. SEE SHEET NOTED ON PLAN FOR DETAILS.
- 7 REMOVE EXISTING MAILBOX SUPPORT. SAVE EXISTING MAILBOX AND REINSTALL ON NEW SUPPORT AT PROPOSED DRIVEWAY APRON PER ODOT STD DWGS RD100 & RD101.
- 20 EXISTING UTILITY. PROTECT (P), ABANDON (A), OR RELOCATE (R) AS NOTED. RELOCATION TO BE COMPLETED BY OTHERS.

100% SUBMITTAL

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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PLAN & PROFILE - POHAKU RD

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO.

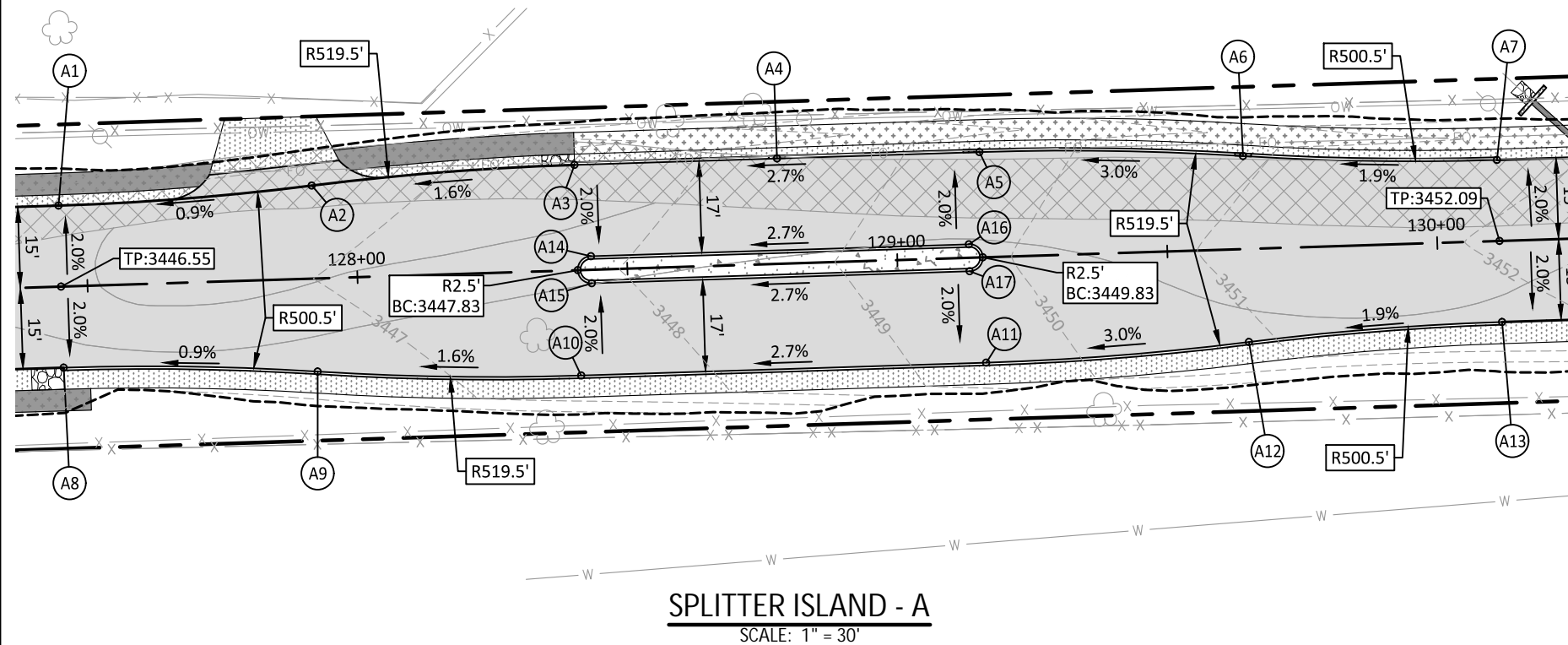
RD31

JOB NO.

DC0-01

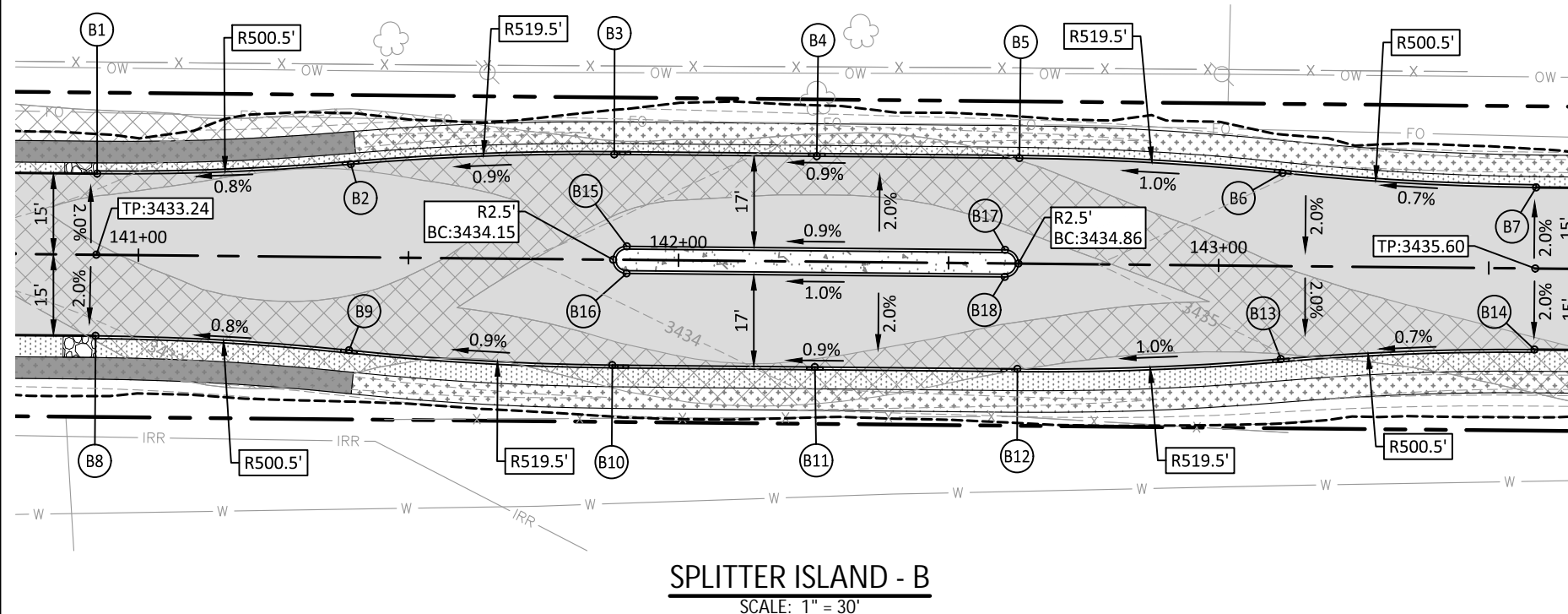
P:\03-BentMDCO (Deschutes County)\DC0-01 (Hunnell Road)\DC001-DWGS\Sheets\DC0-01\_RD-C Plan & Profile (233-00 - 293-00).dwg





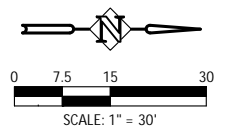
SPLITTER ISLAND - A				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
A1	127+45.12	15.0'L	3446.25	TP; PC
A2	127+92.08	17.2'L	3446.66	TP; PRC
A3	128+40.83	19.5'L	3447.44	BC; PT; START CURB
A4	128+78.33	19.5'L	3448.33	BC; CURB CUT*
A5	129+15.83	19.5'L	3449.44	BC; PC; CURB CUT*
A6	129+64.57	17.2'L	3450.88	BC; PRC; CURB CUT*
A7	130+11.54	15.0'L	3451.79	BC; PT; END CURB
A8	127+45.12	15.0'R	3446.25	BC; PC; START CURB
A9	127+92.09	17.2'R	3446.66	BC; PRC
A10	128+40.83	19.5'R	3447.44	BC; PT
A11	129+15.83	19.5'R	3449.44	BC; PC
A12	129+64.57	17.2'R	3450.88	BC; PRC
A13	130+11.54	15.0'R	3451.79	BC; PT
A14	128+43.33	2.5'L	3447.84	BC; PC
A15	128+43.33	2.5'R	3447.84	BC; PT
A16	129+13.33	2.5'L	3449.70	BC; PC
A17	129+13.33	2.5'R	3447.70	BC; PT

\*INSTALL CURB CUT PER DETAIL ON SHEET G04.



SPLITTER ISLAND - B				
#	STATION	OFFSET	ELEVATION <sup>1</sup>	DESCRIPTION
B1	140+92.21	15.0'L	3432.94	BC; PC; START CURB
B2	141+39.17	17.2'L	3433.34	BC; PRC; CURB CUT*
B3	141+87.92	19.5'L	3433.76	BC; PT; CURB CUT*
B4	142+25.42	19.5'L	3434.11	BC; CURB CUT*
B5	142+62.92	19.5'L	3434.47	BC; PC; CURB CUT*
B6	143+11.66	17.2'L	3434.98	BC; PRC; CURB CUT*
B7	143+58.63	15.0'L	3435.30	BC; PT; END CURB
B8	140+92.21	15.0'L	3432.94	BC; PC; START CURB
B9	141+39.17	17.2'L	3433.34	BC; PRC; CURB CUT*
B10	141+87.92	19.5'L	3433.76	BC; PT; CURB CUT*
B11	142+25.42	19.5'L	3434.11	BC; CURB CUT*
B12	142+62.92	19.5'L	3434.47	BC; PC; CURB CUT*
B13	143+11.66	17.2'L	3434.98	BC; PRC; CURB CUT*
B14	143+58.63	15.0'L	3435.30	BC; PT; END CURB
B15	141+90.42	2.5'L	3434.12	BC; PC
B16	141+90.42	2.5'R	3434.12	BC; PT
B17	142+60.42	2.5'L	3434.78	BC; PC
B18	142+60.42	2.5'R	3434.78	BC; PT

\*INSTALL CURB CUT PER DETAIL ON SHEET G04.



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE




EXPIRES: 06/30/24



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



 **Harper  
Houf Peterson  
Righellis Inc.**

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ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS

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SPLITTER ISLAND DETAILS - A & B  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.

RD32

JOB NO.

DC0-01

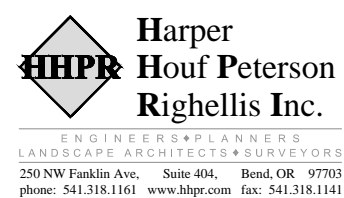
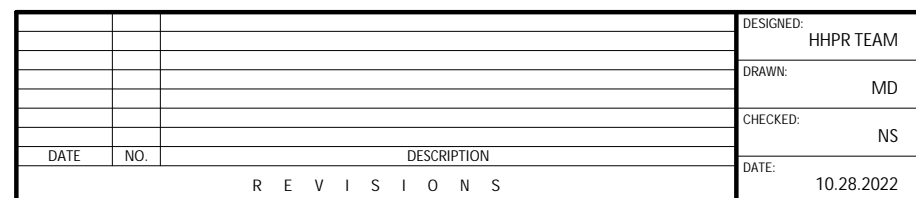
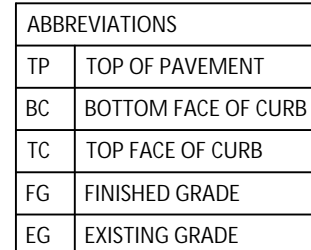




\*INSTALL CURB CUT PER DETAIL ON SHEET G04.



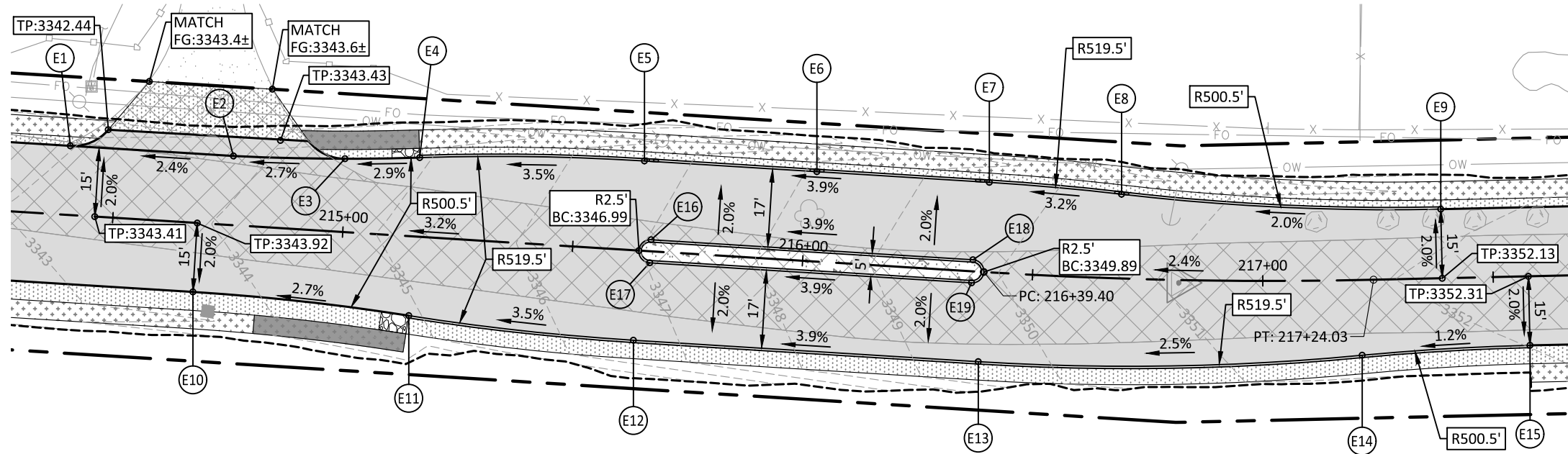
\*INSTALL CURB CUT PER DETAIL ON SHEET G04.



SPLITTER ISLAND DETAILS - C & D  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD33**  
JOB NO.  
DC0-01

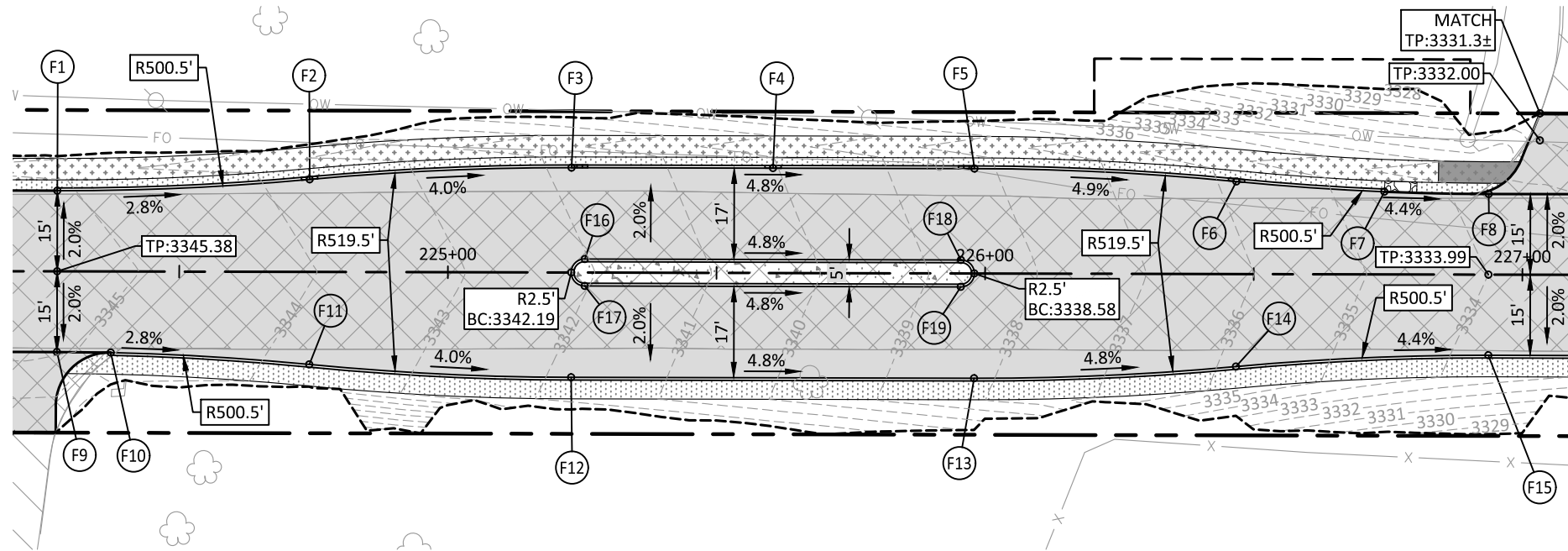




SPLITTER ISLAND - E  
SCALE: 1" = 30'

SPLITTER ISLAND - E				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
E1	214+39.84	15.0'L	3343.11	TP; DRIVEWAY
E2	214+75.30	15.0'L	3343.80	TP; PC
E3	214+99.49	15.9'L	3344.45	TP; DRIVEWAY
E4	215+15.67	17.2'L	3344.92	BC; PRC; START CURB
E5	215+64.41	19.5'L	3346.60	BC; PT; CURB CUT*
E6	216+01.90	19.5'L	3348.10	BC; CURB CUT*
E7	216+39.40	19.5'L	3349.50	BC; PC; CURB CUT*
E8	216+68.73	18.3' L	3350.41	BC; PRC; CURB CUT*
E9	217+38.95	15.0'L	3351.83	BC; PT; END CURB
E10	214+68.37	15.0'R	3343.62	TP; PC
E11	215+15.43	17.2'R	3346.60	BC; PRC; START CURB
E12	215+64.42	19.5'R	3346.60	BC; PT
E13	216+39.41	19.5'R	3349.50	BC; PC
E14	217+21.25	16.3'R	3351.56	BC; PRC
E15	217+57.66	15.0'R	3352.01	BC; PT; END CURB
E16	215+66.91	2.5'L	3347.04	BC, PC
E17	215+66.91	2.5'R	3347.04	BC, PT
E18	216+36.90	2.5'L	3349.76	BC, PC
E19	216+36.90	2.5'R	3349.76	BC, PT

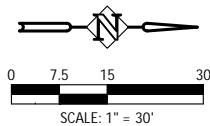
\*INSTALL CURB CUT PER DETAIL ON SHEET G04



SPLITTER ISLAND - F  
SCALE: 1" = 30'

SPLITTER ISLAND - F				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
F1	224+27.28	15.0'L	3345.08	BC; PC; START CURB
F2	224+74.24	17.2'L	3341.70	BC; PRC; CURB CUT*
F3	225+22.99	19.5'L	3341.80	BC; PT; CURB CUT*
F4	225+60.49	19.5'L	3340.05	BC; CURB CUT*
F5	225+97.99	19.5' L	3338.19	BC; PC; CURB CUT*
F6	226+46.73	17.2' L	3335.82	BC; PRC; CURB CUT*
F7	226+74.29	15.4'L	3334.54	BC; END CURB
F8	226+93.70	15.0'L	3333.69	TP; PT; DRIVEWAY
F9	224+27.28	15.0'R	3345.08	TP; PC
F10	224+37.30	15.1'R	3344.83	BC; START CURB
F11	224+74.24	17.2' R	3343.70	BC; PRC
F12	225+22.99	19.5'R	3341.80	BC; PT
F13	225+97.99	19.5'R	3338.19	BC; PC
F14	226+46.73	17.2'R	3335.82	BC; PRC
F15	226+93.70	15.0'R	3333.69	BC; PT
F16	225+25.49	2.5'L	3342.03	BC, PC
F17	225+25.49	2.5'R	3342.03	BC, PT
F18	225+95.49	2.5'L	3338.66	BC, PC
F19	225+95.49	2.5'R	3338.66	BC, PT

\*INSTALL CURB CUT PER DETAIL ON SHEET G04



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
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SPLITTER ISLAND DETAILS - E & F  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	RD34
JOB NO.	DC0-01

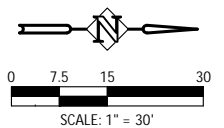




\*INSTALL CURB CUT PER DETAIL ON SHEET G04



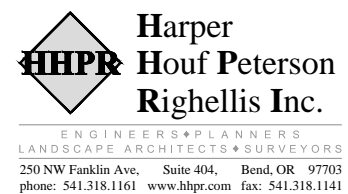
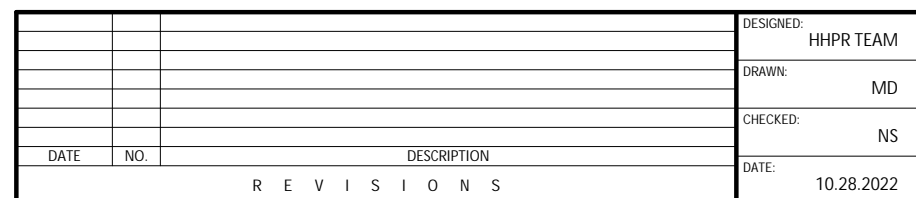
\*INSTALL CURB CUT PER DETAIL ON SHEET G04



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24

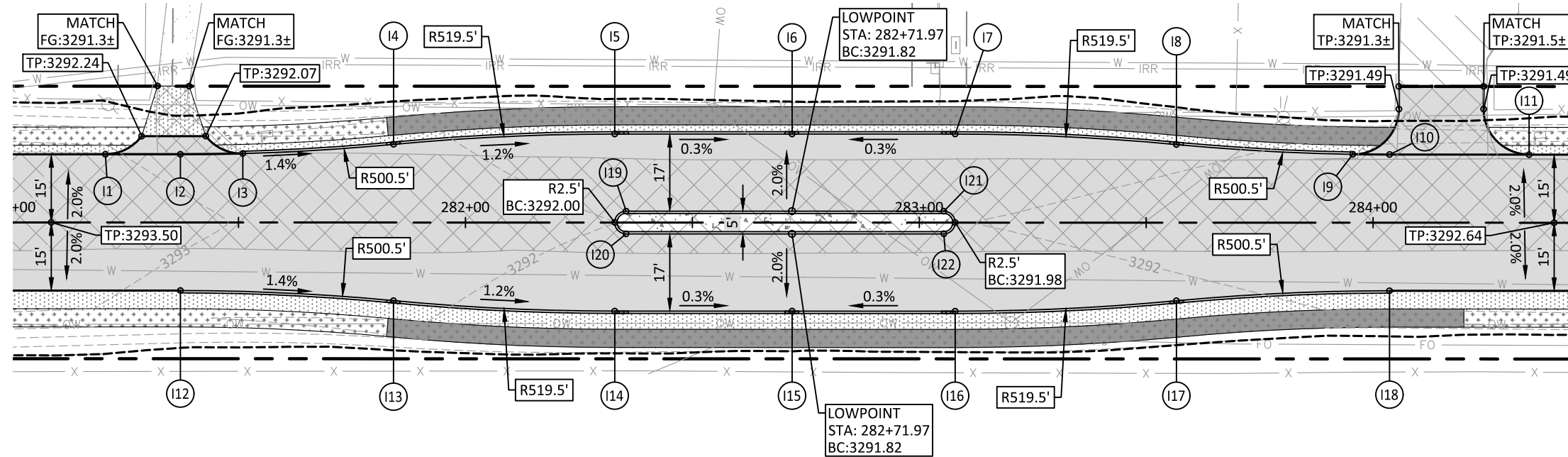


SPLITTER ISLAND DETAILS - G & H  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	
RD35	
JOB NO.	DC0-01



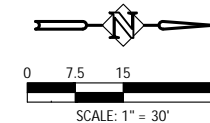
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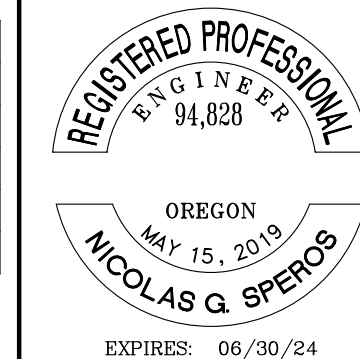
SPLITTER ISLAND - I  
SCALE: 1" = 30'

SPLITTER ISLAND - I				
#	STATION	OFFSET	ELEVATION	DESCRIPTION
I1	281+20.67	15.0'L	3293.05	TP; DRIVEWAY
I2	281+37.21	15.0'L	3292.84	TP; PC
I3	281+50.94	15.2'L	3292.66	BC; DRIVEWAY; START CURB
I4	281+84.17	17.2'L	3292.19	BC; PRC; CURB CUT*
I5	282+32.92	19.5'L	3291.61	BC; PT; CURB CUT*
I6	282+71.99	19.5'L	3291.48	BC; LOWPOINT; CURB CUT*
I7	283+07.92	19.5'L	3291.59	BC; PC; CURB CUT*
I8	283+56.66	17.2'L	3291.88	BC; PRC; CURB CUT*
I9	283+95.51	15.1'L	3292.11	BC; DRIVEWAY; END CURB
I10	284+03.62	15.0'L	3292.16	TP; PT
I11	284+34.36	15.0'L	3292.31	TP; DRIVEWAY
I12	281+37.21	15.0 'R	3292.84	BC; PC; START CURB
I13	281+84.17	17.2'R	3292.19	BC; PRC; CURB CUT*
I14	282+32.92	19.5'R	3291.61	BC; PT; CURB CUT*
I15	282+71.99	19.5'R	3291.48	BC; LOWPOINT; CURB CUT*
I16	283+07.92	19.5'R	3291.59	BC; PC; CURB CUT*
I17	283+56.66	17.2'R	3291.88	BC; PRC; CURB CUT*
I18	284+03.62	15.0'R	3291.16	BC; PT; END CURB
I19	282+35.42	2.5'L	3291.94	BC, PC
I20	282+95.42	2.5'R	3291.94	BC, PT
I21	283+05.42	2.5'L	3291.91	BC, PC
I22	283+05.42	2.5'R	3291.91	BC, PT

\*INSTALL CURB CUT PER DETAIL ON SHEET G04



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



100% SUBMITTAL



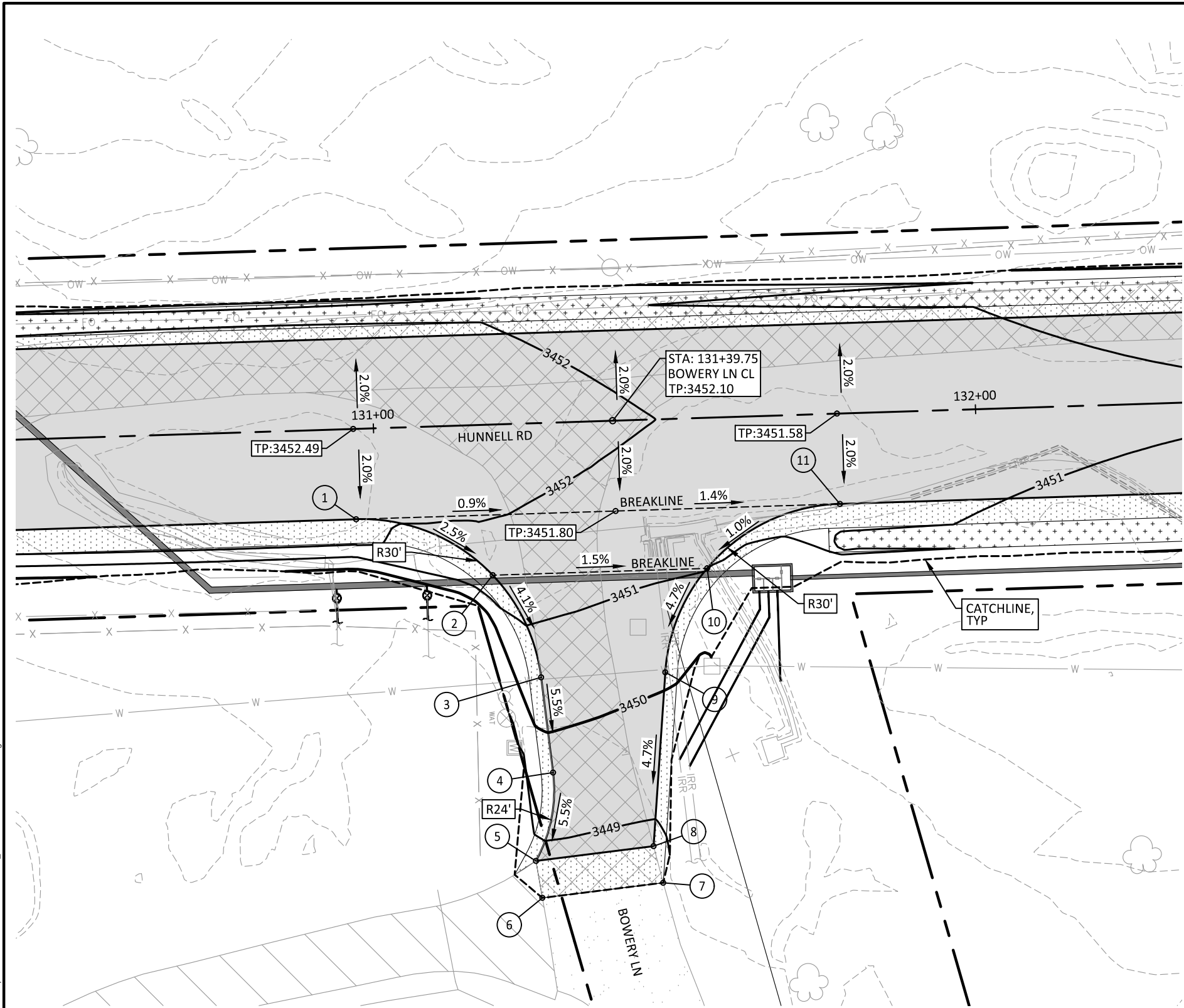
REVISIONS		DESIGNED:
DATE	NO.	DESCRIPTION
		HHPR TEAM
		DRAWN: MD
		CHECKED: NS
		DATE: 10.28.2022



SPLITTER ISLAND DETAILS - I  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

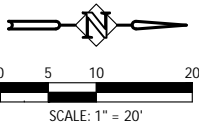
SHEET NO.  
**RD36**  
JOB NO.  
DCO-01





INTERSECTION DETAIL - BOWERY LANE  
SCALE: 1" = 20'

INTERSECTION DETAIL - BOWERY LANE					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	130+96.65	15.0'L	3452.19	TP; PC
2	HUNNELL RD	131+19.01	25.0'R	3451.55	TP; BREAKLINE
3	HUNNELL RD	131+26.52	42.2'R	3450.51	TP; PT
4	HUNNELL RD	131+28.00	58.1'R	3449.63	TP; PC
5	HUNNELL RD	131+24.68	72.7'R	3448.80	PT; MATCH
6	HUNNELL RD	131+25.56	78.8'R	3448.73	FG; MATCH
7	HUNNELL RD	131+45.64	76.7'R	3448.70	FG; MATCH
8	HUNNELL RD	131+44.29	70.8'R	3448.79	TP; MATCH
9	HUNNELL RD	131+47.14	42.0'R	3450.14	TP; PC
10	HUNNELL RD	131+54.64	25.0'R	3451.03	TP; BREAKLINE
11	HUNNELL RD	131+77.00	15.0'R	3451.28	TP; PT



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24

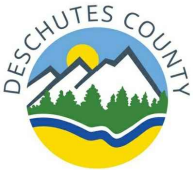
100% SUBMITTAL

INTERSECTION DETAIL - BOWERY LANE  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD37**

JOB NO.  
DCO-01

P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\SS\Sheets\DCO-01\_RD-E Intersection Details.dwg



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R E V I S I O N S		

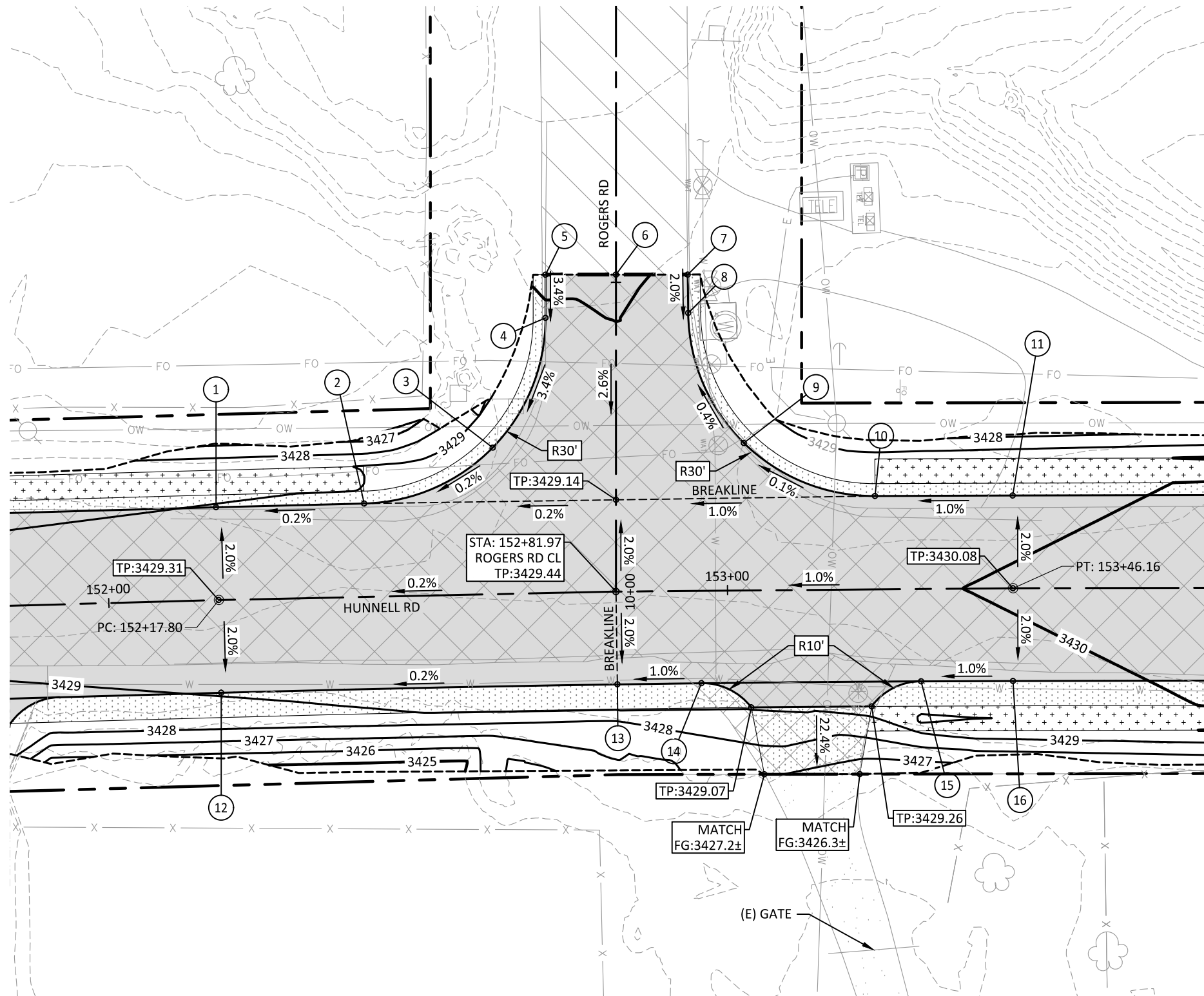
DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141



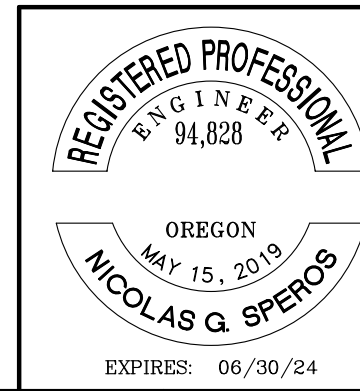
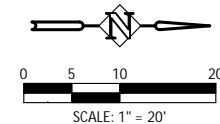
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INTERSECTION DETAIL - ROGERS ROAD  
SCALE: 1" = 20'

INTERSECTION DETAIL - ROGERS ROAD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	152+17.74	15.0'L	3429.01	TP; PC
2	HUNNELL RD	152+41.62	15.0'L	3429.06	TP; PRC
3	HUNNELL RD	152+62.49	23.6'L	3429.11	TP; MIDPOINT
4	ROGERS RD	9+55.76	11.4'R	3429.90	TP; PT
5	ROGERS RD	9+48.75	11.4'R	3430.14	TP; SAWCUT
6	ROGERS RD	9+48.75	0.0'	3431.13	TP; CL; SAWCUT
7	ROGERS RD	9+48.75	11.6'L	3429.86	TP; SAWCUT
8	ROGERS RD	9+54.95	11.7'L	3429.74	TP; PC
9	HUNNELL RD	153+02.90	23.8'L	3429.65	TP; MIDPOINT
10	HUNNELL RD	153+23.94	15.0'L	3429.56	TP; PRC
11	HUNNELL RD	153+46.11	15.0'L	3429.78	TP; PT
12	HUNNELL RD	152+17.74	15.0'R	3429.01	TP; PC
13	HUNNELL RD	152+81.97	15.0'R	3429.14	TP; BREAKLINE
14	HUNNELL RD	152+95.60	15.0'R	3429.28	TP; DRIVEWAY
15	HUNNELL RD	153+31.21	15.0'R	3429.63	TP; DRIVEWAY
16	HUNNELL RD	153+46.11	15.0'R	3429.78	TP; PT

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



100% SUBMITTAL

INTERSECTION DETAIL - ROGERS RD  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD38**  
JOB NO.  
DCO-01



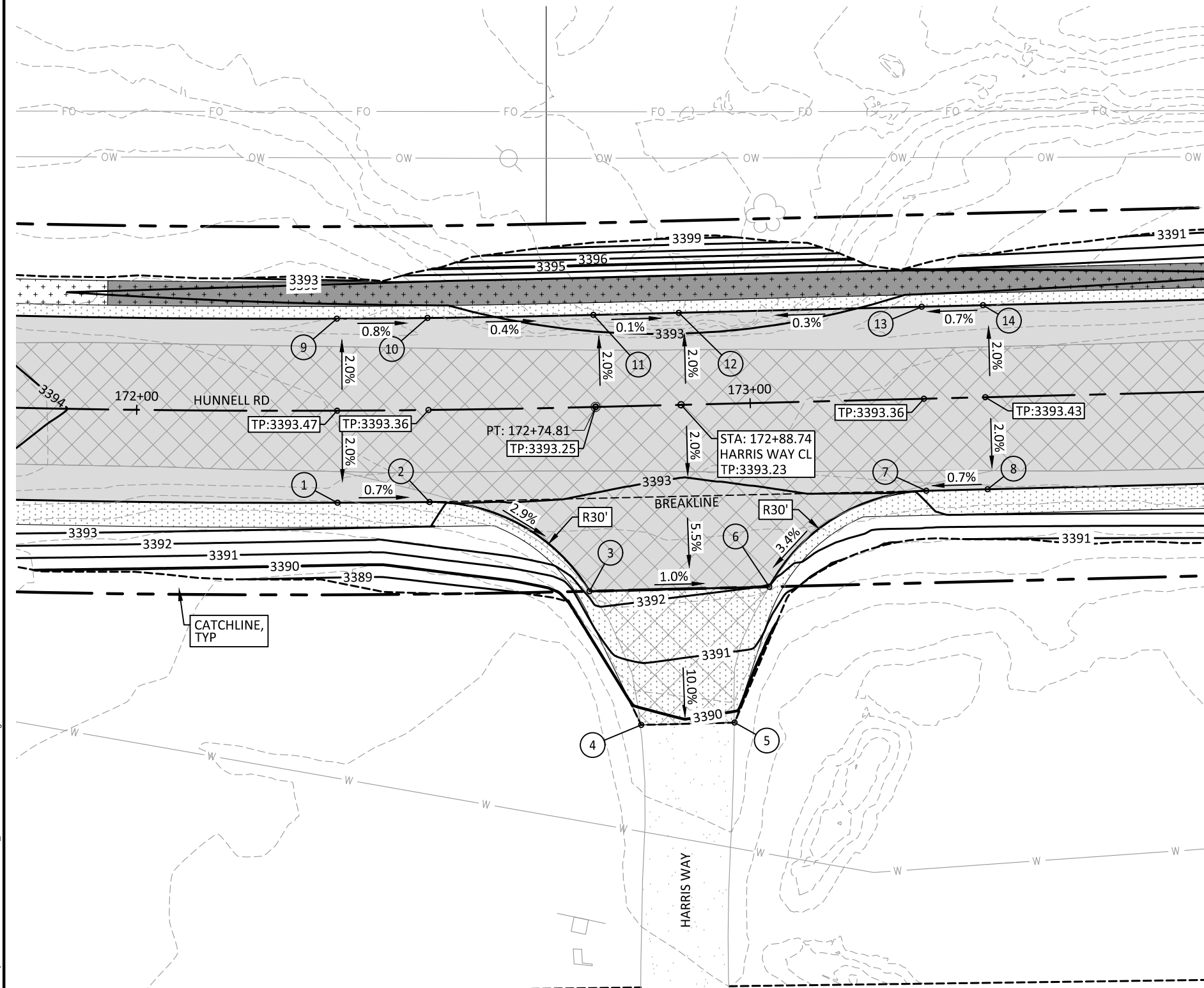
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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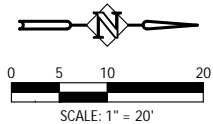


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INTERSECTION DETAIL - HARRIS WAY  
SCALE: 1" = 20'

INTERSECTION DETAIL - HARRIS WAY					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	172+32.68	15.0' R	3393.18	TP
2	HUNNELL RD	172+47.57	15.0' R	3393.07	TP; PC
3	HUNNELL RD	172+73.09	30.0' R	3392.27	TP; PT
4	HUNNELL RD	172+80.94	52.0' R	3389.62	FG; MATCH
5	HUNNELL RD	172+96.17	52.0' R	3389.81	FG; MATCH
6	HUNNELL RD	173+02.36	30.0' R	3391.98	TP; PC
7	HUNNELL RD	173+28.34	15.0' R	3393.06	TP; PT
8	HUNNELL RD	173+38.34	15.0' R	3393.13	TP
9	HUNNELL RD	172+32.68	15.0' L	3393.18	TP
10	HUNNELL RD	172+47.57	15.0' L	3393.07	TP
11	HUNNELL RD	172+74.81	15.0' L	3392.95	TP; PT
12	HUNNELL RD	172+88.74	15.0' L	3392.94	TP; LOWPOINT
13	HUNNELL RD	173+28.34	15.0' L	3393.06	TP
14	HUNNELL RD	173+38.34	15.0' L	3393.13	TP

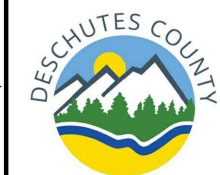


ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



100% SUBMITTAL

INTERSECTION DETAIL - HARRIS WAY  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



DATE	NO.	DESCRIPTION
R E V I S I O N S		

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DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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SHEET NO.	RD39
JOB NO.	DCO-01




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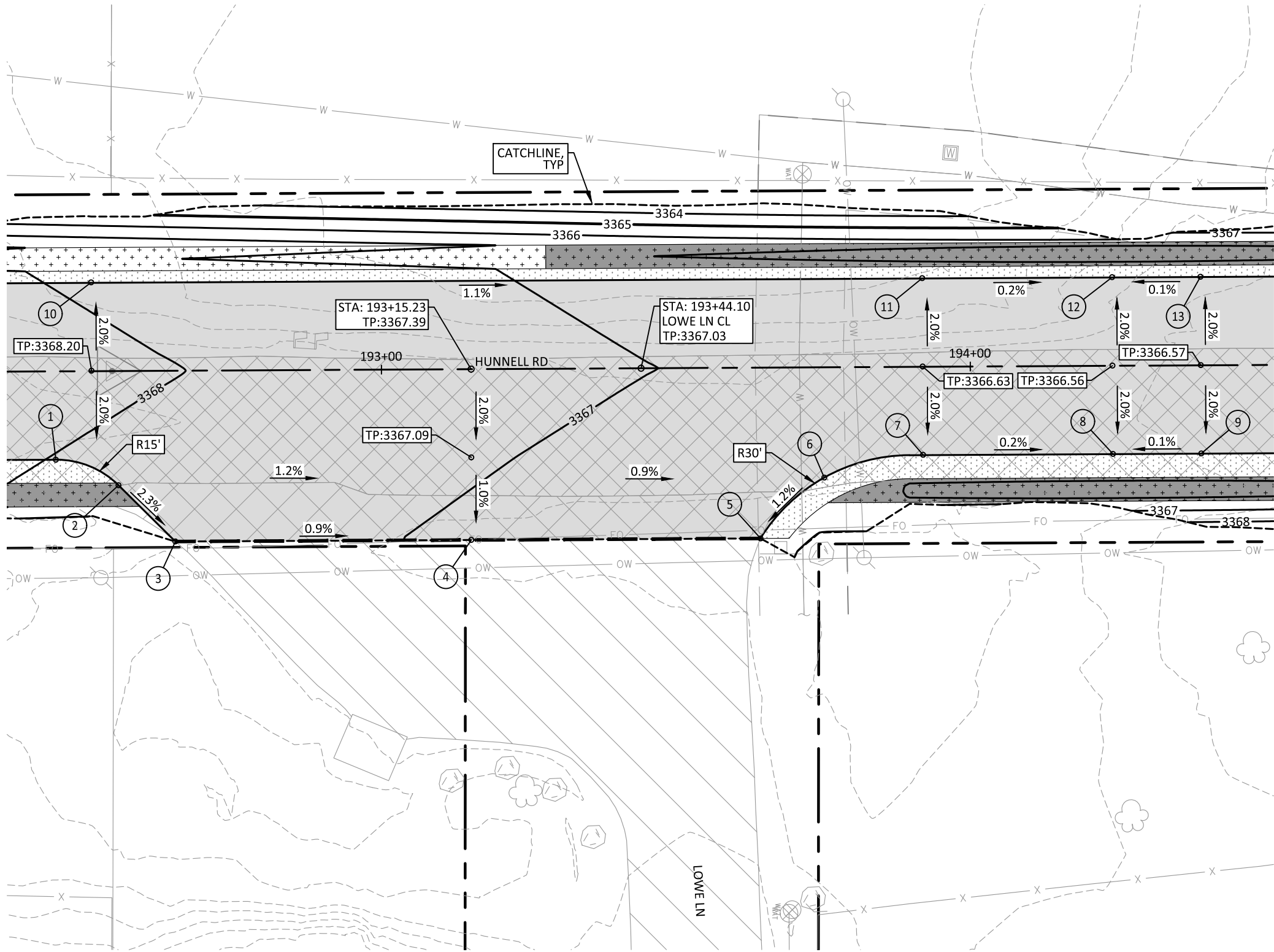
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



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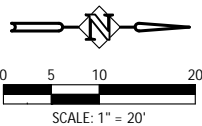


INTERSECTION DETAIL - LOWE LANE

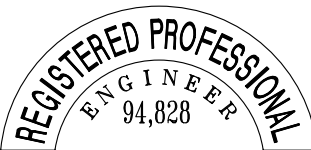
SCALE: 1" = 20'

INTERSECTION DETAIL - LOWE LANE

#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	192+44.63	15.0' R	3369.98	TP; PC
2	HUNNELL RD	192+55.24	19.4' R	3367.75	TP; PT
3	HUNNELL RD	192+64.84	29.0' R	3367.44	TP; SAWCUT; MATCH
4	HUNNELL RD	193+15.11	29.0' R	3366.96	TP; SAWCUT; MATCH
5	HUNNELL RD	193+64.22	29.0' R	3366.70	TP; PC; SAWCUT; MATCH
6	HUNNELL RD	192+75.11	18.7' R	3366.52	TP; MIDPOINT
7	HUNNELL RD	193+91.90	15.0' R	3366.33	TP; PT
8	HUNNELL RD	194+24.14	15.0' R	3366.26	TP; LOWPOINT
9	HUNNELL RD	194+39.14	15.0' L	3366.27	TP
10	HUNNELL RD	192+50.76	15.0' L	3367.90	TP
11	HUNNELL RD	193+91.90	15.0' L	3366.33	TP
12	HUNNELL RD	194+24.14	15.0' L	3366.26	TP; LOWPOINT
13	HUNNELL RD	194+39.14	15.0' L	3366.27	TP



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24

100% SUBMITTAL

INTERSECTION DETAIL - LOWE LN  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.

RD40

JOB NO.

DCO-01




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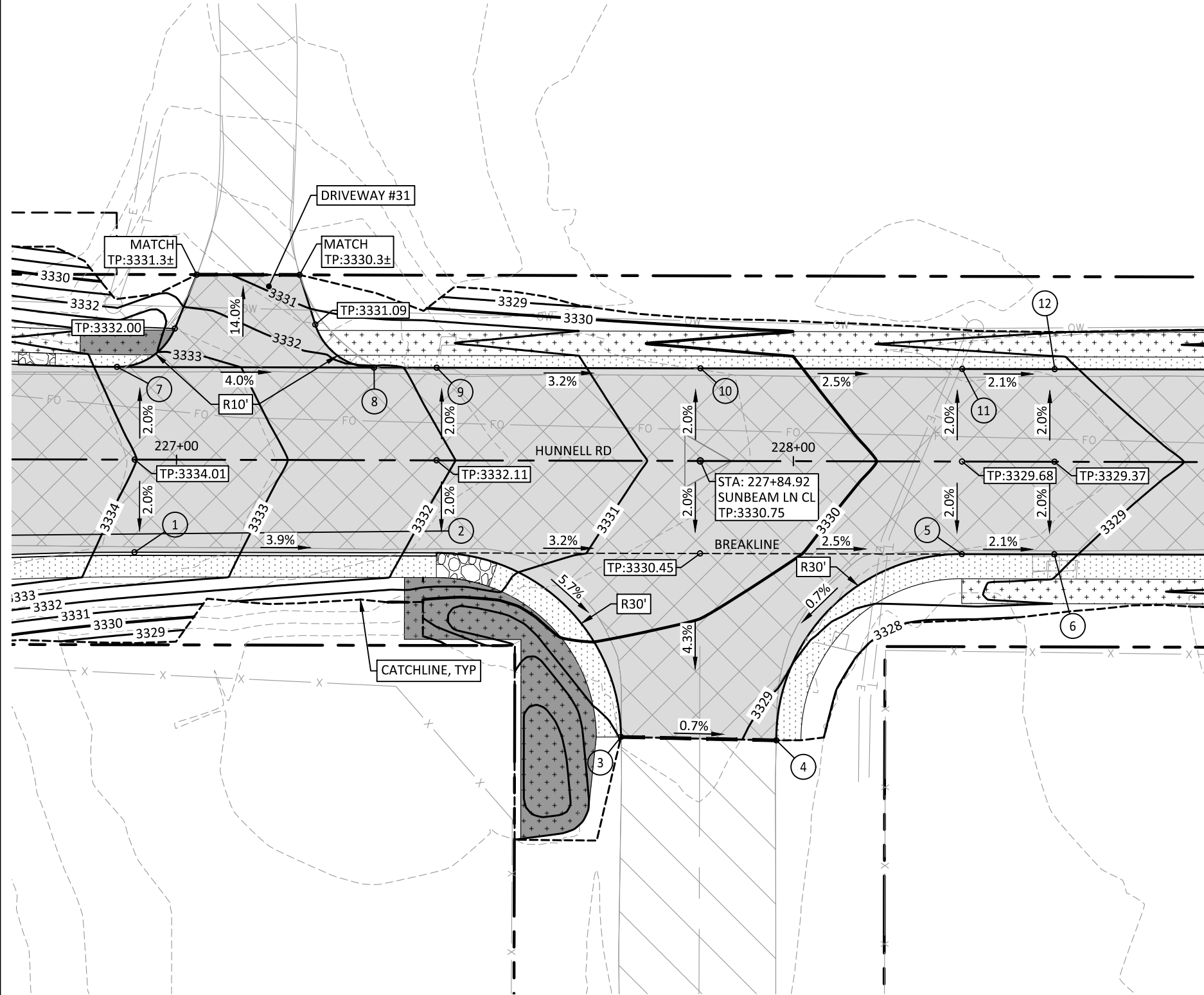
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DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



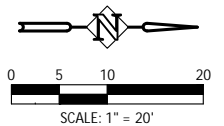
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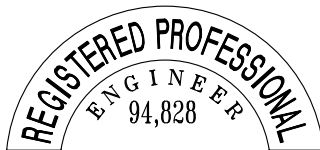


INTERSECTION DETAIL - SUNBEAM LANE  
SCALE: 1" = 20'

INTERSECTION DETAIL - SUNBEAM LANE					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	226+93.21	15.0' R	3333.71	TP
2	HUNNELL RD	227+42.15	15.0' R	3331.81	TP; PC
3	HUNNELL RD	227+72.14	44.7' R	3329.04	TP; PT; SAWCUT; MATCH
4	HUNNELL RD	227+97.34	45.3' R	3328.85	TP; PC; SAWCUT; MATCH
5	HUNNELL RD	226+27.33	15.0' R	3329.38	TP; PT
6	HUNNELL RD	228+42.33	15.0'R	3329.07	TP
7	HUNNELL RD	226+90.33	15.0'L	3333.84	TP; DRIVEWAY
8	HUNNELL RD	22731.99	15.0'L	3332.17	TP; DRIVEWAY
9	HUNNELL RD	227+42.15	15.0'L	3331.81	TP
10	HUNNELL RD	227+84.90	15.0'L	3330.45	TP
11	HUNNELL RD	228+27.33	15.0'L	3329.38	TP
12	HUNNELL RD	228+42.33	15.0'L	3329.07	TP



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24

100% SUBMITTAL

INTERSECTION DETAIL - SUNBEAM LN  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

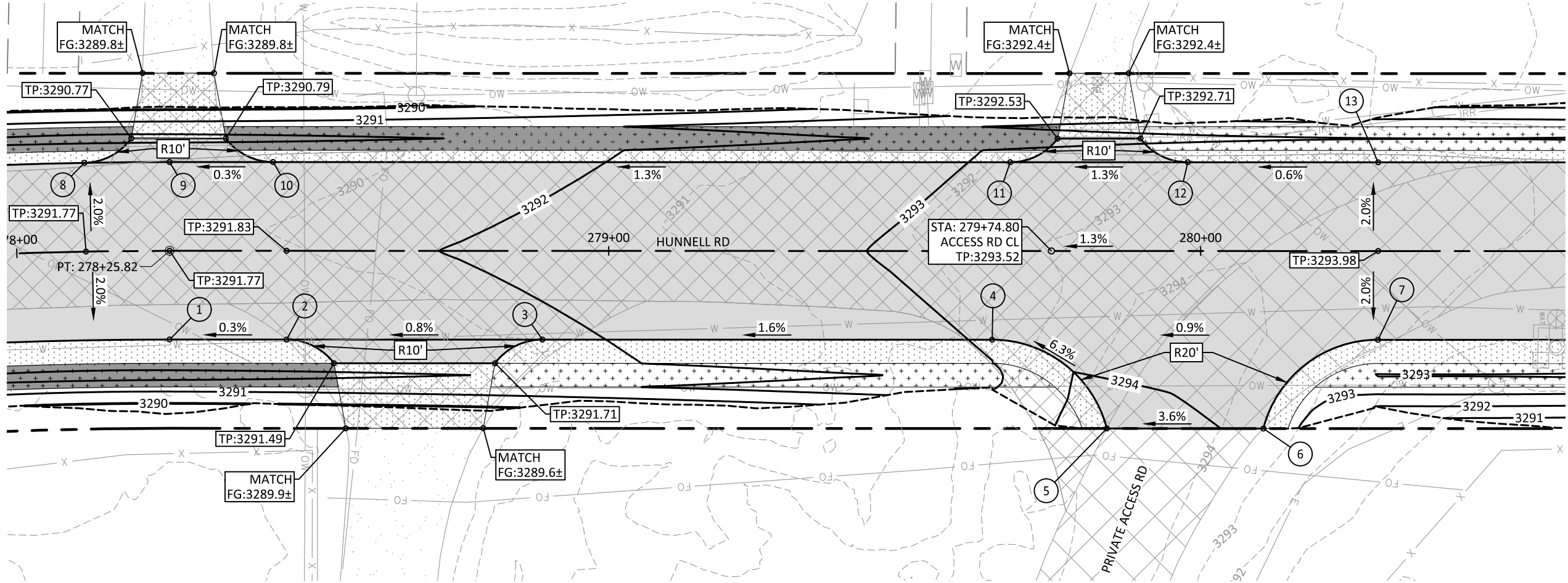
SHEET NO.	RD41
JOB NO.	DCO-01





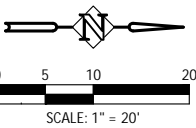


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INTERSECTION DETAIL - PRIVATE ROADWAY

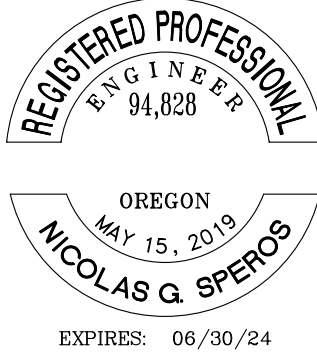
SCALE: 1" = 20'



INTERSECTION DETAIL - PRIVATE ROAD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	278+25.82	15.0' R	3291.47	TP; PT
2	HUNNELL RD	278+45.58	15.0' R	3291.53	TP; DRIVEWAY
3	HUNNELL RD	278+88.81	15.0' R	3291.87	TP; DRIVEWAY
4	HUNNELL RD	279+64.78	15.0' R	3293.07	TP; PC
5	HUNNELL RD	279+84.14	30.0' R	3294.69	TP; PT; MATCH
6	HUNNELL RD	280+10.61	30.0' R	3293.68	TP; PC; MATCH
7	HUNNELL RD	280+29.97	15.0' R	3293.68	TP; PT
8	HUNNELL RD	278+11.70	15.0' L	3291.47	TP; DRIVEWAY
9	HUNNELL RD	278+25.82	15.0' L	3291.47	TP; PT
10	HUNNELL RD	278+43.31	15.0' L	3291.52	TP; DRIVEWAY
11	HUNNELL RD	279+67.83	15.0' L	3293.12	TP; DRIVEWAY
12	HUNNELL RD	279+97.83	15.0' L	3293.49	TP; DRIVEWAY
13	HUNNELL RD	280+29.97	15.0' L	3293.68	TP

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

100% SUBMITTAL



DATE	NO.	DESCRIPTION
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DESIGNED:	HHPR TEAM
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DATE:	10.28.2022



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INTERSECTION DETAIL - PRIVATE ROADWAY  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	RD43
JOB NO.	DCO-01




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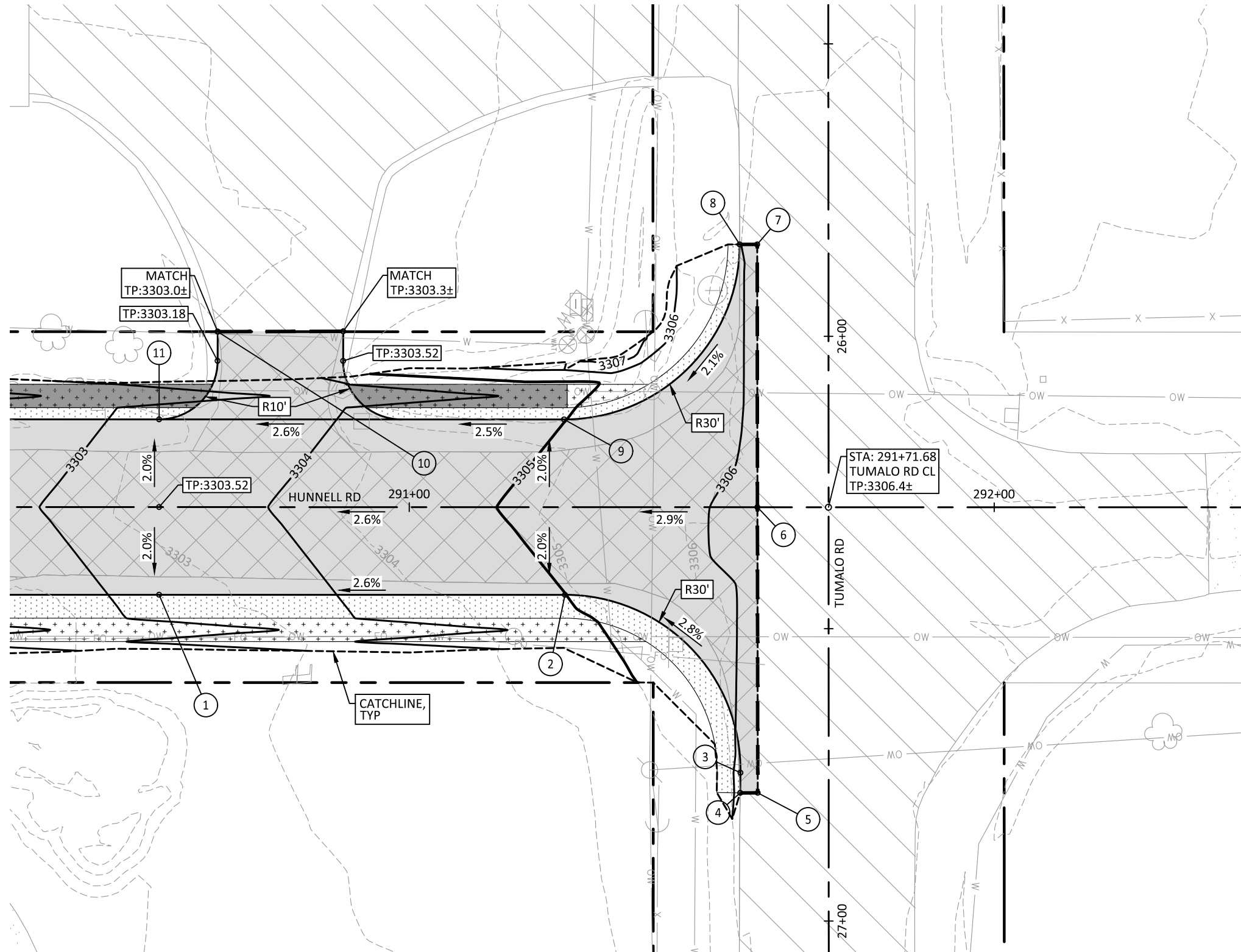
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



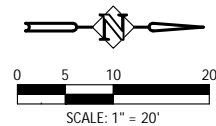
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INTERSECTION DETAIL - TUMALO ROAD  
SCALE: 1" = 20'

INTERSECTION DETAIL - TUMALO ROAD					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	290+57.21	15.0' R	3303.22	TP
2	HUNNELL RD	291+26.62	15.0' R	3304.99	TP; PC
3	HUNNELL RD	291+56.61	45.4' R	3306.19	TP; PT
4	HUNNELL RD	291+56.57	48.8' R	3306.18	TP; MATCH; SAWCUT
5	HUNNELL RD	291+59.57	48.8' R	3306.32	TP; MATCH; SAWCUT
6	HUNNELL RD	291+59.51	0.0' R	3306.23	TP; MATCH; SAWCUT
7	HUNNELL RD	291+59.46	44.9' L	3306.21	TP; MATCH; SAWCUT
8	HUNNELL RD	291+56.46	44.9' L	3305.98	TP; MATCH; SAWCUT; PC
9	HUNNELL RD	291+26.46	15.0' L	3304.99	TP; PT
10	HUNNELL RD	290+98.68	15.0' L	3304.28	TP; DRIVEWAY
11	HUNNELL RD	290+57.21	15.0' L	3303.22	TP; DRIVEWAY



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



**NICOLAS G. SPEROS**

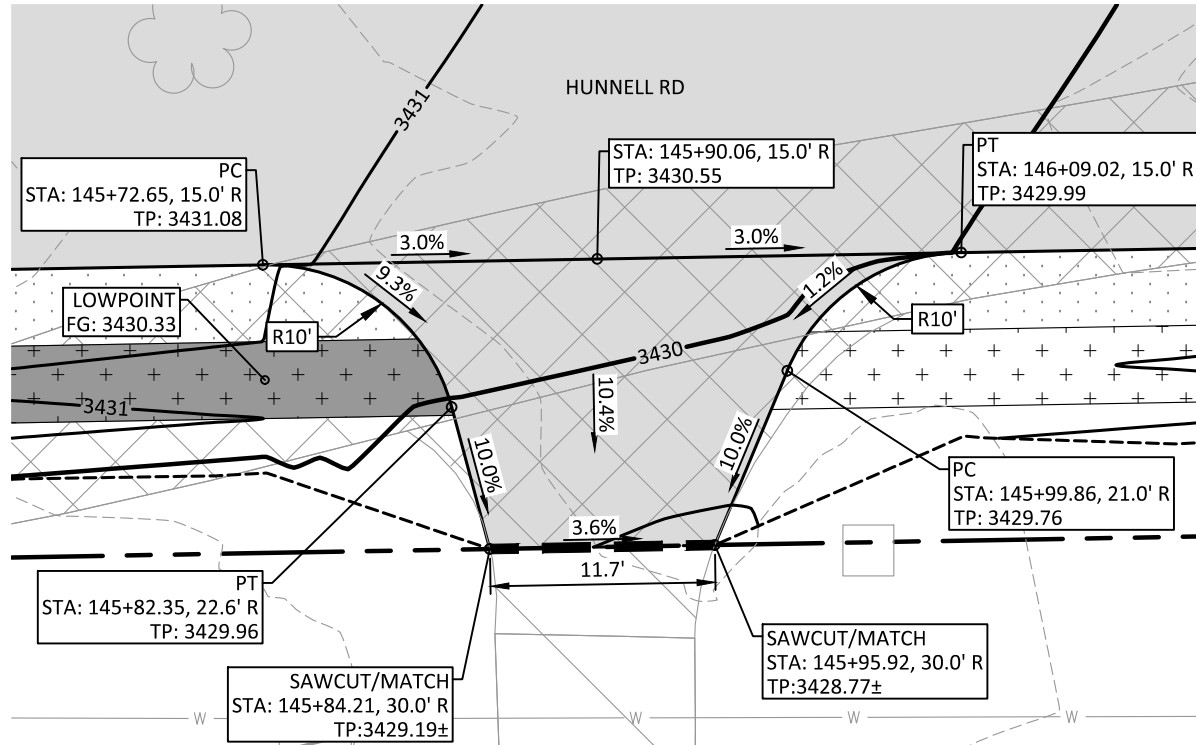
EXPIRES: 06/30/24

INTERSECTION DETAIL - TUMALO RD  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

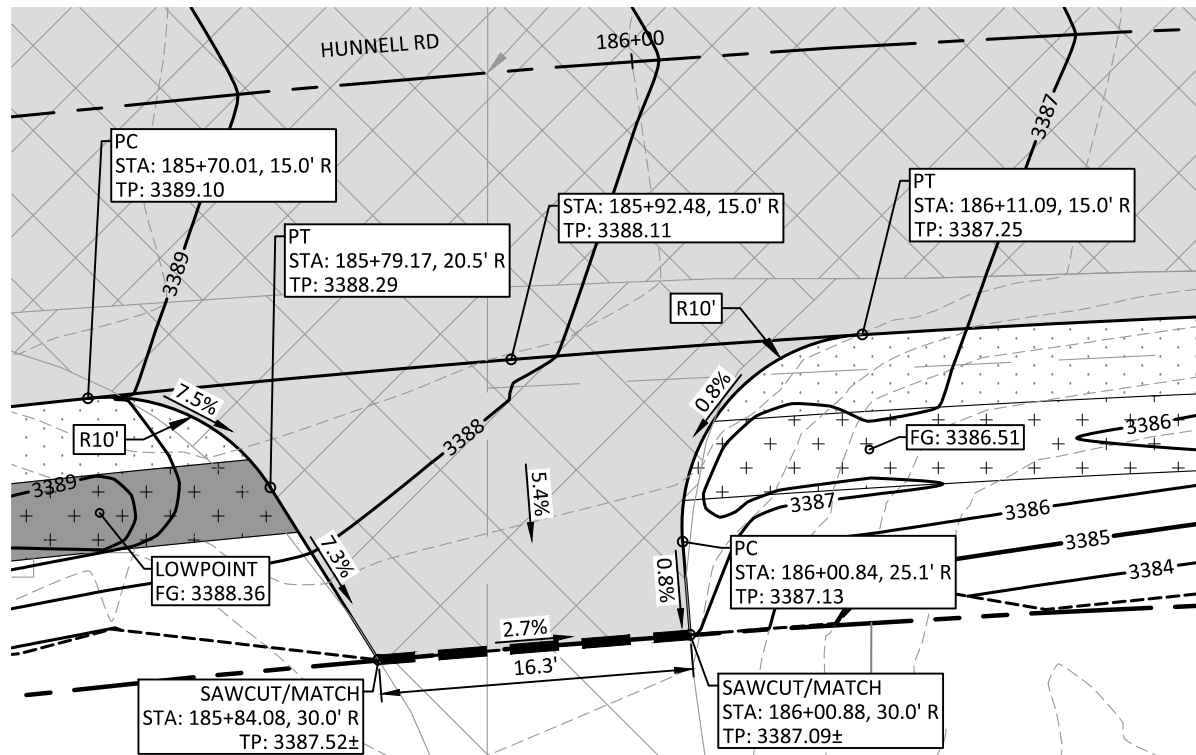
SHEET NO.	RD44
JOB NO.	DCO-01



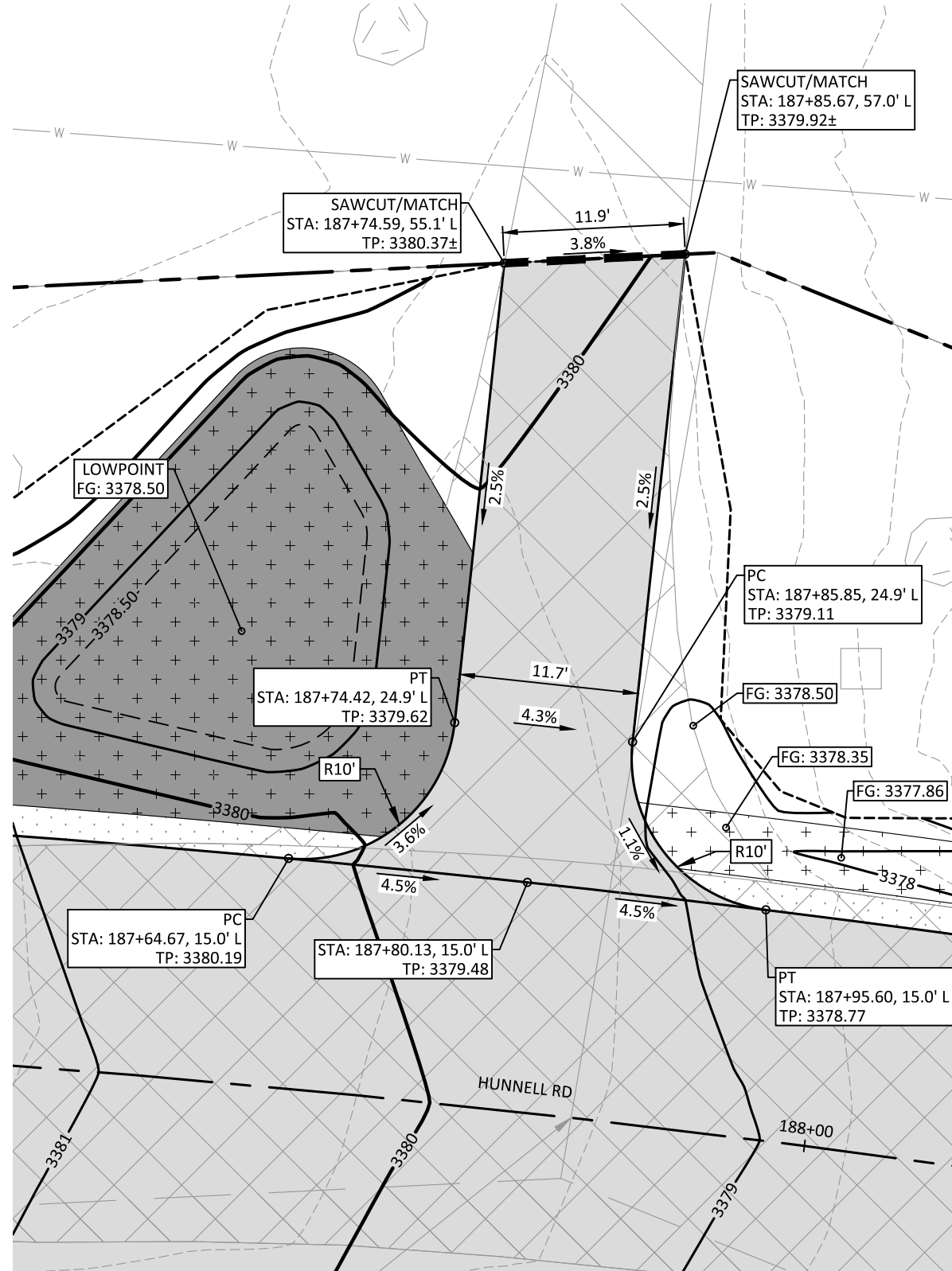
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DRIVEWAY #2  
SCALE: 1" = 10'

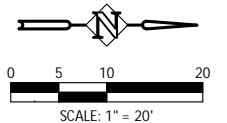


DRIVEWAY #17  
SCALE: 1" = 10'

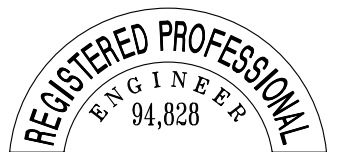


DRIVEWAY #18  
SCALE: 1" = 10'

100% SUBMITTAL



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



Harper Houf Peterson Righellis Inc.

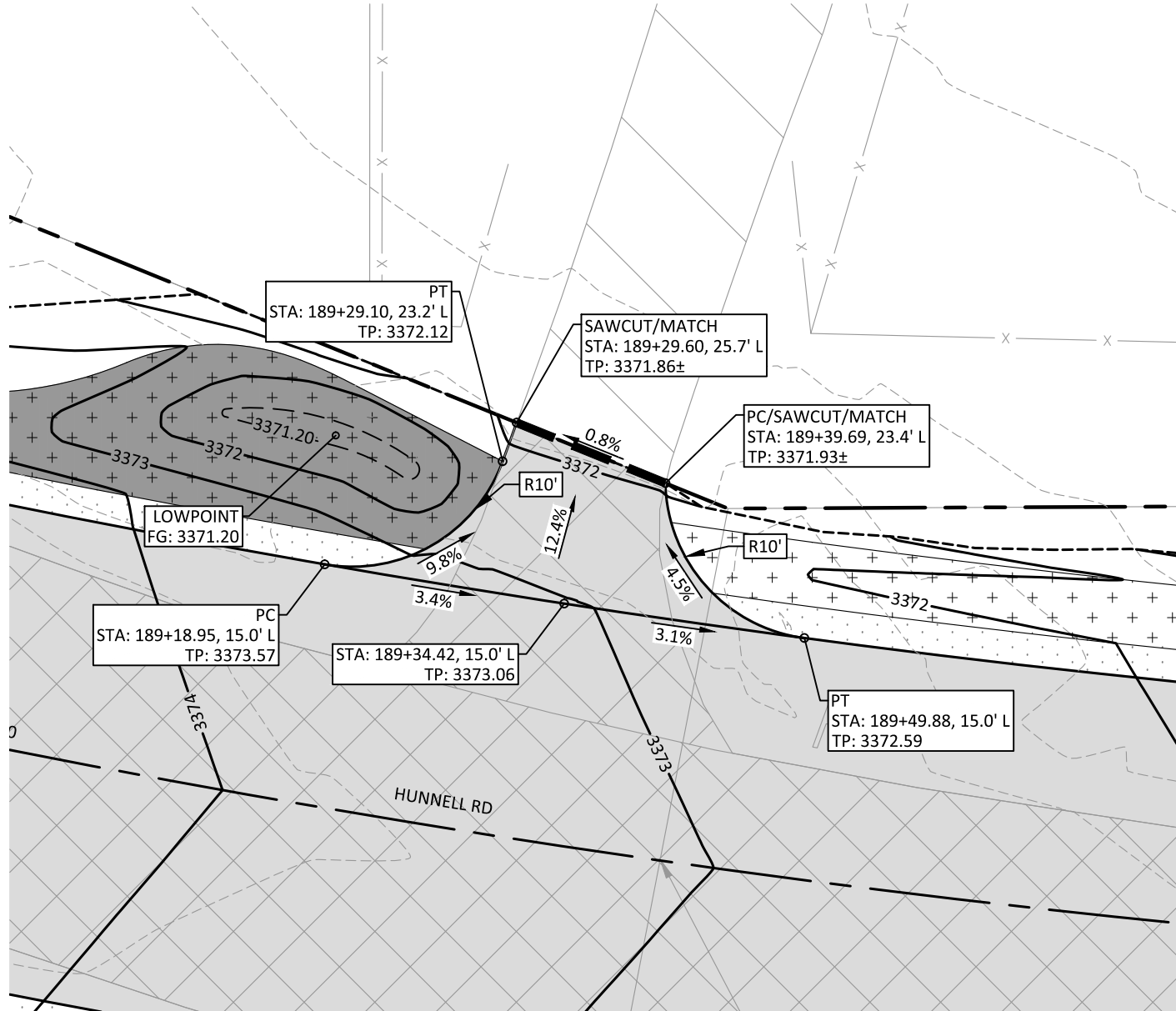
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

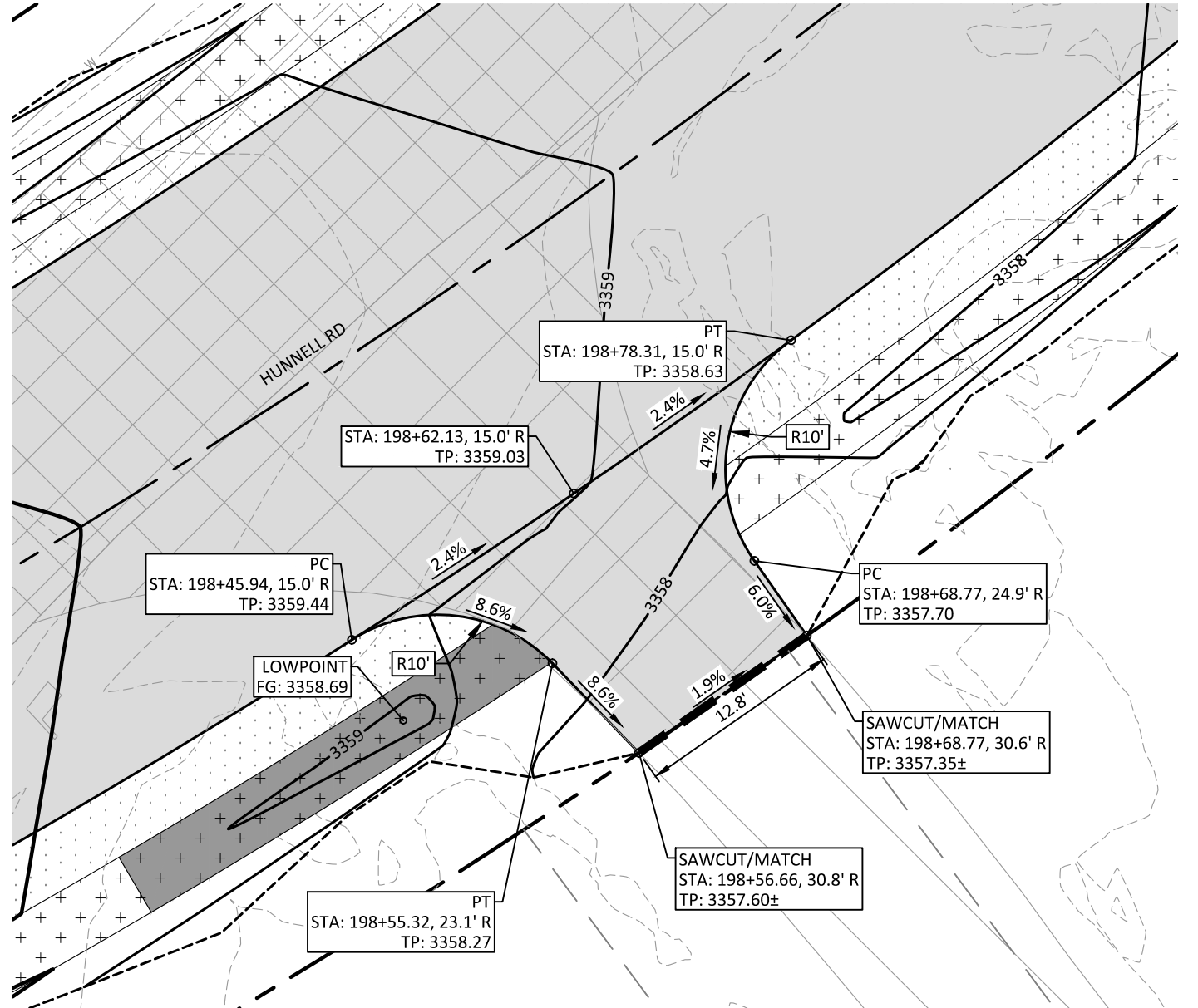
SHEET NO.	RD45
JOB NO.	DCO-01



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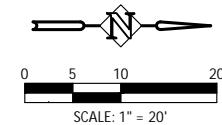


DRIVEWAY #19  
SCALE: 1" = 10'



DRIVEWAY #21  
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



100% SUBMITTAL

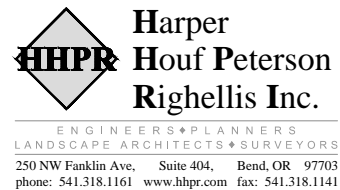
DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
RD46  
JOB NO.  
DCO-01



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

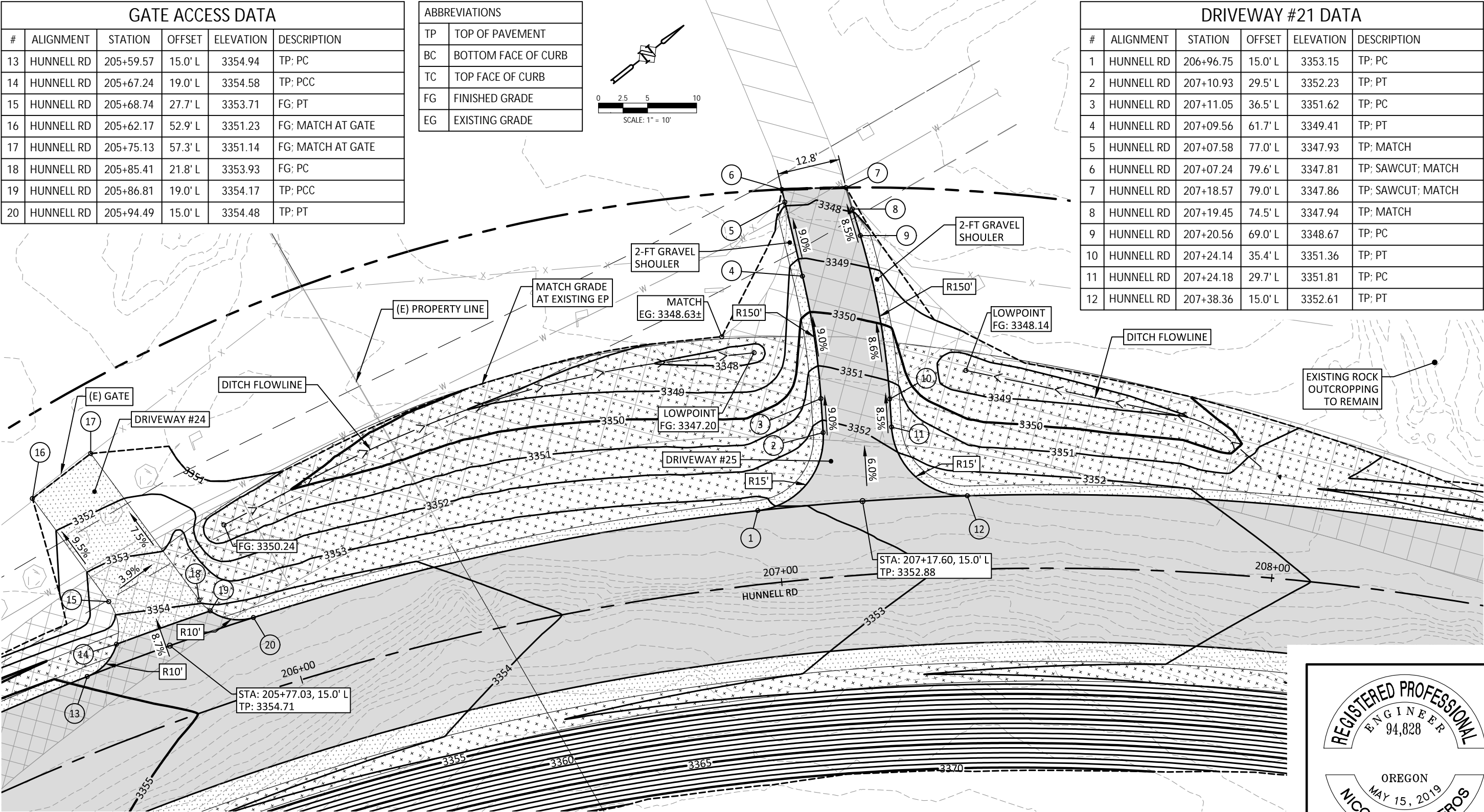




GATE ACCESS DATA					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
13	HUNNELL RD	205+59.57	15.0' L	3354.94	TP; PC
14	HUNNELL RD	205+67.24	19.0' L	3354.58	TP; PCC
15	HUNNELL RD	205+68.74	27.7' L	3353.71	FG; PT
16	HUNNELL RD	205+62.17	52.9' L	3351.23	FG; MATCH AT GATE
17	HUNNELL RD	205+75.13	57.3' L	3351.14	FG; MATCH AT GATE
18	HUNNELL RD	205+85.41	21.8' L	3353.93	FG; PC
19	HUNNELL RD	205+86.81	19.0' L	3354.17	TP; PCC
20	HUNNELL RD	205+94.49	15.0' L	3354.48	TP; PT

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

DRIVEWAY #21 DATA					
#	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1	HUNNELL RD	206+96.75	15.0' L	3353.15	TP; PC
2	HUNNELL RD	207+10.93	29.5' L	3352.23	TP; PT
3	HUNNELL RD	207+11.05	36.5' L	3351.62	TP; PC
4	HUNNELL RD	207+09.56	61.7' L	3349.41	TP; PT
5	HUNNELL RD	207+07.58	77.0' L	3347.93	TP; MATCH
6	HUNNELL RD	207+07.24	79.6' L	3347.81	TP; SAWCUT; MATCH
7	HUNNELL RD	207+18.57	79.0' L	3347.86	TP; SAWCUT; MATCH
8	HUNNELL RD	207+19.45	74.5' L	3347.94	TP; MATCH
9	HUNNELL RD	207+20.56	69.0' L	3348.67	TP; PC
10	HUNNELL RD	207+24.14	35.4' L	3351.36	TP; PT
11	HUNNELL RD	207+24.18	29.7' L	3351.81	TP; PC
12	HUNNELL RD	207+38.36	15.0' L	3352.61	TP; PT



DRIVEWAY #24 & DRIVEWAY #25  
SCALE: 1" = 10'

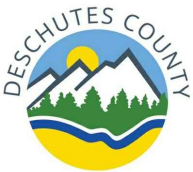
100% SUBMITTAL

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24

P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\SS\Sheets\DCO-01\_RD-F\_Driveway\_Details.dwg



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

HHPR

Harper  
Houf Peterson  
Righellis Inc.

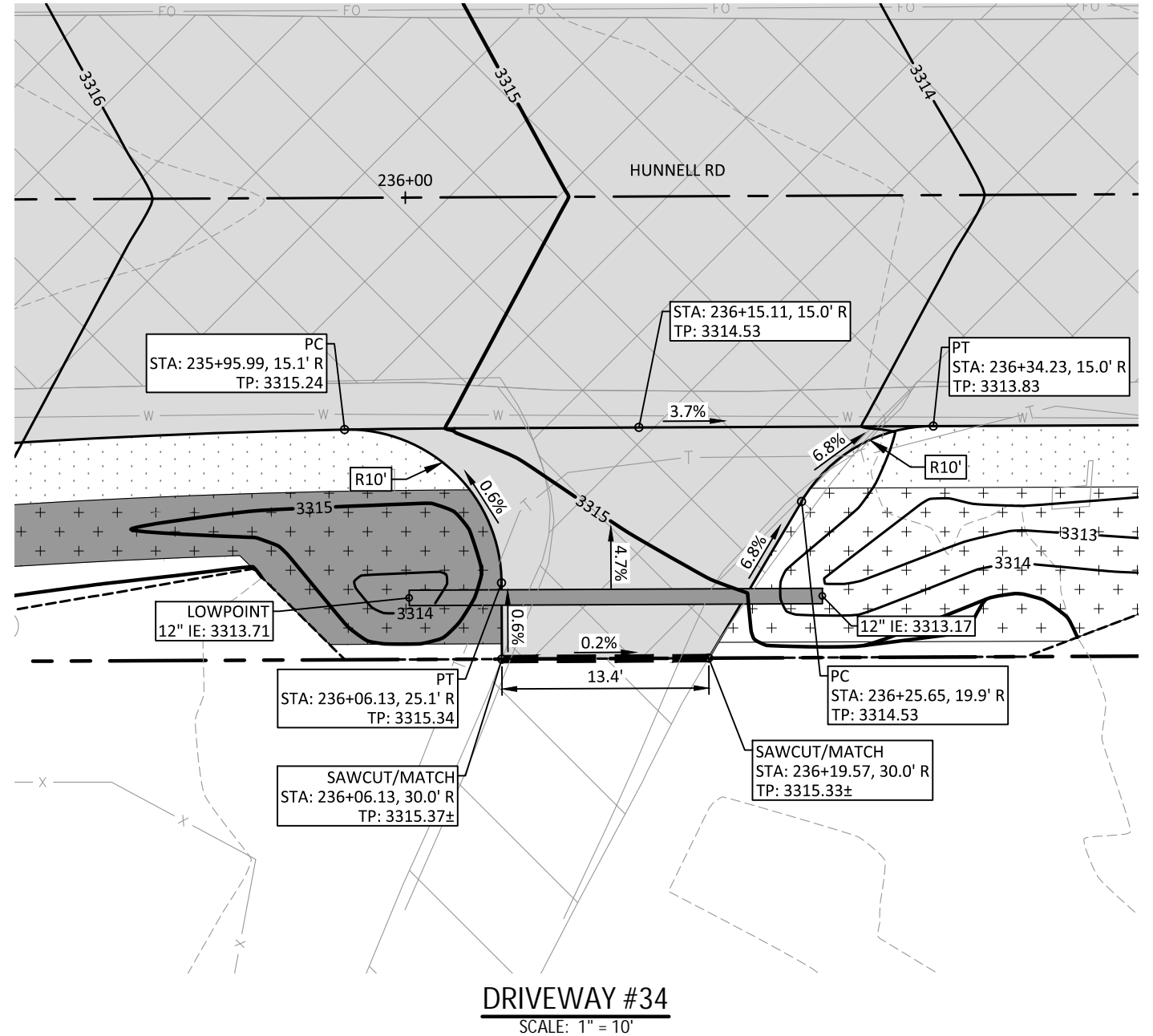
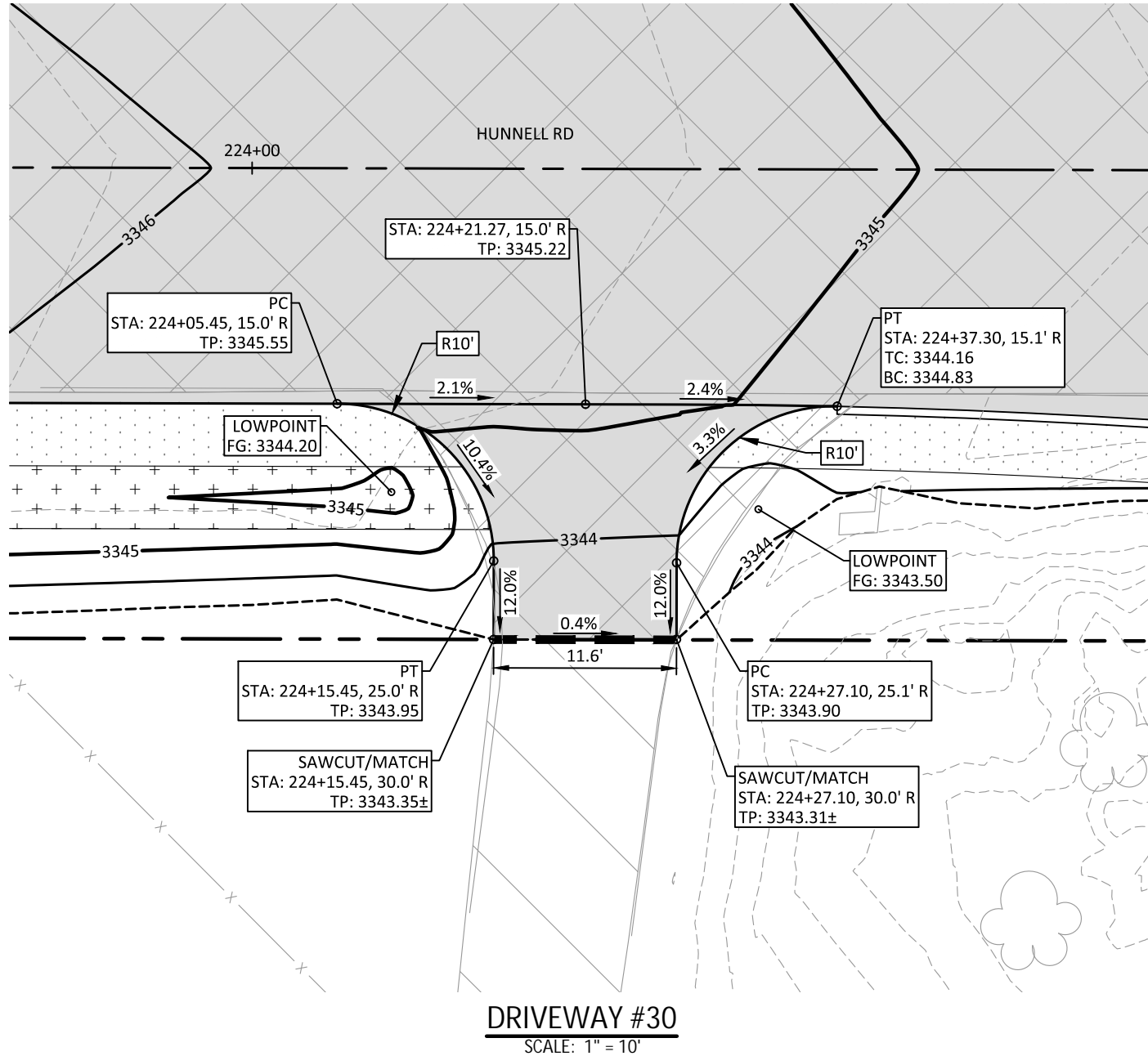
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250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

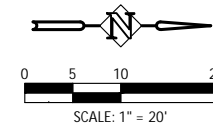
SHEET NO.  
RD47  
JOB NO.  
DCO-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\SS\Sheets\DCO-01\_RD-F\_Driveway\_Details.dwg



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD48**  
JOB NO.  
DCO-01



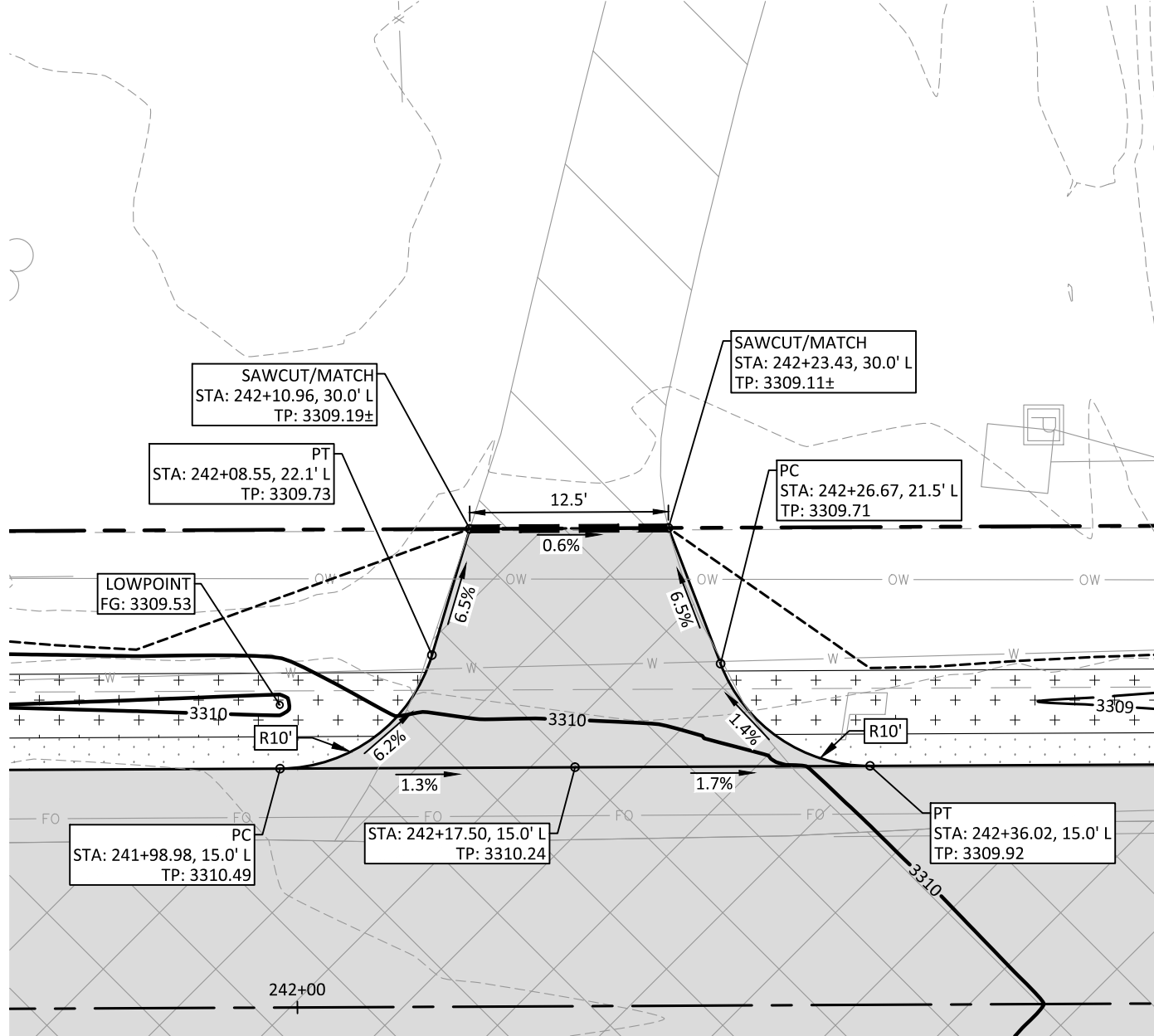
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

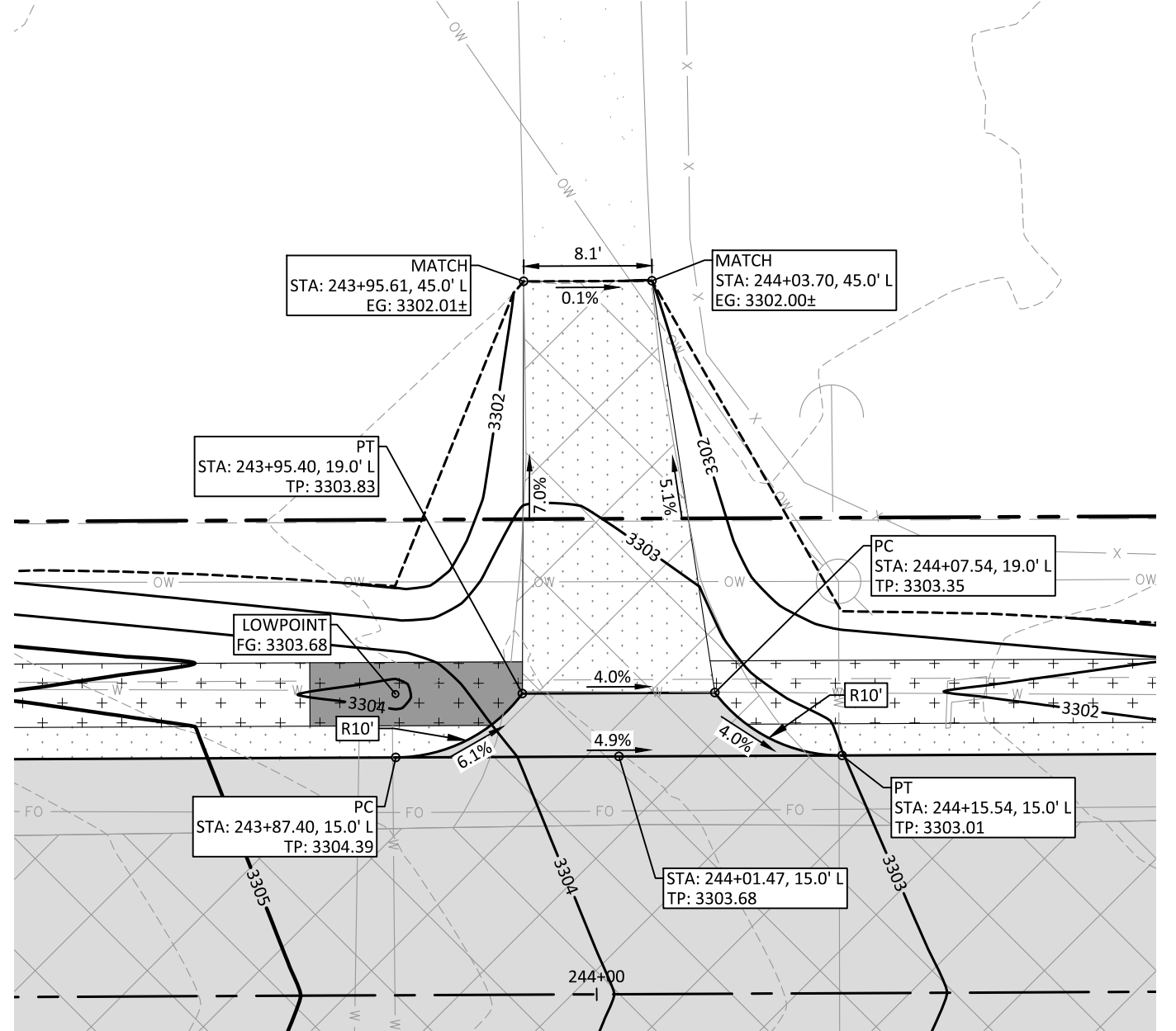
**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141



P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\SS\Sheets\DCO-01\_RD-F\_Driveway\_Details.dwg

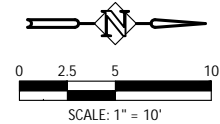


DRIVEWAY #39  
SCALE: 1" = 10'



DRIVEWAY #41  
SCALE: 1" = 10'

ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD49**  
JOB NO.  
DCO-01



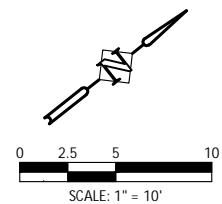
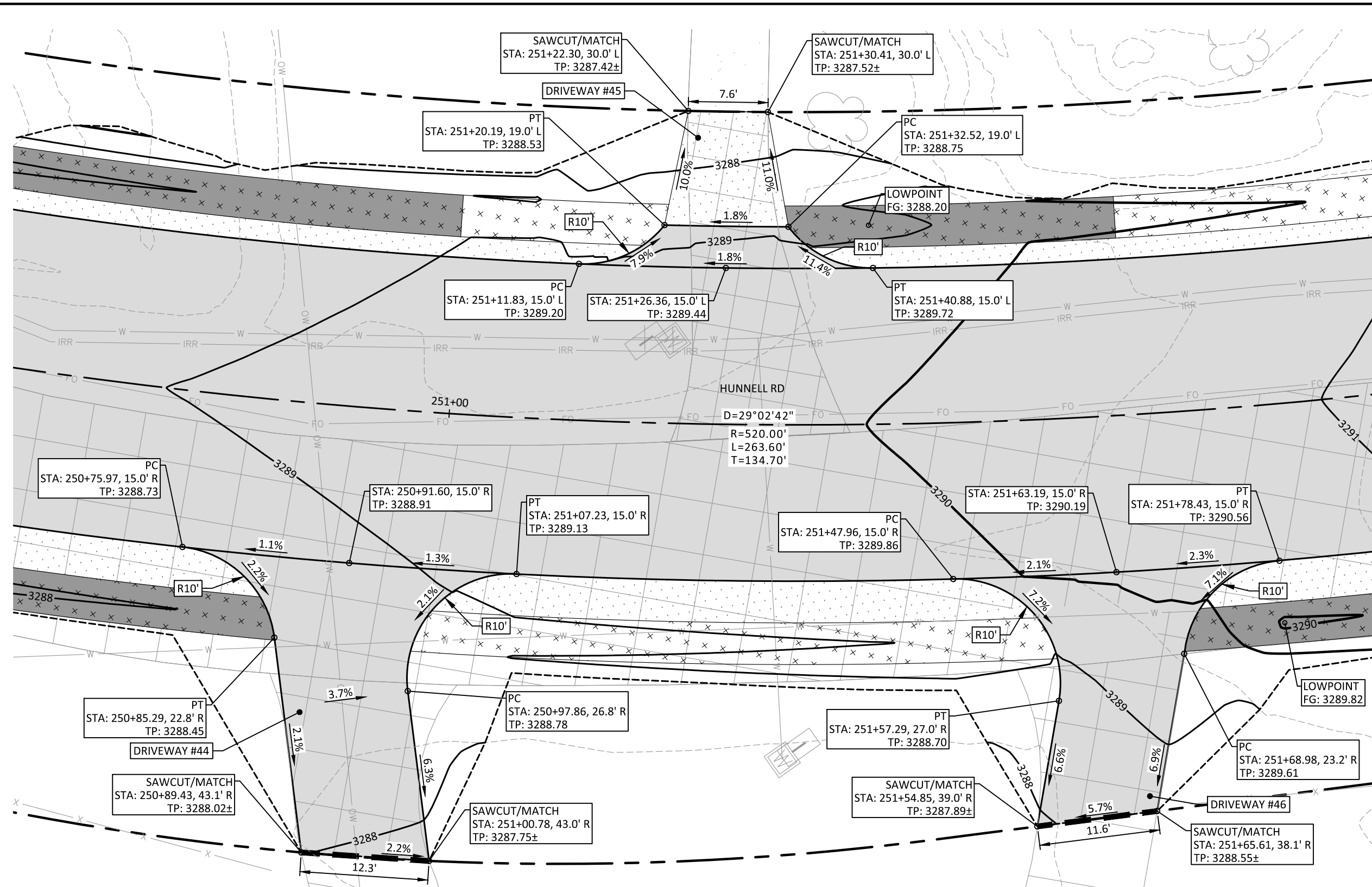
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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P:\03-Bentl\DCO01 (Deschutes County)\DCO01 (Hunnell Road)\DWG\Sheets\DCO-01 RD-F Driveway Details.dwg



ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
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LANDSCAPE ARCHITECTS • SURVEYORS  
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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

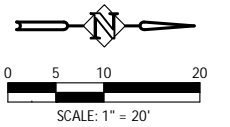
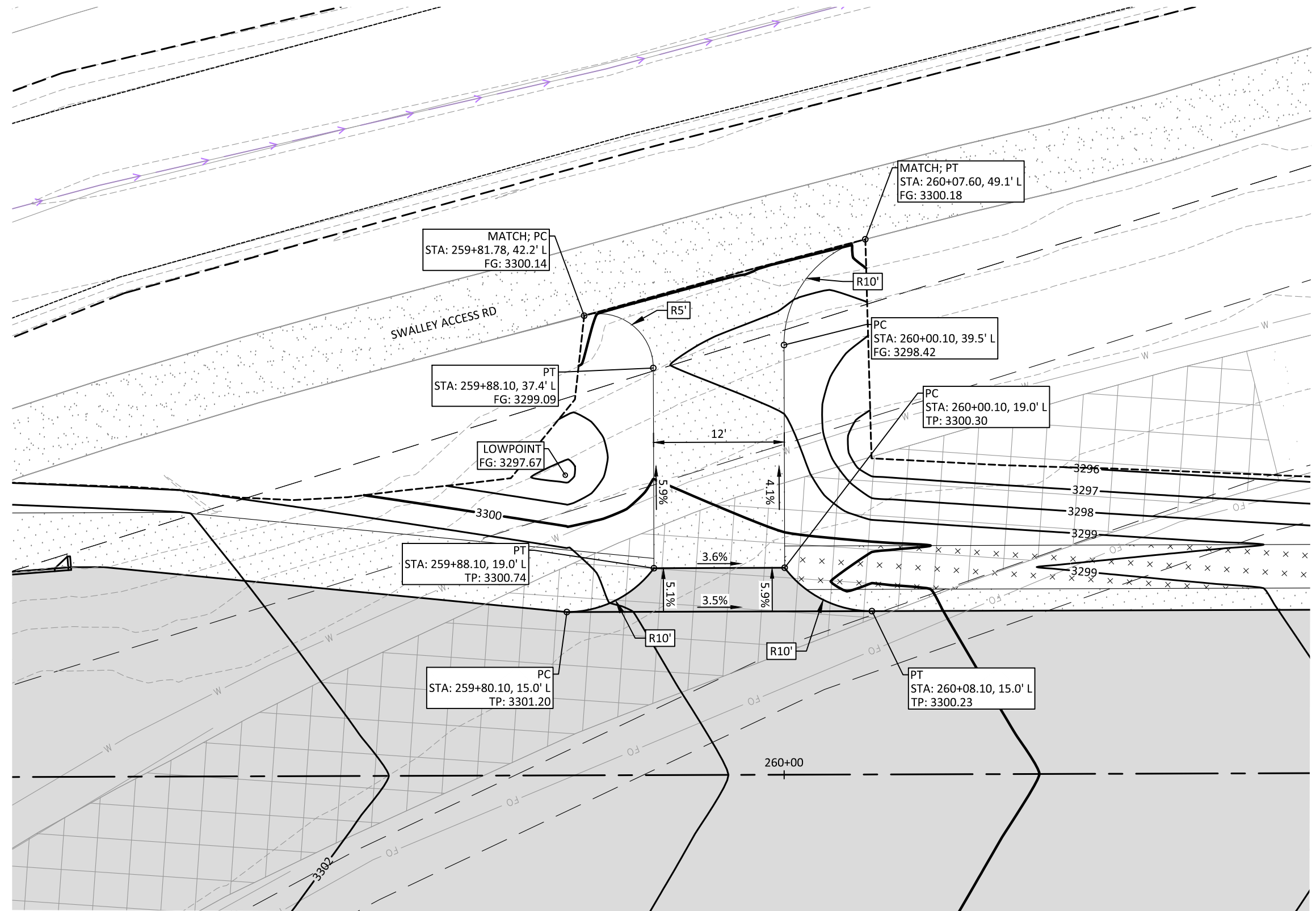
DRIVEWAY DETAILS  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD50**  
JOB NO.  
DCO-01









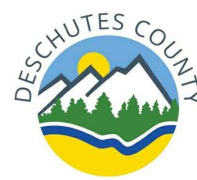
ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24

**DRIVEWAY #50**  
SCALE: 1" = 10'

**100% SUBMITTAL**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
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DRIVEWAY DETAILS

HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT

DESCHUTES COUNTY, OREGON

SHEET NO.

RD52

JOB NO.

DC0-01



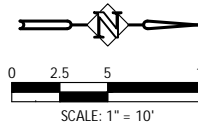
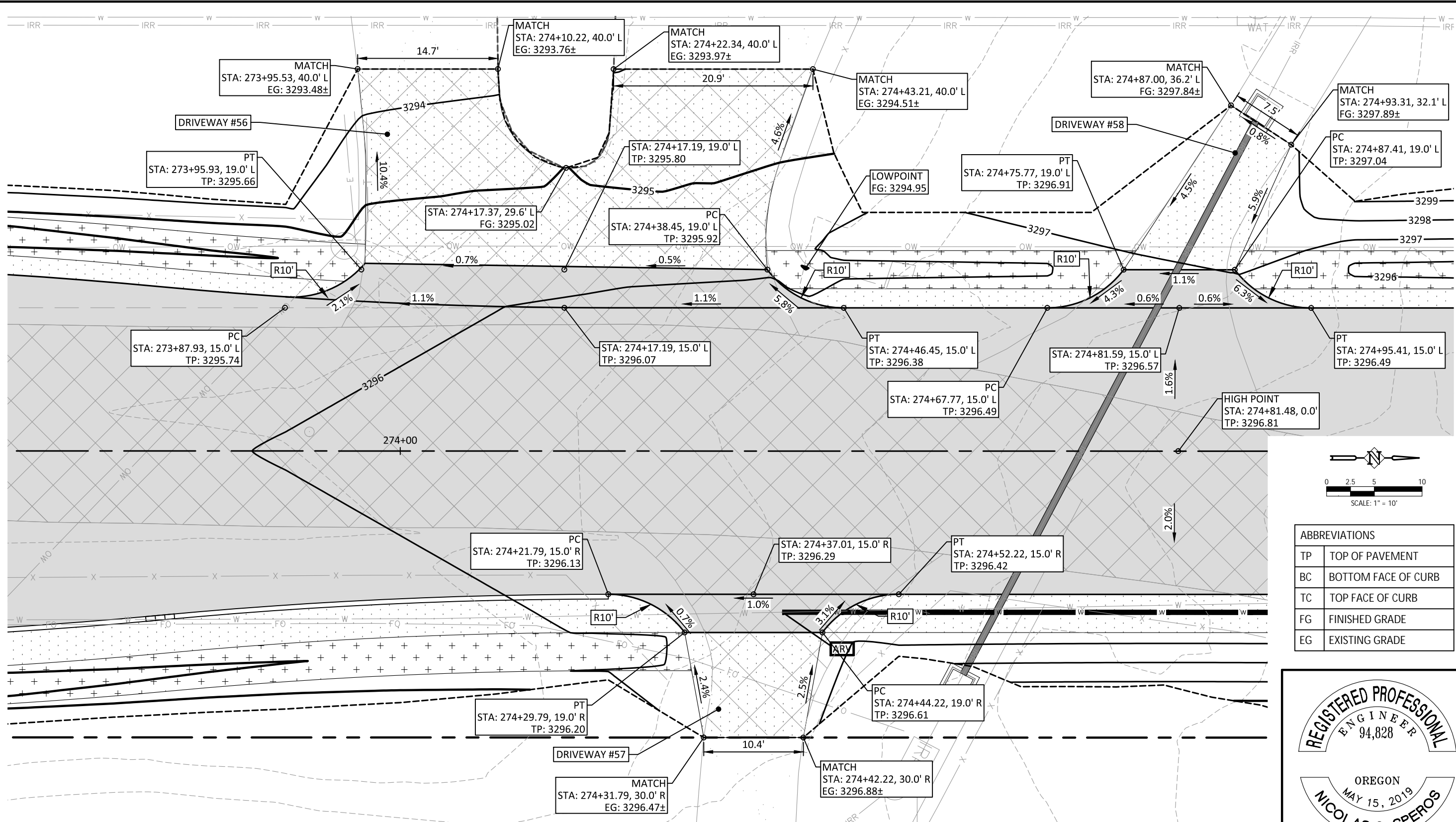




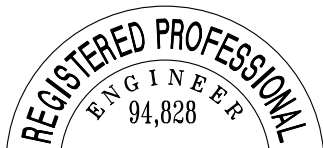




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ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE



EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

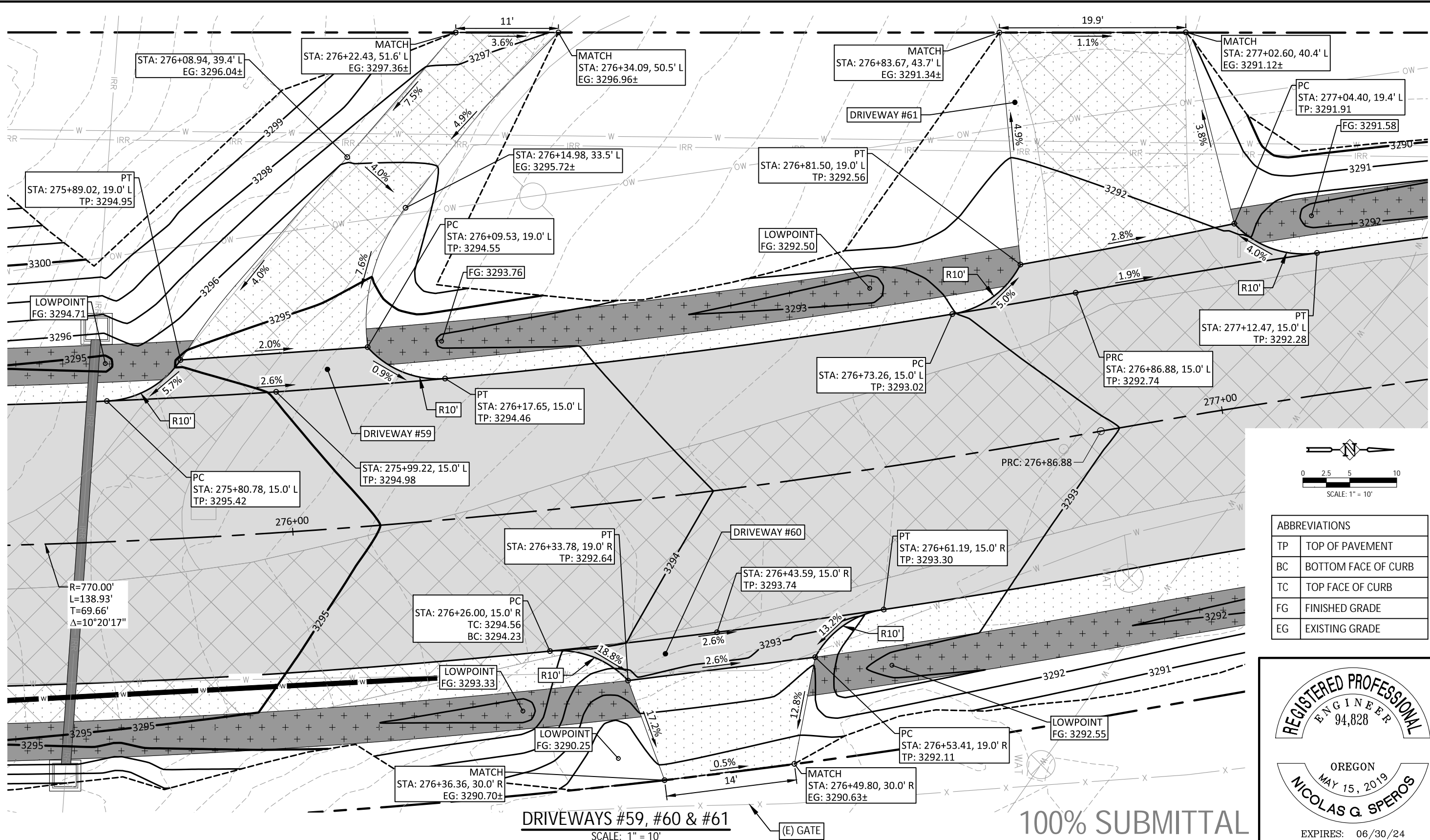
**Harper Houf Peterson Righellis Inc.**  
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DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	RD55
JOB NO.	DCO-01



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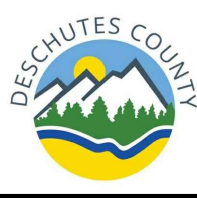


ABBREVIATIONS	
TP	TOP OF PAVEMENT
BC	BOTTOM FACE OF CURB
TC	TOP FACE OF CURB
FG	FINISHED GRADE
EG	EXISTING GRADE

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
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LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
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DRIVEWAY DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**RD56**  
JOB NO.  
DCO-01

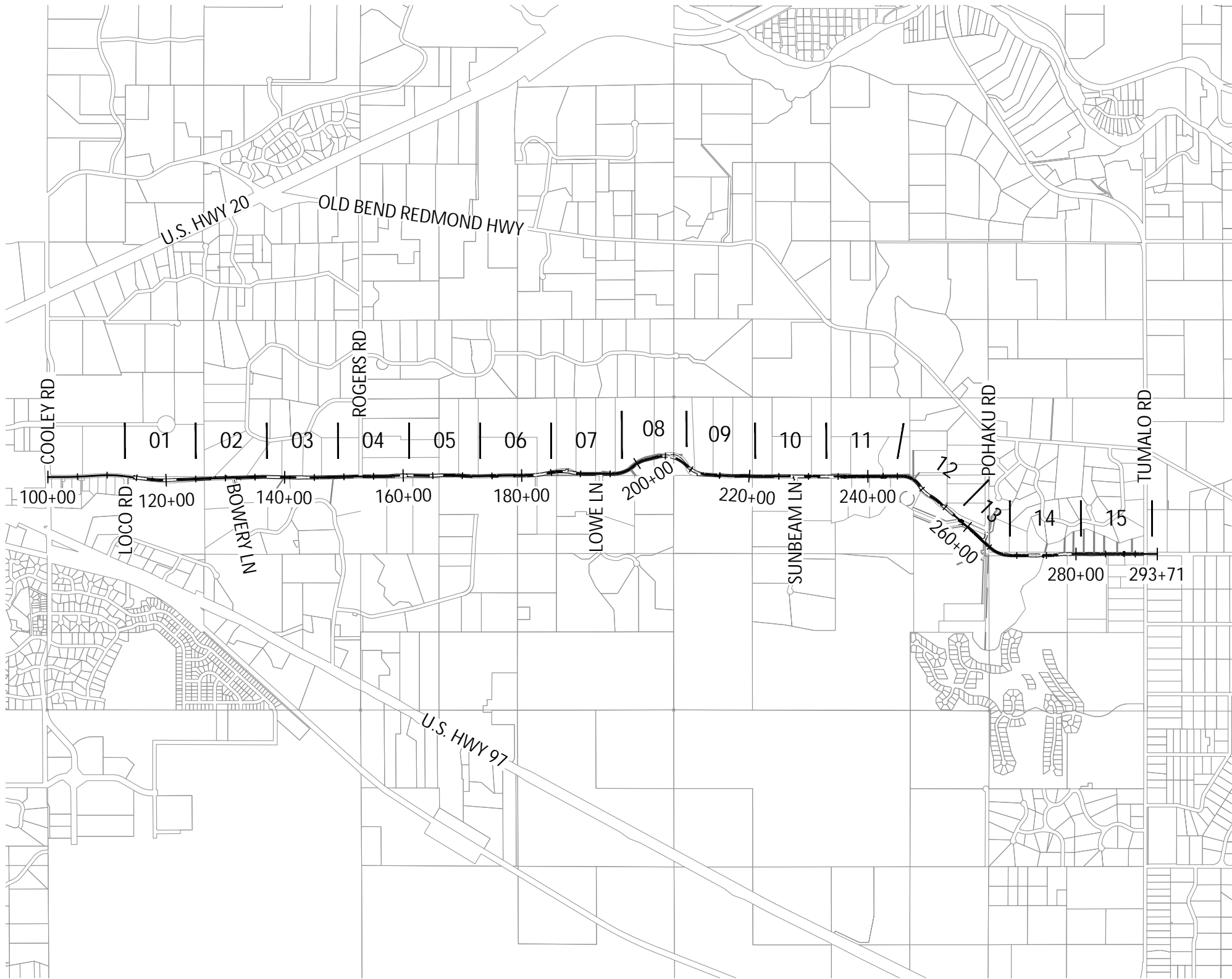




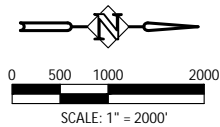


**SHEET INDEX**

- EC01 ESC PLAN - STA 112+00 TO 125+00
- EC02 ESC PLAN - STA 125+00 TO 137+00
- EC03 ESC PLAN - STA 137+00 TO 149+00
- EC04 ESC PLAN - STA 149+00 TO 161+00
- EC05 ESC PLAN - STA 161+00 TO 173+00
- EC06 ESC PLAN - STA 173+00 TO 185+00
- EC07 ESC PLAN - STA 185+00 TO 197+00
- EC08 ESC PLAN - STA 197+00 TO 209+00
- EC09 ESC PLAN - STA 209+00 TO 221+00
- EC10 ESC PLAN - STA 221+00 TO 233+00
- EC11 ESC PLAN - STA 233+00 TO 245+00
- EC12 ESC PLAN - STA 245+00 TO 257+00
- EC13 ESC PLAN - STA 257+00 TO 269+00
- EC14 ESC PLAN - STA 269+00 TO 281+00
- EC15 ESC PLAN - STA 281+00 TO 293+00



**SITE MAP**  
SCALE: 1" = 2000'



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**HHPR** Harper Houf Peterson Righellis Inc.  
ENGINEERS \* PLANNERS  
LANDSCAPE ARCHITECTS \* SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

EROSION & SEDIMENT CONTROL SHEET INDEX  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

100% SUBMITTAL

SHEET NO.	EC00
JOB NO.	DCO-01



P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_ECA Grading & ESC (113+00 - 173+00).dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

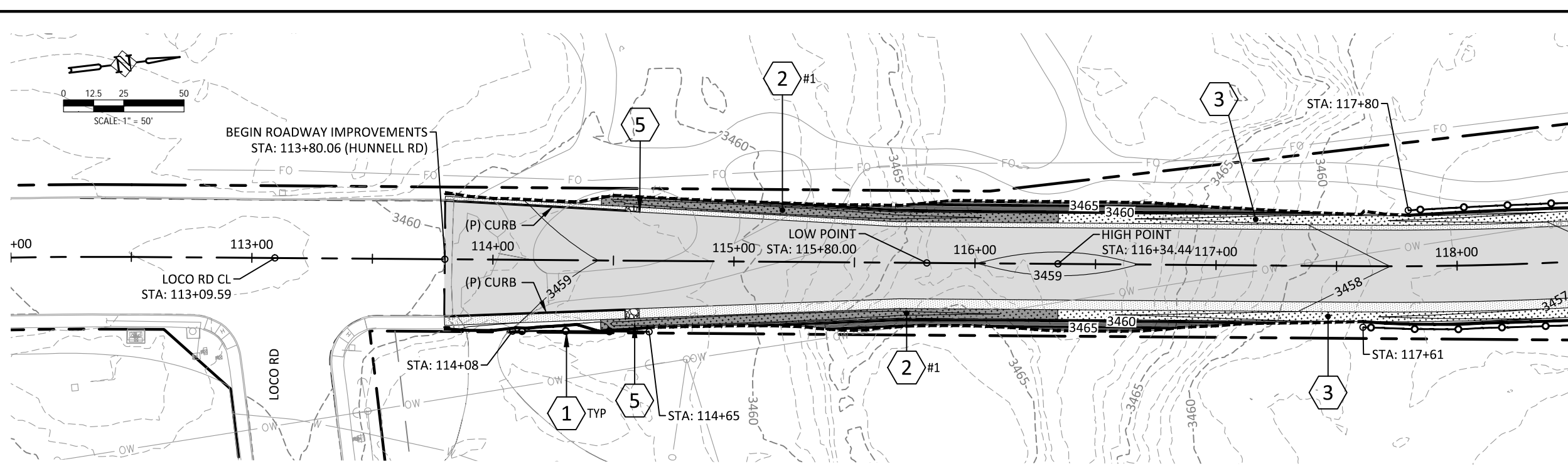
DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



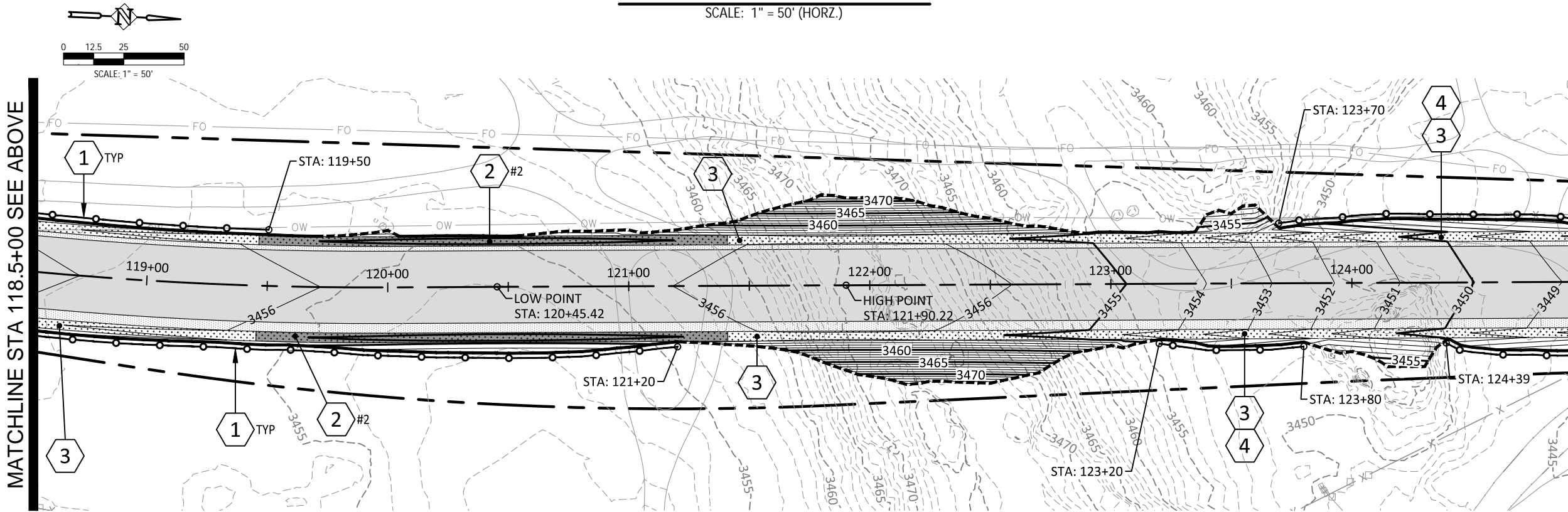
**Harper Houf Peterson Righellis Inc.**  
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LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 112+00 TO 125+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

SHEET NO.	EC01
JOB NO.	DCO-01



**STA 112+00 TO 118.5+00 - PLAN**  
SCALE: 1" = 50' (HORZ.)



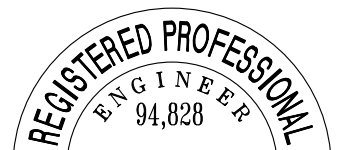
**STA 118.5+00 TO 125+00 - PLAN**  
SCALE: 1" = 50' (HORZ.)

**GRADING & ESC NOTES:**

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

**LEGEND:**

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- - - 3450 - - - (E) MAJOR CONTOUR
- - - 3451 - - - (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



EXPIRES: 06/30/24

100% SUBMITTAL

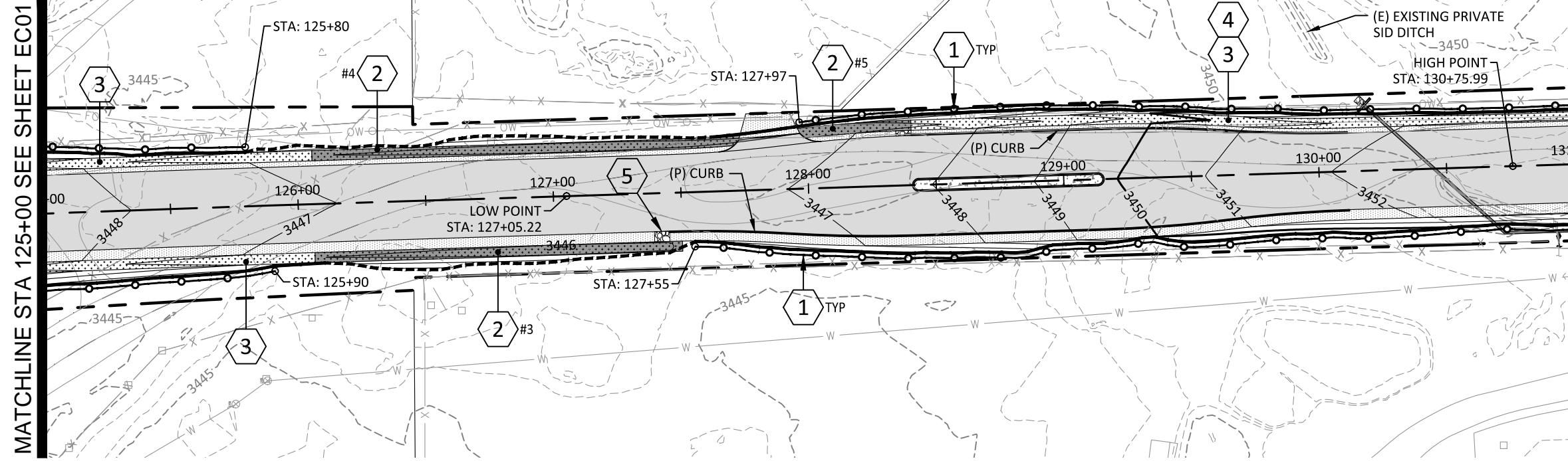
MATCHLINE STA 118.5+00 SEE BELOW

MATCHLINE STA 125+00 SEE EC02

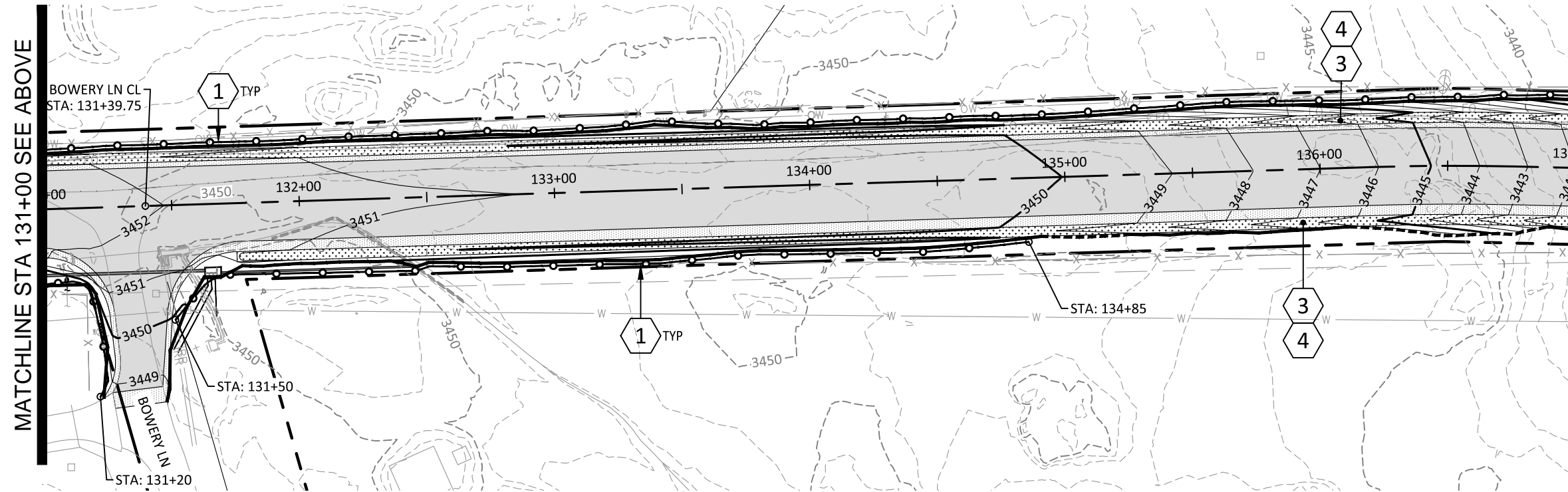
MATCHLINE STA 118.5+00 SEE ABOVE



P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-A Grading & ESC (131+00 - 173+00).dwg



STA 125+00 TO 131+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



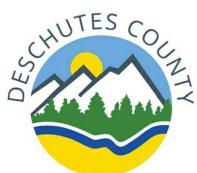
STA 131+00 TO 137+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

### GRADING & ESC NOTES:

1. INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
2. CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
3. CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
4. CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
5. INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

### LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



DATE	NO.	DESCRIPTION
REVISIONS		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

ESC PLAN - STA 125+00 TO 137+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

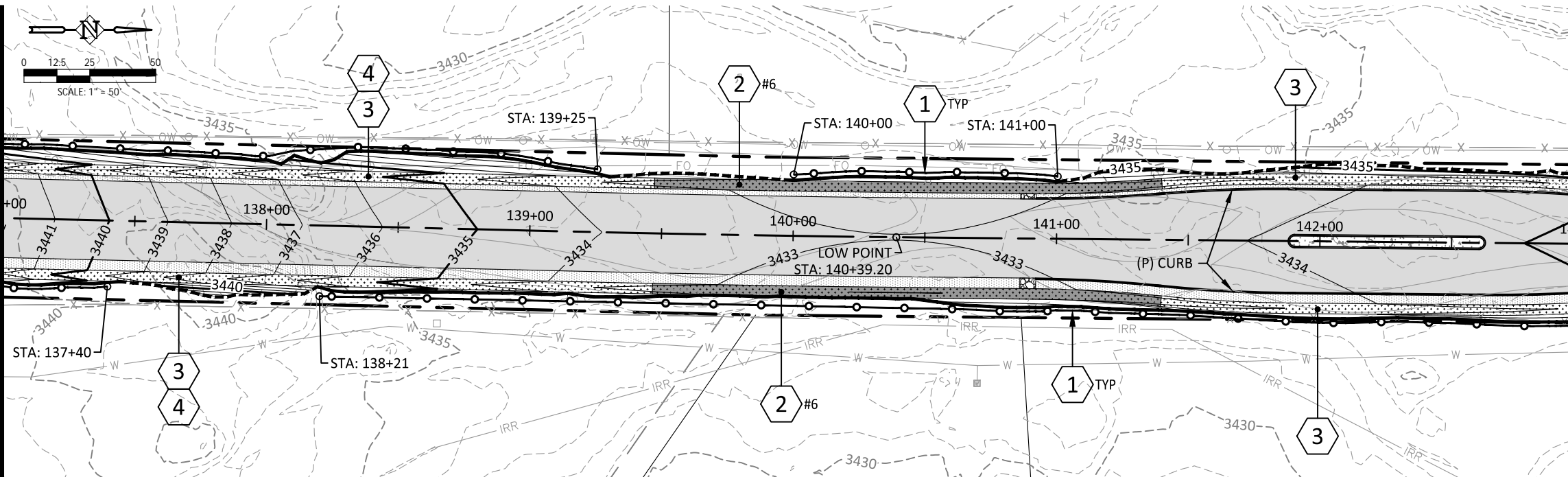
100% SUBMITTAL

SHEET NO.  
**EC02**  
JOB NO.  
DCO-01



P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\Sheets\DCO-01\_EC-A Grading & ESC (13+00 - 173+00).dwg

MATCHLINE STA 137+00 SEE SHEET EC02



STA 137+00 TO 143+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 143+00 SEE BELOW

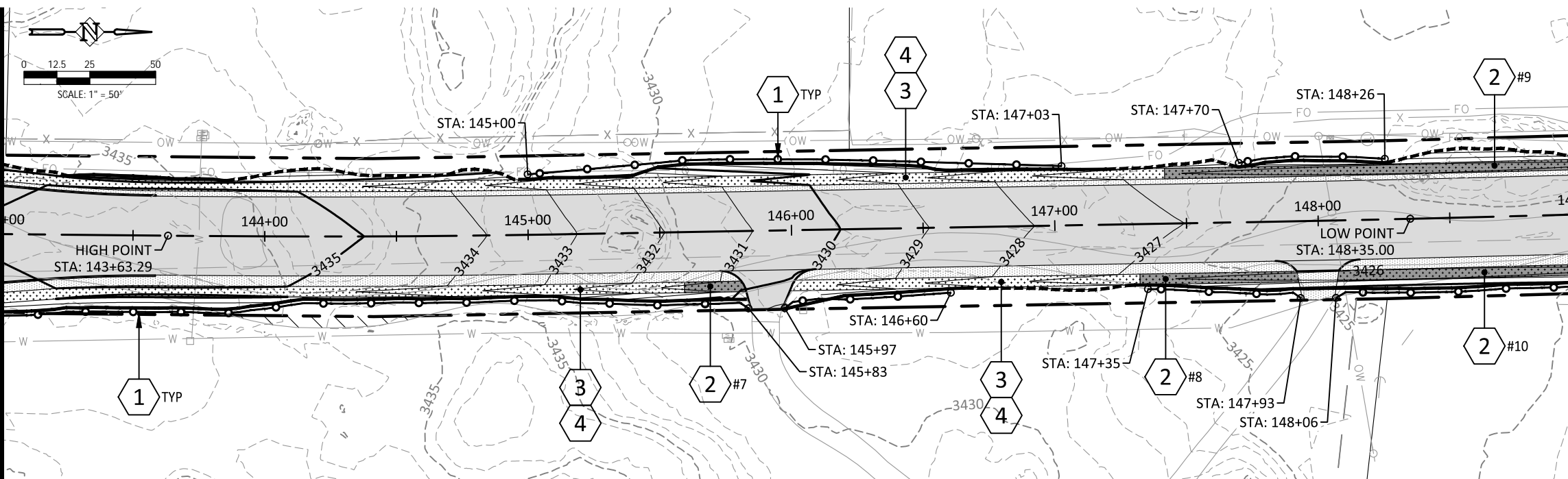
**GRADING & ESC NOTES:**

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

**LEGEND:**

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- ○ (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 143+00 SEE ABOVE



STA 143+00 TO 149+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 149+00 SEE SHEET EC04

100% SUBMITTAL

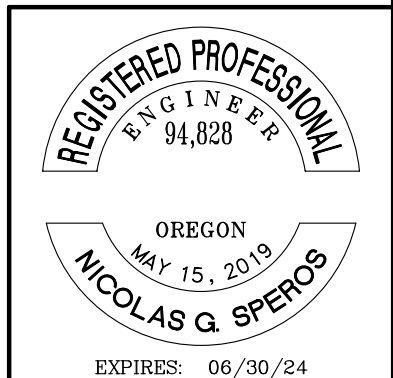


			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION		DATE:
R E V I S I O N S				10.28.2022



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ESC PLAN - STA 137+00 TO 149+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

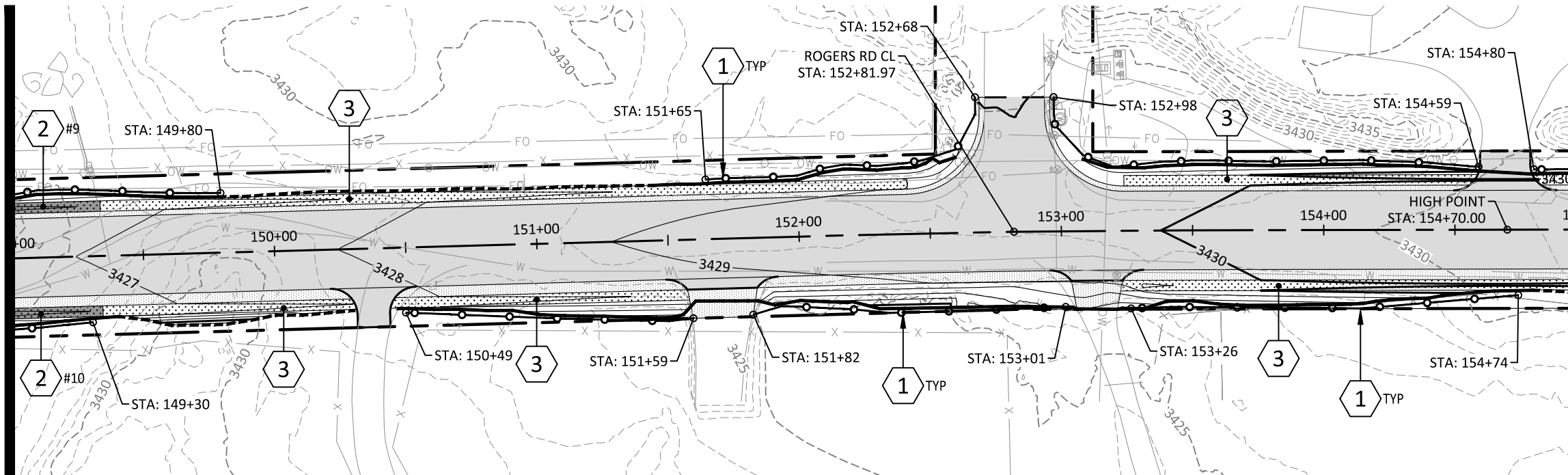


SHEET NO.  
**EC03**  
JOB NO.  
DCO-01



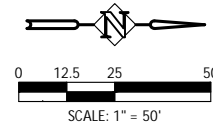
P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-A Grading & ESC (113+00 - 173+00).dwg

MATCHLINE STA 149+00 SEE SHEET EC03

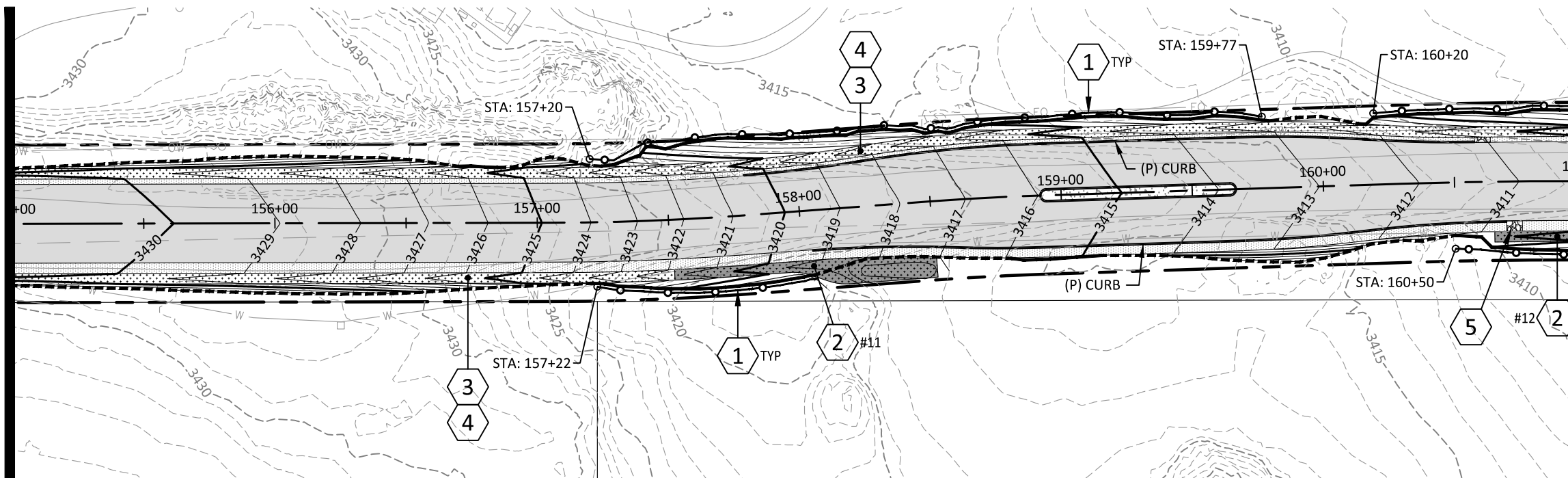


STA 149+00 TO 155+00 - PLAN

SCALE: 1" = 50' (HORZ.)



MATCHLINE STA 155+00 SEE ABOVE



STA 155+00 TO 161+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 155+00 SEE BELOW

### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

### LEGEND:

- 3450 (P) MAJOR CONTOUR
- 3451 (P) MINOR CONTOUR
- 3450 (E) MAJOR CONTOUR
- 3451 (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



100% SUBMITTAL



DATE	NO.	DESCRIPTION
REVISIONS		
DESIGNED:	HHPR TEAM	
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CHECKED:	NS	
DATE:	10.28.2022	



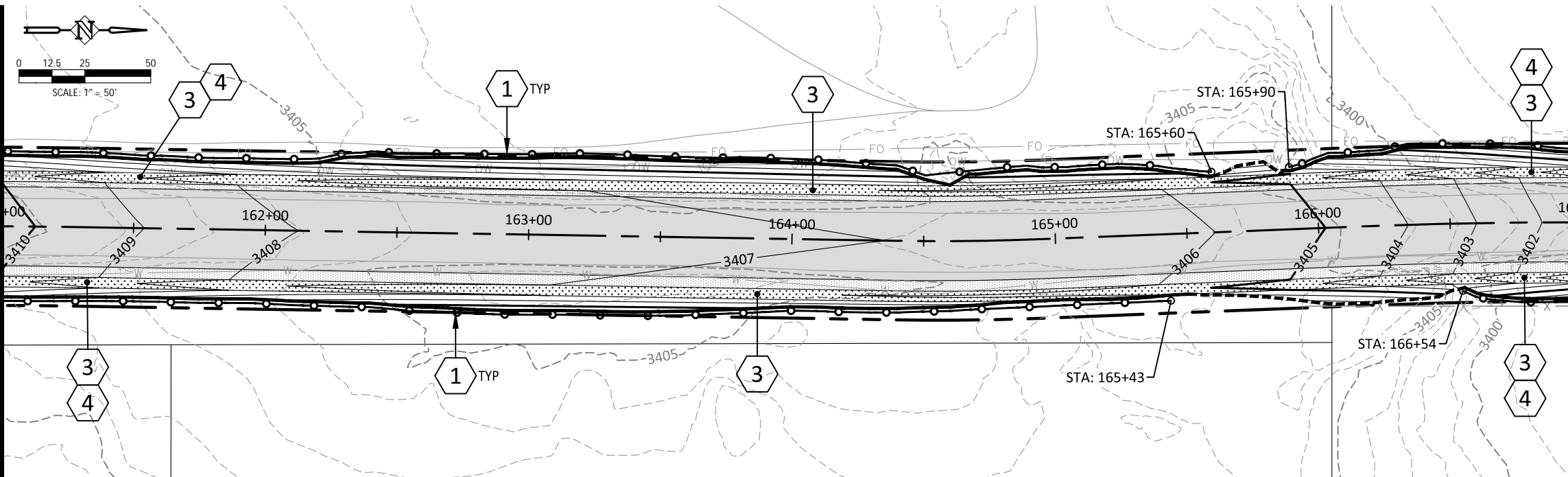
ESC PLAN - STA 149+00 TO 161+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

SHEET NO.	EC04
JOB NO.	DCO-01



P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-A Grading & ESC (113+00 - 173+00).dwg

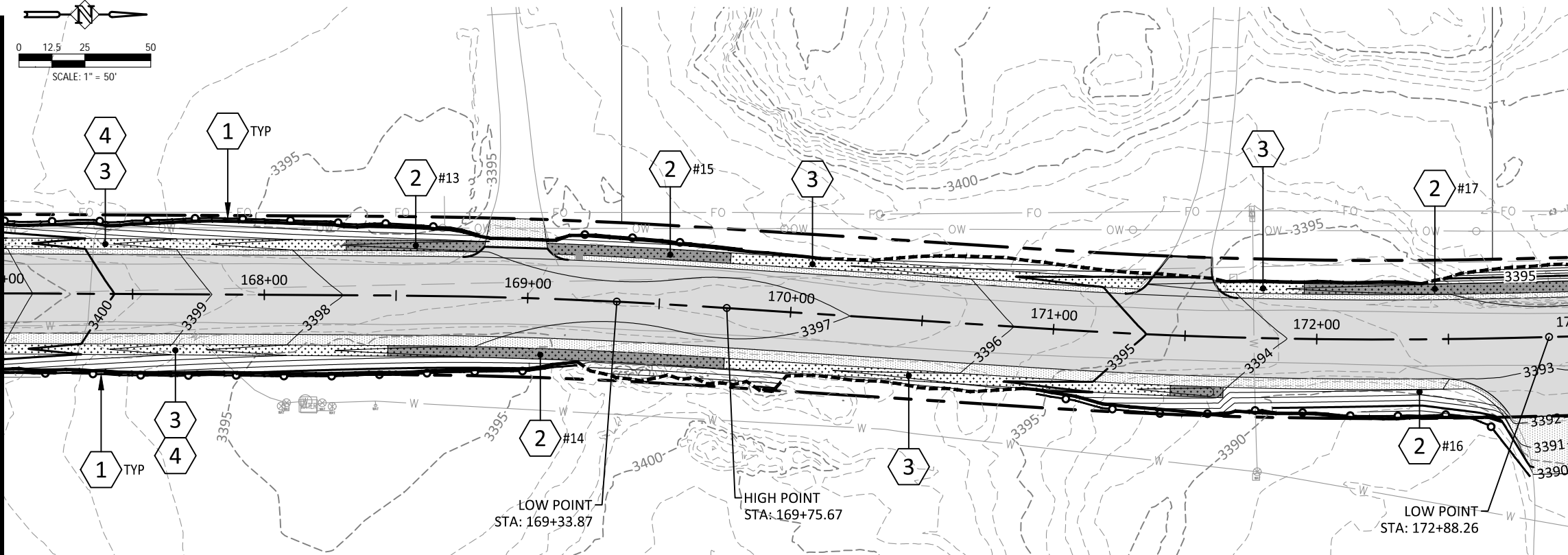
MATCHLINE STA 161+00 SEE SHEET EC04



STA 161+00 TO 167+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 167+00 SEE SHEET RD09



STA 167+00 TO 173+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 167+00 SEE BELOW

### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- - - 3450 - - - (E) MAJOR CONTOUR
- - - 3451 - - - (E) MINOR CONTOUR
- — (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 173+00 SEE SHEET RD11

100% SUBMITTAL



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ESC PLAN - STA 161+00 TO 173+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

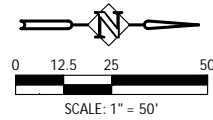
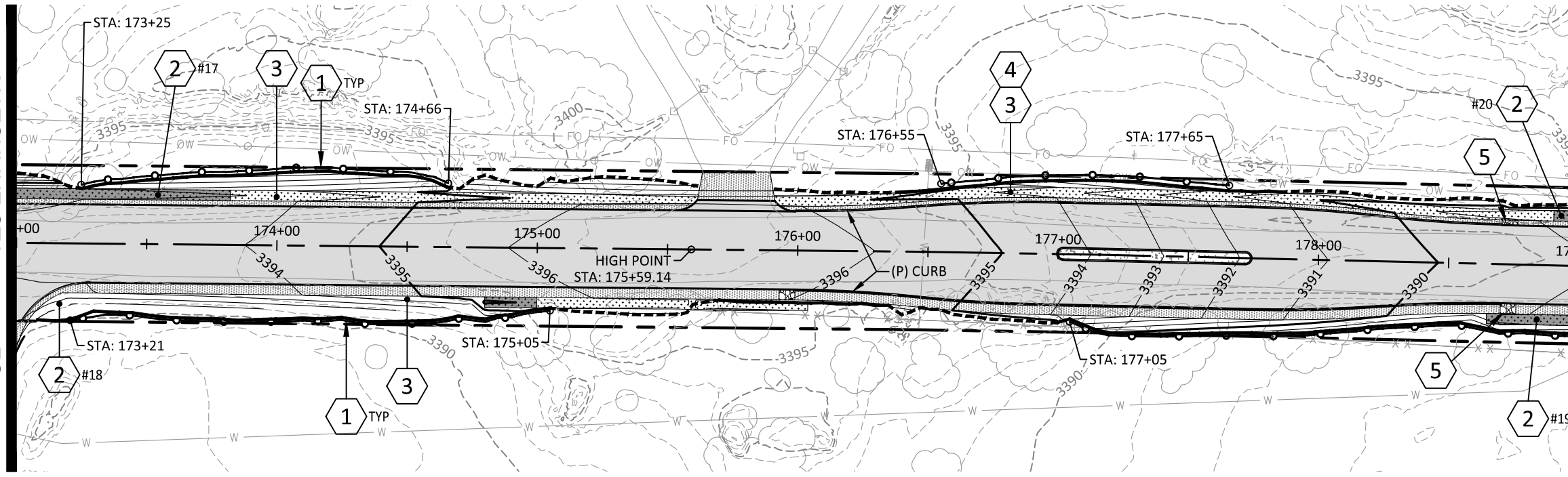


SHEET NO.  
**EC05**  
JOB NO.  
DCO-01



P:\03-Bentl\DCO01 (Hunnell Road)\DCO01-DWG\SS\Sheets\DCO-01\_EC-B Grading & ESC (173+00 - 233+00).dwg

MATCHLINE STA 173+00 EC05



STA 173+00 TO 179+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 179+00 SEE BELOW

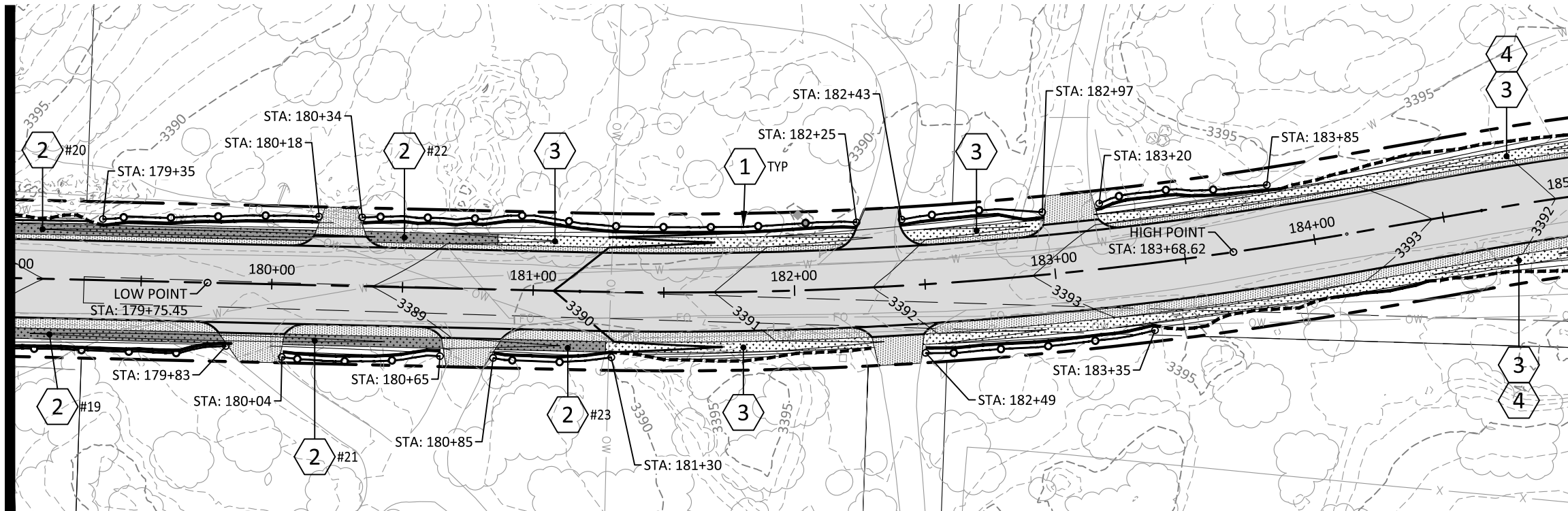
#### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

#### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 179+00 SEE ABOVE



STA 179+00 TO 185+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 185+00 SEE EC07

100% SUBMITTAL

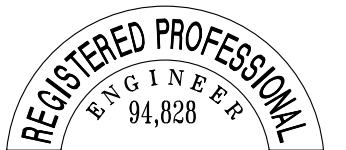


			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION		
R E V I S I O N S			DATE:	10.28.2022



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ESC PLAN - STA 173+00 TO 185+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

SHEET NO.

**EC06**

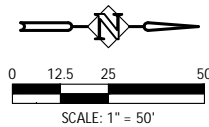
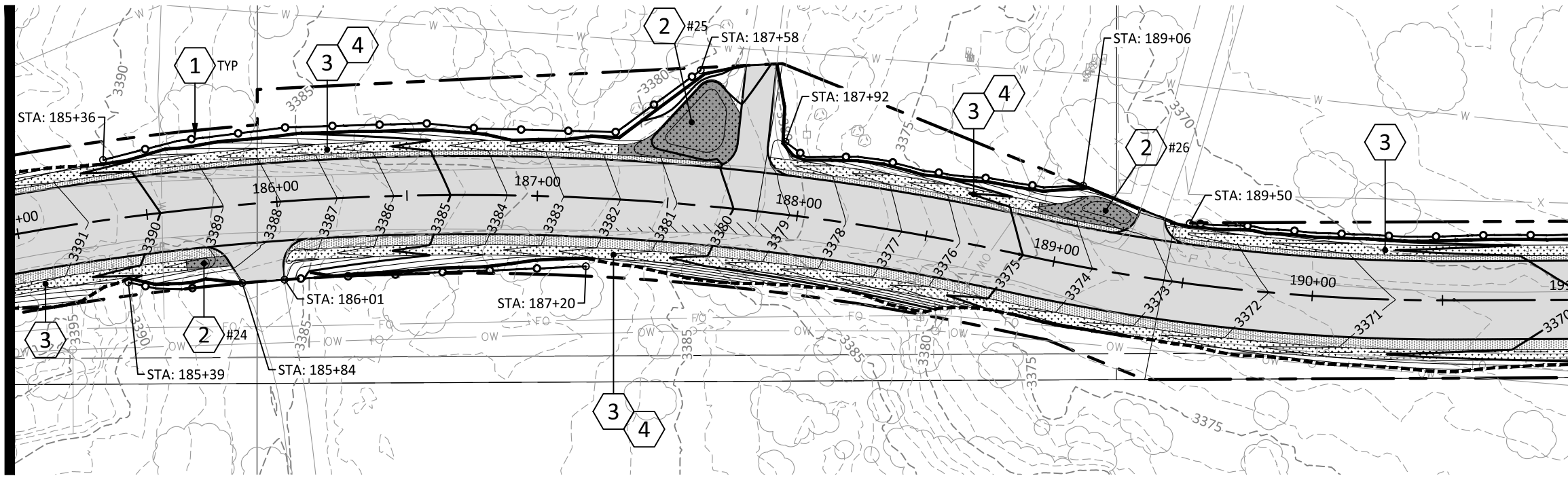
JOB NO.

DCO-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-B Grading & ESC (173-00 - 233-00).dwg

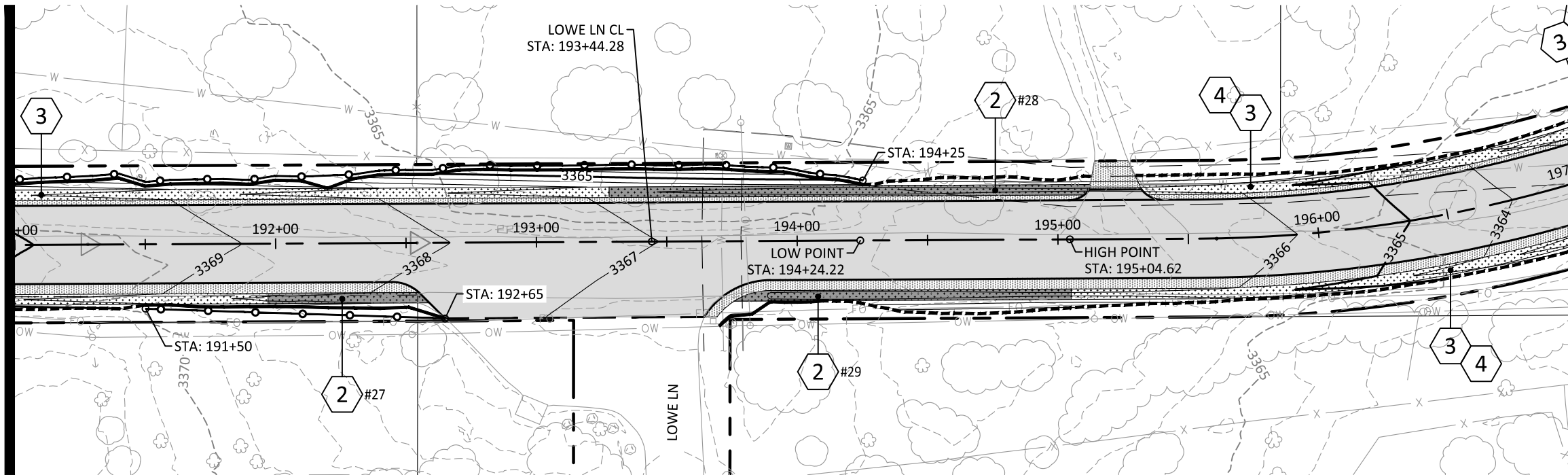
MATCHLINE STA 185+00 SEE SHEET EC06



STA 185+00 TO 191+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 191+00 SEE ABOVE



STA 191+00 TO 197+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 191+00 SEE BELOW

#### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

#### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 197+00 SEE SHEET EC08

100% SUBMITTAL



DATE	NO.	DESCRIPTION
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DESIGNED:	HHPR TEAM	
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CHECKED:	NS	
DATE:	10.28.2022	



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EC07ESC PLAN - STA 185+00 TO 197+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON



EXPIRES: 06/30/24

SHEET NO.

**EC07**

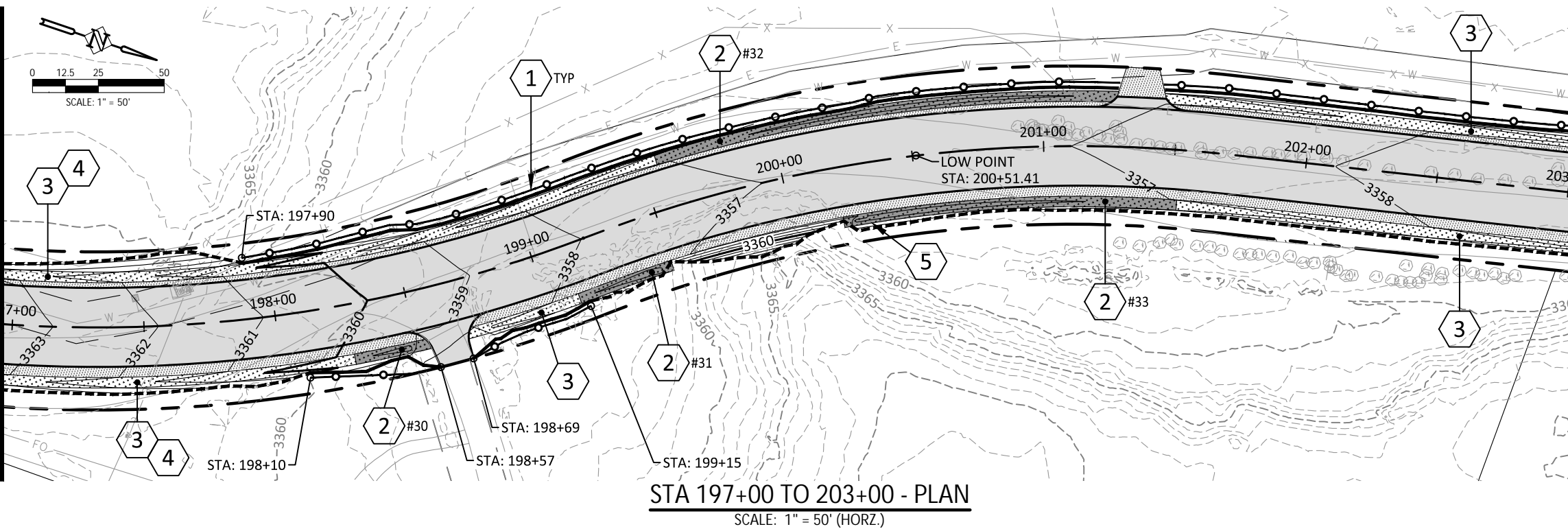
JOB NO.

DCO-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-B Grading & ESC (173-00 - 233-00).dwg

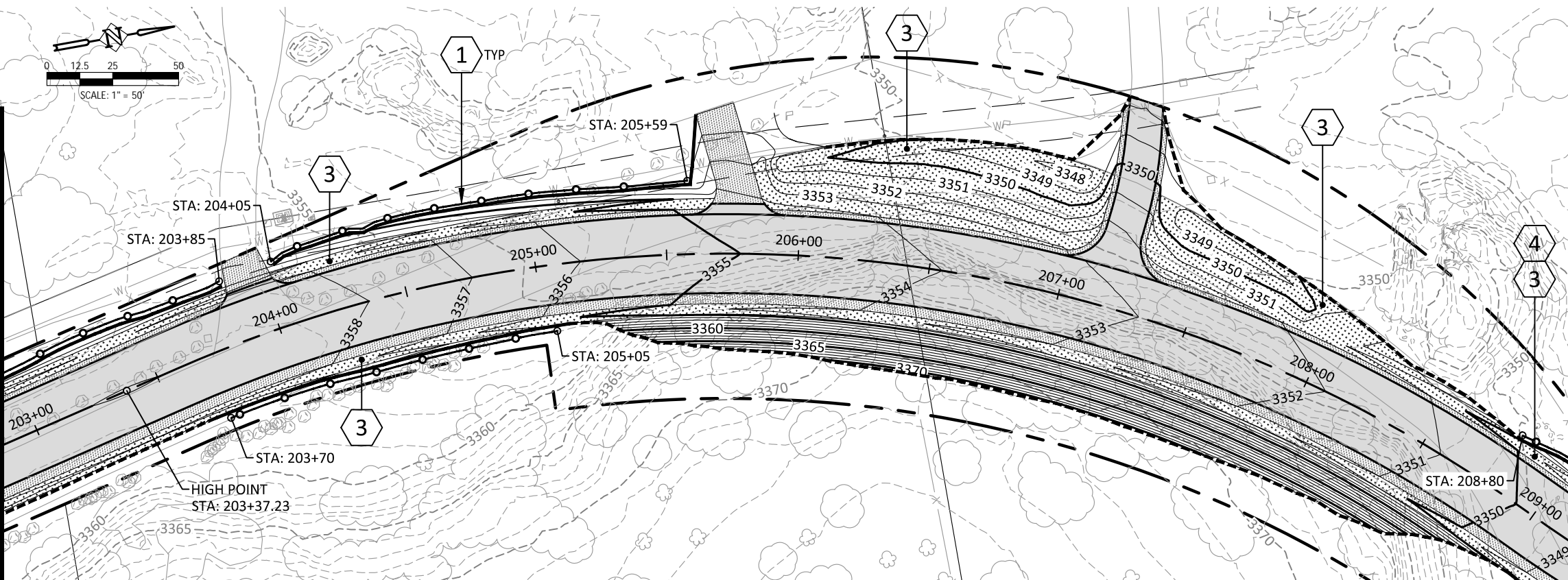
MATCHLINE STA 197+00 SEE SHEET EC07



STA 197+00 TO 203+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 203+00 SEE ABOVE



STA 203+00 TO 209+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 203+00 SEE BELOW

### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- - - 3450 - - - (E) MAJOR CONTOUR
- - - 3451 - - - (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 209+00 SEE SHEET EC09

100% SUBMITTAL



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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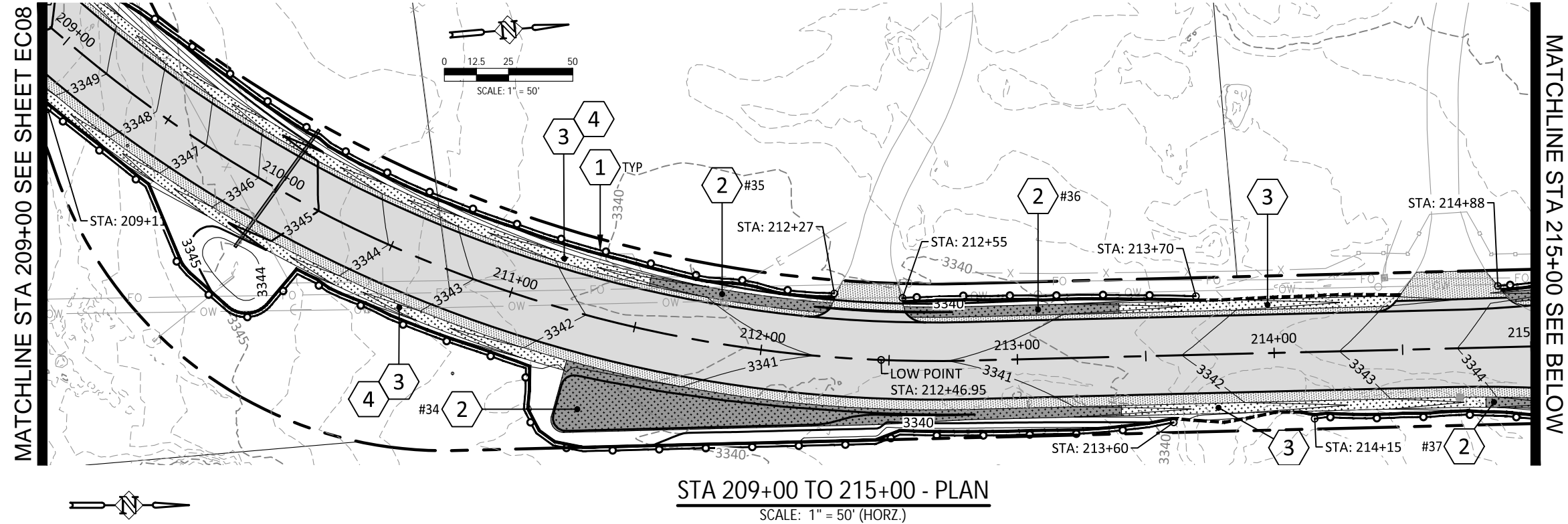
ESC PLAN - STA 197+00 TO 209+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

REGISTERED PROFESSIONAL  
ENGINEER  
94,828  
OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS  
EXPIRES: 06/30/24

SHEET NO.	EC08
JOB NO.	DCO-01



P:\03-Bentl\DCO01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-B Grading & ESC (173-00 - 233-00).dwg

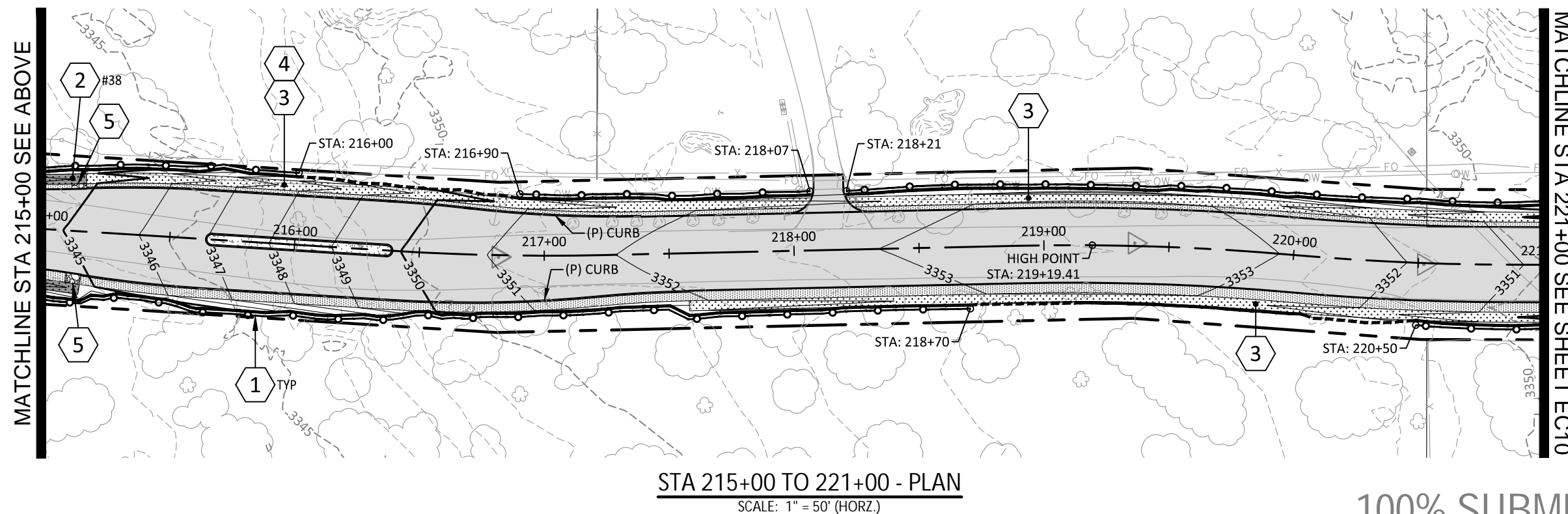


#### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

#### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



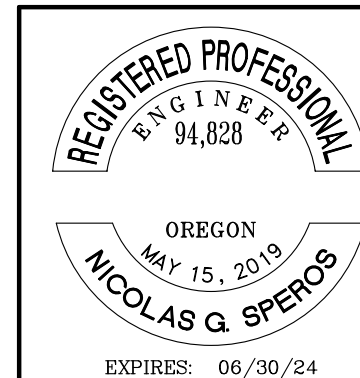
100% SUBMITTAL



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION		
R E V I S I O N S			DATE:	10.28.2022

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ESC PLAN - STA 209+00 TO 221+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

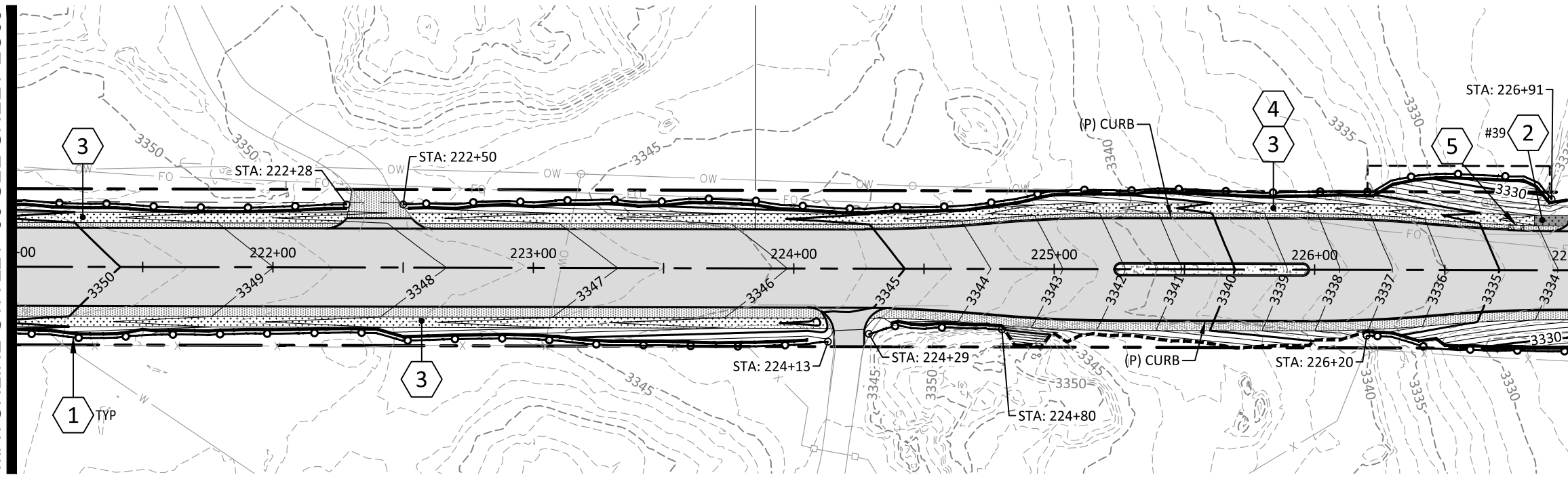


SHEET NO.  
**EC09**  
JOB NO.  
DCO-01



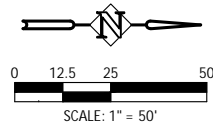
P:\03-Bentl\DCO1 (Deschutes County)\DCO1-01 (Hunnell Road)\DWG\SS\Sheets\DCO1-01\_EC-B Grading & ESC (173-00 - 233-00).dwg

MATCHLINE STA 221+00 SEE SHEET EC09

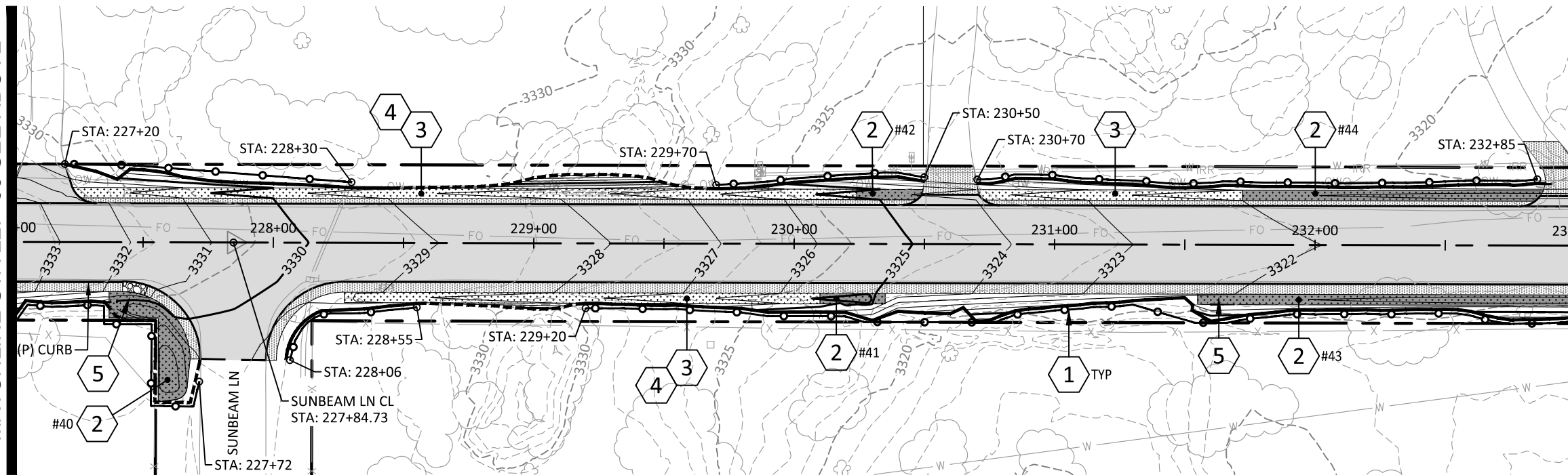


STA 221+00 TO 227+00 - PLAN

SCALE: 1" = 50' (HORZ.)



MATCHLINE STA 227+00 SEE ABOVE



STA 227+00 TO 233+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 227+00 SEE BELOW

### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 233+00 SEE SHEET EC11

100% SUBMITTAL



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



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ESC PLAN - STA 221+00 TO 233+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

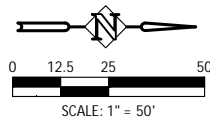
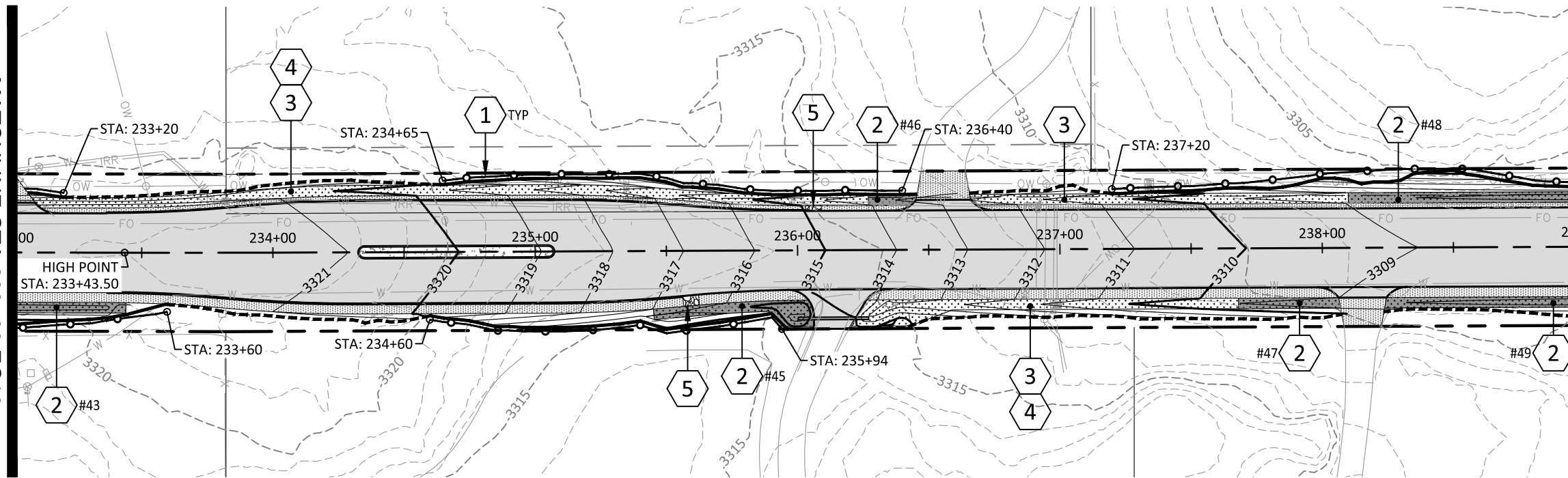


SHEET NO.	EC10
JOB NO.	DCO-01



P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-C Grading & ESC (233+00 - 245+00).dwg

MATCHLINE STA 233+00 EC10



STA 233+00 TO 239+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 239+00 SEE BELOW

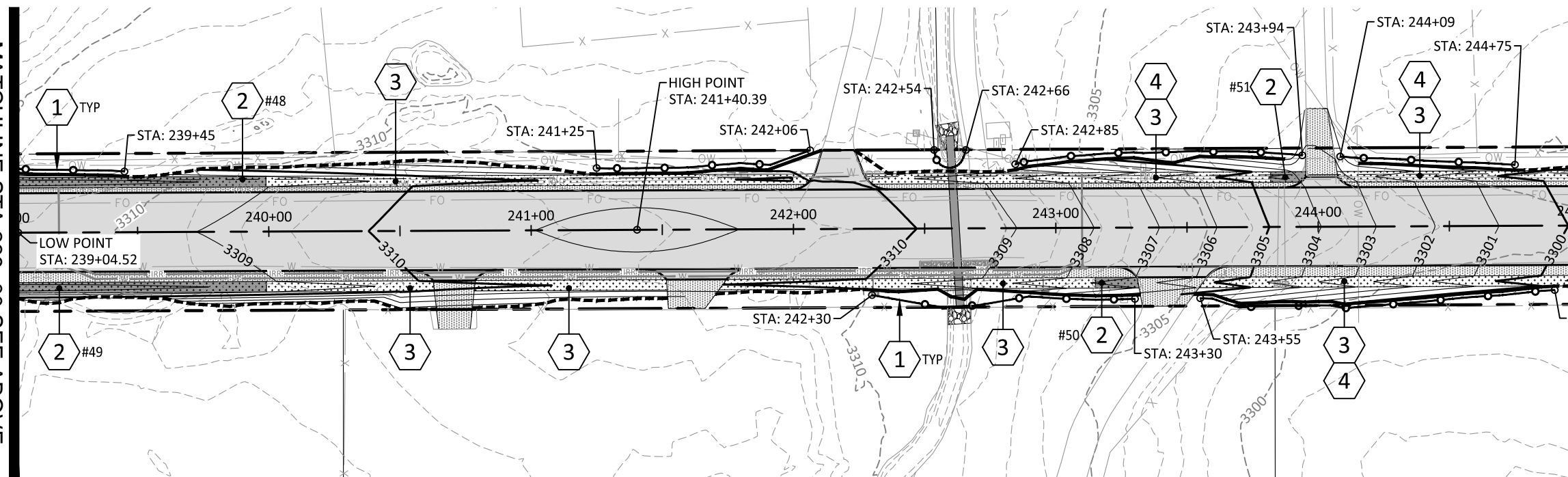
#### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

#### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 239+00 SEE ABOVE



STA 239+00 TO 245+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 245+00 SEE EC12

100% SUBMITTAL



DATE	NO.	DESCRIPTION
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DESIGNED:	HHPR TEAM	
DRAWN:	MD	
CHECKED:	NS	
DATE:	10.28.2022	



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ESC PLAN - STA 233+00 TO 245+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON



SHEET NO.  
**EC11**  
JOB NO.  
DCO-01



P:\03-BentMDCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-C Grading & ESC (233+00 - 293+00).dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

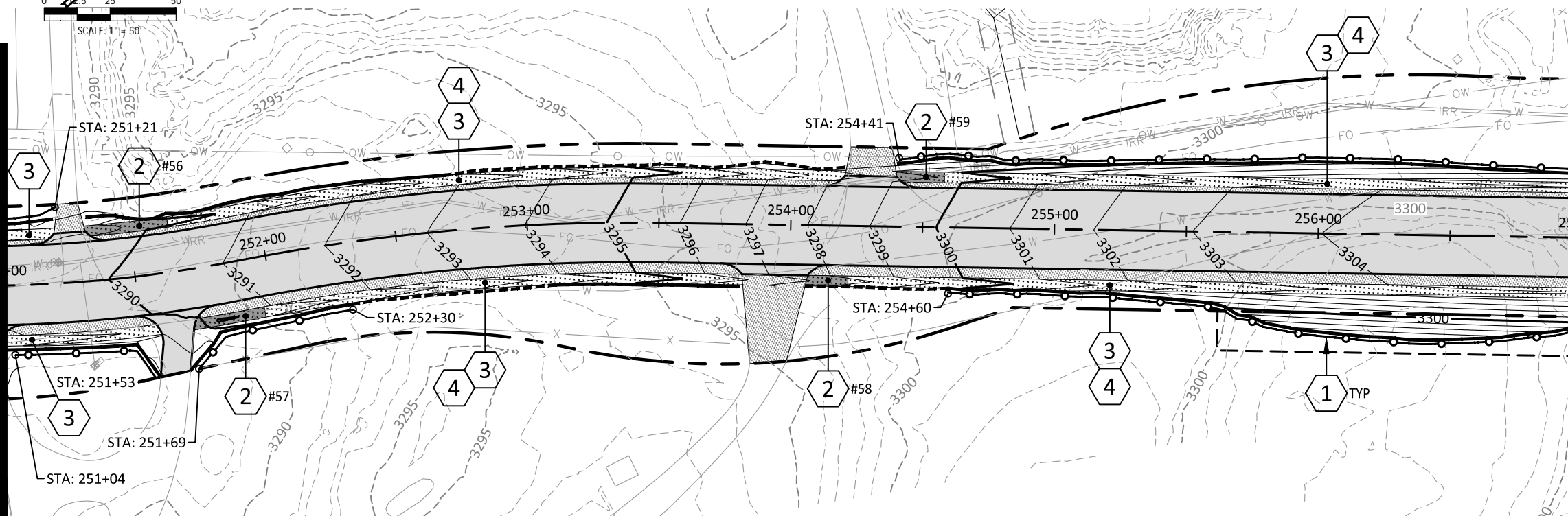
DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



Harper  
Houf Peterson  
Righellis Inc.

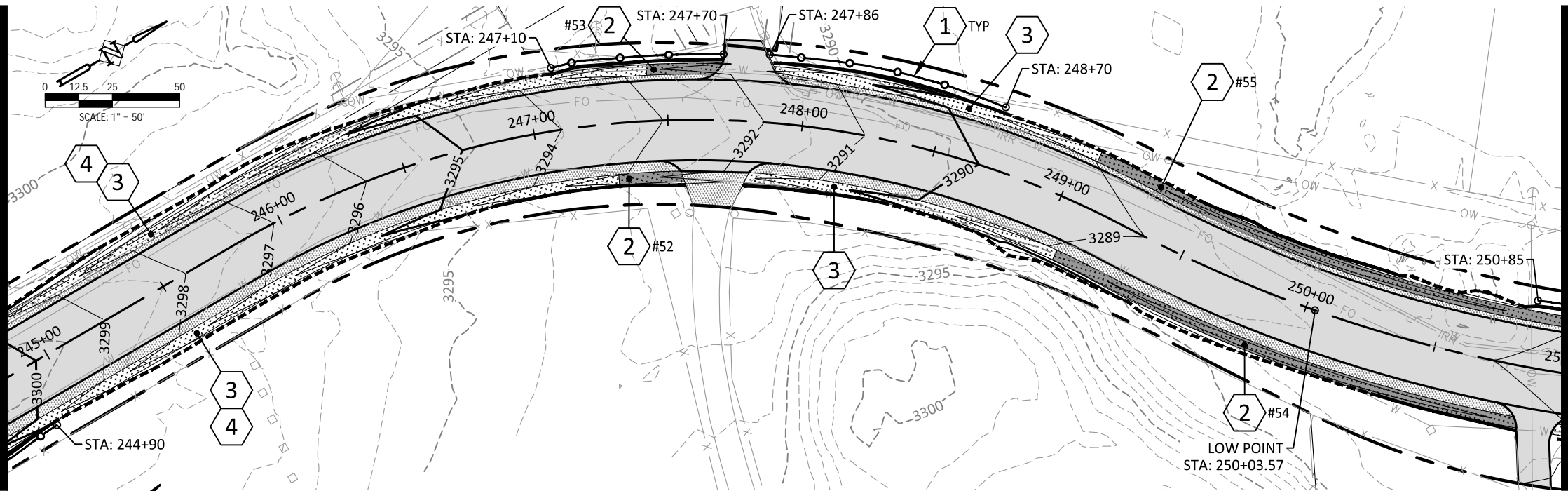
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

MATCHLINE STA 251+00 SEE ABOVE



STA 251+00 TO 257+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 245+00 SEE SHEET EC11



STA 245+00 TO 251+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 251+00 SEE BELOW

GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

100% SUBMITTAL

EC12ESC PLAN - STA 245+00 TO 257+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

REGISTERED PROFESSIONAL  
ENGINEER  
94,828

OREGON  
MAY 15, 2019  
NICOLAS G. SPEROS

EXPIRES: 06/30/24

SHEET NO.

EC12

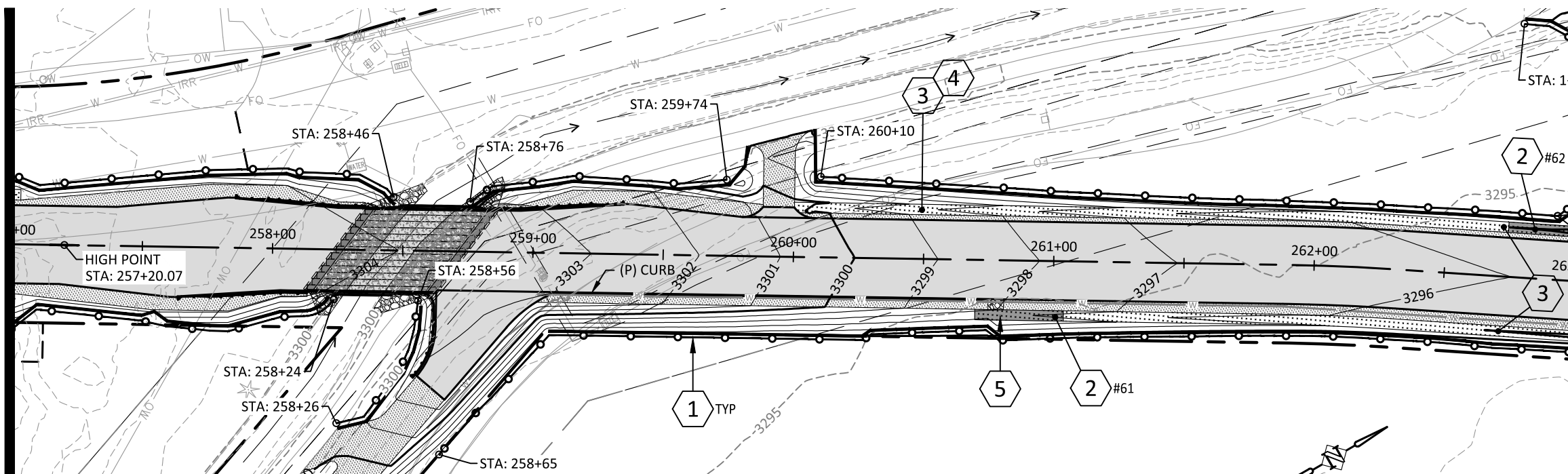
JOB NO.

DCO-01



P:\03-BentlDCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-C Grading & ESC (233+00 - 263+00).dwg

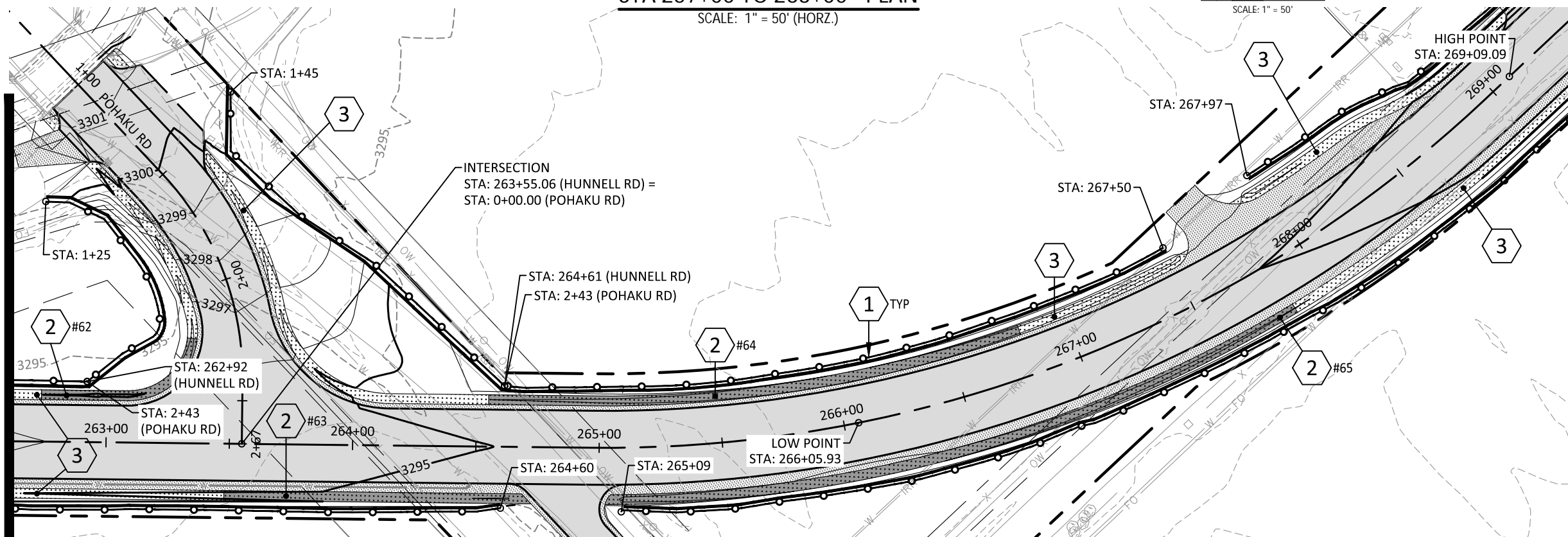
MATCHLINE STA 257+00 SEE SHEET EC12



STA 257+00 TO 263+00 - PLAN

SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 263+00 SEE ABOVE



STA 263+00 TO 269+00 - PLAN

SCALE: 1" = 50' (HORZ.)

**GRADING & ESC NOTES:**

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

**LEGEND:**

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- - - 3450 - - - (E) MAJOR CONTOUR
- - - 3451 - - - (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- - - (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE

MATCHLINE STA 269+00 SEE SHEET EC14

100% SUBMITTAL

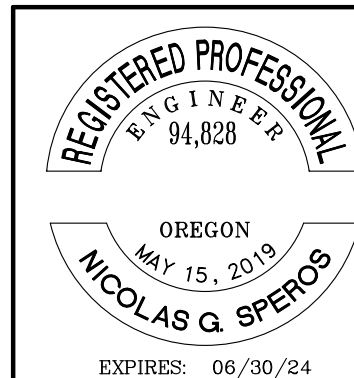


DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
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LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

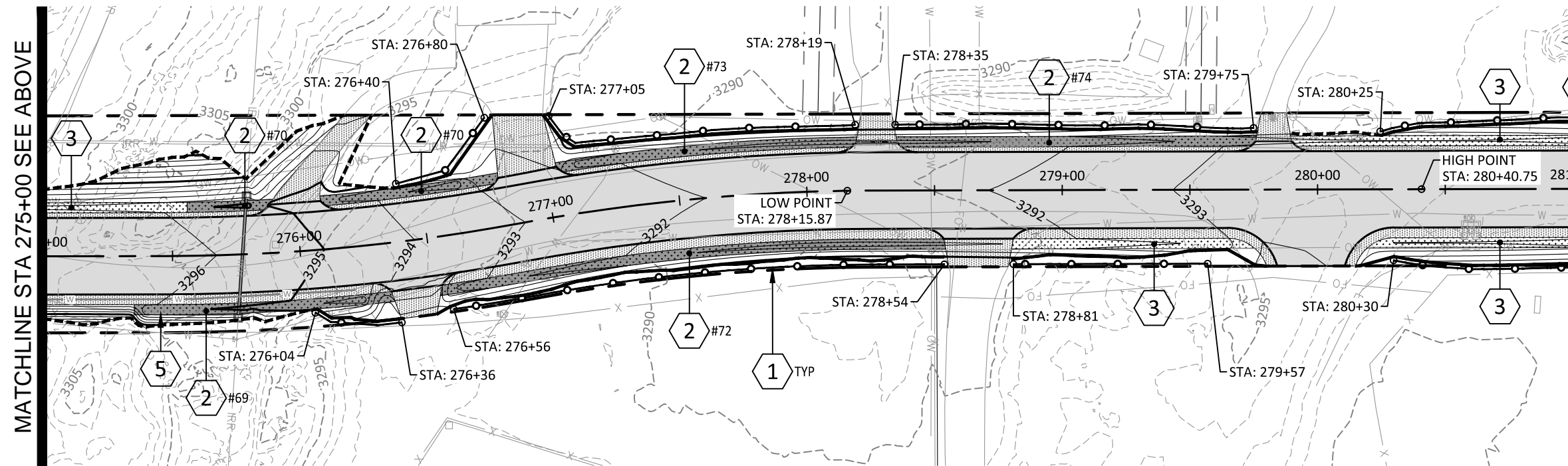
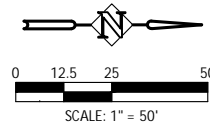
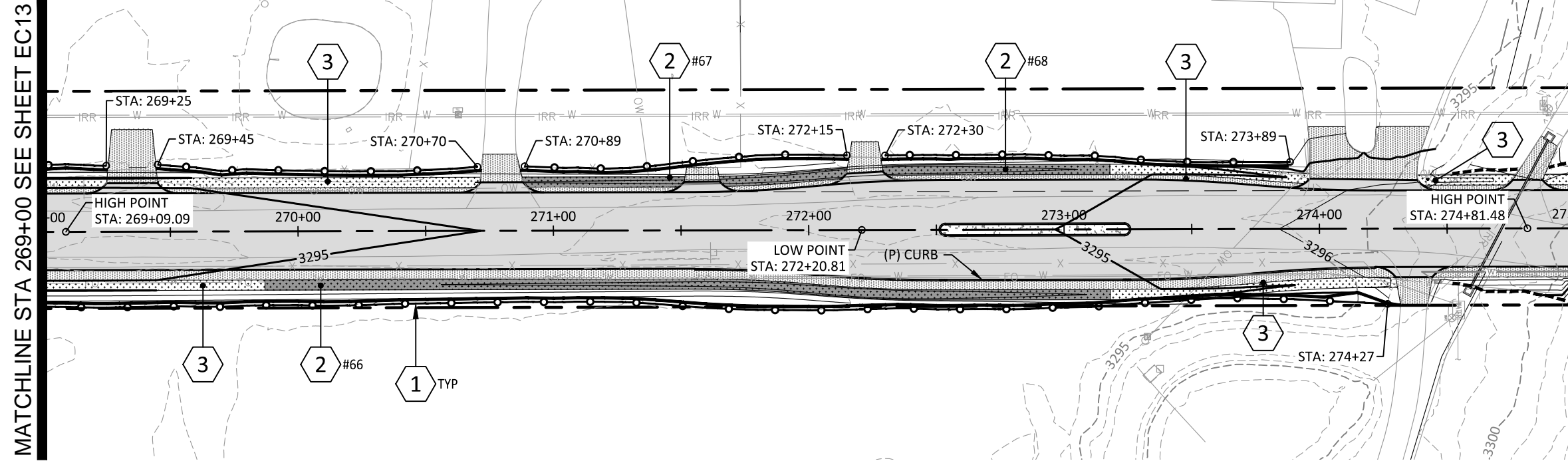
ESC PLAN - STA 257+00 TO 269+00  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON



SHEET NO.	EC13
JOB NO.	DCO-01



P:\03-Bentl\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\SS\Sheets\DCO-01\_EC-C Grading & ESC (235+00 - 293+00).dwg

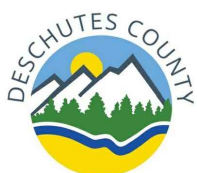


#### GRADING & ESC NOTES:

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 5 INSTALL RIPRAP BASIN AT DOWNSTREAM END OF CURB.

#### LEGEND:

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022



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250 NW Franklin Ave., Suite 404, Bend, OR 97703  
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100% SUBMITTAL

ESC PLAN - STA 269+00 TO 281+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

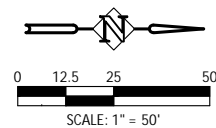
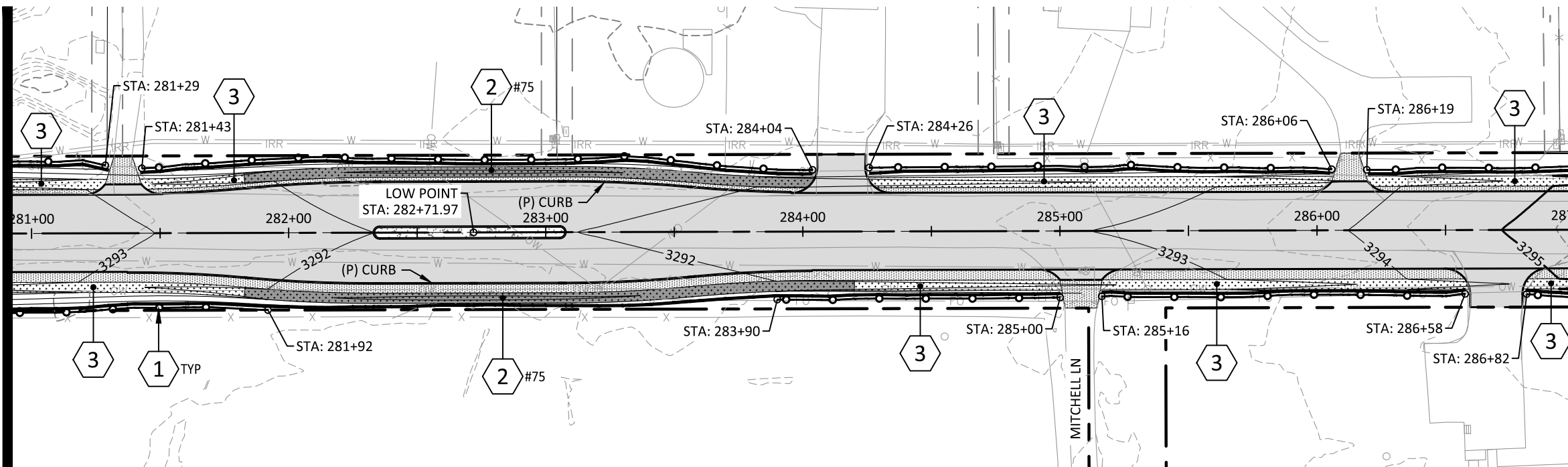


SHEET NO.	EC14
JOB NO.	DCO-01



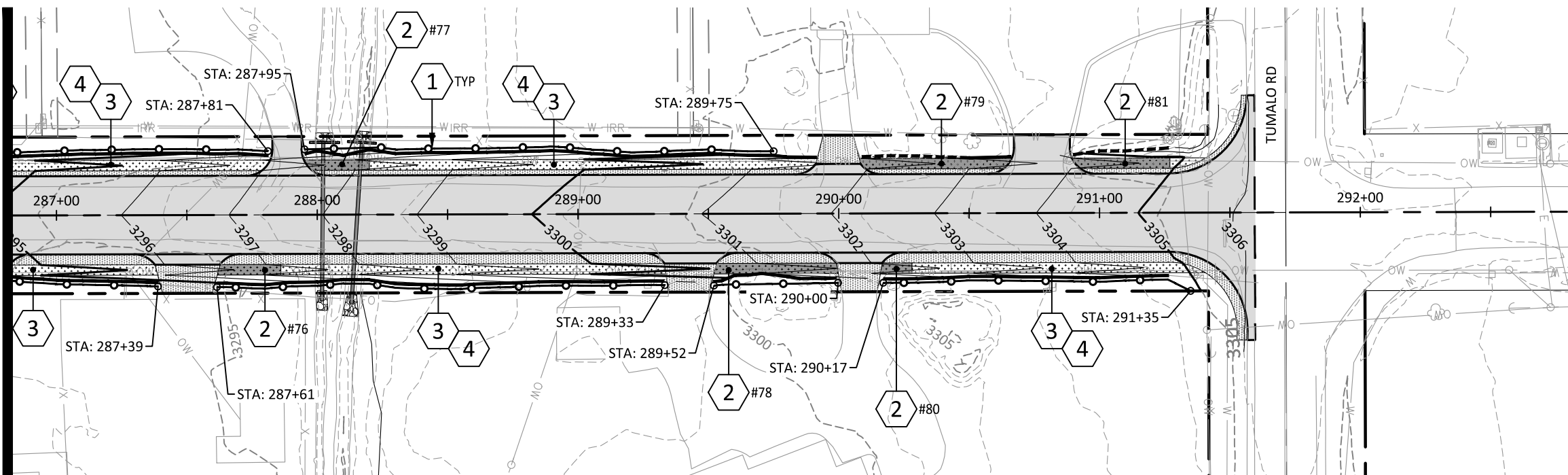
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MATCHLINE STA 281+00 SEE SHEET EC14



STA 281+00 TO 287+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

MATCHLINE STA 287+00 SEE ABOVE



STA 287+00 TO 293+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

**GRADING & ESC NOTES:**

- 1 INSTALL SEDIMENT FENCE PER ODOT STD DWG RD1040. FENCE LOCATIONS SPECIFIED ON PLAN.
- 2 CONSTRUCT WATER QUALITY INFILTRATION SWALE PER TYPICAL SECTION ON SHEET G03. SEE TABLE ON SHEET G07 FOR MORE INFORMATION. (# NOTED ON PLAN)
- 3 CONSTRUCT CONVEYANCE SWALE PER TYPICAL SECTION ON SHEET G03.
- 4 CONSTRUCT TYPE 1 CHECK DAMS PER ODOT STD DWG RD1005. SEE TABLE ON SHEET G07 FOR STATION RANGE AND SPACING.

**LEGEND:**

- 3450 — (P) MAJOR CONTOUR
- 3451 — (P) MINOR CONTOUR
- 3450 --- (E) MAJOR CONTOUR
- 3451 --- (E) MINOR CONTOUR
- (P) SEDIMENT BARRIER
- (P) FILL CATCHLINE
- (P) CUT CATCHLINE
- 2 (P) WATER QUALITY SWALE
- 3 (P) CONVEYANCE SWALE



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

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ESC PLAN - STA 281+00 TO 293+00  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

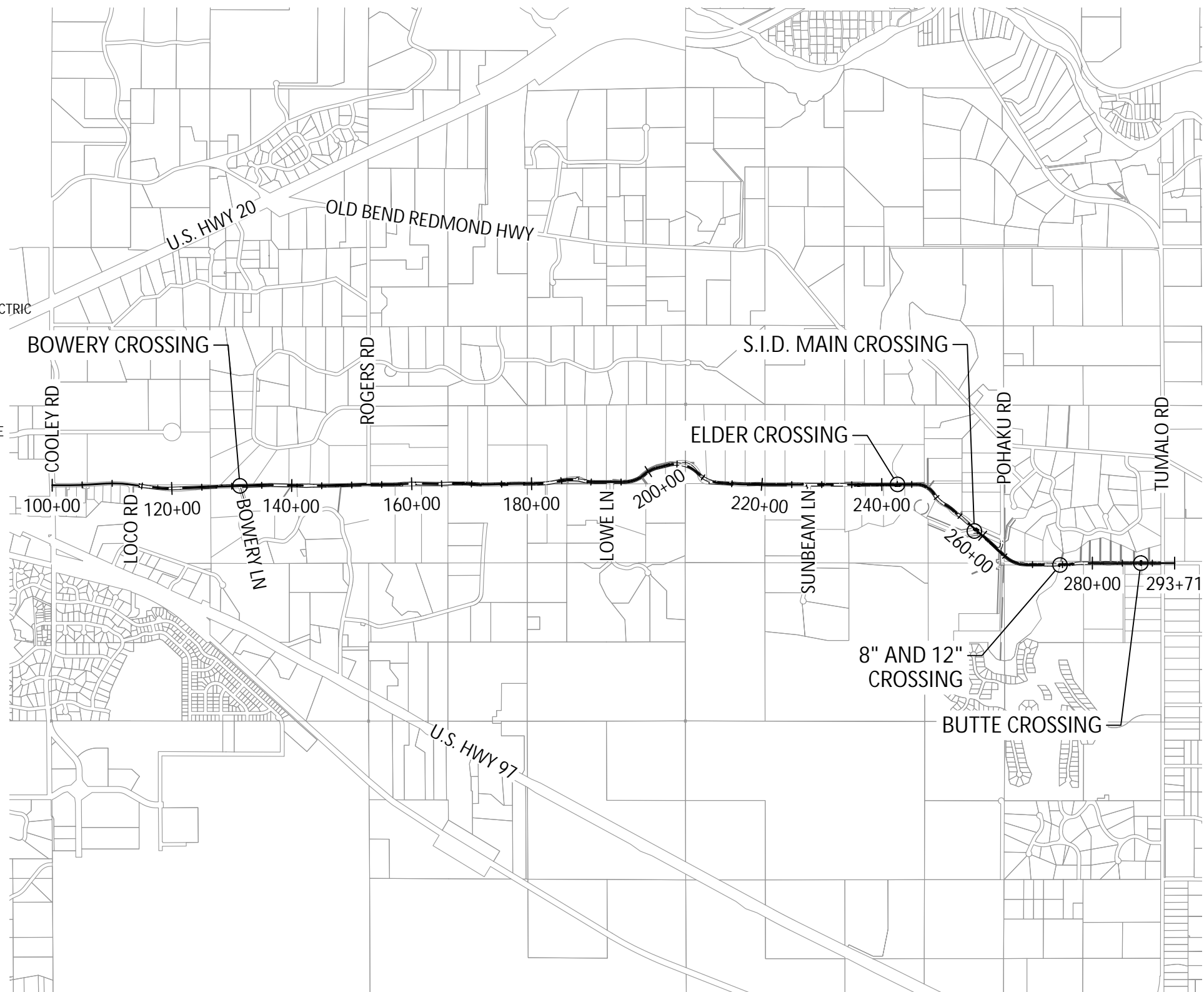
100% SUBMITTAL

**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

SHEET NO.  
**EC15**  
JOB NO.  
DCO-01



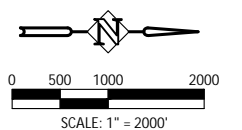
	RIGHT-OF-WAY LINE
	CENTER LINE
	EASEMENT LINE
	(E) TAX LOT LINE
	(E) CONTOUR LINE
	(P) CONTOUR LINE
	(E) WATER LINE
	(E) IRRIGATION LINE
	(P) WATER LINE
	(P) IRRIGATION LINE
	(E) OVERHEAD WIRE
	(E) UNDERGROUND ELECTRIC LINE
	(E) FIBER OPTIC LINE
	(E) TELEPHONE LINE
	(E) FENCE LINE
	(P) FENCE LINE
	(P) GRADING CATCHLINE
	(P) SEDIMENT FENCE
	(E) WATER METER
	(E) WATER VALVE
	(E) IRRIGATION VALVE
	(E) FIRE HYDRANT
	(E) WATER BOX
	(E) IRRIGATION BOX
	(E) WATER MANHOLE
	(E) TELECOM MANHOLE
	(E) WATER VAULT
	(E) TELECOM VAULT
	(E) POWER VAULT
	(E) POWER METER
	(E) POWER RISER
	(E) TELECOM RISER
	(E) FIBER OPTIC RISER
	(E) SIGN & POST
	(E) POWER POLE
	(E) MAILBOX
	(E) BOULDER



CX01	CANAL CROSSING - BOWERY
CX02	S.I.D IRRIGATION PIPE PLAN & PROFILE - BOWERY
CX03	CANAL CROSSING - ELDER
CX04	CANAL CROSSING - S.I.D. MAIN
CX05	CANAL CROSSING - 8 INCH PRIVATE
CX06	CANAL CROSSING - 12 INCH PRIVATE
CX07	CANAL CROSSING - BUTTE
CX08	CANAL CROSSING DETAILS
CX09	CANAL CROSSING DETAILS


CENTRAL OREGON COORDINATES SYSTEM  
(NGVD29) AS DETERMINED BY MULTIPLE  
AVERAGED GPS READINGS ON CONTROL POINTS  
SPANNING THE LENGTH OF THE PROJECT.  
NGVD29 + 4.09' = NAVD88

HORIZONTAL DATUM IS CENTRAL OREGON COORDINATE SYSTEM, ESTABLISHED FROM MULTIPLE AVERAGED GPS OBSERVATIONS ON CONTROL POINTS 323, A 1/2" IRON ROD WITH RED PLASTIC CAP ON THE NORTHWEST CORNER OF THE INTERSECTION OF HUNNELL ROAD AND TUMALO ROAD AND 31, A COPPER PLUG SET IN THE EAST SIDEWALK OF HUNNELL ROAD SOUTH OF LOCO ROAD.



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



 **Harper  
Houf Peterson  
Righellis Inc.**

---

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phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

CANAL CROSSING SHEET INDEX  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

# 100% SUBMITTAL

SHEET NO.

CX00

JOB NO.

DC0-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheets\DCO-01\_CX Canals Crossing Details.dwg



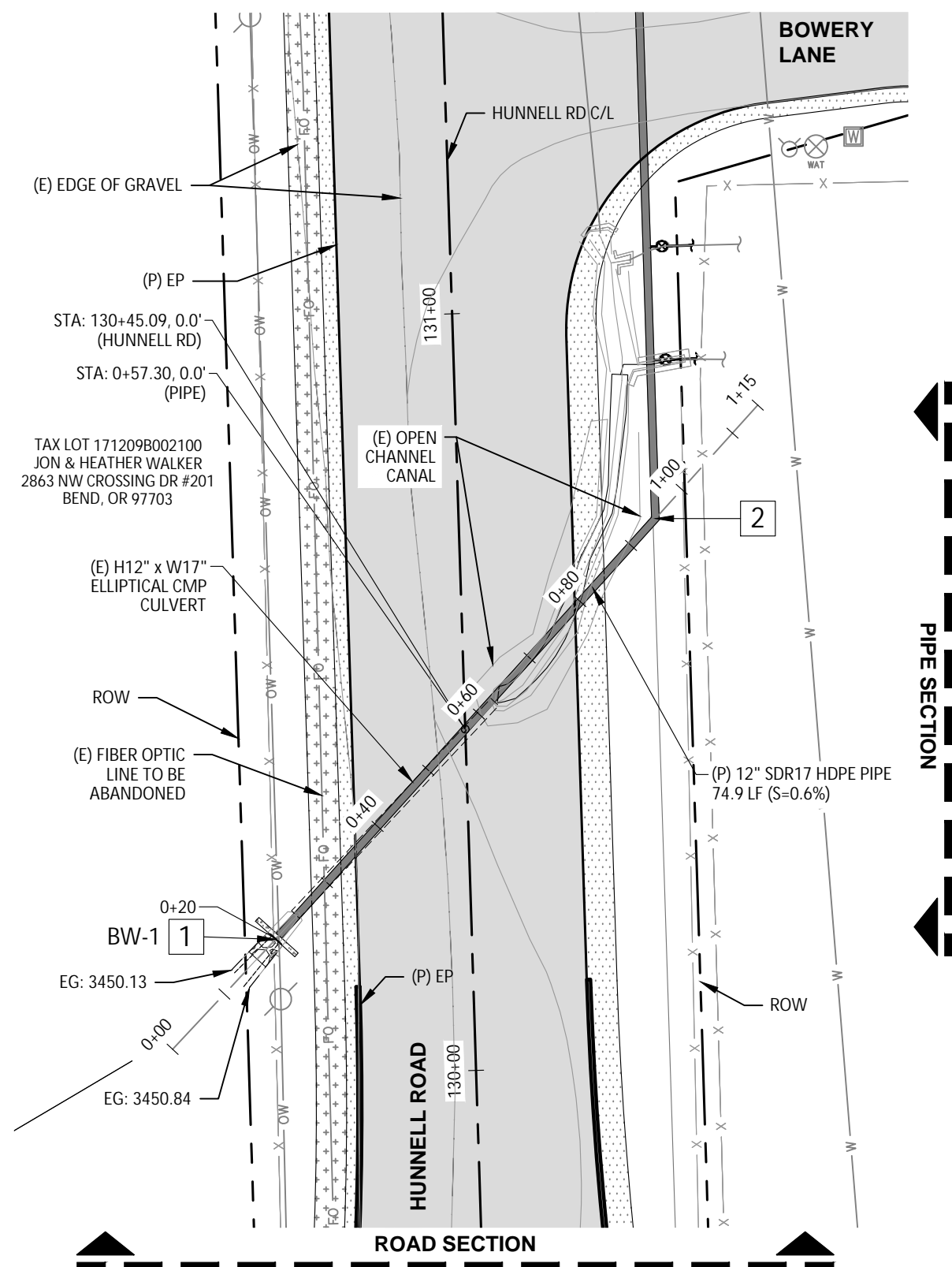
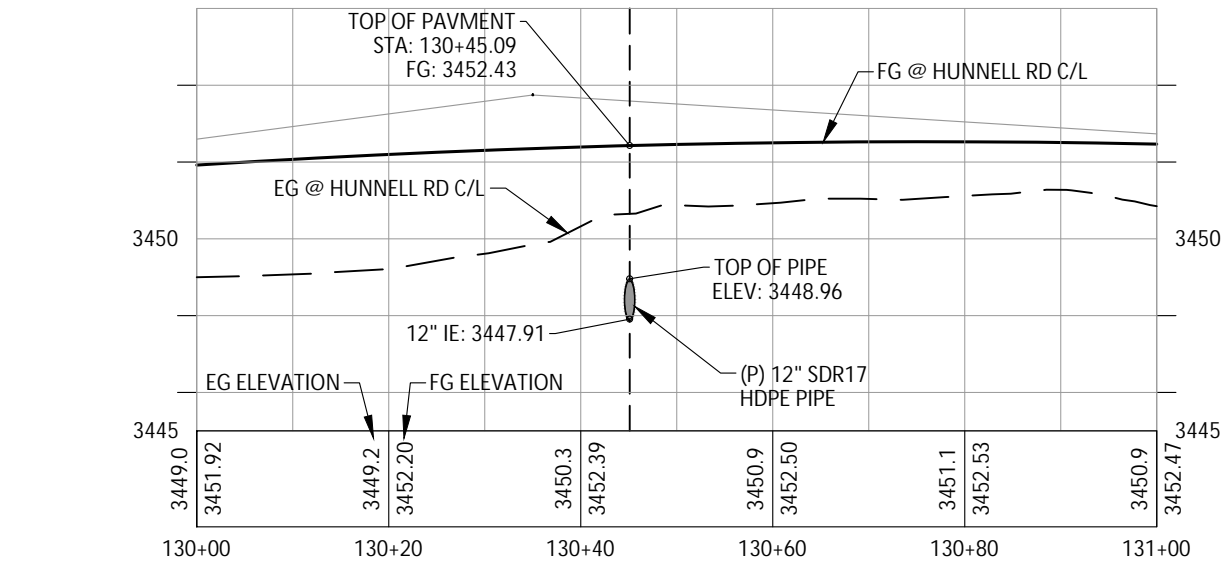
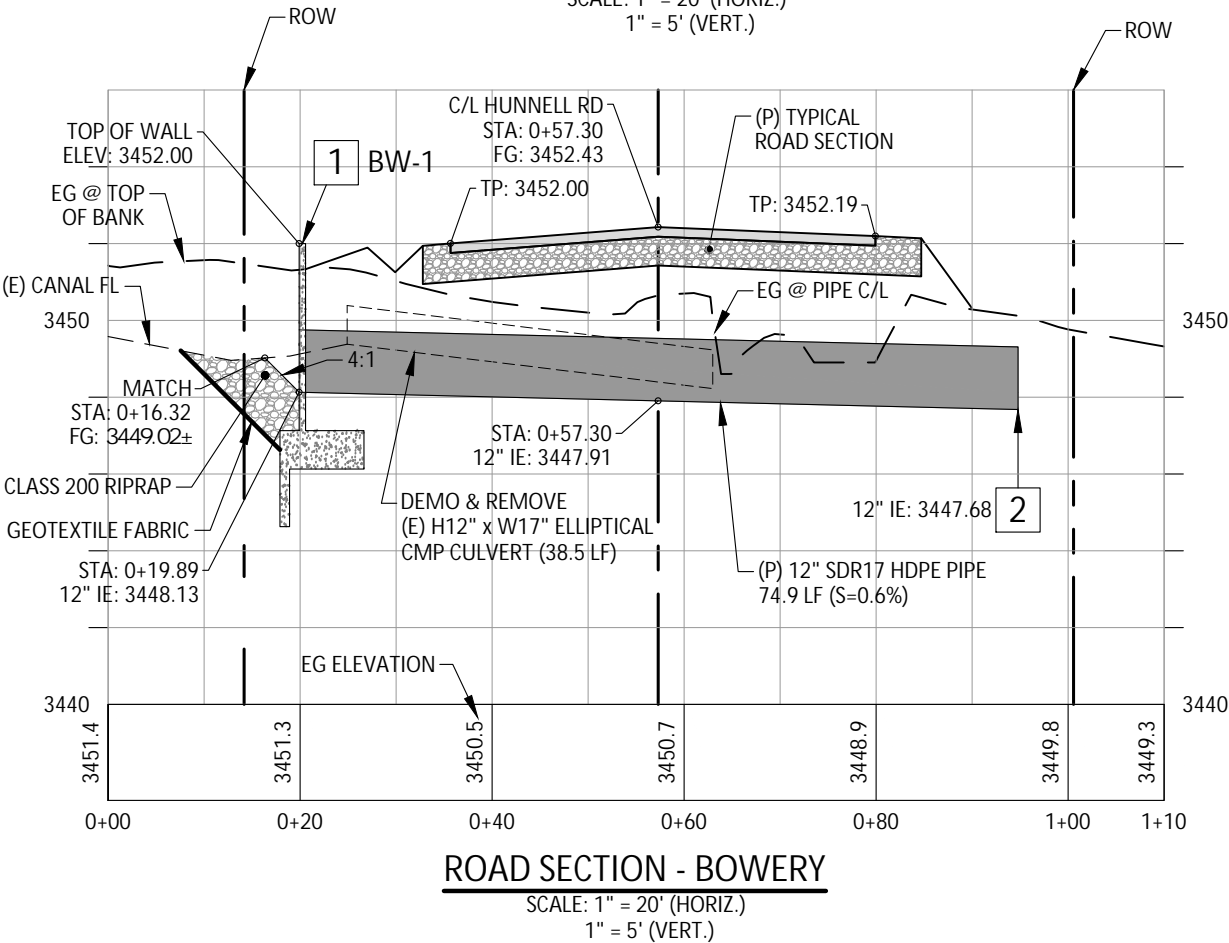
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**HHPR** **Harper Houf Peterson Righellis Inc.**  
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CANAL CROSSING - BOWERY  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

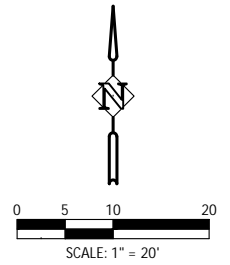
SHEET NO.	CX01
JOB NO.	DCO-01



PIPE SECTION

**IRRIGATION CANAL CONSTRUCTION NOTES:**

- 1** HEADWALL BW-1  
STA 0+19.89, 0.0' (PIPE) =  
STA 130+18.13, 25.9'L (HUNNELL RD)  
CONSTRUCT HEADWALL. SEE SHEET CX08  
FOR HEADWALL DETAILS AND SIZING DATA.  
INSTALL PINECONE SIZED TRASH RACK  
12" IE: 3448.13  
CONSTRUCT 74.9 LF 12" SDR17 HDPE  
CULVERT @ S = -0.60% TO BEND; TRENCH  
PIPE SECTION PER S.I.D. DEVELOPMENT  
HANDBOOK, APPENDIX B. SEE DETAIL ON  
SHEET CX08. (SEE NOTE 2)
- 2** STA 0+94.80, 0.0' (PIPE) =  
STA 130+72.11, 26.0'R (HUNNELL RD)  
INSTALL 1 - 12' 45° BEND  
12" IE = 3447.68  
CONSTRUCT 20.9 LF 12" SDR17 HDPE PIPE  
@ S = -0.60% TO OUTLET; TRENCH PIPE  
SECTION PER S.I.D. DEVELOPMENT  
HANDBOOK, APPENDIX B. SEE DETAIL ON  
SHEET CX08. (SEE NOTE 3 ON SHEET CX02  
FOR CONTINUATION NORTH)



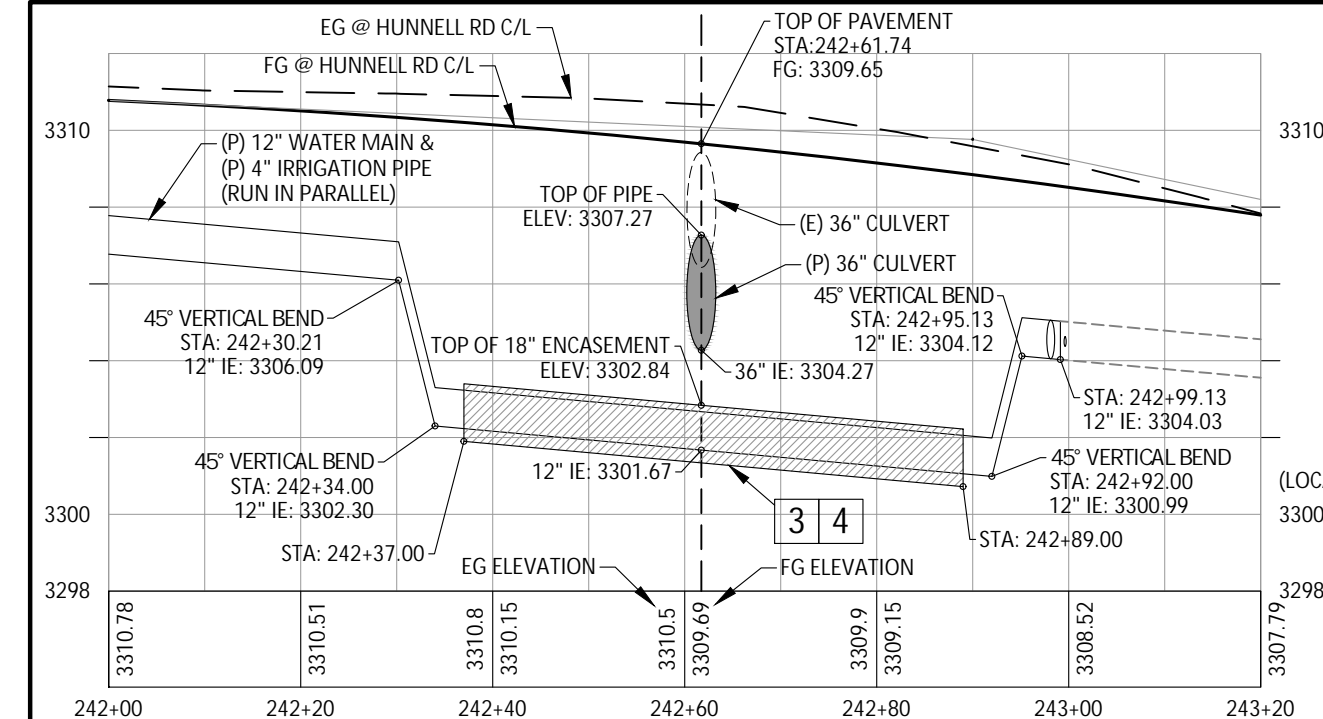
**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

100% SUBMITTAL



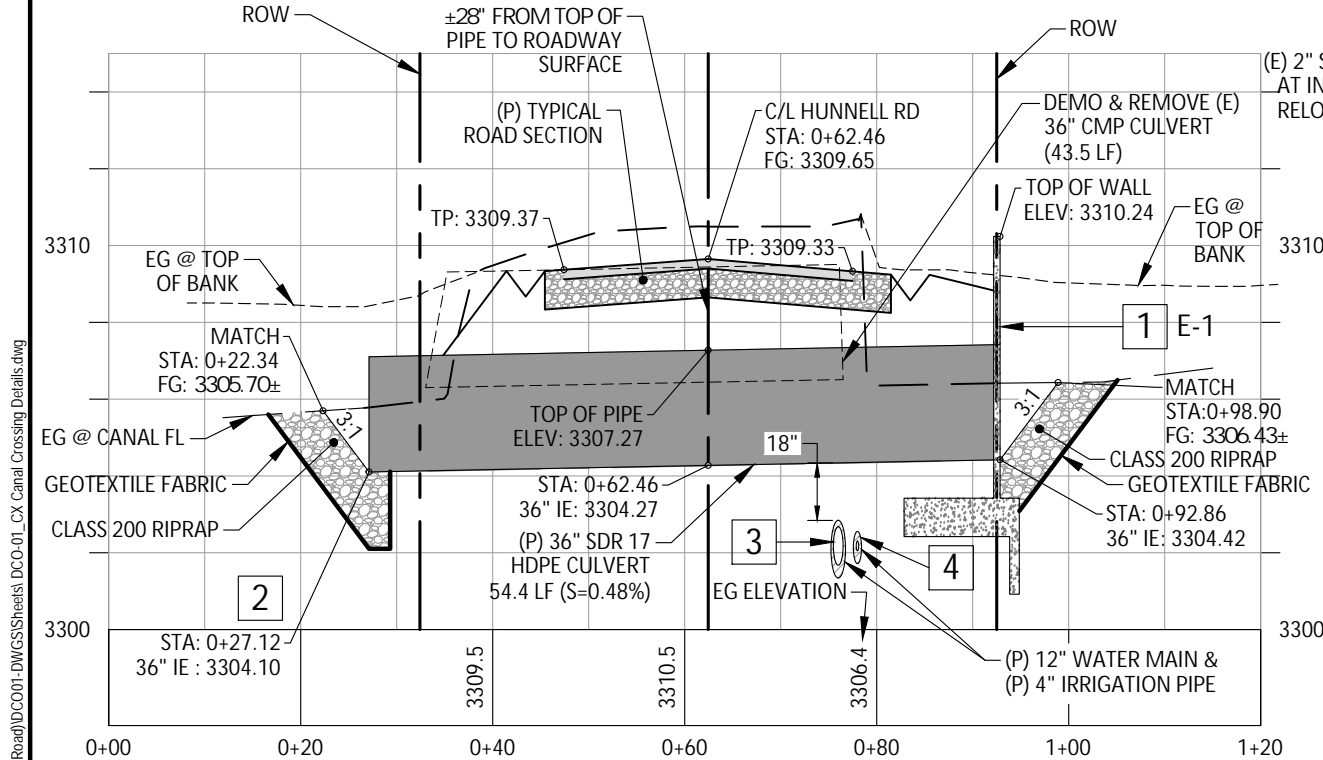






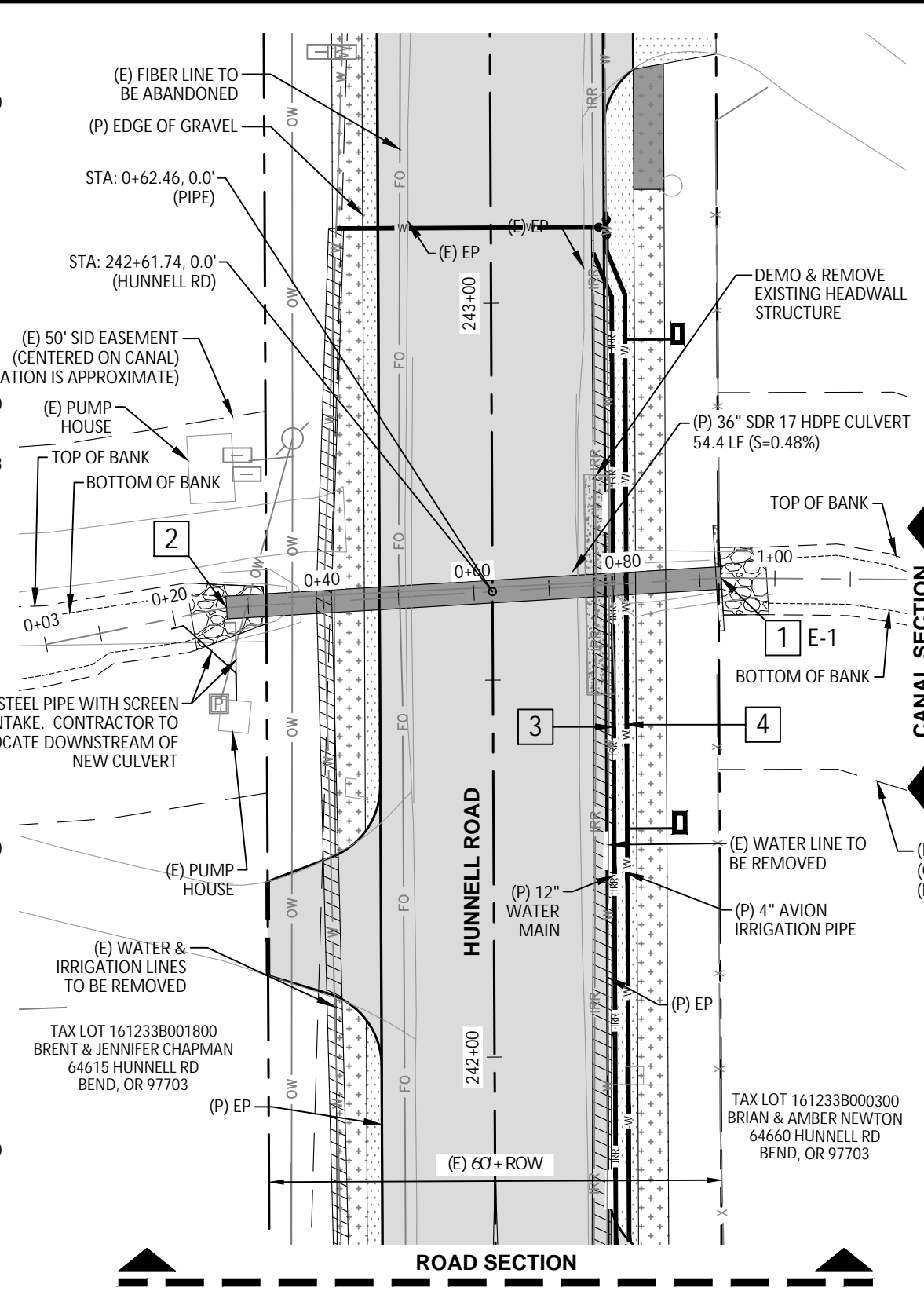
**CANAL SECTION - ELDER CROSSING**

SCALE: 1" = 20' (HORIZ.)  
1" = 5' (VERT.)



**ROAD SECTION - ELDER CROSSING**

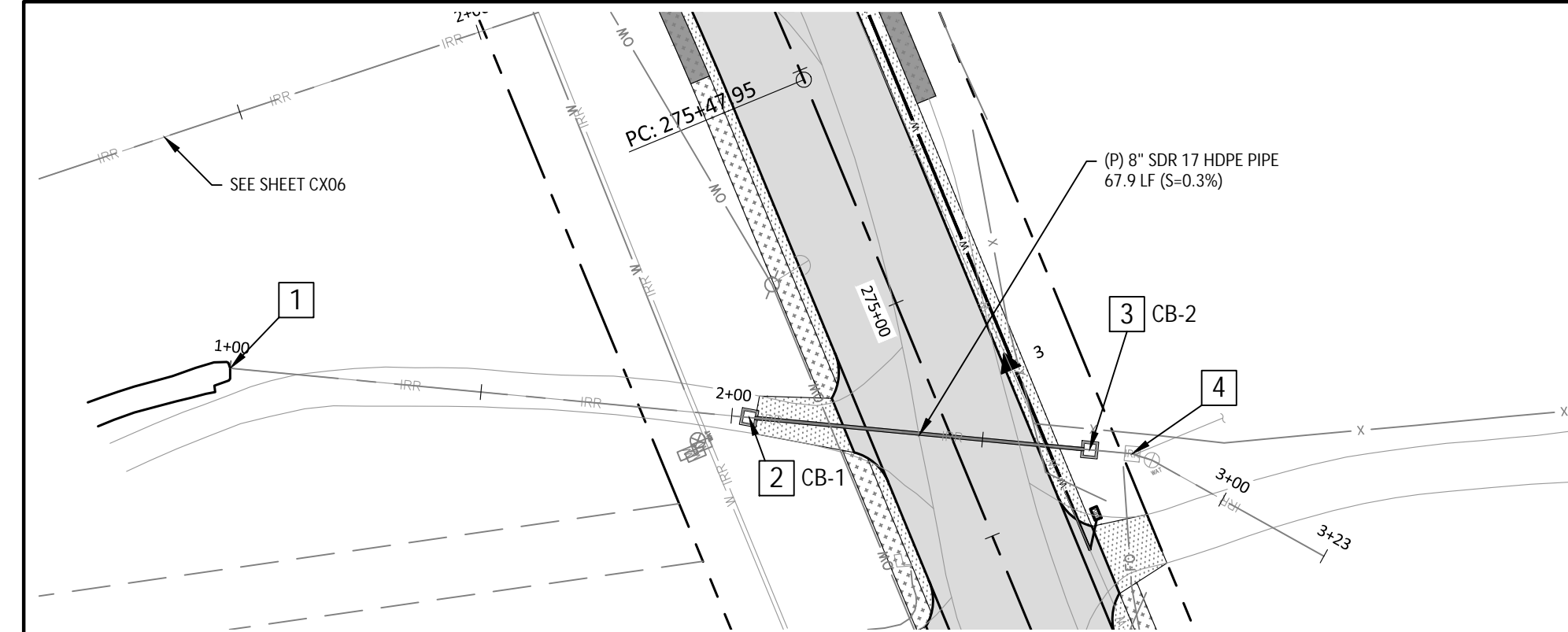
SCALE: 1" = 20' (HORIZ.)  
1" = 5' (VERT.)



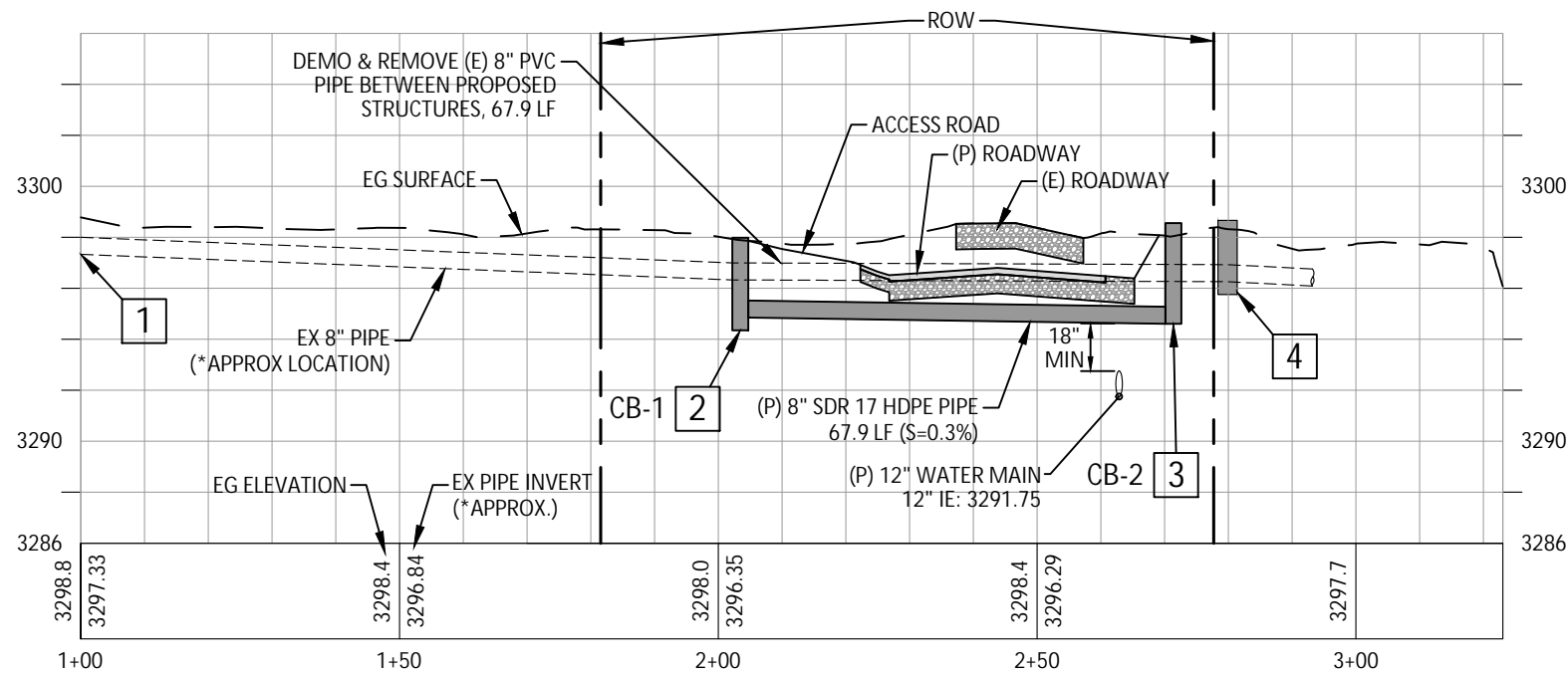








8" IRRIGATION CROSSING - PLAN  
SCALE: 1" = 30' (HORIZ.)

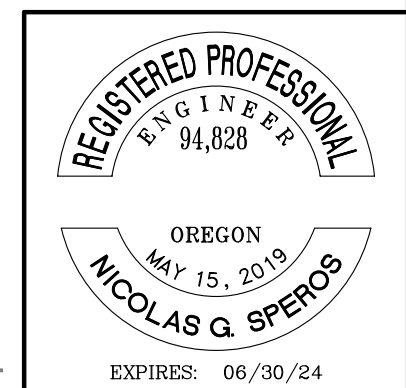
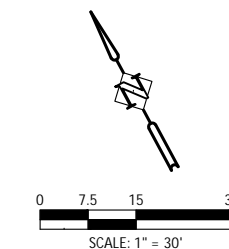


8" IRRIGATION CROSSING - PROFILE  
SCALE: 1" = 30' (HORIZ.)  
SCALE: 1" = 8' (VERT)

### IRRIGATION CANAL CONSTRUCTION NOTES:

- EXISTING IRRIGATION SERVICE CONNECTION (APPROX LOCATION)  
STA 1+00.00, 0.0' (PIPE) = STA 275+38.52, 127.1'L (HUNNELL RD)  
EX 8" IE = \*3297.33±
- CATCH BASIN CB-1  
STA 2+03.46, 0.0' (PIPE) = STA 274+90.16, 35.6'L (HUNNELL RD)  
CONSTRUCT G-2 CATCH BASIN WITH TRAFFIC RATED GRATE PER  
ODOT STD DWG RD364 & RD365. CUT & CONNECT TO EXISTING  
8" IRRIGATION SERVICE PIPE (WEST INVERT).  
RIM = 3298.05  
EX 8" IE-IN (W) = \*3296.33±  
8" IE-OUT (E) = 3294.85  
6" SUMP = 3294.35  
CONSTRUCT 67.9 LF 8" SDR 17 HDPE PIPE  
@ S = -0.30% TO CB-2. SEE NOTE 3.
- CATCH BASIN CB-2  
STA 2+71.36, 0.0' (PIPE) = STA 274+58.43, 24.4'R (HUNNELL RD)  
CONSTRUCT G-2 CATCH BASIN WITH SIPHON BOX COVER PER  
ODOT STD DWG RD364 & RD376. CUT & CONNECT TO  
EXISTING 12" IRRIGATION SERVICE PIPE (EAST INVERT).  
RIM = 3298.56  
8" IE-IN (W) = 3294.61  
EX 8" IE-OUT (E) = \*3296.27±  
(NO SUMP)  
CONNECT TO EXISTING 8" PIPE THAT FLOWS SOUTHEAST TO  
EXISTING JUNCTION BOX. SEE NOTE 4.
- EXISTING JUNCTION BOX  
STA 2+79.87, 0.0' (PIPE) = STA 274+54.45, 31.9'R (HUNNELL RD)  
RIM = \*3298.66±  
EX 8" IE-IN (W) = \*3296.26±  
EX 6" IE-OUT (E) = \*3297.87±  
EX 8" IE-OUT (SE) = \*3296.24±

\*NOTE:  
LOCATION OF EXISTING PIPE IS APPROXIMATE.  
CONTRACTOR TO VERIFY LOCATION, SIZE, AND  
INVERTS OF EXISTING PIPE PRIOR TO CONSTRUCTION.



100% SUBMITTAL

CANAL CROSSING - 8" PRIVATE  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

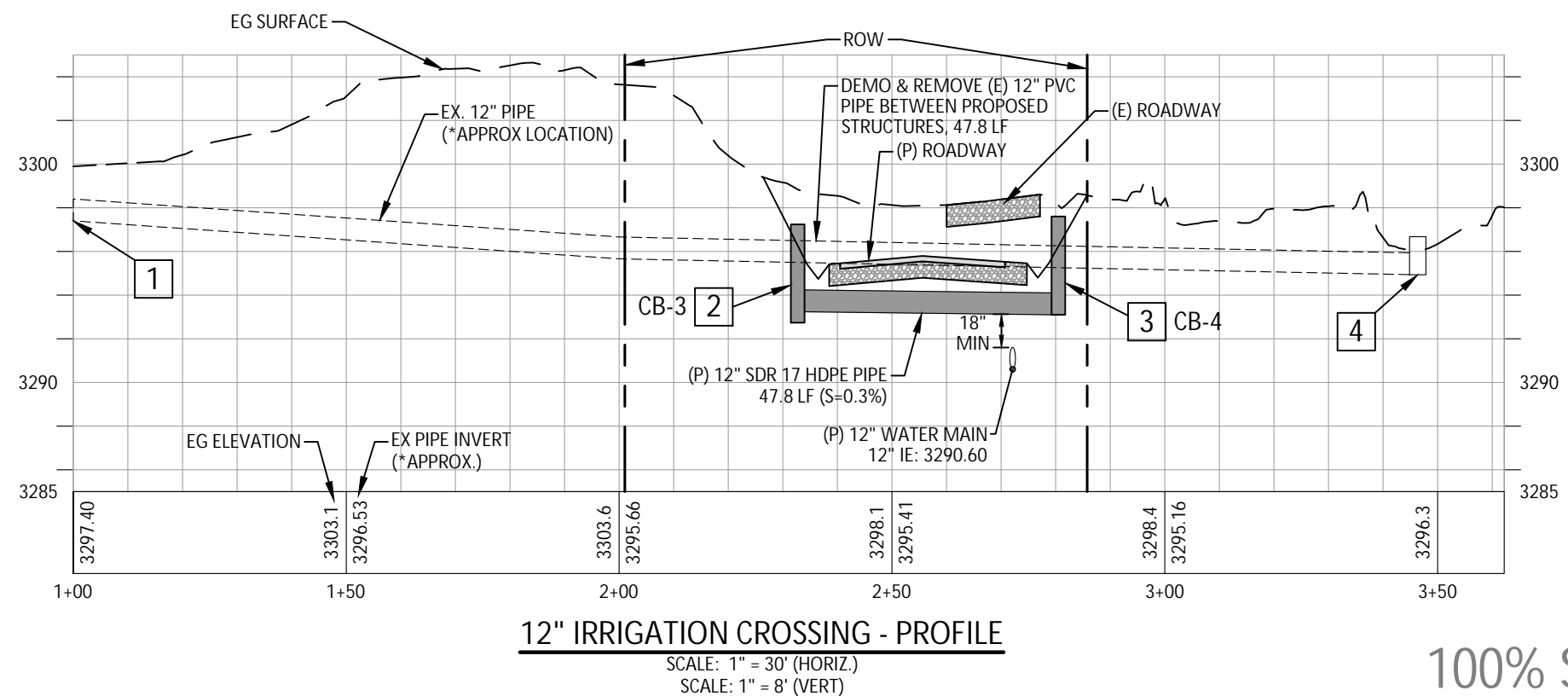
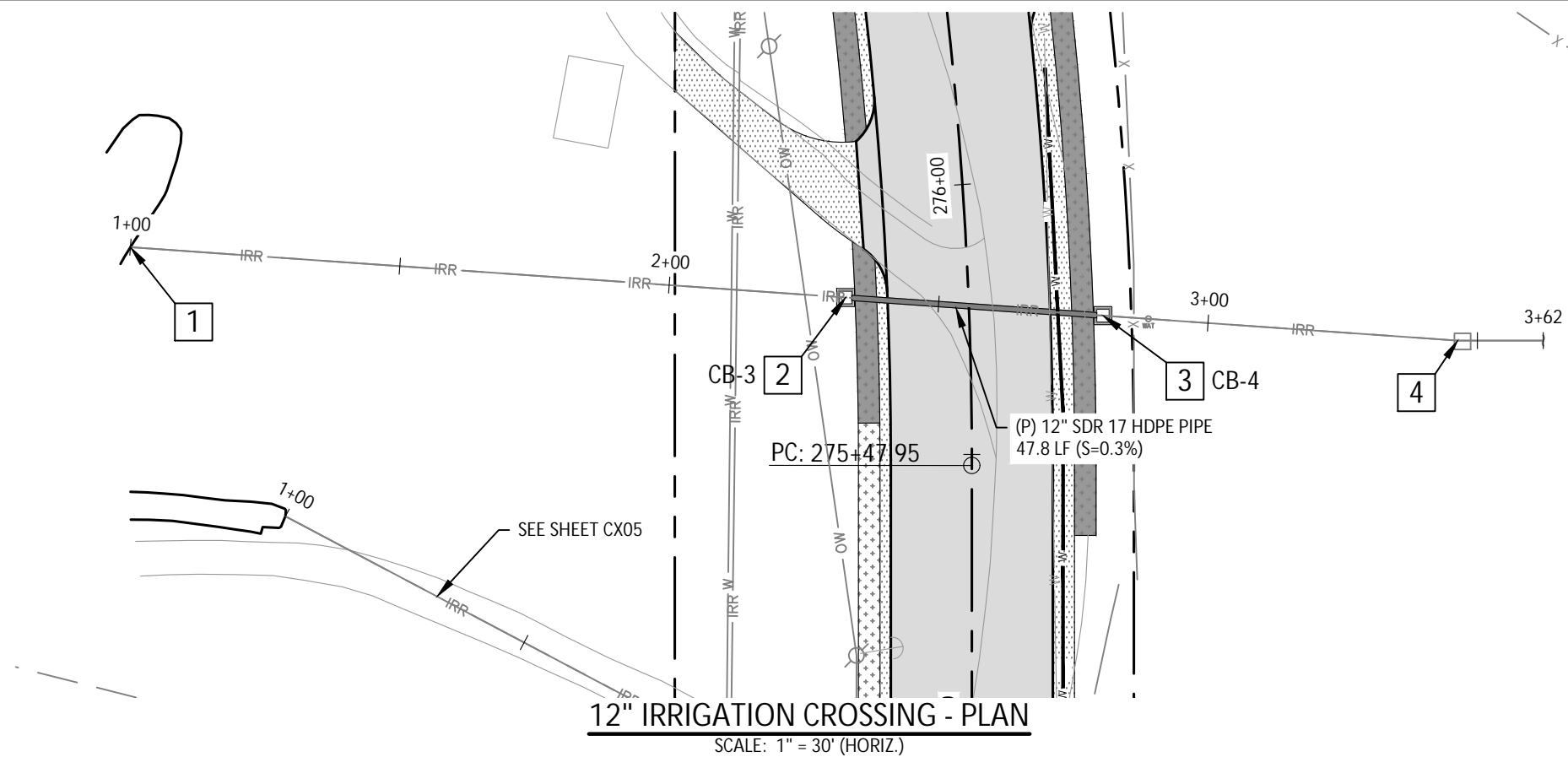


2022.11.14	001	REVISE CATCH BASIN LID: ADD REFERENCE TO ODOT STD DWGS RD364, RD365, & RD376	DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				

**Harper Houf Peterson Righellis Inc.**  
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250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

SHEET NO.	CX05
JOB NO.	DCO-01





IRRIGATION CANAL  
CONSTRUCTION NOTES:

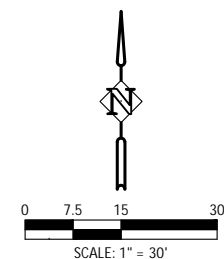
- 1 EXISTING IRRIGATION SERVICE CONNECTION (APPROX LOCATION)  
STA 1+00.00, 0.0' (PIPE) = STA 275+98.49, 154.5'L (HUNNELL RD)  
EX 12" IE = \*3297.40±

2 CATCH BASIN CB-3  
STA 2+32.74, 0.0' (PIPE) = STA 275+79.99, 22.7'L (HUNNELL RD)  
CONSTRUCT G-2 CATCH BASIN WITH SIPHON BOX COVER PER  
ODOT STD DWG RD364 & RD376. CUT & CONNECT TO EXISTING 12"  
IRRIGATION SERVICE PIPE (WEST INVERT).  
RIM = 3297.24  
EX 12" IE-IN (W) = \*3295.50±  
12" IE-OUT (E) = 3293.24  
6" SUMP = 3292.74  
CONSTRUCT 47.8 LF 12" SDR 17 HDPE PIPE  
@ S = -0.30% TO CB-4. SEE NOTE 3.

3 CATCH BASIN CB-4  
STA 2+80.50, 0.0' (PIPE) = STA 275+74.83, 24.7'R (HUNNELL RD)  
CONSTRUCT G-2 CATCH BASIN WITH SIPHON BOX COVER PER  
ODOT STD DWG RD364 & RD376. CUT & CONNECT TO  
EXISTING 12" IRRIGATION SERVICE PIPE (EAST INVERT).  
RIM = 3297.60  
12" IE-IN (W) = 3293.10  
EX 12" IE-OUT (E) = \*3295.25±  
(NO SUMP)  
CONNECT TO EXISTING 12" PIPE THAT FLOWS EAST TO  
EXISTING JUNCTION BOX. SEE NOTE 4.

4 EXISTING JUNCTION BOX  
STA 3+46.35, 0.0' (PIPE) = STA 275+68.66, 90.3'R (HUNNELL RD)  
RIM = \*3296.68±  
EX 12" IE-IN (W) = \*3294.93±

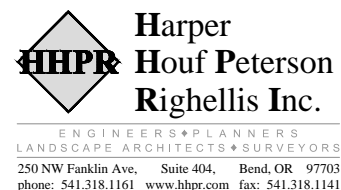
**\*NOTE:**  
LOCATION OF EXISTING PIPE IS APPROXIMATE.  
CONTRACTOR TO VERIFY LOCATION, SIZE, AND  
INVERTS OF EXISTING PIPE PRIOR TO CONSTRUCTION.



# 100% SUBMITTAL



2022.11.14	001	REVISE CATCH BASIN LID; ADD REFERENCE TO ODOT STD DWGS RD364, RD365, & RD376	DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



CANAL CROSSING - 12" PRIVATE  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

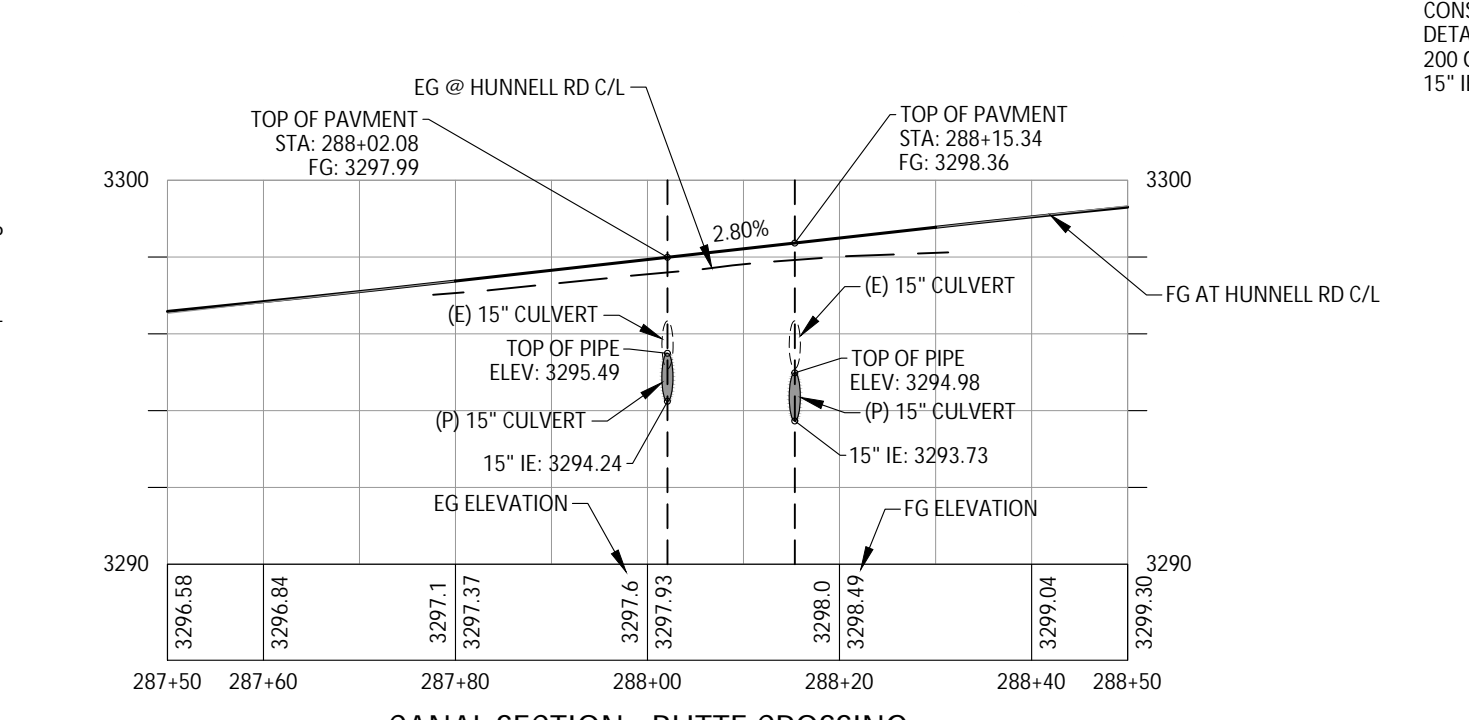
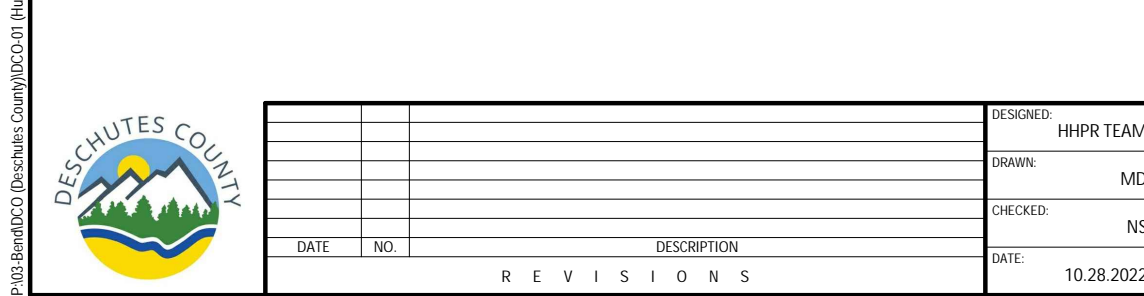
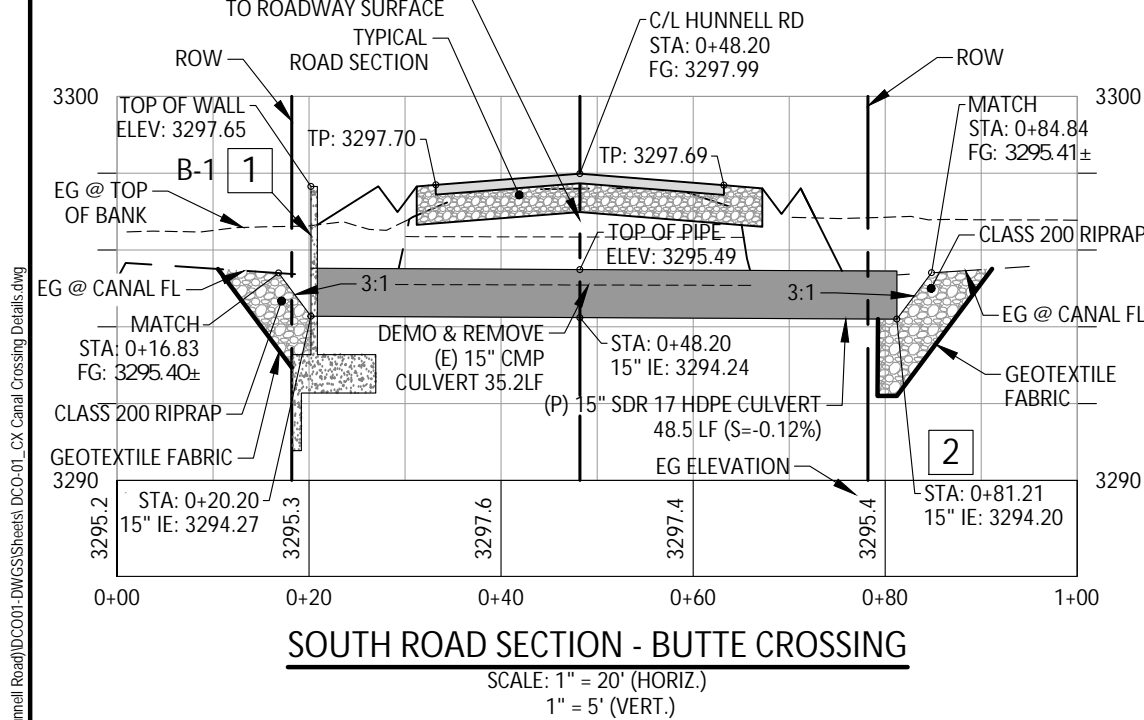
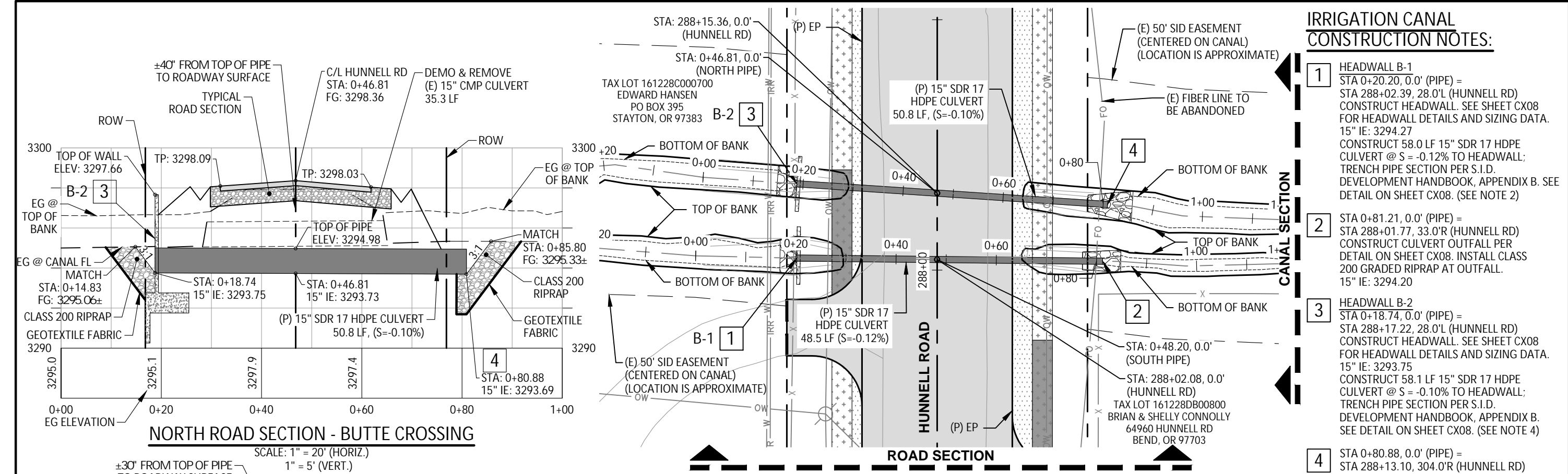
SHEET NO.

CX06

JOB NO.

DC0-01





100% SUBMITTAL

**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

DESIGNED: HHPR TEAM		
DRAWN: MD		
CHECKED: NS		
DATE: 10.28.2022		
DATE	NO.	DESCRIPTION
REVISIONS		

**Harper Houf Peterson Righellis Inc.**  
ENGINEERS\*PLANNERS  
LANDSCAPE ARCHITECTS\*SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

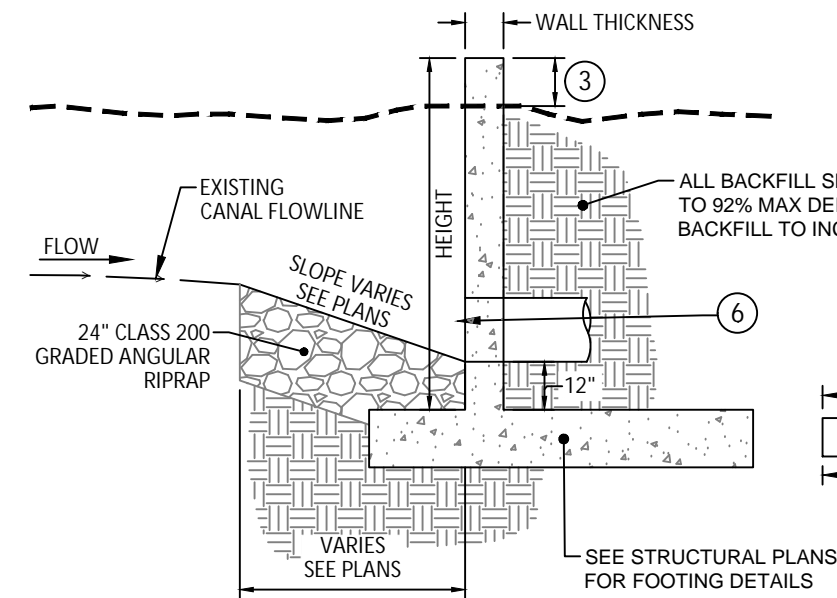
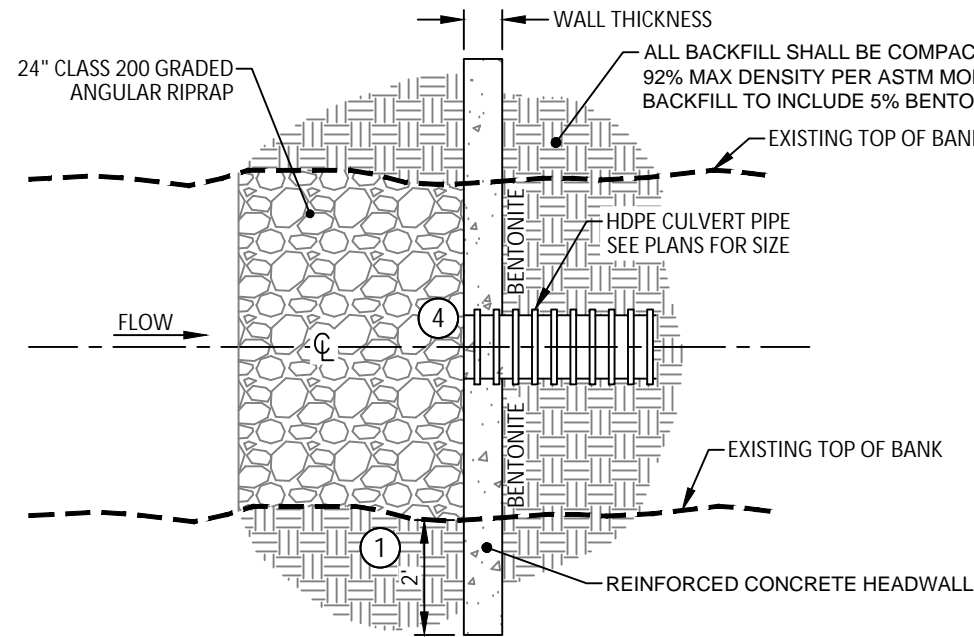
CANAL CROSSING - BUTTE  
**HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT**  
DESCHUTES COUNTY, OREGON

SHEET NO. **CX07**  
JOB NO. DCO-01

P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DWG\Sheets\DCO-01\_CX Canal Crossing Details.dwg



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheet1.dwg DCO-01\_CX Canal Crossing Details.dwg



HEADWALL DIMENSION TABLE							
HEADWALL	WIDTH (FT)	LEFT (FT)	RIGHT (FT)	HEIGHT (FT)	WALL THICKNESS (IN)	STRUCTURAL DETAIL	DETAIL SHEET
BW-1	7.0	3.5	3.5	4.9	8	HEADWALL 2	ST04
E-1	14.0	7.0	7.0	6.8	10	HEADWALL 1	ST03
B-1	11.5	6.25	5.25	4.4	8	HEADWALL 2	ST04
B-2	11.0	5.5	5.5	4.9	8	HEADWALL 2	ST04

\*NOTE: DIMENSIONS ARE MINIMUMS

CONCRETE HEADWALL DETAIL  
NTS

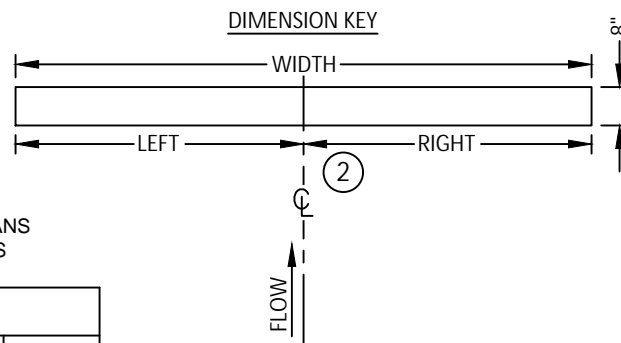
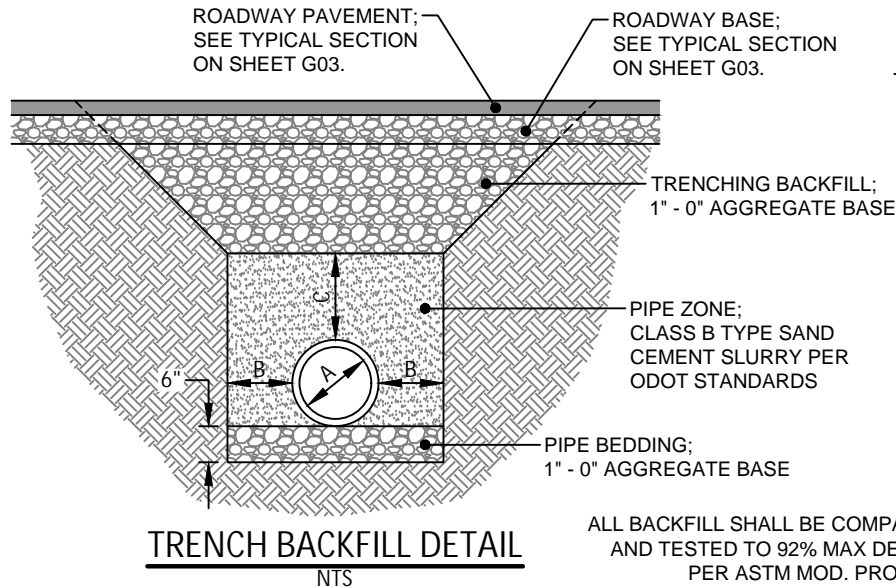


DATE	NO.	DESCRIPTION
R E V I S I O N S		

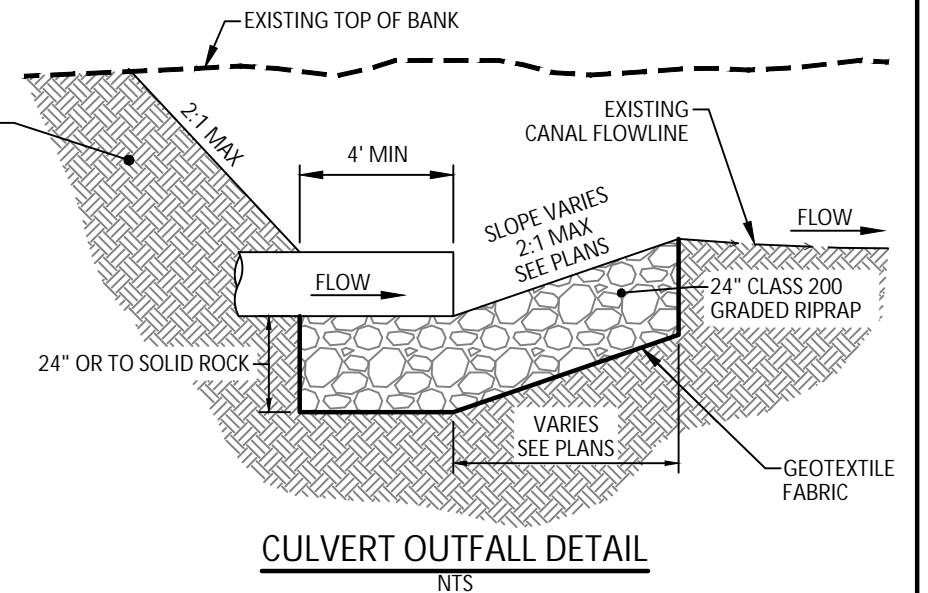
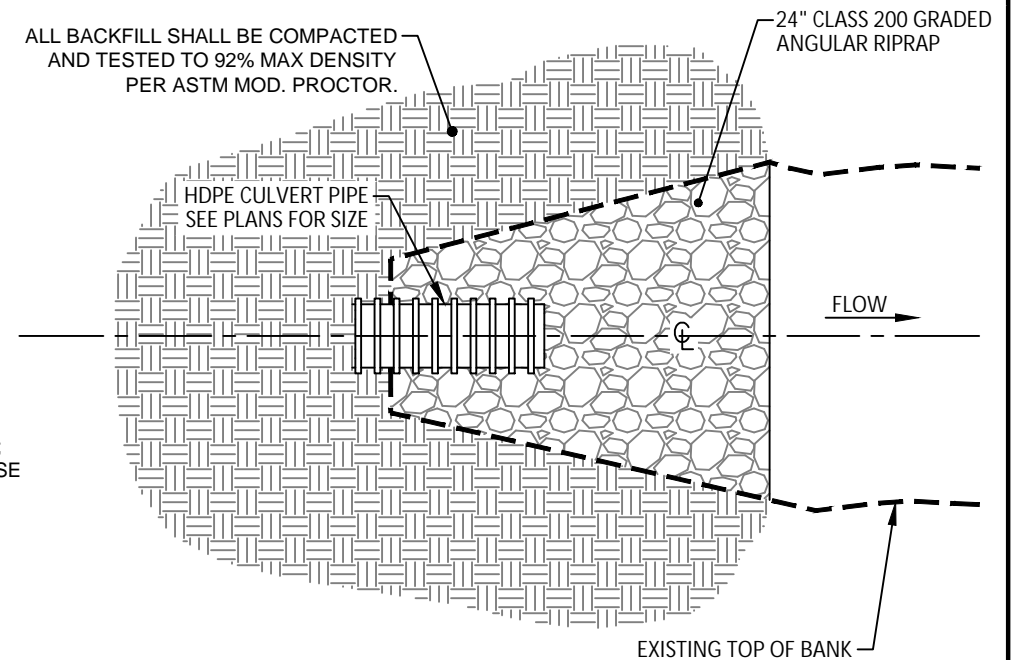
DESIGNED:	HHPR TEAM
DRAWN:	MD
CHECKED:	NS
DATE:	10.28.2022

**Harper Houf Peterson Righellis Inc.**  
ENGINEERS • PLANNERS  
LANDSCAPE ARCHITECTS • SURVEYORS  
250 NW Franklin Ave., Suite 404, Bend, OR 97703  
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

TRENCH BACKFILL TABLE		
A (IN)	B (IN)	C (IN)
12	12	10
15	12	10
36	24	14



- NOTE ①: HEADWALLS SHALL EXTEND A MINIMUM OF 2 FEET INTO CANAL BANK.  
NOTE ②: WIDTH OF WALL TO BE MINIMUM OF 2 x PIPE DIAMETER.  
NOTE ③: TOP OF WALL TO EXTEND A MINIMUM OF 12" ABOVE CANAL BANK.  
NOTE ④: PIPE PENETRATION THROUGH HEADWALL SHALL INCLUDE A MINIMUM 1" x 1" HDPE SEEP RING CENTERED IN THE HEADWALL AT EACH END.  
NOTE ⑤: SEE STRUCTURAL PLANS FOR DETAILED HEADWALL DRAWINGS AND REINFORCEMENT.  
NOTE ⑥: FOR HEADWALL BW-1, INSTALL TRASH RACK WITH 2" WIDE VERTICAL GAPS PER HEADWALL DETAIL 2, SHEET ST04



100% SUBMITTAL

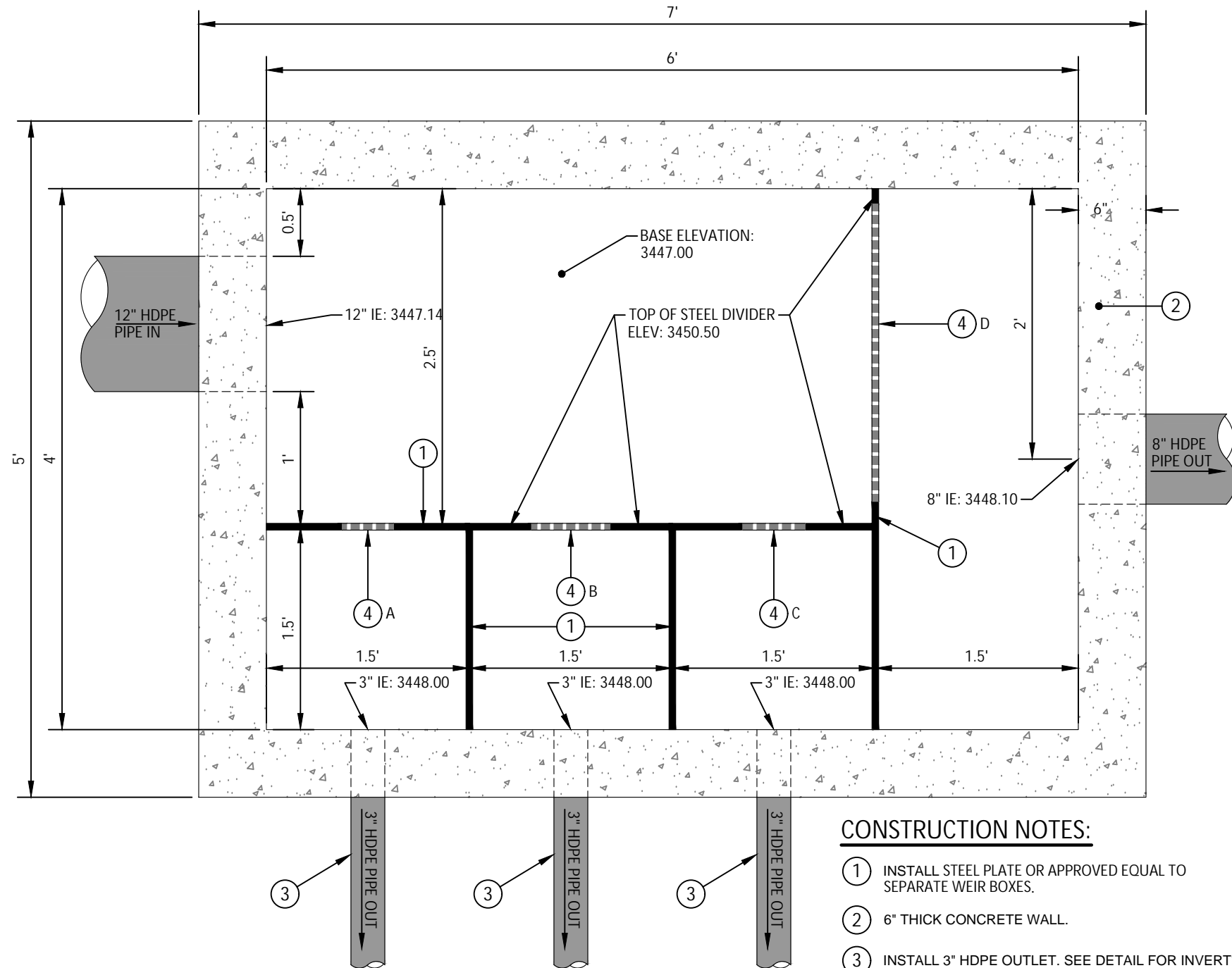
CANAL CROSSING DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

**REGISTERED PROFESSIONAL ENGINEER**  
94,828  
OREGON  
MAY 15, 2019  
**NICOLAS G. SPEROS**  
EXPIRES: 06/30/24

SHEET NO.	CX08
JOB NO.	DCO-01



P:\03-Bend\DCO (Deschutes County)\DCO-01 (Hunnell Road)\DCO01-DWG\Sheet1.dwg DCO-01\_CX Canal Crossing Details.dwg

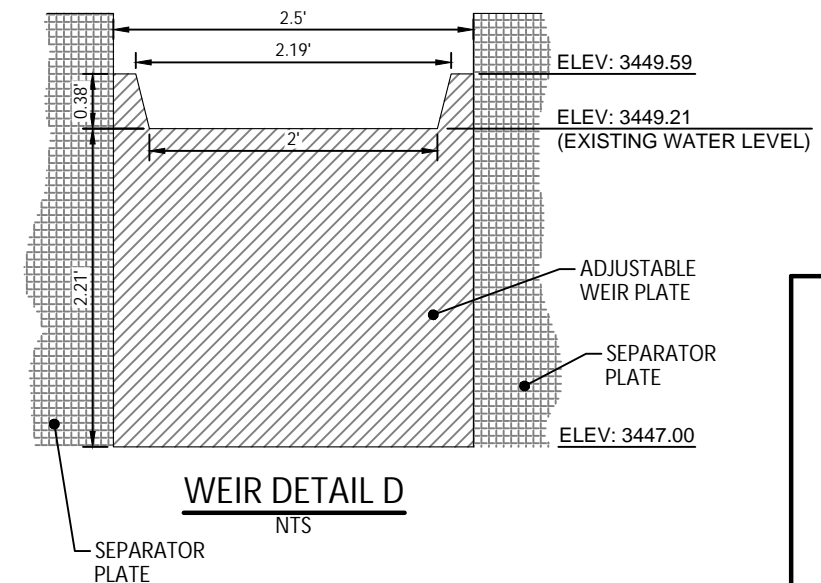
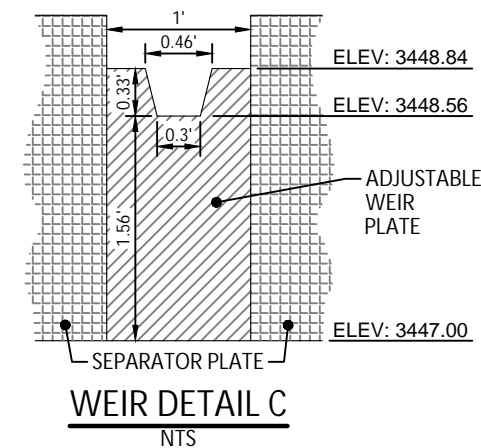
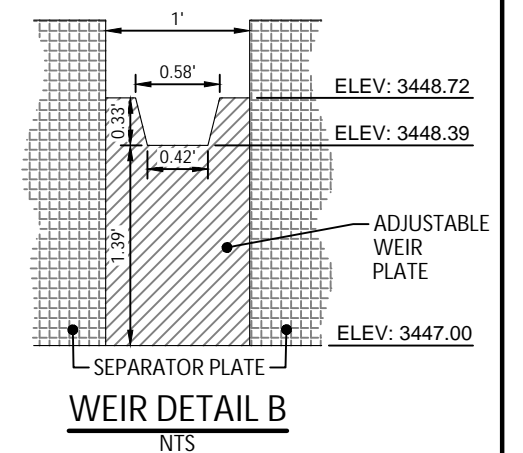
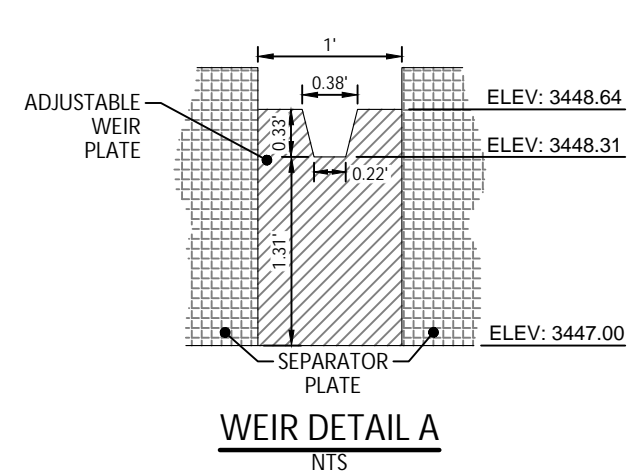


### CONSTRUCTION NOTES:

- 1 INSTALL STEEL PLATE OR APPROVED EQUAL TO SEPARATE WEIR BOXES.
- 2 6" THICK CONCRETE WALL.
- 3 INSTALL 3" HDPE OUTLET. SEE DETAIL FOR INVERT\*.
- 4 INSTALL ADJUSTABLE CIPOLETTI WEIR\*. SEE DETAILS ON THIS SHEET.

\*NOTE:  
CONTRACTOR TO ENSURE ALL WEIRS ARE ADJUSTABLE AND COORDINATE DIMENSIONS AND INVERT ELEVATIONS WITH SWALLEY IRRIGATION DISTRICT STAFF IN FIELD.

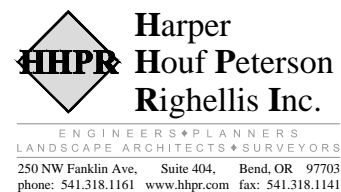
### PROPORTIONAL DIVIDER BOX NTS



100% SUBMITTAL



			DESIGNED:	HHPR TEAM
			DRAWN:	MD
			CHECKED:	NS
DATE	NO.	DESCRIPTION	DATE:	10.28.2022
R E V I S I O N S				



CANAL CROSSING DETAILS  
HUNNELL ROAD: LOCO ROAD TO TUMALO ROAD PROJECT  
DESCHUTES COUNTY, OREGON

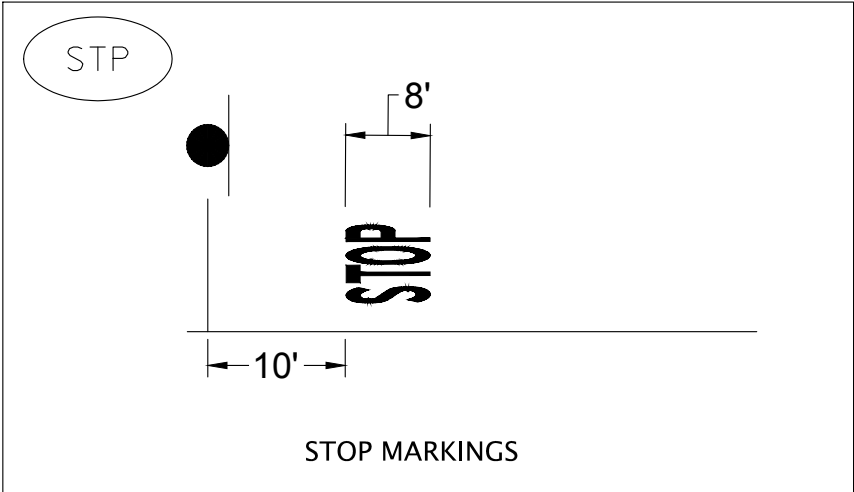


SHEET NO.  
**CX09**  
JOB NO.  
DCO-01



GENERAL NOTES

- 1. All signage and pavement marking shall conform to the requirements and specifications of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest edition, the Oregon supplement to the M.U.T.C.D., the Oregon Standard Specifications for Construction, and the project special provisions.
- 2. All pre-markings for pavement markings and striping, as well as sign locations shall be approved by the Engineer prior to final placement.
- 3. All longitudinal pavement markings shall be "Method AB: Thermoplastic, Extruded or Sprayed, Surface, Non-Profiled".
- 4. All transverse bars and legends shall be "Type AB".
- 5. All signs and sign supports removed from the project shall be salvaged to Deschutes County.
- 6. Preserve and protect all existing striping outside of the project limits.



STRIPING LEGEND

- W-2 Inst. 8" white line
- W Inst. 4" white line
- S Inst. 1' white stop bar
- D R-40 Inst. double no-pass positioning guide reflectors with two 4" yellow lines
- Y Inst. 4" yellow line

HATCHING LEGEND

- (P) Water Quality Swale
- (P) Conveyance Swale
- Existing Gravel

SIGNING LEGEND

- Install new sign (N) on new (M) sign support.
- Install new sign (N)
- Maintain and protect existing sign (N) and (M) sign support.
- Remove existing sign (N) and (M) sign support.
- Remove and save existing sign (N) and remove (M) sign support.
- Reinstall existing sign (N) on new (M) sign support.
- Remove existing sign (N).
- Install Speed Feedback Sign System, vehicle pedestal. Install Radarsign TS-1000 with yellow panel. Contractor shall submit shop drawings for approval by Engineer. (See SS23)

ABBREVIATIONS

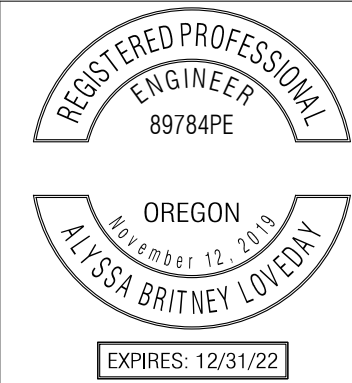
- N = Sign Number
- M = Material
- Material options:
  - W = Wood Post
  - ST = Perforated Steel Square Tube Sign Support

BID SET

SIGNING & STRIPING PLAN - NOTES & LEGEND  
HUNNELL ROAD  
DESCHUTES COUNTY, OREGON



			DESIGNED:	ABL
			DRAWN:	AAC
			CHECKED:	SGB
			DATE:	10.27.2022
DATE	NO.	DESCRIPTION	R E V I S I O N S	



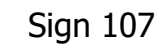
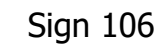
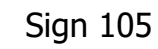
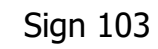
SHEET NO.  
SS01  
OF  
JOB NO.  
DC0-01







SIGNING & STRIPING PLAN - PROPOSED SIGN DETAILS  
HUNNELL RD: LOCO RD TO TUMALO RD IMPROVEMENTS



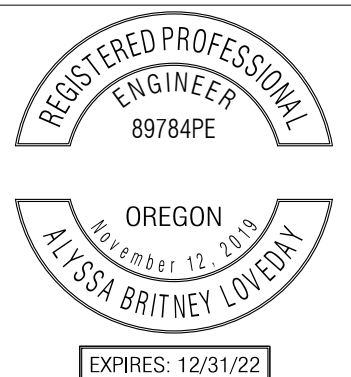
DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022



SIGNING & STRIPING PLAN - PROPOSED SIGN DETAILS  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

## BID SET



SHEET NO.

**SS03**

OF

JOB NO.

DC0-01



H:\24\24615 - Hunnell Rd\_ Loco Rd to Tumalo Rd\design\_CD\CD-Signing and Striping-24615.dwg



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022



**KITTELSON  
& ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE

HUNNELL ROAD

DESCHUTES COUNTY, OREGON

REGISTERED PROFESSIONAL  
ENGINEER  
89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

SHEET NO.

SS04

OF

JOB NO.  
DC0-01

SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE																																	
HUNNELL RD: LOCO RD TO TUMALO RD IMPROVEMENTS																																	
SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE	COLOR 1/				LEGEND	SIGN NO. 2/	TYPE OF SUPPORT															POST		FOOTING		REMARKS			
					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)	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 STRUCTURE	CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678)			SIZE	LENGTH 6/	LOCATION 3/
		WIDTH	HEIGHT		PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV																				ASTM TYPE IX	ASTM TYPE III OR TYPE IV				
101	131+62.15	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	25.9' Rt	4' - 0"	Same post as 109 (above) and 116 (above); Slip Base
101	152+52.11	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	22.0' Rt	4' - 0"	Same post as 110 (above) and 119 (below); Slip Base
101	152+58.84	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	25.9' Lt	4' - 0"	Same post as 116 (above), and 119 (below); Slip Base
101	153+12.32	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	24.2' Lt	4' - 0"	Same post as 110 (above) and 119 (below); Slip Base
101	173+08.44	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	27.2' Rt	4' - 0"	Slip Base
101	193+78.44	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	26.3' Rt	4' - 0"	Same post as 111 (above) and 116 (above); Slip Base
101	228+13.46	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	26.5' Rt	4' - 0"	Same post as 112 (above) and 116 (above); Slip Base
101	263+26.05	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	33.9' Lt	4' - 0"	Same post as 113 (above) and 116 (above); Slip Base
101	280+16.93	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	11'	27.6' Rt	4' - 0"	Slip Base
101	291+42.85	30"	30"	X		R		SW		X	101	X																	2 1/2" - 12 ga.	13'	26.3' Rt	4' - 0"	Same post as 114 (above) and 115 (above); Slip Base
102	116+66.64	30"	36"	X		SW			BK	X	102																				25.2' Rt		35mph Sign to be installed on Speed FeedBack Sign System
102	179+40.22	30"	36"	X		SW			BK	X	102																				26.0' Lt		35mph Sign to be installed on Speed FeedBack Sign System
102	213+97.69	30"	36"	X		SW			BK	X	102																				26.4' Rt		35mph Sign to be installed on Speed FeedBack Sign System
102	244+94.91	30"	36"	X		SW			BK	X	102																				24.2' Lt		25mph Sign to be installed on Speed FeedBack Sign System
102	269+55.04	30"	36"	X		SW			BK	X	102																				26.2' Rt		25mph Sign to be installed on Speed FeedBack Sign System
102	289+26.28	30"	36"	X		SW			BK	X	102																				24.2' Lt		25mph Sign to be installed on Speed FeedBack Sign System

- 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

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

- 3/ DISTANCE FROM PROJECT CENTERLINE. 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 1' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602. FOR PSST SLIP BASE INSTALLATIONS, REFER TO TM688.

- 6/ NOTE: CONTRACTOR TO VERIFY APPROPRIATE POLE SHAFT HEIGHT

BID SET



SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE	COLOR 1/						LEGEND	SIGN NO. 2/	TYPE OF SUPPORT																	POST		FOOTING		REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
					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)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	WAST 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 STRUCTURE	CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678)	SIZE	LENGTH 6/	LOCATION 3/		MIN. DEPTH 5/																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	(TM200-TM201, TM635)	WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE II OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230-TM233)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

1/

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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

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

3/ DISTANCE FROM PROJECT CENTERLINE. 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 1' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602. FOR PSST SLIP BASE INSTALLATIONS, REFER TO TM688.**

**6/ NOTE: CONTRACTOR TO VERIFY  
APPROPRIATE POLE SHAFT HEIGHT**



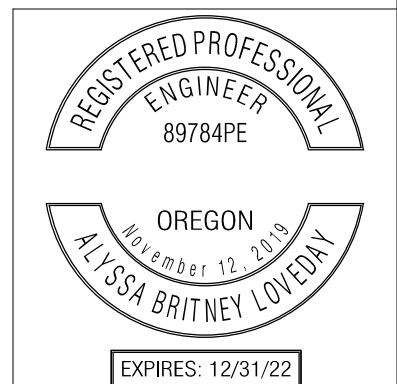
			DESIGNED:	ABL
			DRAWN:	AAC
			CHECKED:	SGB
DATE	NO.	DESCRIPTION	DATE:	10.27.2022
R E V I S I O N S				



SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE

**HUNNELL ROAD**

DESCHUTES COUNTY, OREGON



# BID SET

SHEET NO.

**SS05**

OF

JOB NO.

**DC0-01**



SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE		COLOR 1/						LEGEND	SIGN NO. 2/	TYPE OF SUPPORT																POST		FOOTING		REMARKS	
						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) 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 STRUCTURE CUSTOM VARIABLE SUPPORT	SECONDARY SIGN (TM676 & TM678)		SIZE	LENGTH 6/	LOCATION 3/	MIN. DEPTH 5/															
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT			REMOVABLE (TM230-TM233)	C 4X5.4	C 4X7.25	LENGTH	(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)															
116	131+62.15	2' - 6"	1' - 0"	X		G		SW		X		116	X																						Same post as 101 (below) and 109 (above)
116	152+58.84	2' - 6"	1' - 0"	X		G		SW		X		116	X																						Same post as 101 (below), 110 (above), and 119 (below)
116	193+78.44	2' - 6"	1' - 0"	X		G		SW		X		116	X																						Same post as 101 (below) and 111 (above)
116	228+13.46	2' - 6"	1' - 0"	X		G		SW		X		116	X																						Same post as 101 (below) and 112 (above)
116	263+26.05	2' - 6"	1' - 0"	X		G		SW		X		116	X																						Same post as 101 (below) and 113 (above)
117	113+57.09	24"	24"	X		SW		BR		X		117	X														2" - 12 ga.	10.5'	35.1' Rt	4' - 0"				Slip Base	
117	290+46.47	24"	24"	X		SW		BR		X		117	X														2" - 12 ga.	10.5'	24.2' Lt	4' - 0"				Slip Base	
118	128+43.33	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	129+13.33	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	141+91.54	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	142+59.30	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	158+95.02	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	159+63.77	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	177+02.00	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	177+72.00	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	215+67.54	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	216+39.40	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	225+27.11	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	225+94.36	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	234+35.55	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	235+04.30	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	272+54.18	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	273+22.96	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	282+36.53	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
118	283+04.28	24"	30"	X		SW				BK	X	118	X														2" - 12 ga.	11'	0.0'	4' - 0"				Slip Base	
119	152+52.11	18"	6"	X		R		SW		X		119	X																						Same post as 101 (above) and 110 (above)
119	152+58.84	18"	6"	X		R		SW		X		119	X																						Same post as 101 (above), 110 (above), and 116 (above)
119	153+12.32	18"	6"	X		R		SW		X		119	X																						Same post as 101 (above) and 110 (above)
121	263+97.19	30"	30"	X		Y				BK	X	121	X															2 1/2" - 12 ga.	12'	26.0' Rt	4' - 0"				Slip Base
122	270+58.78	30"	30"	X		Y				BK	X	122	X															2 1/2" - 12 ga.	12'	24.3' Lt	4' - 0"				Slip Base
123	261+93.79	30"	30"	X		Y				BK	X	123	X															2 1/2" - 12ga.	12'	171.37' Lt	4' - 0"				Slip Base

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

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

3/ DISTANCE FROM PROJECT  
CENTERLINE. 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 1'  
DIAMETER FOOTING. FOR ADDITIONAL  
INFORMATION SEE STANDARD DRAWINGS  
TM601 AND TM602. FOR P/SST SLIP BASE  
INSTALLATIONS, REFER TO TM688.

6/ NOTE: CONTRACTOR TO VERIFY  
APPROPRIATE POLE SHAFT HEIGHT



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

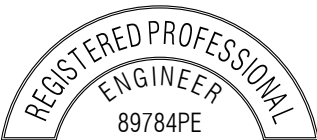


**KITTELSON  
& ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - SIGN & POST DATA TABLE  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

**BID SET**



EXPIRES: 12/31/22

SHEET NO.

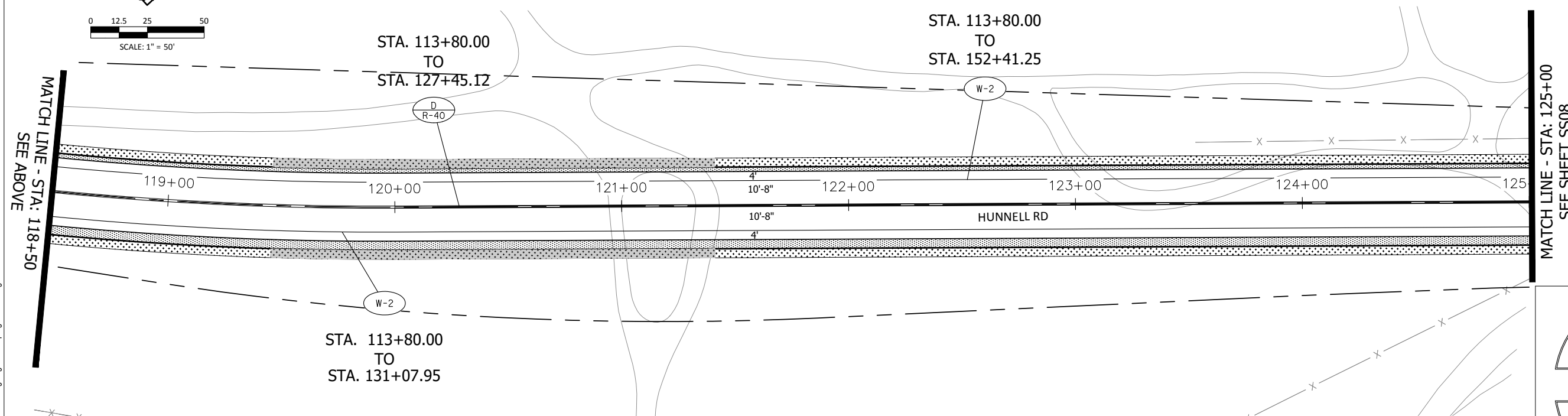
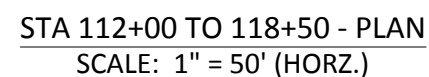
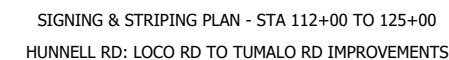
**SS06**

OF

JOB NO.

DC0-01





STA 118+50 TO 125+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

## BID SET

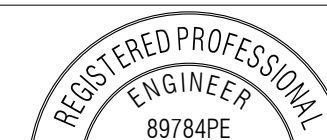


DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022



SIGNING & STRIPING PLAN - STA 112+00 TO 125+00  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON



EXPIRES: 12/31/22

SHEET NA

SS07

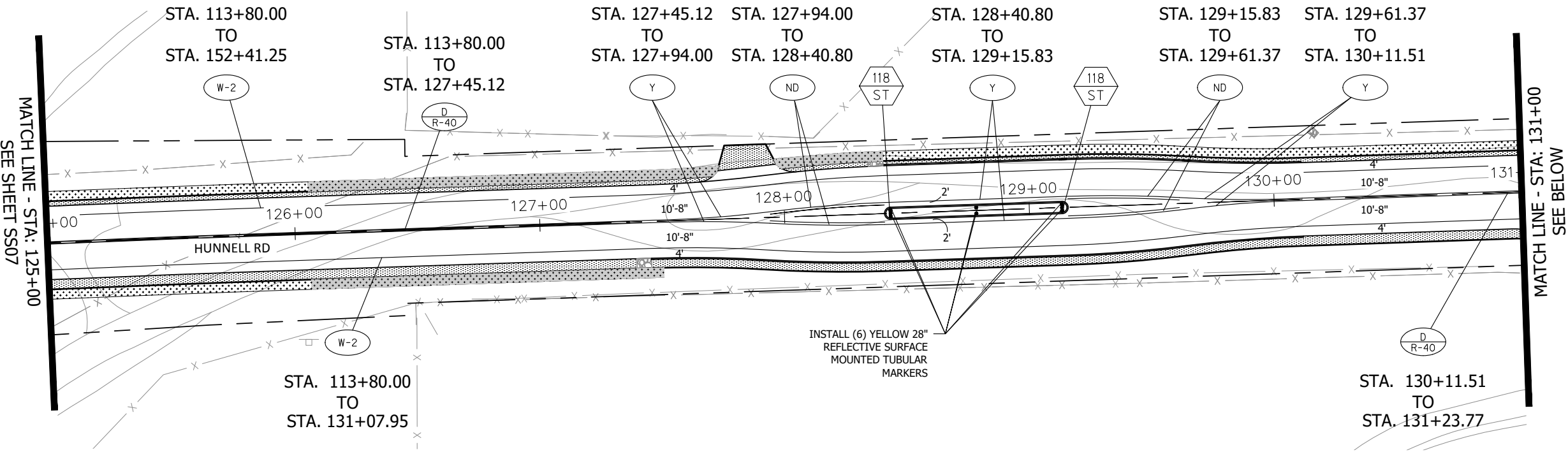
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JOB NO.

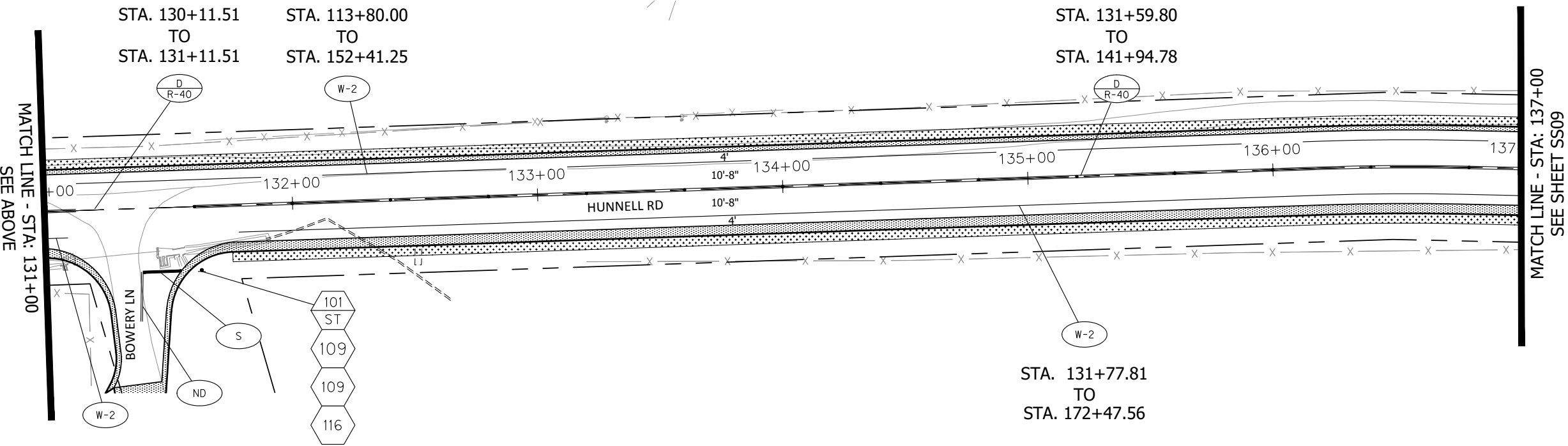
DC0-01

4:\24\24615 - Hunnell Rd\_ Loco Rd to Tumalo Rd\design\_CD\ CD\ CD-Signing and Striping-24615.dwg

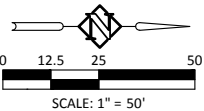




STA. 125+00 TO 131+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 131+00 TO 137+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



REGISTERED PROFESSIONAL  
ENGINEER  
89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

**BID SET**

SIGNING & STRIPING PLAN - STA 125+50 TO 137+00  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON



DATE	NO.	DESCRIPTION
R E V I S I O N S		

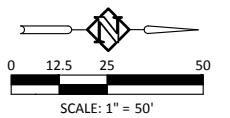
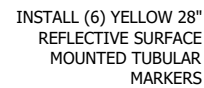
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SHEET NO.	<b>SS08</b>
OF	
JOB NO.	DC0-01



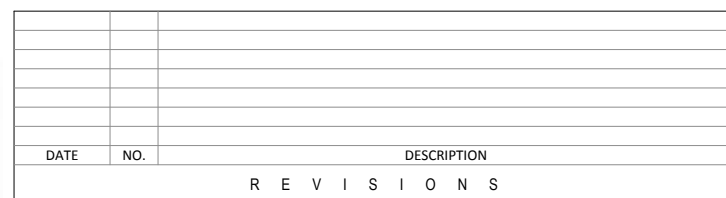


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ENGINEER  
89784PE

OREGON  
November 12, 2019

ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22



**KITTELSON  
& ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SHEET NO.

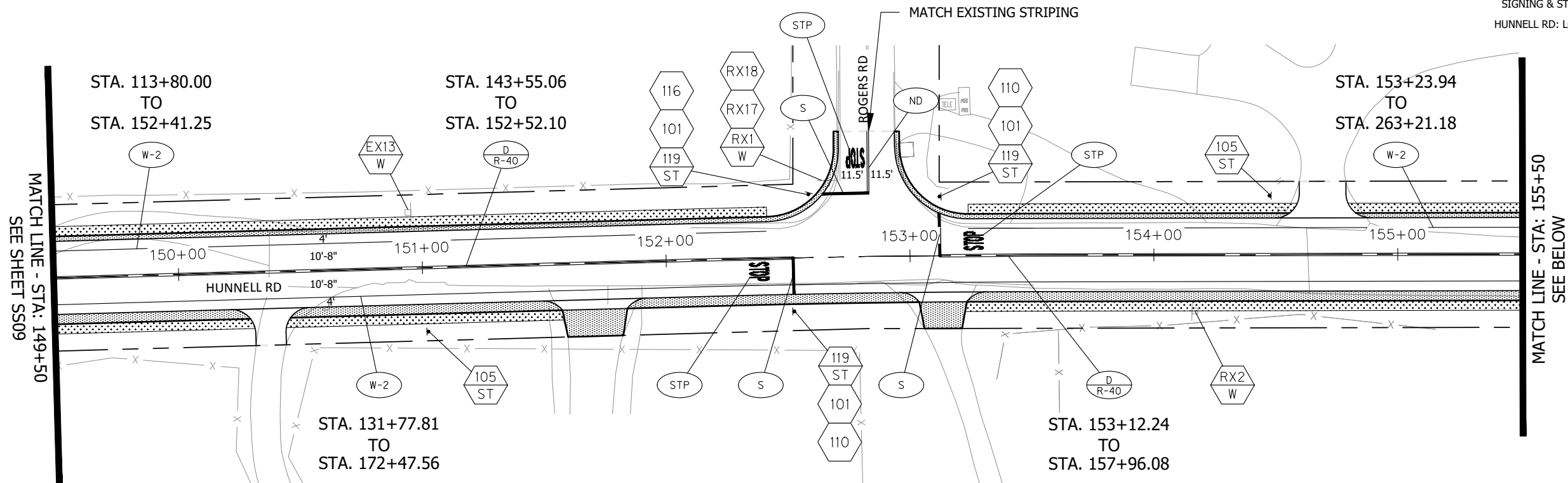
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OF

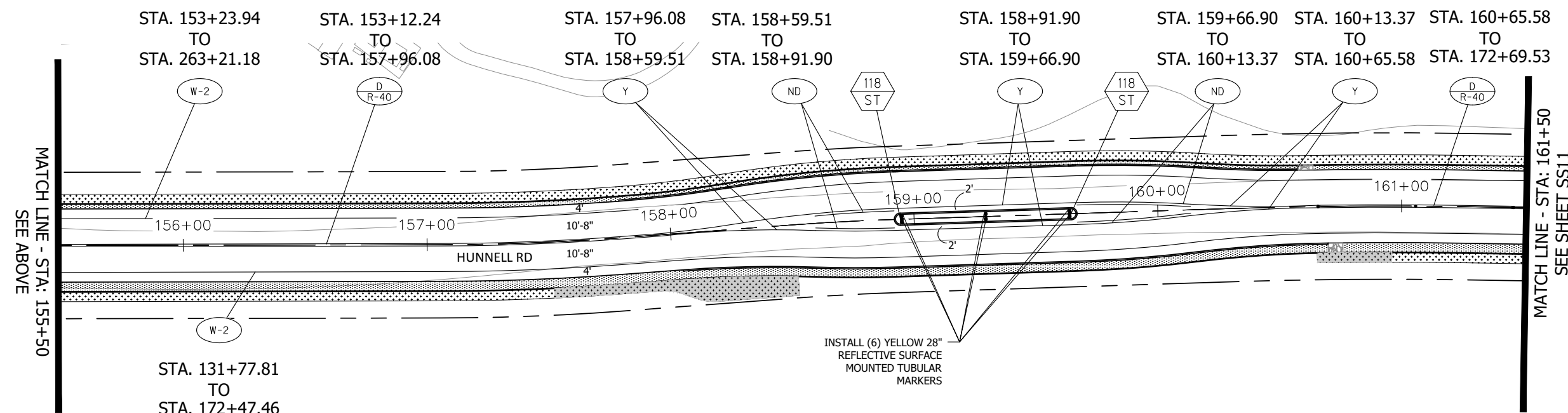
JOB NO.

**DC0-01**

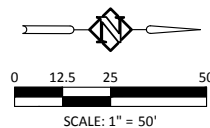




STA. 149+50 TO 155+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 155+50 TO 161+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



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OREGON  
November 12, 2019  
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EXPIRES: 12/31/22

**BID SET**

SIGNING & STRIPING PLAN - STA 149+50 TO 161+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON



DATE	NO.	DESCRIPTION
R E V I S I O N S		

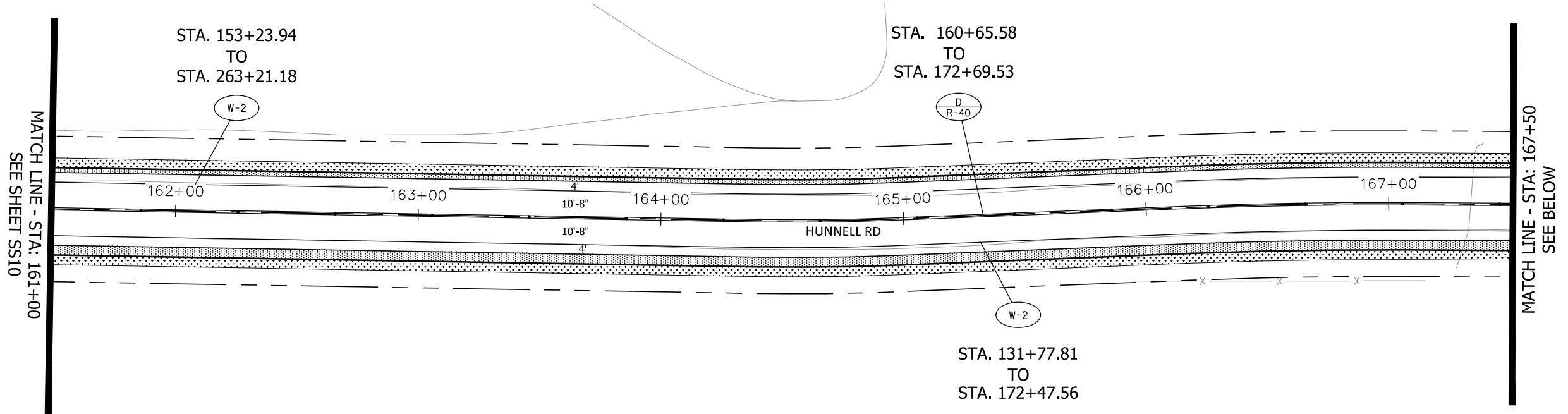
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**

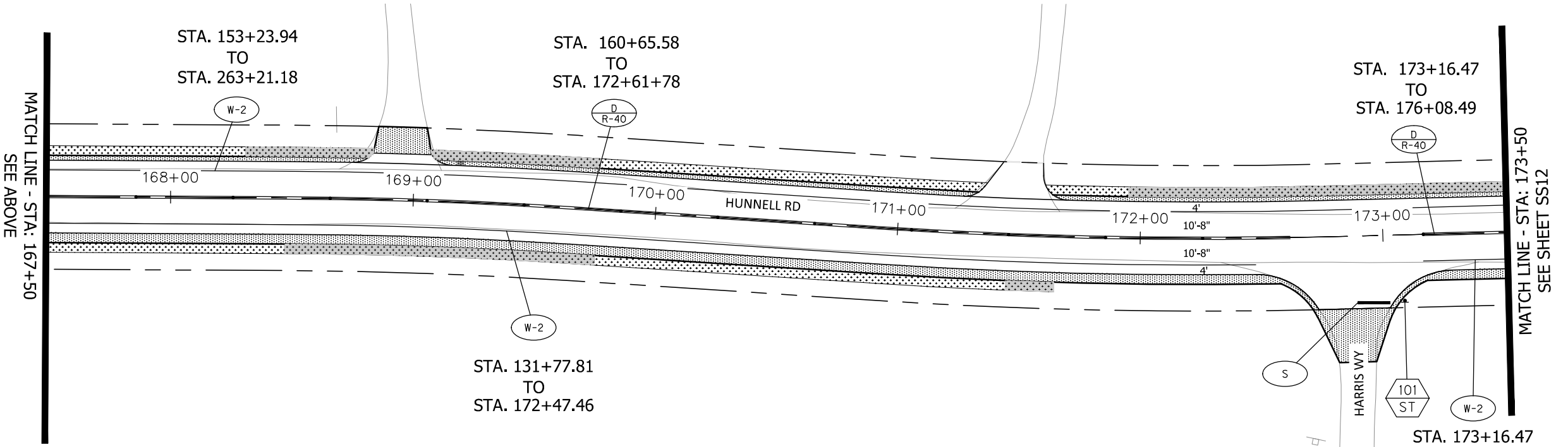
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SHEET NO.	SS10
OF	
JOB NO.	DC0-01

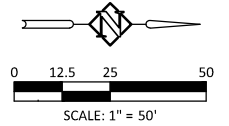




STA. 161+50 TO 167+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 167+50 TO 173+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



REGISTERED PROFESSIONAL  
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OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

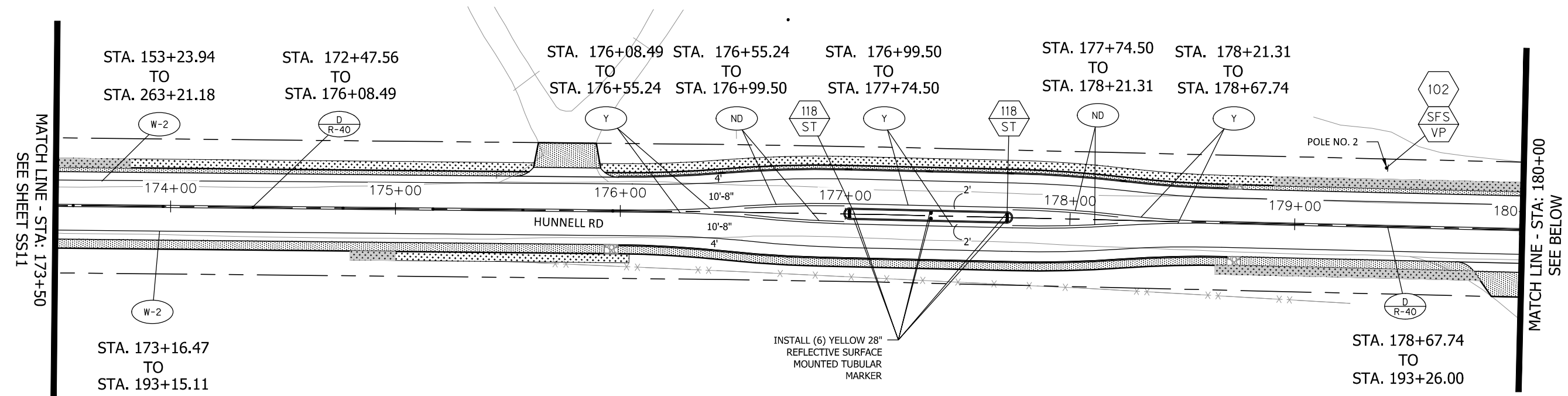
SIGNING & STRIPING PLAN - STA 161+50 TO 173+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS11**  
OF

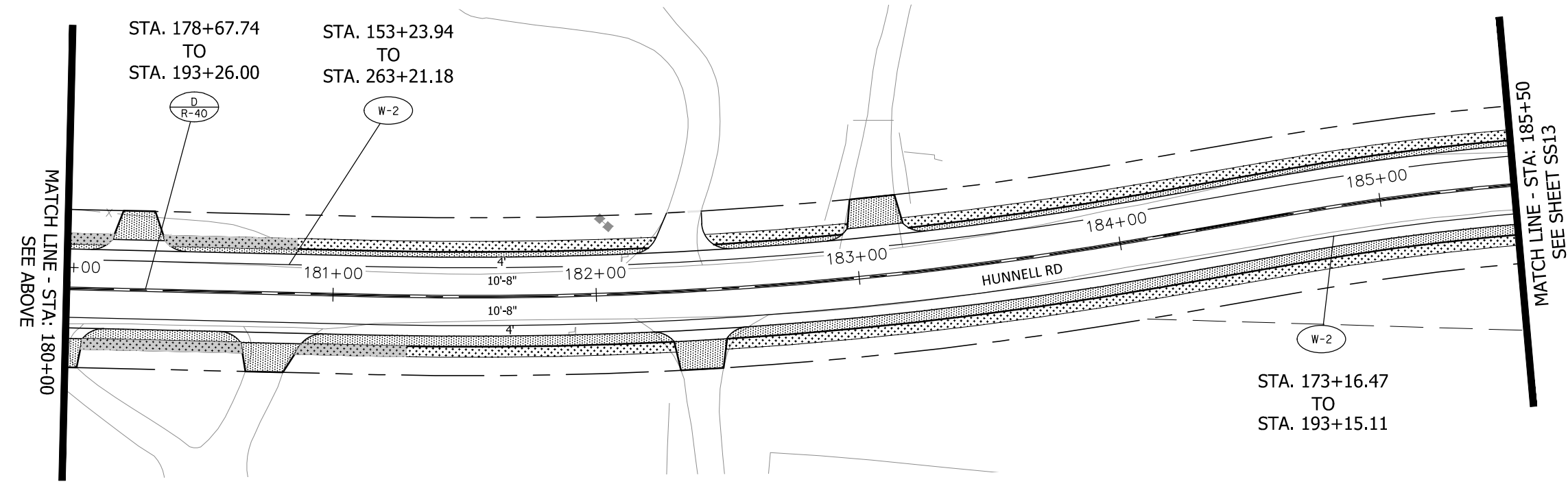
JOB NO.  
DC0-01

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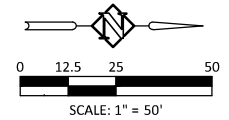




STA. 173+50 TO 180+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 180+00 TO 185+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



REGISTERED PROFESSIONAL  
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OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

BID SET



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

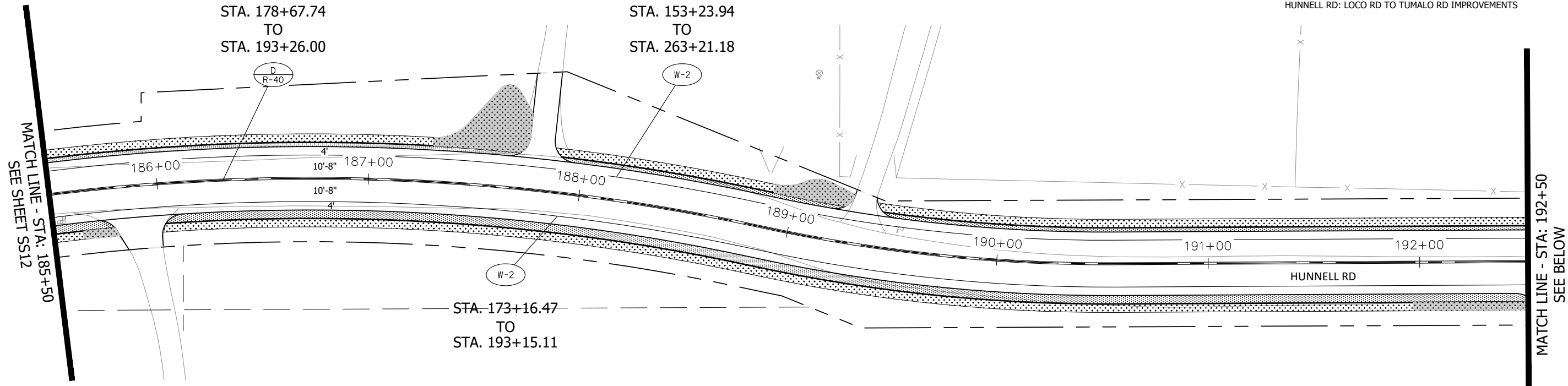
SIGNING & STRIPING PLAN - STA 173+50 TO 185+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS12**  
OF

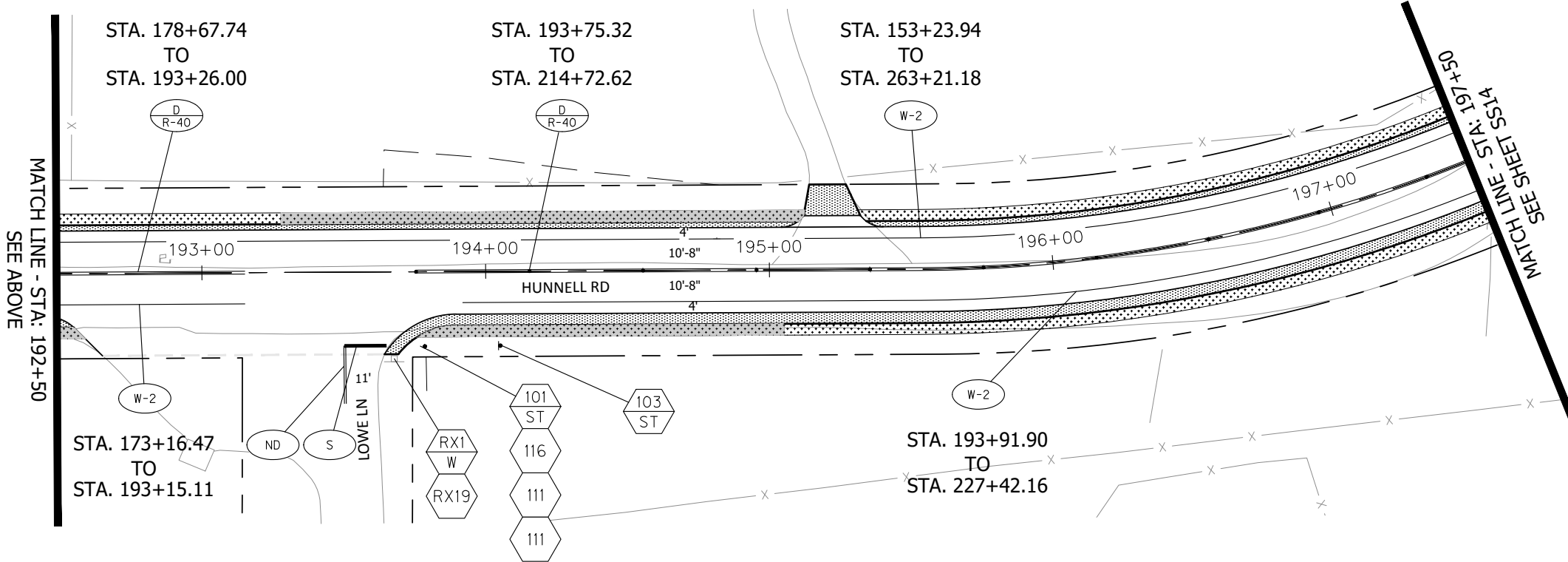
JOB NO.  
DC0-01

H:\2424615 - Hunnell Rd - Loco Rd to Tumalo Rd\design\_CD\CD-Signing and Striping-24615.dwg

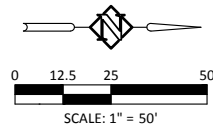




STA. 185+50 TO 192+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 192+50 TO 197+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



REGISTERED PROFESSIONAL  
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89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

**BID SET**

SS13SIGNING & STRIPING PLAN - STA 185+50 TO 197+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS13**  
OF  
JOB NO.  
DC0-01



DATE	NO.	DESCRIPTION
R E V I S I O N S		

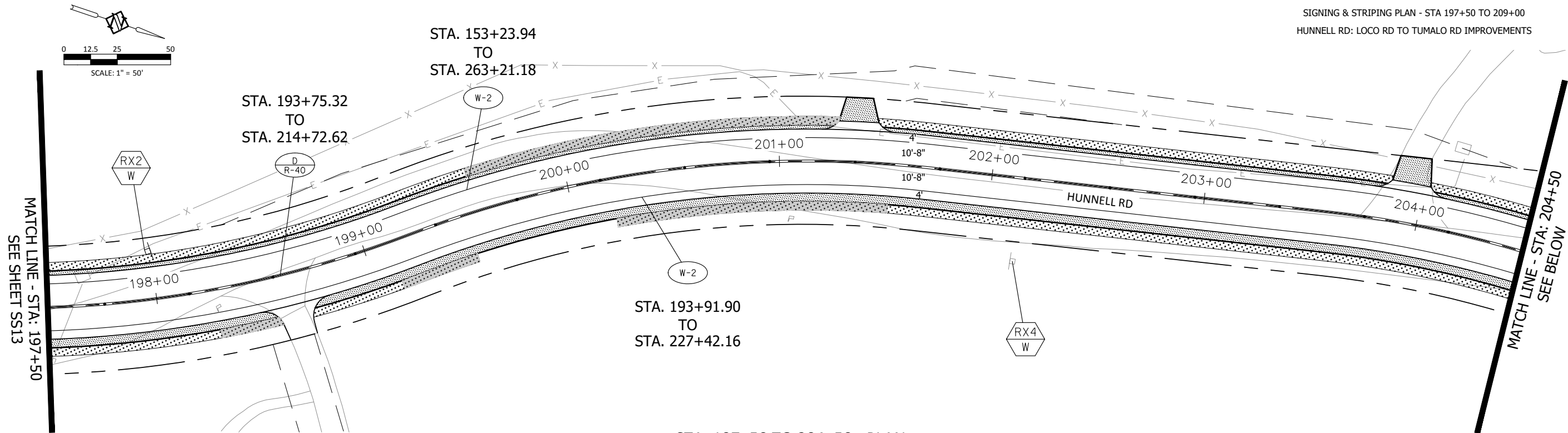
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**

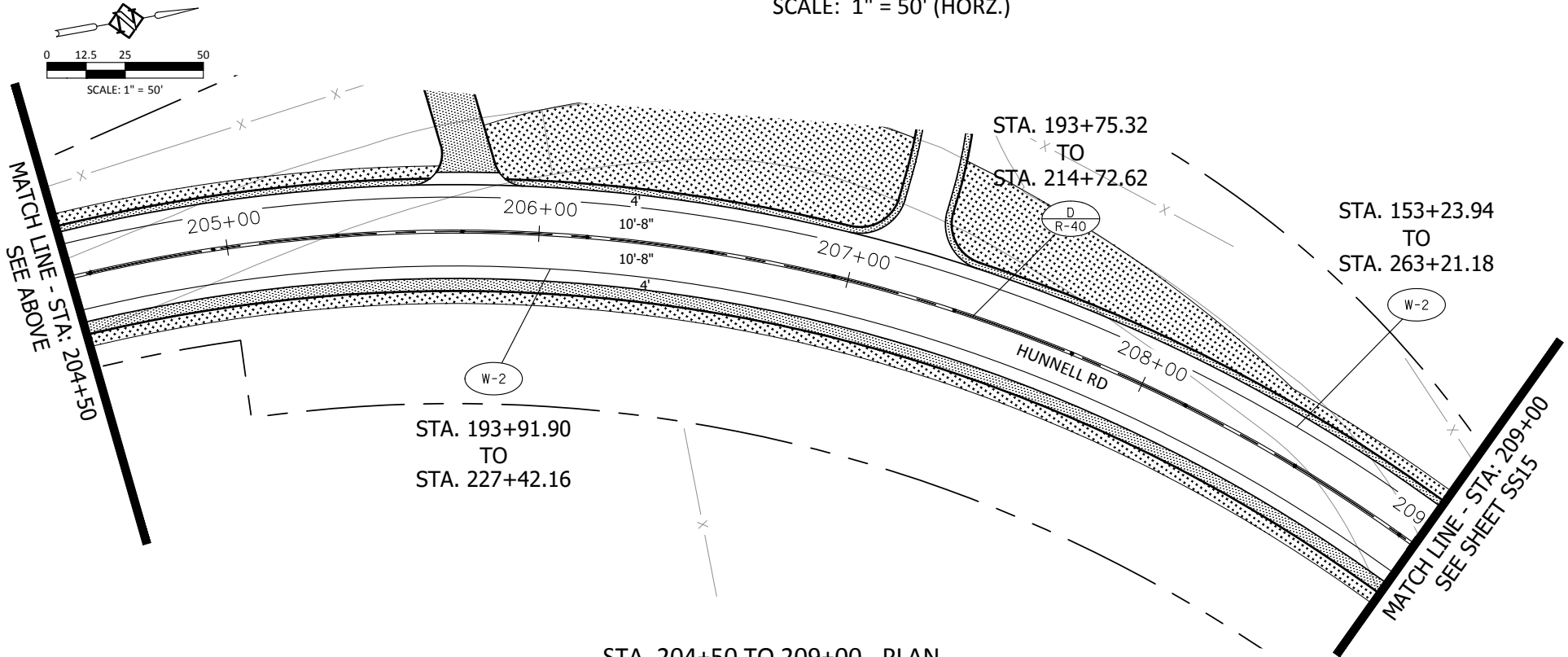
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

H:\24\24615 - Hunnell Rd to Tumalo Rd\design\_CD\Siging and Striping\24615.dwg





STA. 197+50 TO 204+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 204+50 TO 209+00 - PLAN  
SCALE: 1" = 50' (HORZ.)

BID SET

REGISTERED PROFESSIONAL  
ENGINEER  
89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

KITTELSON  
& ASSOCIATES

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

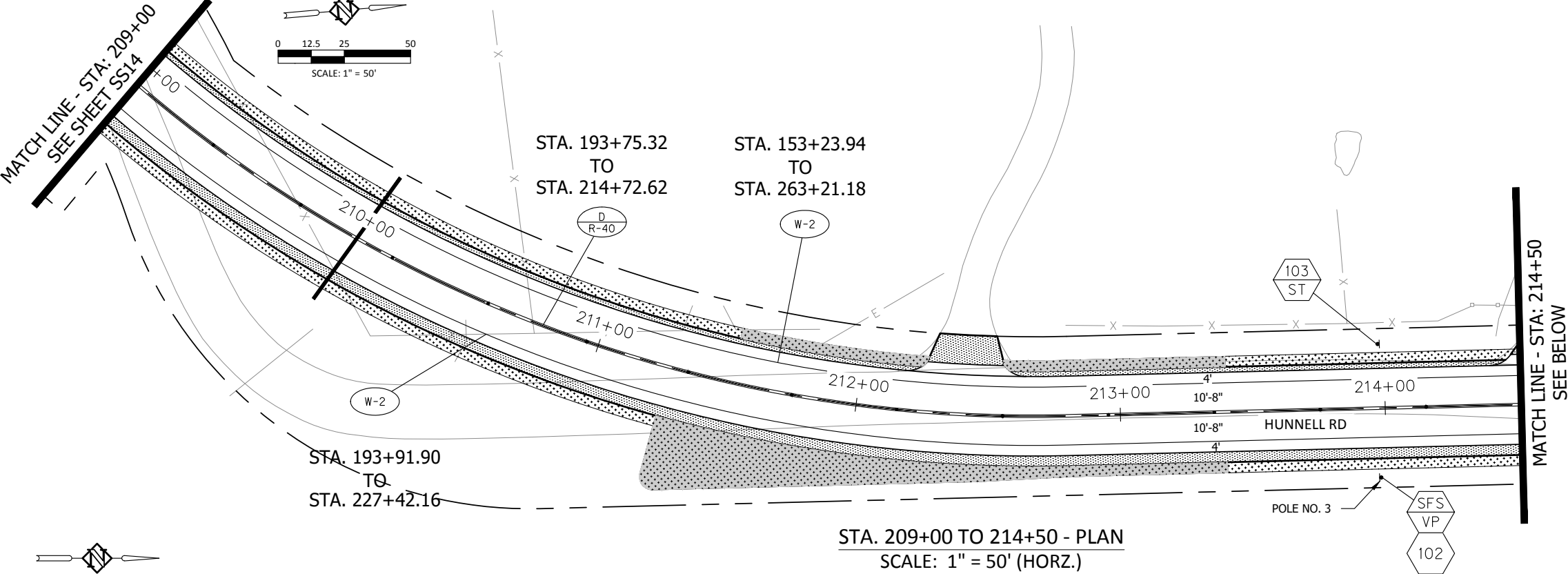
SIGNING & STRIPING PLAN - STA 197+50 TO 209+00  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS14**  
OF

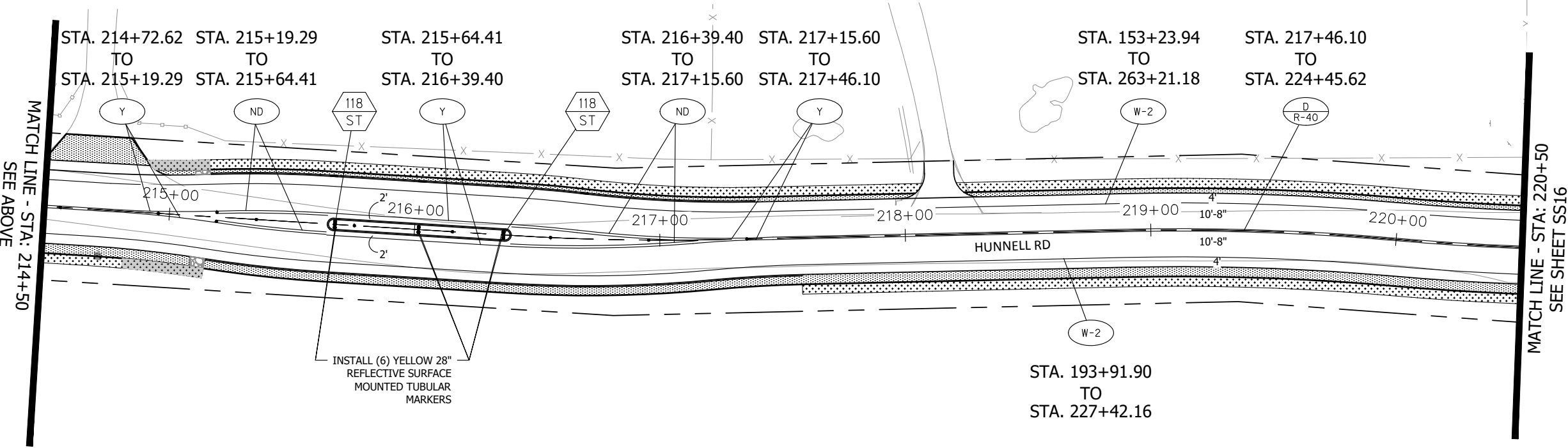
JOB NO.  
DC0-01

H:\24\24615 - Hunnell Rd - Loco Rd to Tumalo Rd\design\_CD\CD-Signing and Striping-24615.dwg



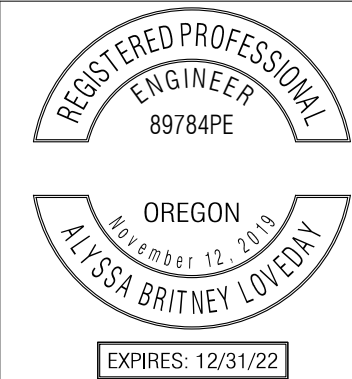


STA. 209+00 TO 214+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 214+50 TO 220+50 - PLAN  
SCALE: 1" = 50' (HORZ.)

**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

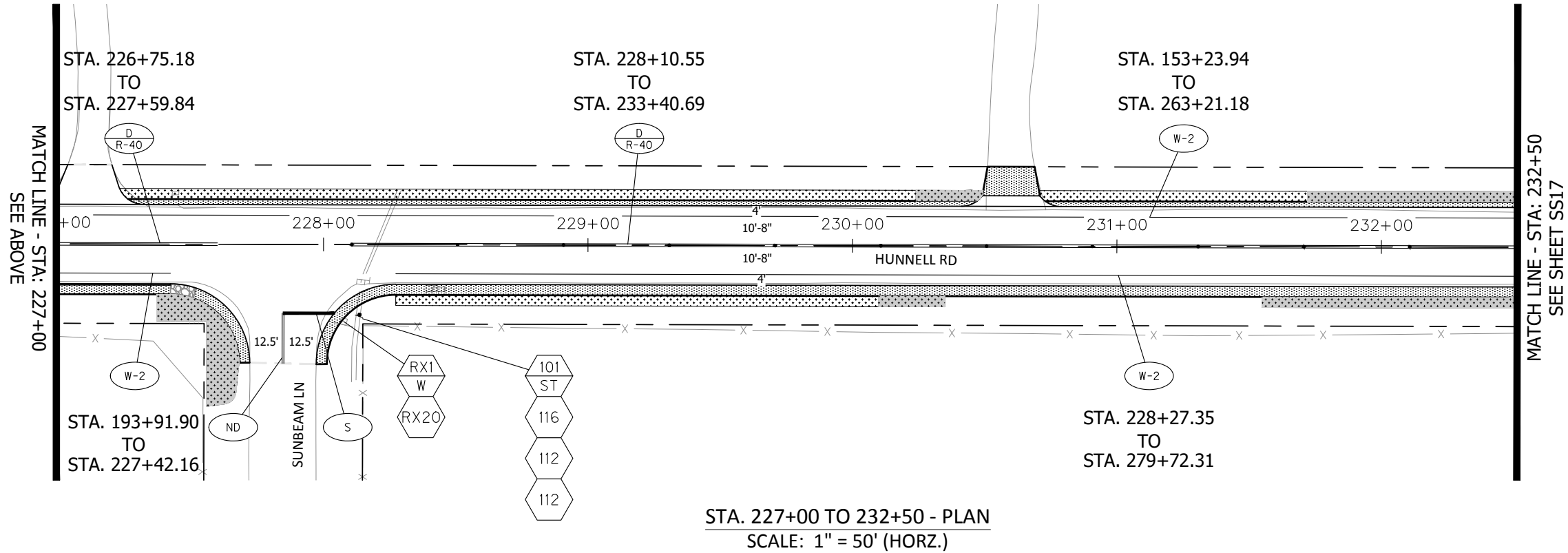
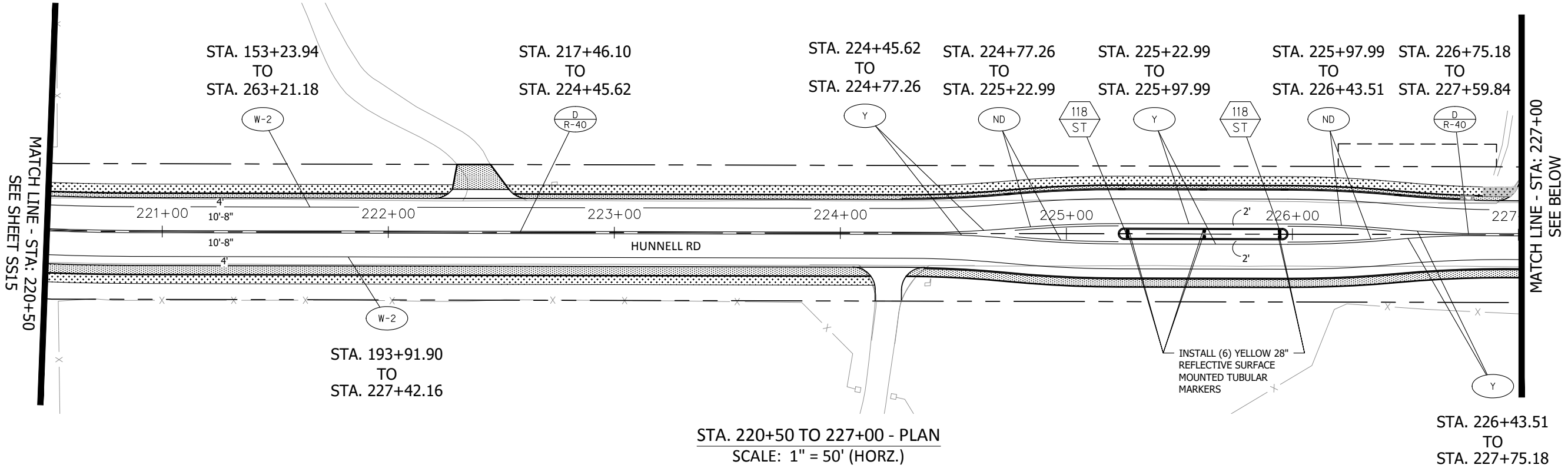
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - STA 209+00 TO 220+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.	SS15
OF	
JOB NO.	DC0-01





**BID SET**

REGISTERED PROFESSIONAL  
ENGINEER  
89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

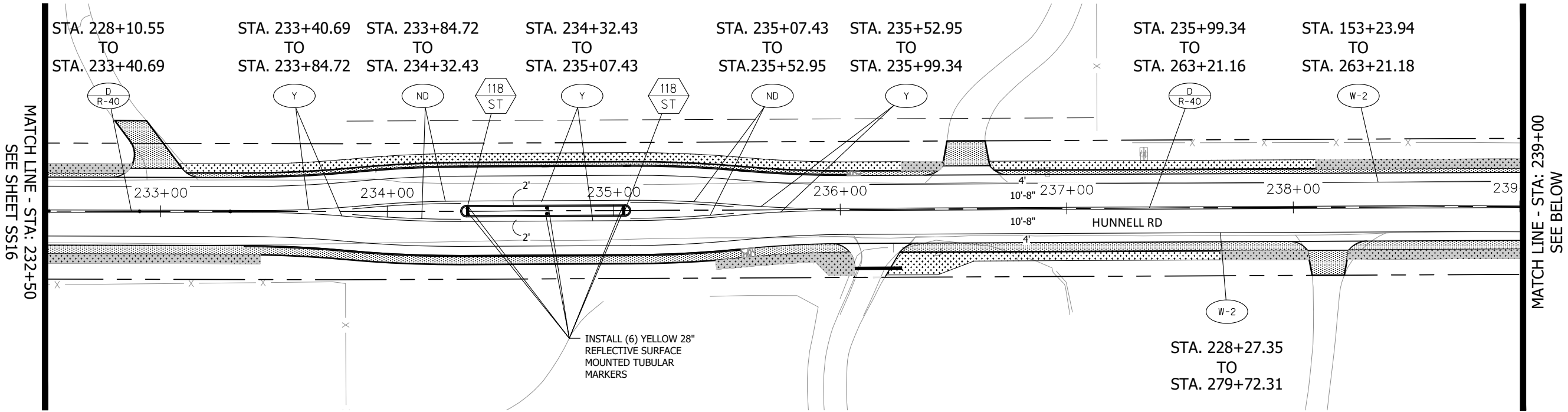
**KITTELSON & ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - STA 220+50 TO 232+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

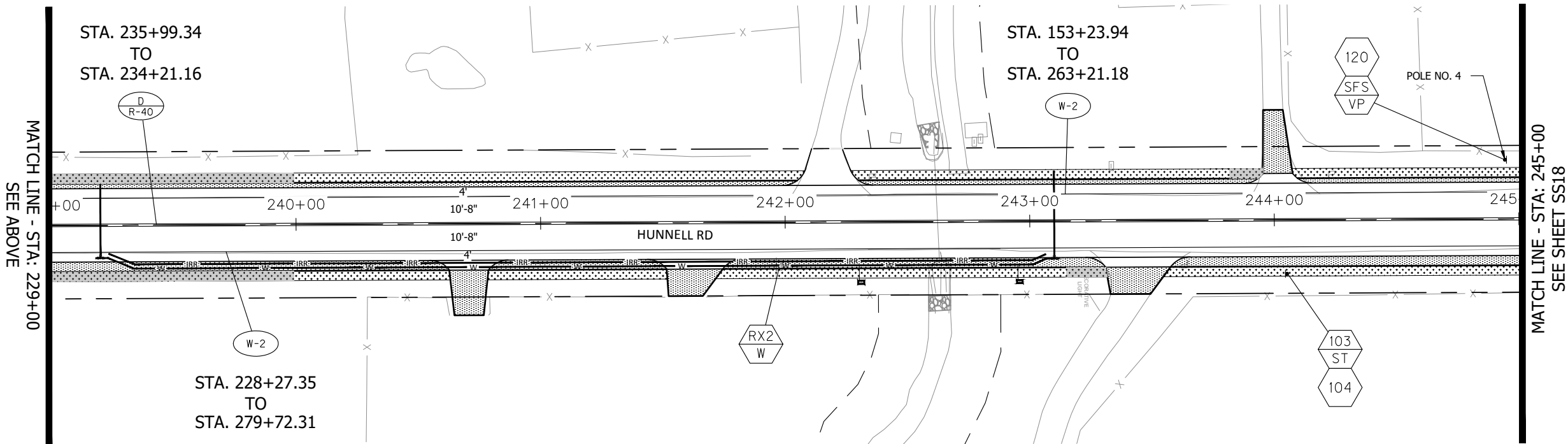
SHEET NO.  
**SS16**  
OF

JOB NO.  
DC0-01

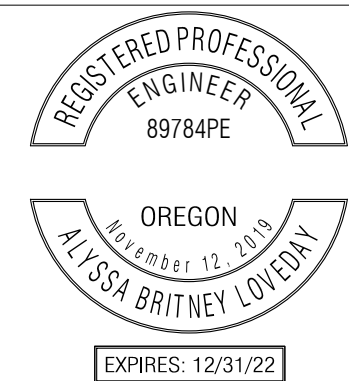
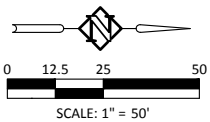




STA. 232+50 TO 239+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 239+00 TO 245+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

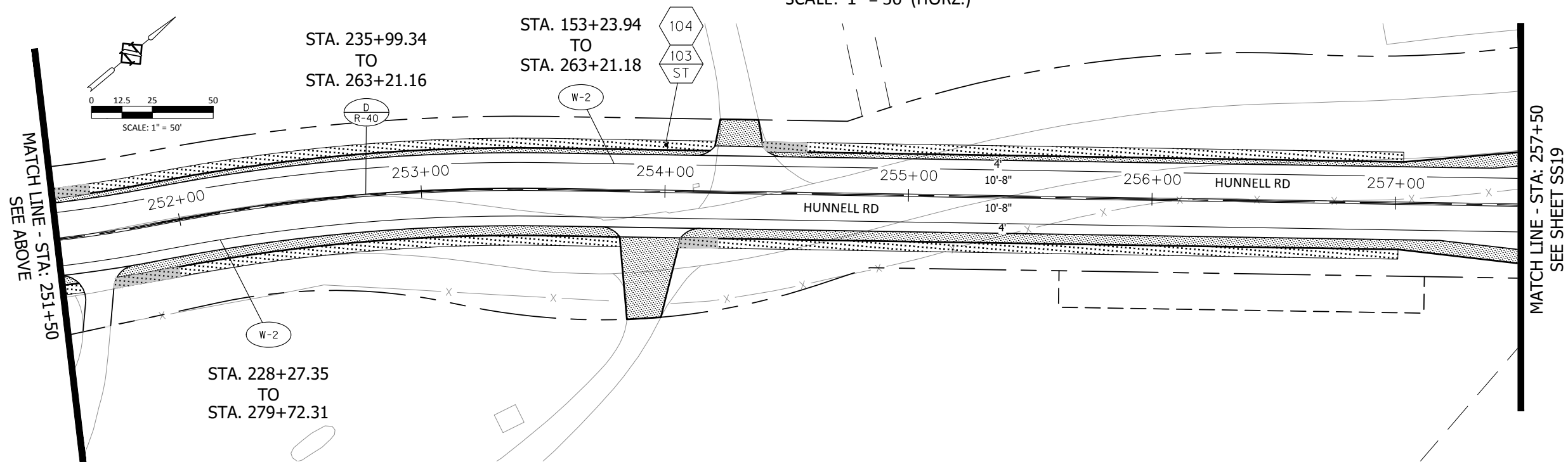
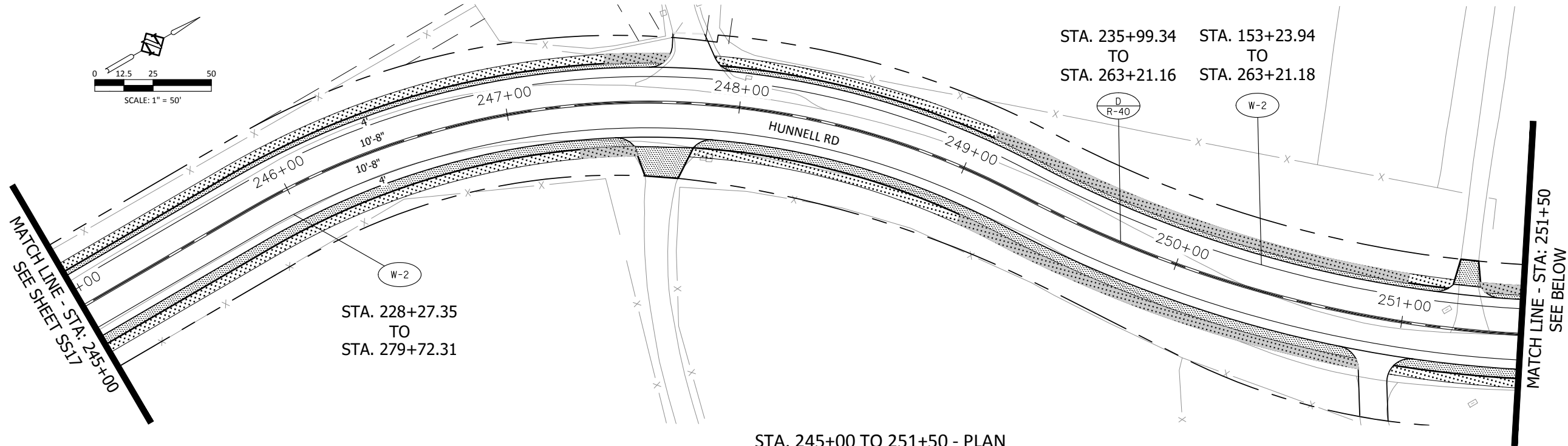
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

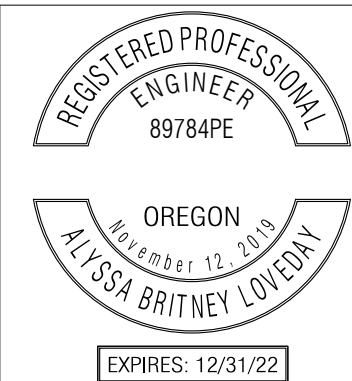
SIGNING & STRIPING PLAN - STA 232+50 TO 245+00  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.	<b>SS17</b>
OF	
JOB NO.	DC0-01





**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

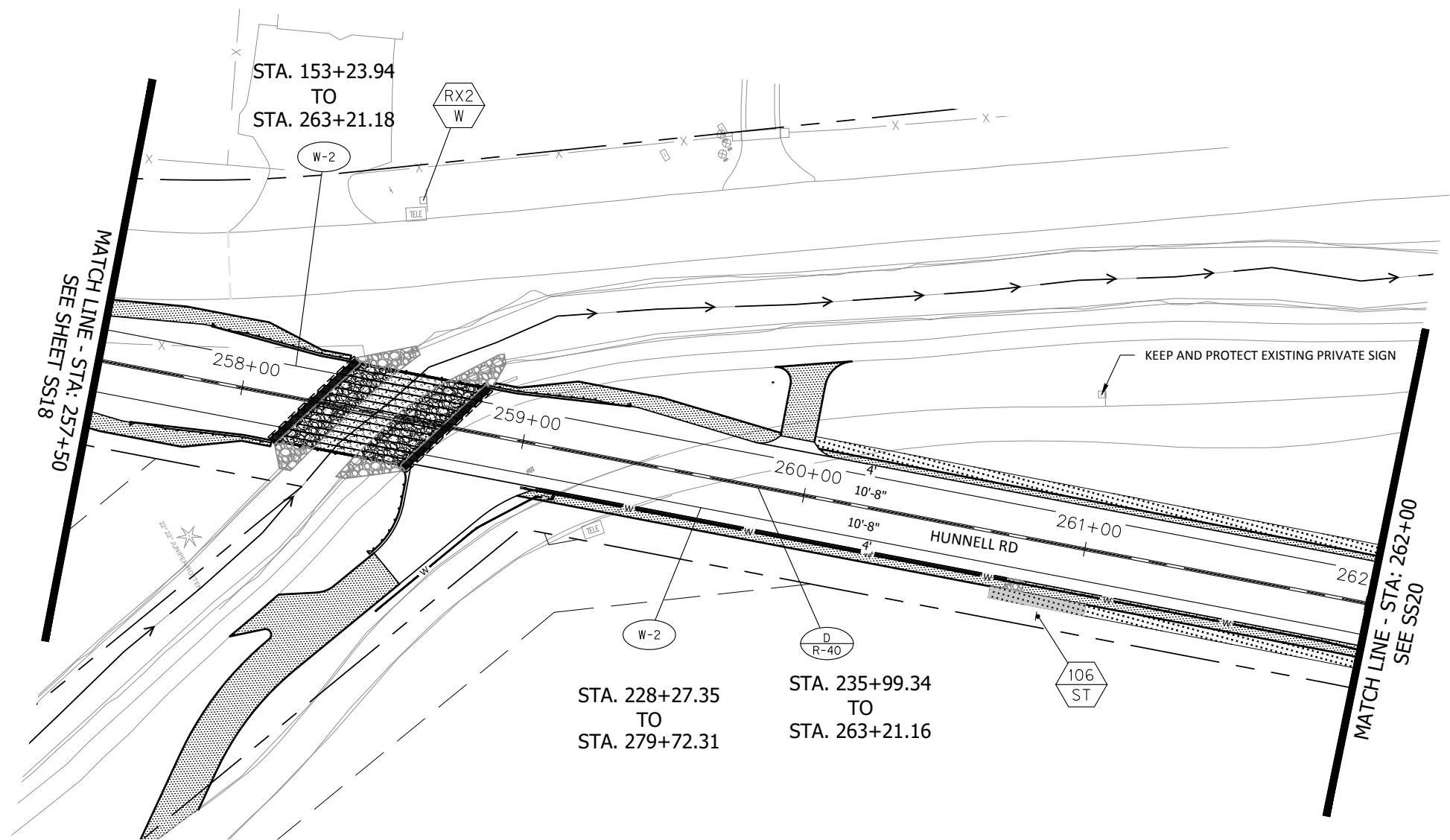
DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON & ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

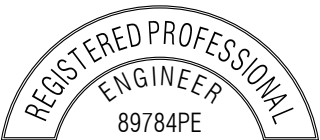
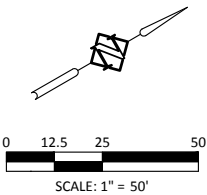
SS18SIGNING & STRIPING PLAN - STA 245+00 TO 257+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.	<b>SS18</b>
OF	
JOB NO.	DC0-01





STA. 257+50 TO 262+00 - PLAN  
SCALE: 1" = 50' (HORZ.)



EXPIRES: 12/31/22

BID SET

SIGNING & STRIPING PLAN - STA 257+50 TO 262+00  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON  
& ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SHEET NO.

**SS19**

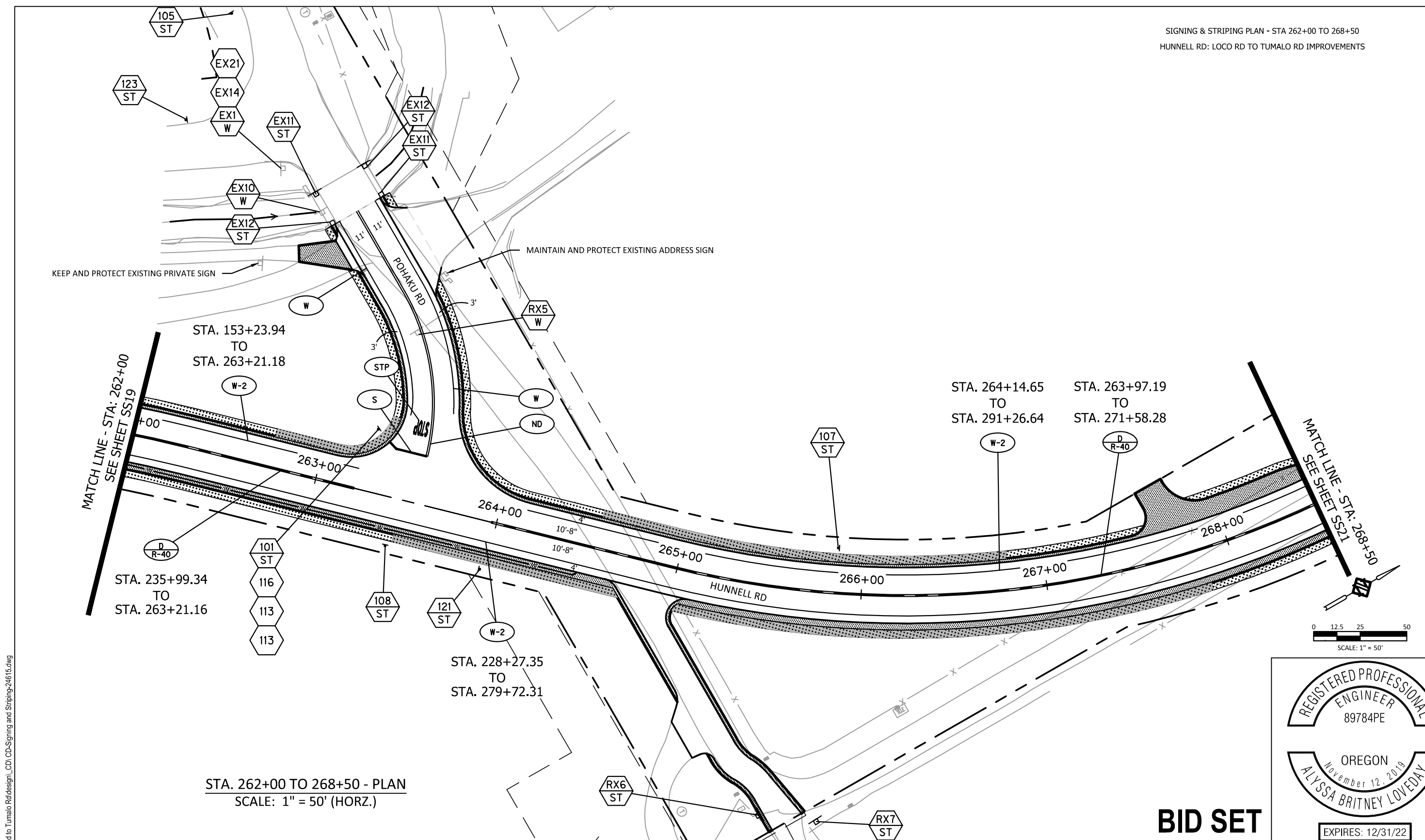
OF

JOB NO.

DC0-01

H:\24\24615 - Hunnell Rd - Loco Rd to Tumalo Rd\design\_CD\CD-Signing and Striping-24615.dwg





STA. 262+00 TO 268+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



DATE	NO.	DESCRIPTION
R E V I S I O N S		

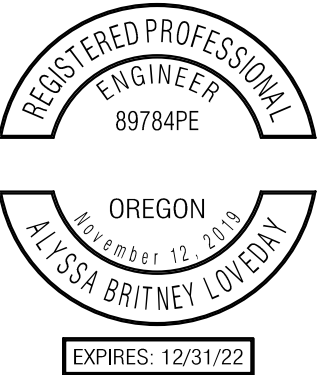
DESIGNED:	ABL
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CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON  
& ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - STA 262+00 TO 268+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

**BID SET**



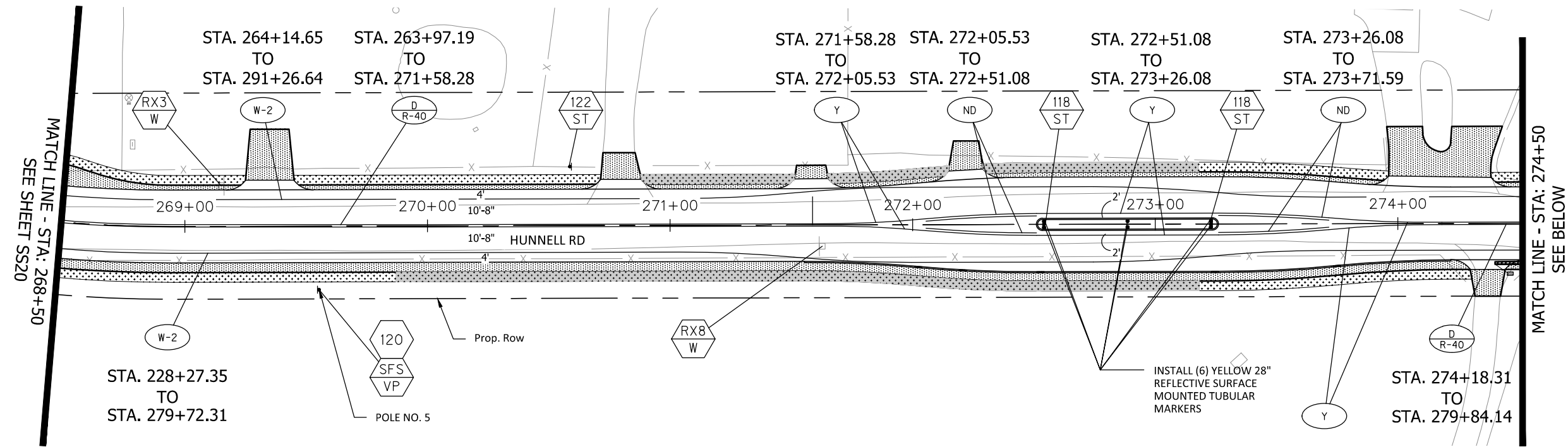
REGISTERED PROFESSIONAL  
ENGINEER  
89784PE  
OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY  
EXPIRES: 12/31/22

SHEET NO.  
**SS20**  
OF

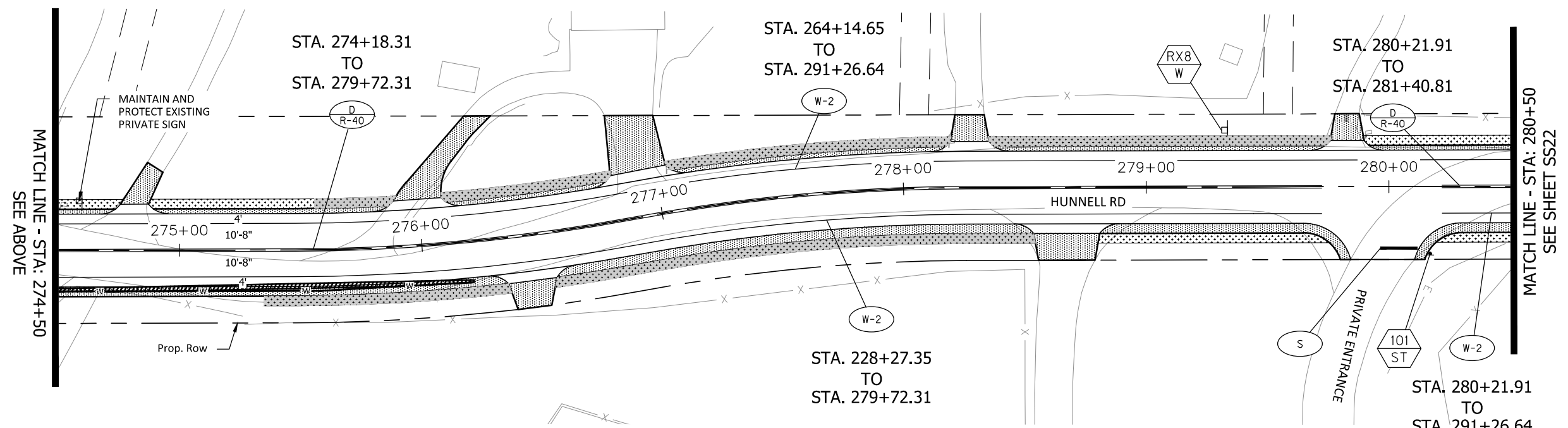
JOB NO.  
DCO-01

H:\24\24615 - Hunnell Rd - Loco Rd to Tumalo Rd\design\_CD\CD-Signing and Striping-24615.dwg

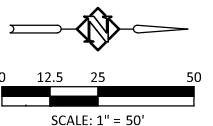




STA. 268+50 TO 274+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 274+50 TO 280+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



EXPIRES: 12/31/22

**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

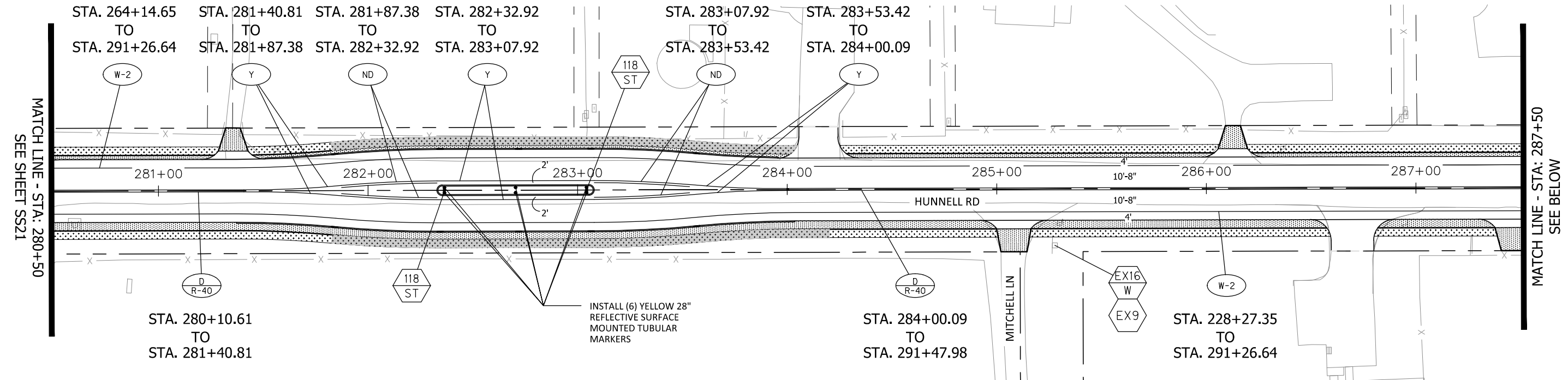
**KITTELSON & ASSOCIATES**  
1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - STA 268+50 TO 280+50  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

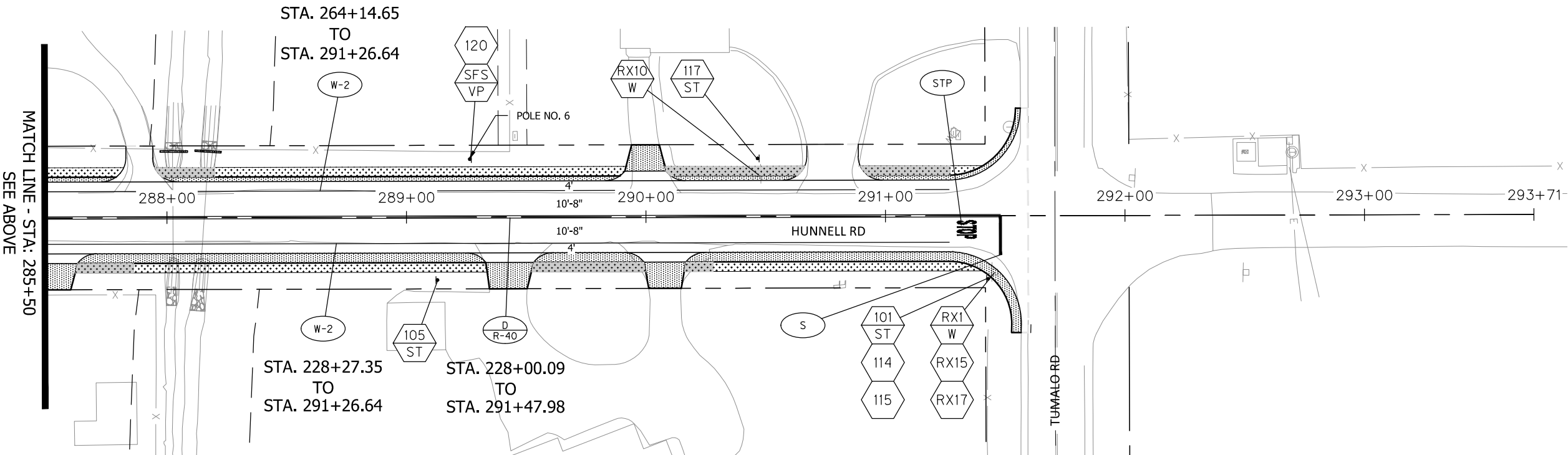
SHEET NO.  
**SS21**  
OF  
JOB NO.  
DC0-01

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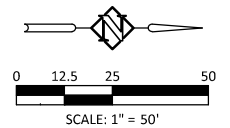




STA. 280+50 TO 287+50 - PLAN  
SCALE: 1" = 50' (HORZ.)



STA. 287+50 TO 293+71 - PLAN  
SCALE: 1" = 50' (HORZ.)



REGISTERED PROFESSIONAL  
ENGINEER  
89784PE

OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

**BID SET**



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

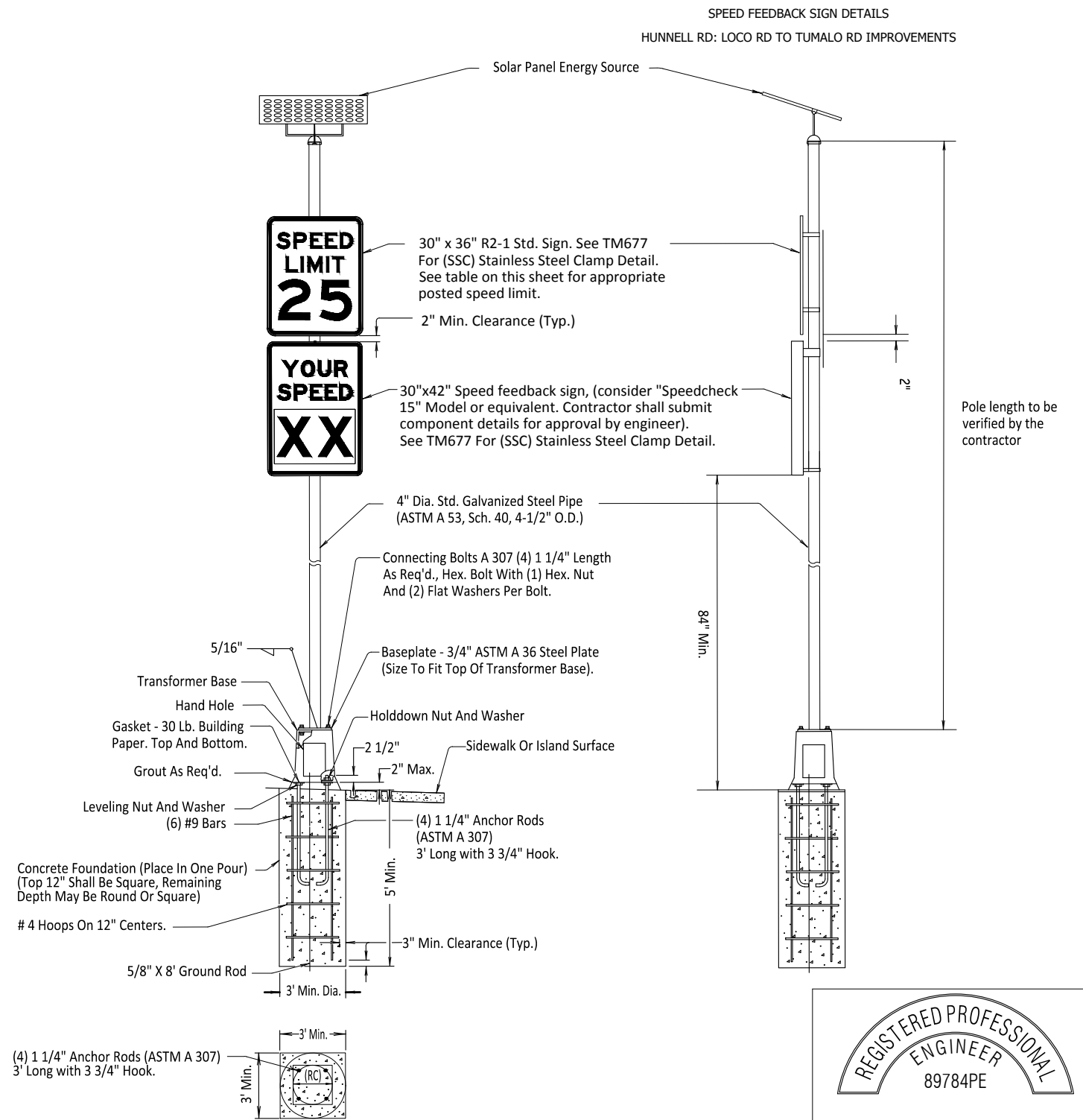
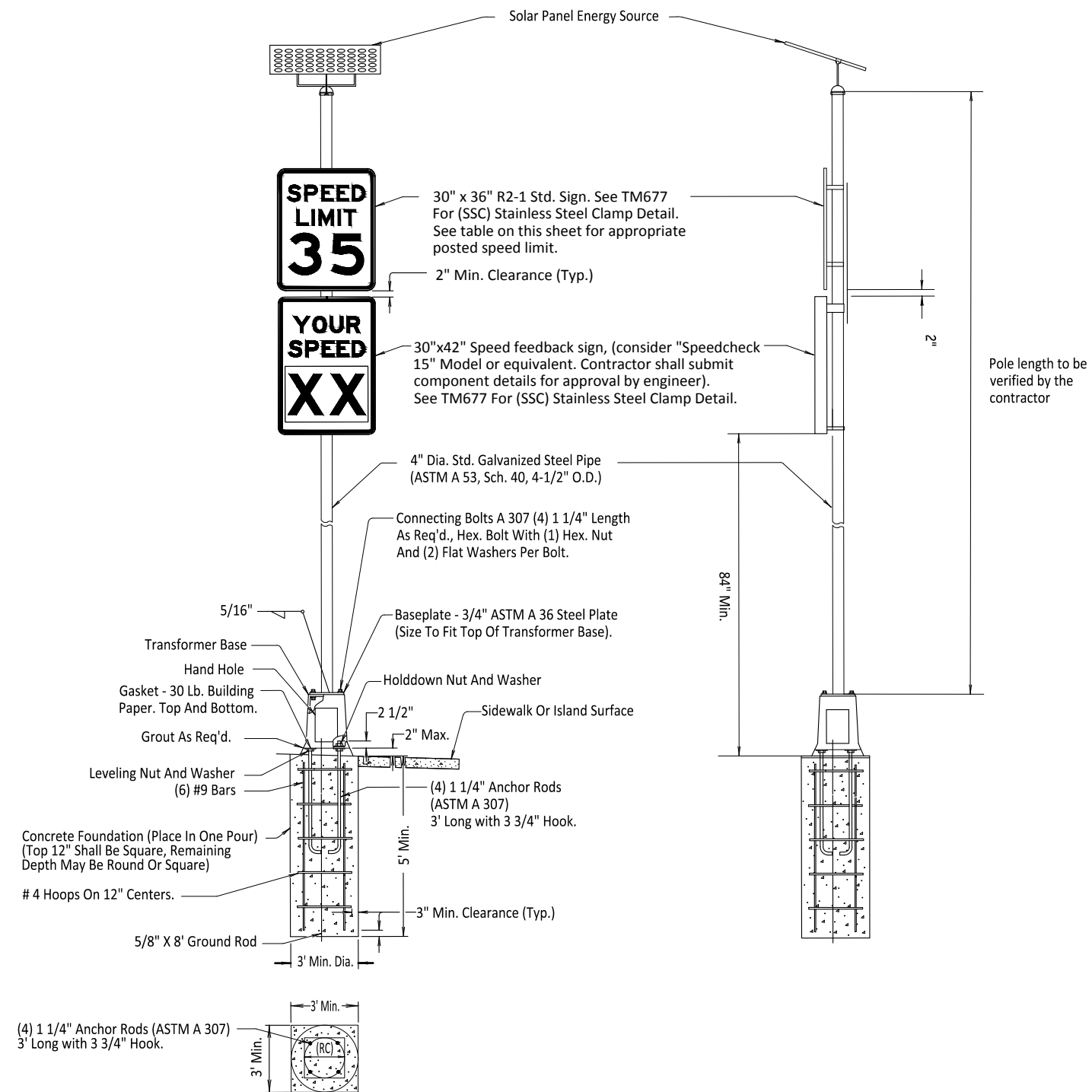
**KITTELSON & ASSOCIATES**

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

SIGNING & STRIPING PLAN - STA 280+50 TO 290+71  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS22**  
OF  
JOB NO.  
DC0-01





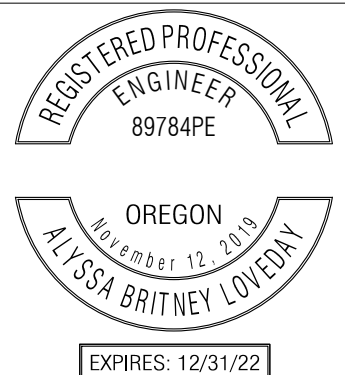
## BID SET



			DESIGNED:	ABL
			DRAWN:	AAC
			CHECKED:	SGB
DATE	NO.	DESCRIPTION	DATE:	10.27.2022
R E V I S I O N S				



SPEED FEEDBACK SIGN DETAILS  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON



SHEET NO.

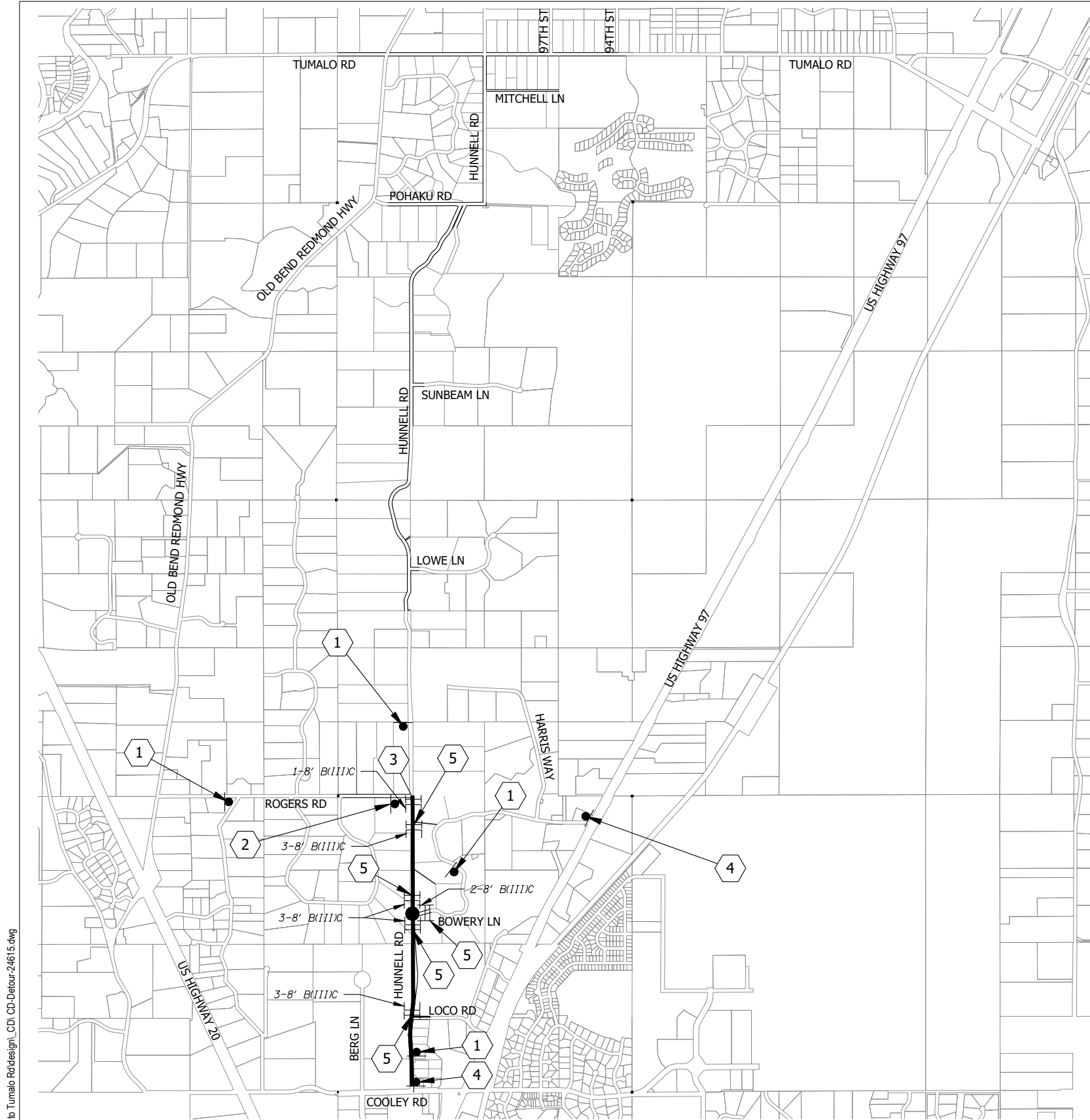
# SS23

F

JOB NO.

0C0-01





ROAD  
CLOSED  
AHEAD

Hunnell Rd

W20-1  
36"x36"

1

DETOUR

←

M4-9(L)  
36"x36"

2

ROAD CLOSED  
LOCAL TRAFFIC ONLY

R11-3  
30"x60"

3

HUNNELL RD  
CLOSED AT  
BOWERY LN  
USE TUMALO RD

-  
42"x60"

4

ROAD  
CLOSED

R11-2  
30"x48"

5

STAGE 1 CONSTRUCTION (LOCO RD TO ROGERS RD)

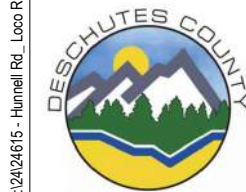
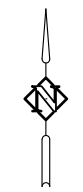
- Road closed during construction, except to local traffic
- Provides option for construction equipment access
- Private SID improvements

LEGEND

- Type III Barricade
- TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Sign
- Swalley Irrigation District (SID) Improvements
- Work Zone Segment

GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

K

KITTELSON  
& ASSOCIATES

1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300

DETOUR PLAN - STAGE 1  
HUNNELL ROAD  
DESCHUTES COUNTY, OREGON

REGISTERED PROFESSIONAL  
ENGINEER  
89784PE  
OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY  
EXPIRES: 12/31/22

SHEET NO.  
SS24  
OF  
JOB NO.  
DC0-01



H:\24\24615 - Hunnell Rd - Loco Rd to Tumalo Rd\design\_CD\CD-Detour-24615.dwg

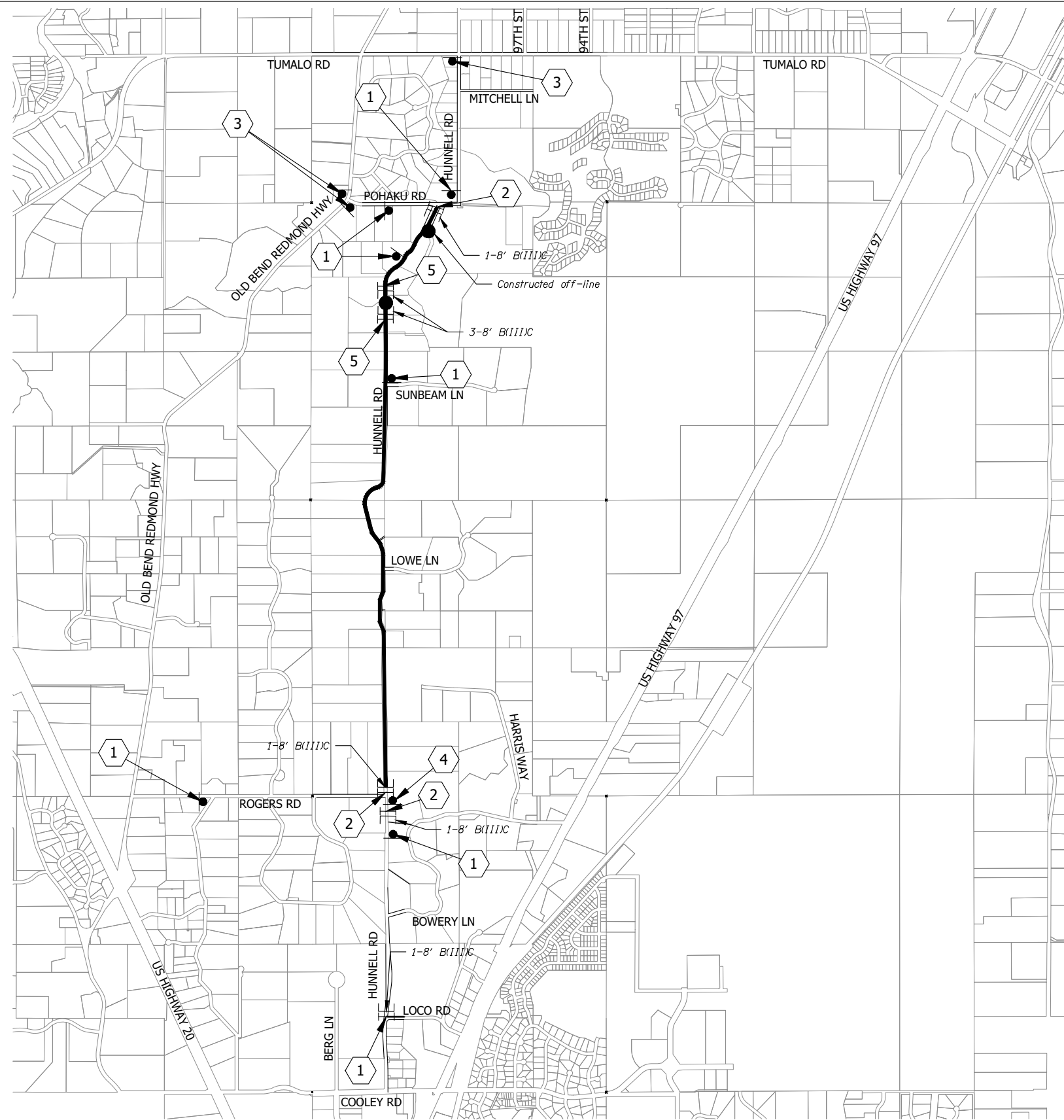



DATE	NO.	DESCRIPTION
R E V I S I O N S		

DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022

**KITTELSON  
& ASSOCIATES**


1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300





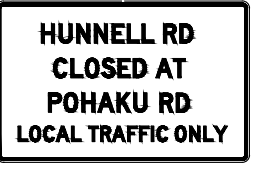
W20-1  
36"x36"

1




R11-3  
30"x60"

2




R11-4  
30"x60"

3



M4-9(L)  
36"x36"

4








R11-2  
30"x48"

5

STAGE 2 CONSTRUCTION (ROGERS RD TO POHAKU RD)

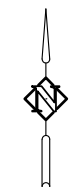
- Road closed during construction, except to local traffic
- Elder Canal crossing
- Main Canal crossing, construct off-line

LEGEND

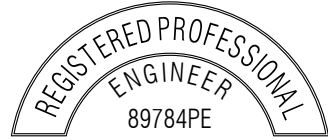
-  Type III Barricade
-  TSS Sign Support As Shown On ODOT Standard Dwg. TM821
-  Post Mounted Sign
-  Swalley Irrigation District (SID) Improvements
-  Work Zone Segment

GENERAL NOTES


- All sign dimensions listed in inches unless otherwise noted.
- Maintain and protect existing signs.
- Ensure a minimum of 100' spacing between existing and temporary signs.



BID SET



REGISTERED PROFESSIONAL  
ENGINEER  
89784PE



OREGON  
November 12, 2019  
ALYSSA BRITNEY LOVEDAY

EXPIRES: 12/31/22

DETOUR PLAN - STAGE 2  
**HUNNELL ROAD**  
DESCHUTES COUNTY, OREGON

SHEET NO.  
**SS25**

OF

JOB NO.  
DC0-01



H:\24\24615 - Hunnell Rd\_Loco Rd to Tumalo Rd\design\_CD\CD-Detour-24615.dwg



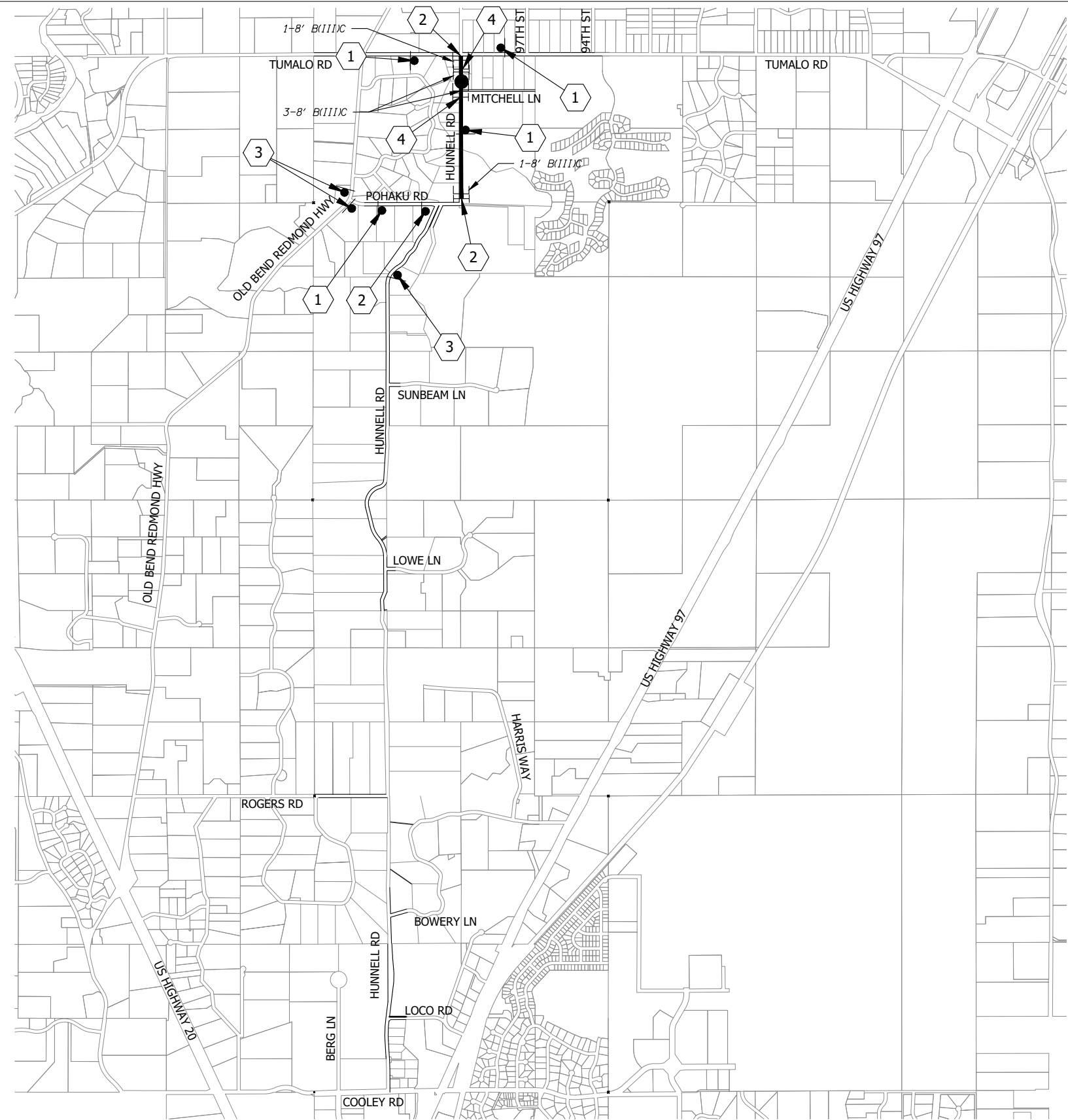
DATE	NO.	DESCRIPTION
R E V I S I O N S		


DESIGNED:	ABL
DRAWN:	AAC
CHECKED:	SGB
DATE:	10.27.2022



**KITTELSON  
& ASSOCIATES**


1001 SW EMKAY DRIVE, #140  
BEND, OR 97702  
P 541.312.8300





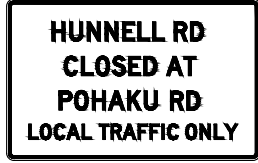
W20-1  
36"x36"

1




R11-3  
30"x60"

2



R11-4  
30"x60"

3



R11-2  
30"x48"

4

STAGE 3 CONSTRUCTION (POHAKU RD TO TUMALO RD)

- Road closed during construction, except to local traffic
- Butte Canal crossing

LEGEND

- Type III Barricade
- TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Sign
- Swalley Irrigation District (SID) Improvements
- Work Zone Segment

GENERAL NOTES

- All sign dimensions listed in inches unless otherwise noted.
- Maintain and protect existing signs.
- Ensure a minimum of 100' spacing between existing and temporary signs.



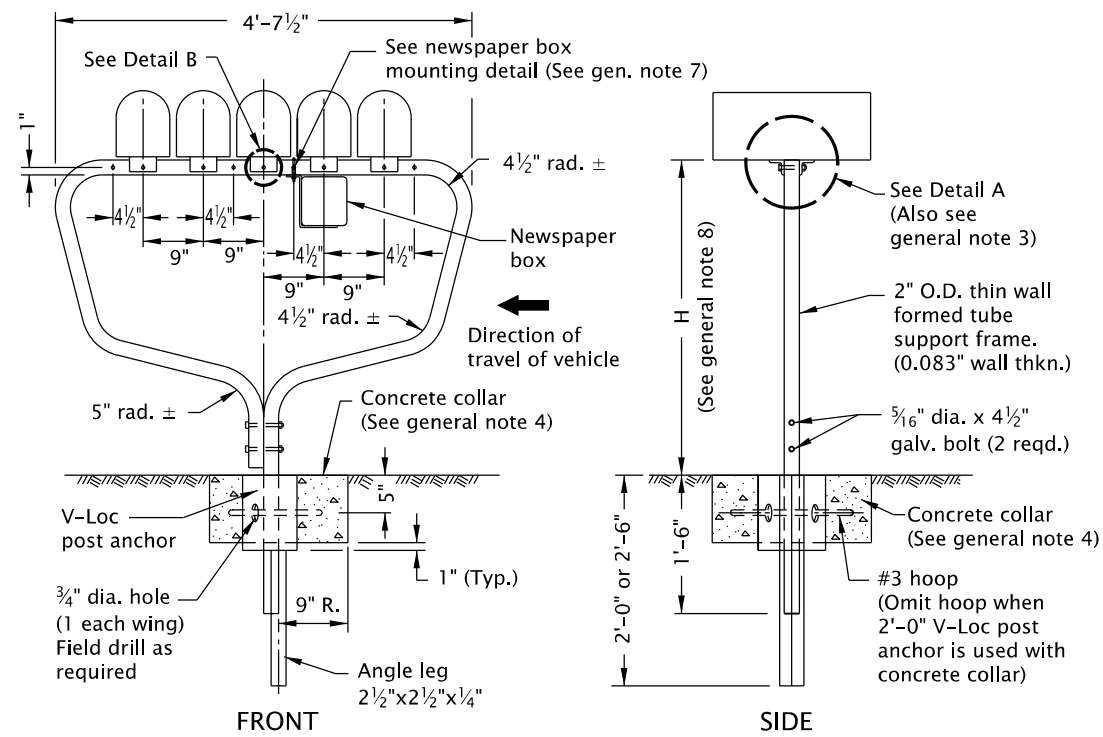
BID SET

DETOUR PLAN - STAGE 3  
HUNNELL ROAD  
DESCHUTES COUNTY, OREGON



SHEET NO.	SS26
OF	
JOB NO.	DC0-01

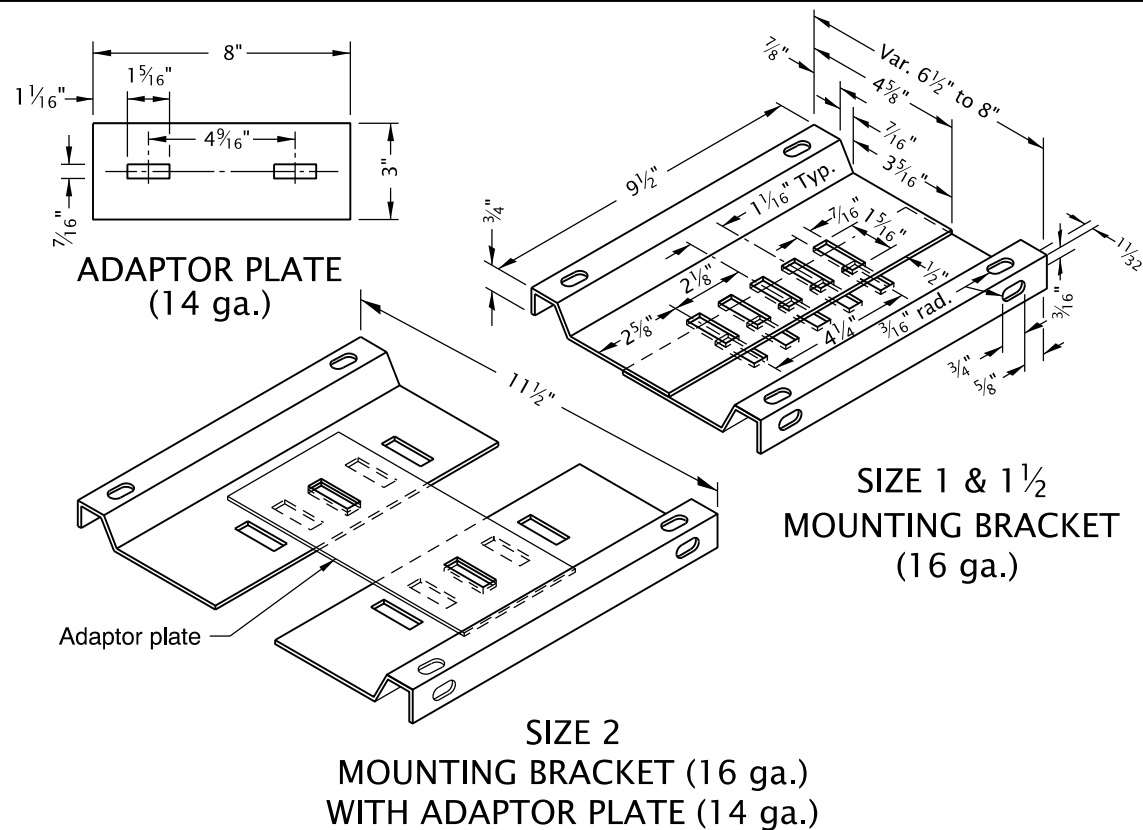




**CONCRETE COLLAR**  
(See general note 4)

**MULTIPLE SUPPORT**

(Supports 5 standard (Sizes 1 & 1 1/2) mailboxes or 4 large (Size 2) mailboxes)



**ADAPTOR PLATE**  
(14 ga.)

**SIZE 1 & 1 1/2**  
**MOUNTING BRACKET**  
(16 ga.)

**SIZE 2**  
**MOUNTING BRACKET (16 ga.)**  
**WITH ADAPTOR PLATE (14 ga.)**

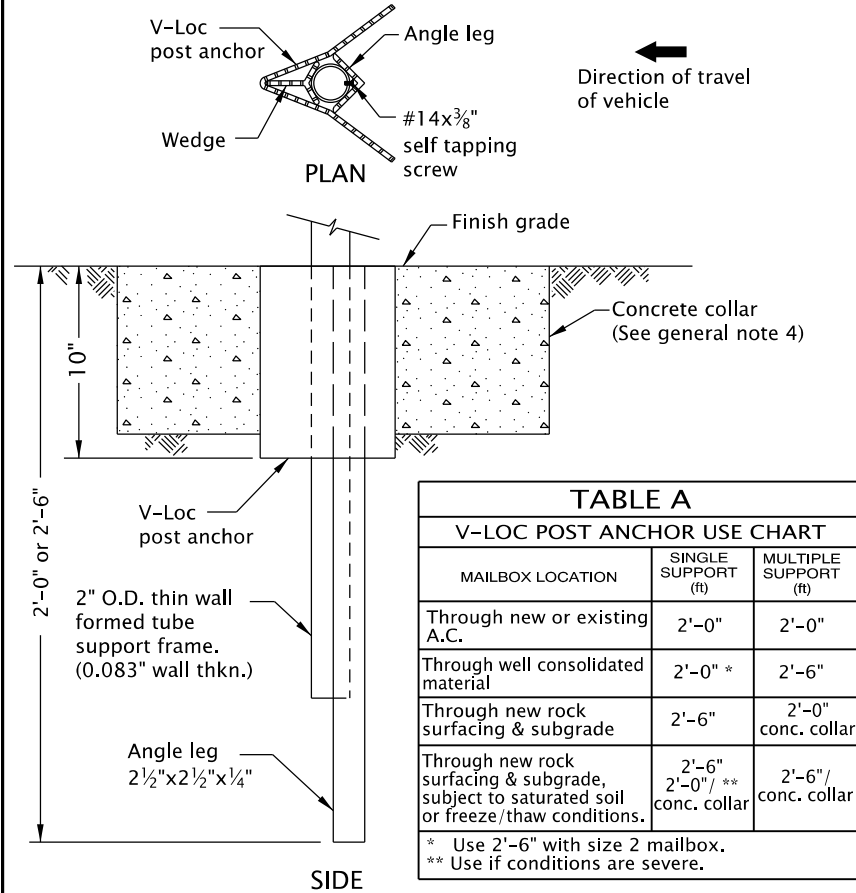
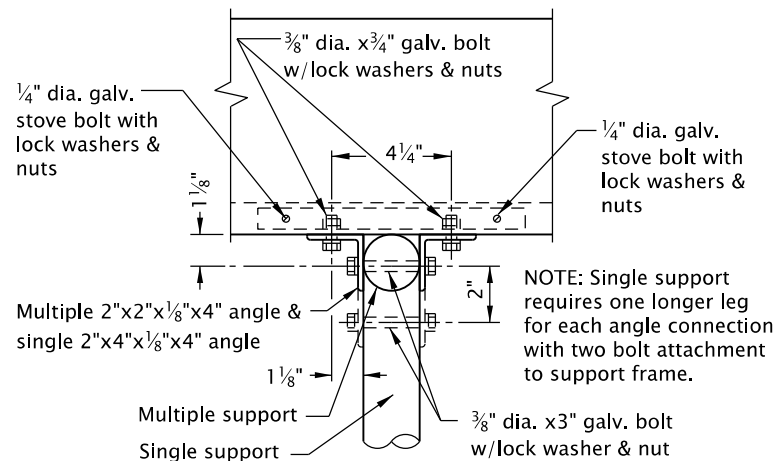


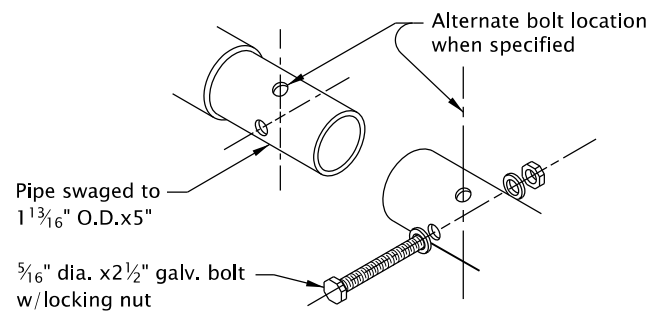
TABLE A V-LOC POST ANCHOR USE CHART		
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/thaw conditions.	2'-6" / 2'-0" ** conc. collar	2'-6" / conc. collar

\* Use 2'-6" with size 2 mailbox.  
\*\* Use if conditions are severe.

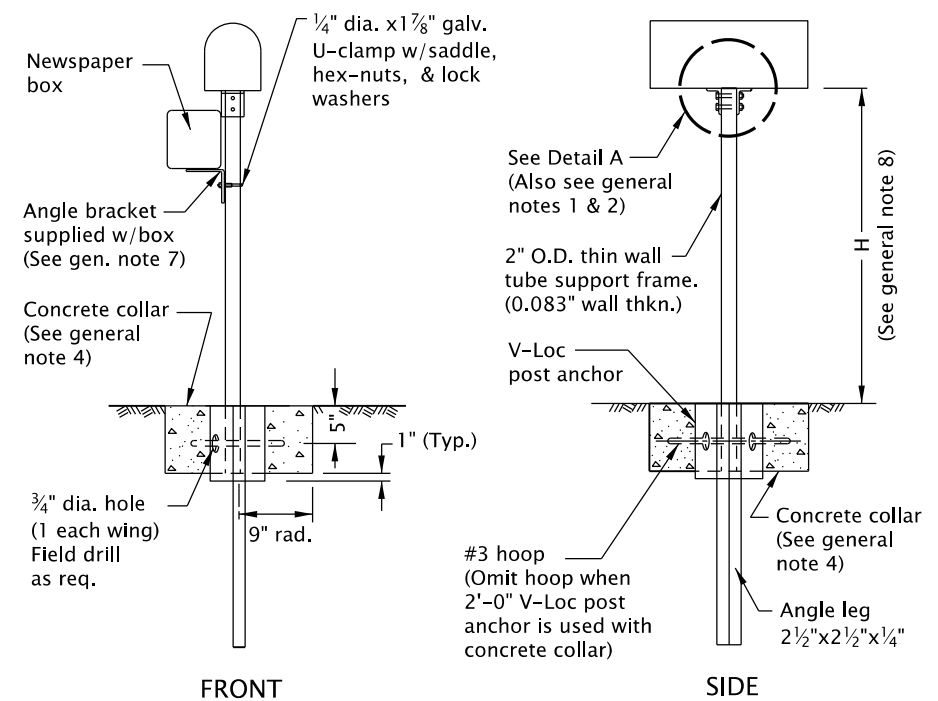
**POST MOUNTING SOCKET**



**DETAIL A**



**DETAIL B**



**SINGLE SUPPORT**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

- Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
- All holes in the tube support frame are to be predrilled by the manufacturer.
- Size 2 mailbox mounted on a multiple support requires 2 each 3/8" dia. x 5/8" galv. bolts with lock washers and nuts to attach the adaptor plate to the mounting bracket. The unit will then require 4 angle connections to attach to the formed tube support frame. See Detail A.
- Provide concrete collar when any of the following conditions exist:
  - when required in Table A
  - when required by project plans
  - as directed by the EngineerConcrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
- Other proprietary products available as listed in ODOT's QPL.
- For mailbox installation locations, see Std. Dwg. RD101 and project plans.
- For Newspaper Box Mounting Detail, see Std. Dwg. RD101.
- Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
- See project plans for detail not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

**MAILBOX SUPPORT**

2021

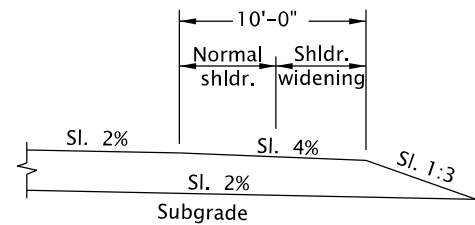
DATE	REVISION	DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

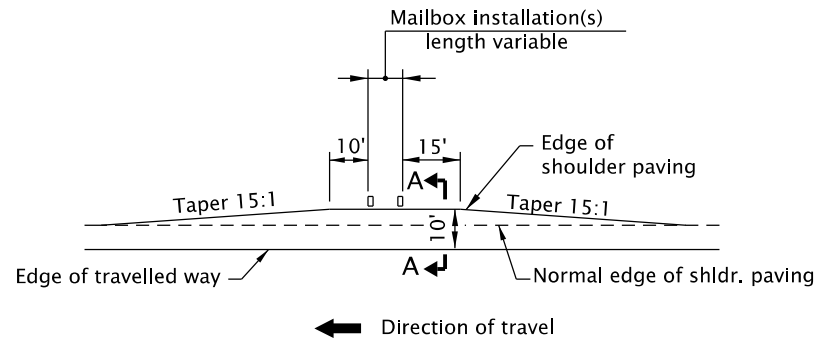


rd101.dgn 20-JUL-2020

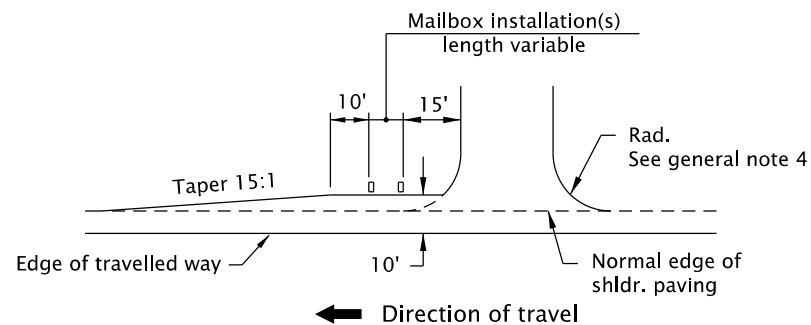
RD101



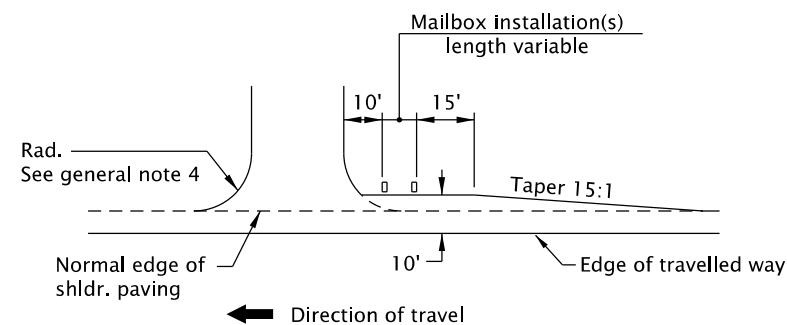
SECTION A-A



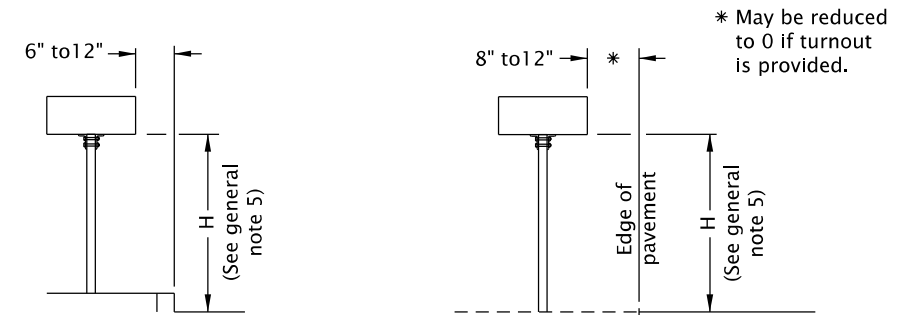
MAILBOX SERVICE TURNOUT



MAILBOX SERVICE TURNOUT AFTER APPROACH



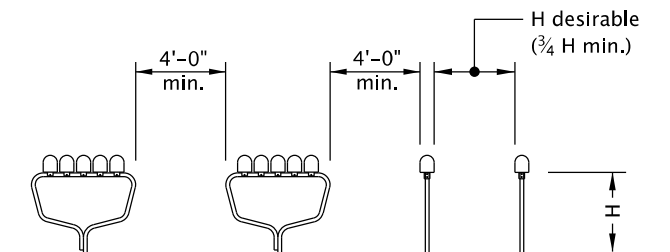
MAILBOX SERVICE TURNOUT BEFORE APPROACH



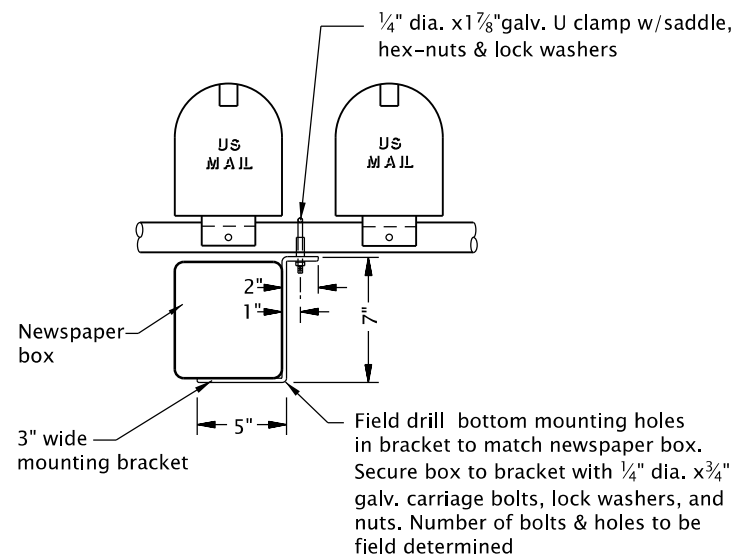
CURBED SECTION

NON-CURBED SECTION

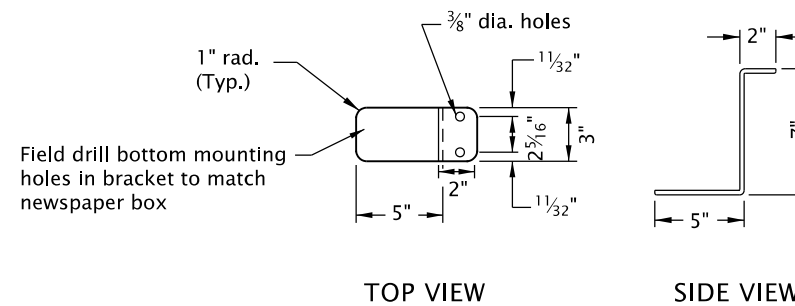
PLACEMENT



SUPPORT SPACING



NEWSPAPER BOX  
MOUNTING DETAIL



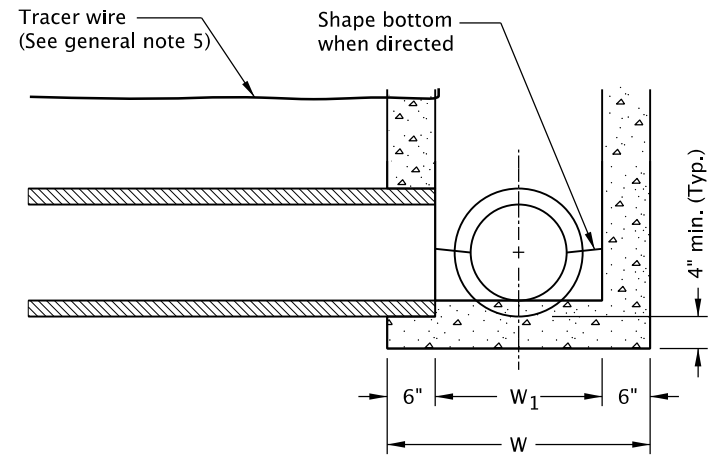
NEWSPAPER BOX  
MOUNTING BRACKET DETAIL  
(14 ga.)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

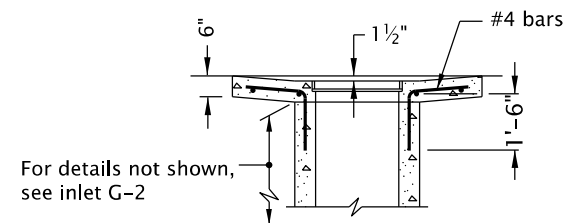
1. All holes in the tube support frame are to be predrilled by the manufacturer.
2. Other proprietary products available as listed in ODOT's QPL.
3. For mailbox support details, see Std. Dwg. RD100.
4. For approach details, see Std. Dwg. RD715.
5. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
6. See project plans for details not shown.

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>25-JUL-2017</u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>MAILBOX INSTALLATION</b>	
		2021	
		DATE	REVISION DESCRIPTION





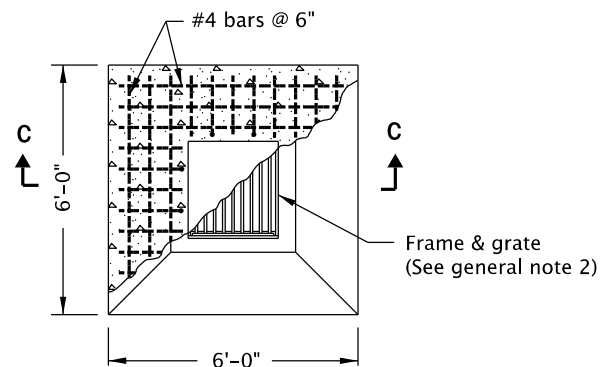
DETAIL A  
WITHOUT SUMP



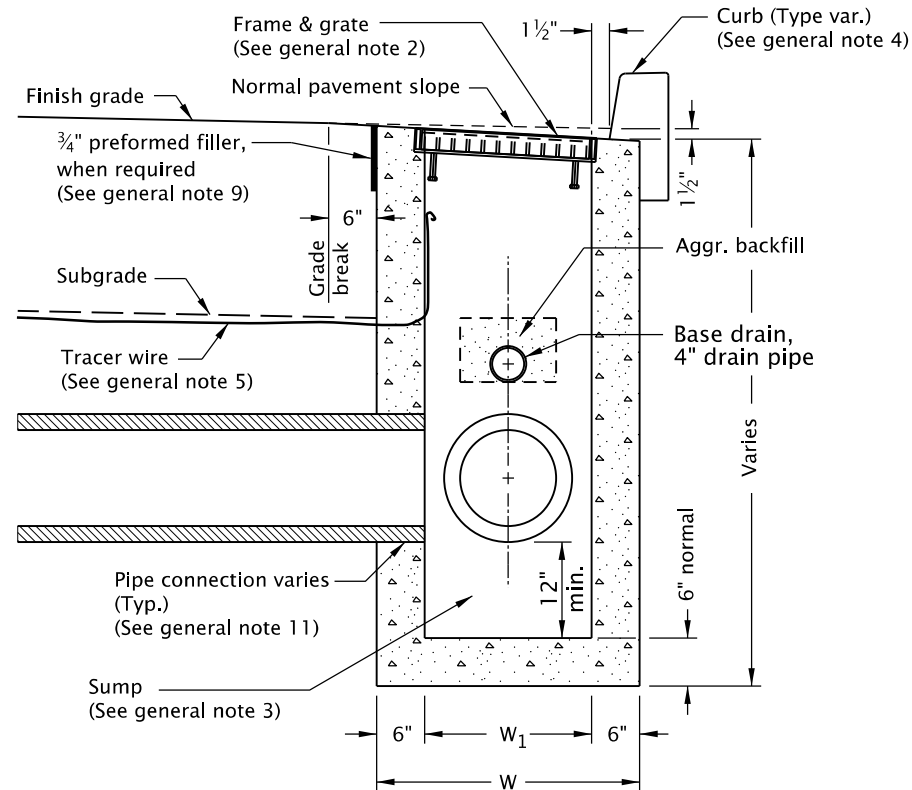
SECTION C-C

NOTE:

All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise



PLAN  
TYPE G-2MA

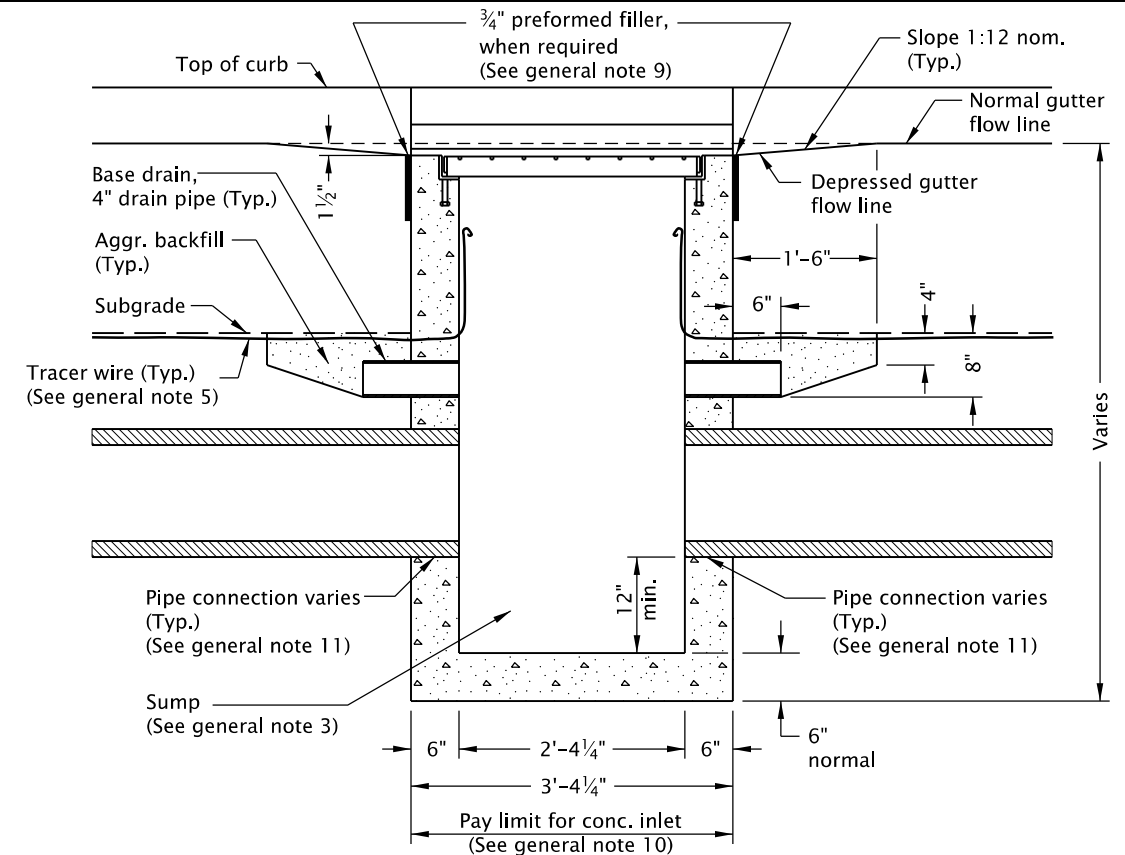


SECTION B - B

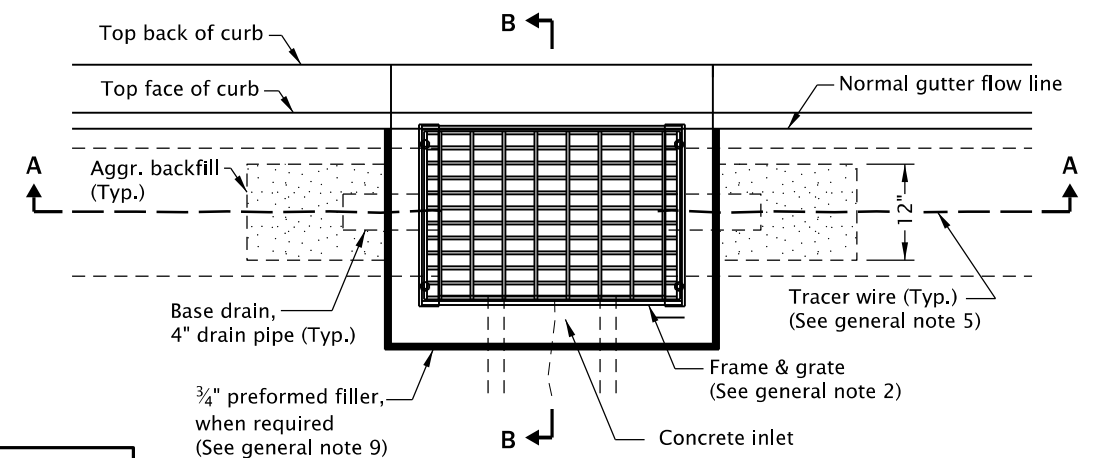
TABLE A		
INLET TYPE	W	W <sub>1</sub>
G-1	2'-8 7/8"	1'-8 7/8"
G-2, G-2M, G-2MA	3'-3 3/8"	2'-3 3/8"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or 1/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
- Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.  
Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.  
For frame and grate details, see Std. Dwg. RD365.
- Provide sump only where shown on plans, and allowed by jurisdiction. See Detail A for inlet without sump.
- For curb details, see Std. Dwgs. RD700 & RD701.
- See Std. Dwg. RD336 for tracer wire details, or approved alternate.
- Max. pipe diameter varies with pipe material.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
- All concrete shall be commercial grade concrete.
- 3/4" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
- See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
- See Std. Dwg. RD339 for pipe to structure connections.



SECTION A - A



PLAN  
TYPE G-1, G-2, G-2M

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

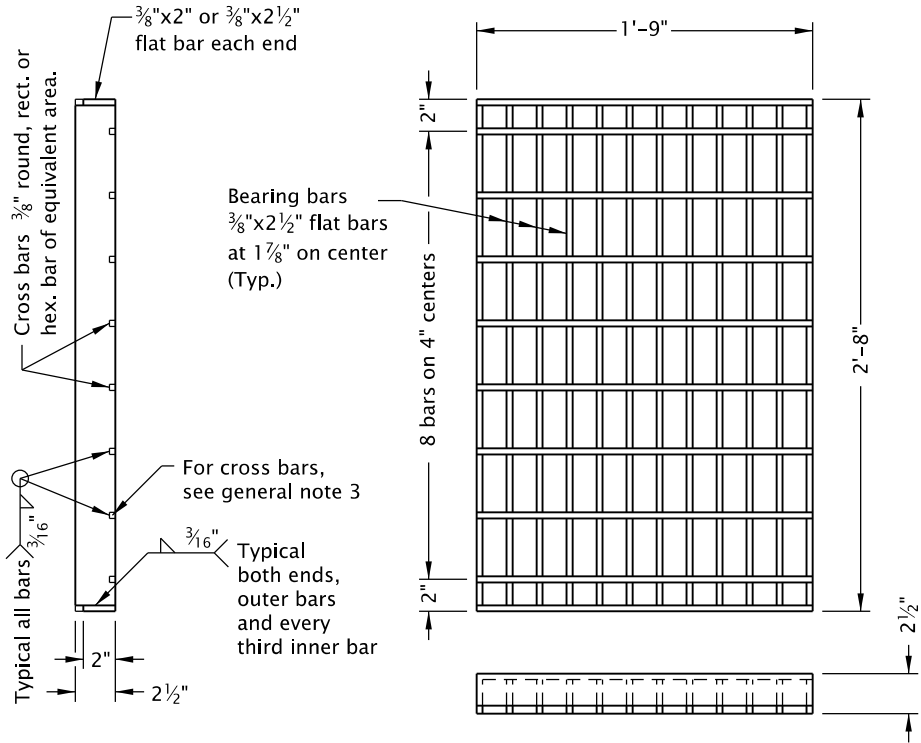
OREGON STANDARD DRAWINGS  
CONCRETE INLETS  
TYPE G-1, G-2, G-2M, & G-2MA

2021

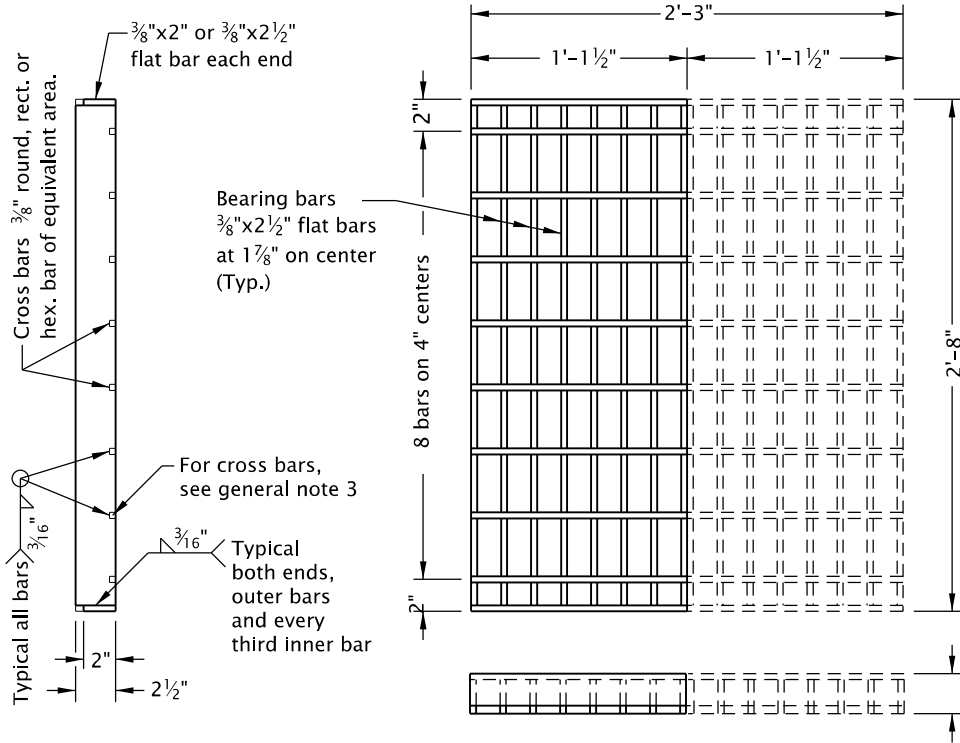
DATE	REVISION	DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

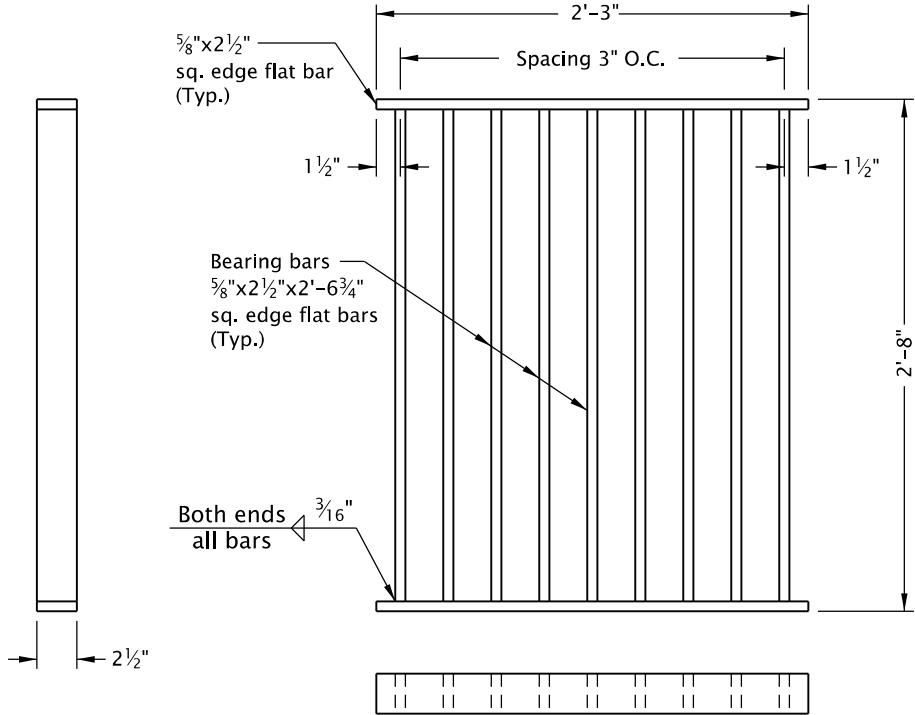




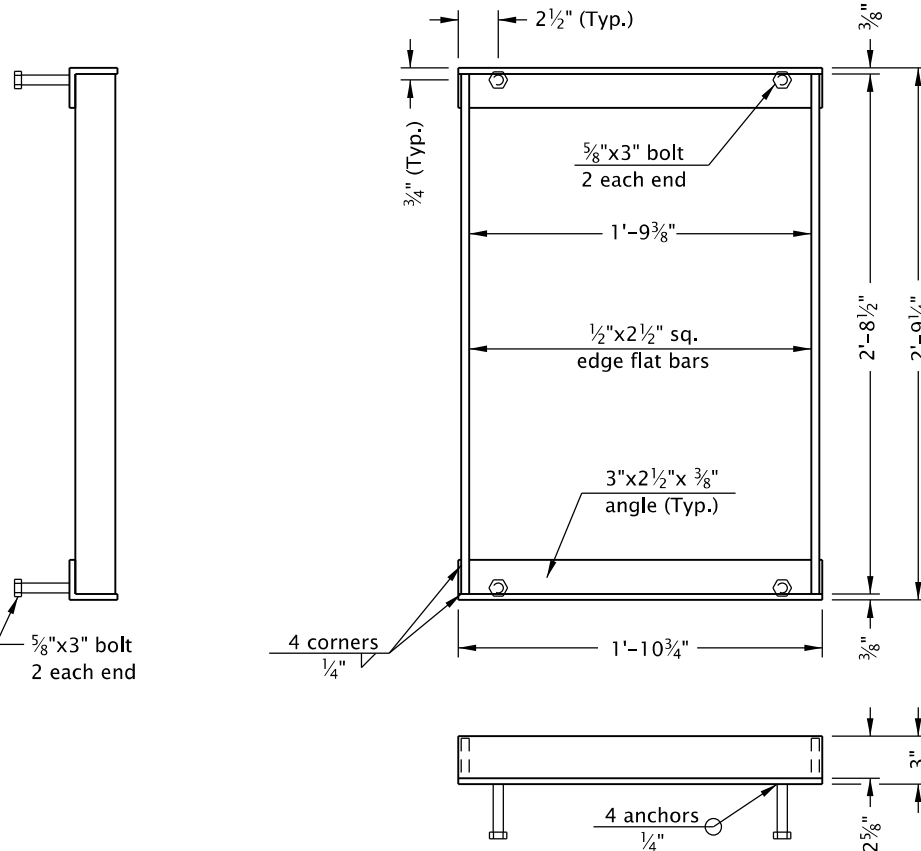
**G-1, CG-1 GRATE  
(TYPE 2)**  
(Bicycle-safe)



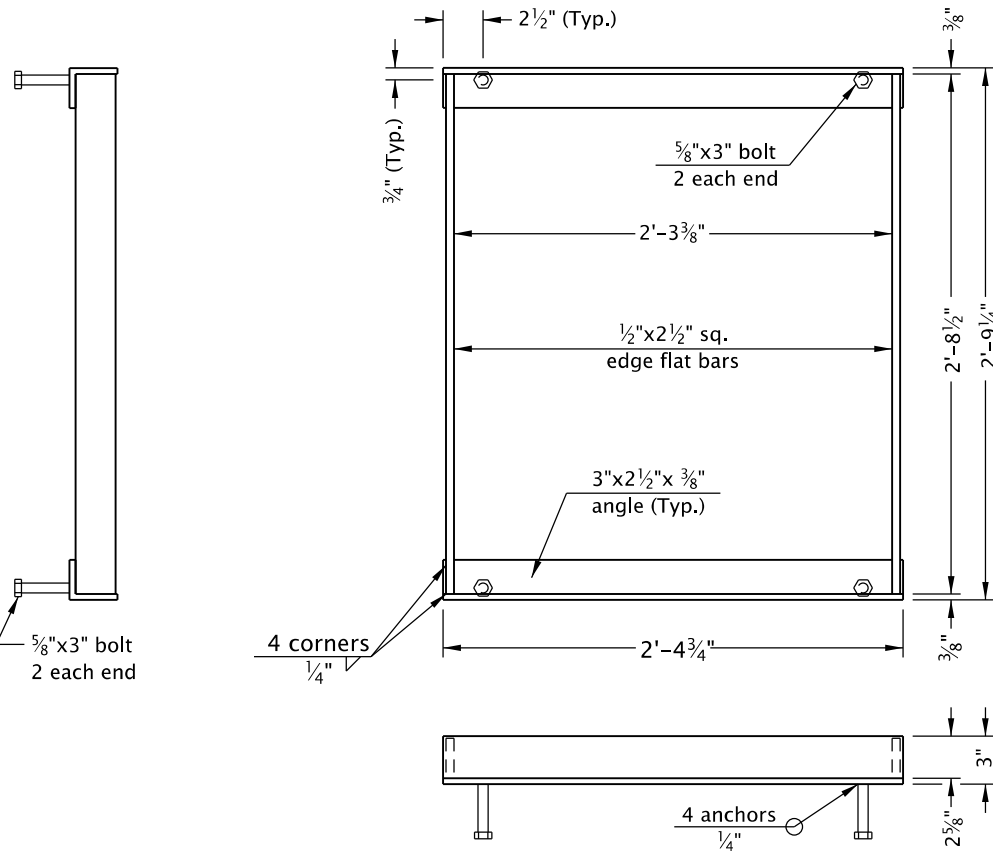
**G-2, G-2M, G-2MA, CG-2 GRATE  
(TYPE 2)**  
(Bicycle-safe)  
(2 grates required per inlet, as shown)



**G-2, G-2M, G-2MA, CG-2 GRATE  
(TYPE 1)**  
(See general note 2)



**G-1, CG-1 FRAME**



**G-2, G-2M, G-2MA, CG-2 FRAME**

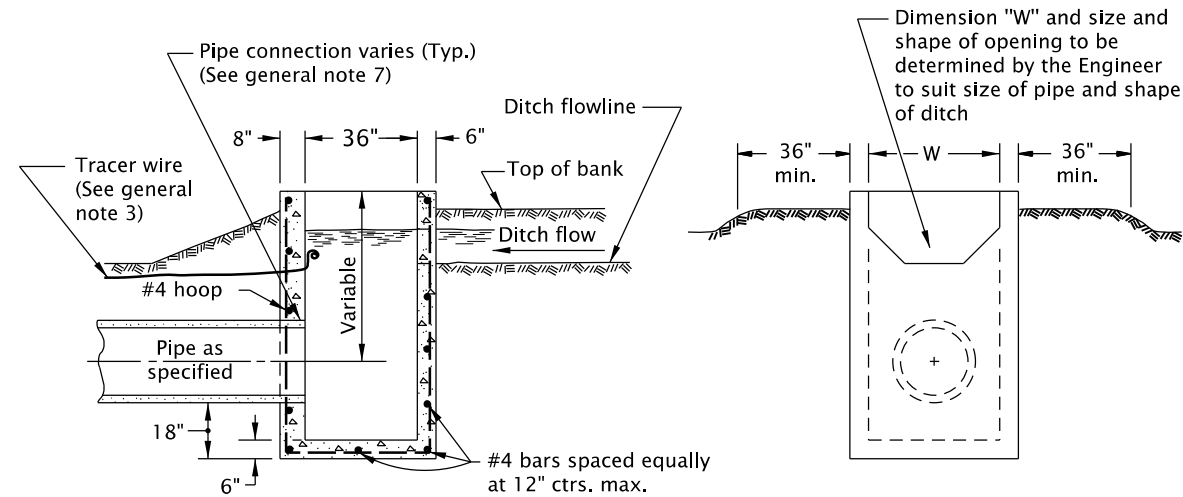
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- For inlet details, see appropriate inlet standard drawing(s).
- Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
- 3/8" cross bars shall be flush with the top of grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
- Hot dip galvanize after fabrication.
- Cast iron grate and frame are acceptable alternates. See ODOT's QPL.

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>14-JUL-2014</u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>FRAMES &amp; GRATES FOR CONCRETE INLETS</b>	
		2021	
		DATE	REVISION

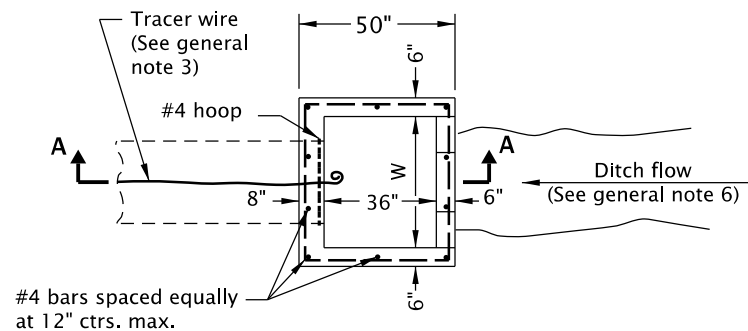


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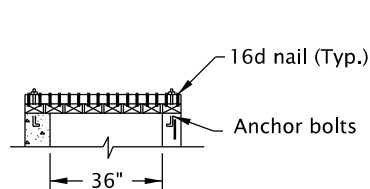
SECTION A-A

END VIEW

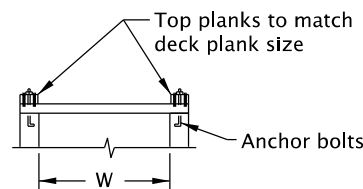


PLAN

SIPHON BOX

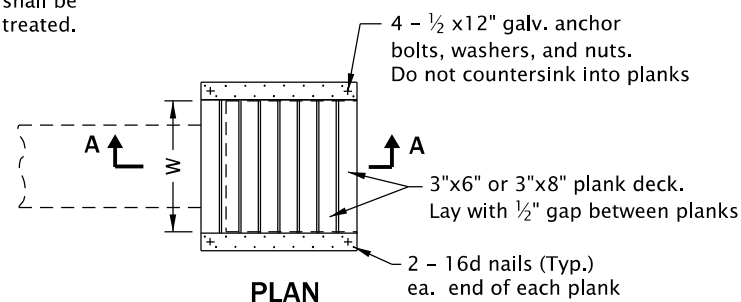


SECTION A-A



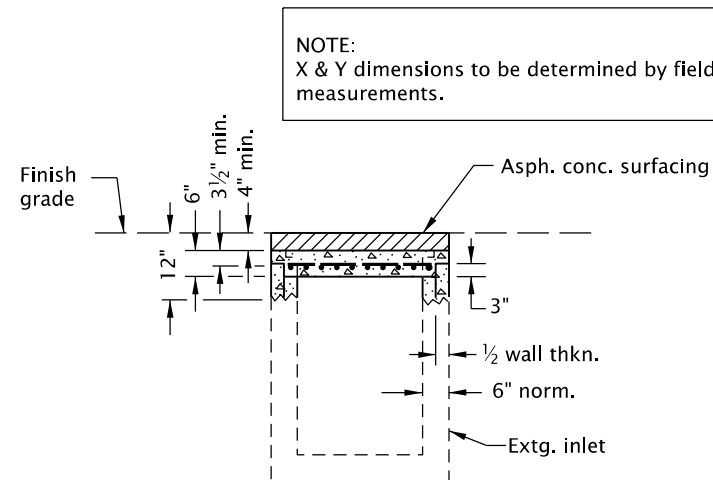
END VIEW

NOTE:  
All wood shall be  
pressure treated.



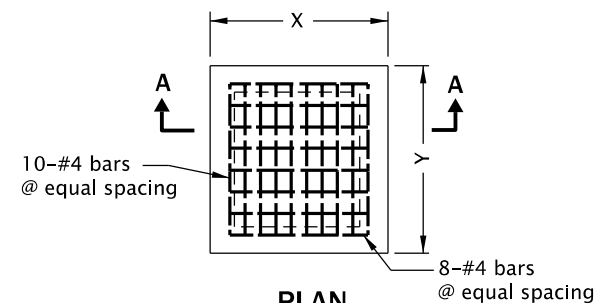
PLAN

SIPHON BOX COVER  
SIPHON BOX AND COVER



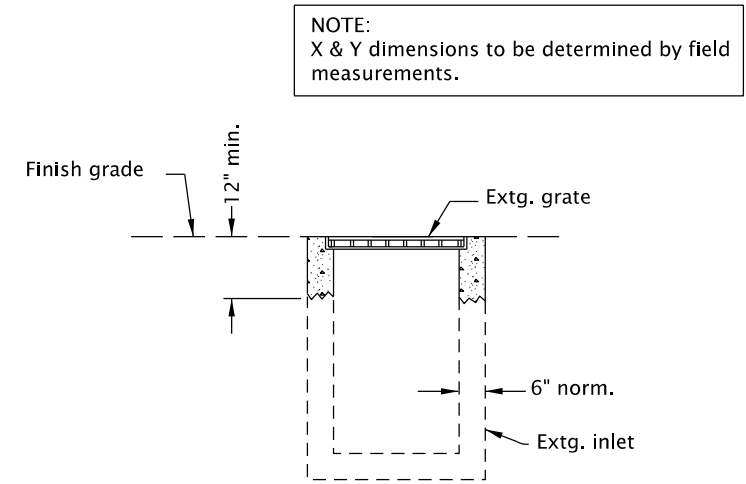
SECTION A-A

Place bars in concrete inlet  
cap 1 1/2" min. clear of bottom  
face of concrete and 3 1/2" min.  
clear of top face of concrete.

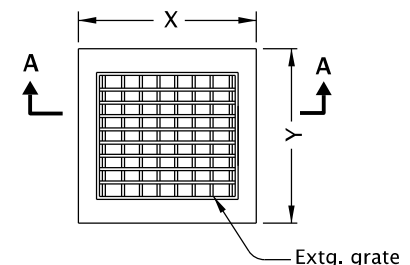


PLAN

CONCRETE INLET CAP



SECTION A-A



PLAN

ADJUST EXISTING INLET  
(For details not shown, see Std. Dwg. RD366)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All reinforcement to be placed a minimum of 2" clear of nearest face of concrete unless otherwise shown or noted.
2. If metal frame and grate is reqd, conform to details for Type 1 grate. Size frame and grate to match dimensions of siphon box used, see Std. Dwg. RD364.
3. See Std. Dwg. RD336 for tracer wire details.
4. Max. pipe diameter varies with pipe material.
5. All precast products shall conform to requirements of ASTM C913.
6. Alignment of ditch, siphon box, and pipe varies, see project plans.
7. See Std. Dwg. RD339 for pipe to structure connections.

CALC. BOOK NO. N/A

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

SDR DATE 14-JUL-2014

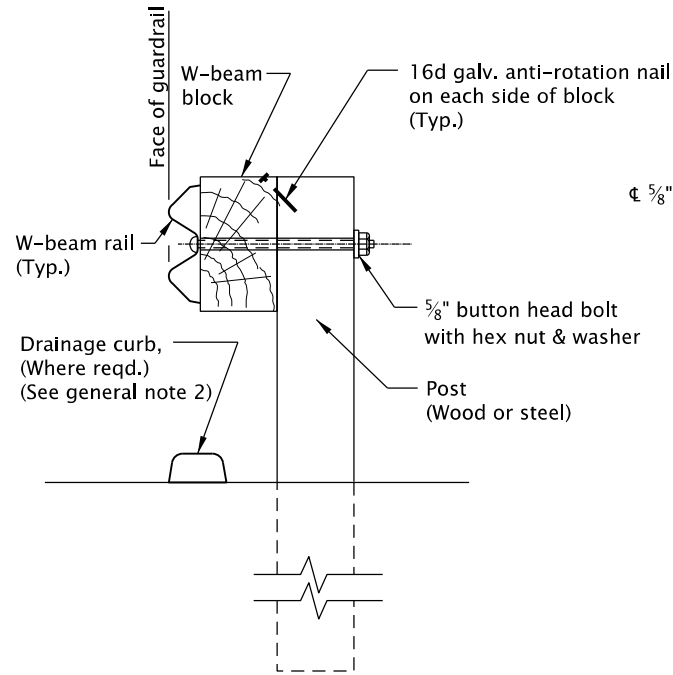
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS  
MISCELLANEOUS  
DRAINAGE STRUCTURES  
SIPHON BOX, INLET CAP &  
INLET ADJUSTMENT**

2021

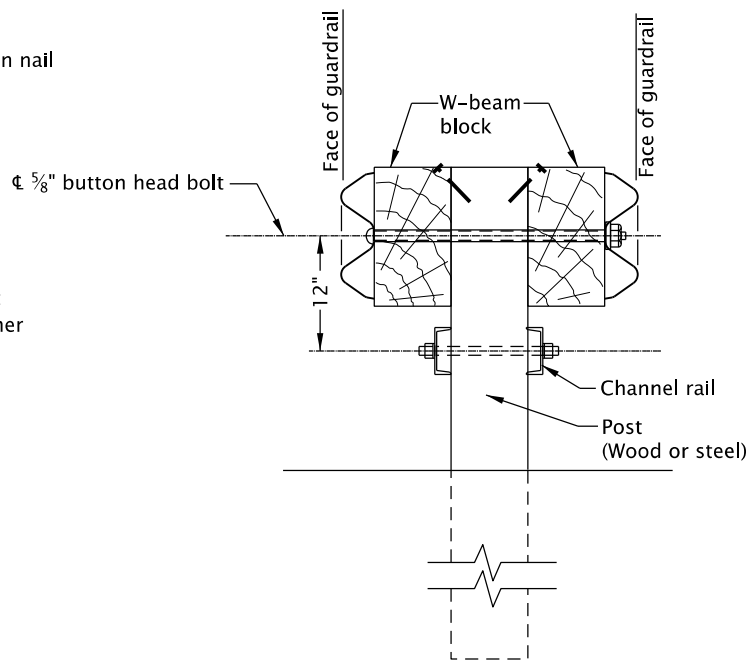
DATE	REVISION	DESCRIPTION



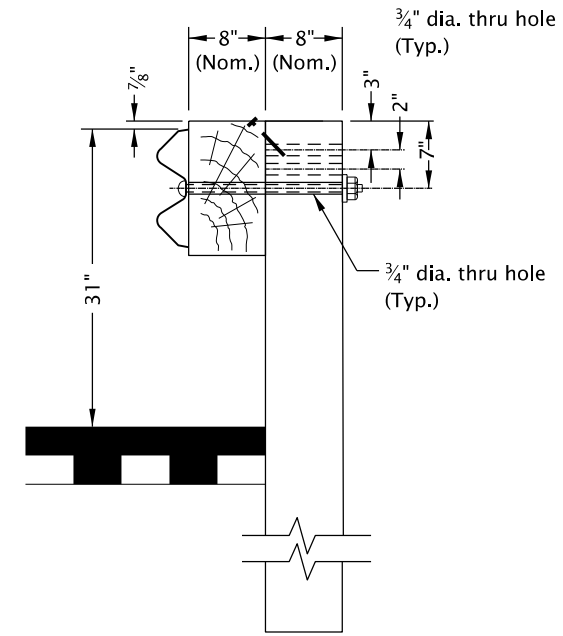


**TYPES 2A & 3**  
(For Type 3 use double thickness (2) rail elements)

**W-BEAM GUARDRAIL**



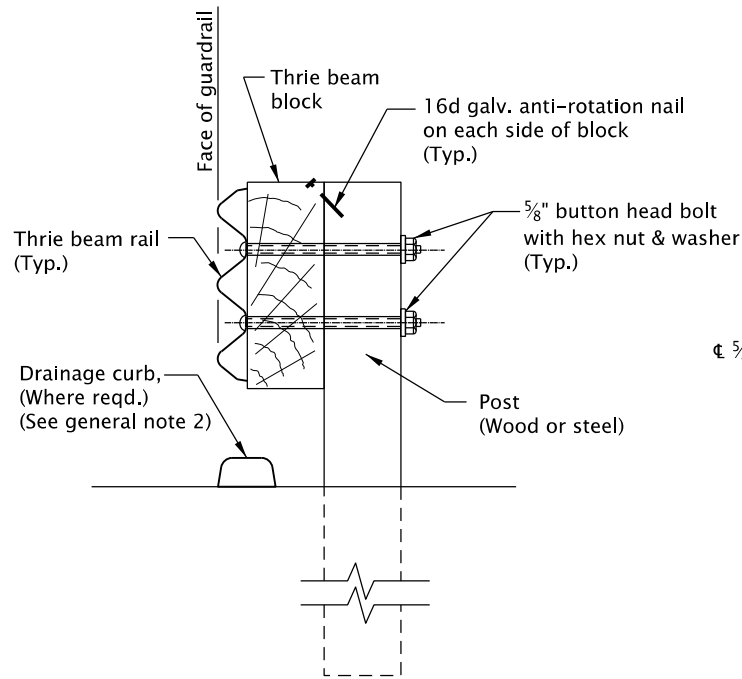
**METAL MEDIAN BARRIER  
(DOUBLE SIDED W/ CHANNEL RAIL)**  
(See general note 3)



**TYPICAL INSTALLATION**

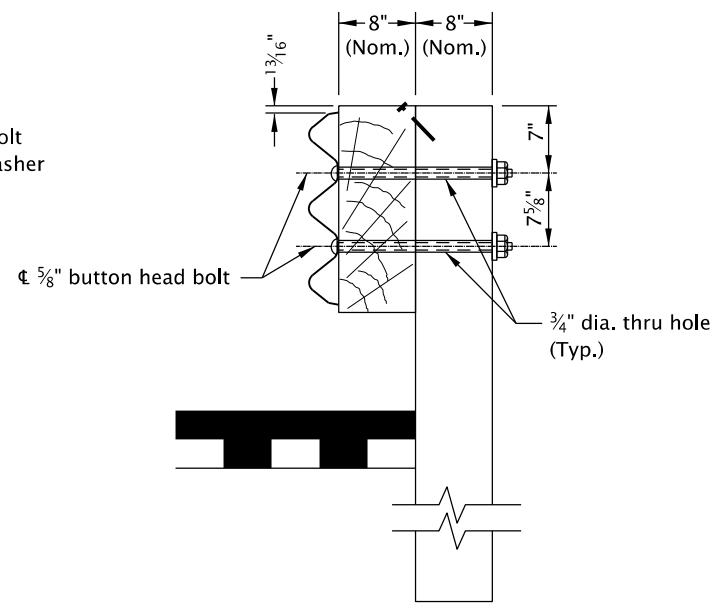
**W-BEAM GUARDRAIL ASSEMBLY**

NORMAL RAIL ELEMENT DATA			
TYPE	RAIL	EFFECTIVE LENGTHS	GAUGE
2A	W-beam	6.25', 12.5', 25'	10 & 12
3	W-beam	6.25', 12.5', 25'	10 & 12
4	Thrie beam	6.25', 12.5', 25'	10 & 12
4 TRANSITION	Thrie beam	6.25'	10 & 12



**TYPE 4 & 4 TRANSITION**

**THRIE BEAM GUARDRAIL**



**INITIAL INSTALLATION**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

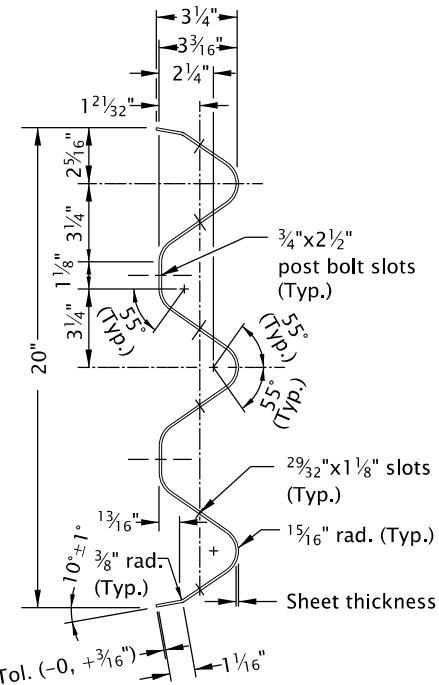
1. See appropriate guardrail standard drawing(s) for details not shown.
2. When required by the plans, Drainage curb alignment same as face of guardrail.
3. Orient post bolts with the button head located on the side nearest the traffic lane.  
The bolt's threaded portion is not permitted to extend beyond limits of 1/4" to 1/2" from the face of the tightened nut; trim the treated portion as needed.
4. Lap guardrail in direction of adjacent traffic.
5. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail (Typical all types). 1"± tolerance.
6. Wood block shall be toe-nailed to the post with 2 - 16d galvanized nails in top of block to prevent block rotation.
7. Wood blocks shown. Blocks of an approved alternate material may be used.  
See ODOT's QPL.
8. Existing posts shall not be raised.  
Replace posts as necessary to achieve required guardrail height.

CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>19-JUL-2021</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>MIDWEST GUARDRAIL SYSTEM TYPES</b>	
		2021	
		DATE	REVISION DESCRIPTION
		07-2021	REVISED DETAILS & NOTES

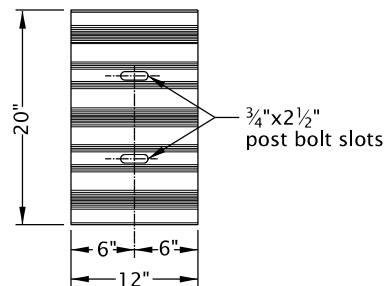


GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. Lap guardrail in direction of adjacent traffic.
3. Hole layout per manufacturer with appropriate post and block.
4. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail to top of rail (Typ. all types). 1" ± tolerance.
5. Wood block shall be toe-nailed to the post with 2 – 16d galvanized nails in top of block to prevent block rotation.
6. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
7. All posts for guardrail run shall be of the same type: wood or steel.
8. When required by the plans, nested thrie beam post shall be 8x8 wood or W6x9 steel.

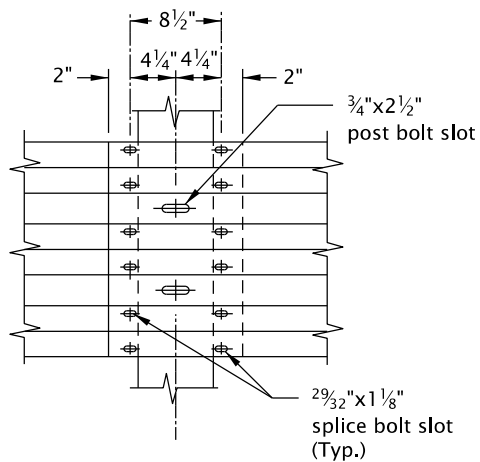


SECTION THRU RAIL ELEMENT

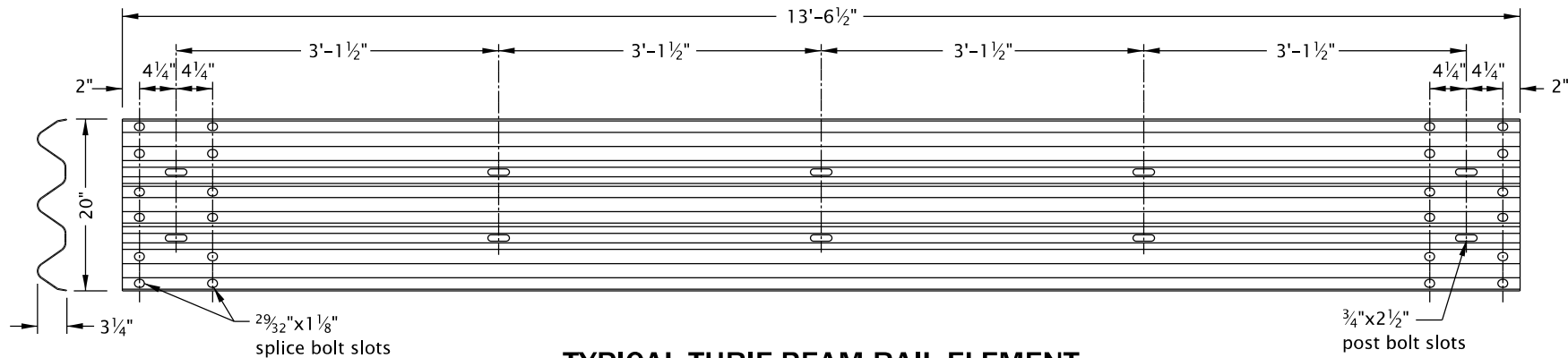


THRIE BEAM BACK-UP PLATE

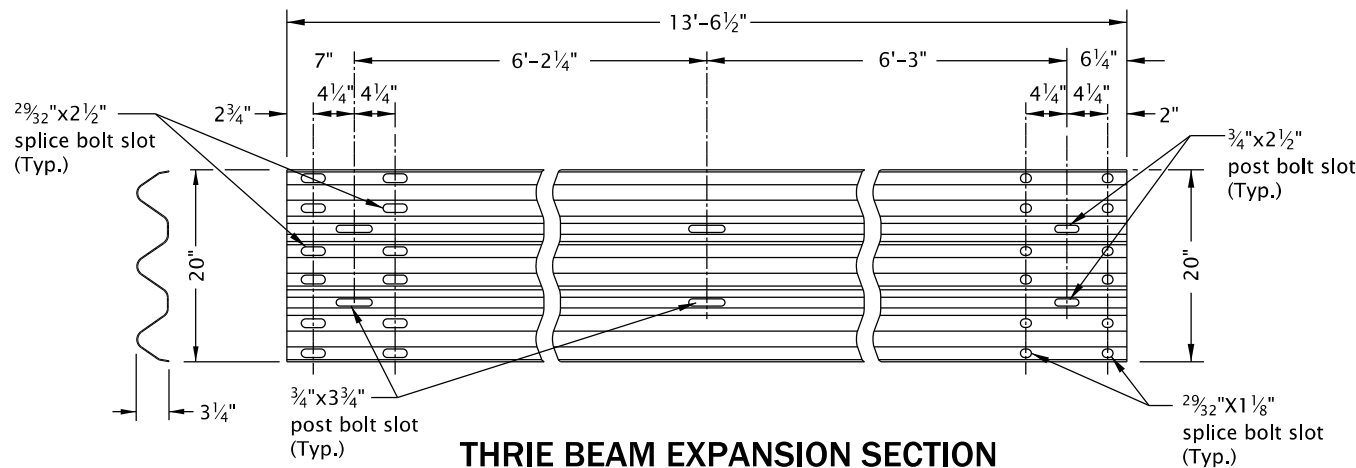
(For detail not shown, see "Section Thru Rail Element")



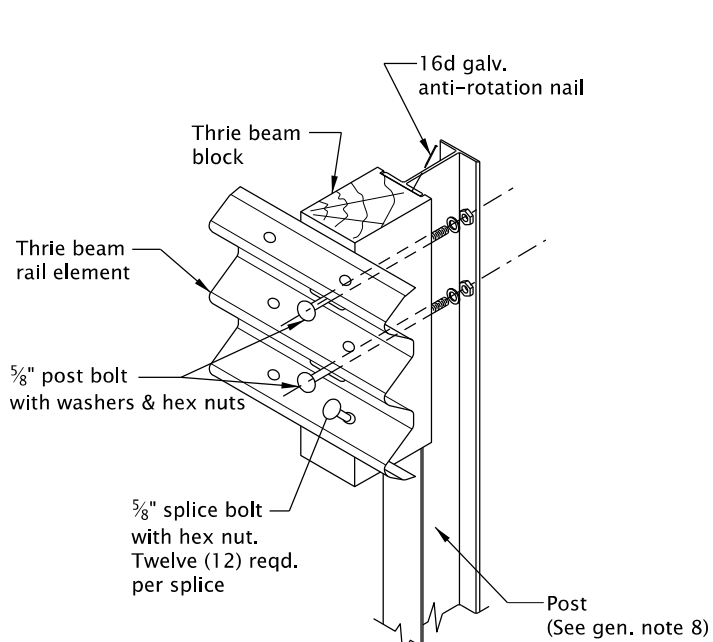
THRIE BEAM SPLICE



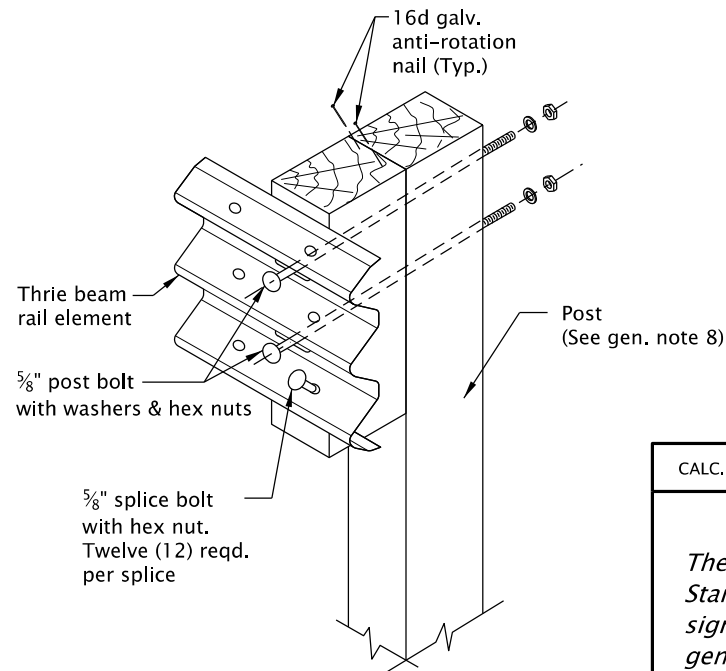
TYPICAL THRIE-BEAM RAIL ELEMENT  
(12'-6" length shown)



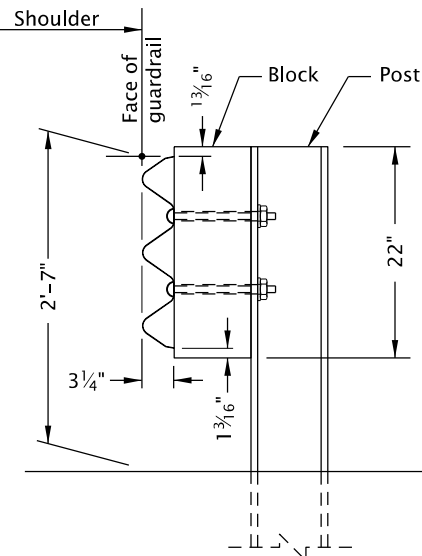
THRIE BEAM EXPANSION SECTION



STEEL POST ASSEMBLY



WOOD POST ASSEMBLY

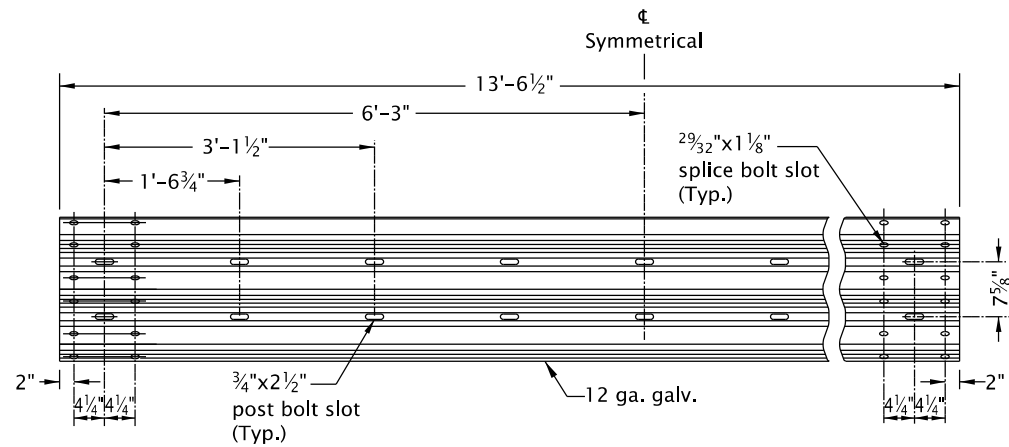


TYPICAL SECTION  
(Steel post shown)

CALC. BOOK NO. <b>N/A</b>	SDR DATE <b>13-JAN-2020</b>
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	<b>OREGON STANDARD DRAWINGS</b>
	<b>THRIE BEAM GUARDRAIL</b>
	2021
	DATE REVISION DESCRIPTION

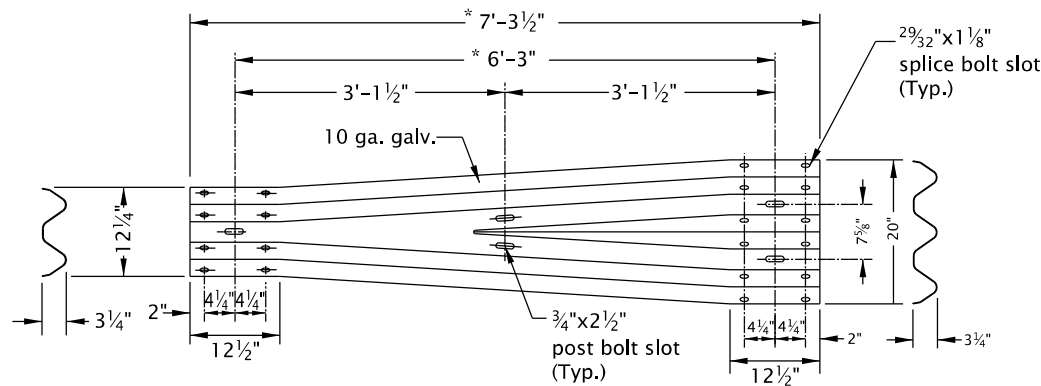


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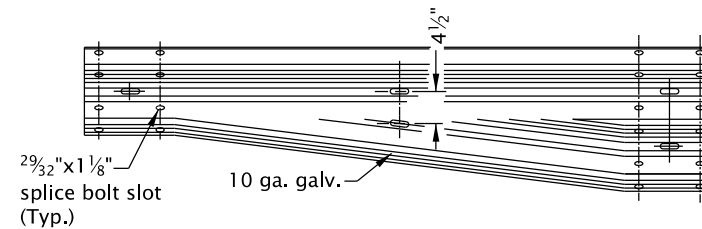


**THRIE BEAM RAIL ELEMENT**  
**1/4 POST SPACING**  
(12'-6" section shown)

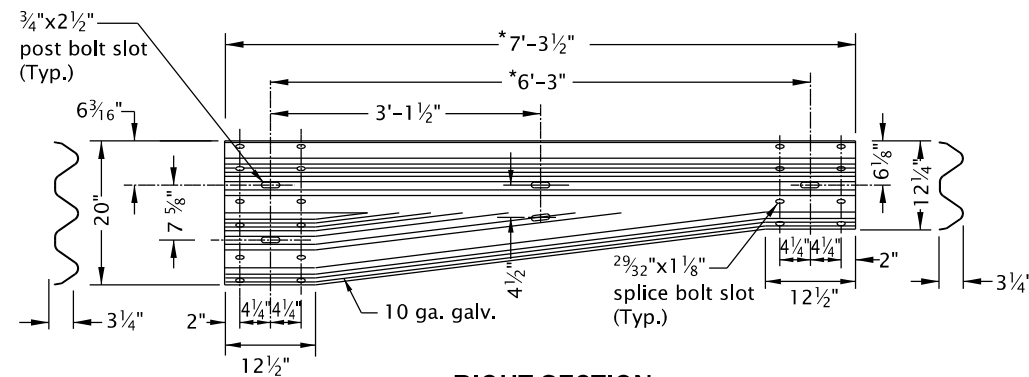
\* See general note 4



**SYMMETRICAL THRIE BEAM TRANSITION ELEMENT**  
(Left section shown, right section reversed)



**LEFT SECTION**  
(Reverse of right section)



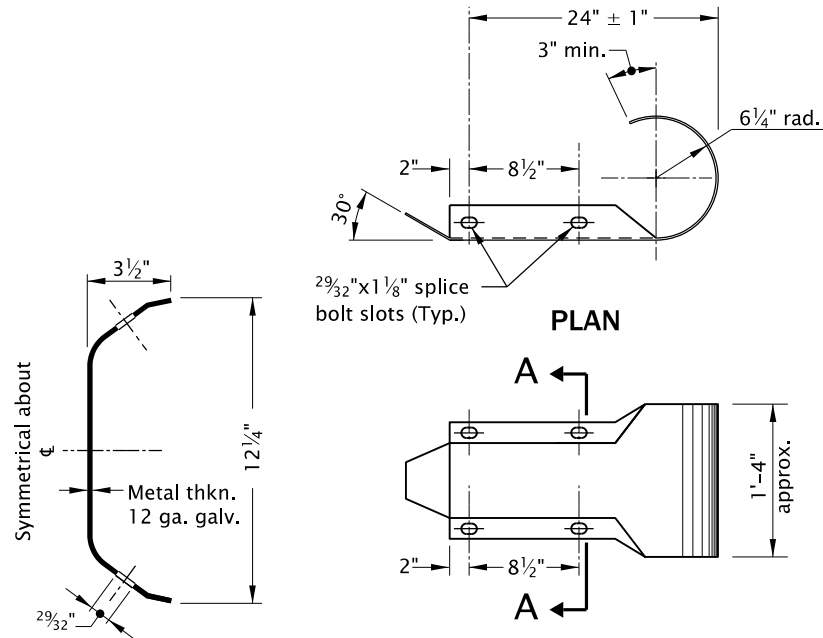
**RIGHT SECTION**  
**TYPICAL THRIE BEAM TRANSITION ELEMENT**

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

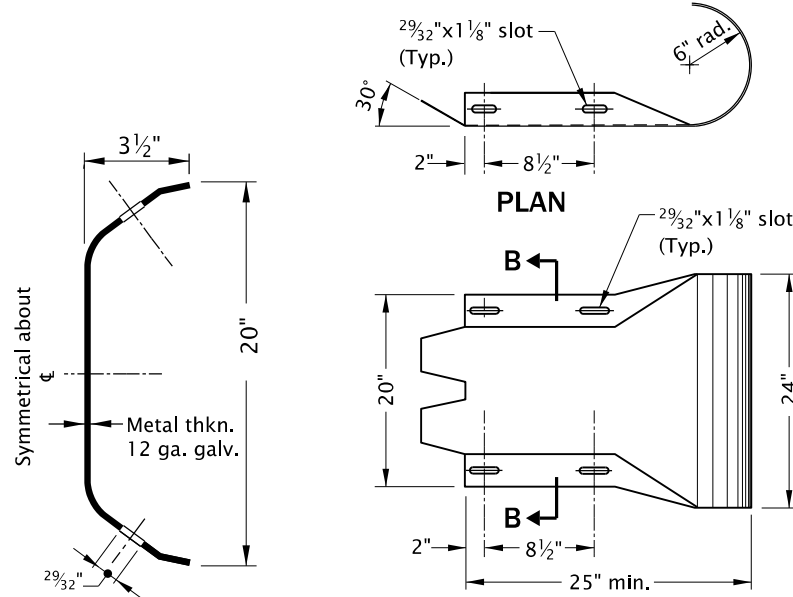
1. See appropriate guardrail standard drawing(s) for details not shown.
2. See appropriate bridge standard drawing(s) for transition guardrail detail and installation limits at bridge ends.
3. All rail sections shall be lapped in the direction of adjacent traffic.
4. Slot layout per manufacturer with appropriate post and block.

CALC. BOOK NO. <u>      N/A      </u>		SDR DATE <u>      13-JAN-2020      </u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>THRIE BEAM GUARDRAIL TRANSITION</b>	
		2021	
		DATE	REVISION DESCRIPTION

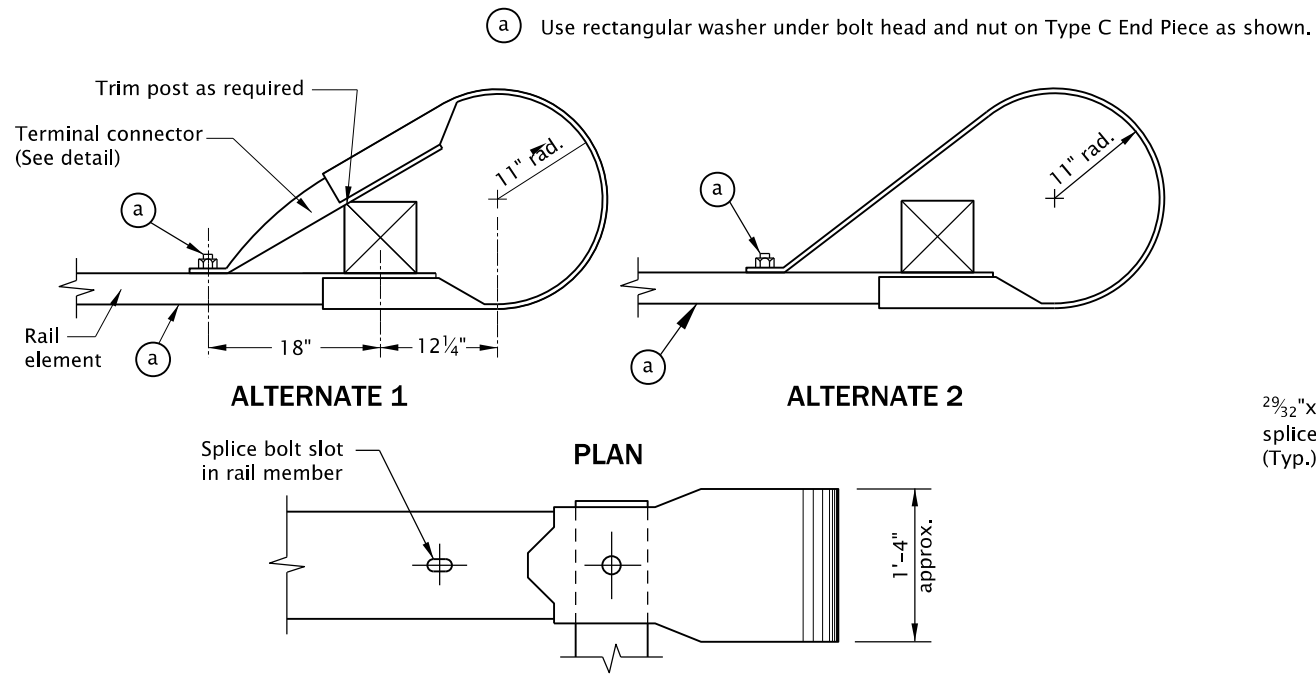




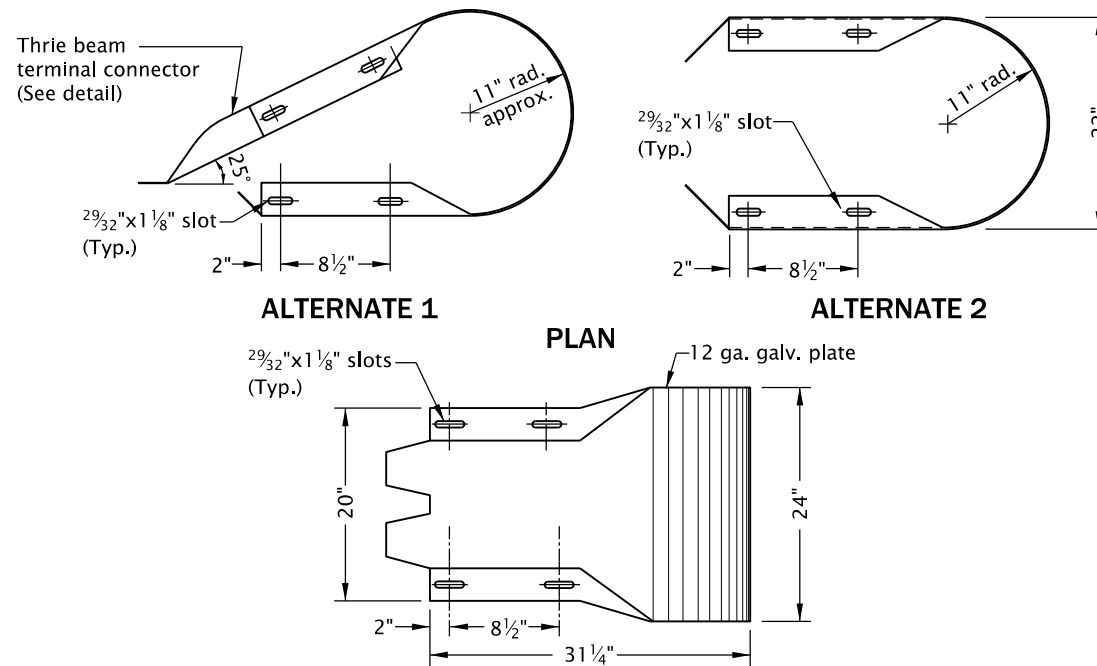
SECTION A-A  
W-BEAM TYPE B END PIECE



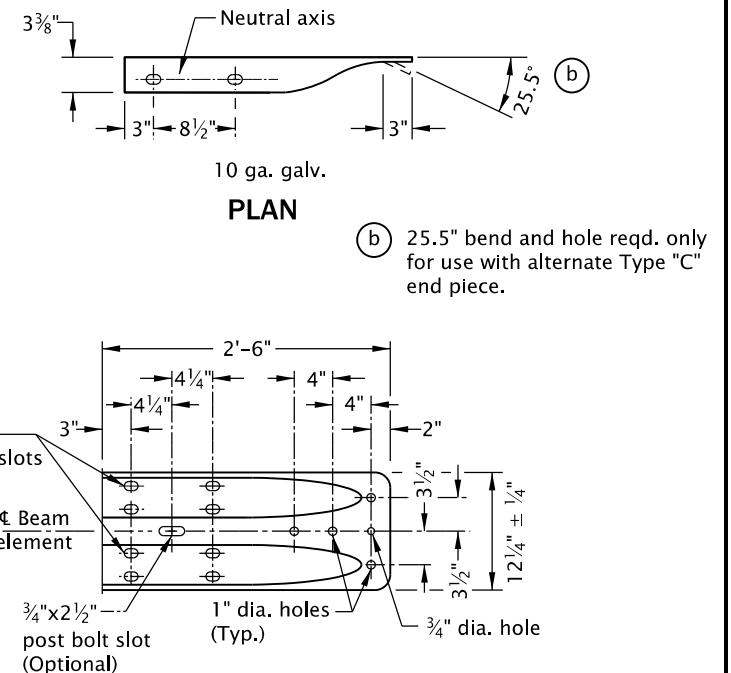
SECTION B-B  
THRIE BEAM TYPE B END PIECE



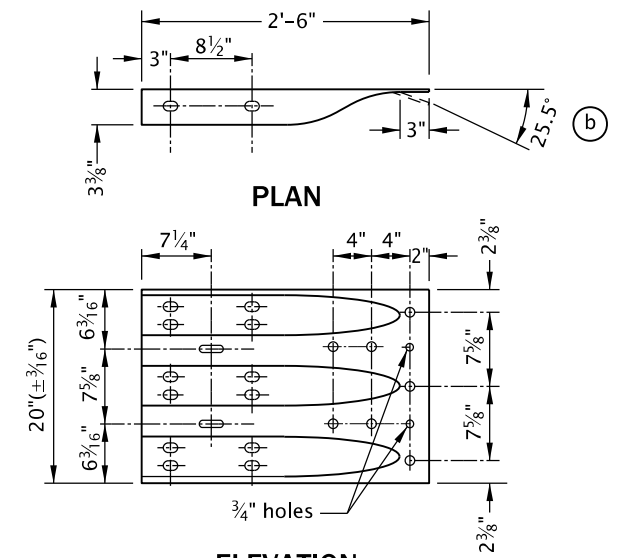
W-BEAM TYPE C END PIECE  
(For details not shown, see Type B End Piece)



THRIE BEAM TYPE C END PIECE



W-BEAM TERMINAL CONNECTOR



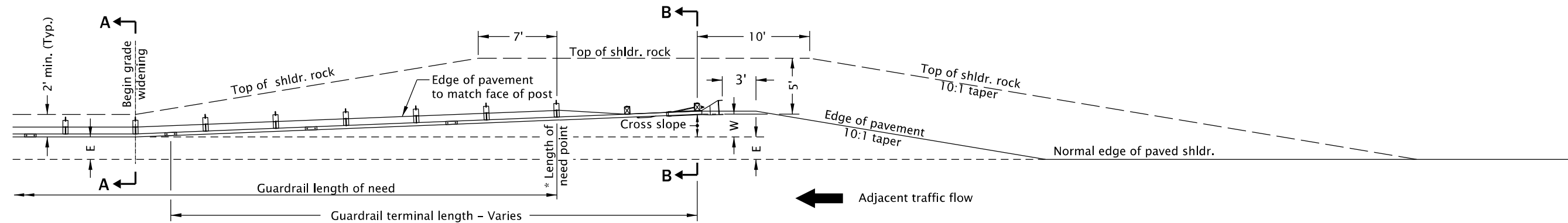
THRIE BEAM TERMINAL CONNECTOR

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

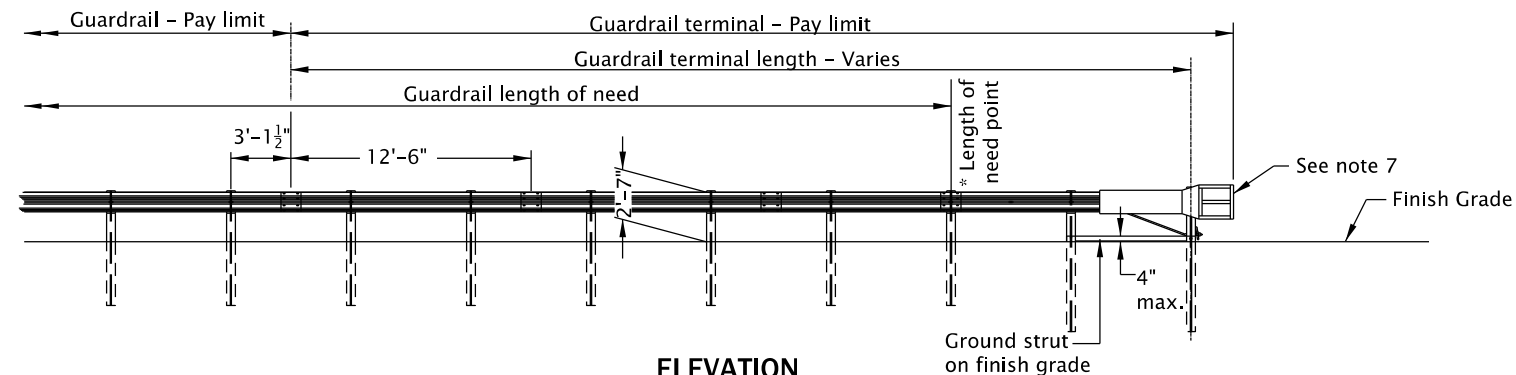
1. See appropriate guardrail standard drawing(s) for details not shown.
2. For details of guardrail connections to structural handrails, see special details or Standard Drawings as called for on plans.

CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>13-JAN-2020</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>MIDWEST GUARDRAIL SYSTEM</b>	
		<b>END SECTIONS</b>	
		2021	
		DATE	REVISION DESCRIPTION





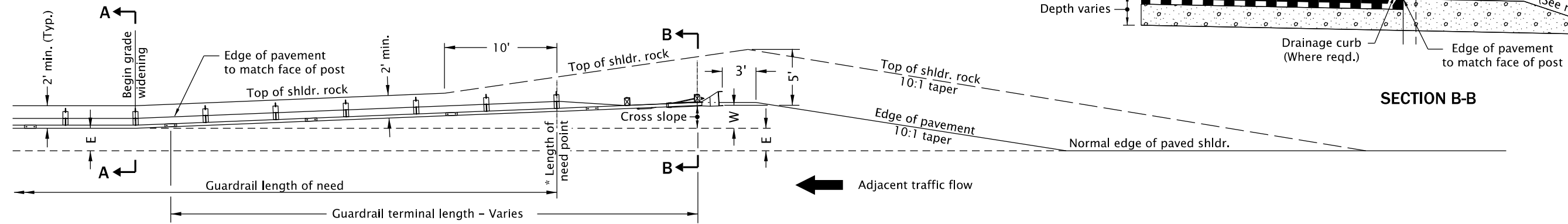
PLAN



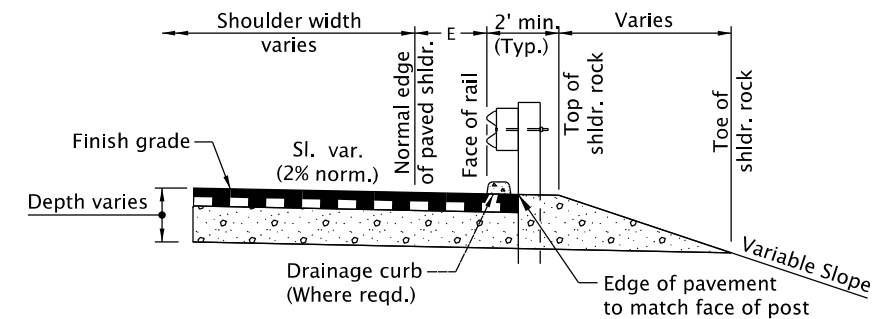
ELEVATION

\* See note 6 and 9

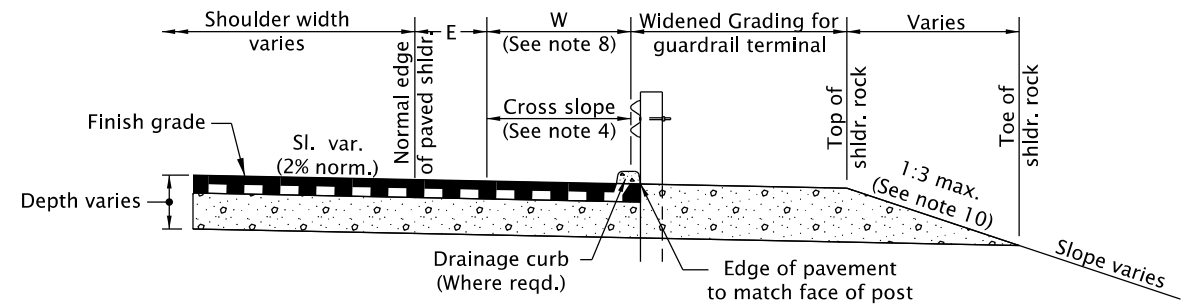
PREFERRED GRADING



ALTERNATIVE GRADING



SECTION A-A



SECTION B-B

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations. Ensure that guardrail terminal meets appropriate test level for the project.
2. See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown. See Std. Dwg. RD701 for drainage curbs, where required. E=2' or as shown on project plans.
3. Guardrail Non-flared terminal shall be installed with a minimum 1 foot offset ensuring that the end piece is entirely off normal shoulder.
4. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.

5. On two way two lane highways, both ends of guardrail runs shall be provided with a terminal flared or non-flared. Paving of widened shoulder to the face of posts on both ends of guardrail runs is required.
6. Provide guardrail terminal from ODOT's QPL. Install according to manufacturer's recommendations (post count varies). Provide shop drawings to Engineer.
7. Install a reflectorized object marker on head of every guard rail terminal with "W" 4 feet or less according to manufacturer's recommendations.
8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
9. Length of need post location varies by manufacturer.
10. 1:4 slope or flatter preferable, 1:3 maximum.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS  
MIDWEST GUARDRAIL SYSTEM  
GRADING FOR TERMINALS

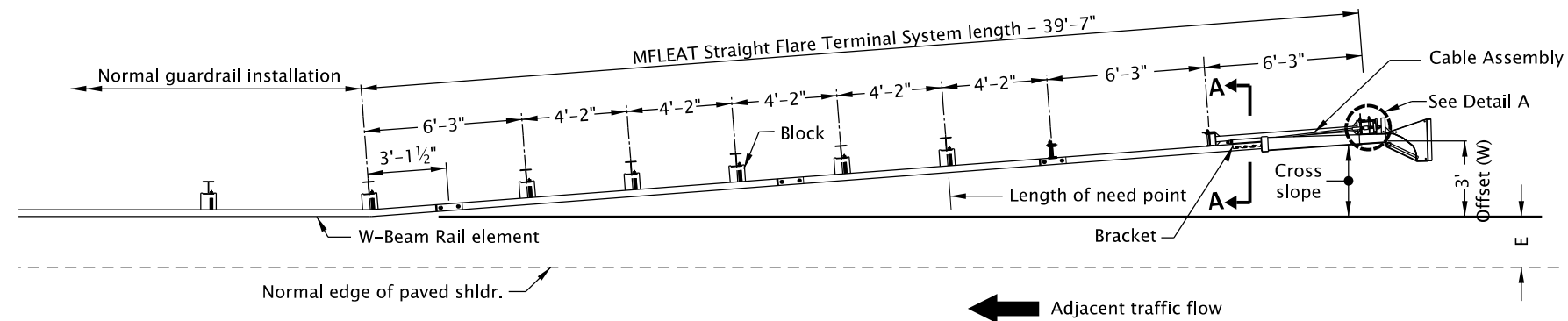
2021

DATE	REVISION	DESCRIPTION
07-2021	REVISED	NOTES

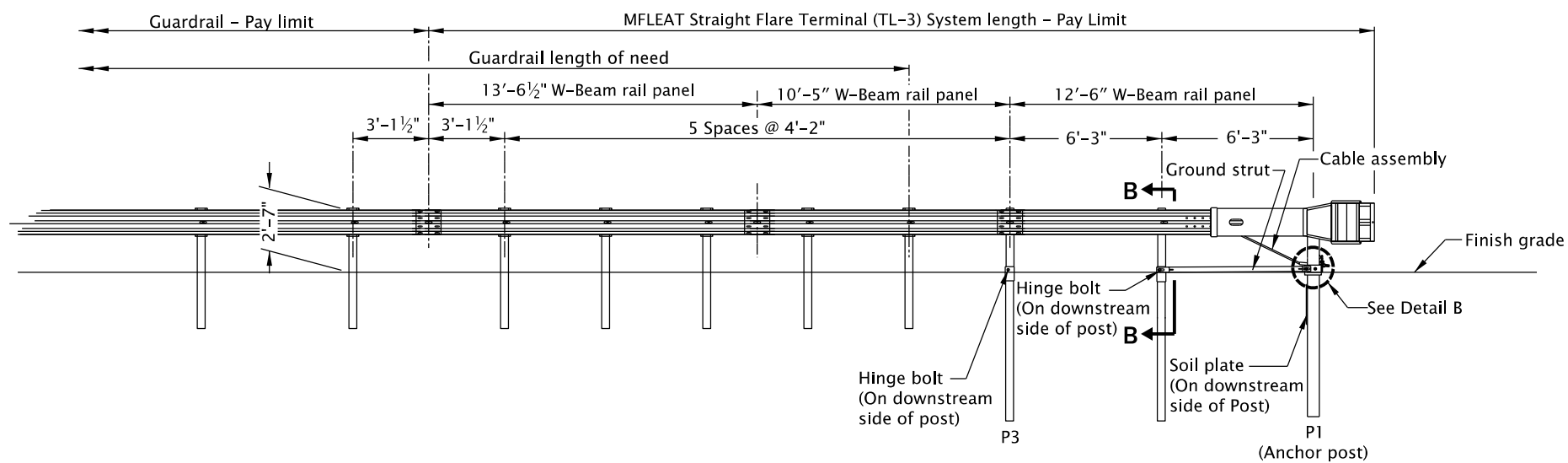
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



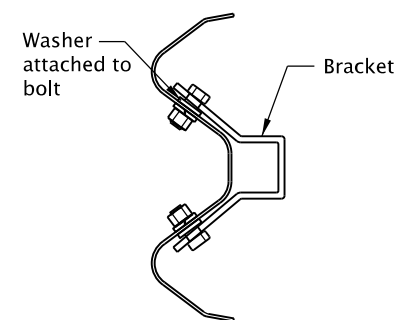
rd421.dgn 20-JUL-2020



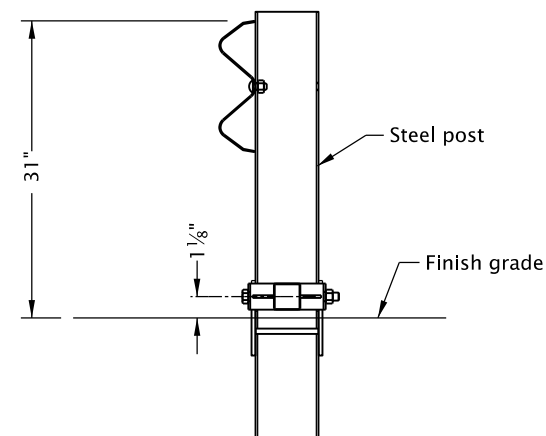
PLAN



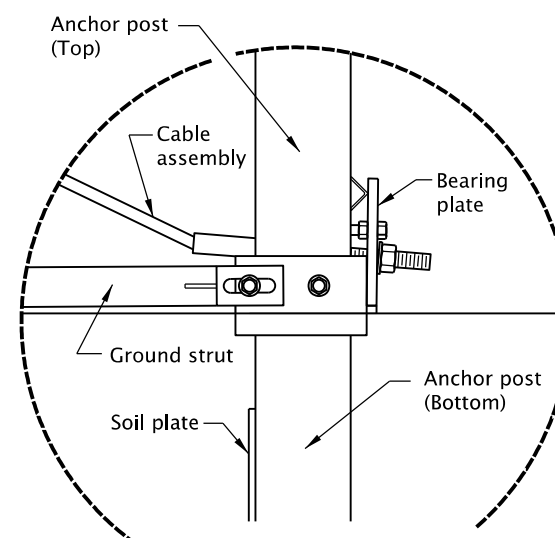
ELEVATION



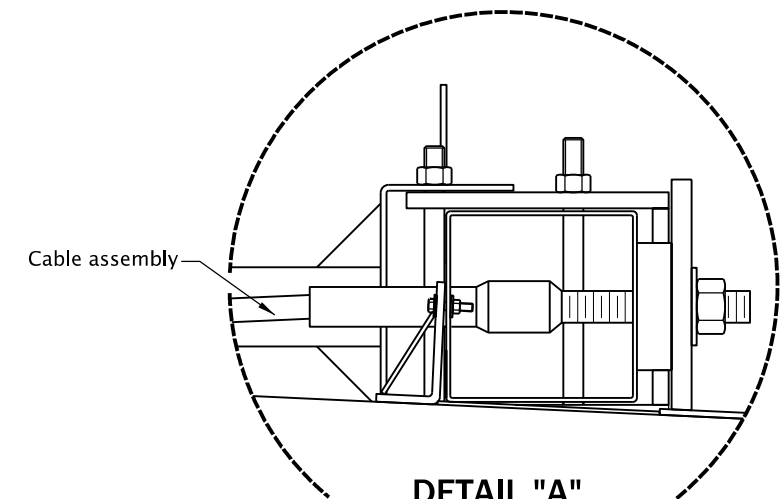
SECTION A-A  
ANCHOR BRACKET



SECTION B-B  
POST #2



DETAIL "B"  
ANCHOR POST CONNECTION



DETAIL "A"  
IMPACT HEAD CONNECTION

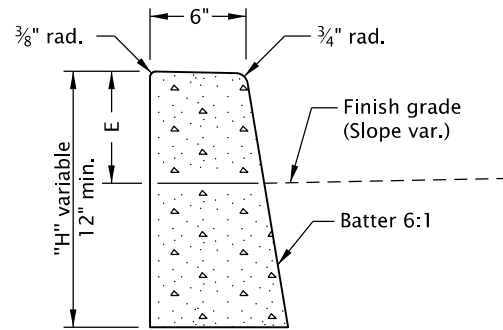
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations. Ensure that guardrail terminal meets appropriate test level for the project.
2. See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown. See Std. Dwg. RD701 for drainage curbs, where required. E=2' or as shown on project plans.
3. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.
5. Paving of widened shldr. to the face of posts on both ends of guardrail runs is required.
6. Provide guardrail terminal from ODOT's QPL. Install according to manufacturer's recommendations (post count varies). Provide shop drawings to Engineer.
7. Install a reflectorized object marker on head of every guard rail terminal with
8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
9. Length of need post location varies by manufacturer.

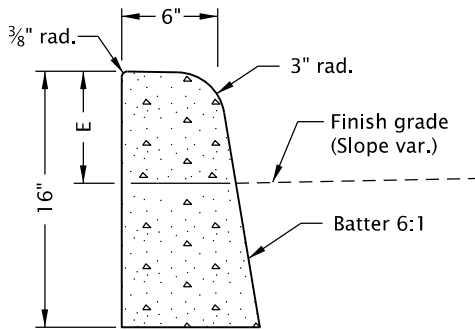
CALC. BOOK NO. <b>N/A</b>	SDR DATE <b>13-JAN-2020</b>
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	<b>OREGON STANDARD DRAWINGS</b>
	<b>MIDWEST GUARDRAIL SYSTEM</b>
	<b>FLARED ENERGY-ABSORBING</b>
	<b>TERMINAL (MFLEAT)</b>
	2021
	DATE REVISION DESCRIPTION



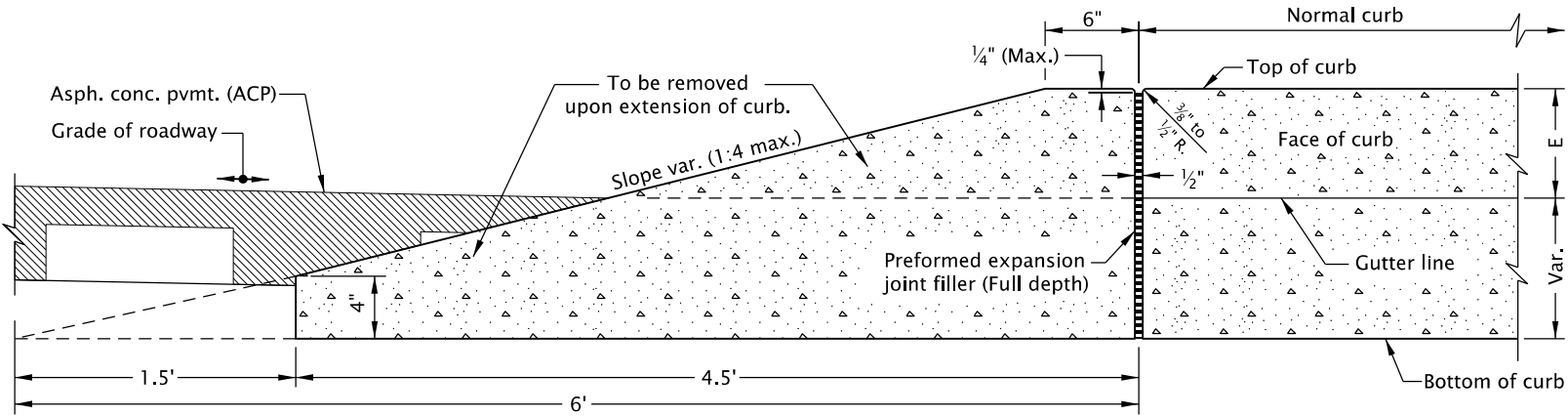
rd700.dgn 20-JUL-2020



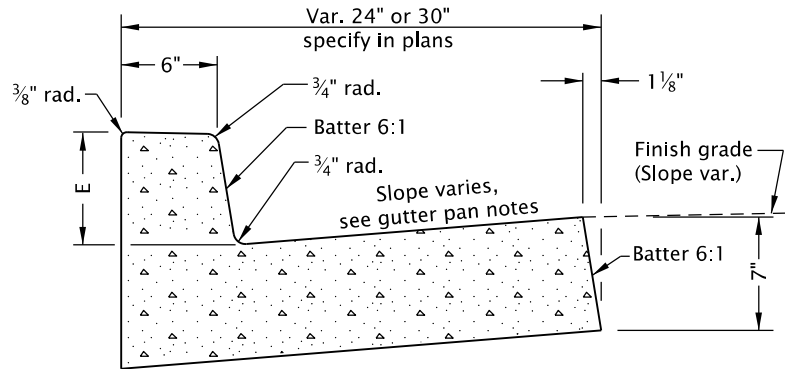
O.D.O.T. & City of Portland Standard "H"=16"  
**STANDARD CURB**  
(See general note 11)



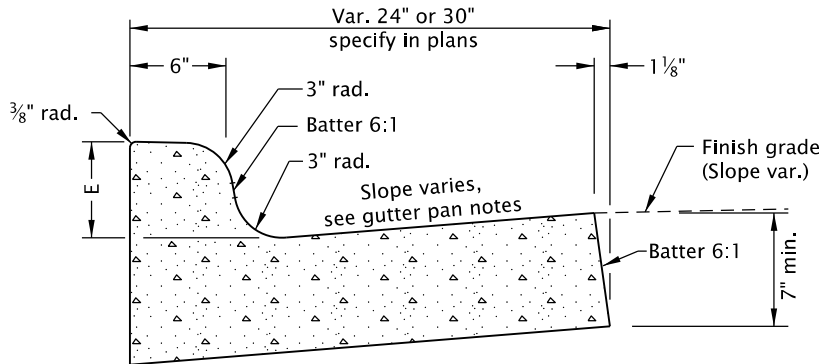
**MOUNTABLE CURB**  
(See general note 11)



**CURB ENDING DETAIL**

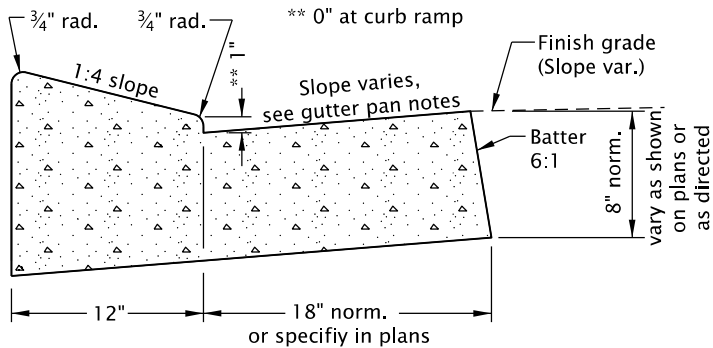


**CURB AND GUTTER**

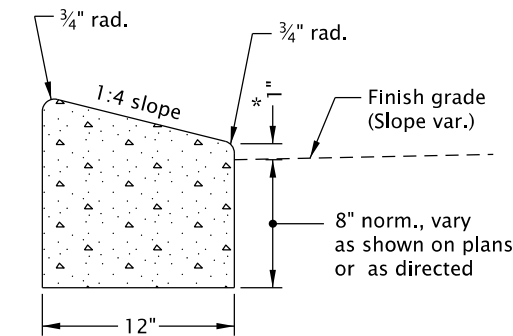


**MOUNTABLE CURB AND GUTTER**

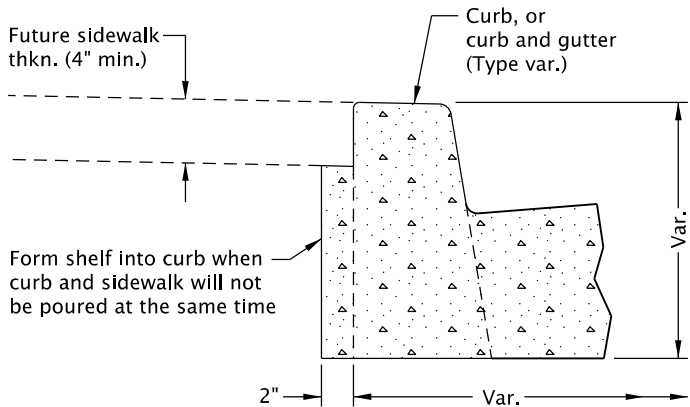
**GUTTER PAN NOTES:**  
Slope 5.0% normal.  
Slope 4.0% max. at curb ramps.  
Vary slope as reqd. for drainage.  
Vary where shown on plans, and  
allowed by jurisdiction.



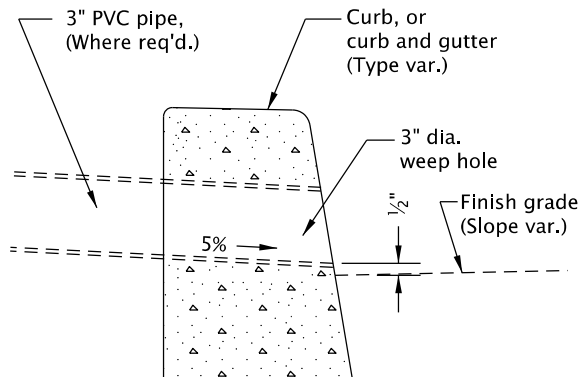
**LOW PROFILE MOUNTABLE CURB AND GUTTER**  
(Where shown on plans)



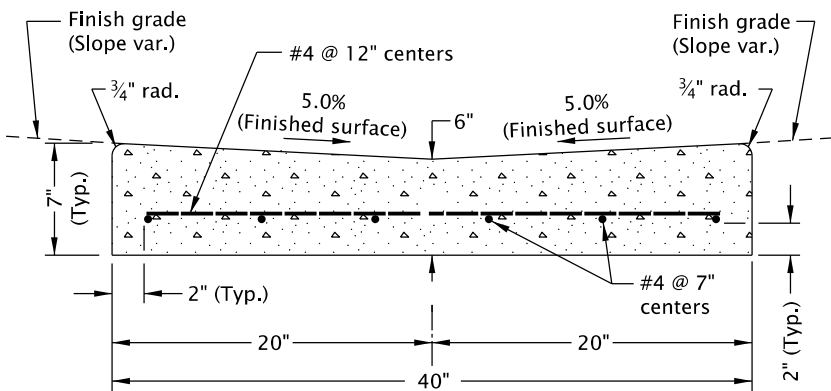
**LOW PROFILE MOUNTABLE CURB**  
(See general note 11)



**MODIFICATION FOR KEYWAY**  
(Where shown on plans)



**WEEP HOLE DETAIL**  
(Where shown on plans, and allowed by jurisdiction)



**VALLEY GUTTER**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. O.D.O.T standard "E"=7".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".

5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series.
11. On or along state highways, curb and gutter is required at curb ramp.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

**CURBS**

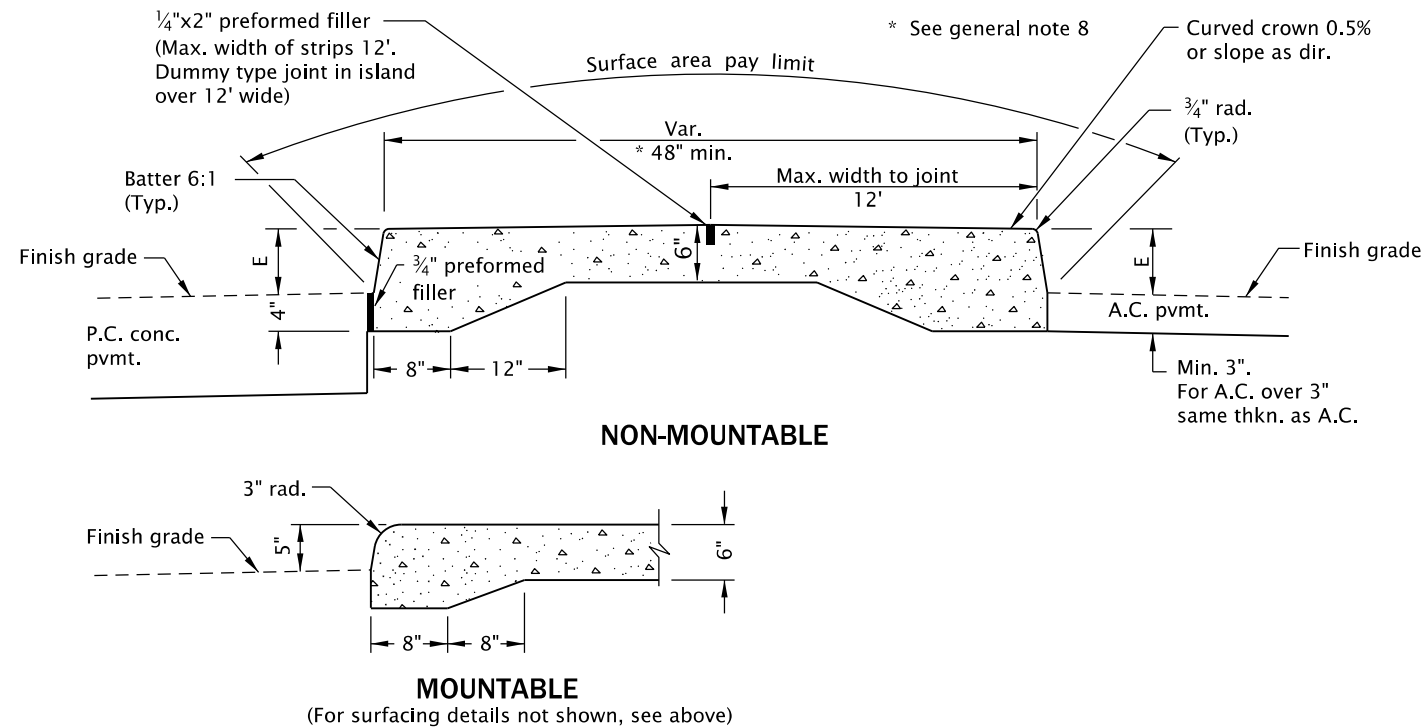
2021

DATE	REVISION DESCRIPTION

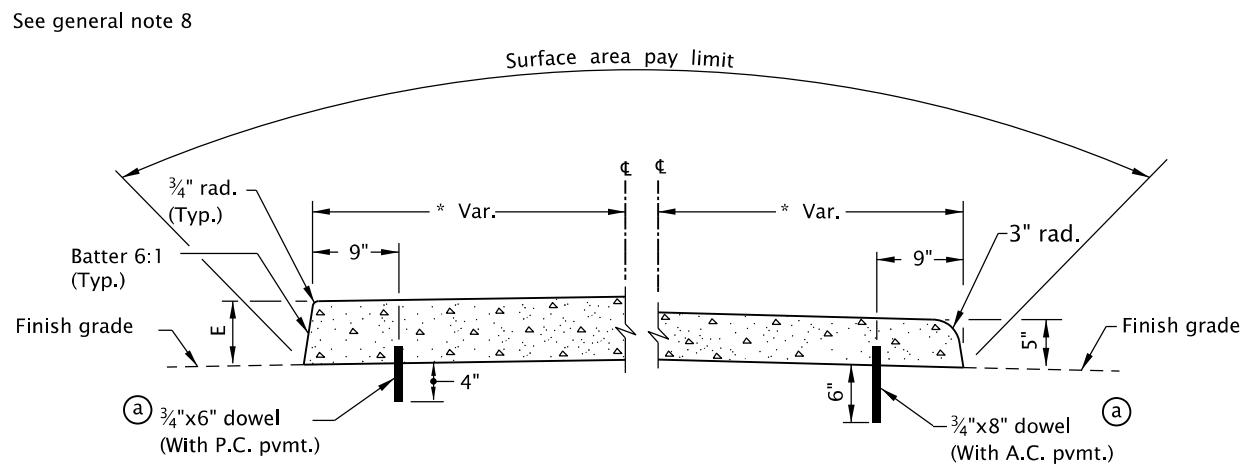
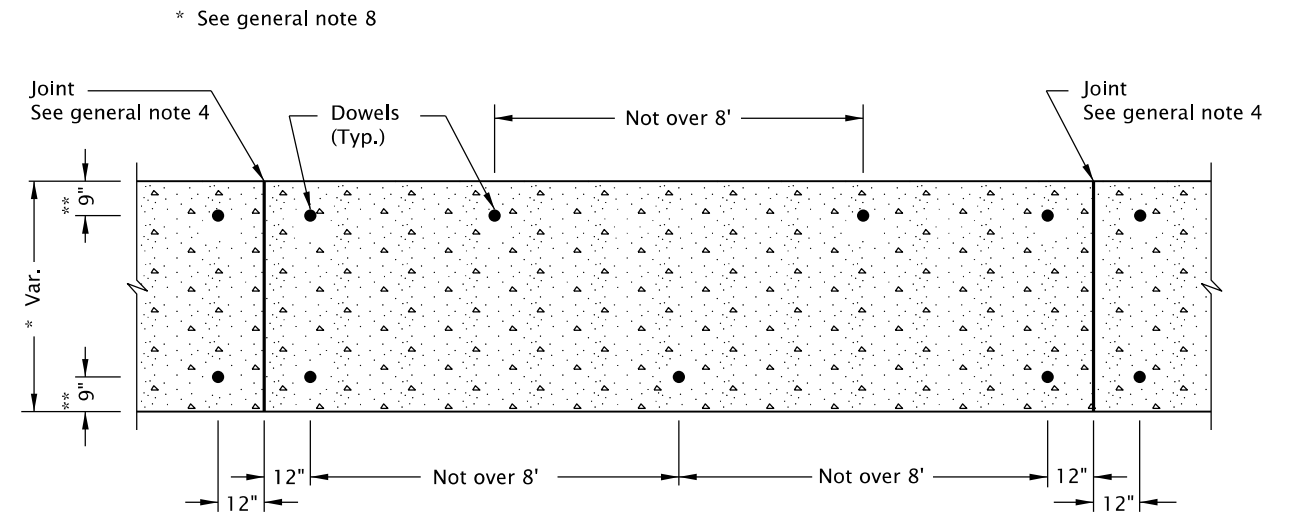
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*



rd705.dgn 20-JUL-2020

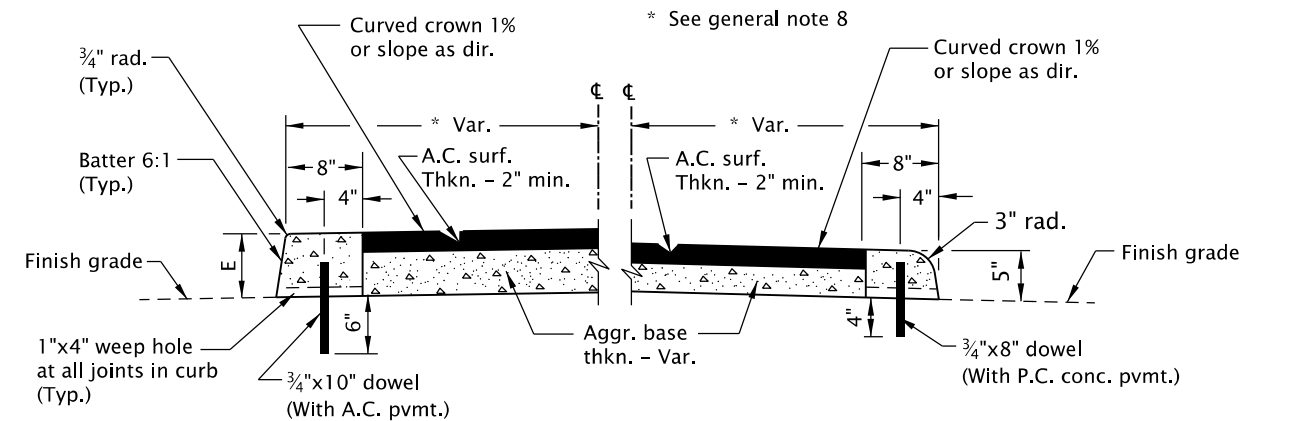


TYPE A



TYPE C

(a) No dowels reqd. for Type C islands 5' wide or wider



TYPE CA

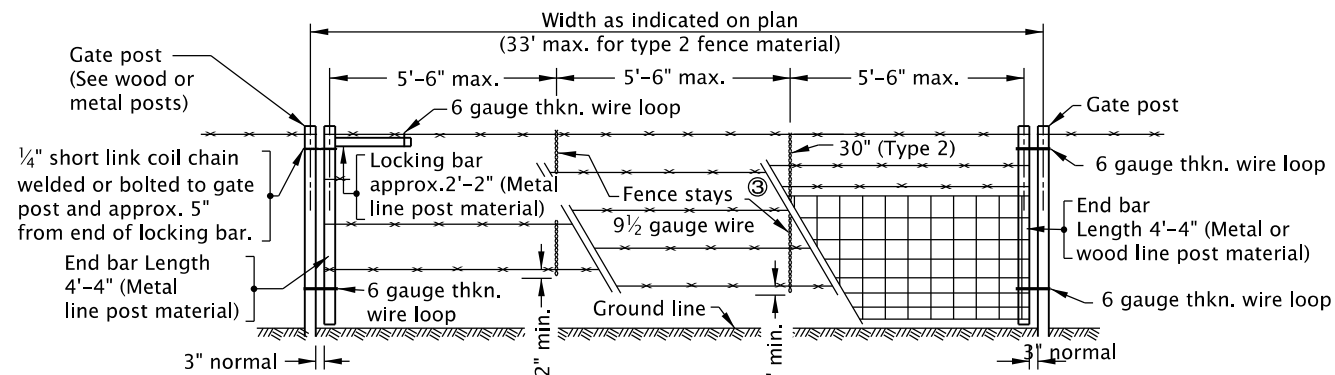
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 7" normal. Vary as shown on plans or as directed.
2. Standard batter is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. islands to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. islands in conc. pvmt. and around all curved ends.
6. Dowels shall be 3/4" dia. with length as shown. In new conc. pvmt. set dowels before conc. hardens. In extg. conc. pvmt. drill holes 1 1/2" dia. and grout dowels in. In A.C. pvmt. drive dowels.
7. For transitions to traffic separators, see Std. Dwg. RD706.
8. Minimum island width is 48". For accessible route islands, see Std. Dwg. RD710.

CALC. BOOK NO. <u>      N/A      </u>		SDR DATE <u>      16-JUL-2018      </u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>ISLANDS</b>	
		2021	
		DATE	REVISION DESCRIPTION

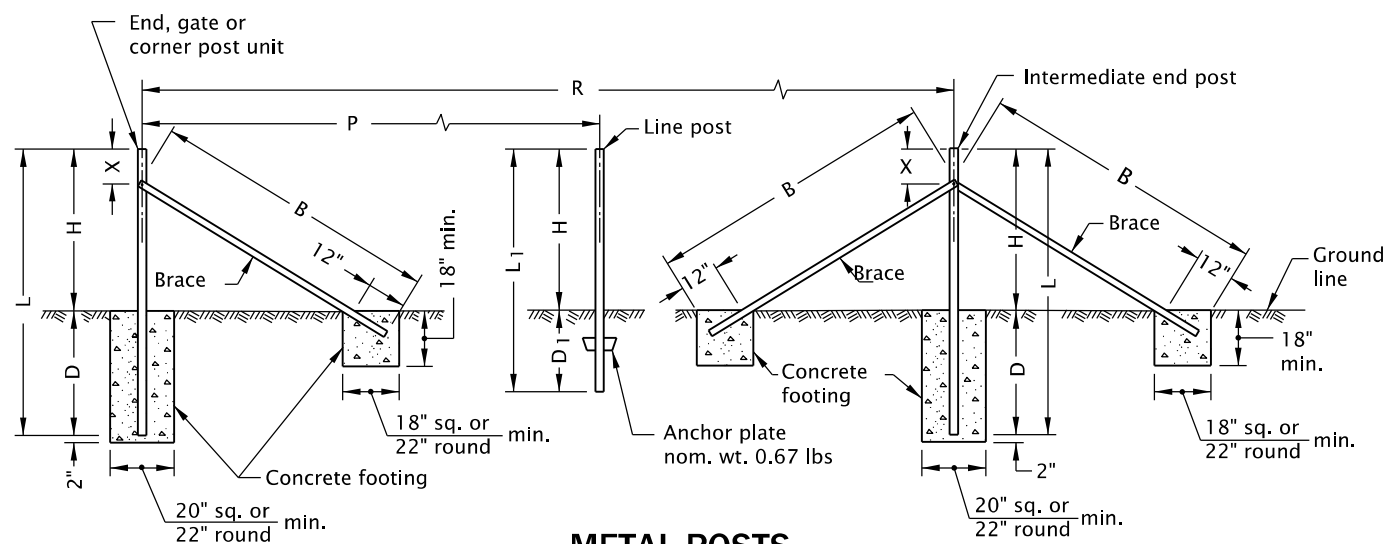
RD705



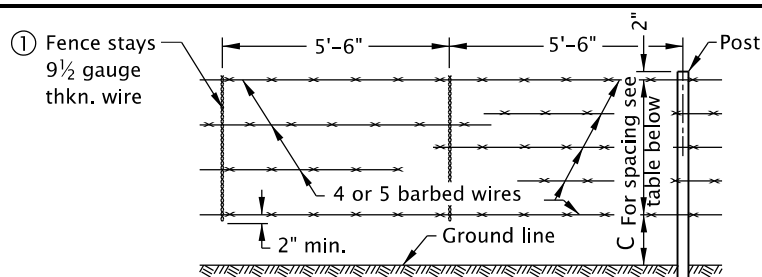


- ① Match adjoining fence type.
- ② For details not shown see fence type.
- ③ For wooden stays, see Type 1 fence details.

## GATEWAY



## METAL POSTS

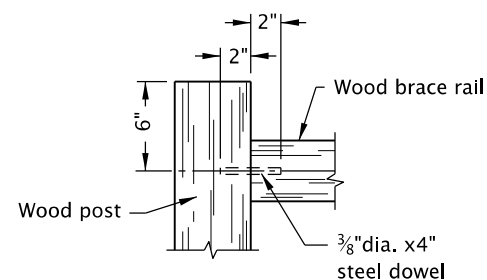


## TABLE OF DIMENSIONS

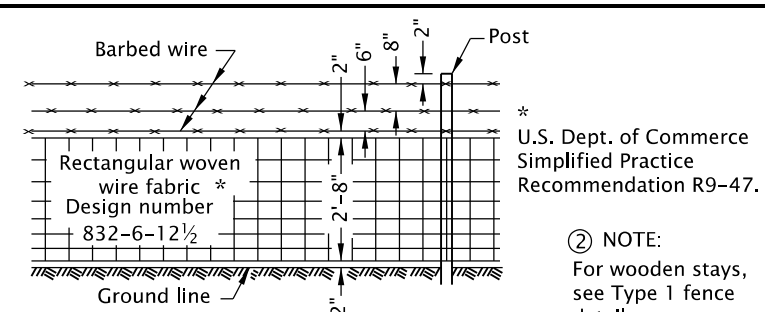
FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground. Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

## TYPES 1 , & 1-5W



## BRACE RAIL CONNECTION



② TYPE 2

**TABLE 1 (For wood posts)**

FENCE	R	UNITS REQUIRED
	(ft)	
Types $\begin{cases} 1, \\ 1-5W \text{ \& } \\ 2 \end{cases}$	20 or Less	* None
	20-330	A
	Over 330	A & B

Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

## TABLE 2

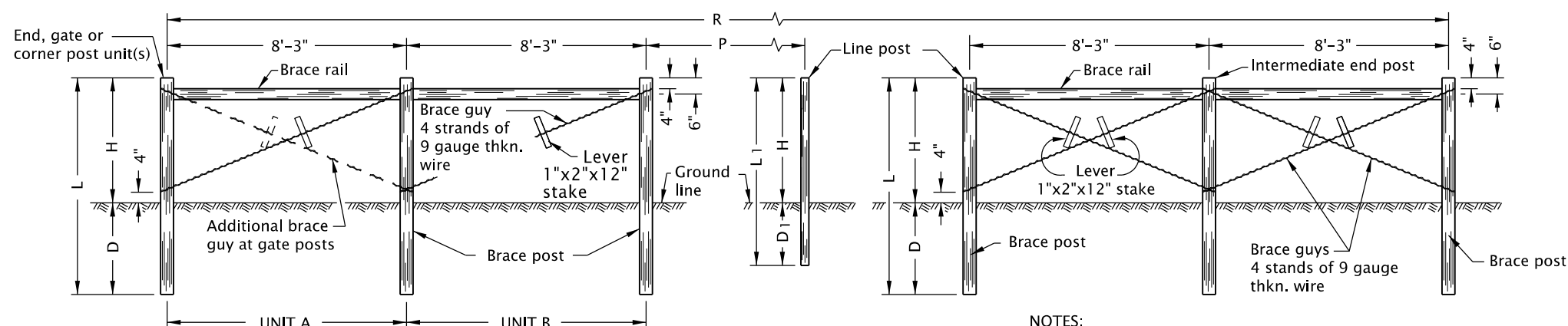
FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9'-22"

### TABLE 3

MEMBER	WOOD			METAL		
	* ROUND		SQUARE	SHAPE	WEIGHT PER (ft) nominal	SIZE nominal
	DIAMETER OF SMALL END (in)					
	min.-max.	min. avg.				
Line Post	3" to 4"	3"	† 3"x3"			
Brace or Brace Rail	3½" to 5½"	4"	4"x4"	Tubular	(b)	1½" + / - O.D.
				(a) Angle	3.19 lb	2"x2"x¼"
Other Post	4" to 7"	5"	† 5"x5"	Tubular	b	2⅜" O.D.
				(a) Angle	4.1 lb	2½"x2½"x¼"

‡ Max. allowable size 1" additional in each dimension.

② In accordance with AASHTO M 181.



For units required see Table 1

## WOOD POSTS

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For cross sectional dimensions of members see Table 3.

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For shapes, weights and dimensions of members see Table 3.

4. All concrete shall be commercial grade concrete.
5. See Std. Dwg. RD820 for fence gates.
6. See project plans for details not shown.
7. Add fence grounding as required.

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# OREGON STANDARD DRAWINGS

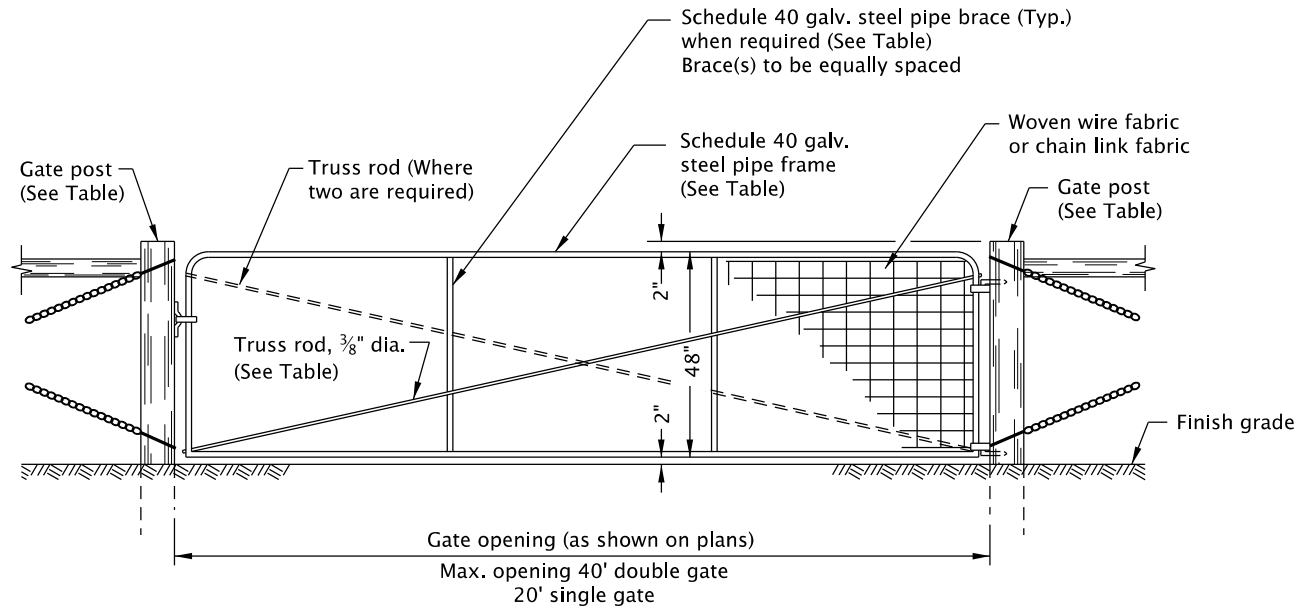
## BARBED AND WOVEN WIRE FENCES

REVISION	DESCRIPTION
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DATE	REVISION DESCRIPTION



rd820.dgn 20-JUL-2020



GATE COMPONENTS								GATE POSTS ① ②					
								WOOD					
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		DIA. OF SMALL END (in)			NOM. SIZE (in)	NOM. DIA. (in)	MIN. WT. (lb/ft)
								Min.	Max.	Min. Avg.			
UP thru 6	UP thru 12	1	1.68	–	–	–	–	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.

② For length, setting and bracing details see end posts, Std. Dwg. RD810.

\* Max. taper 1" in 4'

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- Gates shown are for use with Fence Types 1, 1-5W and 2.
- See Std. Dwg. RD810 for details not shown.
- See project plans for details not shown.
- Add fence grounding as required.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

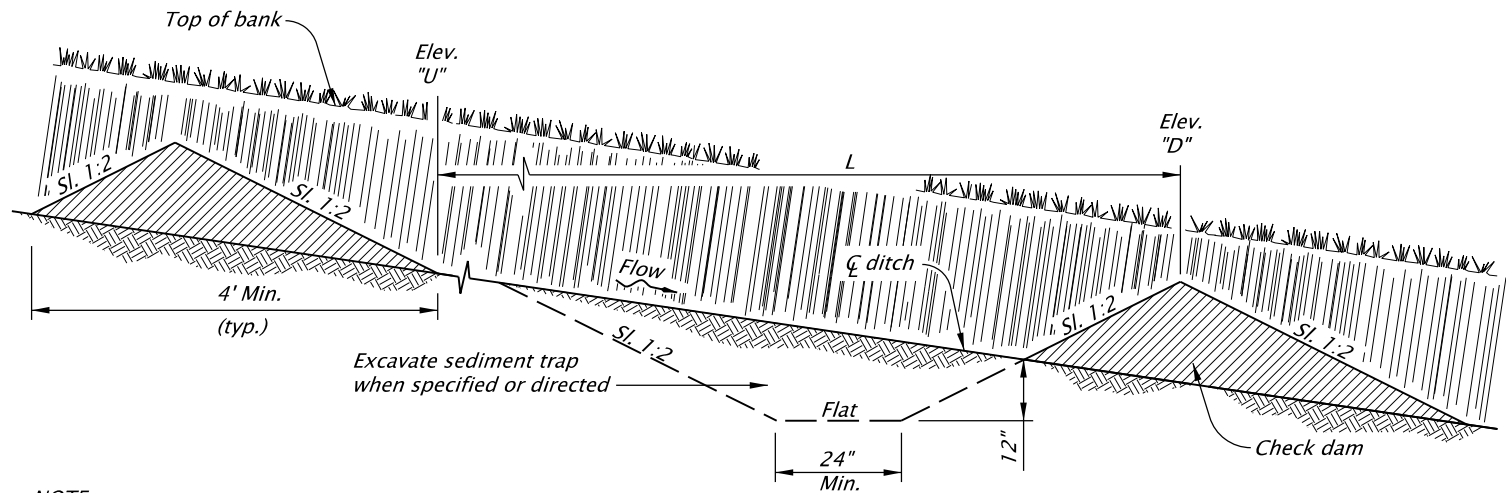
FENCE GATES

2021

DATE REVISION DESCRIPTION

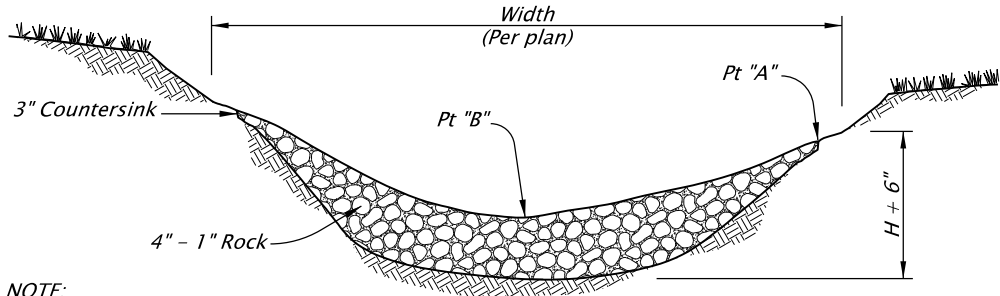
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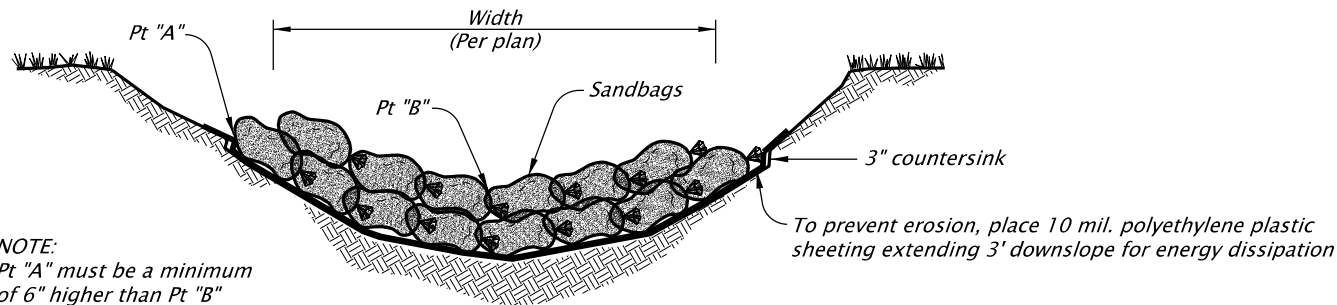
NOTE:  
L = Spacing along swale or ditch so that  
Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS  
(SHOWN WITH AGGREGATE)  
NOT TO SCALE



NOTE:  
Pt "A" must be a minimum  
of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1  
NOT TO SCALE

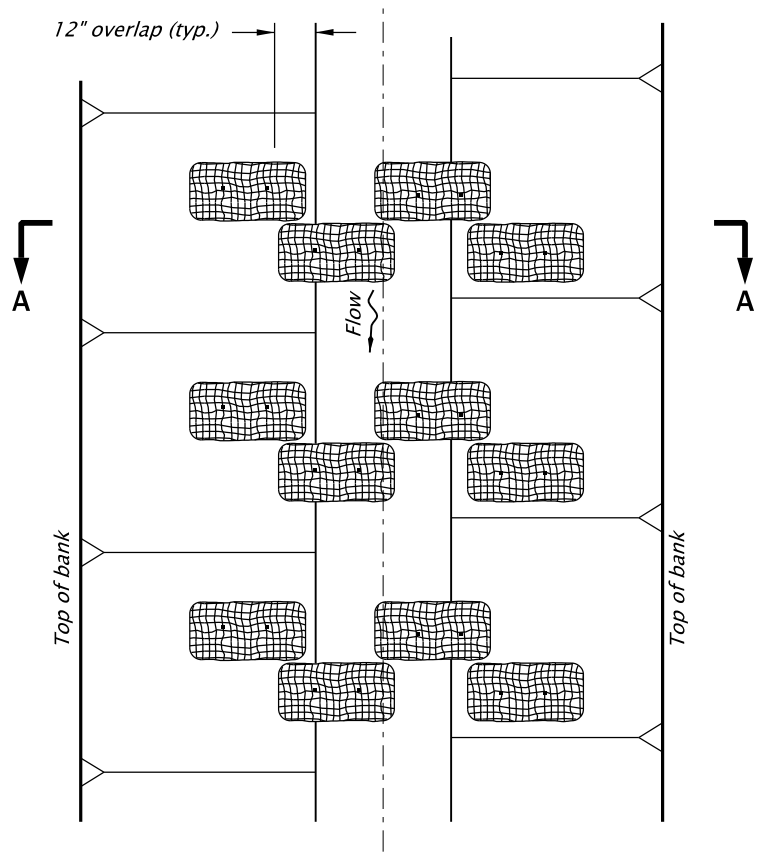


NOTE:  
Pt "A" must be a minimum  
of 6" higher than Pt "B"

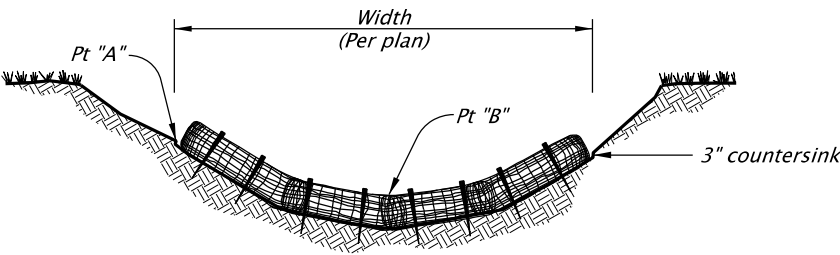
SANDBAG CHECK DAM - TYPE 4  
NOT TO SCALE

- NOTES:
1. Type 3 – stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.
  2. Type 4 – Tightly abut or overlap ends of sandbags at each joint.
  3. Spacing between check dams for all check dam types shall comply with the typical profile section shown above.

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	**	**	15'	20'
9%	**	**	16'	22'
8%	**	**	18'	25'
7%	**	**	21'	28'
6%	**	16'	25'	33'
5%	**	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'
** Not allowed				
H = Min. dam height				



PLAN

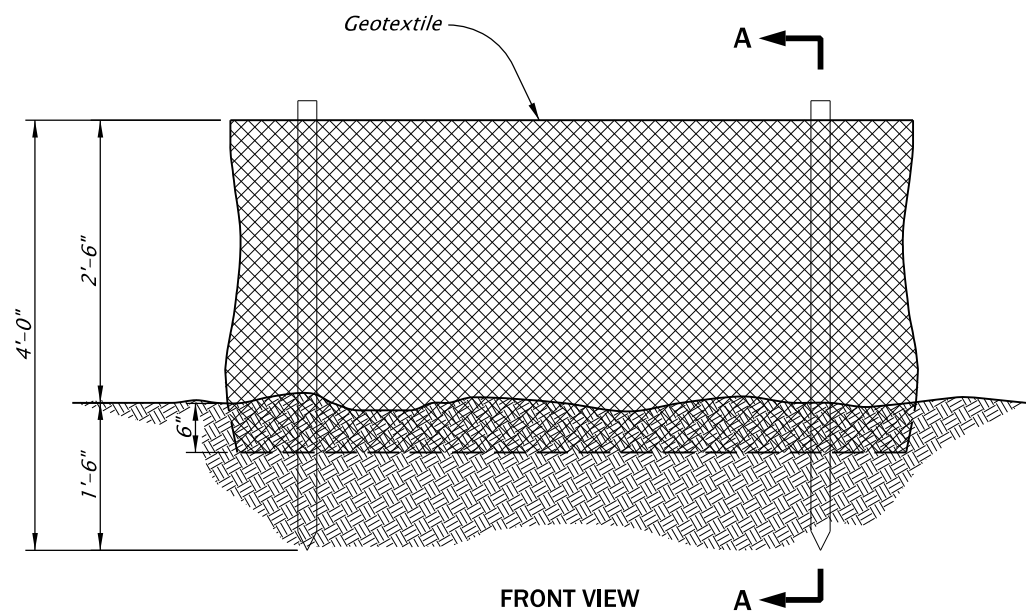


SECTION A-A

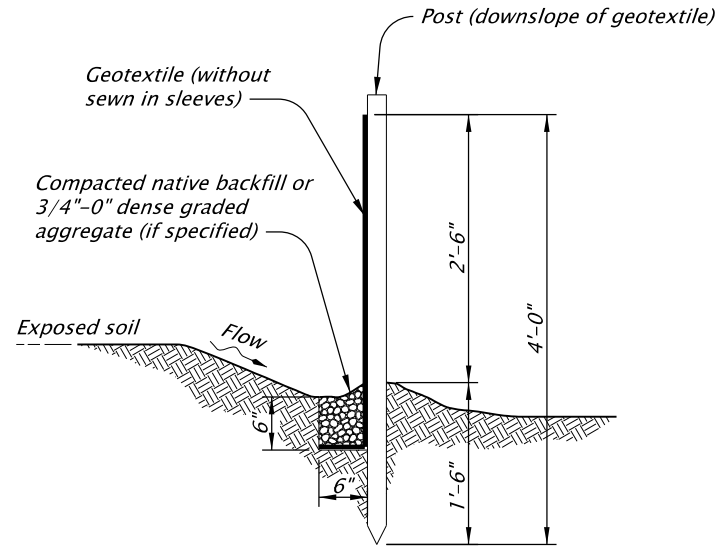
BIOFILTER BAG CHECK DAM - TYPE 3  
NOT TO SCALE

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>January, 2021</u>	
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		OREGON STANDARD DRAWINGS	
		CHECK DAMS TYPE 1, 3 AND 4	
		2021	
		DATE	REVISION DESCRIPTION
		Jan 2021	Removed Calc book numbers





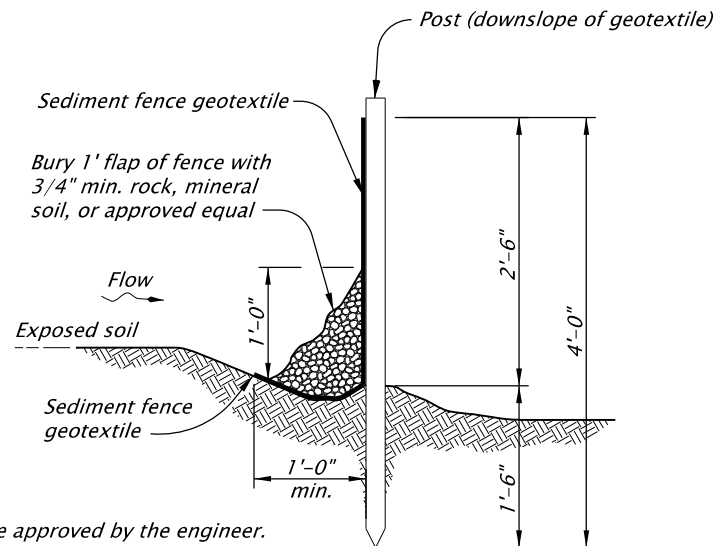
FRONT VIEW



SECTION A-A

### SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1

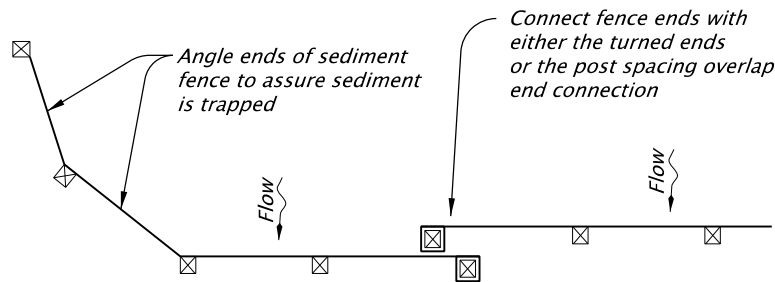
NOT TO SCALE



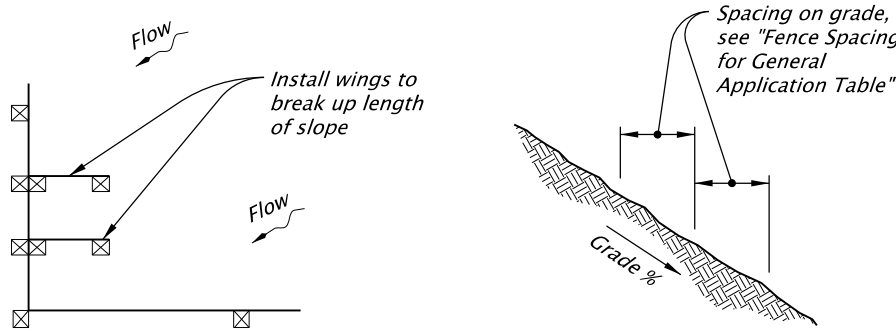
- NOTES:
1. Use must be approved by the engineer.
  2. Not approved for use with sediment fencing with sewn-in post sleeves.

### ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2

NOT TO SCALE



PLAN VIEW

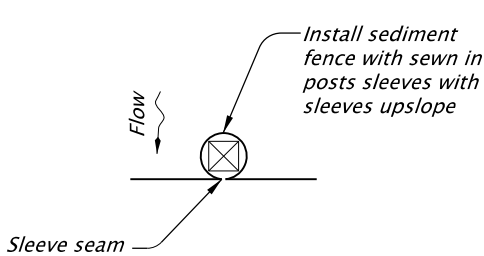


TERMINATION AT CORNER OR PROPERTY LINE

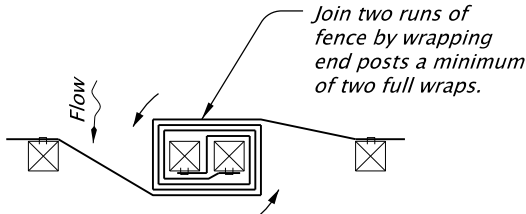
- GENERAL NOTES:
1. Use 2"x2" wood fence posts.
  2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
  3. Compact filter fabric trench backfill and soil on uphill side of fence.
  4. Locate fence no closer than three feet to the toe of a slope.
  5. Wing spacing shall comply with "Fence Spacing for General Application Table".

FENCE SPACING FOR GENERAL APPLICATION TABLE	
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

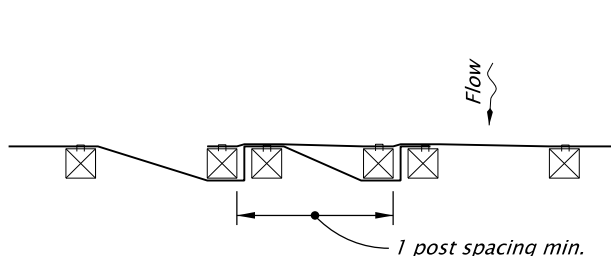
POST SPACING TABLE	
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

### GEOTEXTILE END CONNECTIONS

NOT TO SCALE

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>January, 2021</u>	
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		OREGON STANDARD DRAWINGS	
		SEDIMENT FENCE	
		2021	
		DATE	REVISION DESCRIPTION
		Jan 2021	Removed Calc book numbers