

Rock guard, 1/8" steel plate: welded to pipe shaft

Gravel bedding

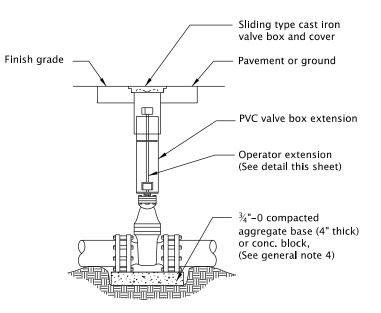
diameter = valve box extension inside diameter minus $\frac{1}{2}$ "

Raised lettering

Operator extension — 1½" Schedule 80 pipe shaft

3/8"x3/4"square head cupped capscrews

VALVE BOX EXTENSION SECTION



VALVE BOX ASSEMBLY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- 1. Valve box not to rest on operating assembly.
- 2. Operator extension required when valve nut is deeper than 4^{\prime} from finish grade.
- 3. Center valve box on axis of operator nut.
- 4. Valves 12" and smaller shall be provided with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block, (4" thick).
- 5. Welds shall be minimum $\frac{1}{4}$ " all around.
- 6. Hot dip galvanize operator extension after fabrication.
- 7. Casting shall meet H20 load requirement.
- 8. Provide concrete or asphalt pad (24" square, 4" thick), when required.
- 9. See project plans for details not shown.

CALC. BOOK NO. _ _ N/A_

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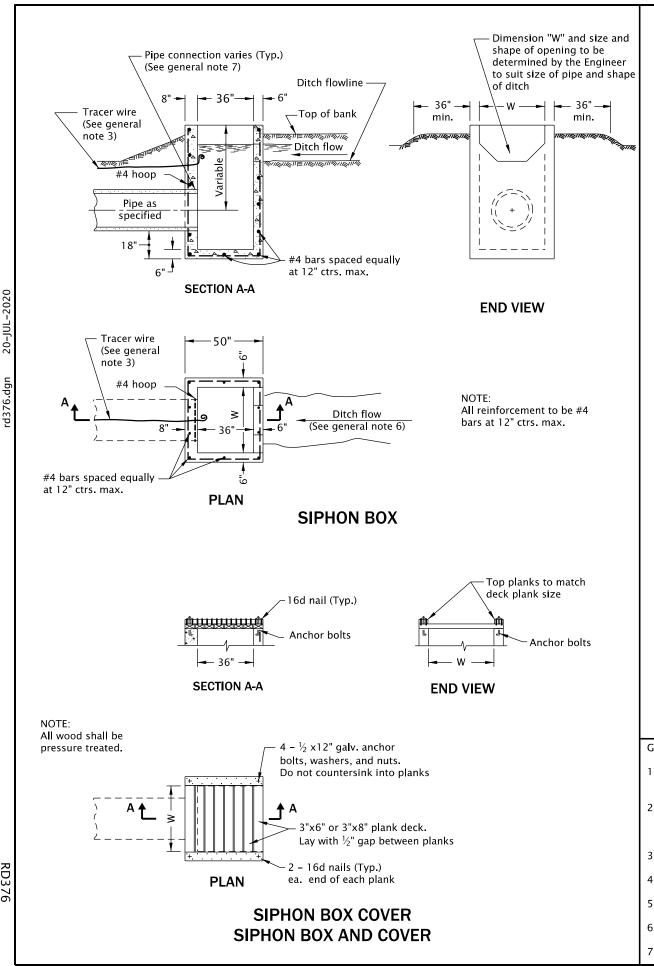
OTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

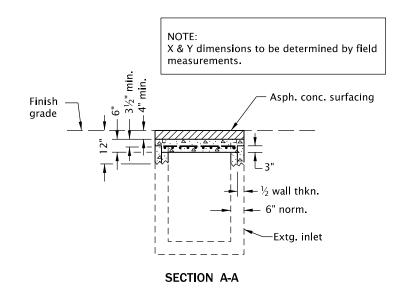
VALVE BOX AND OPERATOR

EXTENSION ASSEMBLY

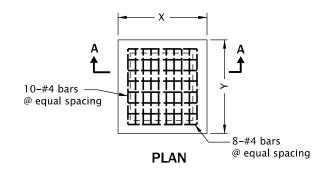
OREGON STANDARD DRAWINGS

DATE REVISION DESCRIPTION



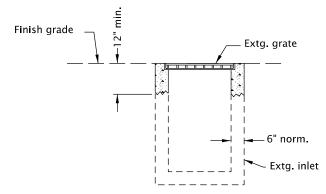


Place bars in concrete inlet cap $1\frac{1}{2}$ " min. clear of bottom face of concrete and $3\frac{1}{2}$ " min. clear of top face of concrete.

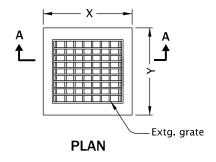


CONCRETE INLET CAP

NOTE: X & Y dimensions to be determined by field measurements.



SECTION A-A



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_

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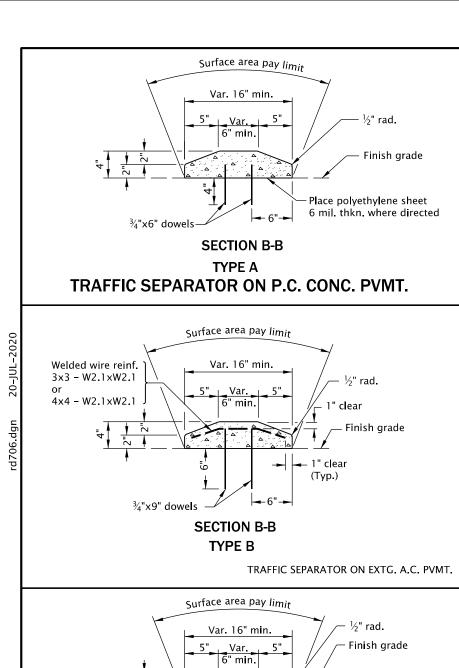
14-JUL-2014 SDR DATE _

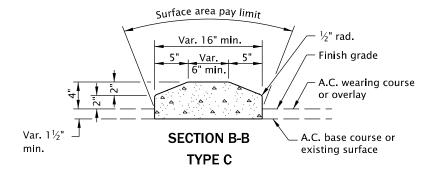
the current Oregon Standard Specifications **OREGON STANDARD DRAWINGS**

All material and workmanship shall be in accordance with

MISCELLANEOUS DRAINAGE STRUCTURES SIPHON BOX, INLET CAP & **INLET ADJUSTMENT**

2021

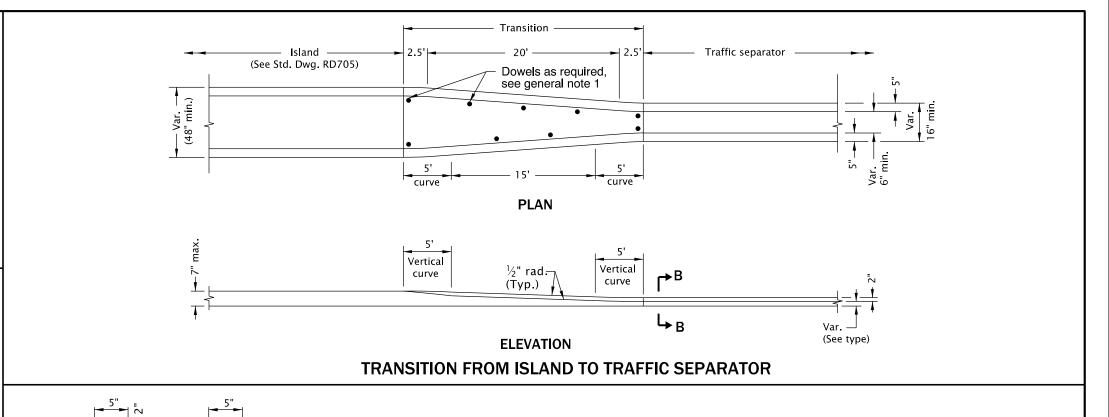


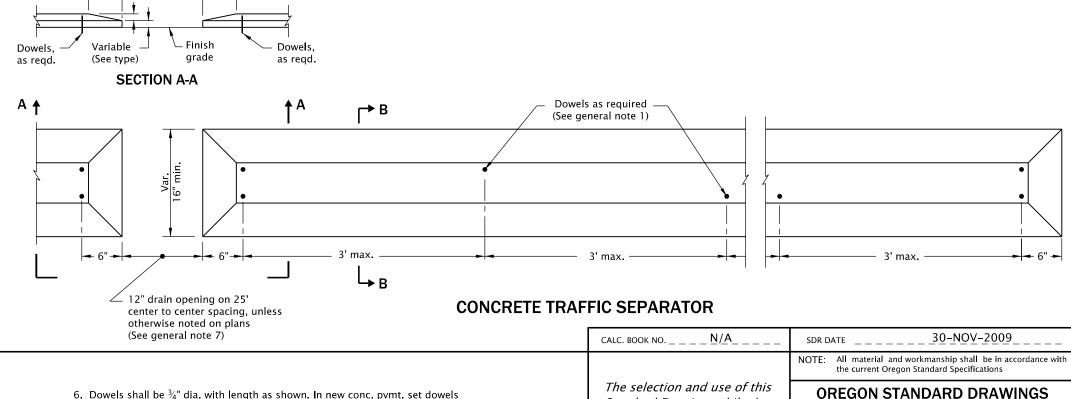


TRAFFIC SEPARATOR ON NEW A.C. PVMT. OR ON EXISTING A.C. PVMT. WITH OVERLAY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- 1. In transitions conform to dowel plan per Std. Dwg. RD705.
- 2. Standard slope face is shown. Vary as shown on typical section or as directed.
- 3. Transverse joints in conc. traffic separators and transitions to match joints in conc. pymt. 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. transitions in conc. pvmt. and around all curved ends.





6. Dowels shall be $\frac{3}{4}$ " dia. with length as shown. In new conc. pvmt. set dowels

in. In A.C. pvmt. drive dowels.

before conc. hardens. In extg. conc. pvmt. drill holes $1\frac{1}{2}$ " dia. and grout dowels

which considers roadway conditions (sheet flow limits, cross slope, superelevation,

7. Site conditions normally require a project specific drain opening spacing design,

profile, pavement type, lane and shoulder widths, etc.).

TRAFFIC SEPARATORS

AND TRANSITIONS

2021

gineer.

Standard Drawing, while de-

generally accepted engineer-

ing principles and practices,

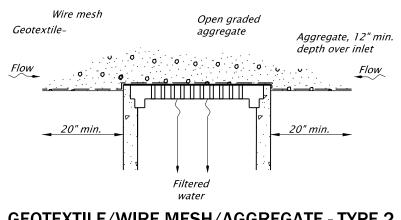
is the sole responsibility of

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signed in accordance with



Grate #5 Rebar #5 Rebar Sewn 6" Sewn 6' overlap overlap Filtered Geotextile insert water

Install sod around the perimeter of inlets within 36 hours of harvest of the sod Min. 6' of sod around inlet basin

GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2

NOT TO SCALE

AREA DRAIN PLAN

Compost filter sock or wattle. Use

sandbags to hold wattles in place.

Sandbags are not necessary for

compost filter socks

01-20-

rd1010.dgn

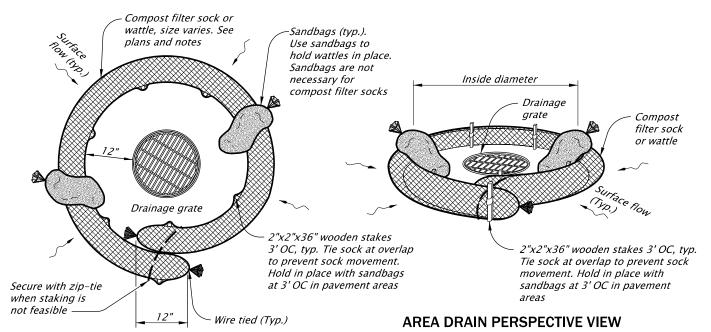
RD1010

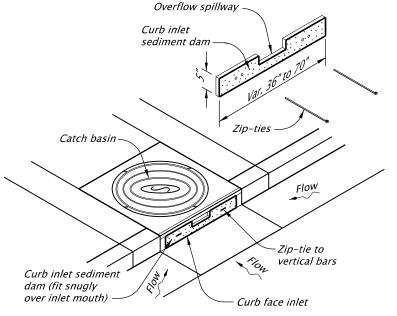
PREFABRICATED FILTER INSERT - TYPE 3

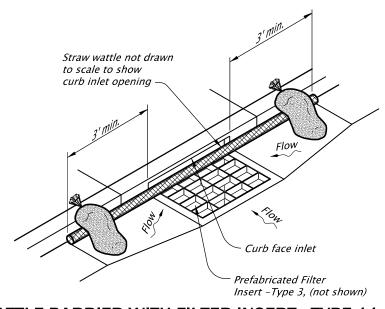
NOT TO SCALE

SOD PROTECTION - TYPE 6

NOT TO SCALE







CURB INLET SEDIMENT DAM - TYPE 10 NOT TO SCALE

WATTLE BARRIER WITH FILTER INSERT - TYPE 11

Type 2 - Geotextile/wire mesh/aggregate Place the wire mesh over the grate. Place sediment fence geotextile over the wire mesh and perimeter area around structure. Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts Install prefabricated filter inserts according to the plans, special provisions, and manufacturer recommendations. Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP's to prevent the potential of sediments entering project storm systems. Field fabricated inserts are not allowed.

Type 7 - Compost filter sock Drive 2"x2" wood stakes a minimum of 6" into ground and flush with the top of the sock.

Overlap ends of sock per manufacturers recommendations (12"min., 36" max.). Use 8" to 12" dia sock on curbside in traffic areas.

(Type 7 cont.) Use 12" to 18" dia sock in non-traffic areas or areas where the larger socks can be used safely. use synthetic mesh socks for temporary installations.

Type 10 - Curb inlet sediment dam Fit curb inlet sediment dam snugly into inlet mouth. Curb inlet sediment dam is required for use with inlet filter insert where at-grade inlet grate and curb inlet are combined at a catch basin.

Type 11 - Wattle barrier with filter insert Install prefabricated filter insert per Type 3 detail. Install wattles over opening and 36" to each

side of opening tight against curb. Adjust wattle to force storm water to flow through filter insert or wattle prior to leaving the

Adjust, replace or modify the inlet protection as needed to prevent sediment laden water from entering the catch basin.

SDR DATE

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CALC. BOOK NO. _ _ N/A

gineer.

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

January, 2021

OREGON STANDARD DRAWINGS

INLET PROTECTION TYPE 2, 3, 6, 7, 10 AND 11

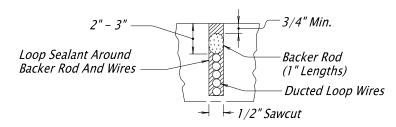
2021					
DATE	REVISION DESCRIPTION				
an 2021	Removed Calc book numbers				
an 2021	Moved notes up from overlapping the sheet border				

Place a sandbag at each end of wattle and 3' OC to hold in place **CURB INLET PERSPECTIVE VIEW**

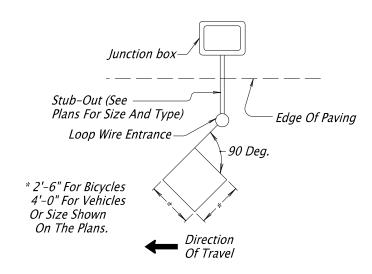
COMPOST FILTER SOCK OR WATTLE - TYPE 7

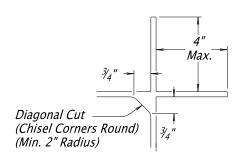
NOT TO SCALE

RD1010

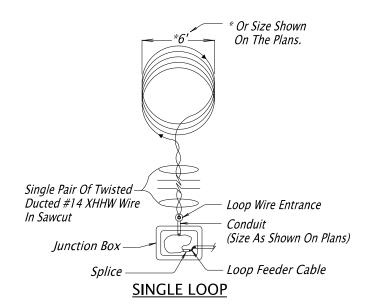


SAWCUT CROSS SECTION LOOP WIRE INSTALLATION IN EXISTING **CONCRETE OR STANDARD ASPHALT MIXES**





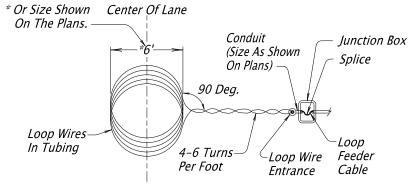
DIAMOND LOOP LAYOUT



LOOP DETECTOR WINDING PATTERN

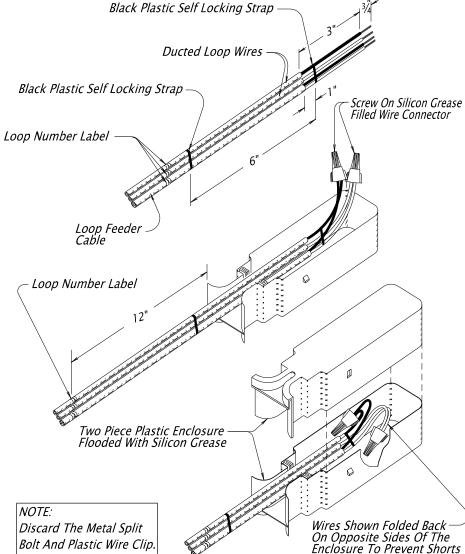
(Arrows Indicate Direction Of Loop Winding)

Loops Shall Be Round Or Square With 5 Turns Of Ducted No. 14 XHHW Stranded Wire Centered In The Traffic Lane Or As Shown On Plans. Loop Wire Shall Be Twisted 4 To 6 Turns Per Foot Between Loop And Junction Box. All Loops Shall Be Individually Wired As Shown.



ROUND LOOP LAYOUT Use Round Loop As Shown On Plans

Wires Shown Folded Back— On Opposite Sides Of The Enclosure To Prevent Shorts LOOP WIRE TO LOOP FEEDER SPLICES Use Hand-held Labeler (Brady IDXPERT With XC-1500-580-WT-BK Tags, JunctionBoxes And Cabinet, To Match Wiring Diagram. CALC. BOOK NO. N/A BASELINE REPORT DATE 30-lun-2017



Mark Loop Number On All Exposed Locations Of Loop Wire And Loop Feeder With Permanent Tags.

Or Approved Equal).

At Existing Installations The Contractor Is Responsible For Re-wiring And Re-numbering Of New And Existing Detector Loops And Loop Feeders, In

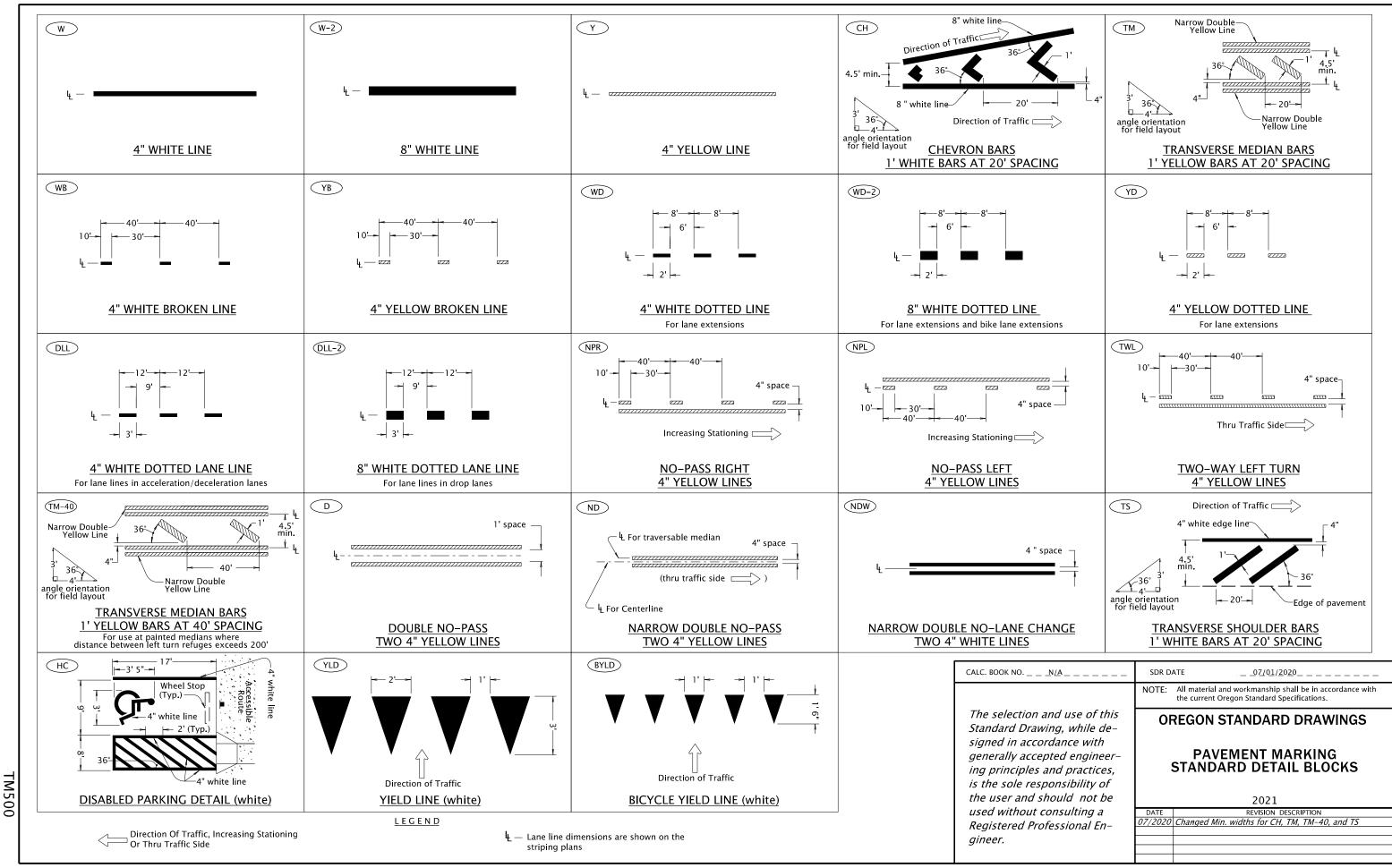
extended with a mixture and a	5.022.WE KEI OK! 5/112 3004H 2011 1 1 1 1 1 1 1 1 1
	NOTE: All material and workmanship shall be in accordance w the current Oregon Standard Specifications
The selection and use of this Standard Drawing, while de- signed in accordance with	OREGON STANDARD DRAWINGS
generally accepted engineer- ing principles and practices, is the sole responsibility of	LOOP DETAILS
the user and should not be	2018
used without consulting a	DATE REVISION DESCRIPTION
Registered Professional En-	
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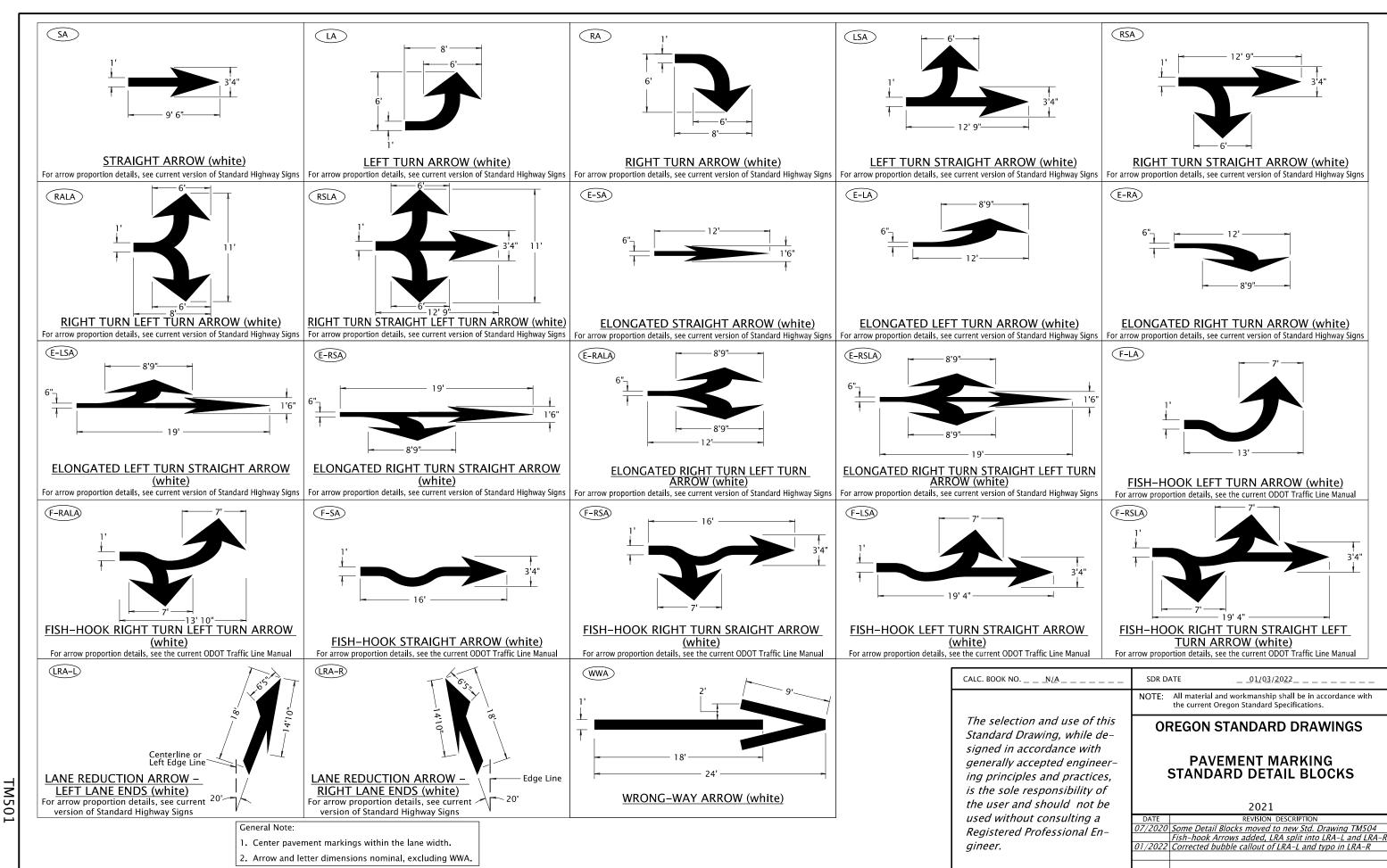
LOOP WIRE ENTRANCES

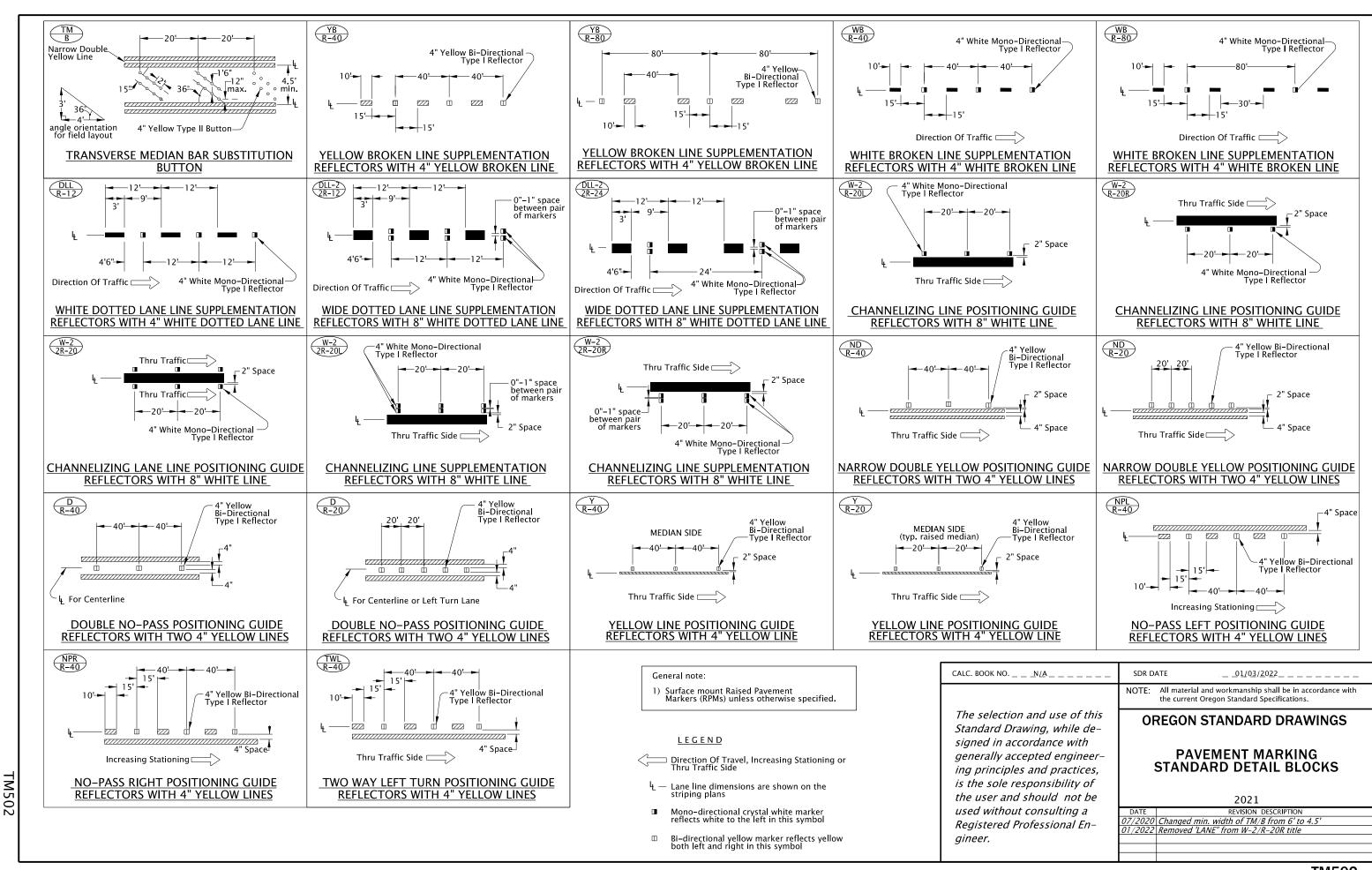
-	SAND POCKET OPTION OR P.V.C. SLEEVE INTALLATION NOTES:
	1.) Install Conduit PlugTo Each End Of Conduit Before Installing Sand And A.C.
,	2.) Elbows And Risers For Conduit Back Into The First Junction Box May Be Any Rigid Non–Metallic Conduit.
	3.) Uncurbed Sections As Shown Above.
	4.) On Monolithic Curbs, Locate Loop Entrance In Pavement At Edge Of Concrete Gutter.
	(Notes 1 And 2 Apply To Curbed And Uncurbed Installations).

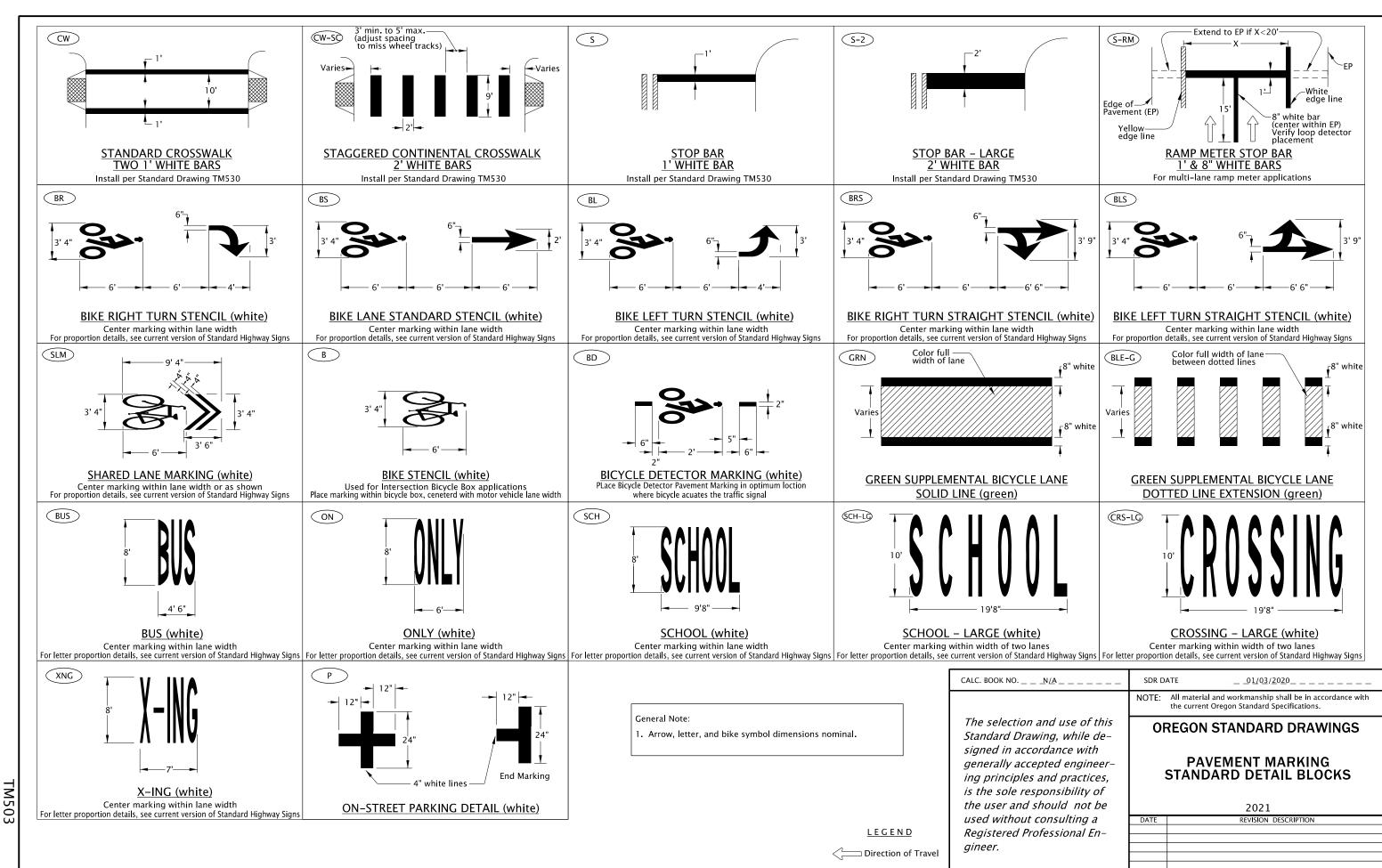
TM480

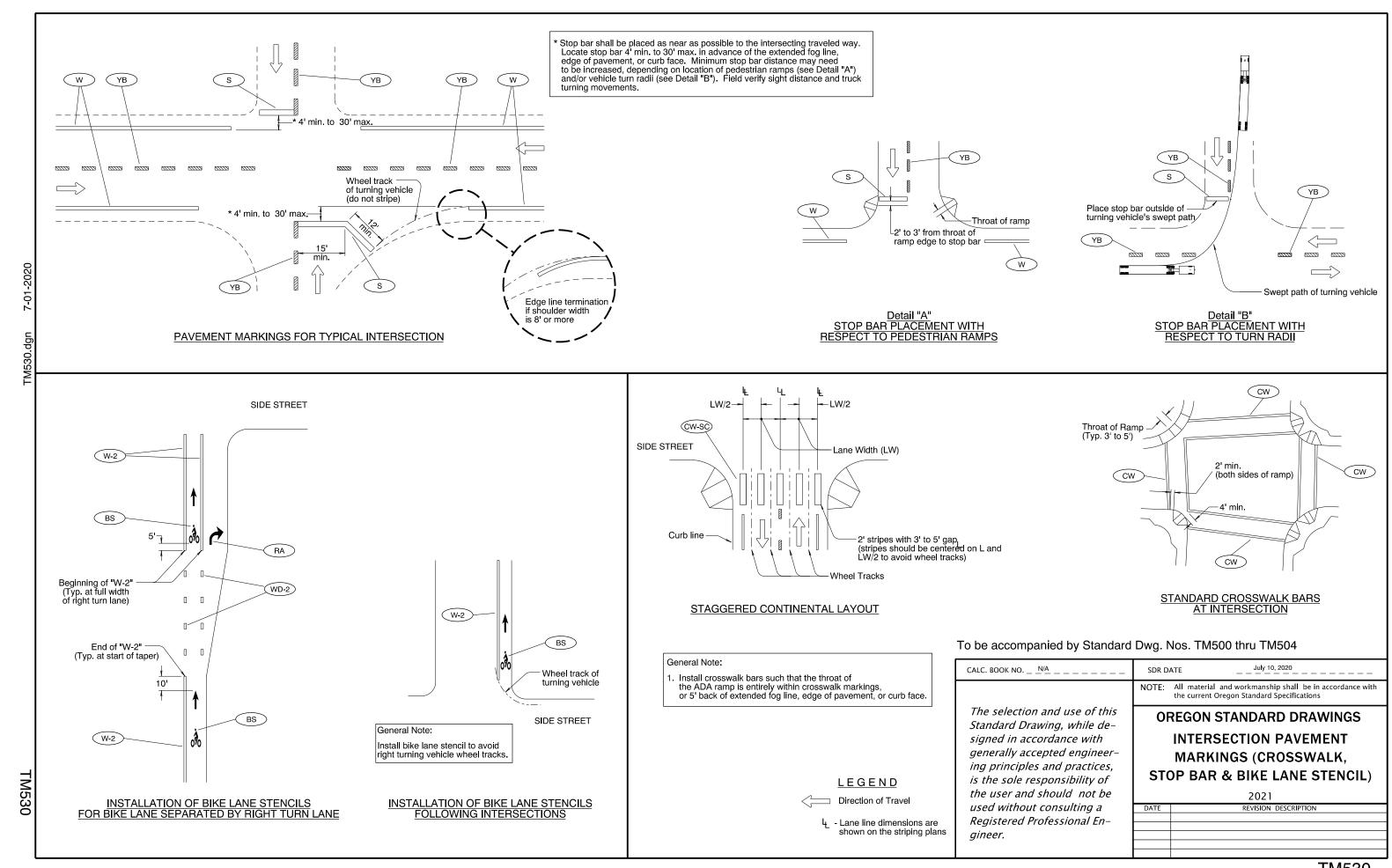
ALC. BOOK NO <u>N</u> / <u>A</u>	BASELINE REPORT DATE30-Jun-2017			
	NOTE:	All material and workmanship shall be in accordance with the current Oregon Standard Specifications		
The selection and use of this Standard Drawing, while de- signed in accordance with	OREGON STANDARD DRAWINGS			
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the user and should not be	2018			
used without consulting a	DATE	REVISION DESCRIPTION		
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TAPER TYPES & FORMULAS				
TAPER	FORMULA			
Merging (Lane Closure)	"L"			
Shifting	"L"/2 or ½"L"			
Shoulder Closure	"L"/3 or ⅓"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:

TEMPORARY 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			

МІ	NIMU	JM L	ENG	THS	TABLE	
"L" VALUE FOR TAPERS (ft)						
A ()	W = Lane o	r Shoulder Wid	BUFFER "B" (ft)			
★ SPEED (mph)	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 \geq 45: L = WS, Speeds < 45: L = $S^2W/60$, S = Speed, W=Width

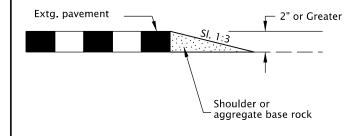
TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE					
★ SPEED (mph)	Sig	n Spacing	Max. Channelizing		
X SI EED (IIIPII)	Α	В	С	Device Spacing (ft)	
20 – 30	100	100	100	20	
35 – 40	350	350	350	20	
45 – 55	500	500	500	40	
60 – 70	700	700	700	40	
Freeway	1000	1500	2640	40	

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:

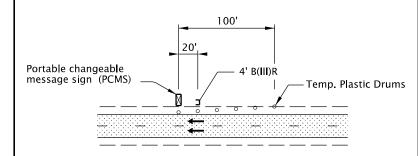
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



EXCAVATION ABRUPT EDGE

NOTES:

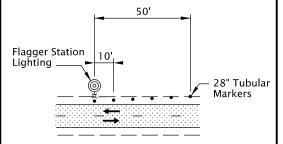
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R Left shoulder, use Type B(III)L
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind 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:

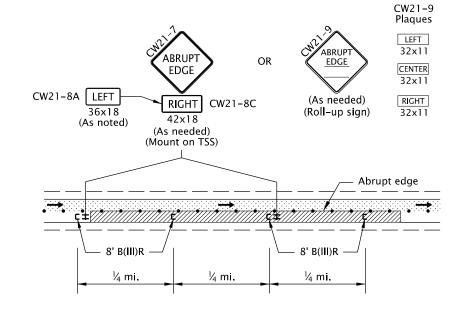
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

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

- 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.
- for max. spacing.

 • 28" Tubular Markers

Temp. Plastic Drums See TCD Spacing Table

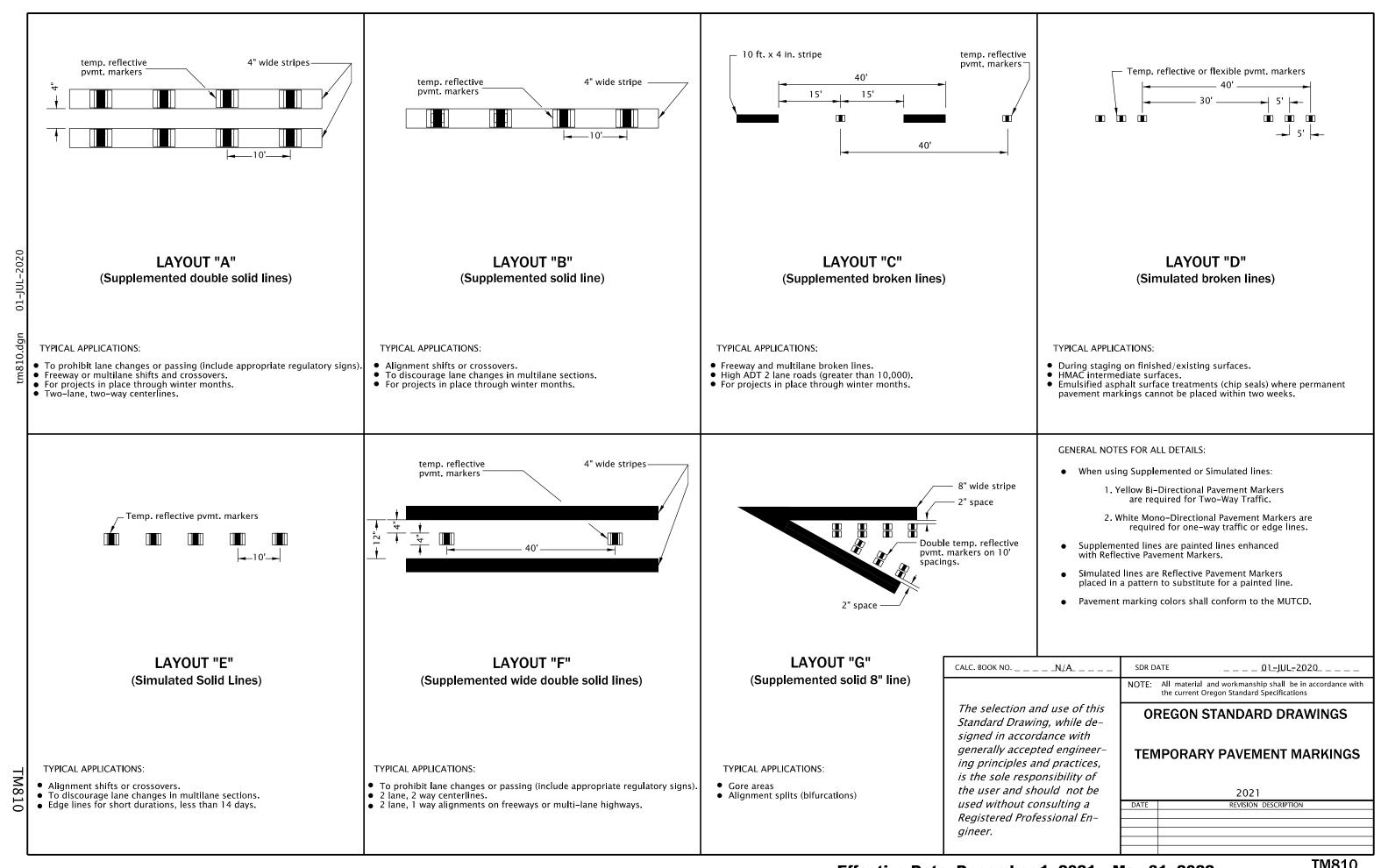
See TCD Spacing Table for max. spacing.

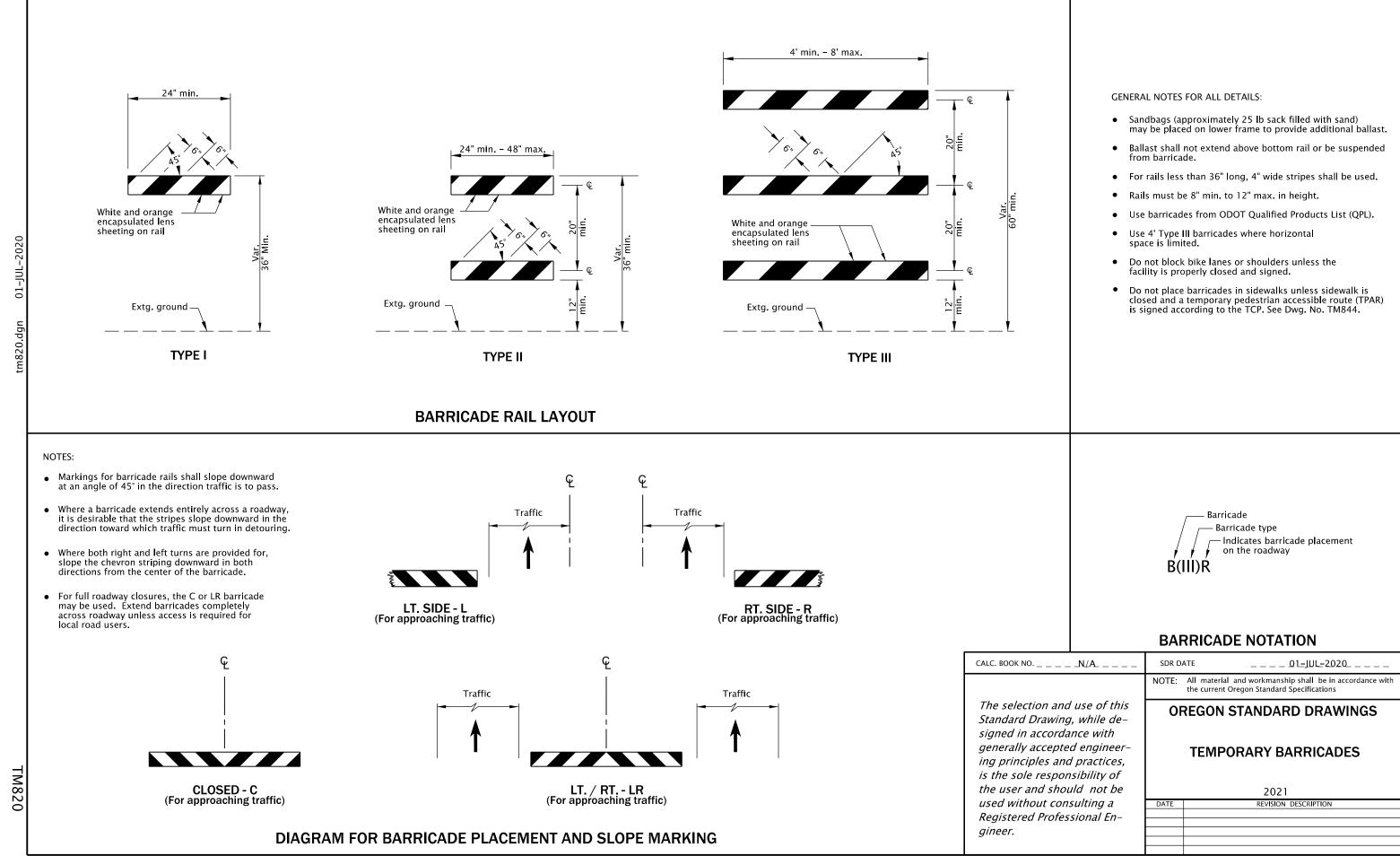
UNDER TRAFFIC

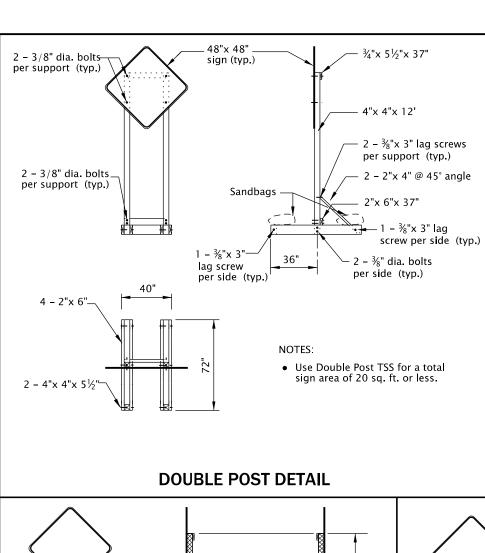
UNDER CONSTRUCTION

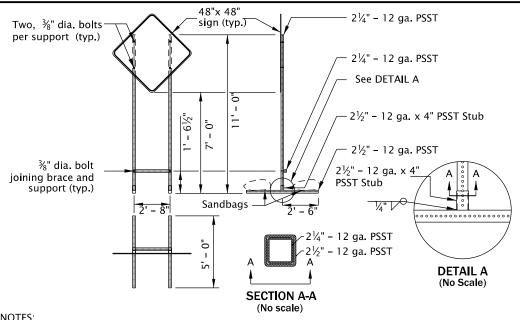
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36".
 All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less.
 High speed highways have a pre-construction posted speed of 45 mph or higher.
- 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 Dwg. Nos. TM820 & TM821.

SDR DATE _ _ _ _ 04-JAN-2022_ _ _ All material and workmanship shall be in accordance with the current Oregon Standard Specifications The selection and use of this **OREGON STANDARD DRAWINGS** Standard Drawing, while designed in accordance with TABLES, ABRUPT EDGE AND generally accepted engineer-**PCMS DETAILS** ing principles and practices, is the sole responsibility of the user and should not be 2021 used without consulting a Registered Professional Engineer.





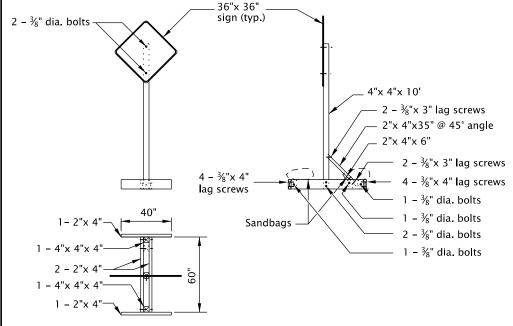




PERFORATED STEEL SQUARE TUBE (PSST) DETAIL

- 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.

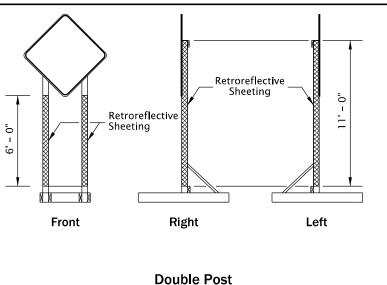
- 2¼" 12 ga. PSST to extend entire length inside of the $2\frac{1}{2}$ " - 12 ga. x 4" PSST Stub.
- Do not use bolt to secure 21/4" PSST inside of the $2\frac{1}{2}$ " - 12 ga. x 4" PSST Stub.
- Weld steel according to American Welding Society (AWS) D.1.1.

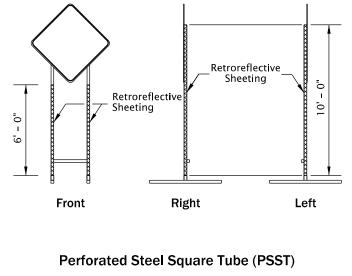


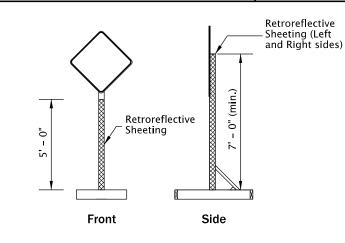
NOTES:

- 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.

SINGLE POST DETAIL







Single Post

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- Do not tip over TSS at any time.
- Do not locate TSS's in locations that block pedestrian or 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).

_ _ _ _ 01-JUL-2020_ .

See Dwg. No. TM204 for flag board mounting detail

All material and workmanship shall be in accordance with the current Oregon Standard Specifications The selection and use of this **OREGON STANDARD DRAWINGS** Standard Drawing, while designed in accordance with generally accepted engineer-TEMPORARY SIGN SUPPORTS ing principles and practices, is the sole responsibility of the user and should not be 2021 used without consulting a REVISION DESCRIPTION

SDR DATE

NOTES:

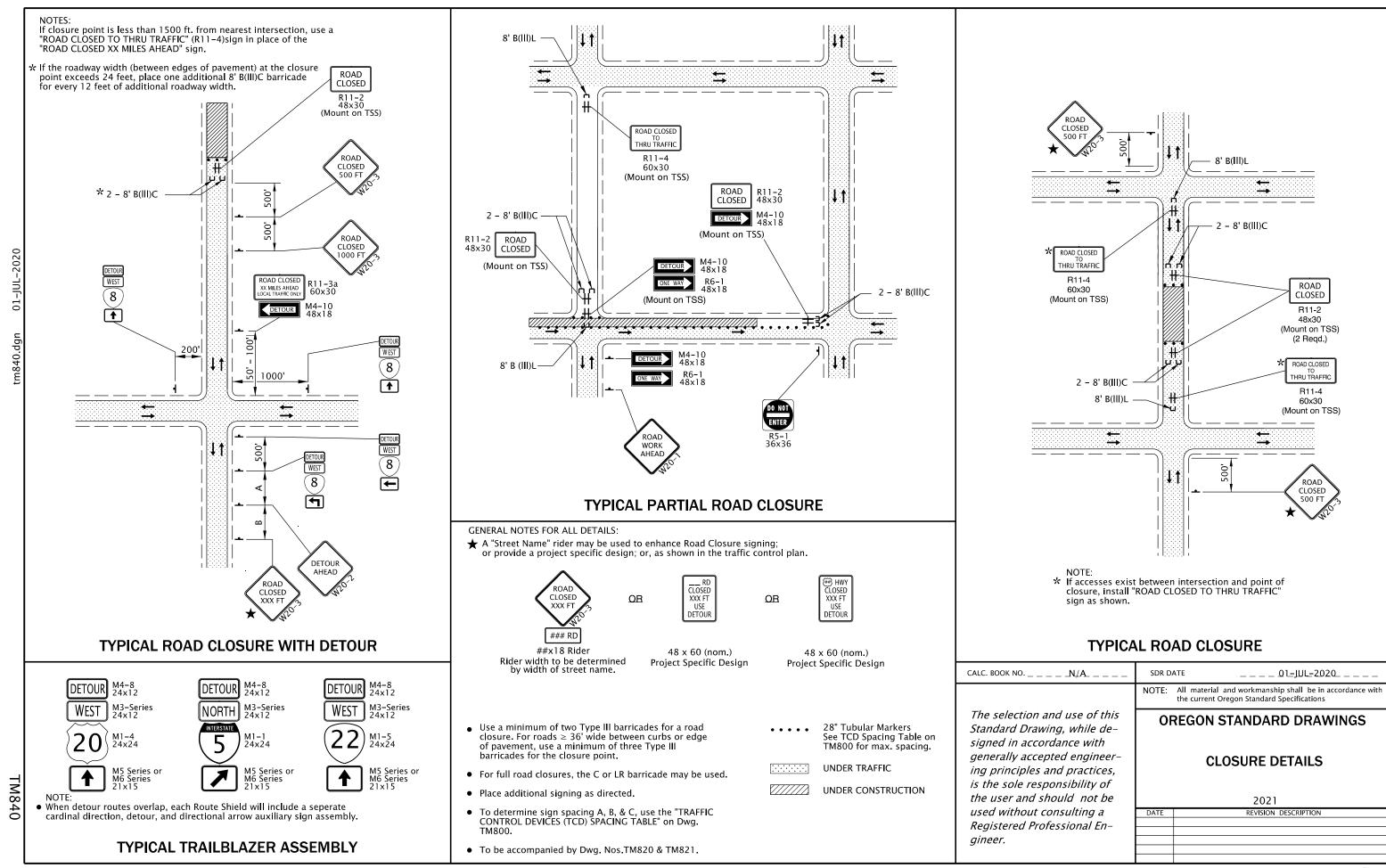
TM821

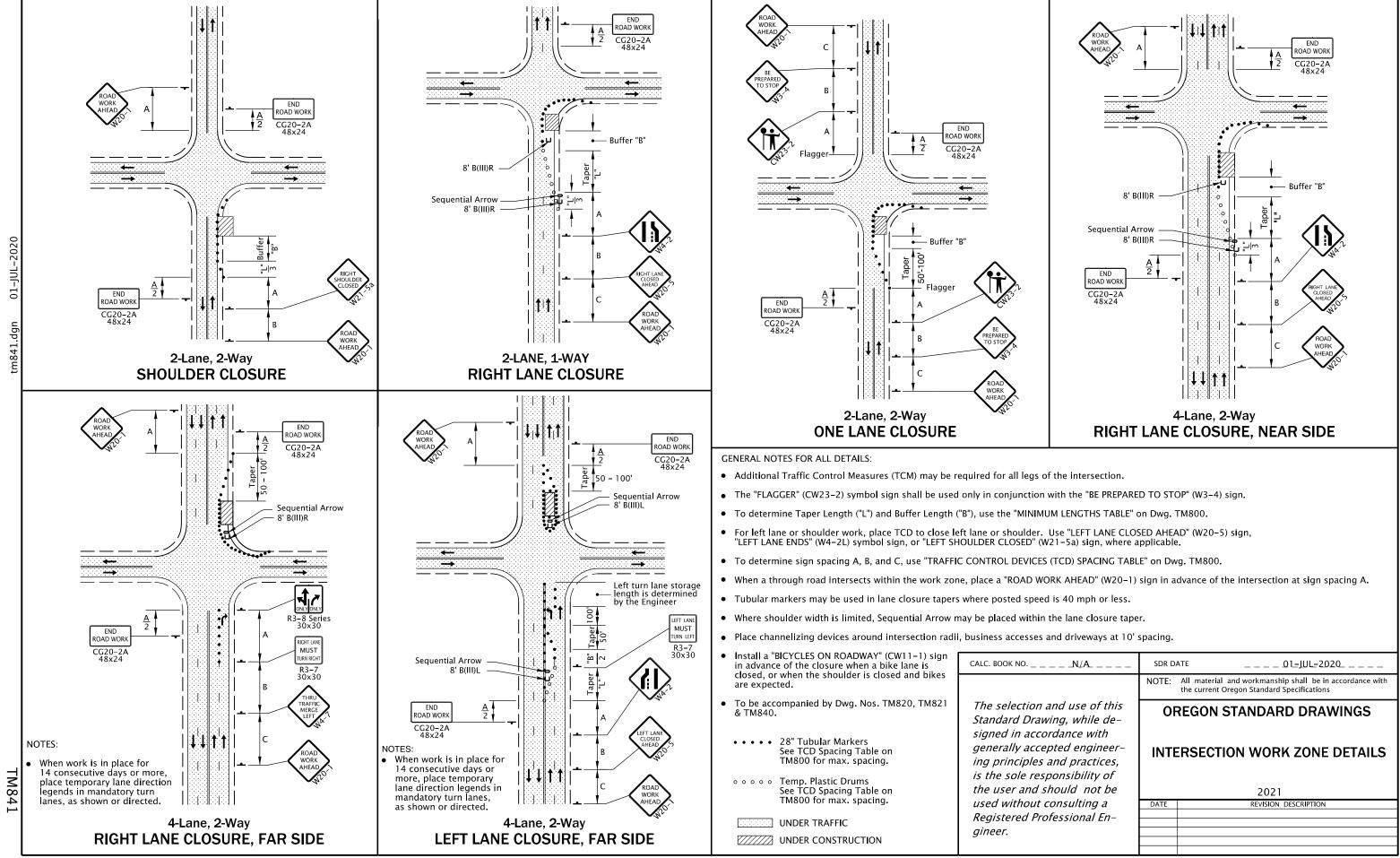
- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
- Apply sign post retroreflectivity 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.

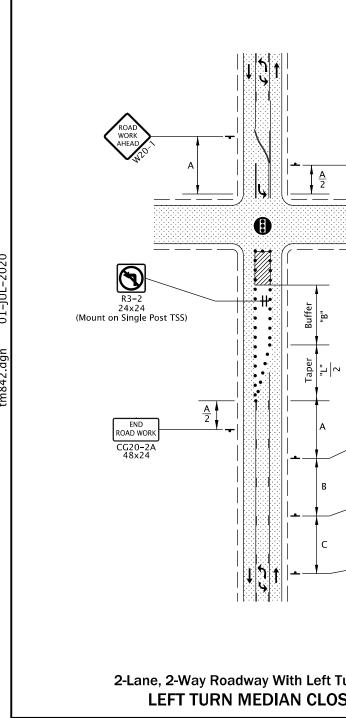
SIGN POST REFLECTIVE SHEETING PLACEMENT

Registered Professional En-

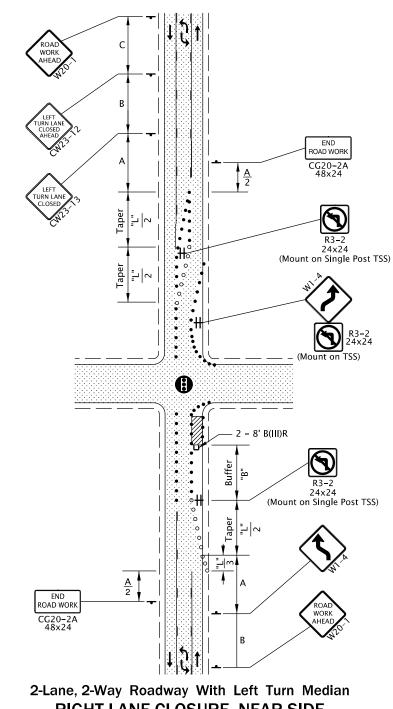
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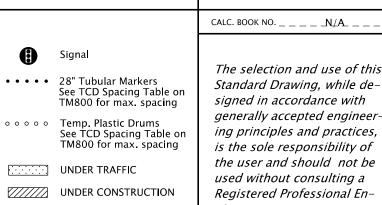
RIGHT LANE CLOSURE, NEAR SIDE

END ROAD WORK R3-2 24x24 (Mount on Single Post TSS) 30x30 (Mount on Single Post TSS) END ROAD WORK 2-Lane, 2-Way Roadway With Left Turn Median RIGHT LANE CLOSURE, FAR SIDE

GENERAL NOTES FOR ALL DETAILS:

TM842

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- To determine Taper Length ("L") and Buffer Length ("B") shown on this sheet, use the "MINIMUM LENGTHS TABLE" on Dwg. TM800.
- Taper length of "L" for through lane shifting tapers may be used for higher speed roads.
- Taper length of "L"/2 for center turn lane closure may be used in areas with a high number of accesses within the work zone.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- Place channelizing devices around intersection radii, business accesses, and driveways at 10' spacing.
- Tubular markers may be used in lane closure tapers where the posted speed is 40 mph or less.
- 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.
- · Signal timing adjustments determined by Engineer.
- To be accompanied by Dwg. Nos. TM820 & TM821.

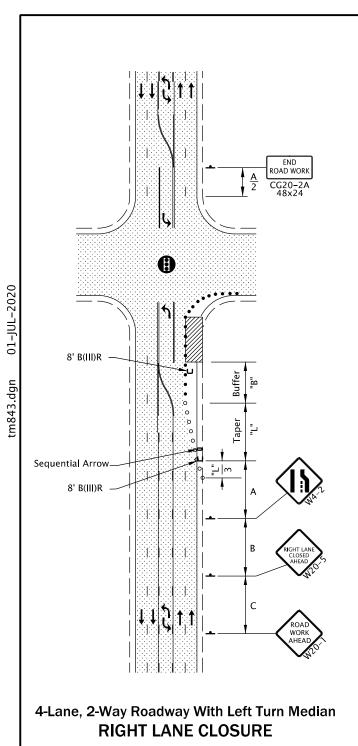


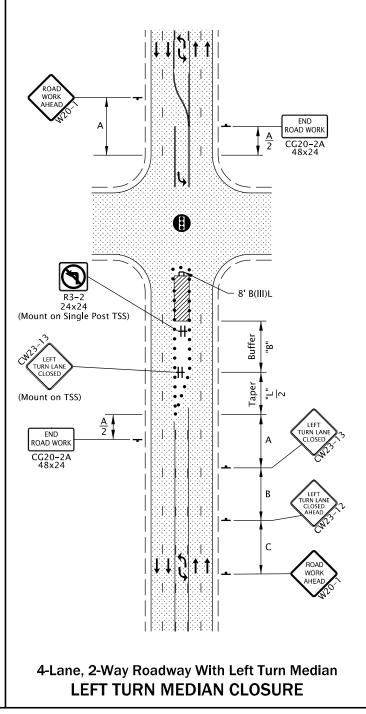
All material and workmanship shall be in accordance with the current Oregon Standard Specifications The selection and use of this **OREGON STANDARD DRAWINGS** Standard Drawing, while designed in accordance with generally accepted engineer-SIGNALIZED INTERSECTION DETAILS ing principles and practices, is the sole responsibility of the user and should not be 2021 used without consulting a Registered Professional Engineer.

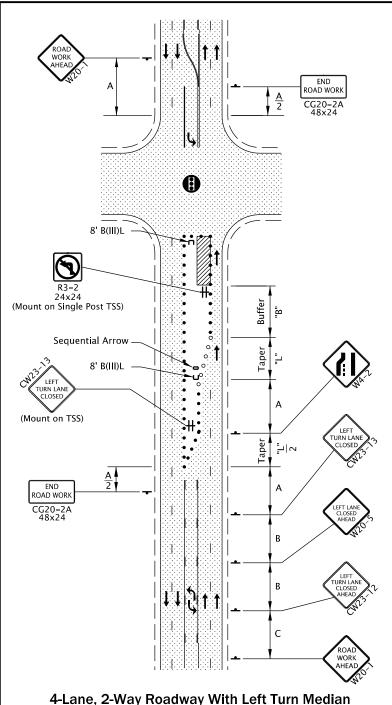
SDR DATE

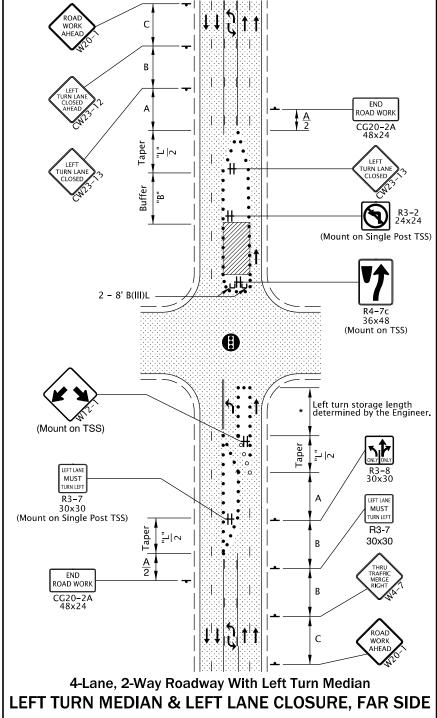
TM842

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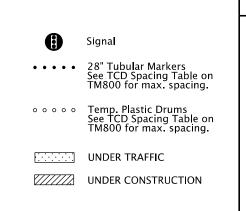




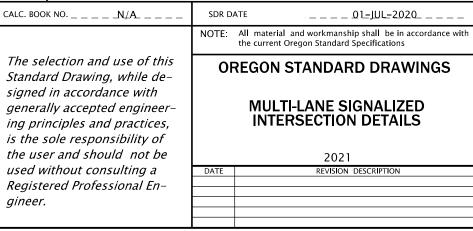


GENERAL NOTES FOR ALL DETAILS:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- To determine Taper Length ("L") and Buffer Length ("B") shown on this sheet, use the "MIMIMUM LENGTHS TABLE" on Dwg. TM800.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- Tubular markers may be used in lane closure tapers where the posted speed is 40 mph or less.
- Taper Length of "L" for the through-lane shifting tapers may be used for higher speed roads.
- Taper Length of "L"/2 for center turn lane closure may be used in areas with high number of accesses within the work zone.
- Place channelizing devices around intersection radii, business accesses and driveways at 10' spacing.
- 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.
- Signal timing adjustments determined by the Engineer.
- To be accompanied by Dwg. Nos. TM820 & TM821.



LEFT TURN MEDIAN AND LEFT LANE CLOSURE



TM843

