

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A01	Cover Sheet
A02	Index Of Sheets Cont'd. & Std. Drg. Nos.

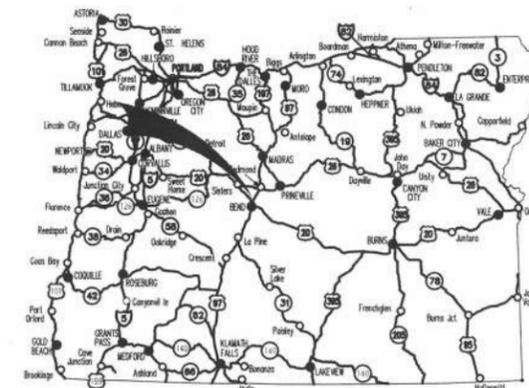
DESCHUTES COUNTY ROAD DEPARTMENT

PLANS FOR PROPOSED PROJECT

Bridges And Structures

SISEMORE BRIDGE REHABILITATION PROJECT OUTFLOW OF TUMALO RES.

SISEMORE ROAD
DESCHUTES COUNTY
FEBRUARY 2020

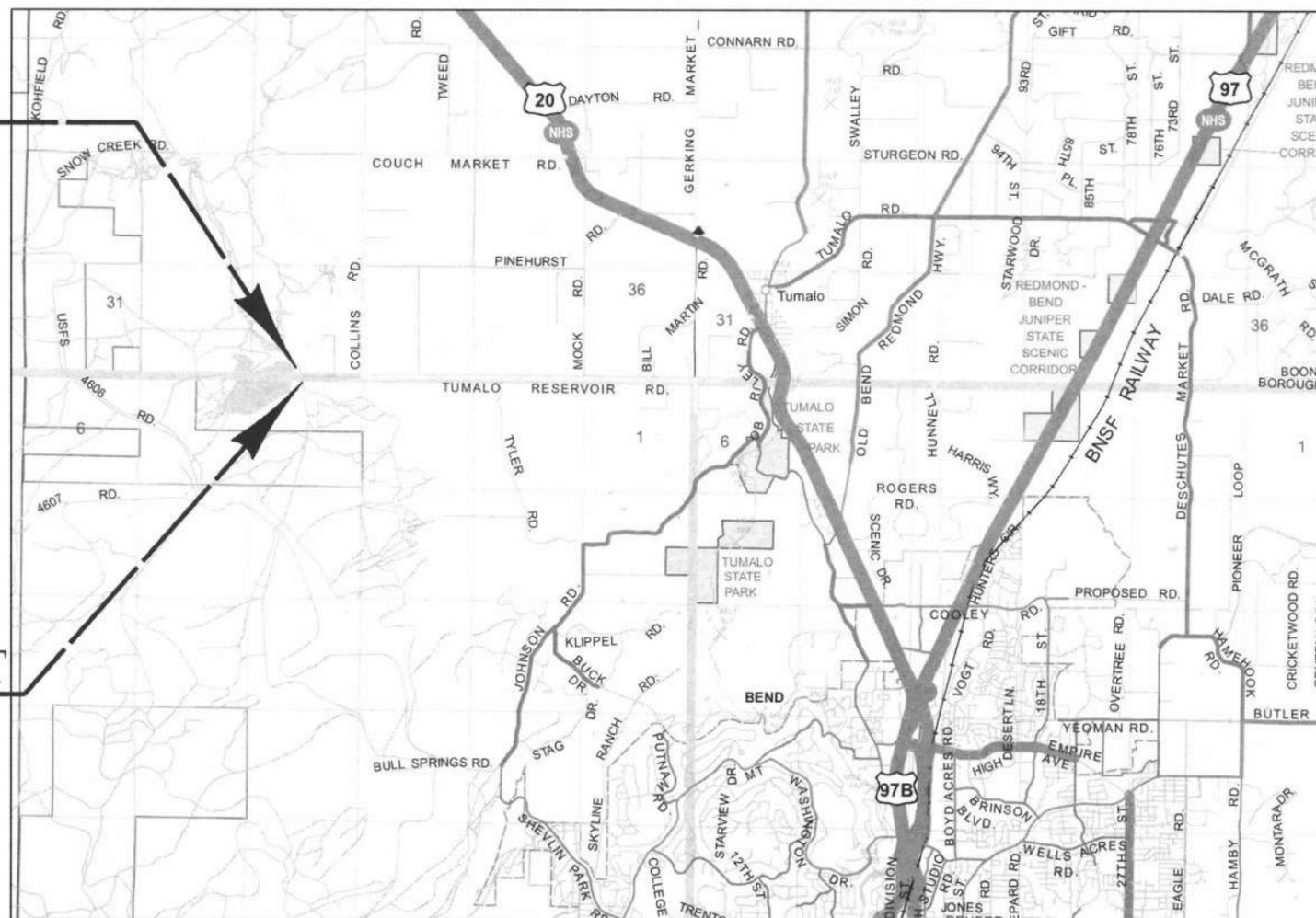


Overall Length Of Project - 0.04 Miles

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



END OF PROJECT
STA. "S" 18+55.76



BEGINNING OF PROJECT
STA. "S" 16+51.68

T. 16 S., R. 11 E., W.M.

PLANS PREPARED FOR
DESCHUTES COUNTY ROAD DEPARTMENT

DAVID EVANS AND ASSOCIATES INC.
530 Center Street N.E., Suite 605
Salem Oregon 97301
Phone: 503.361.8635

These plans were developed using AASHTO design standards. Exceptions to these standards, if any, have been submitted and approved by the Deschutes County Public Works Director or their delegated authority.

PLANS PREPARED FOR DESCHUTES COUNTY PUBLIC WORKS

Shon Heern 12-23-2019

Signature & date

Shon Heern, Project Manager

Print name and title

SISEMORE BRIDGE REHABILITATION PROJECT
SISEMORE BRIDGE
SISEMORE ROAD
DESCHUTES COUNTY

RDW66035

COVER SHEET

SHEET NO.

A01

INDEX OF SHEETS, CONT.

ROADWAY CONSTRUCTION

SHEET NO.	DESCRIPTION
BA01	Typical Sections
C01	General Construction
C01A	Profile
D01	Traffic Detour

BRIDGE REHABILITATION

SHEET NO.	DESCRIPTION
J01	Plan And Elevation
J02	General Notes
J03	Containment And Access Plan
J04	Arch Repair Details (1 Of 2)
J05	Arch Repair Details (2 Of 2)
J06	Concrete Repair Details
J07	Curb Repair Details
J08	Rail Details
J09	Masonry Wall Repair Details

Standard Drg. Nos.

- RD610 - Asphalt Concrete Pavement (ACP) Details
- RD1005 - Check Dams Type 1, 3 and 4
- RD1030 - Sediment Barrier Type 2, 3 and 4
- TM670 - Wood Post Sign Supports
- TM671 - 3-Second Gust Wind Speed Map
- TM800 - Tables, Abrupt Edge and PCMS Details
- TM820 - Temporary Barricades
- TM821 - Temporary Sign Supports
- TM822 - Temporary Sign Supports
- TM850 - 2-Lane, 2-Way Roadways

SISEMORE BRIDGE REHABILITATION PROJECT
 SISEMORE BRIDGE
 SISEMORE ROAD
 DESCHUTES COUNTY

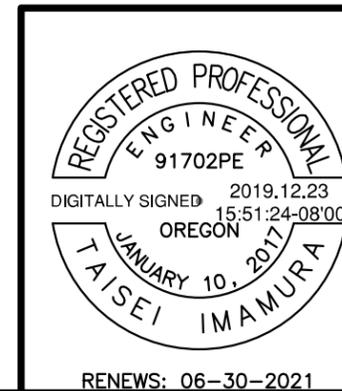
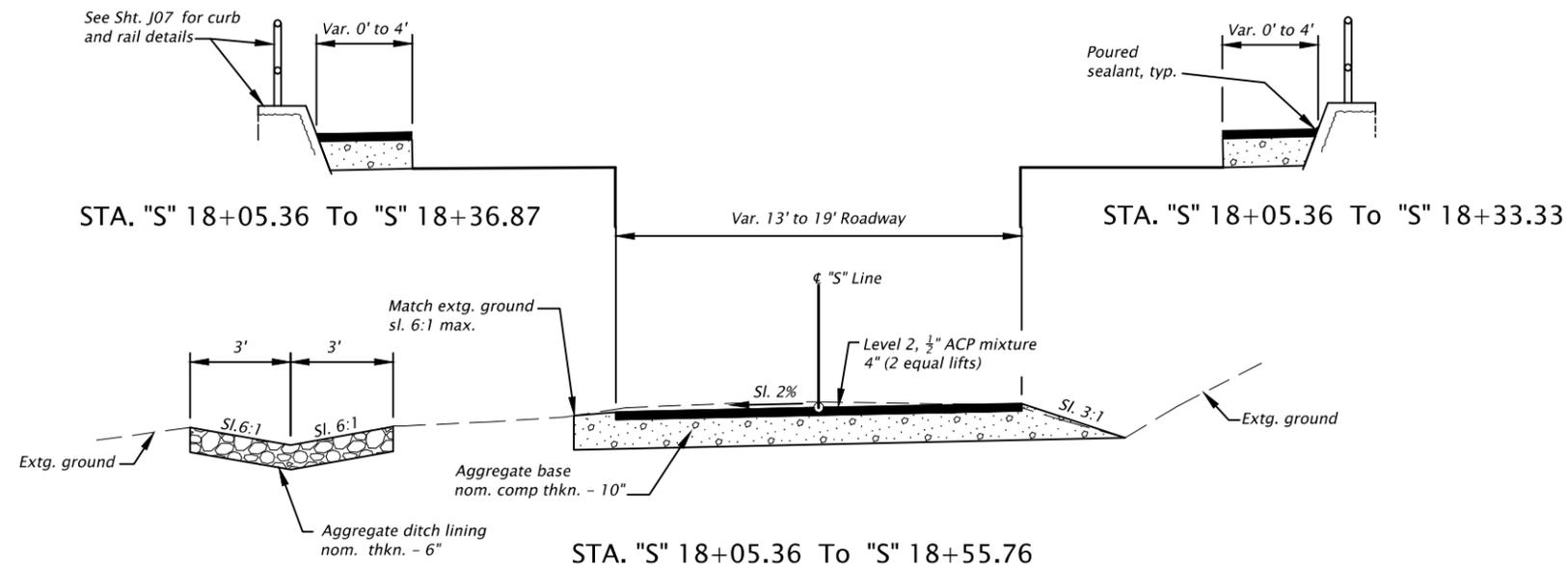
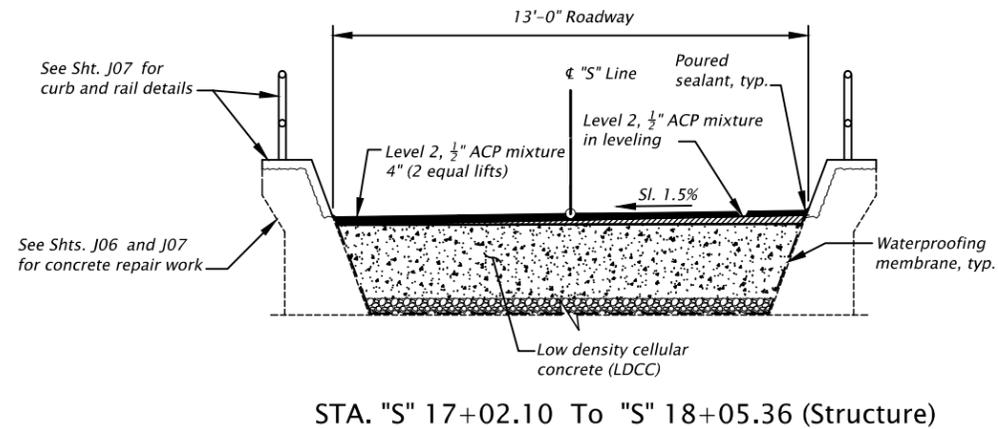
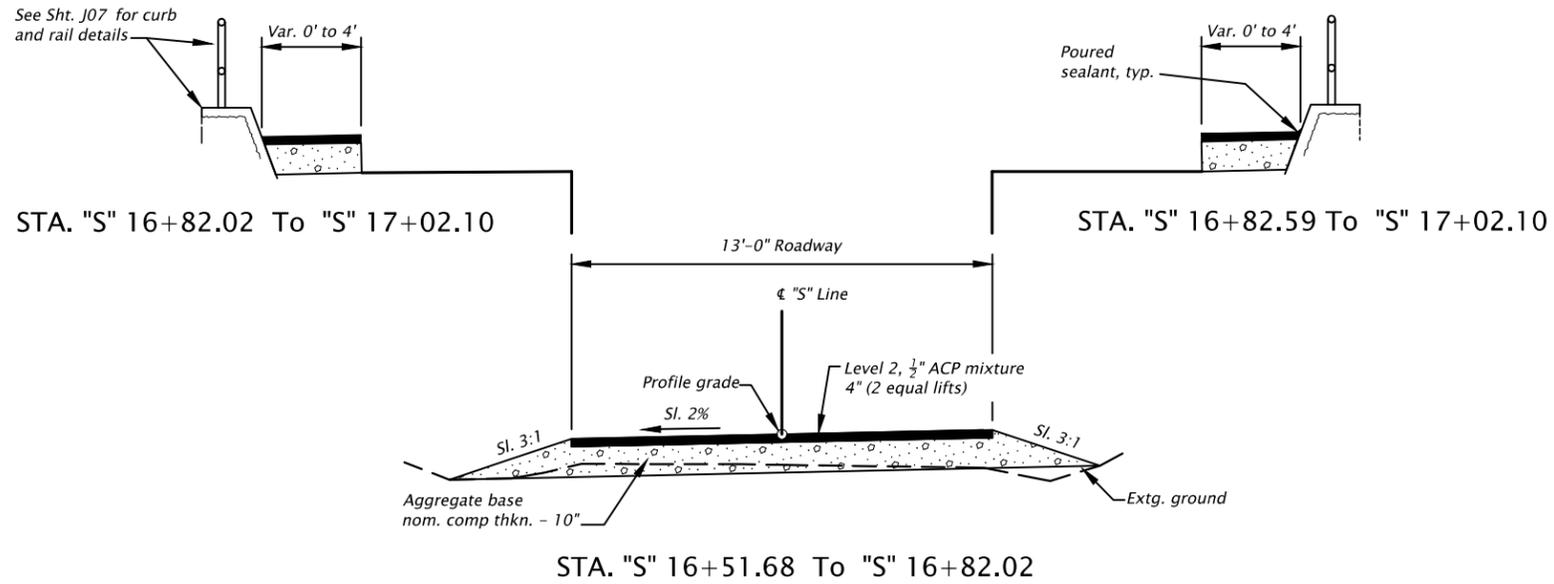
RDW66035

SHEET NO.

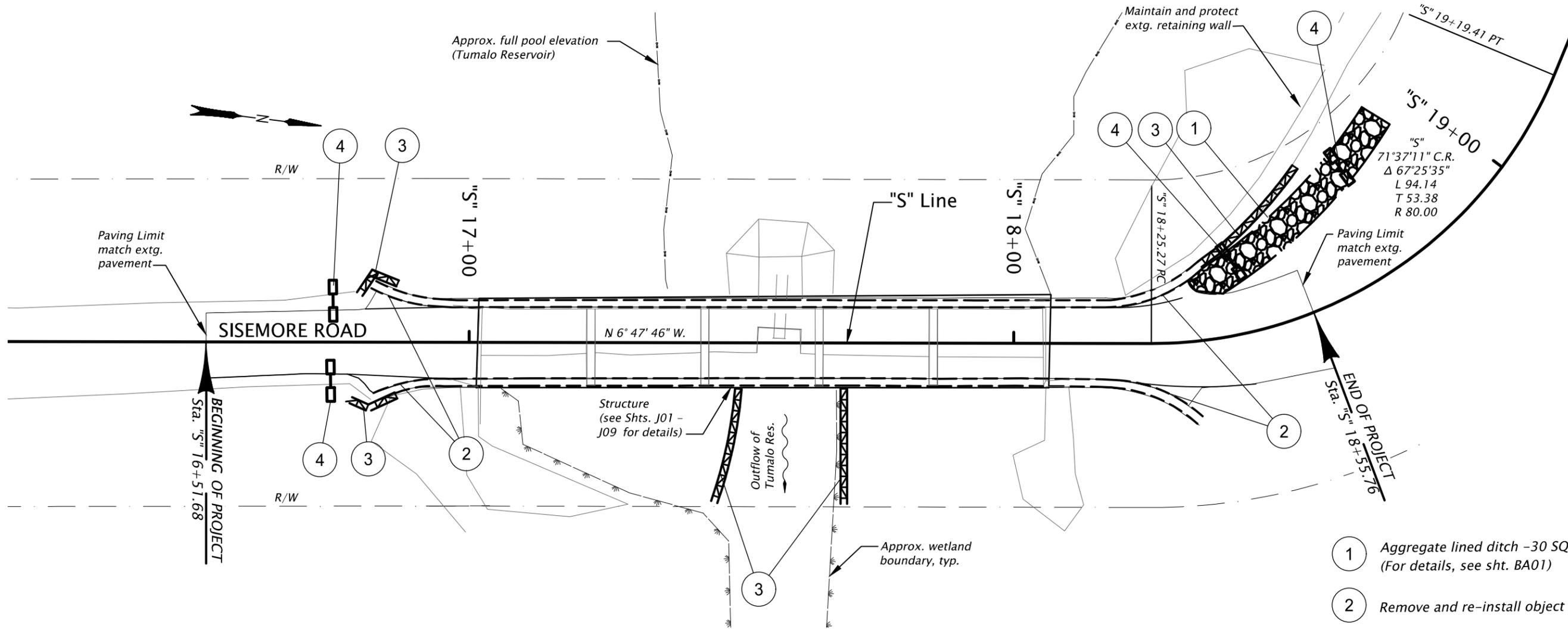
Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard_drawings_home.aspx

INDEX OF SHEETS CONT. & STD. DWG. NOS.

A02



DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Tai Imamura Drafter: Tai Imamura	Reviewer: Shon Heern Checker: Jon Heacock
TYPICAL SECTION	
SHEET NO. BA01	



GENERAL EROSION CONTROL NOTES:

The Construction, Adjustment, Maintenance, And Upgrading Of These Erosion Control Measures Is The Responsibility Of The Contractor For The Duration Of The Project.

Erosion Control Measures Shown On This Plan Are For Anticipated Site Conditions. Adjust Or Upgrade These Measures For Unexpected Storm Events To Ensure That Sediment And Sediment-Laden Water Does Not Leave The Site.

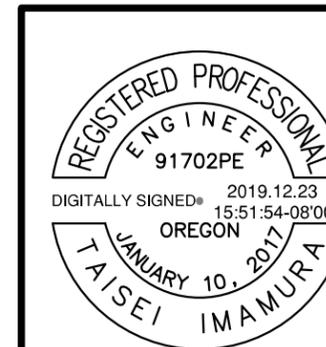
Develop A Revised Plan Of The Erosion Control Measures Shown As Required By Section 00280, Oregon Standard Specifications For Construction. Implement This Plan For All Clearing And Grading Activities And In Segments Applicable To Each Staging Phase. Construct In Such A Manner So As To Ensure That Sediment And Sediment-Laden Water Does Not Enter The Roadway Or Drainage System, Or Violate Applicable Water Standards.

Install Measures Within The Right Of Way Unless Directed Otherwise.

Install Stabilized Construction Entrances At The Beginning Of Construction And Maintain For The Duration Of The Project. Additional Measures May Be Required To Insure That All Paved Areas Are Kept Clean.

Construct Sediment Fence 1.5 Meters (5 Feet) Downslope From The Toe Of Fill Slopes Where Sediment-Laden Water Has A Potential Of Entering Waterways Or Leaving The R/W.

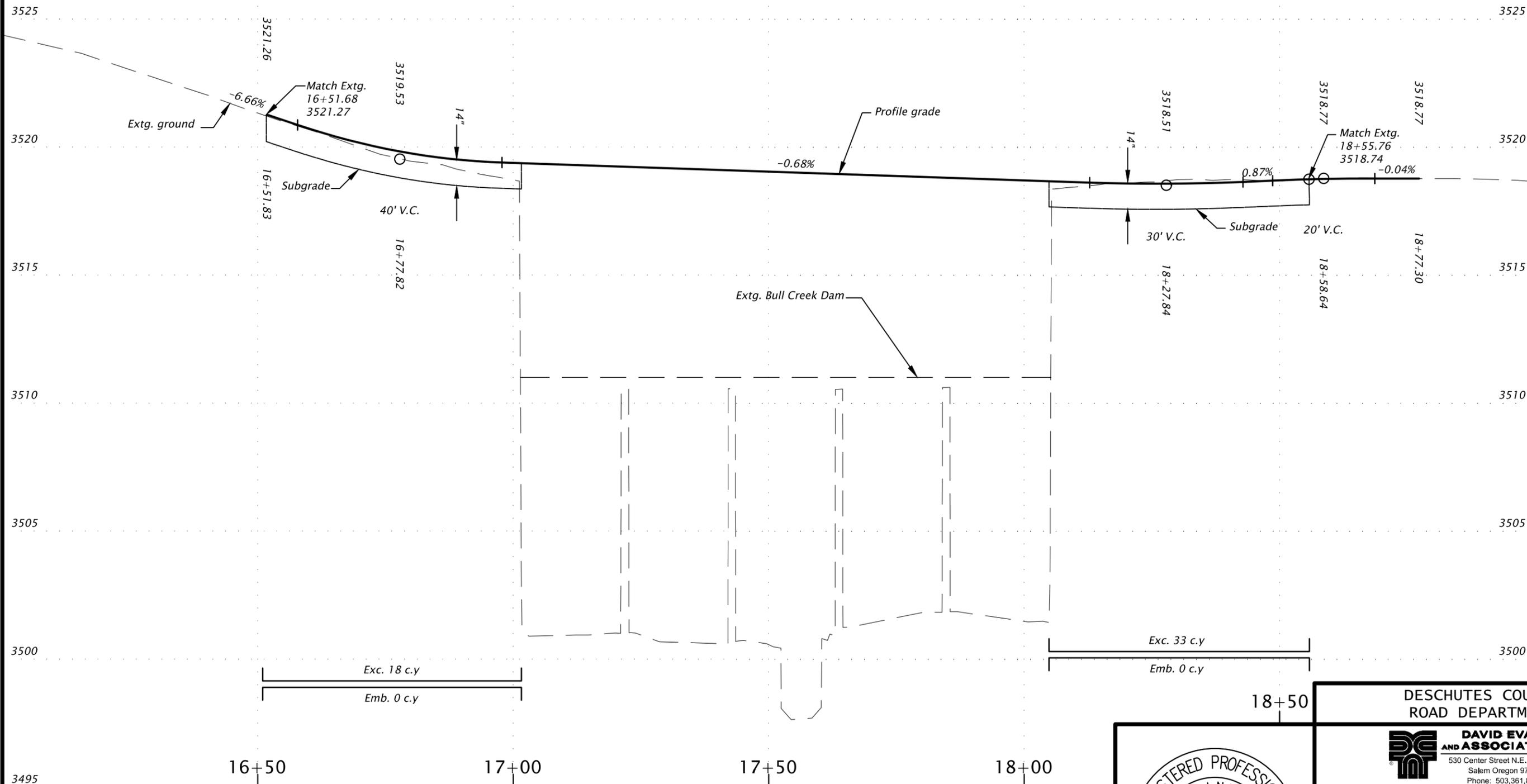
Protect All Inlets During Surface Grinding, Paving, And Earthwork Operations To Prevent Pollutants From Entering Storm Water Systems.



RENEWS: 06-30-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Tai Imamura Drafter: Tai Imamura	Reviewer: Shon Heern Checker: Jon Heacock
GENERAL CONSTRUCTION	
SHEET NO. C01	

"S" Line



Extg. Bull Creek Dam

Exc. 33 c.y

Emb. 0 c.y

Exc. 18 c.y

Emb. 0 c.y



RENEWS: 06-30-2021

DESCHUTES COUNTY ROAD DEPARTMENT



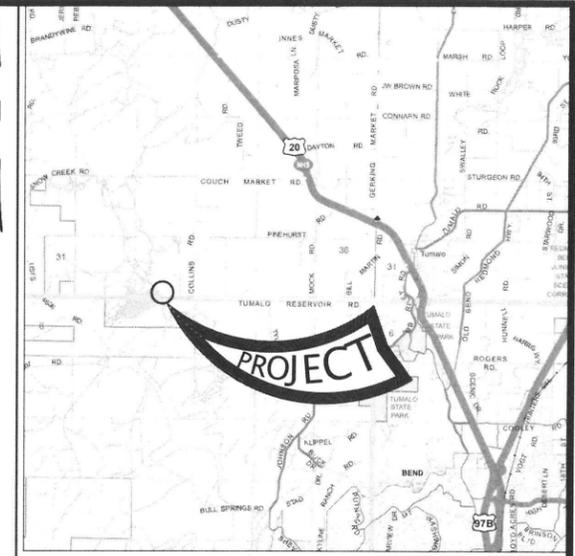
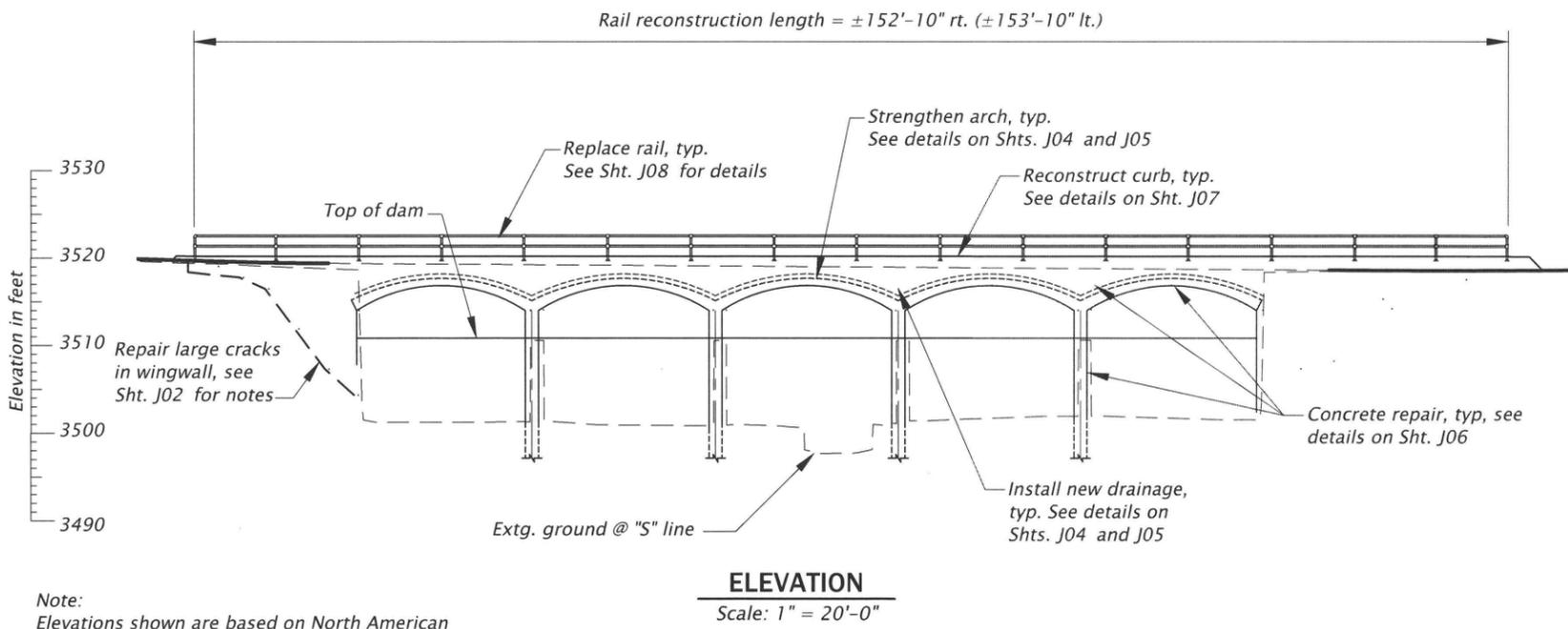
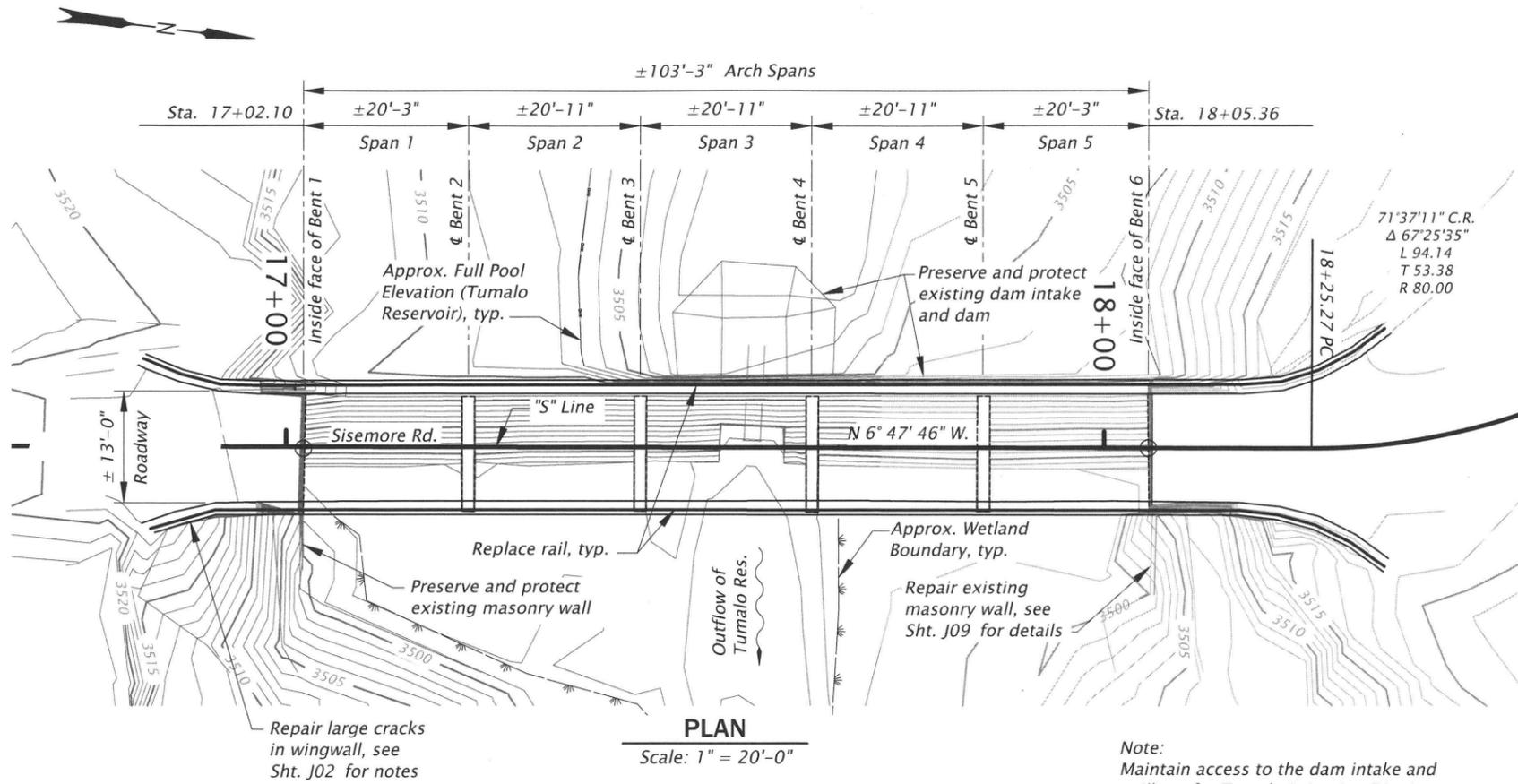
SISEMORE BRIDGE REHABILITATION PROJECT

SISEMORE ROAD
DESCHUTES COUNTY

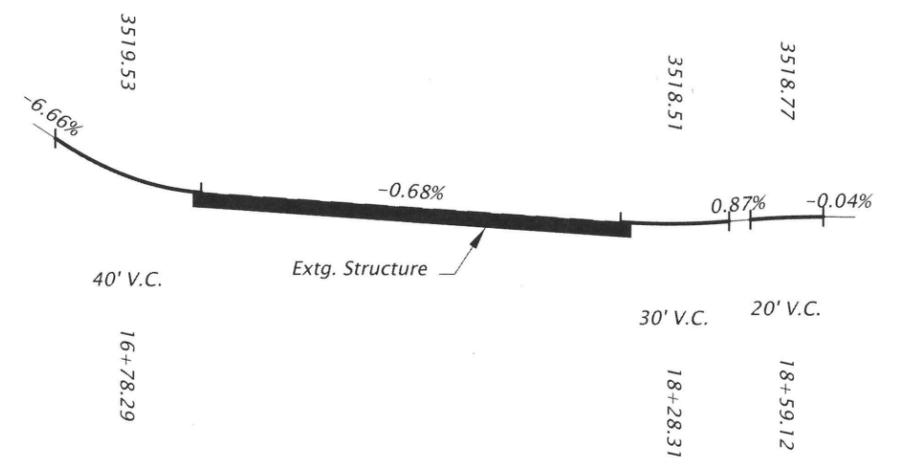
Designer: Tai Imamura Reviewer: Shon Heern
 Drafter: Tai Imamura Checker: Jon Heacock

PROFILE

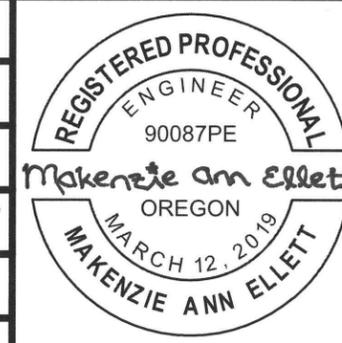
SHEET NO.
C01A



SEC. 33, T. 16 S., R. 11 E., W.M.



STRUCTURE NO.	#17C02
BDS DWG NO.	104475
CALC. BOOK	-
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	01/2020



RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Makenzie Ellett	Reviewer: Matt Harlan
Drafter: Dustin Altenburg	Checker: Amanda Blankenship
PLAN AND ELEVATION	
SHEET NO. J01	

GENERAL NOTES:

Provide all materials and perform all work according to the Oregon Standard Specifications for Construction 2018.

Bridge rehabilitation is designed to provide rating factors greater than 1.0 for ODOT legal trucks according to the ODOT LRFR Manual (June 2018).

Provide all reinforcing steel according to ASTM Specification A706, or AASHTO M31 (ASTM A615) Grade 60. Provide field bent stirrups according to ASTM Specification A706. Use the following splice lengths (unless shown otherwise):

Reinforcing Splice Lengths (Class B) Grade 60, f _c = 4.0 ksi, λ _{rc} = 0.4, 2" min. concrete clear cover											
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-9"	3'-7"	4'-6"	5'-9"	7'-0"	Not Permitted	

Increase all splice lengths 30% for horizontal or nearly horizontal bars placed so that more than 12" of fresh concrete is cast below the bar.

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

All reinforcing spacing is intended to be maximum unless shown otherwise.

Support the bottom mat reinforcing steel from the existing concrete with precast mortar blocks at 24" maximum centers each way. Support the top mat of reinforcing steel from the bottom mat of reinforcing steel with wire bar supports as shown in Chapter 3 of the CRSI Manual of Standard Practice (SBU, BBU, or CHCU). Place wire bar supports at 24" maximum centers.

Use uncoated reinforcing steel in the deck. This includes longitudinal bars, transverse bars, and all bars extending into the arch slab.

Place bars 2" clear of the nearest face of concrete (unless shown otherwise). The top bends of stirrups extending from arch slab into the top slab may be shop or field bent (unless shown otherwise).

Provide Class 4000 1 1/2", 1" or 3/4" concrete for all concrete.

Provide non-shrink cementitious grout with a minimum 28-day compressive strength of f_c = 3000 psi. Provide grout test panels for color review and approval prior to construction.

For the curb concrete, provide cured test panels for color review and approval prior to construction.

Provide general surface finish on all repaired concrete, and sand blast.

Low Density Cellular Concrete (LDCC) shall meet the following criteria:

- Unit weight = 30 pcf maximum
- Compressive strength = 200 psi minimum
- Permeable

Structure Excavation Limits:

Pay limits of Structure Excavation are between the arch side walls and limits shown on Sht. J05 and on Ground Line Concrete Repair Detail on Sht. J06. All other excavation on the roadway approaches is General Excavation.

CONSTRUCTION SEQUENCE:

Arch Strengthening:

See Special Provisions Section 220 for scheduling requirements.

1. Remove existing ACWS and arch fill.
2. Blast clean exposed concrete surface.
3. Perform Concrete Repair on surfaces inside arch.
4. Perform Rail Replacement and Curb Repair.
5. Drill and epoxy embed dowels into concrete.
6. Place reinforcement.
7. Cast new concrete over existing arch.
8. Install waterproofing membrane.
9. Install new drainage pipes.
10. Replace fill with granular drain backfill, and low density cellular concrete (LDCC).
11. Construct roadway wearing surface.

Concrete Repair:

Concrete repair includes patching deteriorated concrete and sealing cracks. This work is to be performed on pier walls, top and bottom of arch slab, and the interior and exterior side walls of arch. Concrete repair of the interior and exterior arch side walls and the top of the arch slab to be performed concurrently with the arch strengthening.

1. Remove all deteriorated concrete (poor consolidation, spalling, and delaminated).
2. Blast clean all exposed rebar and concrete surfaces.
3. Place grout to be flush with original concrete surface.
4. Use compressed air to remove debris from cracks greater than or equal to 0.015" in width.
5. Seal and epoxy inject all cracks greater than or equal to 0.015" in width, except large cracks in Bent 1 east wingwall shall receive concrete repair per Section 00542 of the Special Provisions.

6. Remove crack sealant with blast cleaning.

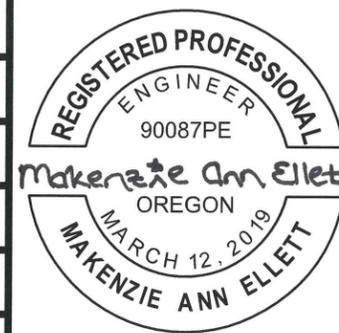
Rail Replacement and Curb Repair:

1. Remove existing rail, remove existing concrete from top and front faces of curbs, and protect existing concrete below the removal limits.
2. Assemble and set new two-tube rail.
3. Recast concrete on top and front faces of curbs, embedding new rail.

Masonry Wall Repair:

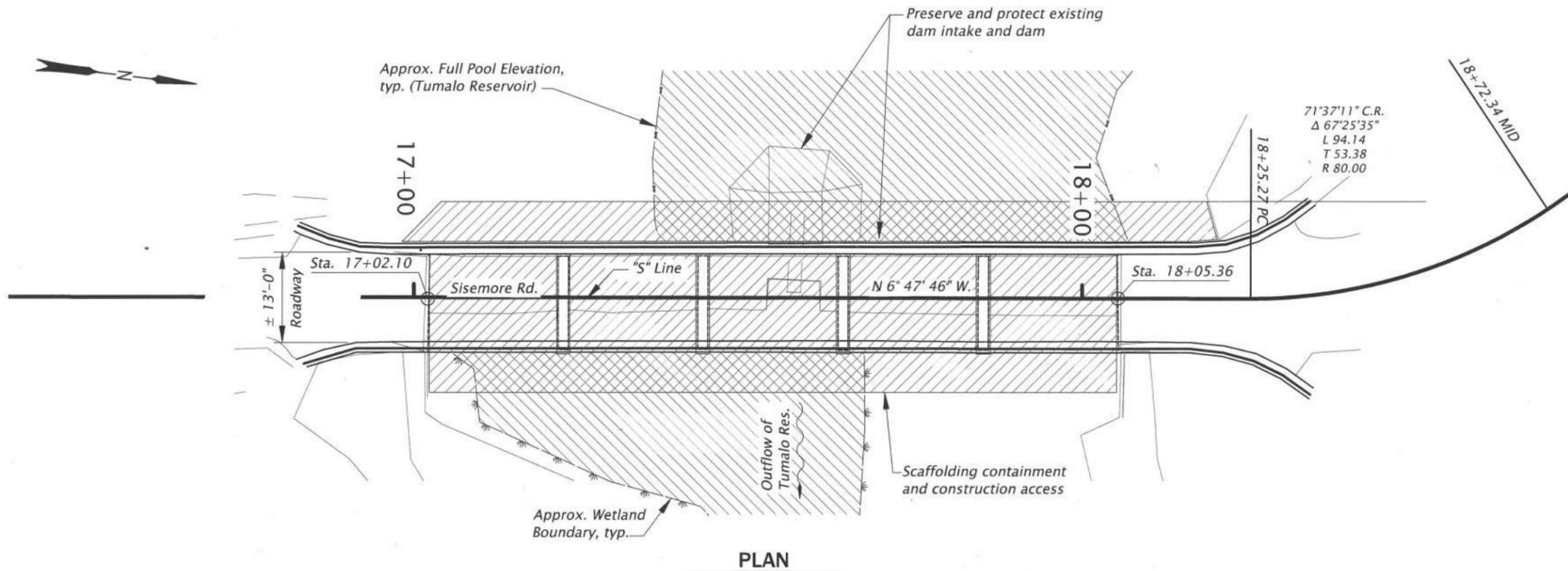
1. Replace all missing or loose stones and grout into place.
2. Rechink ungrouted masonry.

STRUCTURE NO. #17C02
BDS DWG NO. 104476
CALC. BOOK -
SISEMORE ROAD M.P.: 1.90
COUNTY Deschutes
DATE 01/2020



RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Makenzie Ellett	Reviewer: Matt Harlan
Drafter: Dustin Altenburg	Checker: Amanda Blankenship
GENERAL NOTES	SHEET NO. J02



PLAN
Scale: 1" = 20'-0"

Notes:
Scaffolding containment and construction access shown are conceptual. Design and construct containment and access system in conformance to the Special Provisions.

Only temporary untreated timber wood and vertical support elements are allowed to touch the regulated work area within the OHW limits to the west of bridge and the wetland east of the bridge. All other elements within these areas shall be above ground and above water.

Locate supports to prevent restrictions to channel flow.

Provide deck sheathing and felloe guards to contain construction material and cleaning fluids, and to prevent their entry into the waterway.

Maintain access to the dam intake and spillway for Tumalo Irrigation District. Do not support containment and access scaffolding off of dam or dam intake system.

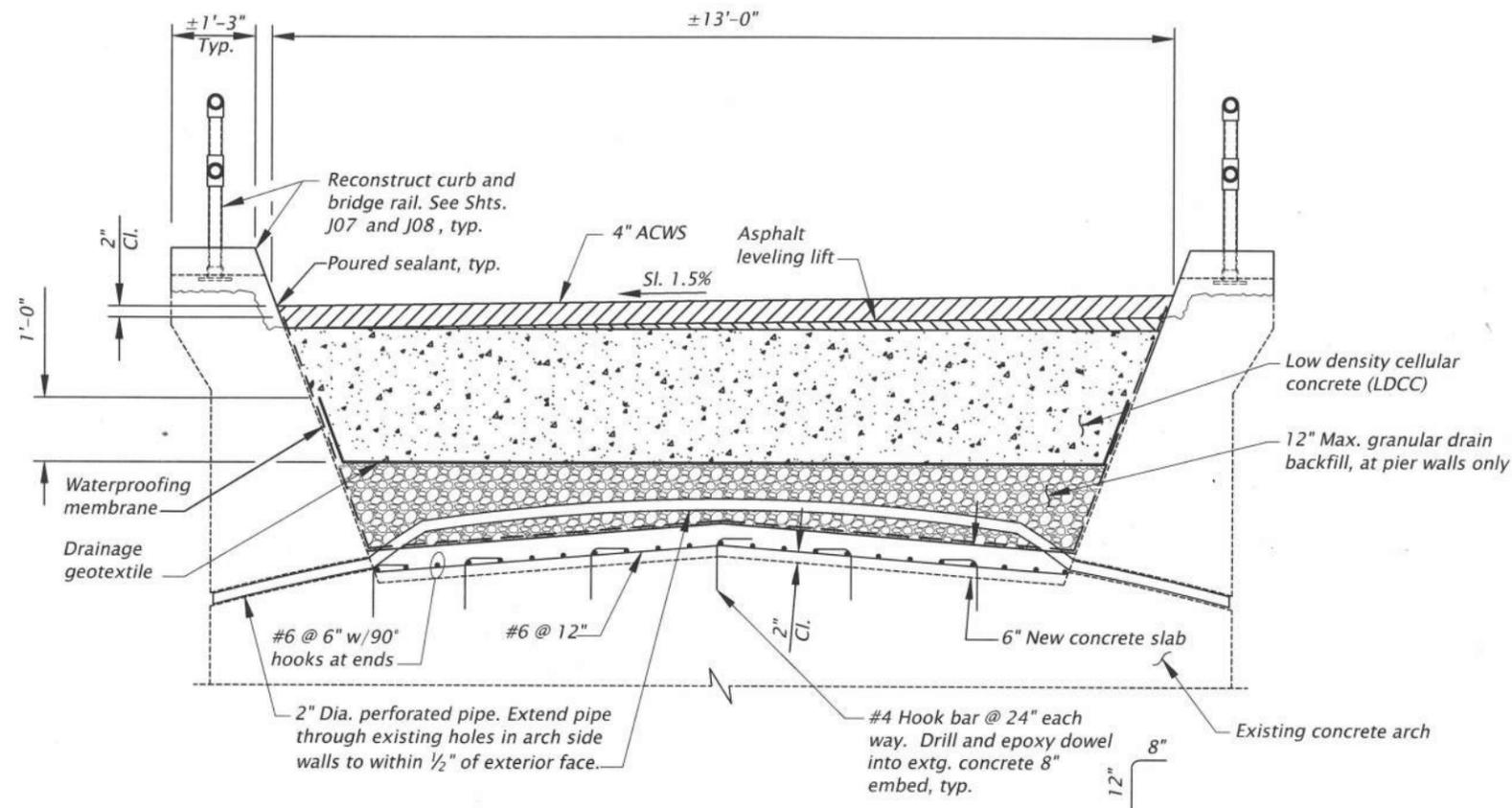
- Legend:**
- Anticipated work area.
 - Regulated work area.

STRUCTURE NO.	#17C02
BDS DWG NO.	104477
CALC. BOOK	
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	12/2019

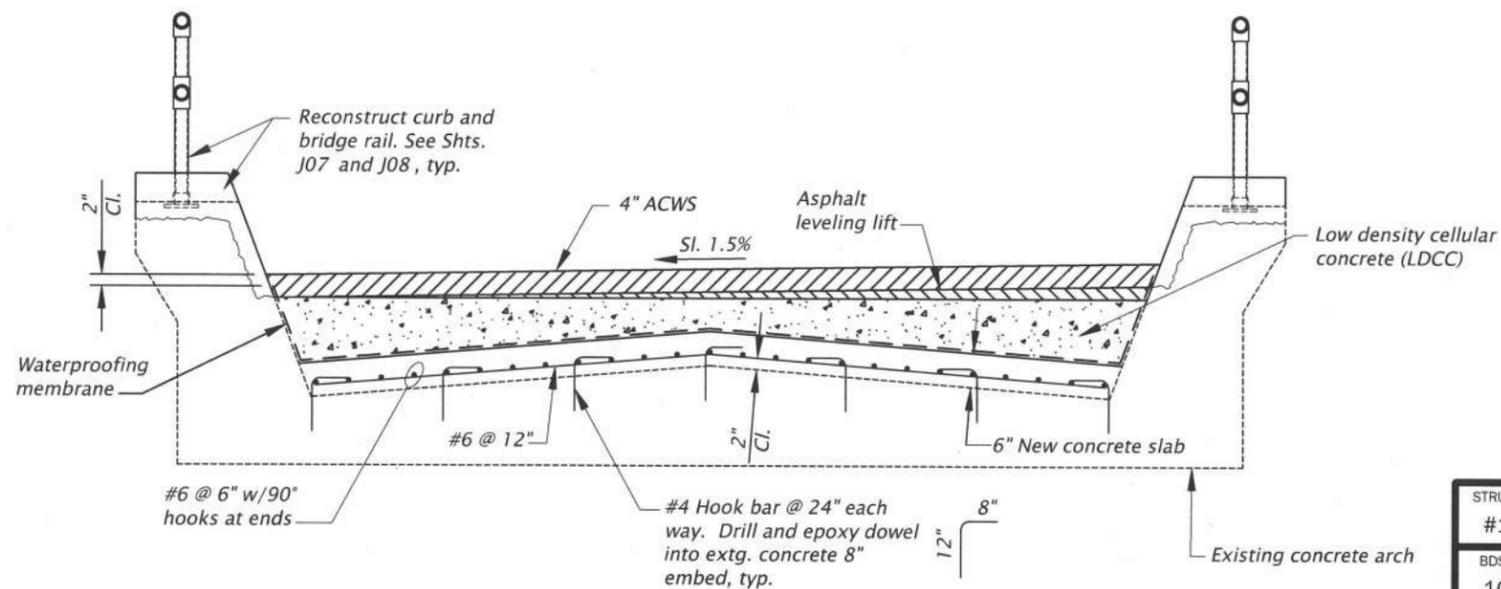
REGISTERED PROFESSIONAL ENGINEER
90087PE
Makenzie Ann Ellett
OREGON
MARCH 12, 2019
MAKENZIE ANN ELLETT

RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Makenzie Ellett	Reviewer: Matt Harlan
Drafter: Dustin Altenburg	Checker: Amanda Blankenship
CONTAINMENT AND ACCESS PLAN	SHEET NO. J03

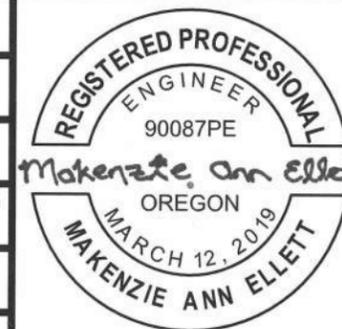


TYPICAL SECTION AT PIER WALL
Scale: 3/8" = 1'-0"



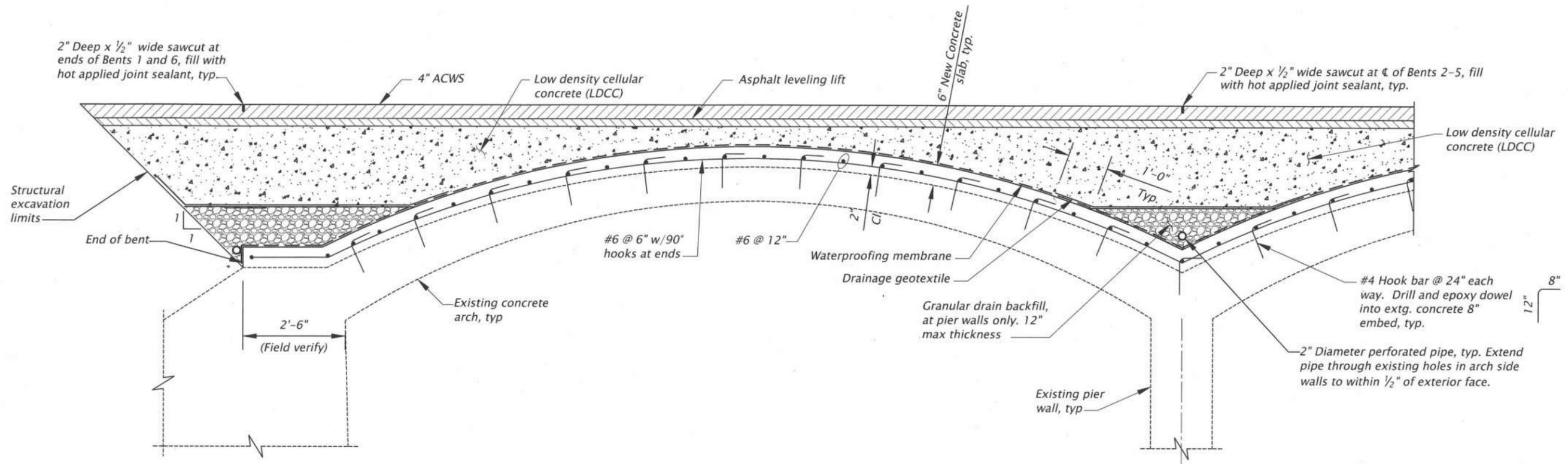
TYPICAL SECTION AT TOP OF ARCH
Scale: 3/8" = 1'-0"

STRUCTURE NO.	#17C02
BDS DWG NO.	104478
CALC. BOOK	
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	12/2019



RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Eric Ferluga	Reviewer: Amanda Blankenship
Drafter: Dustin Altenburg	Checker: Makenzie Ellett
ARCH REPAIR DETAILS (1 OF 2)	
SHEET NO. J04	

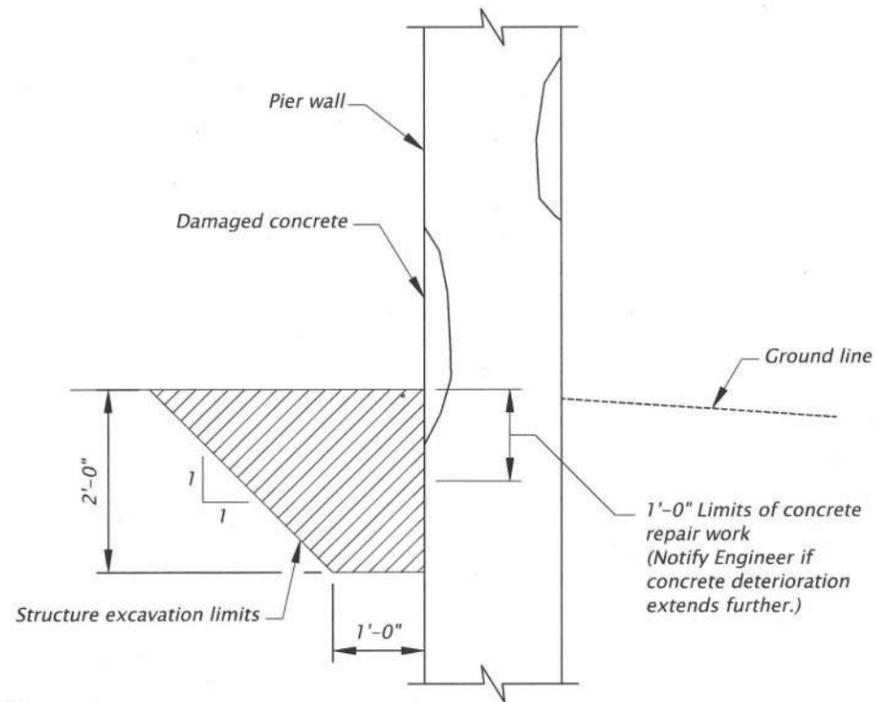


LONGITUDINAL BRIDGE SECTION
Scale: 3/8" = 1'-0"

STRUCTURE NO.	#17C02
BDS DWG NO.	104479
CALC. BOOK	
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	12/2019

REGISTERED PROFESSIONAL ENGINEER
90087PE
Makenzie Ann Ellett
OREGON
MARCH 12, 2019
MAKENZIE ANN ELLETT
RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Eric Ferluga	Reviewer: Amanda Blankenship
Drafter: Dustin Altenburg	Checker: Makenzie Ellett
ARCH REPAIR DETAILS (2 OF 2)	
SHEET NO. J05	



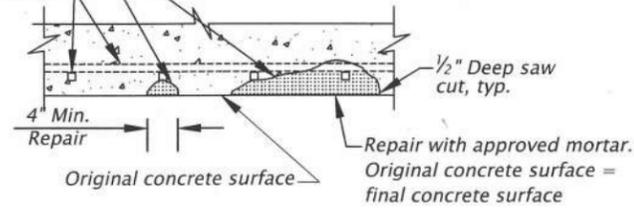
Note:
Collect and conserve all excavated material. Backfill with conserved material. Structure excavation shall be performed with hand tools only.

GROUND LINE CONCRETE REPAIR DETAIL

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

Remove all unsound concrete per special provisions. Blast clean concrete surfaces and rebar before restoring concrete.

Existing rebar, typ.



PATCH REPAIR

Notes:

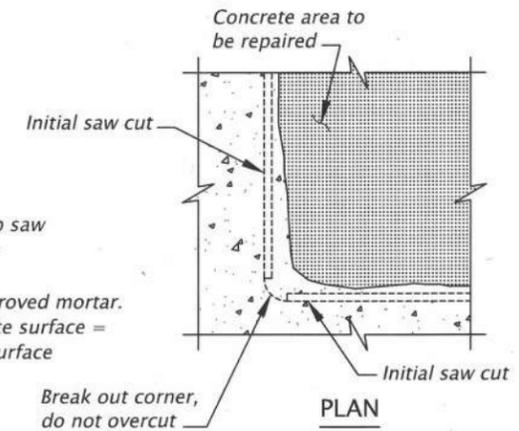
See project special provisions.

Save and protect existing rebar.

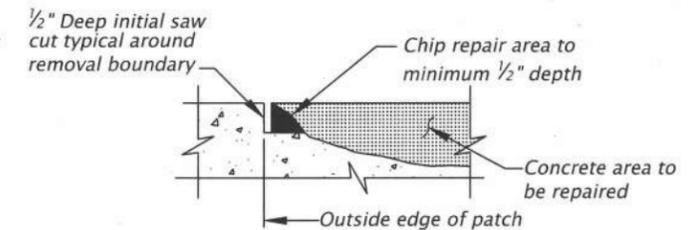
Adjust saw cut depth as required to avoid damage to existing rebar.

Remove concrete in repair area to sound concrete but do not remove less than the minimum limits shown or as directed by the Engineer.

All repair areas shall receive a final surface finish matching the texture and color of existing concrete. Provide a sand blast finish per project special provisions.



PLAN

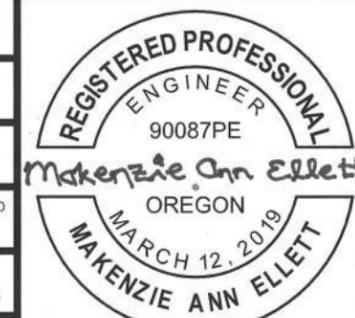


SECTION

NEAR SURFACE STRUCTURAL CONCRETE REPAIR DETAILS

No Scale

STRUCTURE NO.	#17C02
BDS DWG NO.	104480
CALC. BOOK	-
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	12/2019



RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT



SISEMORE BRIDGE REHABILITATION PROJECT

SISEMORE ROAD DESCHUTES COUNTY

Designer: Makenzie Ellett Reviewer: Matt Harlan
Drafter: Dustin Altenburg Checker: Amanda Blankenship

CONCRETE REPAIR DETAILS

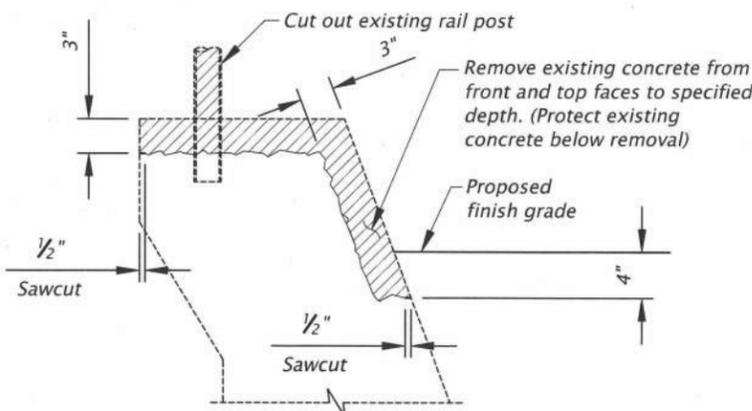
SHEET NO. J06

LEFT CURB					
Station	Offset (ft)	Extg. Top of Curb Elev.	Proposed Gutter Elev.	Proposed Top of Curb Elev.	Final Curb Exposure (in)
16+82.44	6.65	3519.36	3519.51	3520.18	8.00
16+85	8.50	3519.36	3519.46	3520.13	8.00
16+90	7.06	3519.35	3519.38	3520.05	8.00
16+95	6.53	3519.32	3519.32	3519.99	8.00
17+00	6.42	3519.42	3519.27	3519.94	8.00
Begin Bridge					
17+02.10	6.44	3519.41	3519.27	3520.13	10.32
17+05	6.45	3519.39	3519.25	3520.13	10.56
17+10	6.44	3519.36	3519.21	3520.13	11.09
17+15	6.47	3519.35	3519.17	3520.13	11.50
17+20	6.51	3519.35	3519.14	3520.13	11.91
17+25	6.52	3519.35	3519.11	3520.13	12.24
17+30	6.51	3519.35	3519.08	3520.13	12.60
17+35	6.51	3519.36	3519.04	3520.13	13.14
17+40	6.52	3519.37	3519.01	3520.13	13.44
17+45	6.51	3519.39	3518.97	3520.13	13.95
17+50	6.52	3519.40	3518.94	3520.13	14.28
17+55	6.54	3519.40	3518.90	3520.13	14.77
17+60	6.5	3519.38	3518.87	3520.13	15.17
17+65	6.51	3519.40	3518.84	3520.13	15.48
17+70	6.54	3519.43	3518.80	3520.13	15.99
17+75	6.56	3519.45	3518.77	3520.13	16.32
17+80	6.58	3519.47	3518.73	3520.13	16.81
17+85	6.58	3519.50	3518.70	3520.13	17.21
17+90	6.56	3519.52	3518.67	3520.13	17.52
17+95	6.54	3519.52	3518.63	3520.13	18.02
18+00	6.59	3519.52	3518.60	3520.13	18.36
End Bridge					
18+05.36	6.62	3519.541	3518.56	3520.13	18.84
18+10	6.6	3519.57	3518.53	3519.95	17.00
18+15	6.61	3519.61	3518.50	3519.77	15.20
18+20	6.95	3519.61	3518.47	3519.59	13.40
18+25	8.01	3519.59	3518.44	3519.41	11.60
18+30	9.84	3519.57	3518.42	3519.24	9.80

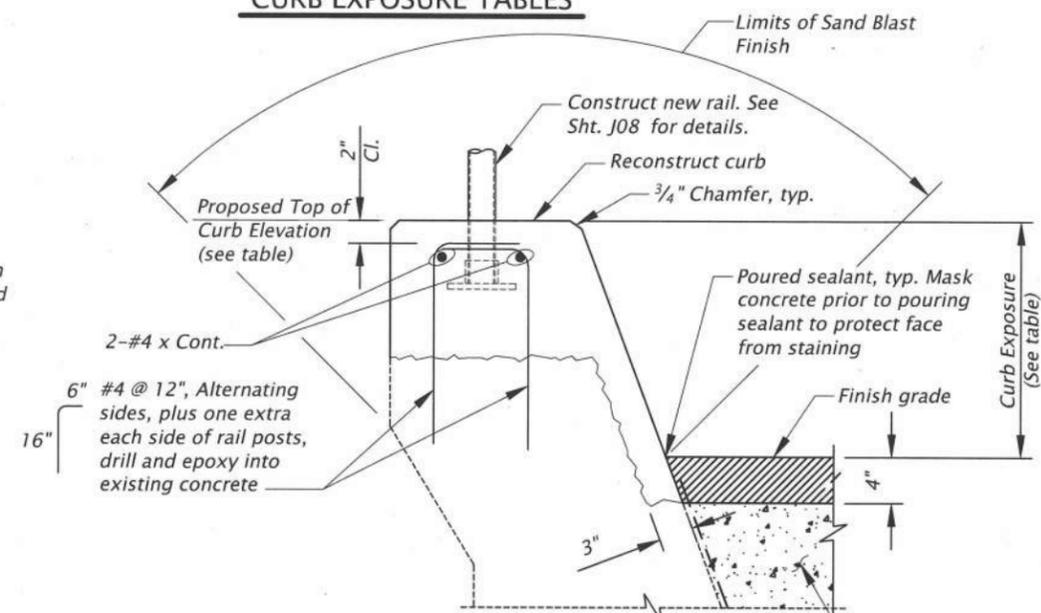
RIGHT CURB					
Station	Offset (ft)	Extg. Top of Curb Elev.	Proposed Gutter Elev.	Proposed Top of Curb Elev.	Final Curb Exposure (in)
16+82.44	9.32	3519.79	3519.81	3520.48	8.00
16+85	8.31	3519.78	3519.72	3520.39	8.00
16+90	7.05	3519.63	3519.59	3520.26	8.00
16+95	6.66	3519.54	3519.52	3520.19	8.00
17+00	6.73	3519.47	3519.48	3520.15	8.00
17+02.10	6.72	3519.45	3519.46	3520.13	8.04
17+05	6.67	3519.45	3519.44	3520.13	8.33
17+10	6.6	3519.43	3519.41	3520.13	8.64
17+15	6.55	3519.4	3519.37	3520.13	9.16
17+20	6.54	3519.37	3519.34	3520.13	9.48
17+25	6.52	3519.35	3519.30	3520.13	9.98
17+30	6.54	3519.35	3519.27	3520.13	10.38
17+35	6.54	3519.37	3519.24	3520.13	10.68
17+40	6.5	3519.38	3519.20	3520.13	11.20
17+45	6.46	3519.40	3519.17	3520.13	11.52
17+50	6.45	3519.42	3519.13	3520.13	12.02
17+55	6.45	3519.44	3519.10	3520.13	12.36
17+60	6.45	3519.45	3519.07	3520.13	12.72
17+65	6.46	3519.43	3519.03	3520.13	13.24
17+70	6.45	3519.42	3519.00	3520.13	13.56
17+75	6.45	3519.45	3518.96	3520.13	14.06
17+80	6.44	3519.45	3518.93	3520.13	14.40
17+85	6.51	3519.46	3518.90	3520.13	14.76
17+90	6.49	3519.46	3518.86	3520.13	15.27
17+95	6.45	3519.47	3518.83	3520.13	15.60
18+00	6.44	3519.49	3518.79	3520.13	16.09
18+05.36	6.45	3519.52	3518.76	3520.13	16.49
18+10	6.52	3519.53	3518.73	3519.98	15.04
18+15	6.58	3519.54	3518.69	3519.83	13.63
18+20	6.79	3519.57	3518.68	3519.70	12.22
18+25	7.8	3519.54	3518.68	3519.58	10.82
18+30	10.46	3519.3	3518.73	3519.51	9.41

Notes:
 Linearly interpolate for values in between points shown in table.
 Offset is measured to existing gutter line.

CURB EXPOSURE TABLES



CURB DEMOLITION DETAIL
 Scale: 3/4" = 1'-0"



CURB RECONSTRUCTION DETAIL
 Scale: 3/4" = 1'-0"

STRUCTURE NO.	#17C02
BDS DWG NO.	104481
CALC. BOOK	
SISEMORE ROAD M.P.: 1.90	
COUNTY	Deschutes
DATE	12/2019

REGISTERED PROFESSIONAL ENGINEER
 90087PE
 Makenzie Ann Ellett
 OREGON
 MARCH 12, 2019
 MAKENZIE ANN ELLETT
 RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT

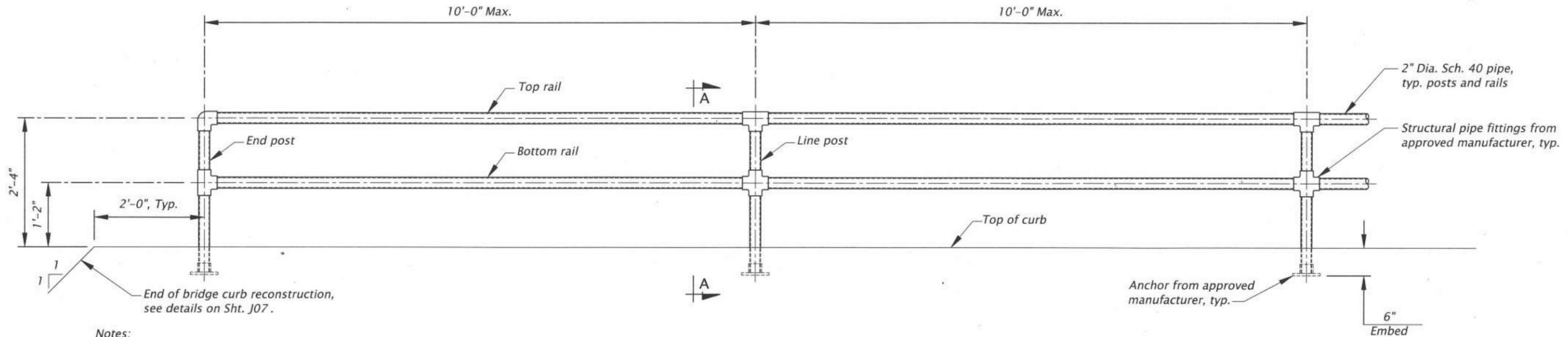
DAVID EVANS AND ASSOCIATES INC.
 530 Center Street N.E., Suite 605
 Salem Oregon 97301
 Phone: 503.361.8635

SISEMORE BRIDGE
SISEMORE BRIDGE REHABILITATION PROJECT

SISEMORE ROAD
 DESCHUTES COUNTY

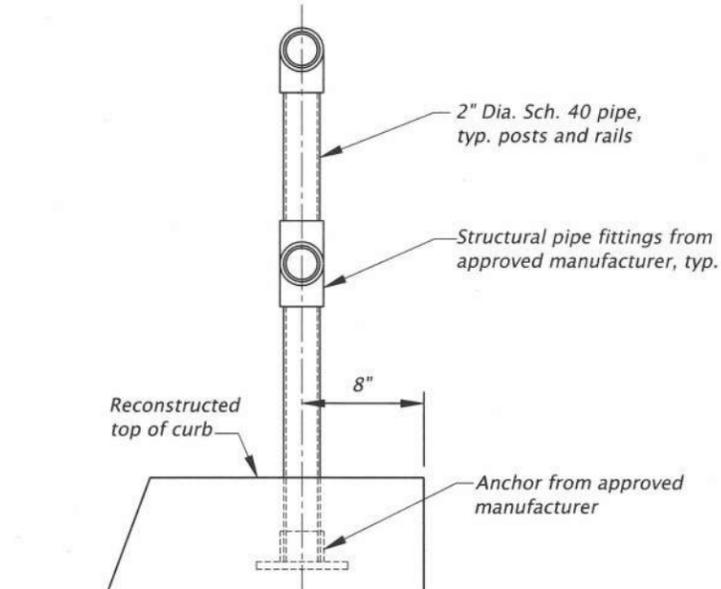
Designer: Makenzie Ellett Reviewer: Matt Harlan
 Drafter: Dustin Altenburg Checker: Amanda Blankenship

CURB REPAIR DETAILS SHEET NO. J07



PROPOSED RAIL ELEVATION
Scale: 1/2" = 1'-0"

Notes:
For existing rail removal details, see Sht. J07.
All fasteners shall be galvanized.
All fittings and pipe shall be galvanized and powder coated black.



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

Note:
Maintain rail post location 8" from back of concrete curb along curved portions of rail. Curved rail radius to be verified in field.

STRUCTURE NO.	#17C02
BDS DWG NO.	104482
CALC. BOOK	
SISEMORE ROAD	M.P.: 1.90
COUNTY	Deschutes
DATE	12/2019

REGISTERED PROFESSIONAL ENGINEER
90087PE
Makenzie Ann Ellett
OREGON
MARCH 12, 2019
MAKENZIE ANN ELLETT
RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Makenzie Ellett	Reviewer: Matt Harlan
Drafter: Dustin Altenburg	Checker: Amanda Blankenship
RAIL DETAILS	SHEET NO. J08

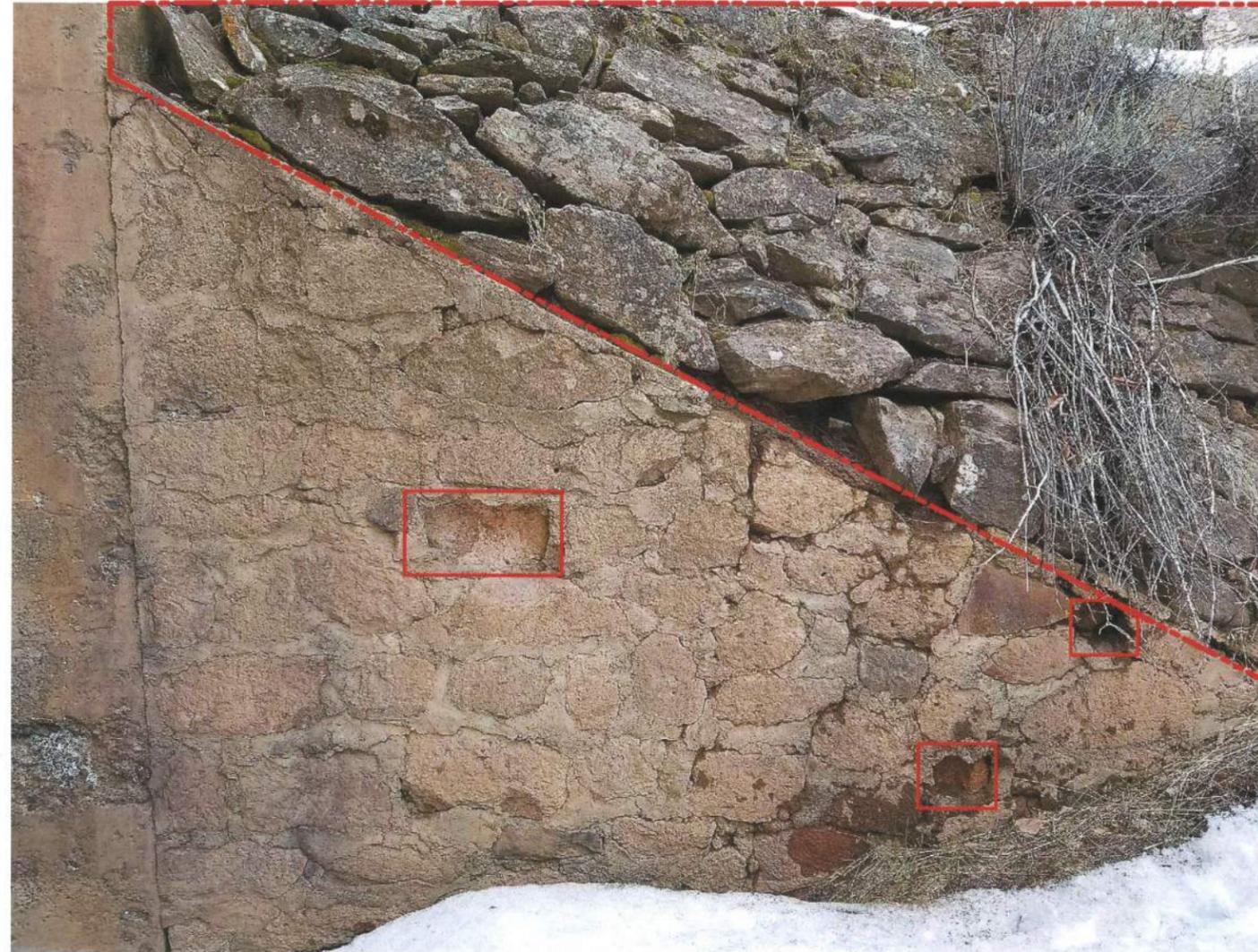
LEGEND:



Replace stones



Rechink ungrouted stones



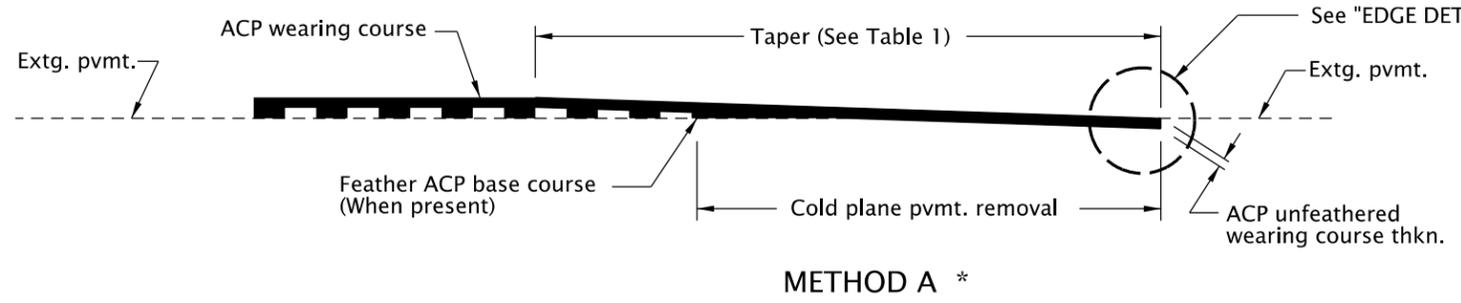
BENT 6 MASONRY WALL
No Scale

STRUCTURE NO. #17C02
BDS DWG NO. 104483
CALC. BOOK -
SISEMORE ROAD M.P.: 1.90
COUNTY Deschutes
DATE 12/2019

REGISTERED PROFESSIONAL ENGINEER
90087PE
Makenzie Ann Ellett
OREGON
MARCH 12, 2019
MAKENZIE ANN ELLETT
RENEWS: 12-31-2021

DESCHUTES COUNTY ROAD DEPARTMENT	
 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
SISEMORE BRIDGE SISEMORE BRIDGE REHABILITATION PROJECT	
SISEMORE ROAD DESCHUTES COUNTY	
Designer: Makenzie Ellett	Reviewer: Matt Harlan
Drafter: Dustin Altenburg	Checker: Amanda Blankenship
MASONRY WALL REPAIR DETAILS	SHEET NO. J09

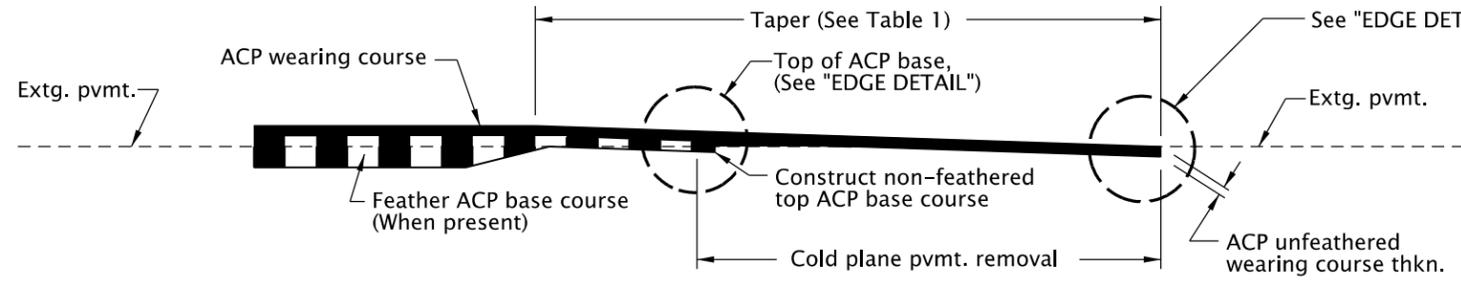
rd610.dgn 25-JUL-2017



METHOD A *

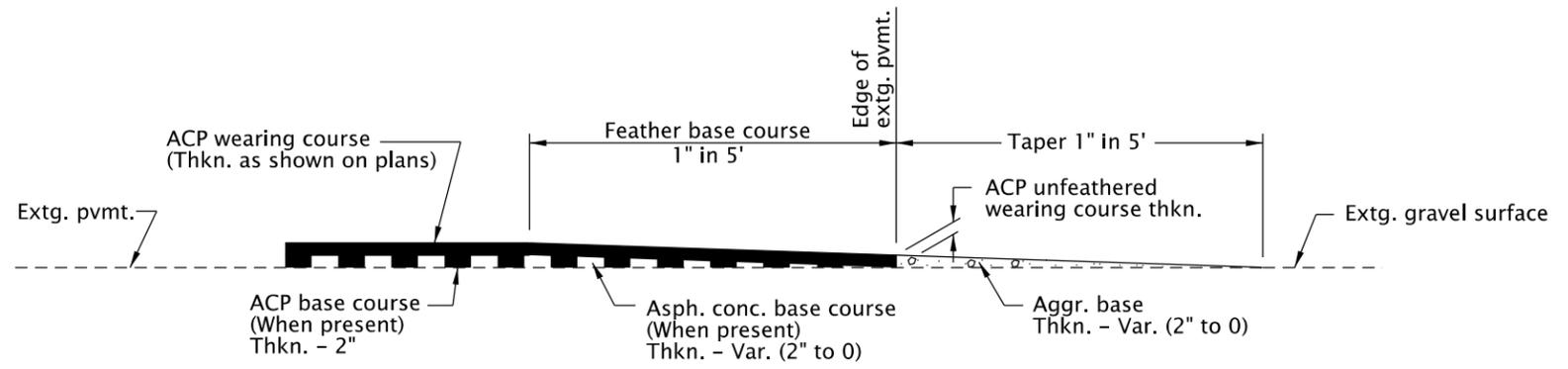
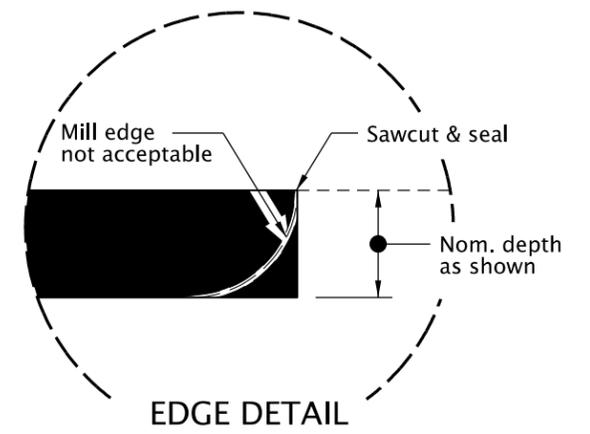
* See project plans for method.

TABLE 1	
TAPER LENGTHS	
Posted Speed	Taper Length
< 45 mph	1" per 50'
≥ 45 mph	1" per 100'

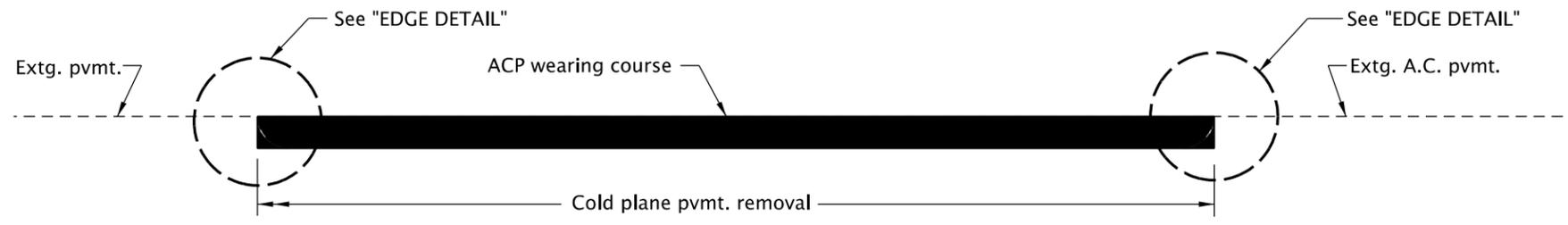


METHOD B *

**ACP PAVEMENT MATCH AT PROJECT ENDS
OR BRIDGE ENDS WHEN NOT OVERLAYING THE BRIDGE**



**METHOD OF FEATHERING ACP PAVEMENT
AT GRAVEL APPROACHES**



**METHOD OF MATCHING EXTG. ACP INLAY SURFACING
(Inlay to extg. asphalt conc. pvmt.)**

CALC. BOOK NO. N/A BASELINE REPORT DATE 25-JUL-2017

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.

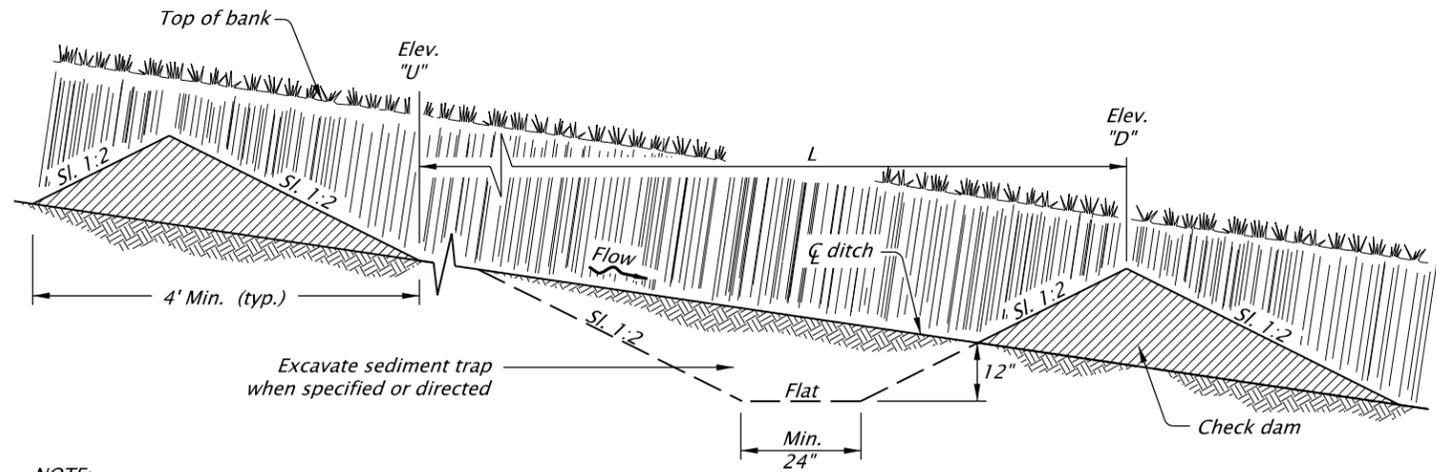
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS
ASPHALT CONCRETE
PAVEMENT (ACP)
DETAILS**

2018

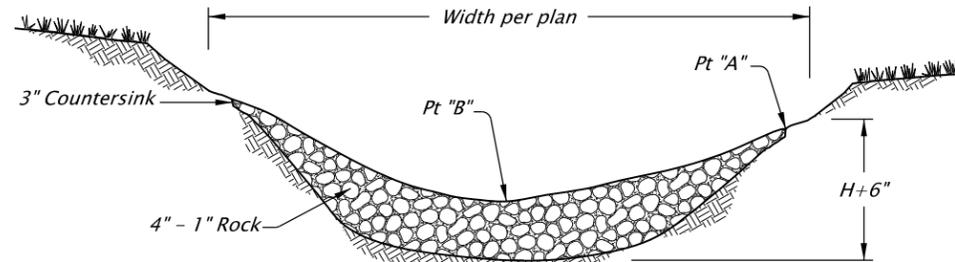
DATE	REVISION	DESCRIPTION

RD610



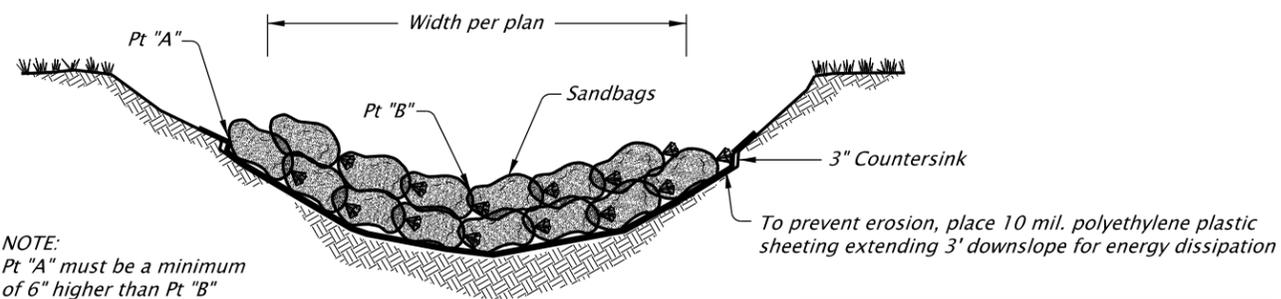
NOTE:
L = Spacing along swale or ditch so that
Elevation "U" equals Elevation "D".

**TYPICAL PROFILE SECTION CHECK DAMS
(SHOWN WITH AGGREGATE)**



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

AGGREGATE CHECK DAM - TYPE 1



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

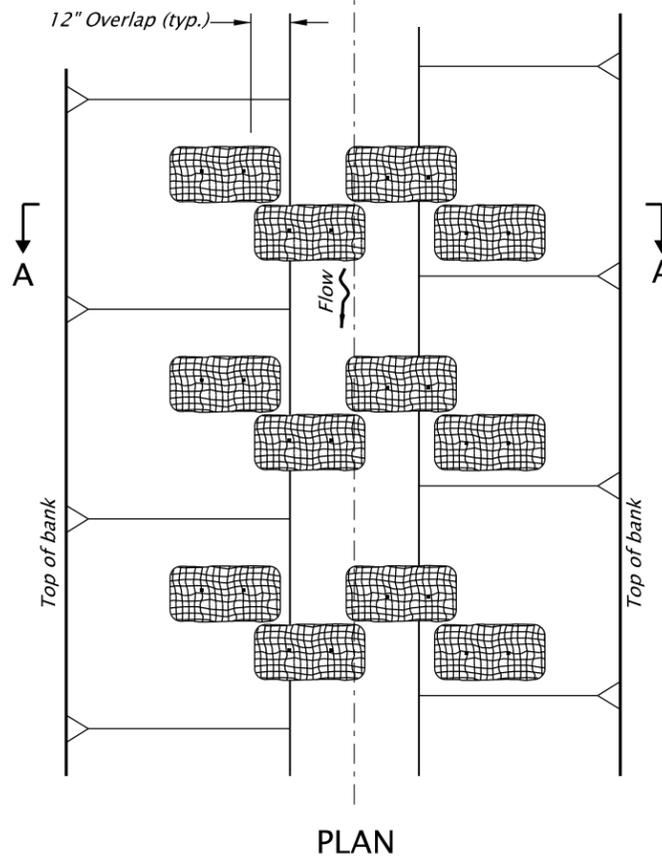
SANDBAG CHECK DAM - TYPE 4

NOTES:

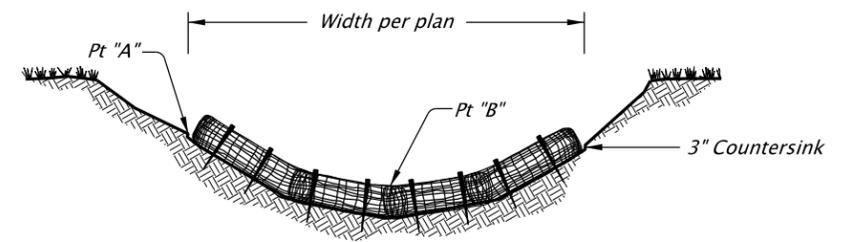
1. Type 3 - stake biofilter bags with two 2" X 2" X 18" (min.) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 6" min at each joint.
2. Type 4 - Tightly abut or overlap ends of sandbags at each 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			
	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



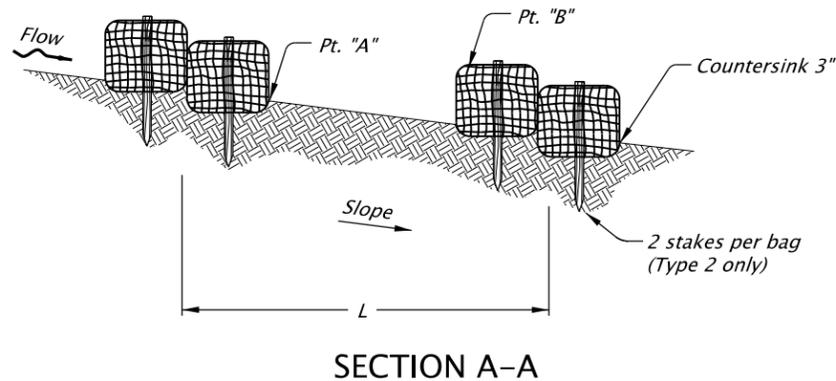
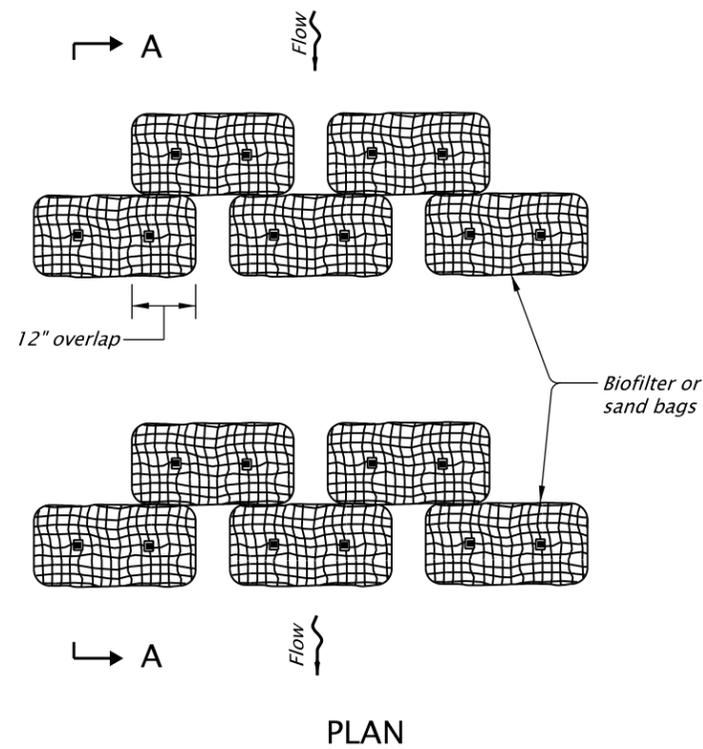
PLAN



**SECTION A-A
BIOFILTER BAG CHECK DAM - TYPE 3**

CALC. BOOK NO. 6407	BASELINE REPORT DATE November 2017
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
CHECK DAMS TYPE 1, 3 AND 4	
2018	
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.

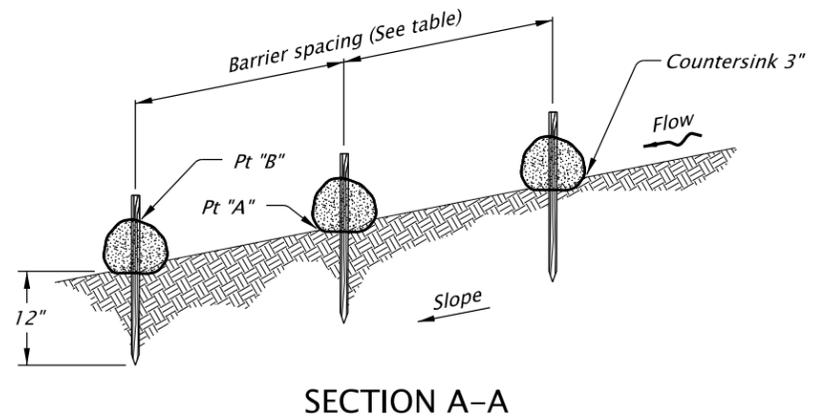
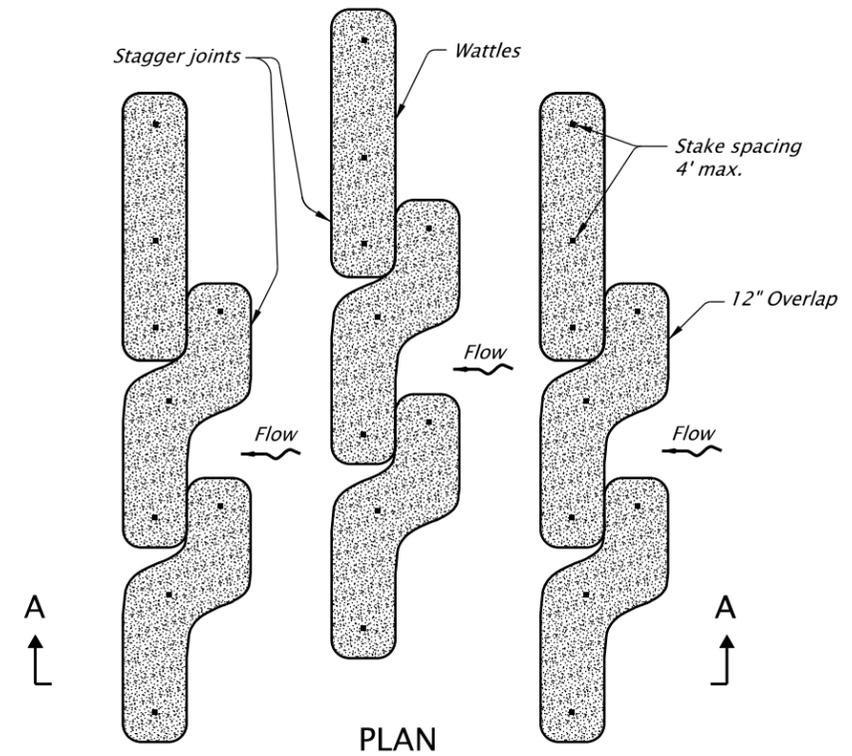


BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4

Notes:

1. For type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.
2. For type 2 and 4 barrier, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".

Type 2 - Biofilter bags
 Type 3 - Wattles
 Type 4 - Sand bags

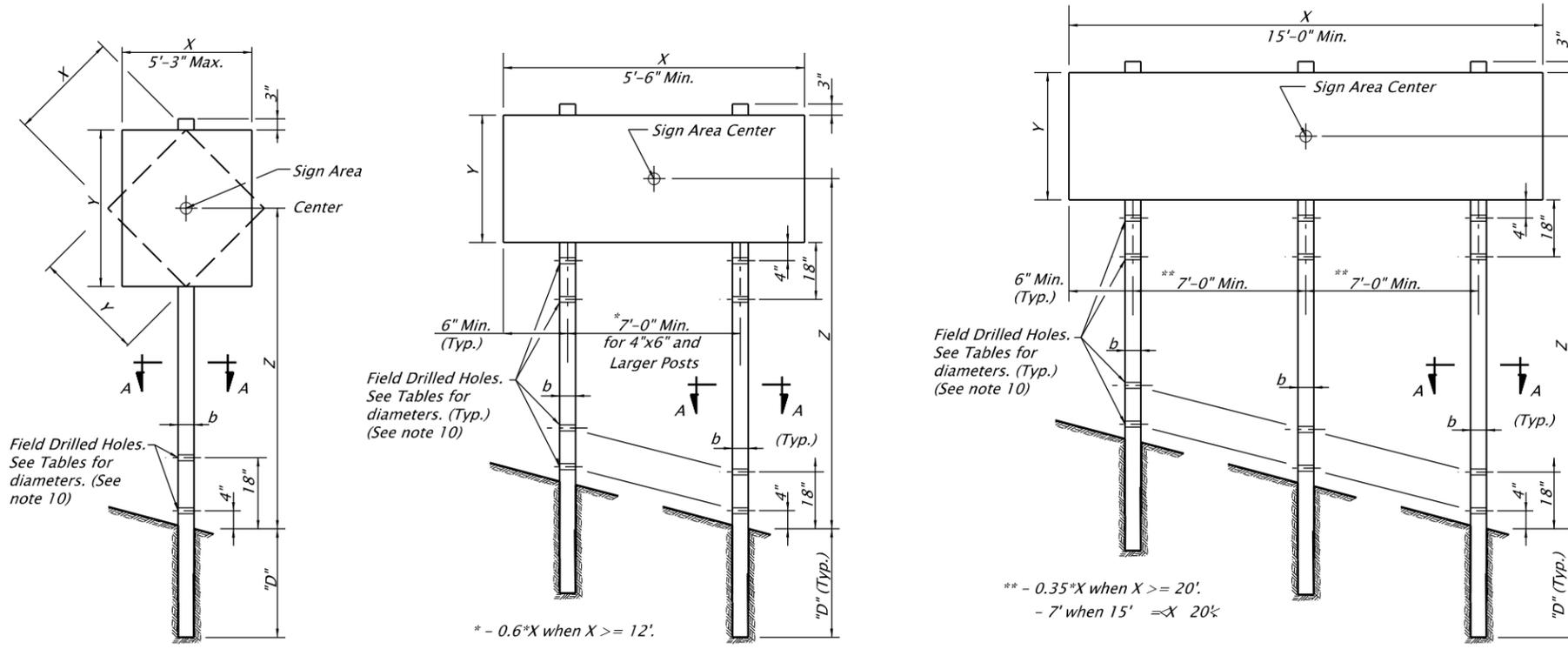


FIBER ROLL BARRIER - TYPE 3

BARRIER SPACING

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	% SLOPE	MAXIMUM SPACING ON SLOPE
10% Flatter	1:10 or Flatter	300'
10 > % ≥ 15	10 > X ≥ 7.5	150'
15 > % ≥ 20	7.5 > X ≥ 5	100'
20 > % ≥ 30	5 > X ≥ 3	50'
Steeper than 30%	Steeper than 1:3	25'

CALC. BOOK NO. <u>6402, 6406, 6407</u>	BASELINE REPORT DATE <u>January 2016</u>
<p>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.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	SEDIMENT BARRIER TYPE 2, 3 AND 4
	2018
DATE	REVISION DESCRIPTION



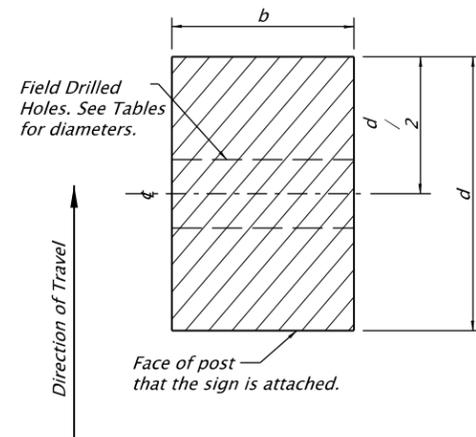
ELEVATION
No scale

General Notes:

1. Wood posts are available in the following commercial lengths: 12', 14', 16', 18', 20', 22', 24', 26'.
2. Material shall be Douglas Fir No. 1 and according to Section 02110.40.
3. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
4. Wood post design in accordance with the 5th Edition 2009 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.
5. Use the 3 second gust wind speeds shown on TM671 for the site specific sign location.
6. General design parameters are $K_z = 0.87$, SIF (duration factor) = 1.6, C_d (sign) = 1.20, and $G = 1.14$.
7. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
8. Permanent signing uses an $I_r = 0.71$ for a recurrence interval of 10 years.
9. Temporary signing uses an $I_r = 0.45$ for a recurrence interval of 1.5 years.
10. Posts protected by barrier or guardrail do not require field drilled holes.
11. 4" x 4" posts should not be used in snow plow areas.

Post Embedment Installation:

1. Excavate the hole at least 12" larger in diameter than the diagonal dimension of the post. Maintain at least 6" of space around the edges of the post to accommodate compaction equipment.
2. Align the post in the hole to a vertical position.
3. The space around the wood post shall be backfilled to finished ground surface.
4. Backfill with selected general backfill meeting the requirements of 00330.13.
5. Place in layers not greater than 6 inches.
6. Solidly ram and tamp the layers into the excavation area around the post.
7. Dampen during placement if too dry to compact properly.
8. Replace and finish the surface around the post to match the surrounding surface.



SECTION A-A
No scale

$(X * Y * Z)$ in ft^3 - Maximum														Field Drilled Hole Diameters	Post Embedment Depth "D"
3 Second Gust Wind Speed (TM671)															
85 MPH				95 MPH				105 and 110 MPH							
Number of Posts				Number of Posts				Number of Posts							
POST SIZE $b \times d$	1	2	3*	3*	1	2	3*	3*	1	2	3*	3*			
	$X=15'$ $X \geq 20'$				$X=15'$ $X \geq 20'$				$X=15'$ $X \geq 20'$						
	4" x 4"	77	154	165	231	62	124	132	186	56	112	120	168	Not Req'd	4' - 0"
	4" x 6"	162	324	347	486	130	260	278	390	117	234	250	351	1 1/2"	5' - 0"
	6" x 6"	270	540	578	810	216	432	462	648	195	390	417	585	2"	5' - 0"
6" x 8"	494	988	1058	1482	395	790	846	1185	356	712	762	1068	3"	7' - 0"	

PERMANENT WOOD POST TABLE

* - Linear Interpolate X^*Y^*Z 3 post values for signs greater than 15' and less than 20'.
** - See note 8

$(X * Y * Z)$ in ft^3 - Maximum														Field Drilled Hole Diameters	Post Embedment Depth "D"
3 Second Gust Wind Speed (TM671)															
85 MPH				95 MPH				105 and 110 MPH							
Number of Posts				Number of Posts				Number of Posts							
POST SIZE $b \times d$	1	2	3*	3*	1	2	3*	3*	1	2	3*	3*			
	$X=15'$ $X \geq 20'$				$X=15'$ $X \geq 20'$				$X=15'$ $X \geq 20'$						
	4" x 4"	122	244	261	366	98	196	210	294	88	176	188	264	Not Req'd	4' - 0"
	4" x 6"	257	514	550	771	205	410	439	615	185	370	396	555	1 1/2"	5' - 0"
	6" x 6"	426	852	912	1278	341	682	730	1023	308	616	660	924	2"	5' - 0"
6" x 8"	779	1558	1669	2337	624	1248	1337	1872	563	1126	1206	1689	3"	7' - 0"	

TEMPORARY WOOD POST TABLE

* - Linear Interpolate X^*Y^*Z 3 post values for signs greater than 15' and less than 20'.
** - See note 9

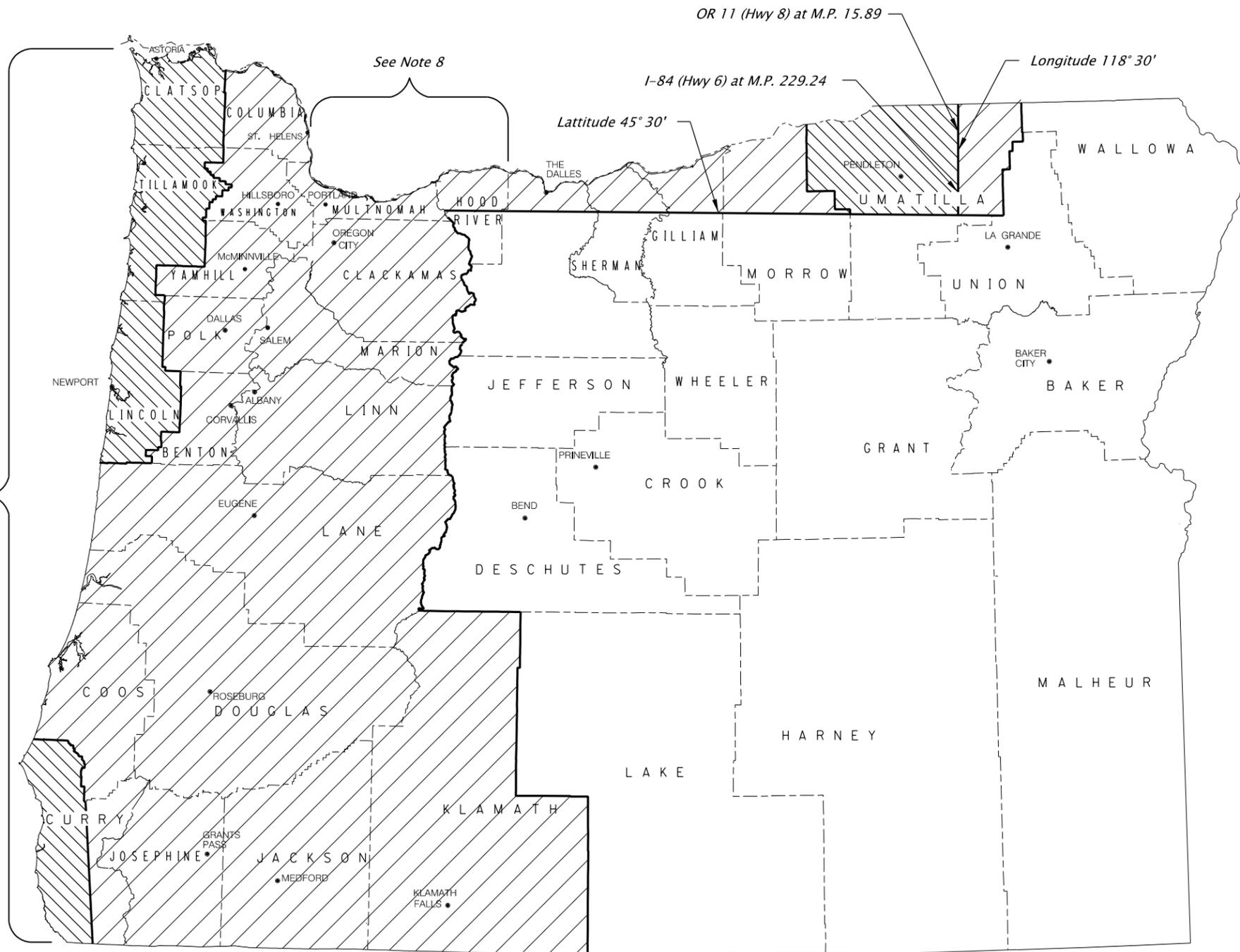
Accompanied by dwgs. TM200, TM671, TM822

CALC. BOOK NO. 5850	BASLINE REPORT DATE 06-JAN-2017
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
WOOD POST SIGN SUPPORTS	
2018	
DATE	REVISION DESCRIPTION

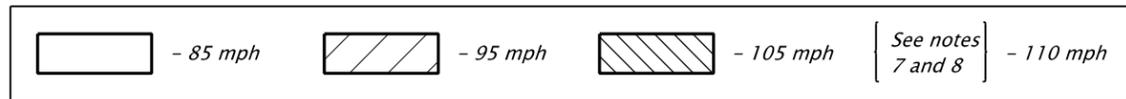
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

TM671.dgn 10-JUL-2017

TM671



See Note 7



NOTES:

1. The wind velocity map as shown is adapted from AASHTO 2001 4th Edition - "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", Appendix C, Figure C-3 and Section 3, Figure 3-2. It uses the wind speed map shown in Figure 1609 of the 2007 Oregon Structural Code to account for locations in the State with special wind regions.
2. The wind velocities shown above are 3-Second Gust wind velocities.
3. The Exposure Category is C.
4. The mean recurrence interval is 50-Years.
5. Mountainous terrain, gorges, and ocean promontories are classified as special wind regions and shall be examined for unusual wind conditions.
6. The Interval Height (Kz) is 30 ft.
7. All areas with full exposure to ocean winds shall be designated 110 mph areas.
8. Areas in Multnomah and Hood River counties with full exposure to Columbia River Gorge winds shall be designated 110 mph areas.
9. Localities may have adopted wind speed higher than shown on this map. Those higher wind speed shall be used.

CALC. BOOK NO. _____	BASELINE REPORT DATE <u>06-JAN-2012</u>
<p><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></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	3 SECOND GUST WIND SPEED MAP
	2018
DATE	REVISION DESCRIPTION

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or 1/2"L"
Shoulder Closure	"L"/3 or 1/3"L"
Flagging (See Drg. TM850)	50' - 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

CONCRETE BARRIER FLARE RATE TABLE	
★ SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

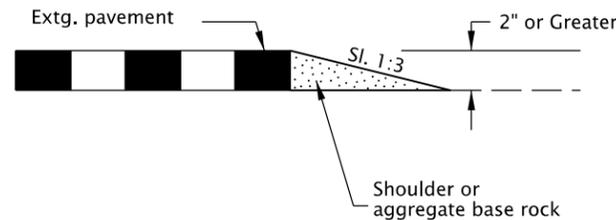
MINIMUM LENGTHS TABLE					
★ SPEED (mph)	"L" VALUE FOR TAPERS (ft)				BUFFER "B" (ft)
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

NOTES:
 • For Lane closures where W < 10', use "L" value for W = 10'.
 • For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: L = S²W/60, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 - 30	100	100	100	20
35 - 40	350	350	350	20
45 - 55	500	500	500	40
60 - 70	700	700	700	40
Freeway	1000	1500	2640	40

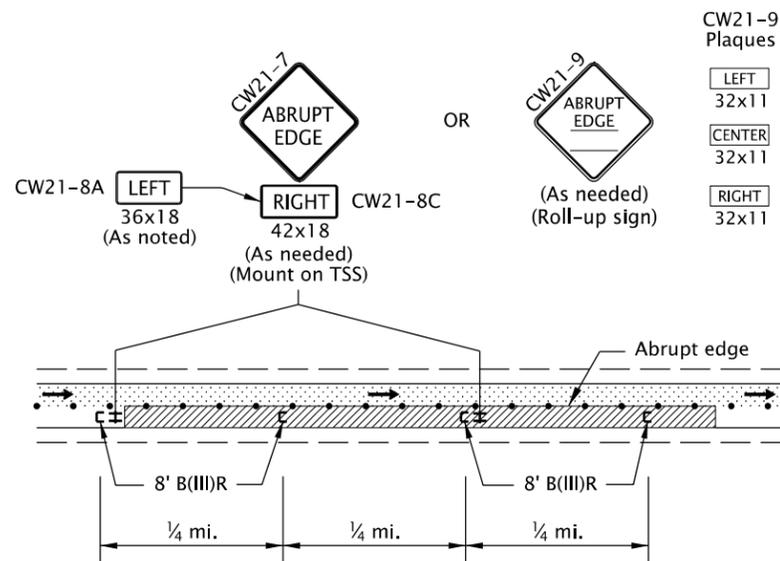
NOTES:
 • Place traffic control devices on 10 ft. spacing for intersection and access radii.
 • When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

- NOTES:
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
 - Use aggregate wedge when abrupt edge is 2 inches or greater.



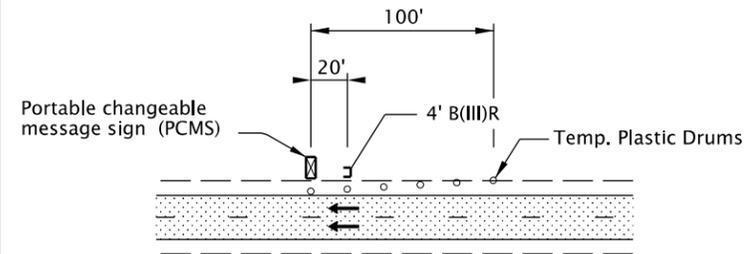
EXCAVATION ABRUPT EDGE

- NOTES:
- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
 - If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
 - Continue signing and other traffic control devices throughout excavation area at spacings shown.
 - If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



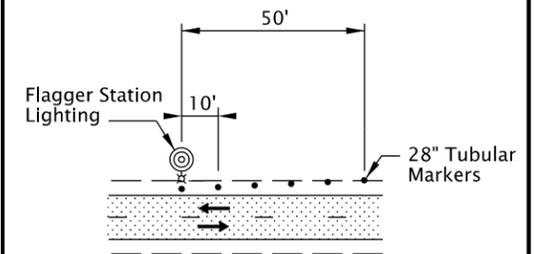
TYPICAL ABRUPT EDGE DELINEATION

- NOTES:
- Install PCMS beyond the outside shoulder, when possible.
 - Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R. Left shoulder, use Type B(III)L.
 - Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
 - Detail as shown is used for trailered and non-crashworthy components of:
 - Portable Traffic Signals
 - Smart Work Zone Systems



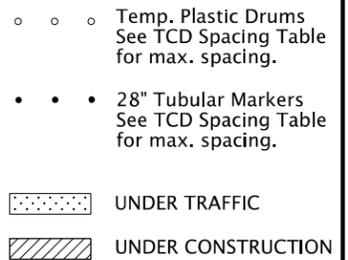
PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

- NOTES:
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
 - Use six tubular markers in shoulder taper on 10' spacing.
 - Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

- GENERAL NOTES FOR ALL TCP DRAWINGS:
- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
 - Place a barricade approx. 20' ahead of all sequential arrow boards.
 - Arrows shown in roadway are directional arrows to indicate traffic movements.
 - All signs are 48" x 48" unless otherwise shown. Use fluorescent orange sheeting for the background of all temporary warning signs.
 - All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
 - Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of > 40 mph.
 - Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
 - Combine drawing details to complete temporary traffic control for each work activity.
 - To be accompanied by Drg. Nos. TM820 & TM821.



CALC. BOOK NO. TM09-01 BASELINE REPORT DATE 01-JAN-2019

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

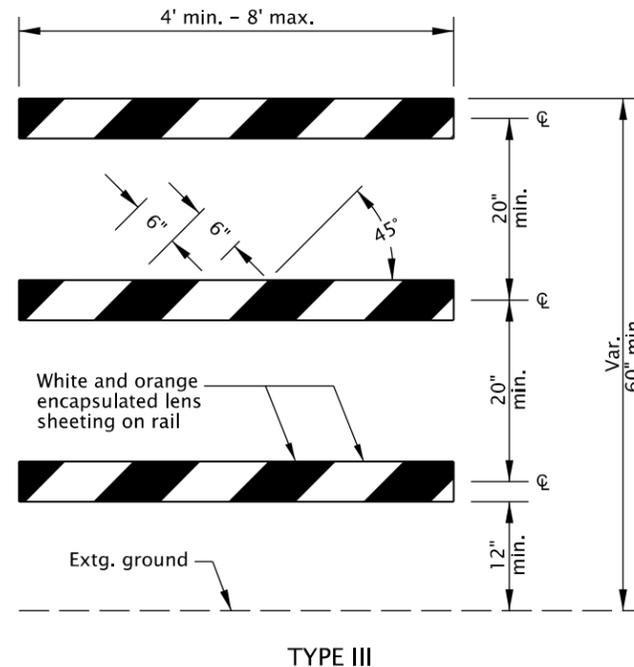
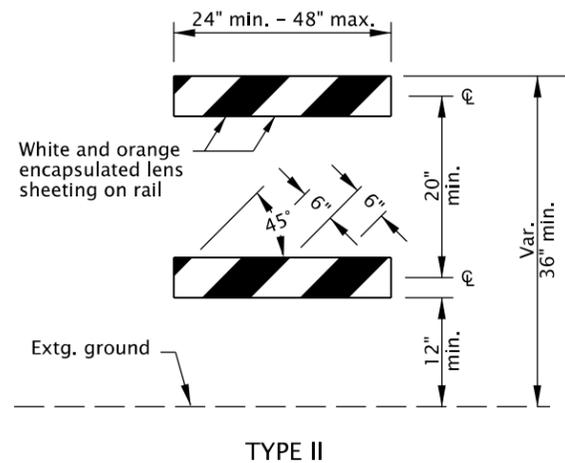
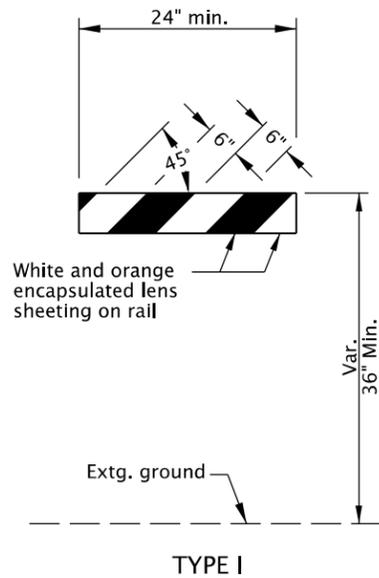
OREGON STANDARD DRAWINGS
TABLES, ABRUPT EDGE AND PCMS DETAILS

2018

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.

tm820.dgn 01-JAN-2019



BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM 844.

NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.

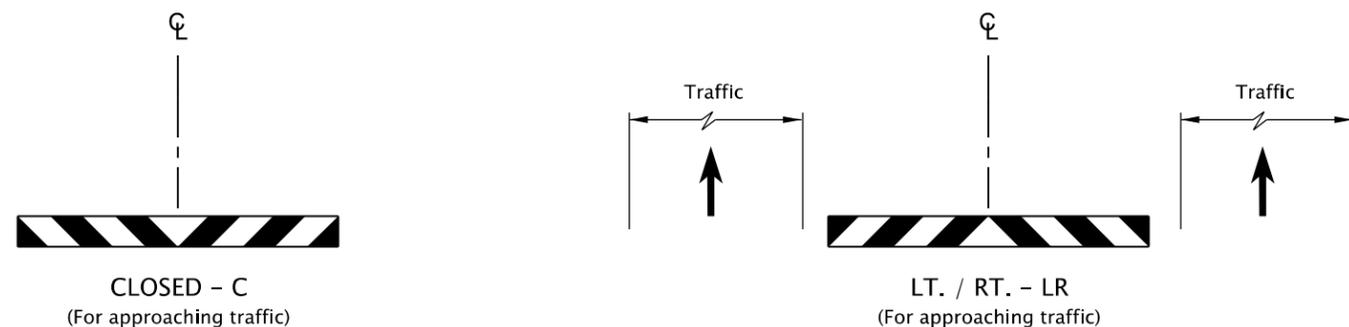
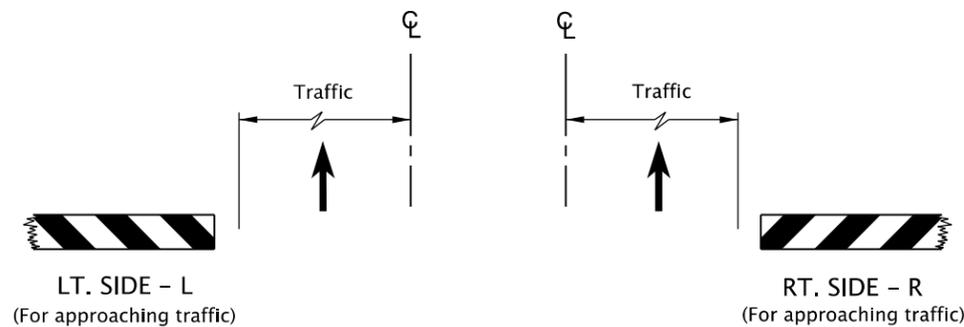
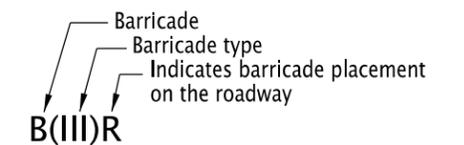


DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING



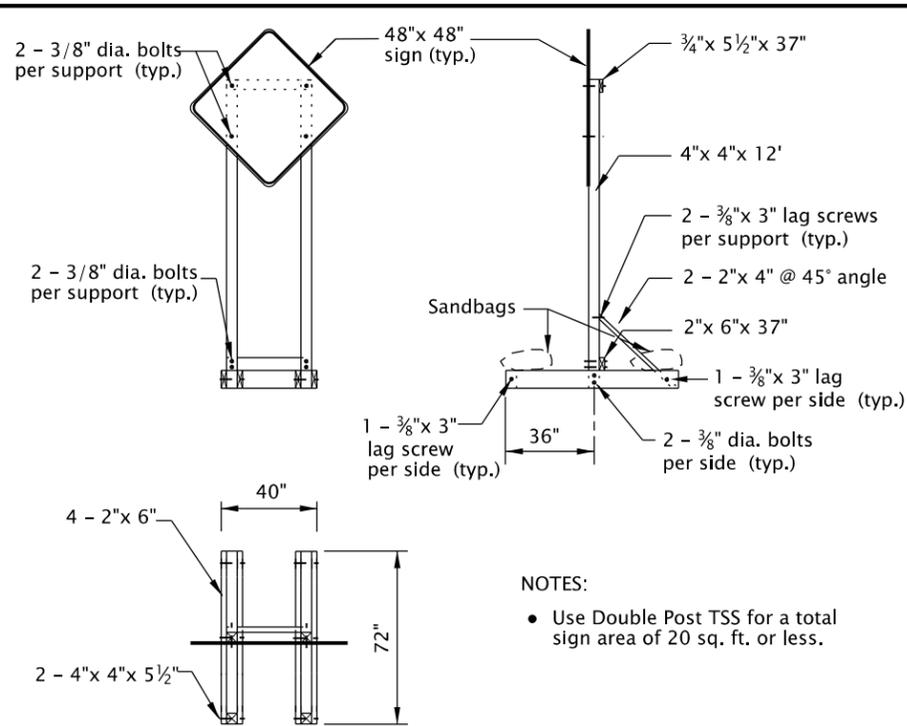
BARRICADE NOTATION

CALC. BOOK NO. N/A		BASELINE REPORT DATE 01-JAN-2019	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
TEMPORARY BARRICADES			
2018			
DATE	REVISION	DESCRIPTION	
01-2019	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.

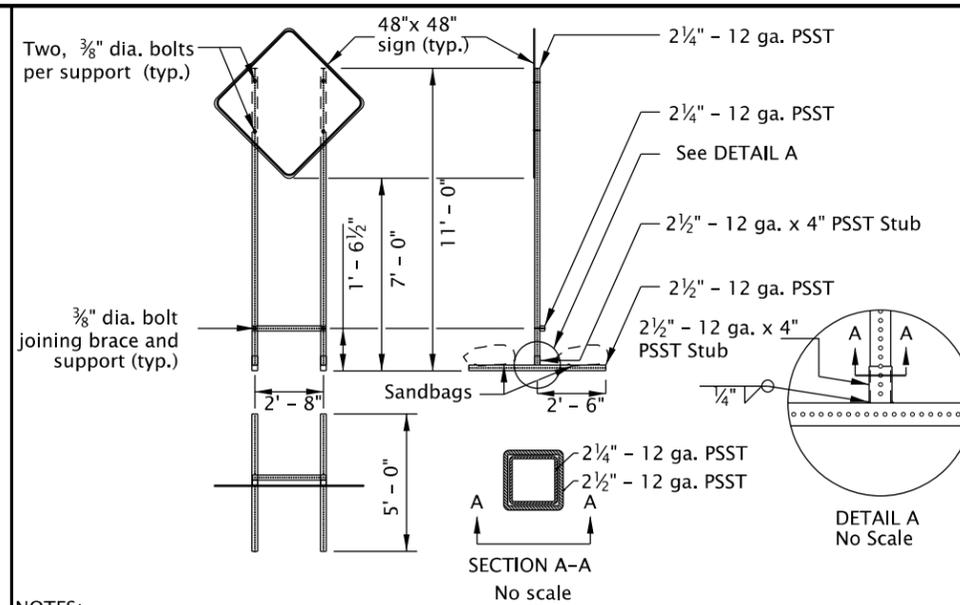
TM820

tm821.dgn 01-JAN-2019



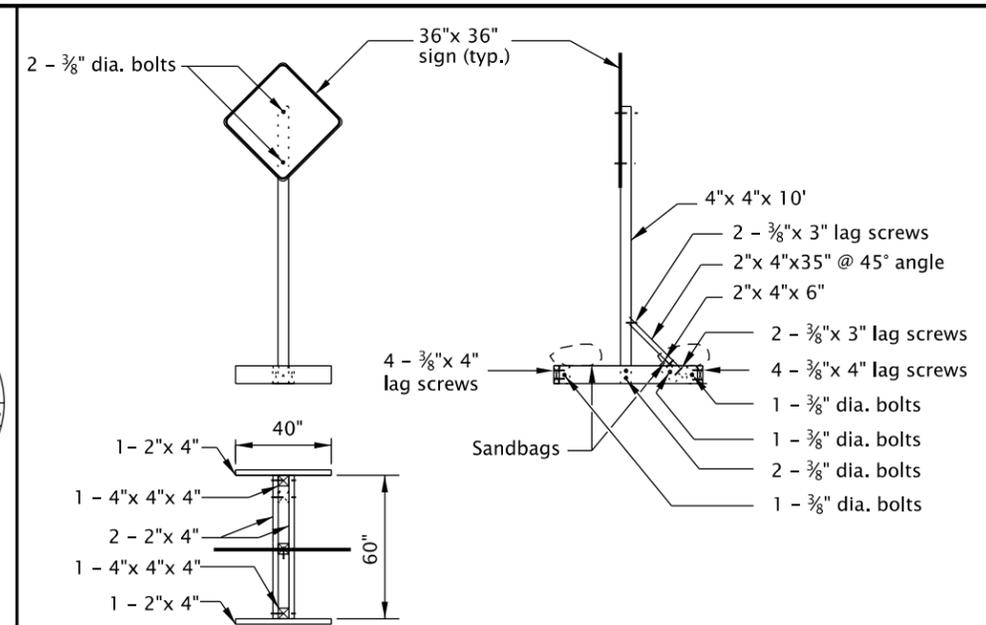
DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)

- NOTES:
- Use Double Post TSS for a total sign area of 20 sq. ft. or less.



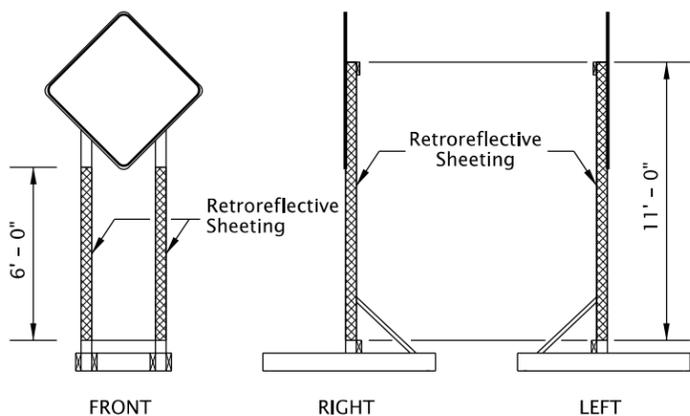
PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)

- NOTES:
- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
 - All members shall have a minimum yield stress of 50 ksi.
 - Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
 - Use A325 Bolts or equivalent.
 - 2 1/4" - 12 ga. PSST to extend entire length inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
 - Do not use bolt to secure 2 1/4" PSST inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
 - Weld steel according to AWS D.1.1.

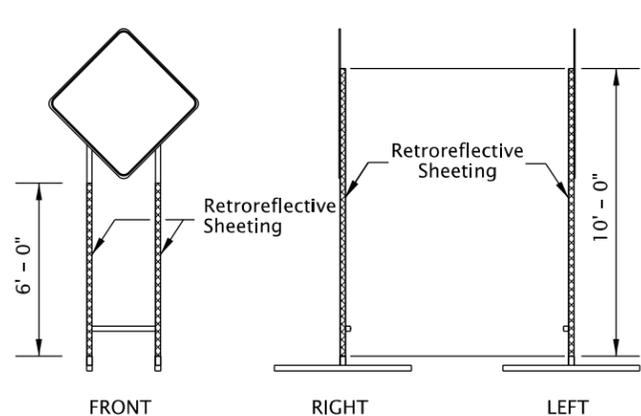


SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)

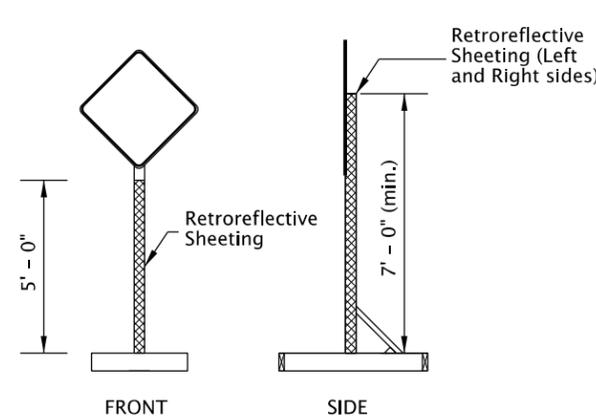
- NOTES:
- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
 - Use Single Post TSS for mounting "Business Access" (CG20-11) signs. Do not mount signs on Type II or III Barricades.



DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)



PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)



SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)

- NOTES:
- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
 - Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
 - Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- DO NOT TIP OVER TSS AT ANY TIME.
- Do not locate TSS's in locations that block pedestrian/bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When sign is inconsistent with current work zone conditions, cover sign; or turn sign 90 degrees away from approaching traffic. Remove TSS from roadway when signing is not needed for more than 3 days.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).

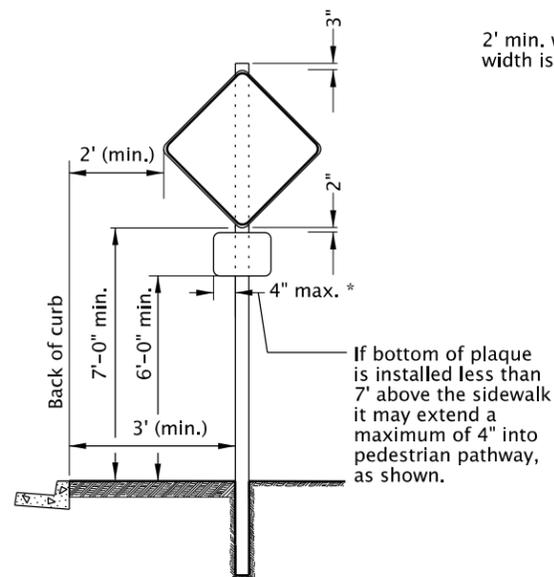
CALC. BOOK NO. _____	N/A	BASELINE REPORT DATE _____	01-JAN-2019
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
TEMPORARY SIGN SUPPORTS			
2018			
DATE	REVISION	DESCRIPTION	
01-2019	REVIS	NOTES	

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.

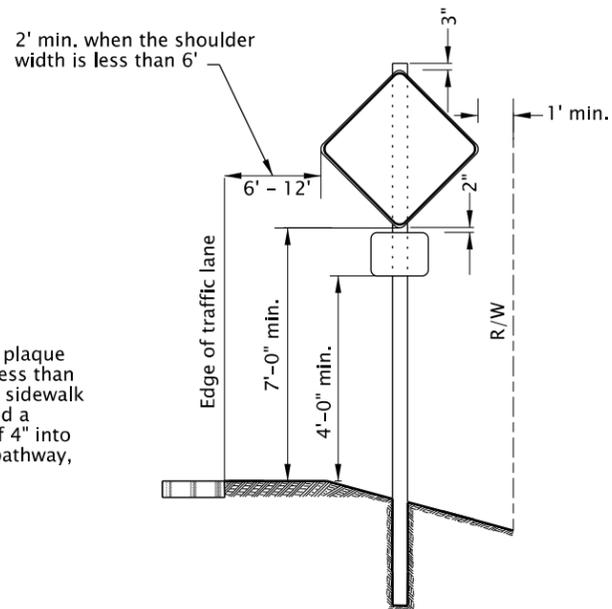
TM821

NOTES:

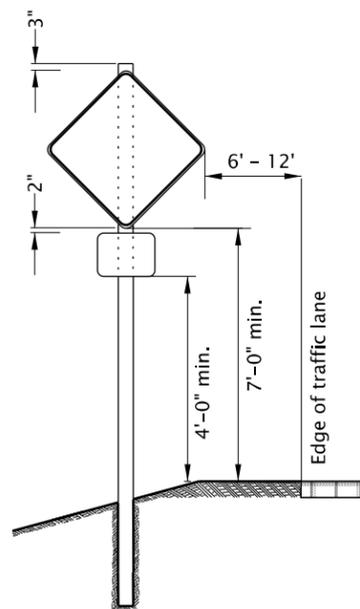
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according to TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Drg. Nos. TM670, TM671, TM687, TM688 & TM689.



URBAN AREAS WITH CURB/SIDEWALK

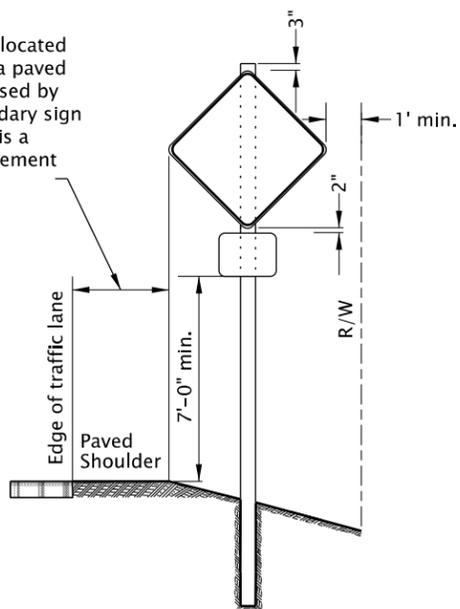


RURAL AREAS



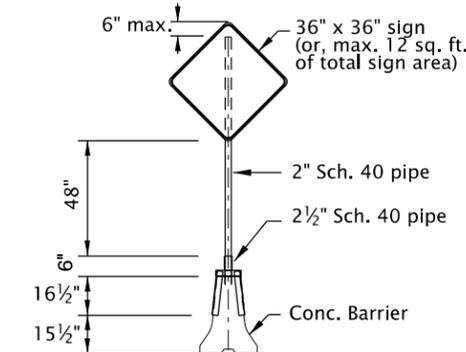
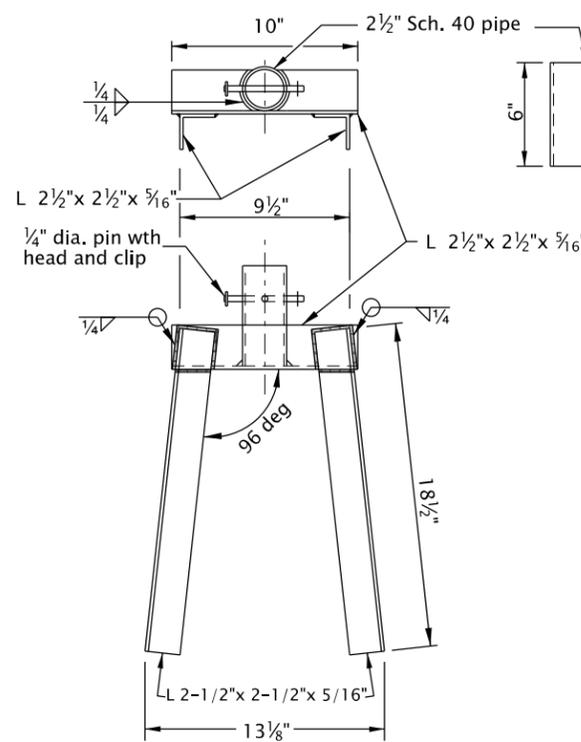
DIVIDED HIGHWAY/FREEWAY MEDIANS
NO CURB/SIDEWALK

Where temporary signs are located adjacent to or intrude into a paved shoulder or other surface used by bicycle traffic, install secondary sign (plaque) so bottom of sign is a minimum of 7'-0" above pavement surface, as shown.



RURAL OR URBAN AREAS - CURB OR NO CURB
BICYCLES ON SHOULDER

TEMPORARY SIGN PLACEMENT



NOTES:

- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.

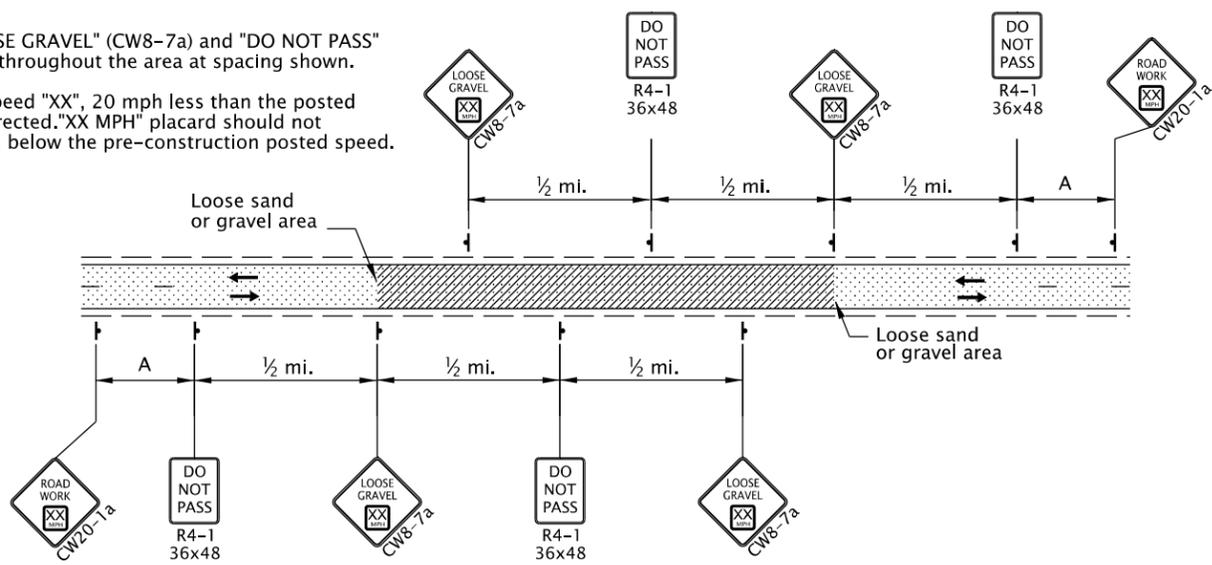
CONCRETE BARRIER SIGN SUPPORT

CALC. BOOK NO. _____	N/A	BASELINE REPORT DATE _____	01-JAN-2019
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
TEMPORARY SIGN SUPPORTS			
2018			
DATE	REVISION	DESCRIPTION	
01-2018	REVISED DRAWING		
01-2019	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.

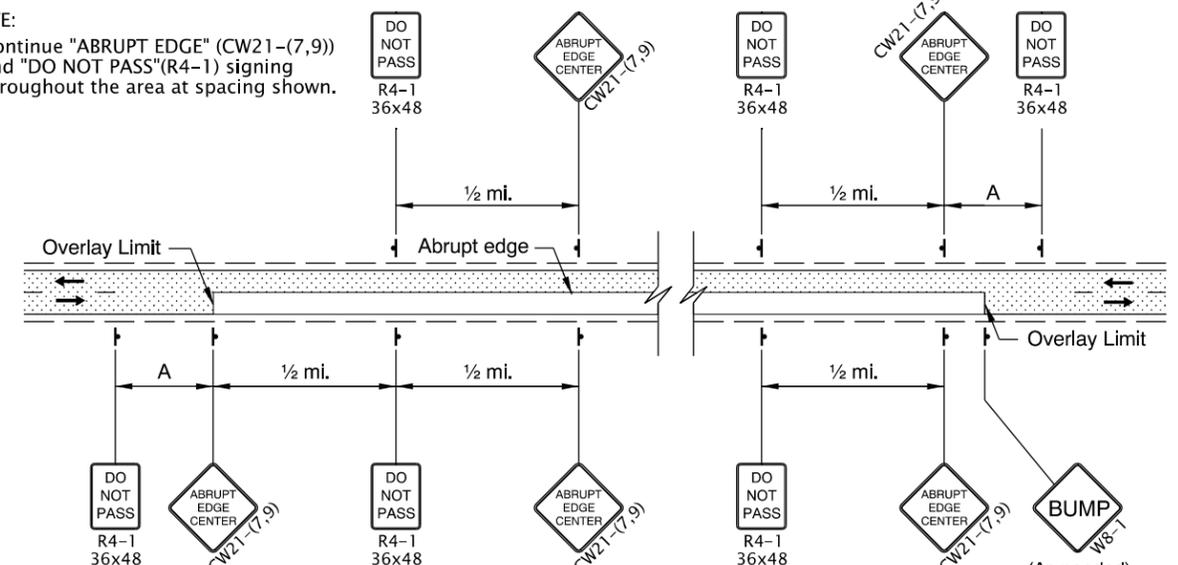
tm850.dgn 01-JAN-2019

- NOTE:
- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
 - Use advisory speed "XX", 20 mph less than the posted speed, or as directed. "XX MPH" placard should not exceed 20 mph below the pre-construction posted speed.



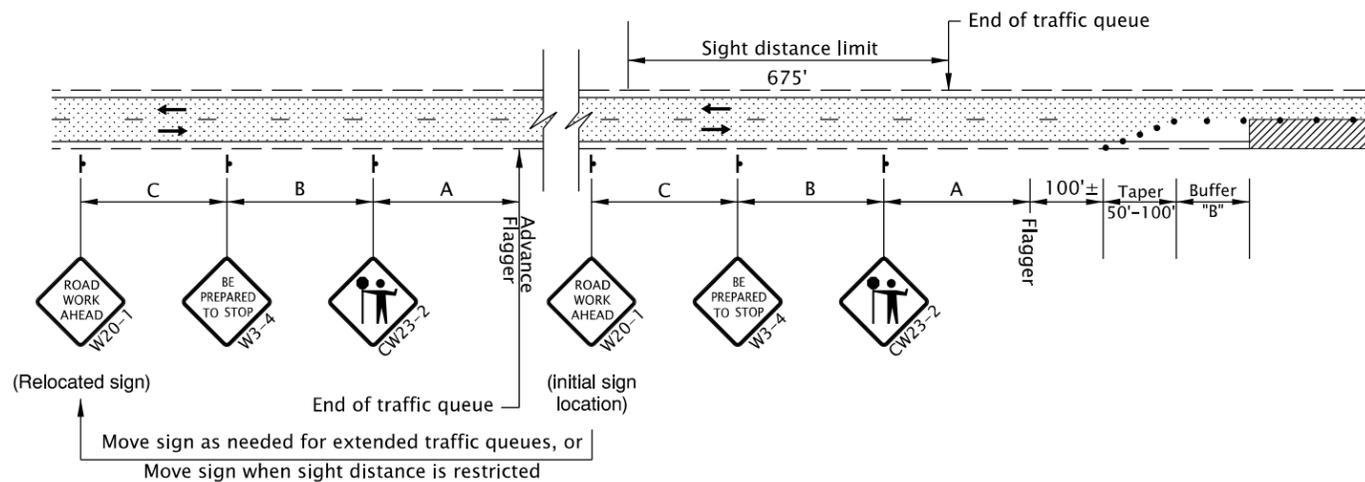
2-LANE, 2-WAY ROADWAY
LOOSE GRAVEL IN ROADWAY SIGNING

- NOTE:
- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.

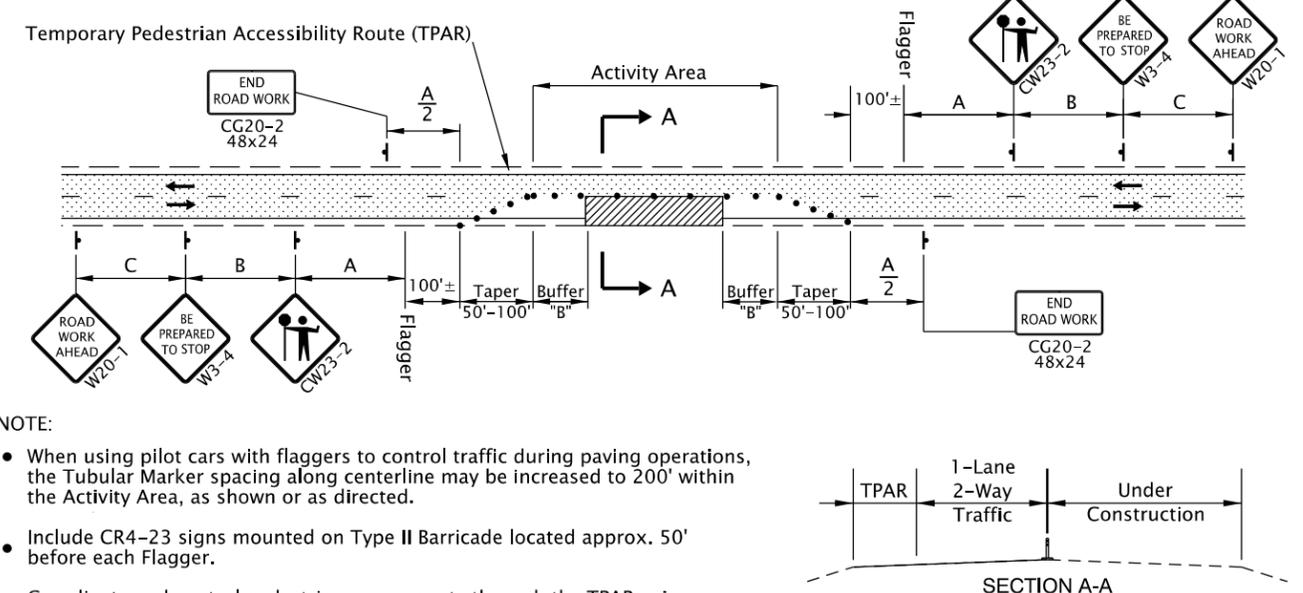


2-LANE, 2-WAY ROADWAY
OVERLAY AREA SIGNING

- NOTES:
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
 - Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
 - Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES



- NOTE:
- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
 - Include CR4-23 signs mounted on Type II Barricade located approx. 50' before each Flagger.
 - Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.

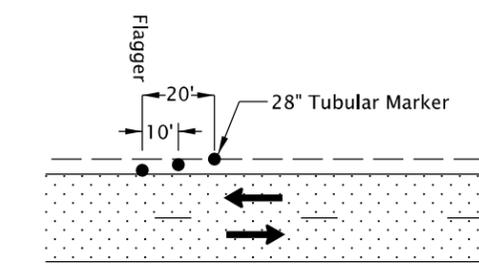
2-LANE, 2-WAY ROADWAY
ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Drg. Nos. TM821.

- • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations
 - • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.
-  UNDER TRAFFIC
 UNDER CONSTRUCTION
 CONSTRUCTION UNDER TRAFFIC

- NOTE:
- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

CALC. BOOK NO. N/A

BASELINE REPORT DATE 01-JAN-2019

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

OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2018

DATE	REVISION DESCRIPTION
01-2018	REVISED DRAWING AND 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.

TM850