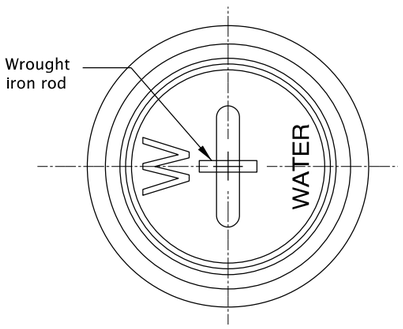
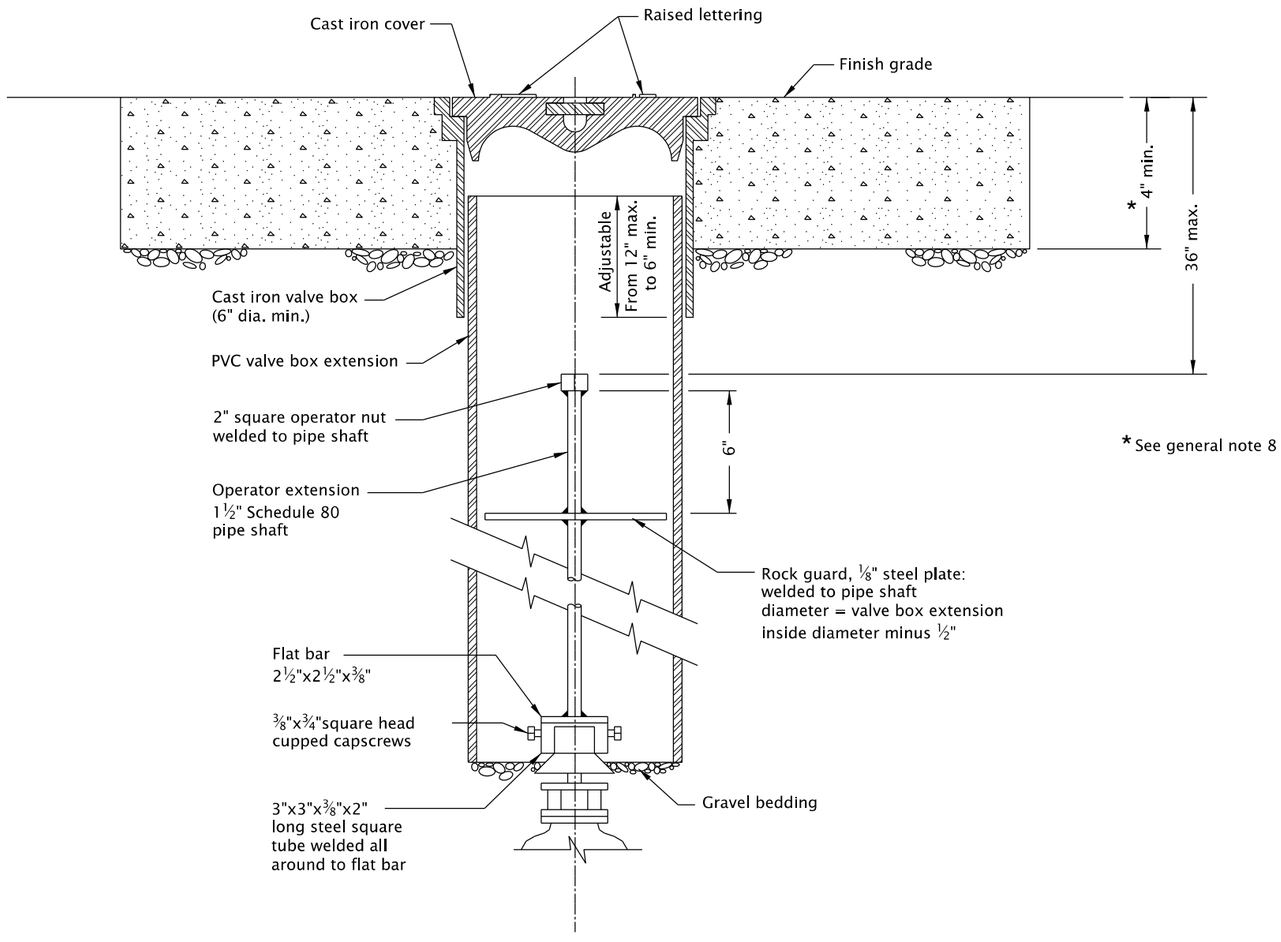
20-JUL-2020
RD258.dgn

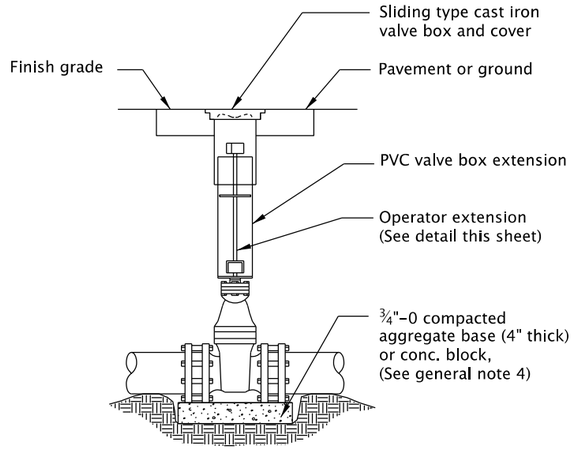


COVER PLAN



* See general note 8

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' 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 ¼" 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.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 25-JUL-2017 | **RD258**

Effective Date: June 1, 2025 - November 30, 2025

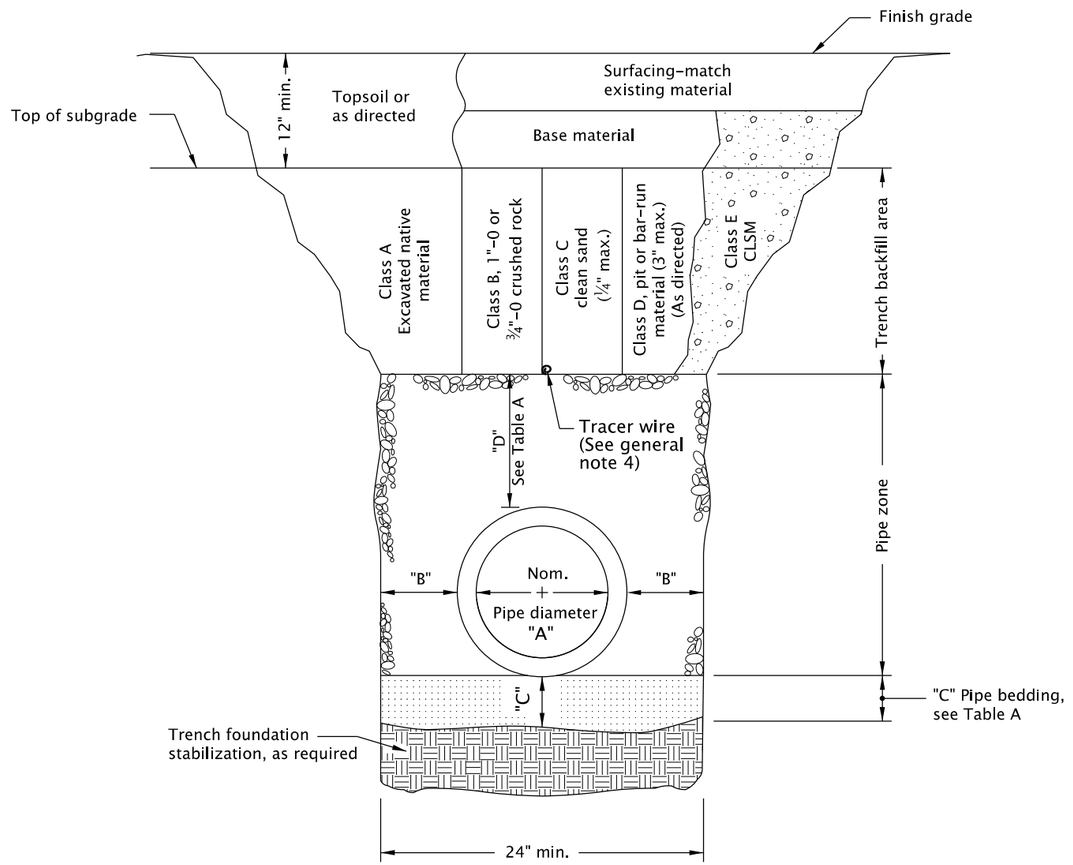
20-JUL-2020

RD300.dgn

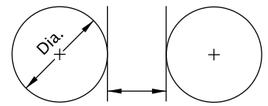
TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS



DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

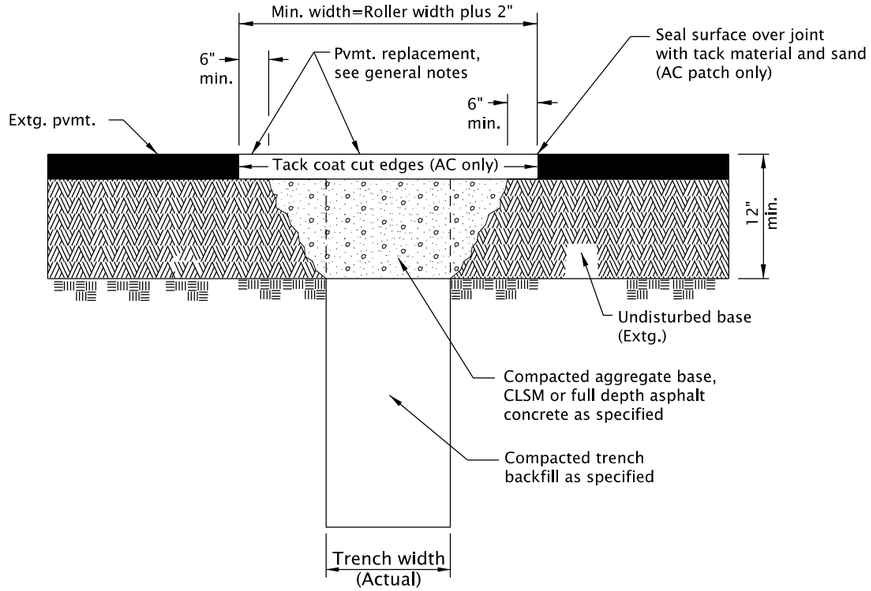
2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2014 | **RD300**

Effective Date: June 1, 2025 – November 30, 2025

20-JUL-2020
RD302.dgn



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All existing AC or PCC pavement shall be sawcut prior to repaving.
2. Concrete pavement shall be replaced with concrete to a minimum thickness of 8" or to the thickness of removed pavement, whichever is greater.
3. For joining new concrete to existing concrete, see contract plans for sepecific details.
4. Place AC mix minimum thkn. of 6" or the thkn. of the removed pavement, whichever is greater. Compact as specified.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

STREET CUT

2024

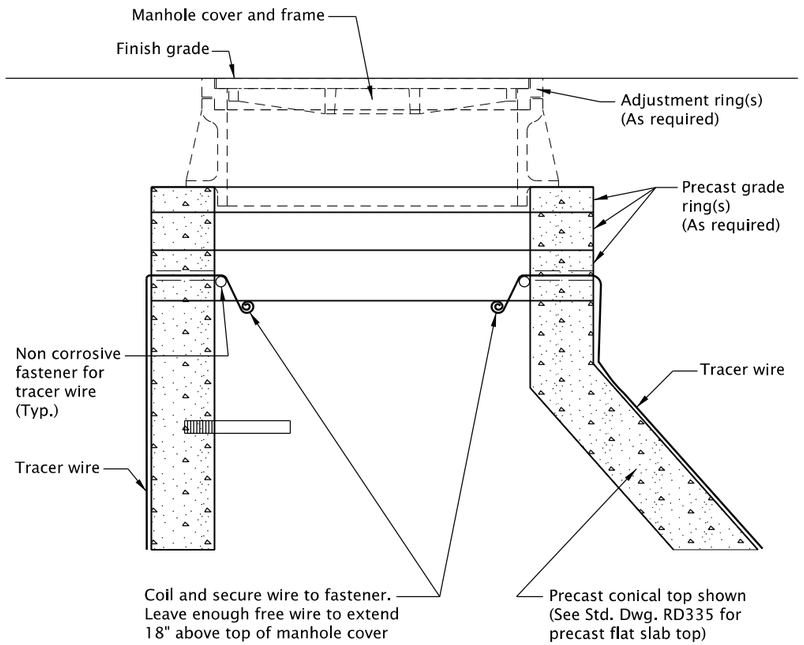
DATE	REVISION DESCRIPTION

CALC. BOOK NO.	SDR DATE	
N/A	20-JUL-2020	**RD302**

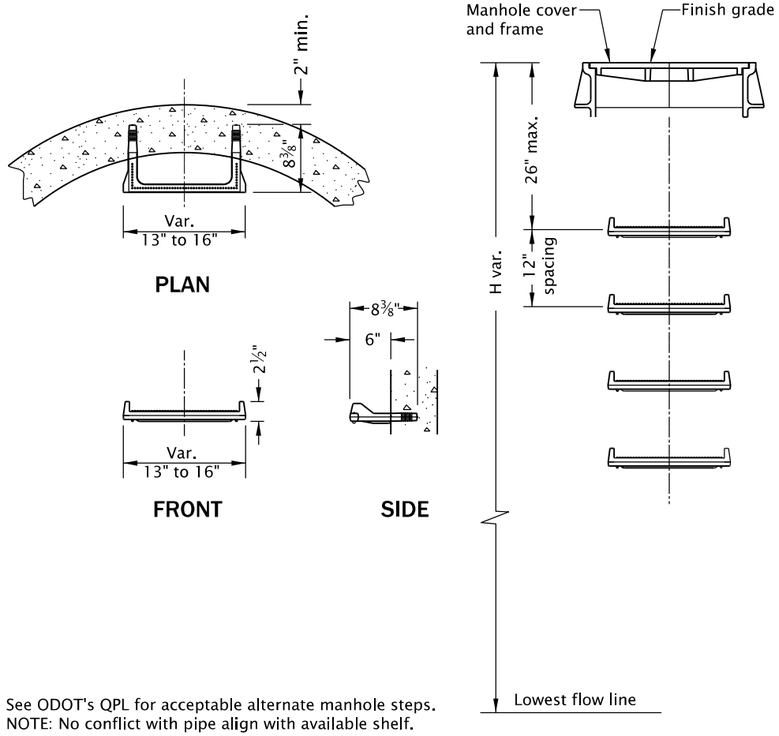
Effective Date: June 1, 2025 - November 30, 2025

20-JUL-2020

RD336.dgn

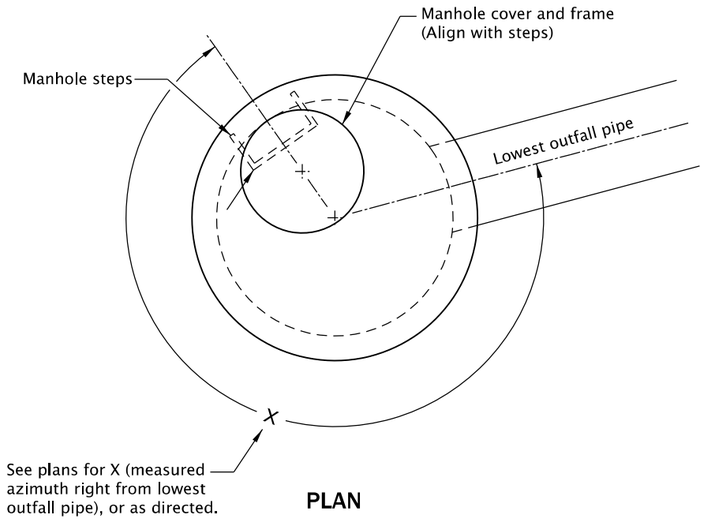


DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)



DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps shall conform to requirements of ASTM C478. When H=42" or less omit steps. See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Dwg. RD335 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. See project plans for details not shown.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

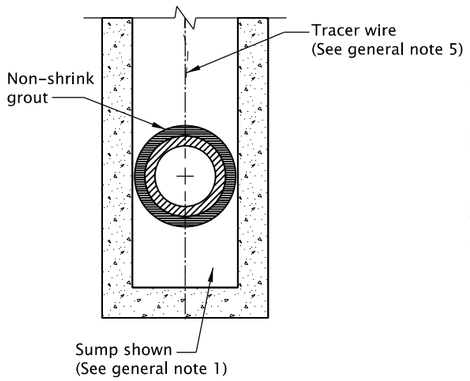
STANDARD MANHOLE DETAILS

2024

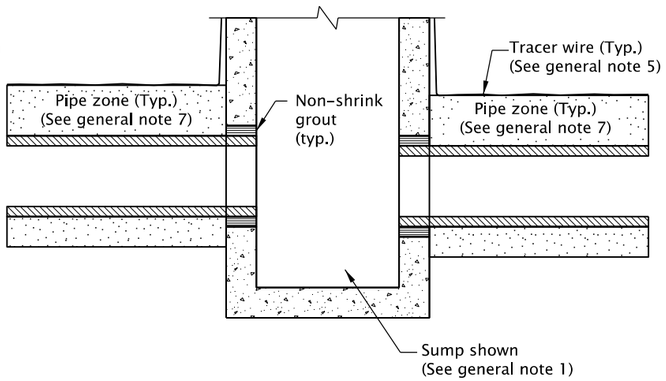
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 16-JAN-2019 | **RD336**

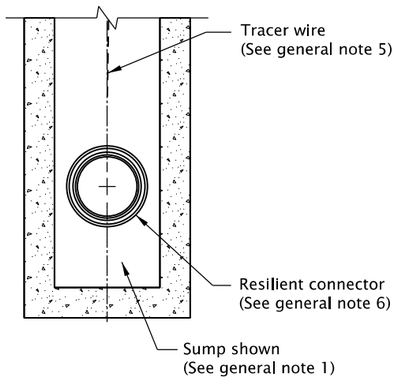
Effective Date: June 1, 2025 – November 30, 2025



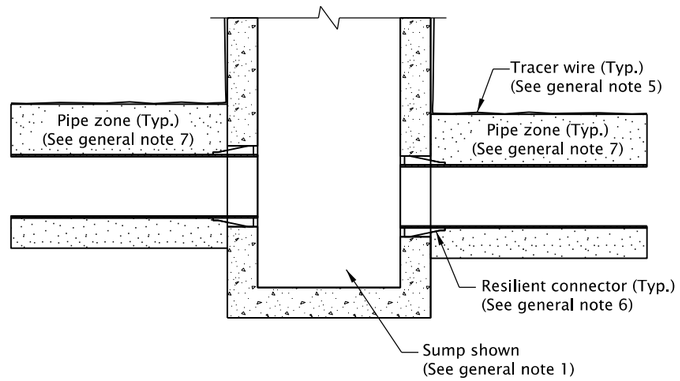
SECTION B-B



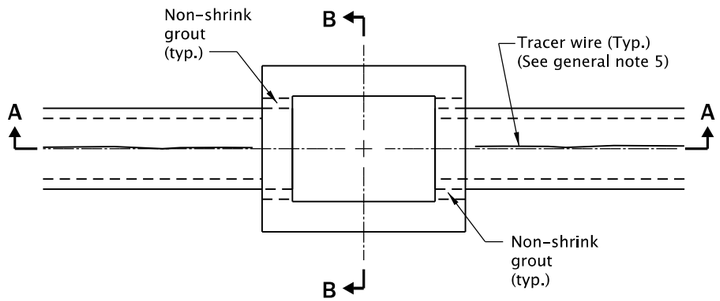
SECTION A-A



SECTION D-D

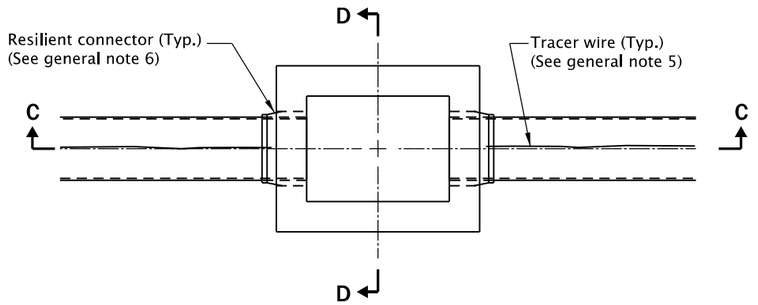


SECTION C-C



PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Maximum pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
6. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
7. Pipe zone varies, see Std. Dwg. RD300.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PIPE TO STRUCTURE CONNECTIONS

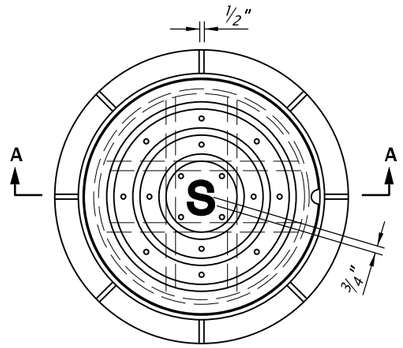
2024

DATE	REVISION DESCRIPTION
07-2021	REVISED NOTES
04-2022	REVISED NOTES
01-2023	REVISED DETAILS AND NOTES

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2023 | **RD339**

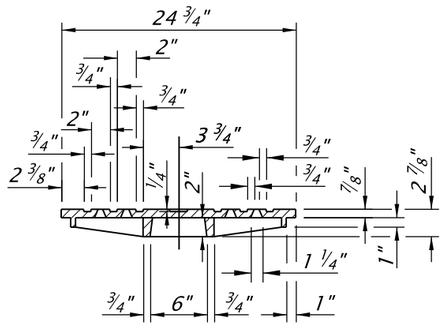
Effective Date: June 1, 2025 – November 30, 2025

20-JAN-2023
RD339.dgn

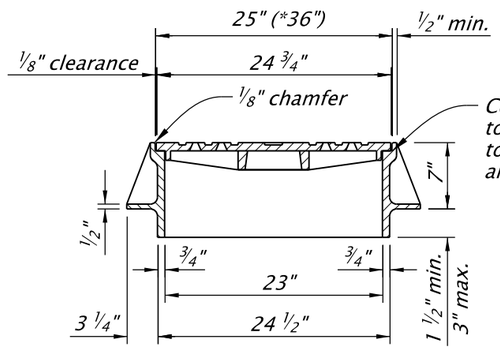


NOTE:
Coat outside of frame with asphalt where frame is to be placed in concrete, pavement, concrete gutter or walk.

PLAN



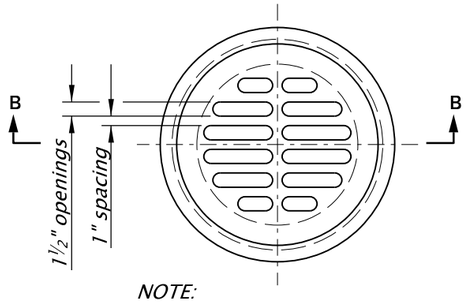
COVER SECTION A-A



**36 inch minimum diameter cover is required for mannholes with depths of 20 feet or greater. See general note 4.*

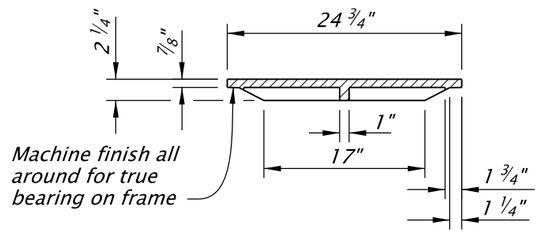
FRAME SECTION A-A

STANDARD MANHOLE COVER AND FRAME



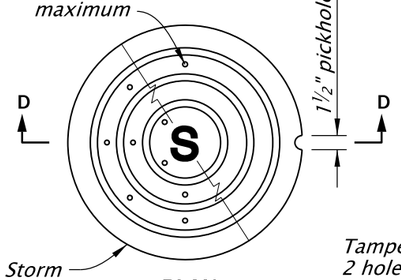
NOTE:
For use with standard manhole frame. See general note 7.

PLAN

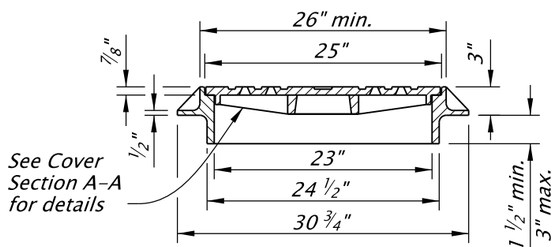


SECTION B-B

STANDARD MANHOLE GRATE



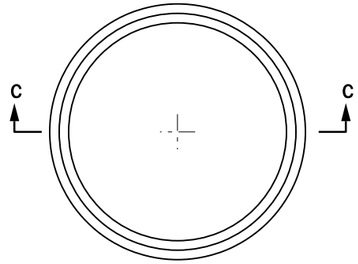
PLAN



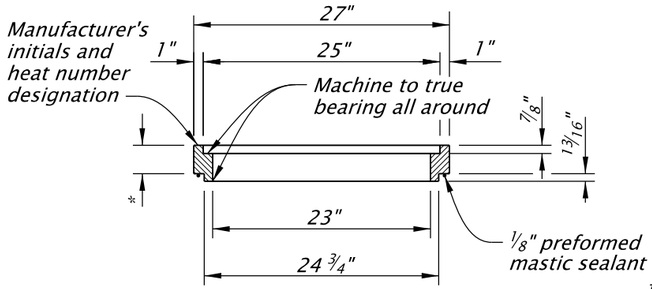
SECTION D-D

CAST IRON SUBURBAN MANHOLE COVER AND FRAME

For use on local streets only, as specified



PLAN

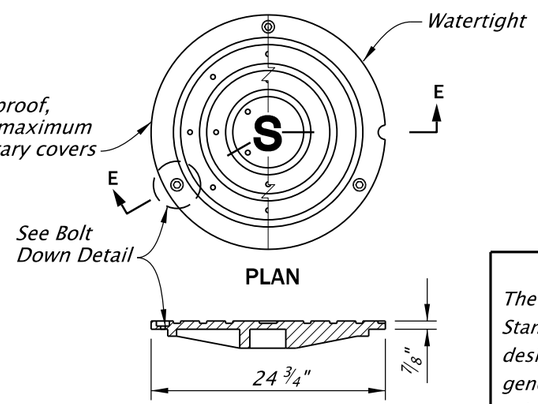


SECTION C-C

** Standard depths 1 1/2", 2", 2 1/2" and 3". Material to be grey cast iron ASTM A48, Class 35B. Tolerance on non-machined surfaces to be ±0.06". See general note 6*

MANHOLE ADJUSTMENT RING

For use with Standard Manhole Frame



PLAN

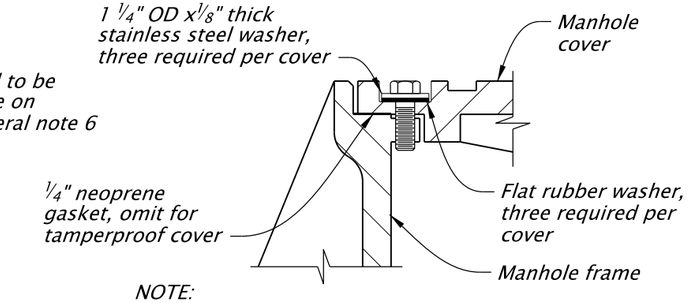
SECTION E-E

CAST IRON TAMPERPROOF AND WATERTIGHT COVER

Frames available in standard or suburban pattern

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Tamperproof covers required on sanitary or storm drain manhole where located in pedestrian ways or easement areas. Covers for sanitary manholes shall have two holes maximum.*
2. *Watertight covers required if located where cover may be submerged (no holes).*
3. *Covers and frames shall be stamped with manufacturer's initials, heat number and point of origin.*
4. *See Std. Dwg. RD336 for manhole steps.*
5. *See Std. Dwg. RD360 for manhole frame adjustment.*
6. *See ODOT's QPL for alternate manhole adjustment rings.*
7. *Manhole grate allowed only in locations not subject to bicycle or pedestrian use.*
8. *See ODOT's QPL for alternate bolt-down products.*



NOTE:
Three required, equally spaced, 1/2"x1 1/2" pentagonal or hexagonal head, bronze or stainless steel. Install frame so that one bolt boss is located over the manhole steps. See general note 8

BOLT DOWN DETAIL

For tamperproof and watertight covers

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

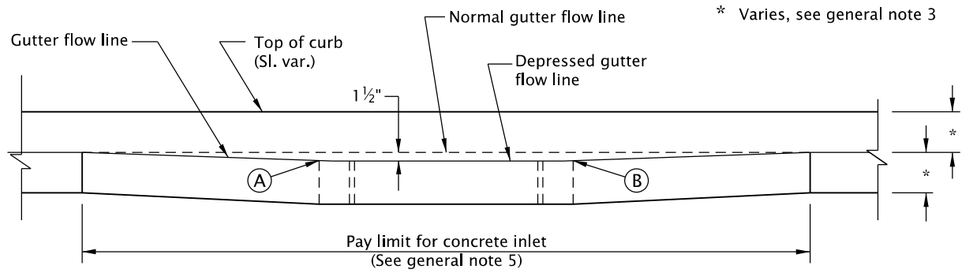
MANHOLE COVERS AND FRAMES

2024

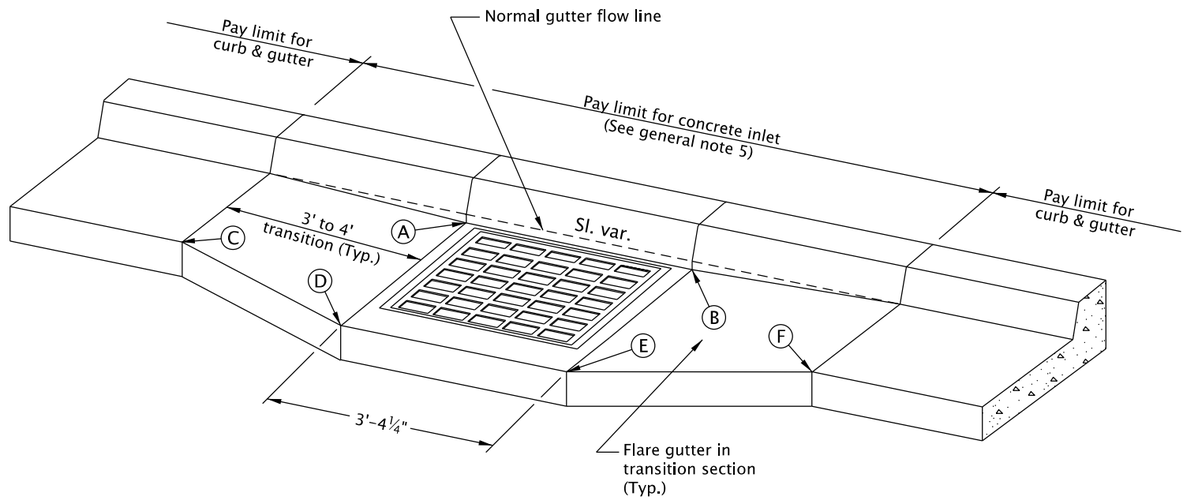
DATE	REVISION DESCRIPTION
07-2022	REVISED DETAILS AND NOTES

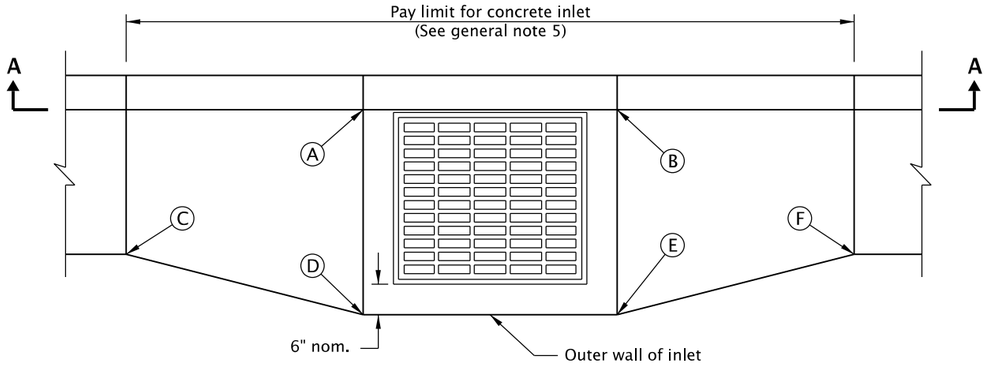
CALC. BOOK NO. N/A | SDR DATE 21-JUN-2019 | **RD356**

NOTES:
1. Provide 1½" local depression at points A & B.
2. Match normal pvmt. grade at points C, D, E & F.
3. Vary transition section slopes to match above points.



SECTION A-A





PLAN VIEW

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For inlet details, see appropriate inlet standard drawing(s).
2. For frame and grate details, see Std. Dwg. RD365.
3. For curb details, see Std. Dwgs. RD700 & RD701.
4. All concrete shall be commercial grade concrete.
5. Pay limit for inlet is expanded when curb and gutter are monolithic.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

GUTTER TRANSITION AT INLET

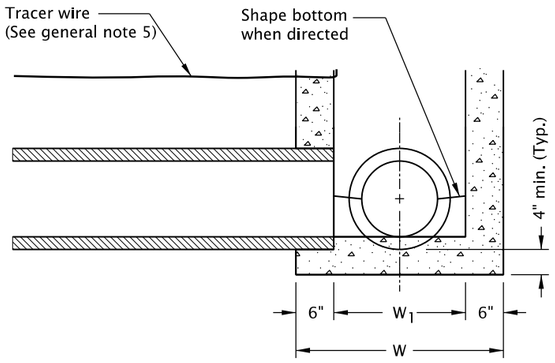
2024

DATE	REVISION DESCRIPTION

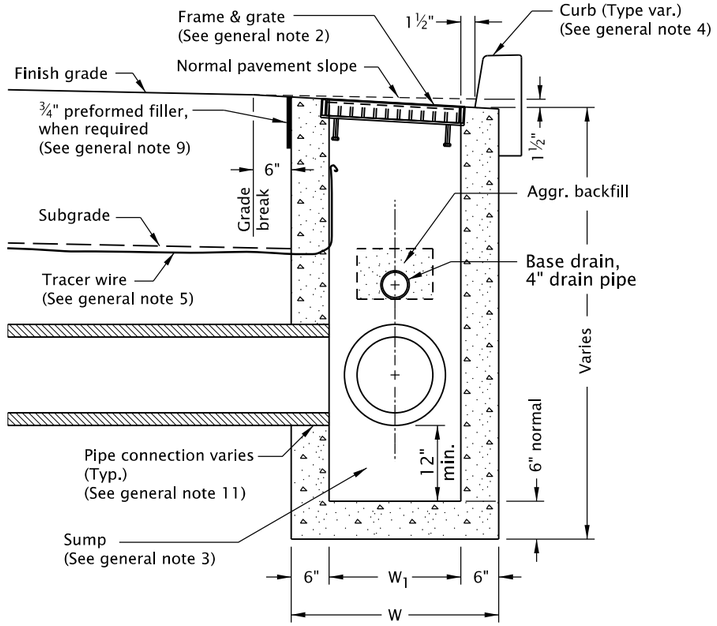
CALC. BOOK NO. N/A | SDR DATE 21-JUL-2015 | **RD363**

Effective Date: June 1, 2025 – November 30, 2025

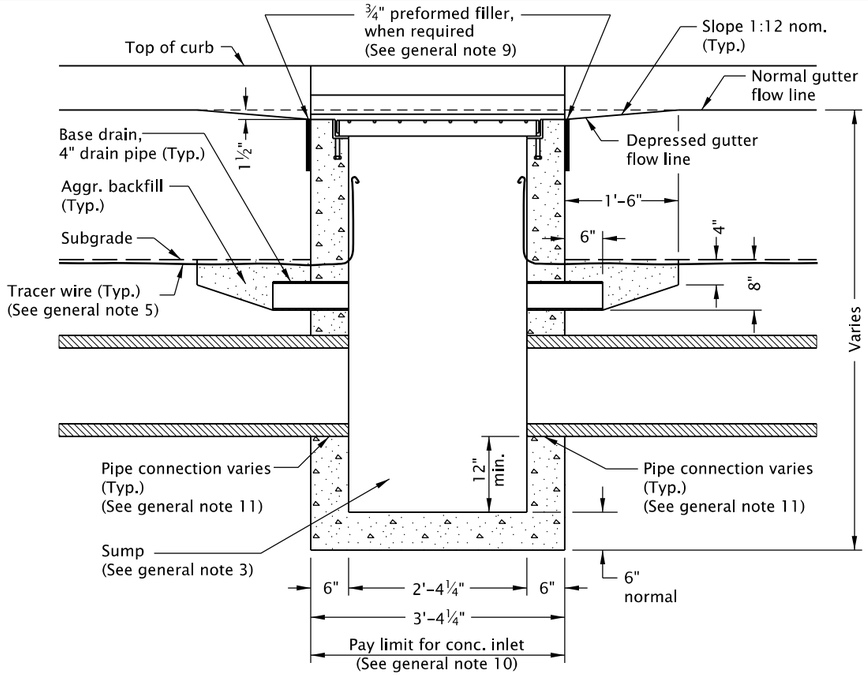
20-JUL-2020
RD363.dgn



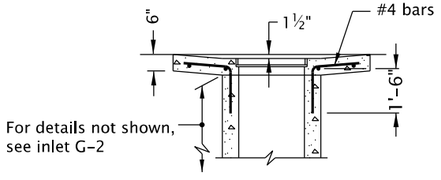
DETAIL A
WITHOUT SUMP



SECTION B - B



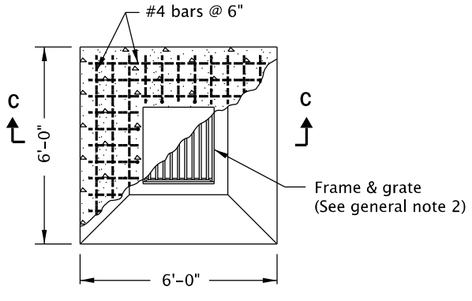
SECTION A - A



SECTION C-C

NOTE:

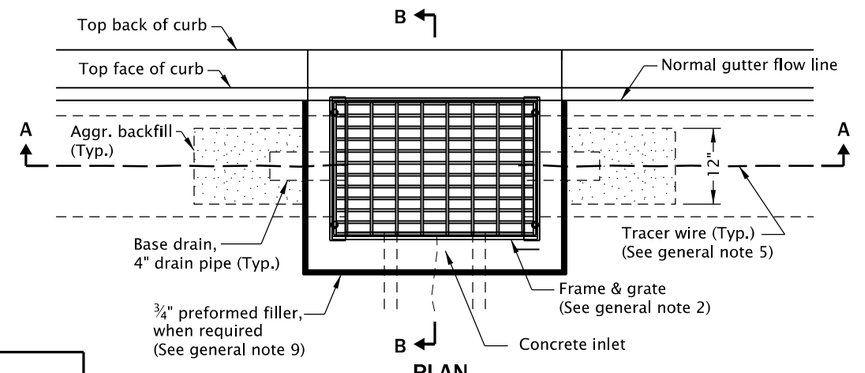
All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise



PLAN

TYPE G-2MA

TABLE A		
INLET TYPE	W	W_1
G-1	2'-8⅞"	1'-8⅞"
G-2, G-2M, G-2MA	3'-3⅜"	2'-3⅜"



PLAN

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

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.
   Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
   For frame and grate details, see Std. Dwg. RD365.
3. Provide sump only where shown on plans, and allowed by jurisdiction. See Detail A for inlet without sump.
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
11. See Std. Dwg. RD339 for pipe to structure connections.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE INLETS
TYPE G-1, G-2, G-2M, & G-2MA

2024

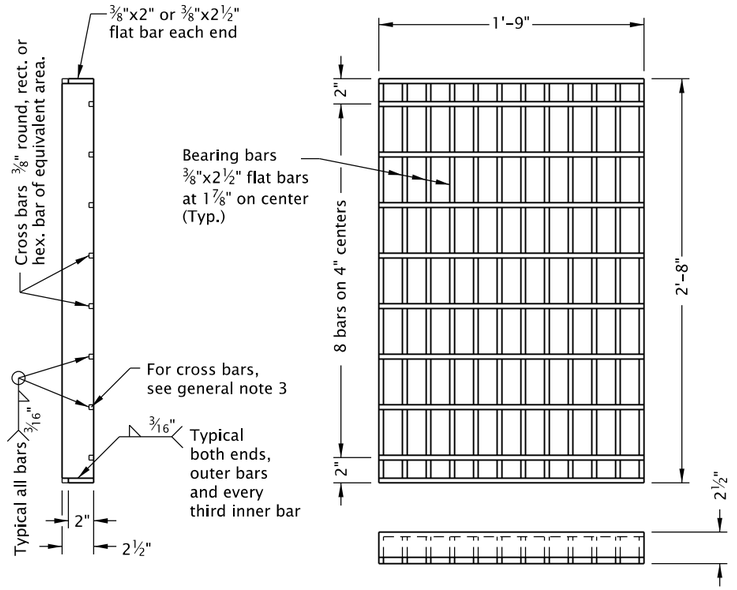
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 21-JUL-2015 | **RD364**

20-JUL-2020

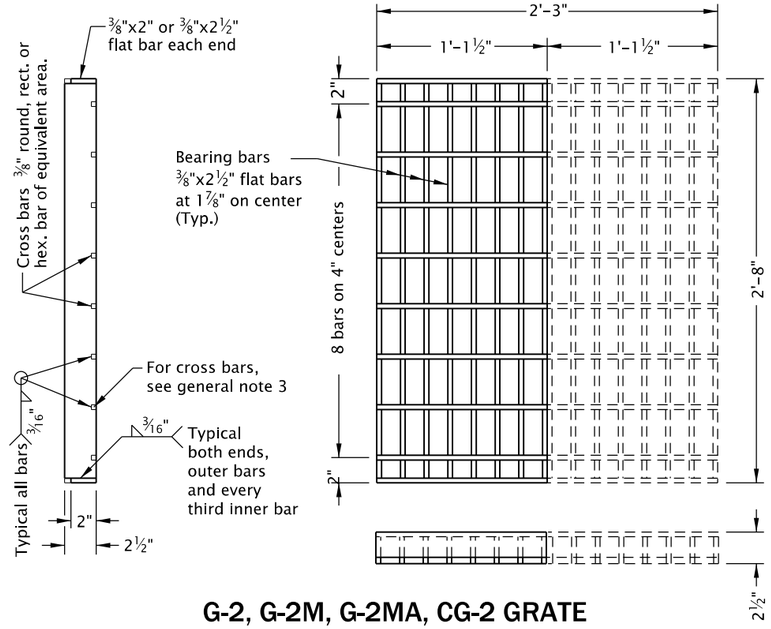
RD364.dgn

Effective Date: June 1, 2025 - November 30, 2025



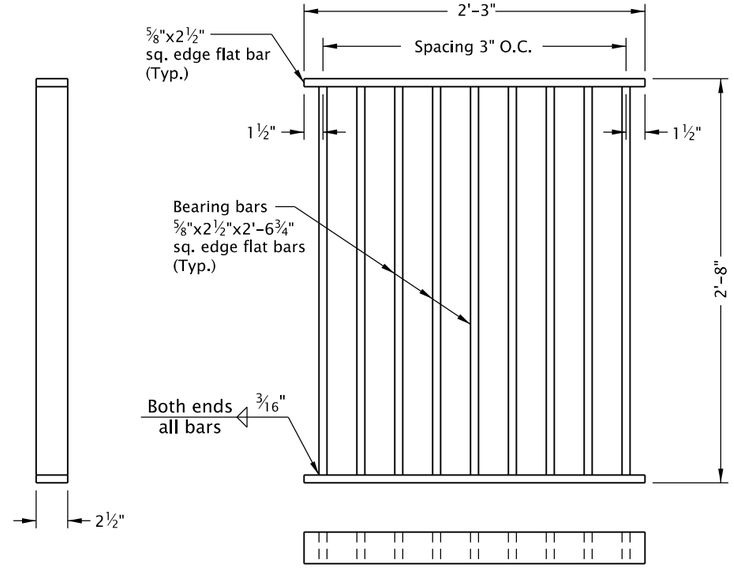
G-1, CG-1 GRATE (TYPE 2)

(Bicycle-safe)



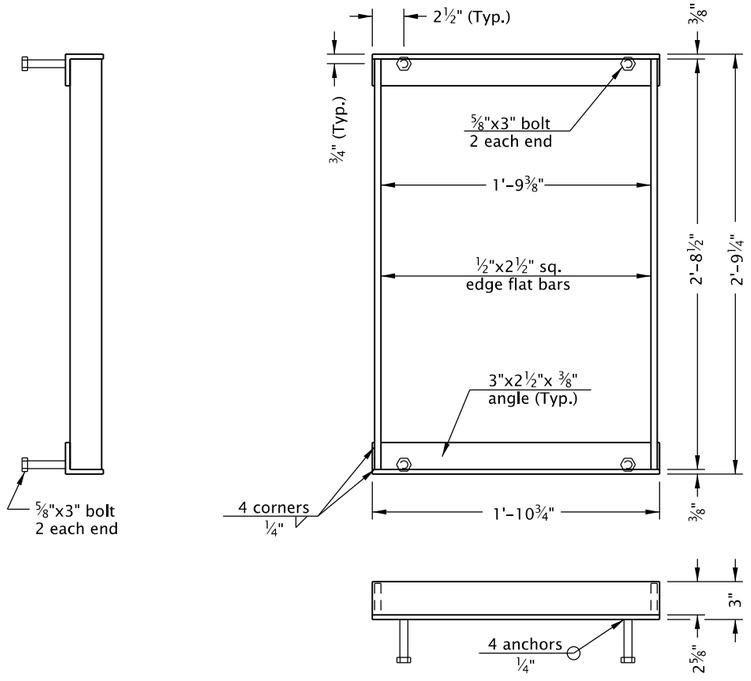
G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 2)

(Bicycle-safe)
(2 grates required per inlet, as shown)

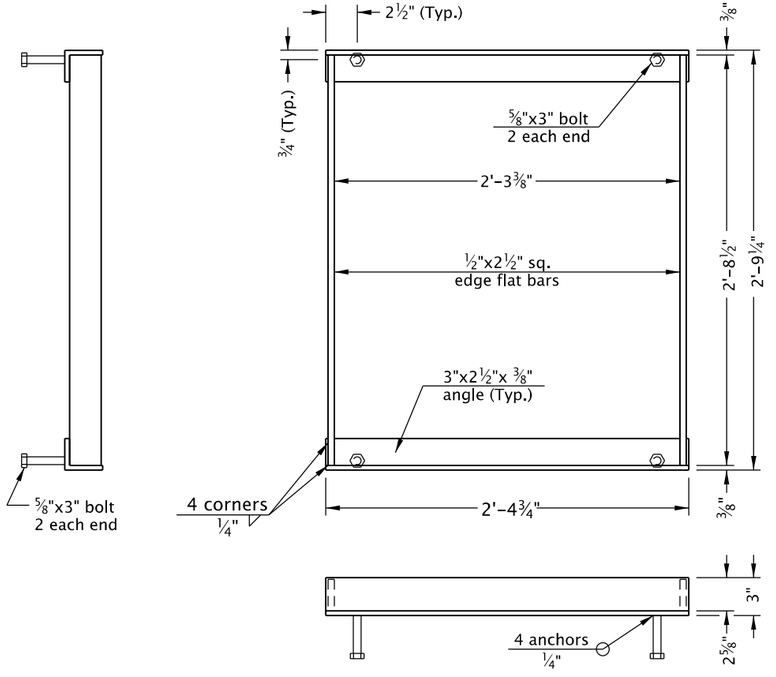


G-2, G-2M, G-2MA, CG-2 GRATE (TYPE 1)

(See general note 2)



G-1, CG-1 FRAME



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

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

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

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

FRAMES & GRATES FOR CONCRETE INLETS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. _ _ _ N/A _ _ _ | SDR DATE _ 14-JUL-2014 _ | **RD365**

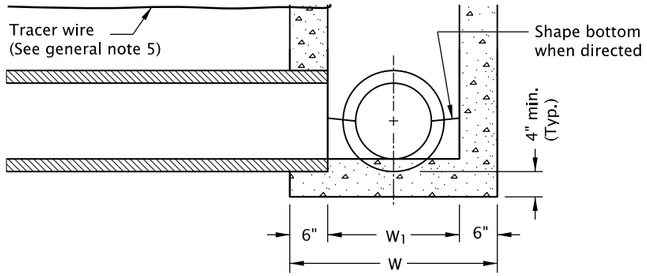
20-JUL-2020

RD365.dgn

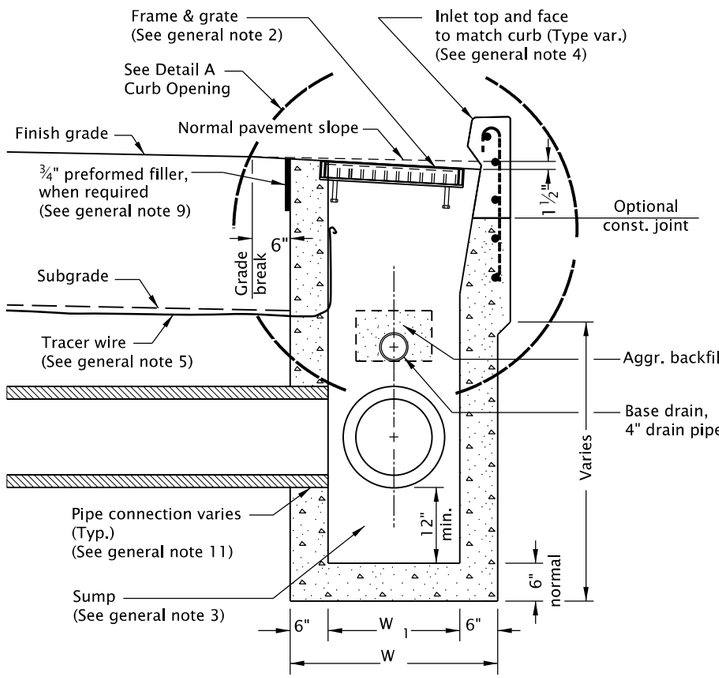
Effective Date: June 1, 2025 - November 30, 2025

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

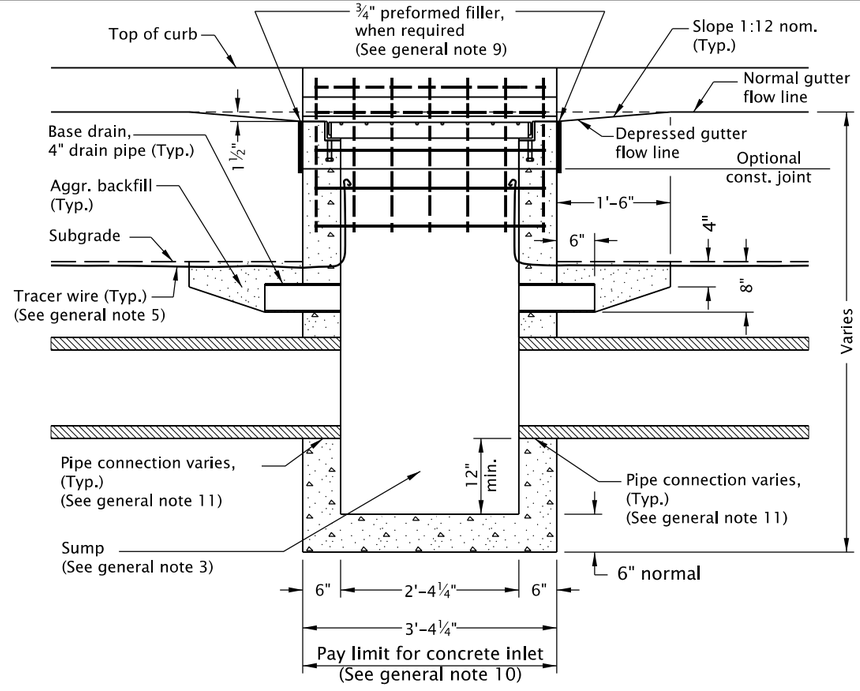
1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show CG-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Dwg. RD365.
3. Provide sump only where shown on plans, and allowed by jurisdiction. See Detail B for inlet without sump.
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required. (Pay limit for inlet is expanded when curb and gutter are monolithic)
11. See Std. Dwg. RD339 for pipe to structure connections.



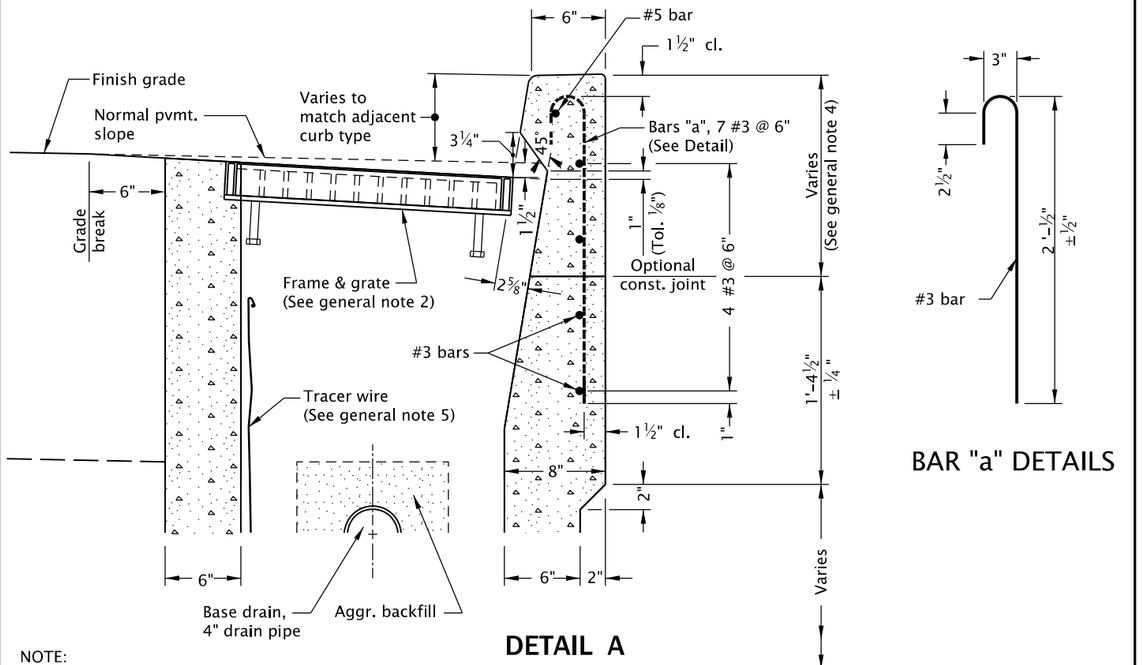
DETAIL B WITH-OUT SUMP



SECTION B - B



SECTION A - A



DETAIL A CURB OPENING

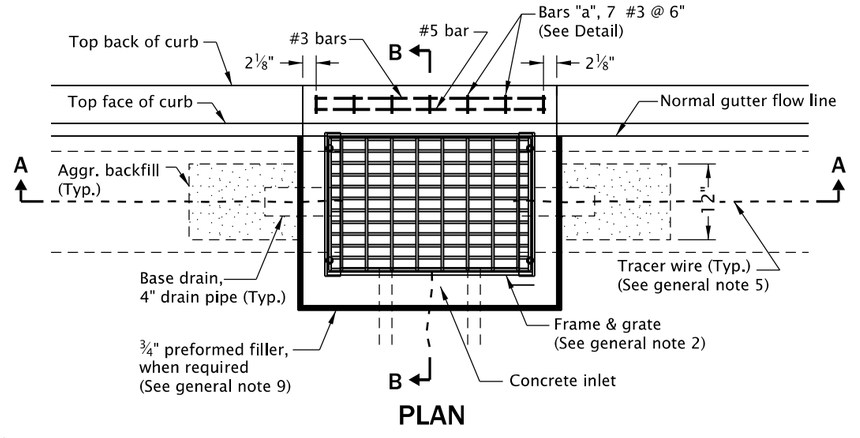
NOTE:
Use details shown on Std. Dwg. RD367 when curb inlet channels are used.

BAR "a" DETAILS

TABLE A		
INLET TYPE	W	W_1
CG-1	2'-8⅞"	1'-8⅞"
CG-2	3'-3⅜"	2'-3⅜"

NOTES:

1. #3 "a" bars to be placed during curb construction.
2. All bars to be placed 1½" clear of nearest face of concrete unless shown or noted otherwise.
3. All bars shall be full length.



PLAN

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE INLETS TYPE CG-1, CG-2

2024

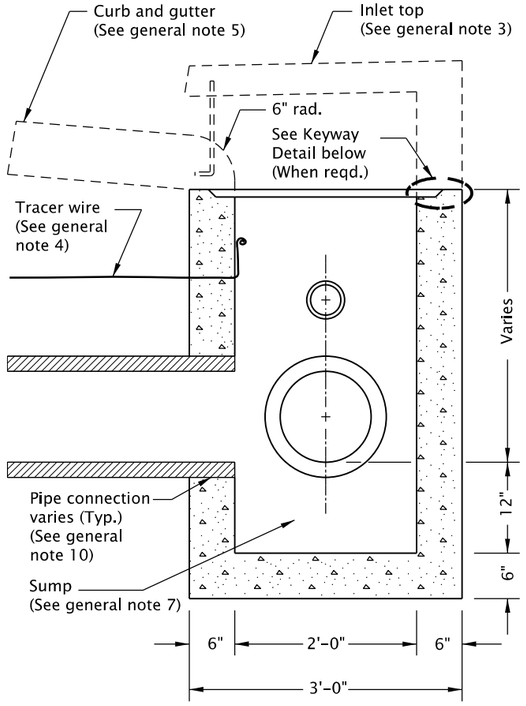
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD366**

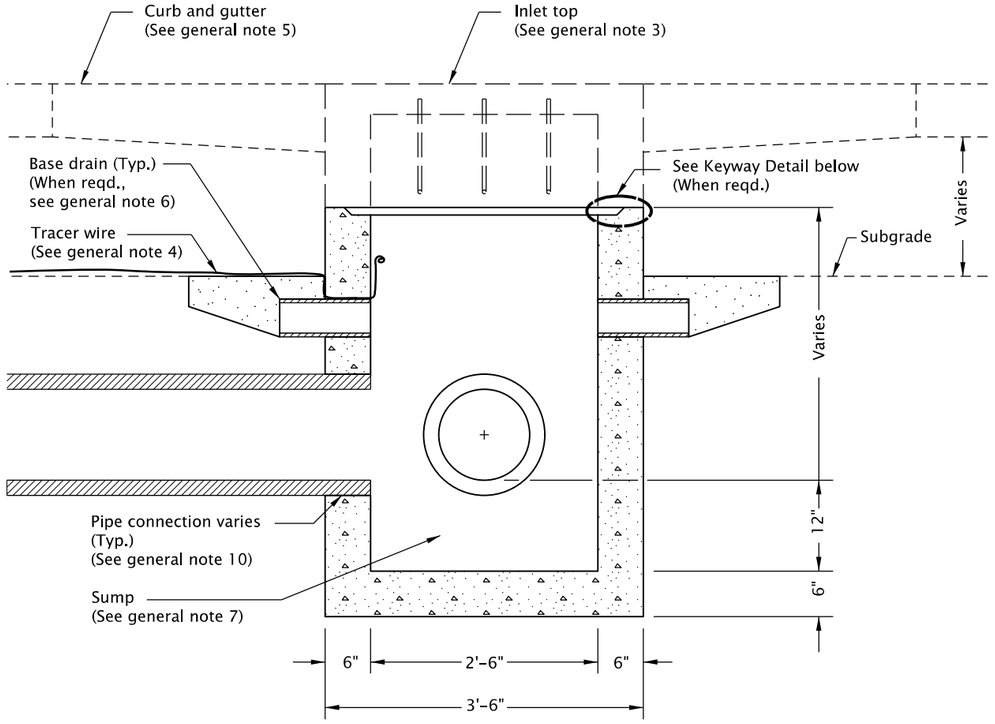
Effective Date: June 1, 2025 - November 30, 2025

20-JUL-2020

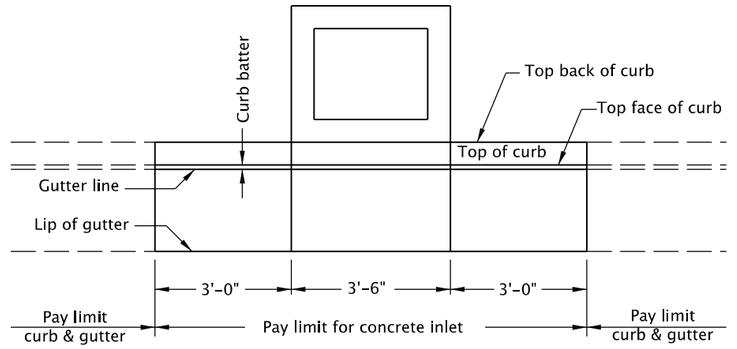
RD366.dgn



SECTION B - B



SECTION A - A

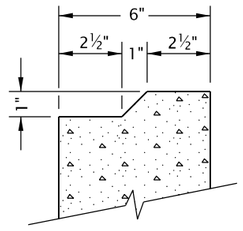


PLAN

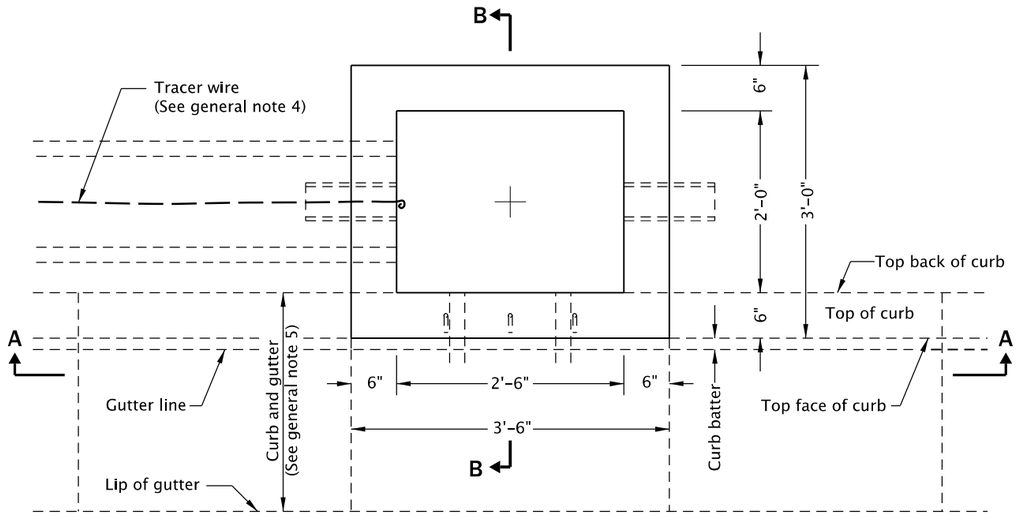
PAY LIMIT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
3. See Std. Dwgs. RD372 & RD373 for inlet top details.
4. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
5. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
6. See Std. Dwg. RD364 for base drain details.
7. Provide sump only where shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
8. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
9. Max. pipe diameter varies with pipe material.
10. See Std. Dwg. RD339 for pipe to structure connections.



KEYWAY DETAIL



PLAN

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE INLET BASE TYPE CG-3

2024

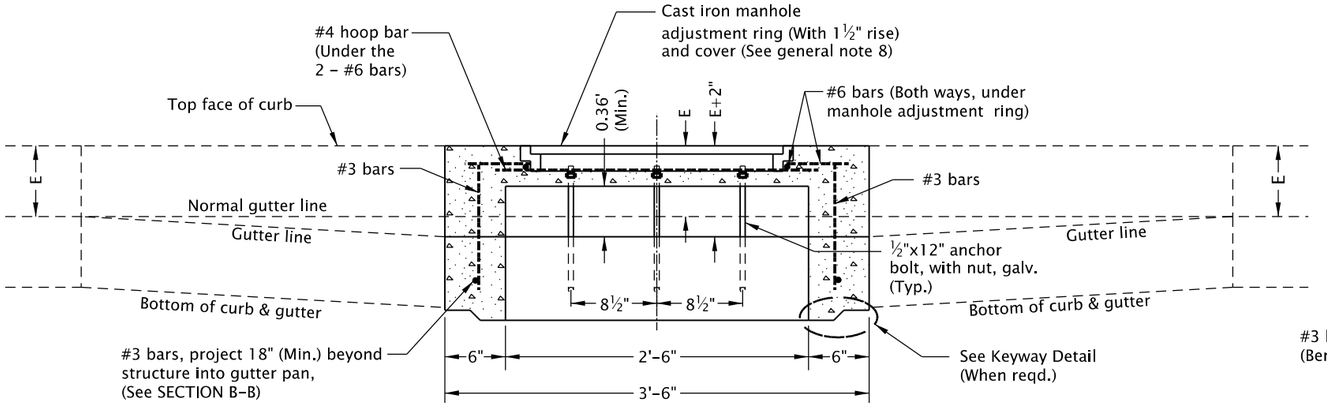
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 21-JUL-2015 | **RD371**

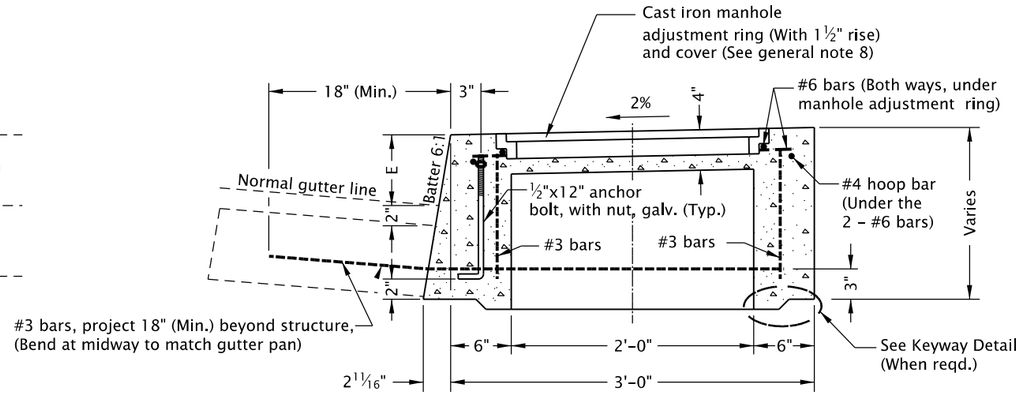
Effective Date: June 1, 2025 - November 30, 2025

20-JUL-2020

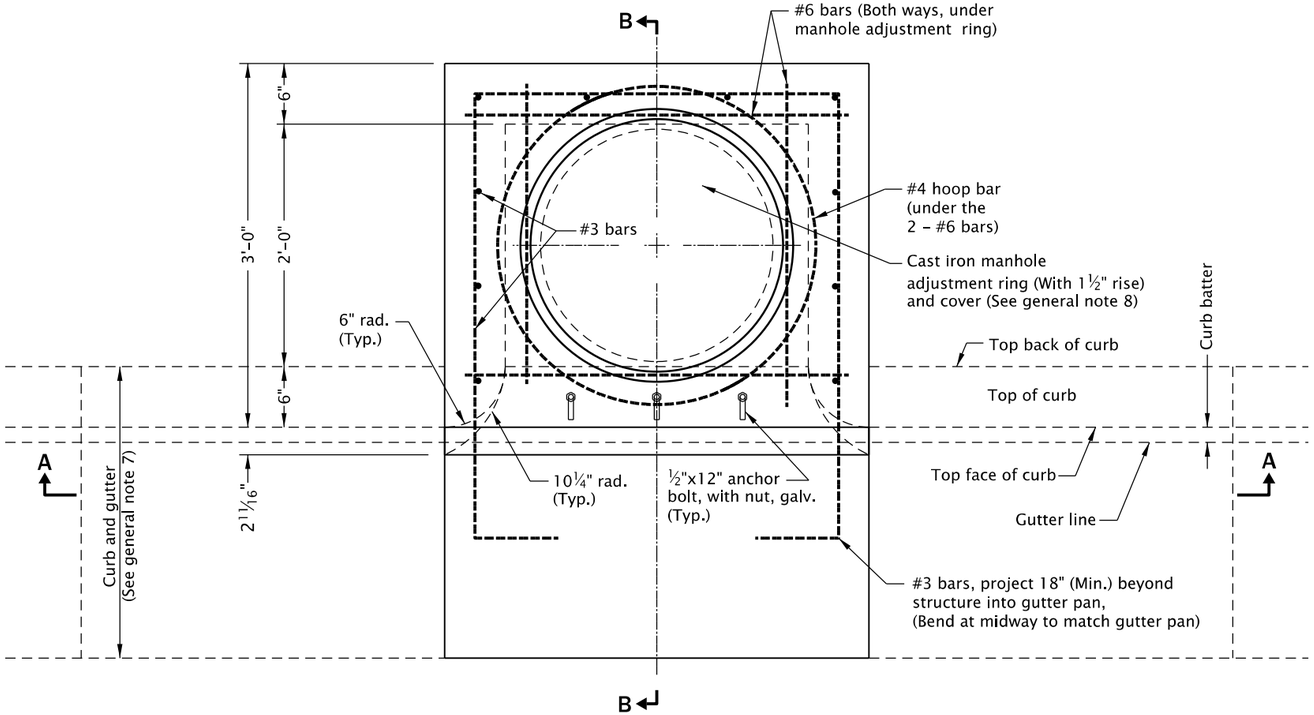
RD371.dgn



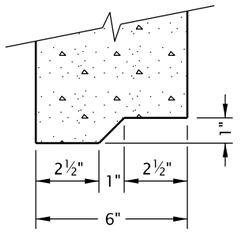
SECTION A - A



SECTION B - B



PLAN



KEYWAY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (See note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. See Std. Dwg. RD356 for cast iron manhole adjustment ring and cover.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE INLET TOP OPTION 1, TYPE CG-3

2024

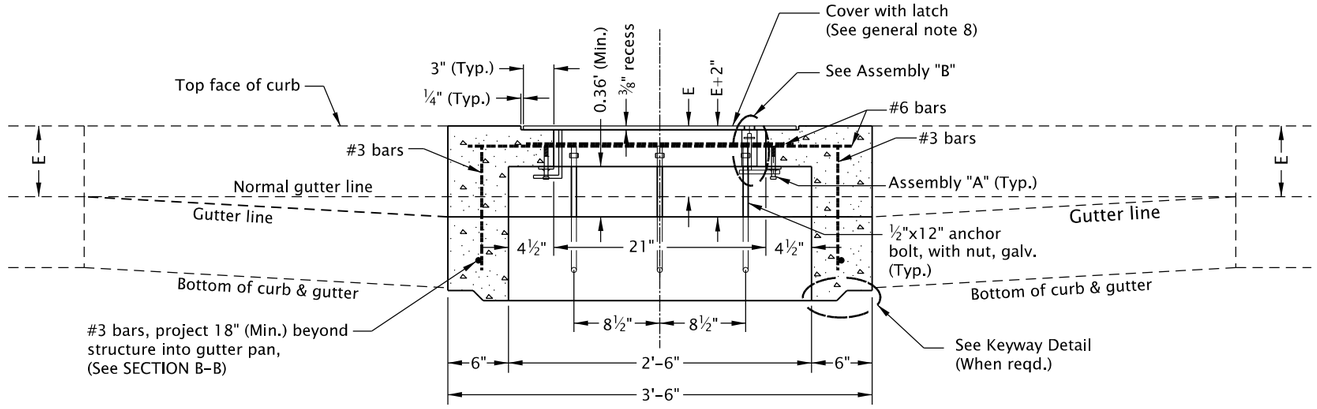
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 16-JAN-2019 | **RD372**

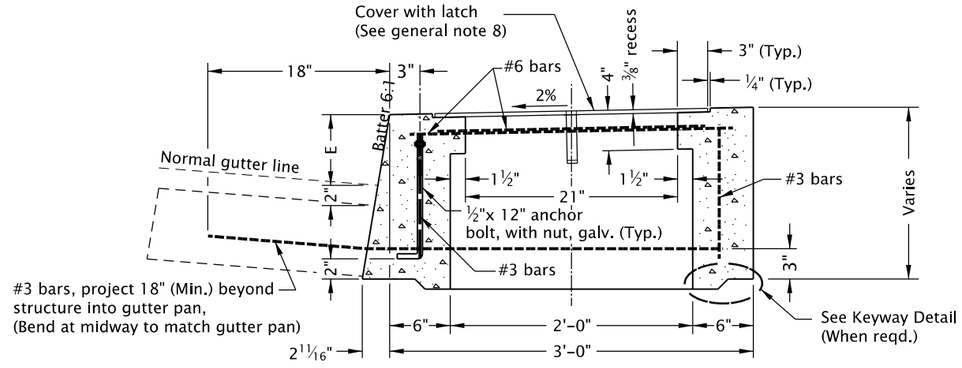
Effective Date: June 1, 2025 – November 30, 2025

20-JUL-2020

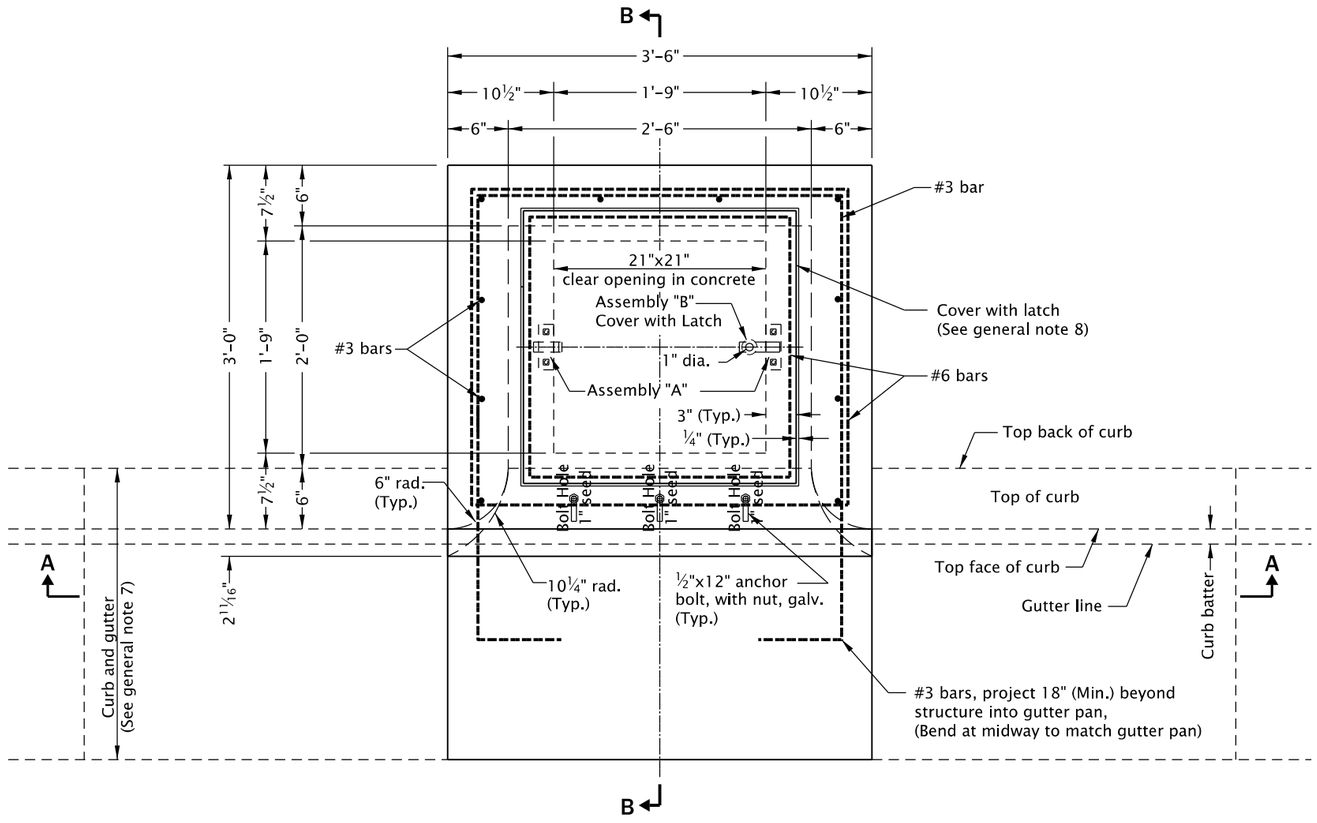
RD372.dgn



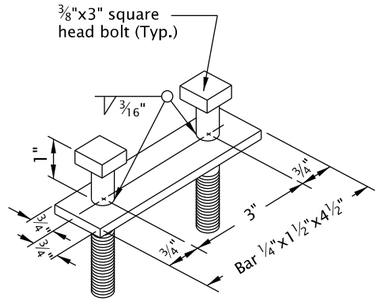
SECTION A - A



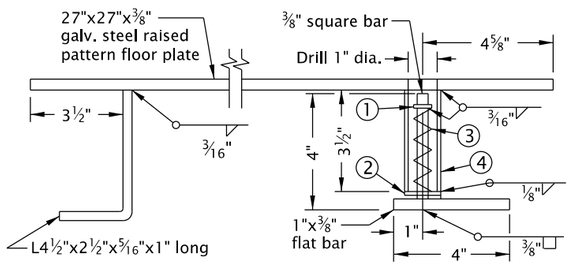
SECTION B - B



PLAN



ASSEMBLY "A"

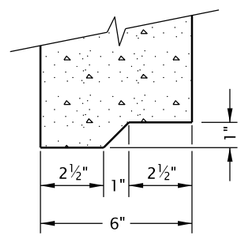


ASSEMBLY "B"
COVER WITH LATCH

1. Washer used as spring stop. Weld washer to ⅜" square bar, ⅜" from end.
2. 1¼" dia. washer used as a tube plug. Weld to tubing.
3. 90 lb comp. spring.
4. 1¼"x0.125 tubing.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (see note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. Provide cover with latch per Assembly A & Assembly B, hot dip galvanize after fabrication. Mount cover with latch flush with finish grade, in ⅜" deep concrete recess, with ¼" horizontal clearance on all sides.



KEYWAY DETAIL

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONCRETE INLET TOP OPTION 2, TYPE CG-3

2024

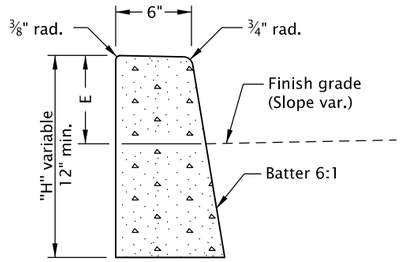
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 16-JAN-2019 | **RD373**

Effective Date: June 1, 2025 - November 30, 2025

20-JUL-2020

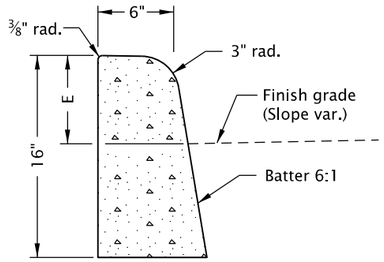
RD700.dgn



O.D.O.T. & City of Portland Standard "H"=16"

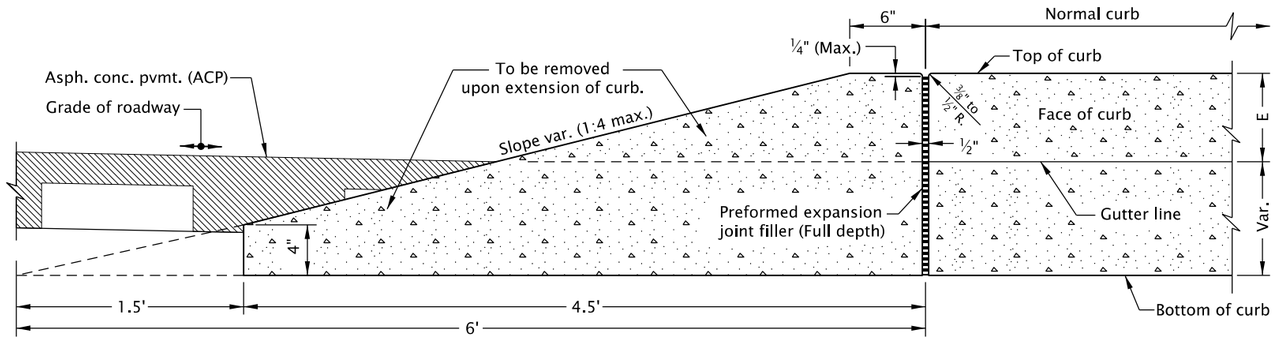
STANDARD CURB

(See general note 11)

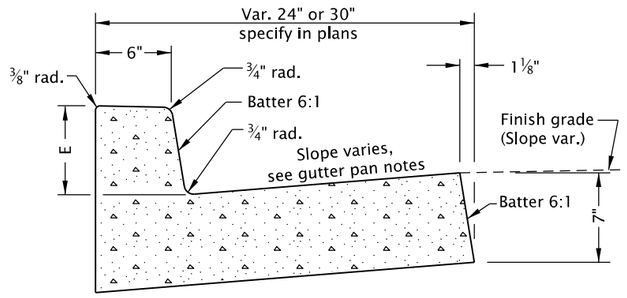


MOUNTABLE CURB

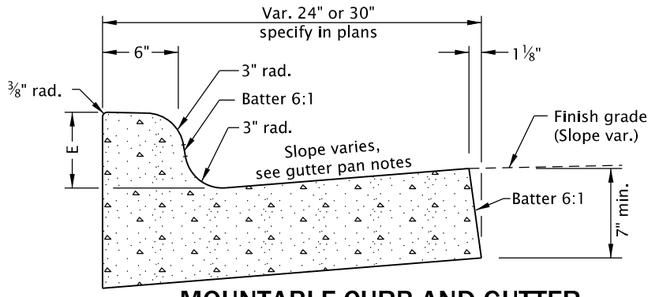
(See general note 11)



CURB ENDING DETAIL



CURB AND GUTTER



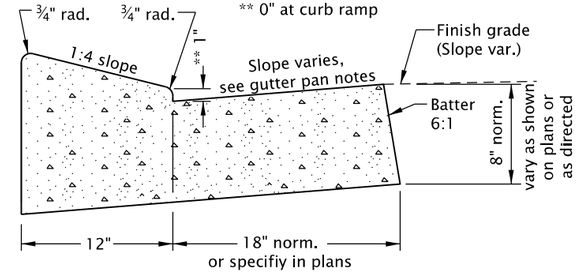
MOUNTABLE CURB AND GUTTER

GUTTER PAN NOTES:

Slope 5.0% normal.

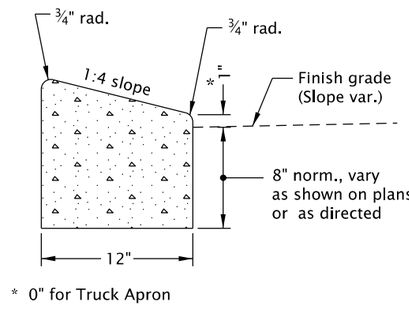
Slope 4.0% max. at curb ramps.

Vary slope as reqd. for drainage. Vary where shown on plans, and allowed by jurisdiction.



LOW PROFILE MOUNTABLE CURB AND GUTTER

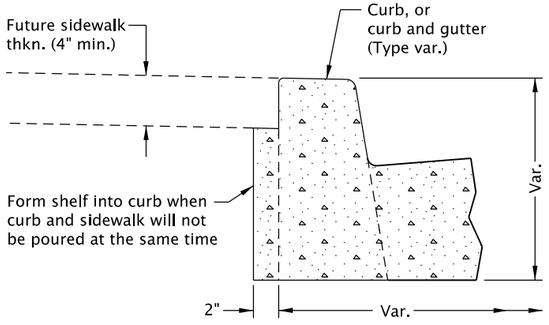
(Where shown on plans)



* 0" for Truck Apron

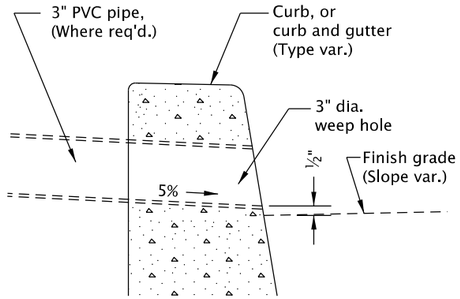
LOW PROFILE MOUNTABLE CURB

(See general note 11)



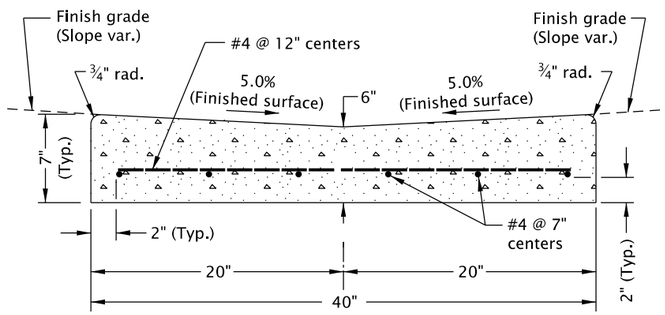
MODIFICATION FOR KEYWAY

(Where shown on plans)



WEEP HOLE DETAIL

(Where shown on plans, and allowed by jurisdiction)



VALLEY GUTTER

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. O.D.O.T standard "E"=7".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".
5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series.
11. On or along state highways, curb and gutter is required at curb ramp.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

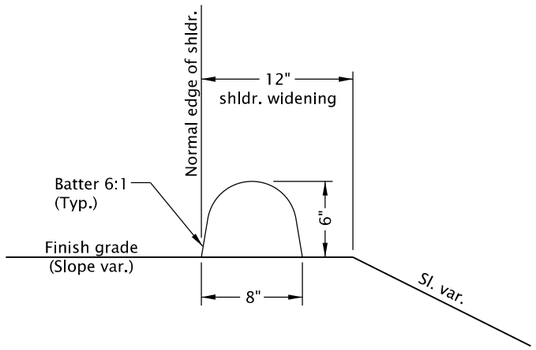
CURBS

2024

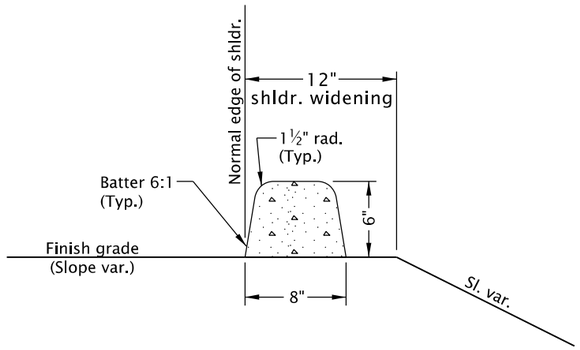
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD700**

Effective Date: June 1, 2025 - November 30, 2025



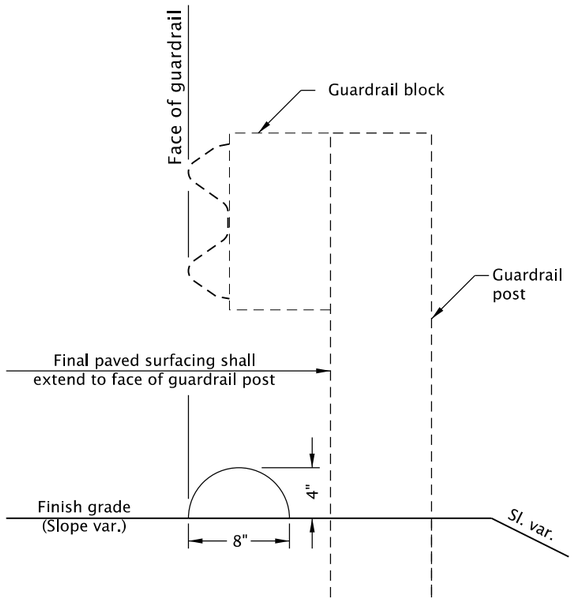
ASPHALT CONCRETE



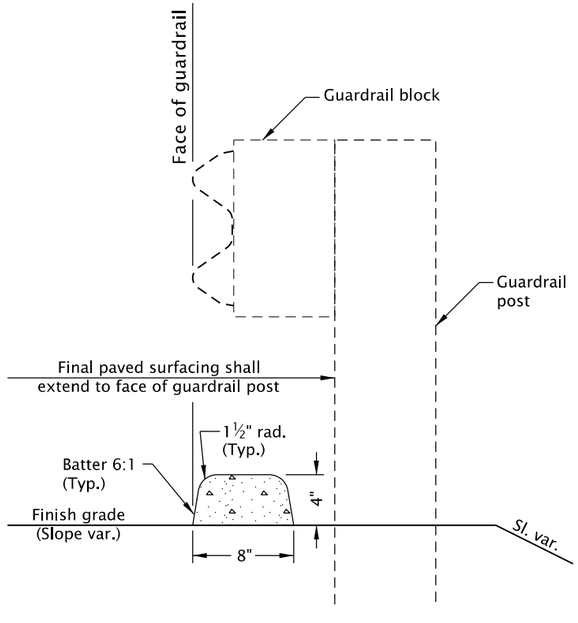
PORTLAND CEMENT CONCRETE

DRAINAGE CURBS

(See general note 4)



ASPHALT CONCRETE



PORTLAND CEMENT CONCRETE

DRAINAGE CURBS UNDER GUARDRAIL

(See general note 4)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For PCC drainage curbs, construct curb expansion joints at 200' maximum spacing, and at points of tangency.
2. For PCC drainage curbs, construct curb contraction joints at 15' maximum spacing.
3. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
4. When bonding to dense graded ACP, apply epoxy cement between surfaces.
5. When drainage curb is required, curb alignment shall be the same as face of guardrail, as shown above. When a run of drainage curb, or any part thereof, is placed under guardrail, curb height shall be 4".
6. For other curb types, see Std. Dwg. RD700.
7. For guardrail details not shown, see Std. Dwg. RD400.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

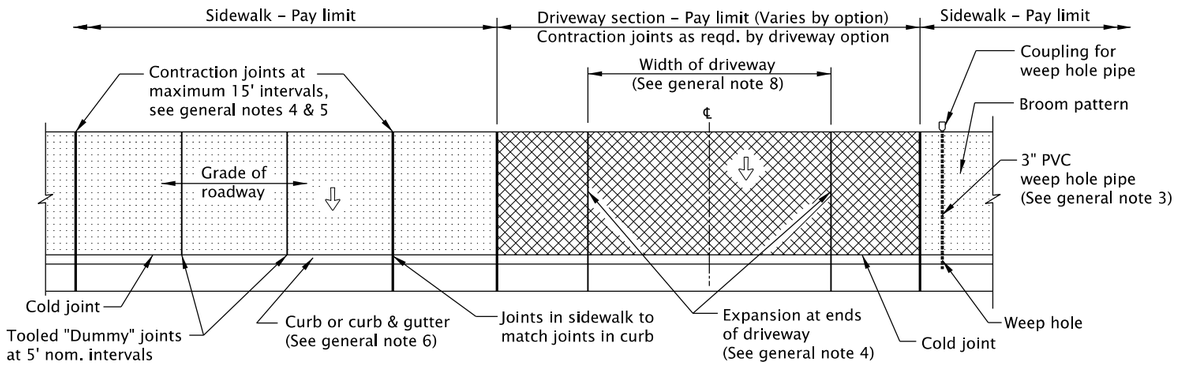
DRAINAGE CURBS

2024

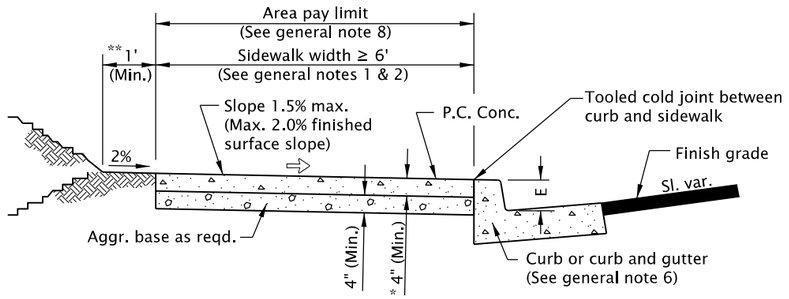
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD701**

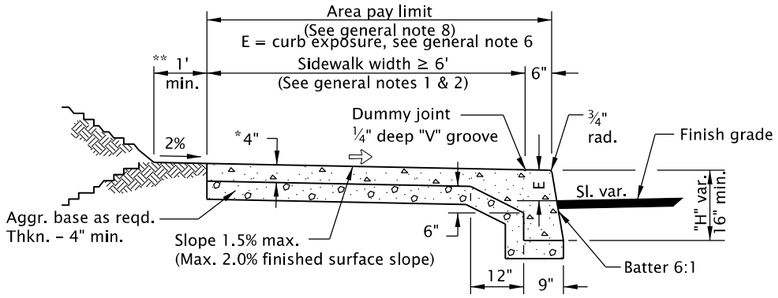
Effective Date: June 1, 2025 – November 30, 2025



TYPICAL PLAN VIEW - CURB LINE SIDEWALK



TYPICAL CURB SIDEWALK CROSS SECTION



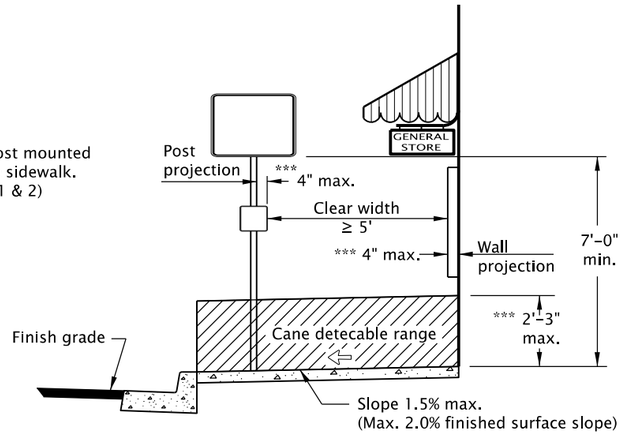
TYPICAL MONOLITHIC CURB & SIDEWALK CROSS SECTION

E = curb exposure, see general note 6

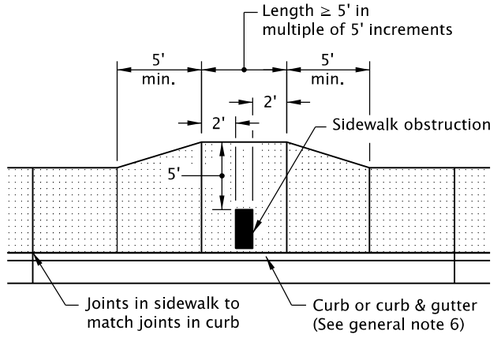
* Min. 4" or as specified in plans. A thickness ≥ 6" if sidewalk is intended as portion of a driveway or mountable curb is used.

** Provide compacted backfill adjacent to curb and sidewalk

*** Objects with base below 2'–3" may protrude any distance as long as the 5' circulation path is maintained. When an object with a base higher than 2'–3" protrudes further than 4" provide a detection below protrusion to delineate edge.



CLEAR CIRCULATION PATH



REQUIRED SIDEWALK WIDENING AROUND OBSTRUCTIONS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joints details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joints details.
6. For curb details, see Std. Dwgs. RD700 & RD701. ODOT standard E=7".
7. Sidewalk details are based on applicable ODOT standards.
8. Fully lowered sidewalk shown; see project plans for the diveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

LEGEND

- Sidewalk pay limit.
- Driveway pay limit, varies by option, (See general note 8).
- ⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CURB LINE SIDEWALKS

2024

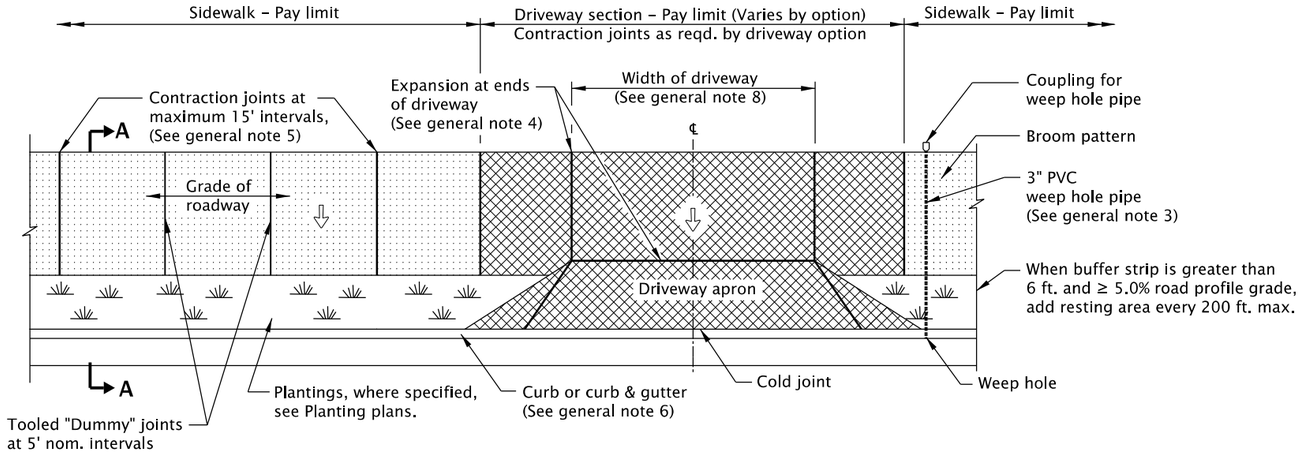
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 21-JUN-2019 | **RD720**

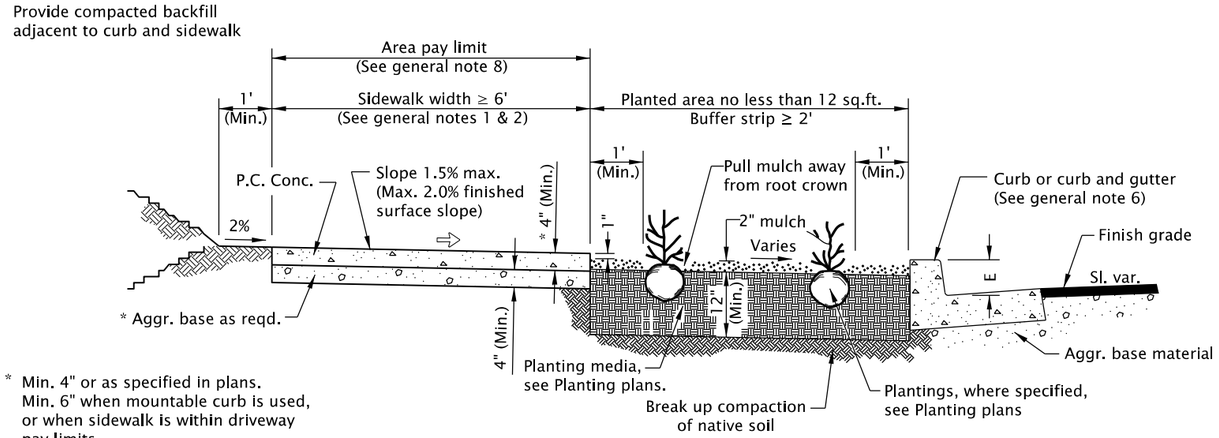
Effective Date: June 1, 2025 – November 30, 2025

20-JUL-2020

RD720.dgn



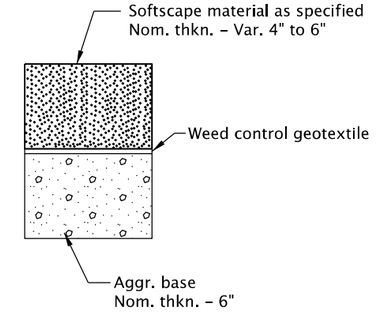
TYPICAL PLAN VIEW - SEPARATED SIDEWALK



SECTION A-A

TYPICAL SETBACK SIDEWALK CROSS SECTION

E = curb exposure, see general note 6



NON-PLANTED SOFTSCAPE CROSS SECTION

NOTES:
1 Use softscape materials allowed by jurisdiction.
2. Approved softscape materials:
   a) Loose, durable round rock 2"–4"in diameter
   b) Lava rock 2"–4"diameter
   c) Wood chips/bark mulch
   d) Sand
3. No crushed aggregate or pea gravel allowed.
4. Install softscape material flush with the top of sidewalk.

LEGEND

Sidewalk pay limit.

Driveway pay limit, varies by option, (See general note 8).

⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joint details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joint details.
6. Curb and gutter shown; see project plans for the curb design specified. For curb details, see Std. Dwgs. RD700 & RD701. ODOT standard E=7".
7. Sidewalk details are based on ODOT applicable standards.
8. Driveway encroaches into sidewalk shown; see project plans for the driveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.
10. Provide plantings in areas 12 SF or greater, as shown or directed. Treat areas less than 12 SF with mulch surfacing.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SEPARATED SIDEWALKS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD721**

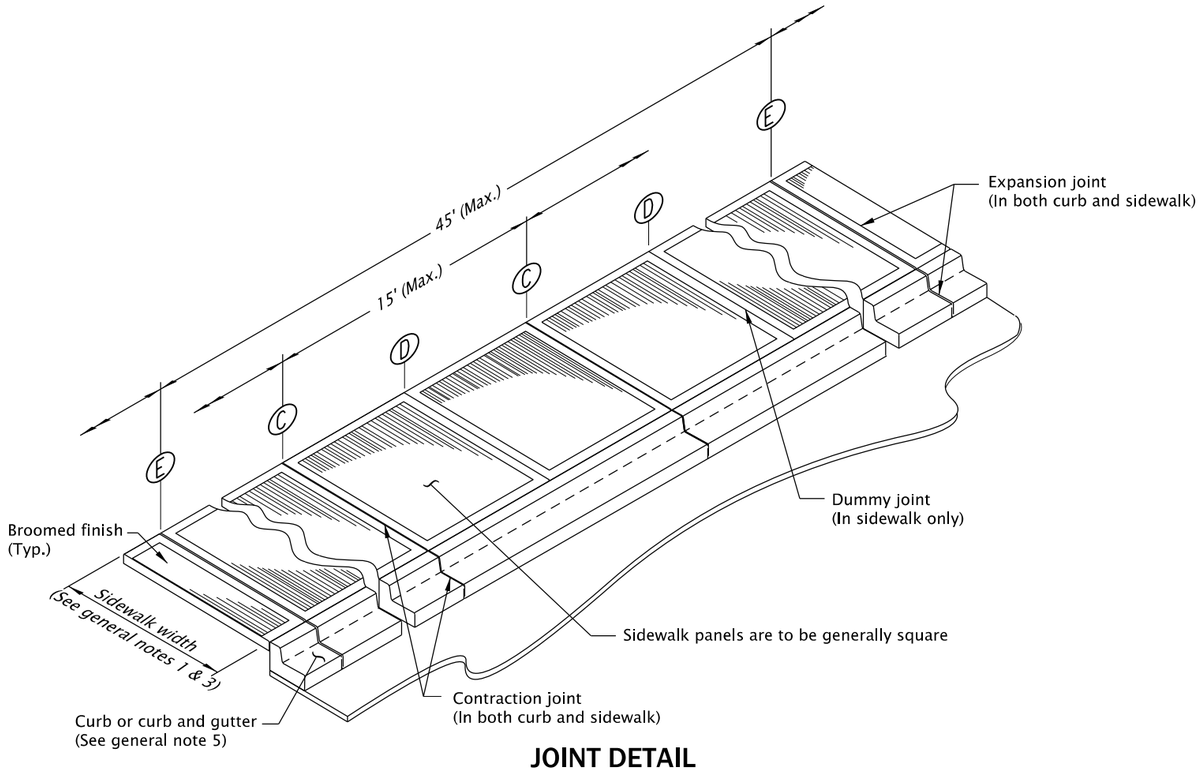
20-JUL-2020

RD721.dgn

Effective Date: June 1, 2025 – November 30, 2025

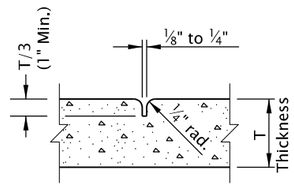
08-JUL-2022

RD722.dgn

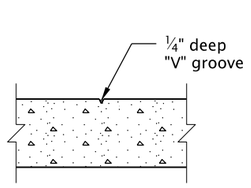


JOINT DETAIL

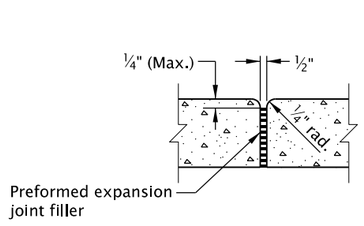
(Curb line sidewalk with curb and gutter shown)



Ⓒ **CONTRACTION JOINT**
(See general note 6)



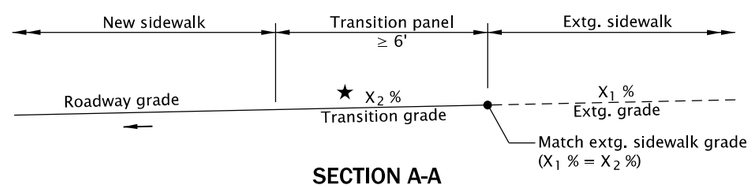
Ⓓ **DUMMY JOINT**



Ⓔ **EXPANSION JOINT**
(See general notes 2 & 5)

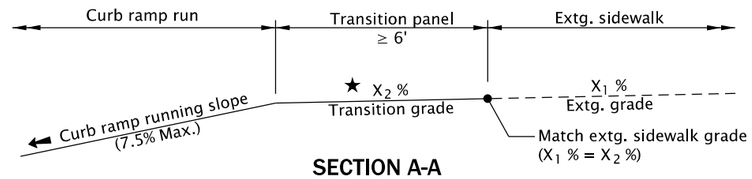
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD720 and RD721 for concrete sidewalk details. See project plans for sidewalk width, placement and design specified.
2. Provide expansion joints around poles, boxes, at ends of each driveway and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb and sidewalk, provide construction expansion joints at 45 feet maximum spacing.
3. On sidewalks 8 feet and wider, provide a longitudinal joint at the midpoint of sidewalk panel.
4. See Std. Dwgs. RD700 and RD701 for concrete curb details. See project plans for the curb design specified.
5. Do not place expansion joints between separate concrete pours for curb ramp system components construction. Place expansion joints outside of curb ramp runs when required. Install expansion joints flush with surface for structures protruding through the curb ramp system. See Std. Dwg. RD900.
6. Construct contraction joints at 15 feet maximum spacing, and at each curb ramp, driveway, sidewalk and curb.

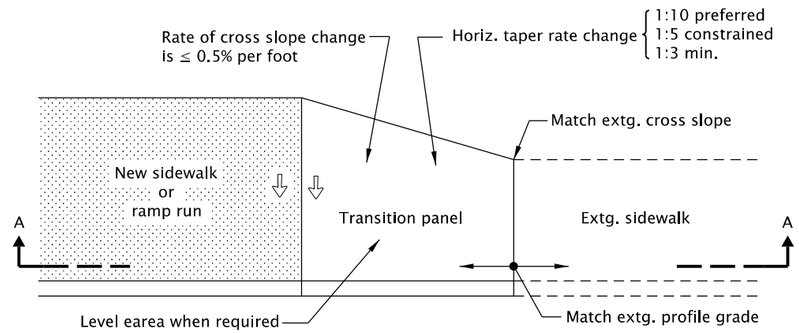


SECTION A-A
(SIDEWALK TRANSITION PANEL SHOWN)

★ Project the existing sidewalk profile grade through transition panel to new sidewalk or curb ramp run.



SECTION A-A
(CURB RAMP TRANSITION PANEL SHOWN)



PLAN

SIDEWALK AND CURB RAMP TRANSITION PANELS

LEGEND:

- New sidewalk or ramp run
- Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Slope 7.5% max. (Max. 8.3% finished surface slope)
- Zero exposure

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

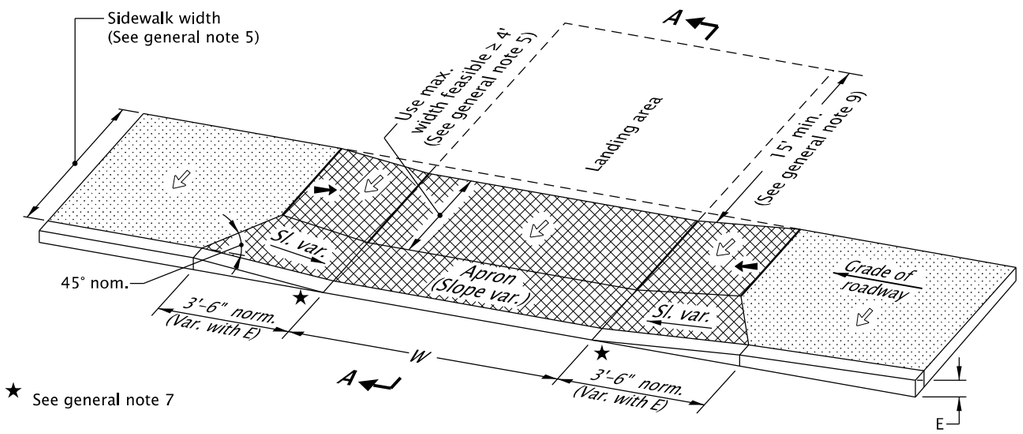
SIDEWALK JOINTS AND TRANSITION PANELS

2024

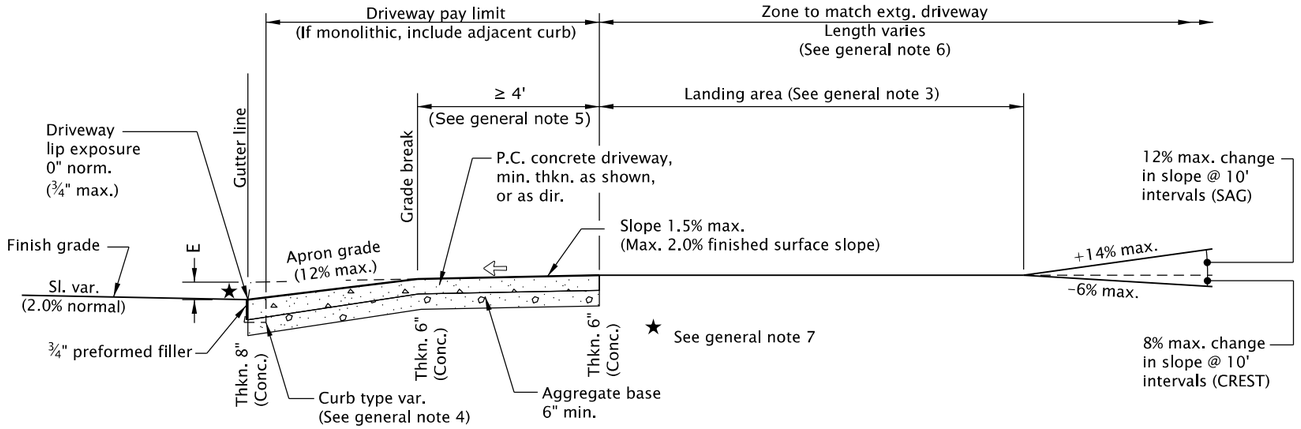
DATE	REVISION DESCRIPTION
07-2022	REVISED NOTES

CALC. BOOK NO. N/A | SDR DATE 08-JUL-2022 | **RD722**

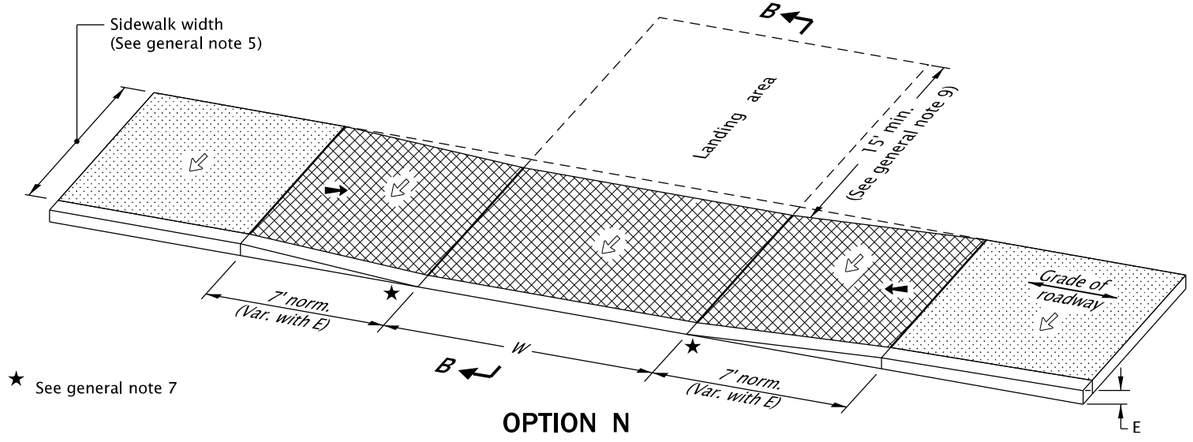
Effective Date: June 1, 2025 - November 30, 2025



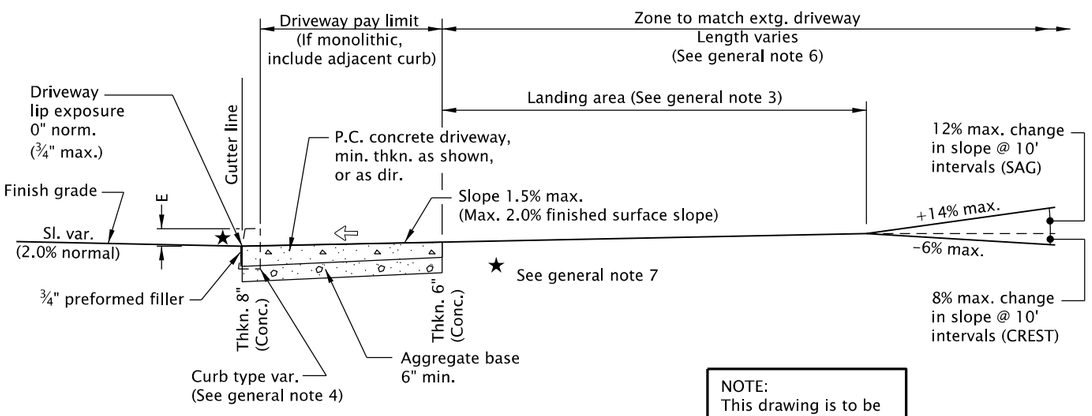
OPTION M
PARTIALLY LOWERED SIDEWALK



SECTION A-A



OPTION N
FULLY LOWERED SIDEWALK



SECTION B-B

NOTE:
This drawing is to be used by local agencies to assist them in the design of driveways on their facilities.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on applicable ODOT Standards.
2. Only use details allowed by jurisdiction.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much landing area as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway.
   If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway.
   Tooled joints are required at all driveway slope break lines.
9. 15' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.
11. Any dimensions except those of general note 5 may be amended by local agencies for their use.

LEGEND:

- Sidewalk
- Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
- ⇦ Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% max. (Max. 8.3% finished surface slope)
- W Width of driveway
- E Curb exposure

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS M & N) LOCAL JURISDICTIONS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020 | **RD750**

Effective Date: June 1, 2025 - November 30, 2025

14-JAN-2022

RD750.dgn

10-JAN-2025

RD900.dgn

CURB RAMP INDEX	
STANDARD DRAWING NUMBER	STANDARD DRAWING TITLE
RD900	*Curb Ramp Components and Legend*
RD901	*Curb Ramp Legend and Corner Identification*
RD902	*Detectable Warning Surface Details*
RD904	*Detectable Warning Surface Placement For Curb Ramps*
RD905	*Detectable Warning Surface Placement For Directional Curbs*
RD906	*Detectable Warning Surface Placement For Accesible Route Island*
RD908	*Detectable Warning Surface Placement For Rail*
RD909	*Detectable Guide Strip Placement at Bike Ramps*
RD910	*Perpendicular Curb Ramp*
RD912	*Perpendicular Curb Ramp*
RD913	*Perpendicular Curb Ramp With Closure*
RD916	*Perpendicular Curb Ramp Single Ramp*
RD920	*Parallel Curb Ramp*
RD922	*Parallel Curb Ramp Single Ramp*
RD930	*Combination Curb Ramp*
RD932	*Combination Curb Ramp*
RD936	*Combination Curb Ramp*
RD938	*Combination Curb Ramp Single Ramp*
RD940	*Blended Transition Curb Ramp Single Ramp*
RD950	*End of Walk Curb Ramp*
RD952	*End of Walk Curb Ramp*
RD960	*Unique Curb Ramp*

LEGEND:

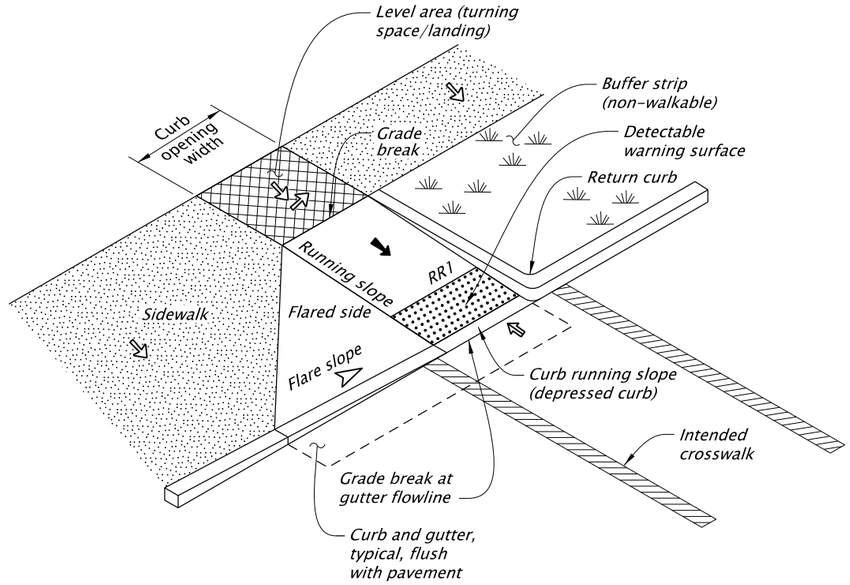
- *Marked or intended crossing location*
- *Sidewalk or other traversable surface*
- *Detectable warning surface (DWS)*
- *Level area (Turning space/landing)*
- *Cross slope 1.5% maximum*
  (Maximum 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- *Running slope 4.0% maximum*
  (Maximum 4.9% finished surface slope)
- *Running slope 7.5% maximum*
  (Maximum 8.3% finished surface slope)
- *Counter slope 4.0% maximum ascending or descending*
  (Maximum 5.0% finished surface slope)
  Slope as required for drainage
- *Flare slope*
  (Maximum 10.0% finished surface slope)
- *4'x4' clear space*
- RR1 *Ramp Run position 1*

INTERSECTION CONDITION TYPES

MB = Midblock, less than or equal to roadway grade finished gutter flow slope

SU = Signalized or uncontrolled, maximum 5.0% finished gutter flow slope

SY = Stop or Yield, maximum 2.0% finished gutter flow slope



TYPICAL CURB RAMP SYSTEM COMPONENTS

(PERPENDICULAR TYPE SHOWN)

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

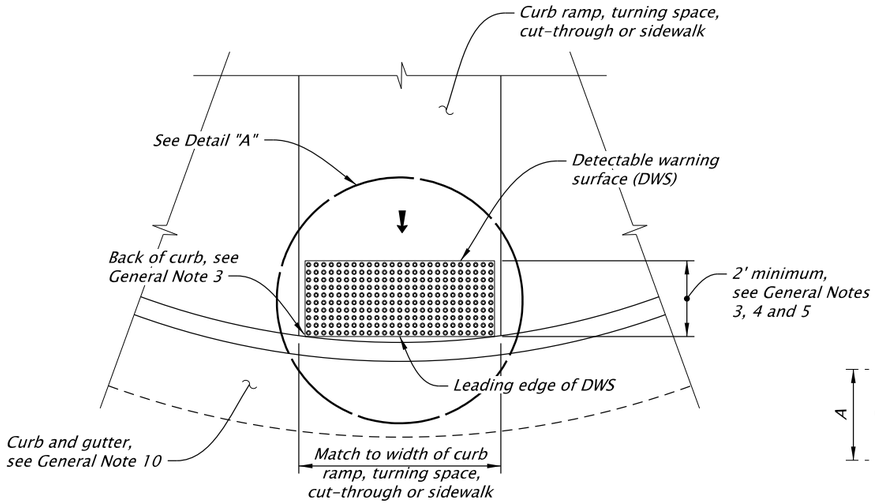
CURB RAMP COMPONENTS AND LEGEND

2024

DATE	REVISION DESCRIPTION
11-2023	REVISED LEGEND
01-2025	UPDATED CAD STANDARDS

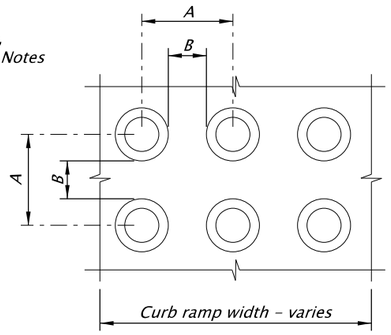
CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD900**

Effective Date: June 1, 2025 - November 30, 2025

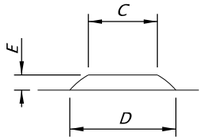


DETECTABLE WARNING SURFACE DETAIL

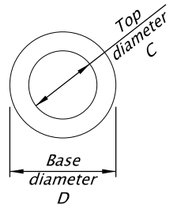
TRUNCATED DOME SIZE/SPACING DIMENSIONS					
	A	B	C	D	E
MINIMUM (IN.)	1.60	0.65	0.45	0.90	0.20
MAXIMUM (IN.)	2.40	--	0.91	1.40	0.20



TRUNCATED DOME SPACING



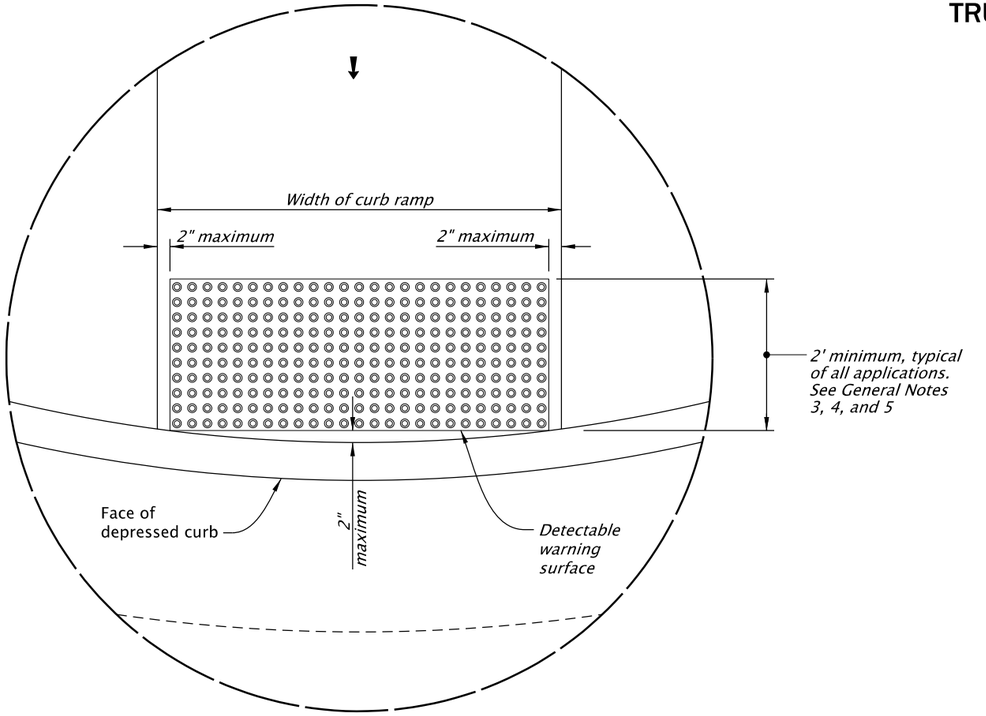
SIDE VIEW



TOP VIEW

TRUNCATED DOME

TRUNCATED DOME DETAILS



DETAIL "A"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Detectable warning surface details and locations are based on applicable ODOT Standards.*
2. *See project plans for details not shown. See drawings RD700 and RD701 for curbs.*
3. *The detectable warning surface shall extend the full width of the curb ramp opening, shared use path, blended transition, turning space, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the detectable warning surface is permitted (measured at the leading edge of the detectable warning surface panel as shown in Detail "A").*
4. *Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 feet in the direction of pedestrian travel at curb ramps that are adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Detectable warning surface across a grade break is prohibited. Place abutting panels within1/4-inch of each other and install anchors, as specified by manufacturers, along cut edge.*
5. *Color to be safety yellow, if no color specified in construction note. Alternative colors require a design exception on or along state highways.*
6. *Detectable warning surface shall be used in the following locations:*
   a) *Curb ramps at street crossings*
   b) *Crossing islands (Accessible Route Islands)*
   c) *Rail crossings*
7. *Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards. See drawing RD908.*
8. *Detectable warning surface shall not be used on the following locations:*
   a) *End of sidewalk transitions that are not at a crosswalk. See drawings RD950, RD952 and RD960.*
   b) *Driveways, unless constructed with curb return or are signalized.*
   c) *Parking lots, access aisles and passenger loading zones where curb ramp does not lead to vehicular way.*
9. *Where no curb is present, the detectable warning surface shall be placed at the edge of the roadway.*
10. *On or along state highways, curb and gutter is required at curb ramps.*

LEGEND:

Detectable warning surface

Cross slope 1.5% maximum
(Maximum 2.0% finished surface slope)
(Normal sidewalk cross slope)

Running slope 7.5% maximum
(Maximum 8.3% finished surface slope)

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

DETECTABLE WARNING SURFACE DETAILS

2024

DATE	REVISION DESCRIPTION
01-2025	UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD902**

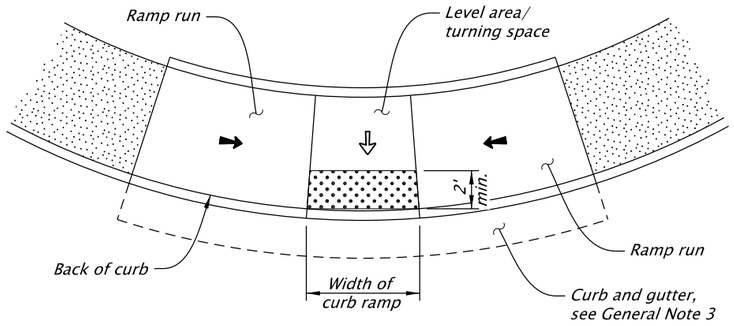
Effective Date: June 1, 2025 - November 30, 2025

10-JAN-2025

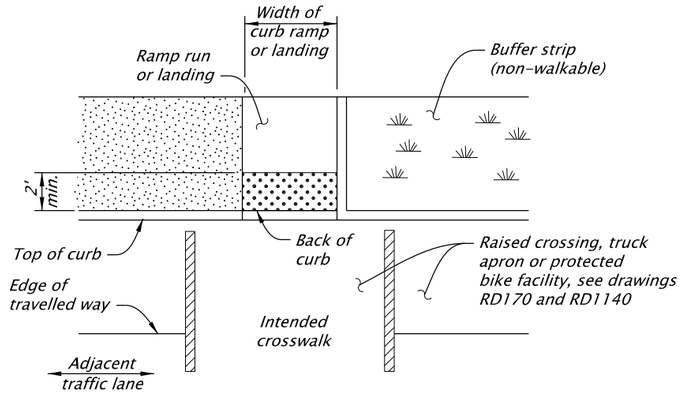
RD902.dgn

10-JAN-2025

RD904.dgn



PARALLEL CURB RAMP



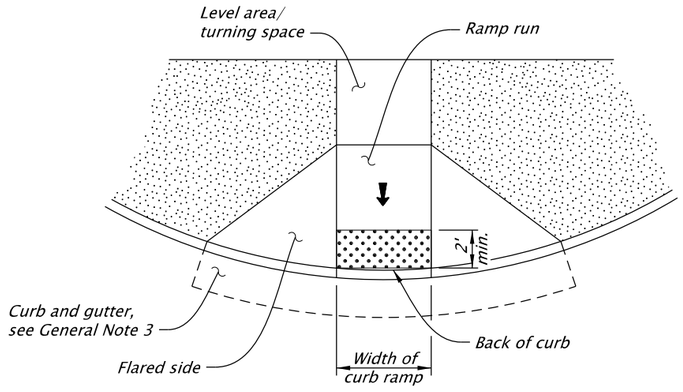
RAISED CROSSING, TRUCK APRON OR PROTECTED BIKE FACILITY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

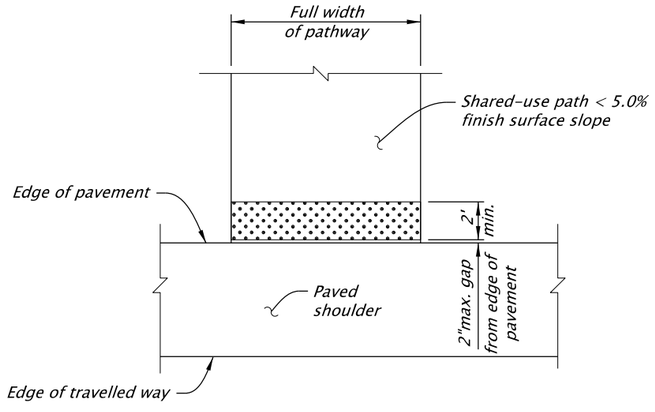
1. *Detectable warning surface details and locations are based on applicable ODOT Standards.*
2. *See project plans for details not shown. See drawings RD700 and RD701 for curbs. See drawing RD902 for detectable warning surface installation details.*
3. *On or along state highways, curb and gutter is required at curb ramps.*
4. *Detectable warning surface placement for perpendicular ramps vary as shown.*

LEGEND:

- *Marked or intended crossing location*
- *Sidewalk*
- *Detectable warning surface*
- *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)*
- *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*



PERPENDICULAR CURB RAMP
GRADE BREAK IN FRONT OF CURB



SHARED-USE PATH CONNECTION OR CURBLESS WALKWAY

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

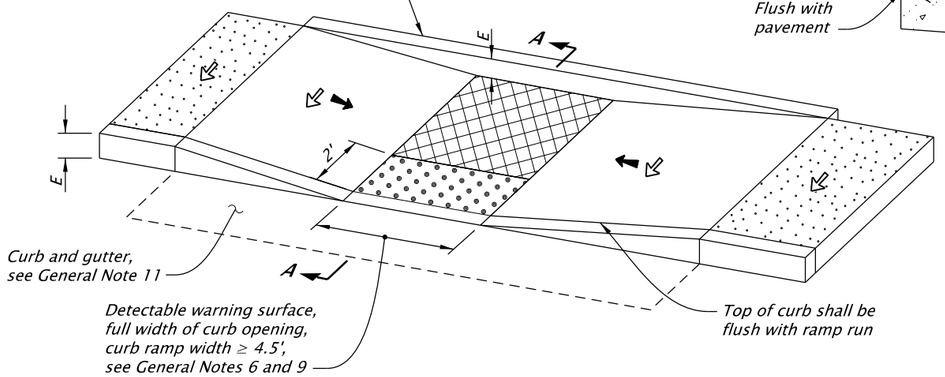
DETECTABLE WARNING SURFACE PLACEMENT FOR CURB RAMPS

2024

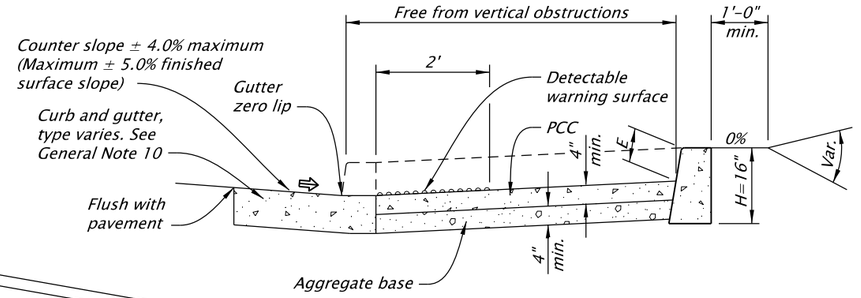
DATE	REVISION DESCRIPTION
01-2025	UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD904**

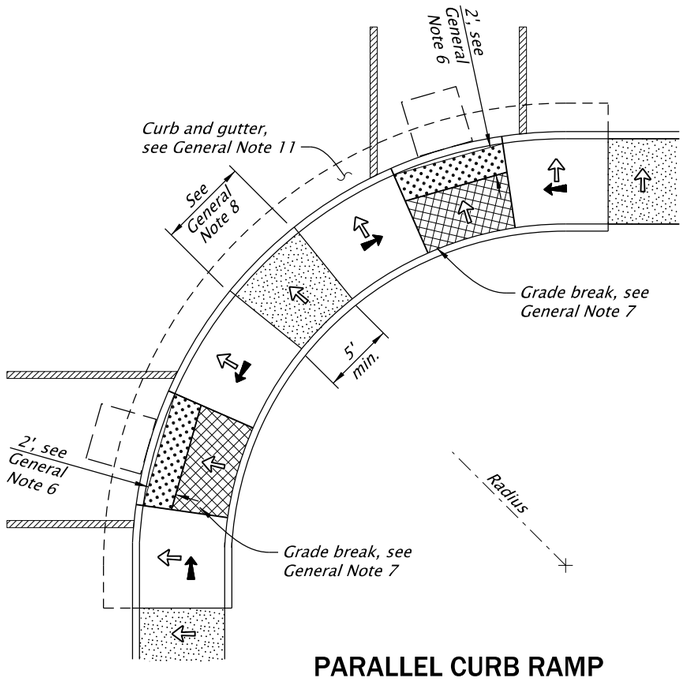
Effective Date: June 1, 2025 - November 30, 2025



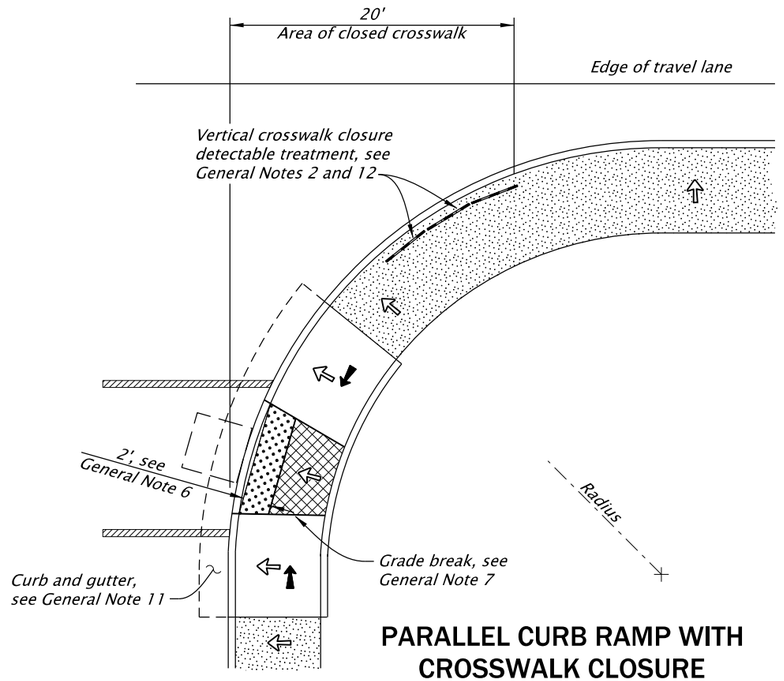
PARALLEL CURB RAMP DETAIL



SECTIONA-A



PARALLEL CURB RAMP OPTION "PL-1"



PARALLEL CURB RAMP WITH CROSSWALK CLOSURE OPTION "PL-2"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Curb ramp details are based on applicable ODOT Standards.*
2. *See drawings RD700 and RD701 for curbs. See drawings RD720 and RD721 for sidewalks. See drawings RD902 through RD908 for detectable warning surface installation details. See drawing TM240 for crosswalk closure detail.*
3. *Site conditions normally require a project specific design. See project plans for details not shown.*
4. *Tooled dummy joints are required at all curb ramp grade break lines, see drawing RD722.*
5. *Curb ramp slopes shown are relative to the true level horizon (zero bubble).*
6. *Place detectable warning surface at the back of curb for a minimum depth of 2 feet in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.*
7. *Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.*
8. *When two ramp runs are immediately adjacent, the curb exposure (E) between the adjacent side may range between 3 inches and full design exposure.*
9. *Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be greater than or equal to 8 feet wide. See drawing RD909 for additional details.*
10. *Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.*
11. *On or along state highways, curb and gutter is required at curb ramps. Curb and gutter shall be flush with the adjacent pavement.*
12. *Install crashworthy vertical crosswalk closure detectable treatment approved by road authority.*

LEGEND:

- *Sidewalk*
- *Detectable warning surface (DWS)*
- *Level area (Turning space/landing)*
  Unobstructed 4.5' x 4.5'

  With obstruction 4.5' x 5.5' (longer dimension in direction of pedestrian street crossing).

  For the purposes of this application, a maximum 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- *4'x4' clear space*
- ⇦ *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)*
- ⬅ *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*
- ⇦ *Counter slope 4.0% maximum ascending or descending (Maximum 5.0% finished surface slope) (Slope as required for drainage)*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

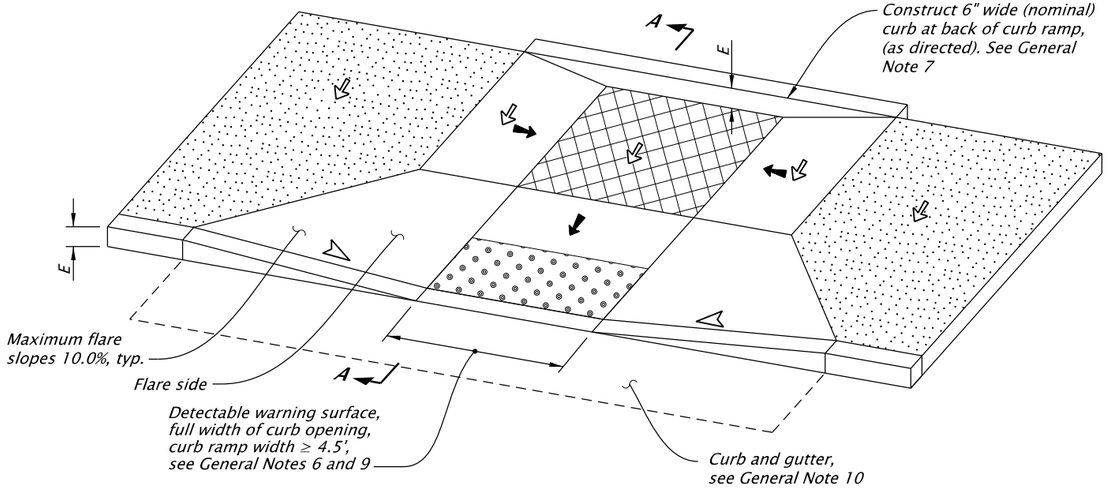
PARALLEL CURB RAMP

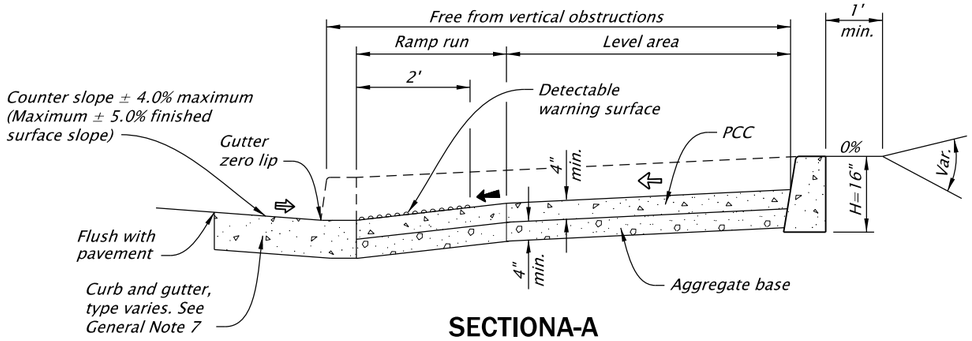
2024

DATE	REVISION DESCRIPTION
01-2025	UPDATED CAD STANDARDS

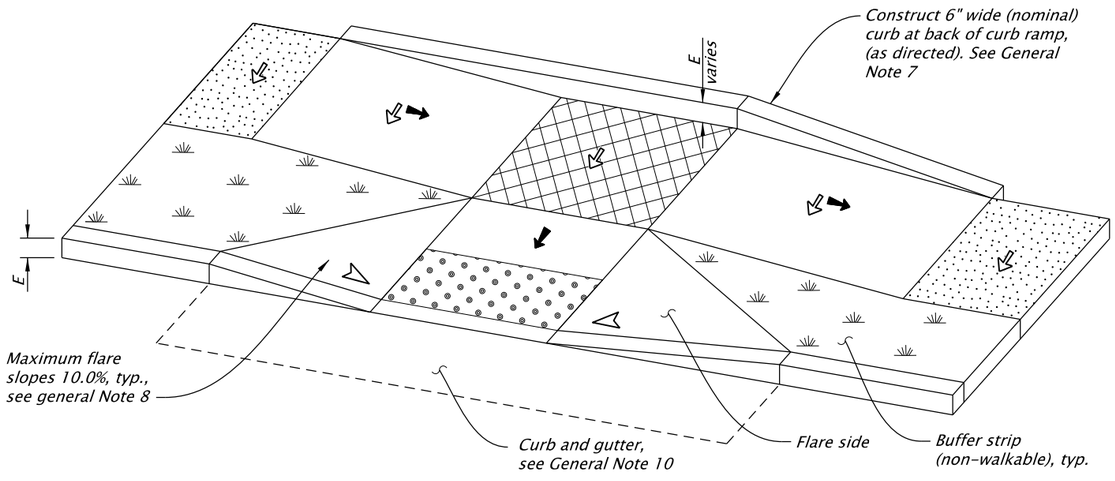
CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD920**

Effective Date: June 1, 2025 - November 30, 2025





SECTIONA-A



COMBINATION CURB RAMP DETAILS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Curb ramp details are based on applicable ODOT Standards.*
2. *See project plans for details not shown. See drawings RD700 and RD701 for curbs. See drawings RD720 and RD721 for sidewalks. See drawings RD902 through RD908 for detectable warning surface installation details.*
3. *Site conditions normally require a project specific design. See project plans for details not shown.*
4. *Tooled dummy joints are required at all curb ramp slope break lines. See drawing RD722.*
5. *Curb ramp slopes shown are relative to the true level horizon (zero bubble).*
6. *Place detectable warning surface at the back of curb for a minimum depth of 2 feet in the direction of pedestrian travel, full width of curb ramp opening that is adjacent to traffic.*
7. *Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.*
8. *Return curb may be provided in lieu of flared slope only if protected from traverse travel by softscape, see drawing RD721. Return curb shall not reduce width of approaching sidewalk.*
9. *Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be greater than or equal to 8' feet wide. See drawing RD909 for additional details.*
10. *On or along state highways, curb and gutter is required at curb ramps. Curb and gutter shall be flush with the adjacent pavement.*
11. *Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.*

LEGEND:

- *Sidewalk*
- *Detectable warning surface (DWS)*
- *Level area (Turning space/landing)*
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a maximum 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)*
- *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*
- *Counter slope 4.0% maximum ascending or descending (Maximum 5.0% finished surface slope) Slope as required for drainage*
- *Flare slope (Maximum 10% finished surface slope)*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

COMBINATION CURB RAMP

2024

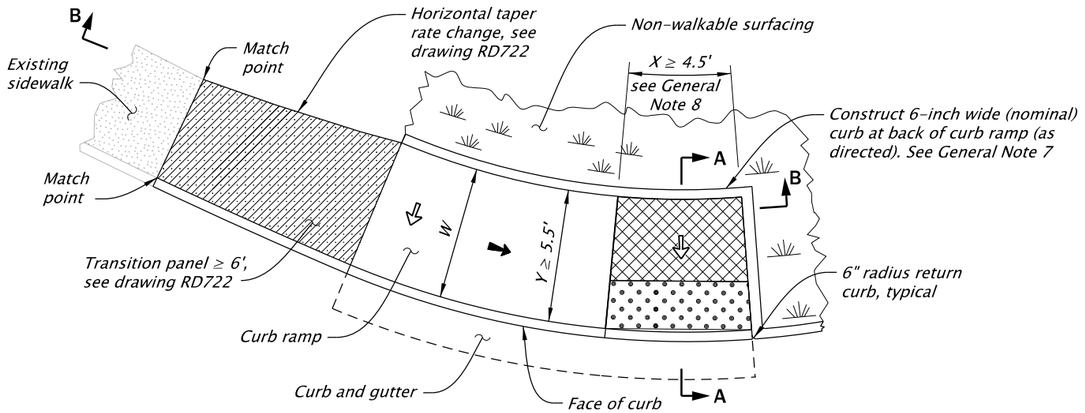
DATE	REVISION DESCRIPTION
01-2025	UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD930**

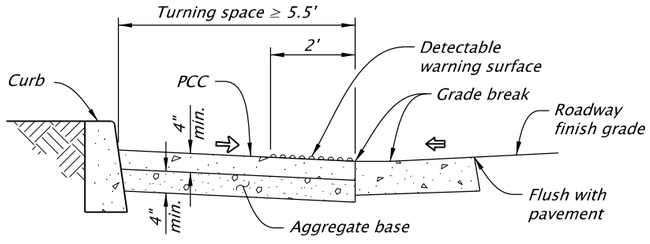
Effective Date: June 1, 2025 - November 30, 2025

10-JAN-2025

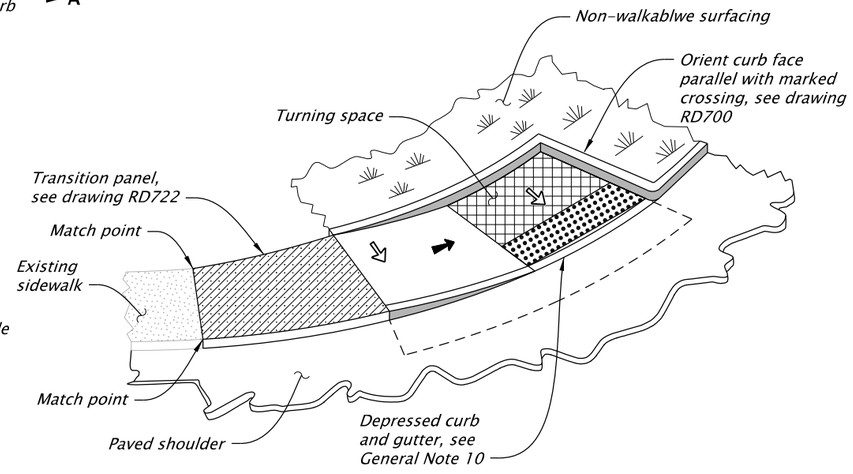
RD930.dgn



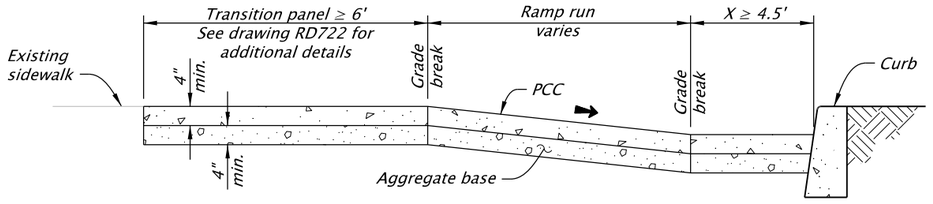
PLAN



SECTION A-A



ISOMETRIC VIEW



SECTION B-B

CURBED OPTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Curb ramp details are based on applicable ODOT applicable Standards.*
2. *See project plans for details not shown. See drawings RD700 and RD701 for curbs. See drawings RD720 and RD721 for sidewalks. See drawing RD722 for transition panel details. See drawings RD902 through RD908 for detectable warning surface installation details. See drawing RD920 for parallel curb ramp details.*
3. *Site conditions normally require a project special design. See project plans for details not shown.*
4. *Tooled dummy joints are required at all curb ramp grade break lines. See drawing RD722.*
5. *Curb ramp slopes shown are relative to the true level horizon (zero bubble).*
6. *Place detectable warning surface at the back of curb for a minimum depth of 2 feet in the direction of pedestrian travel, full width of curb ramp opening, that is adjacent to traffic.*
7. *Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.*
8. *When a shared use path terminates, the curb ramp shall be the full width of the path, the turning space X dimension should be minimum 8 feet wide to enable bicycles to ride from ramp to shoulder.*
9. *Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.*
10. *On or along state highways, curb and gutter is required at curb ramps. Curb and gutter shall be flush with the adjacent pavement.*
11. *Unique curb ramp option can be used for curved or tangent roadway sections. Superelevated roadways require a site specific detail.*

LEGEND:

- *Sidewalk*
- *Transition panel*
- *Detectable warning surface (DWS)*
- *Level area (Turning space/landing)*
  Unobstructed 4.5' x 4.5'
  With obstruction 4.5' x 5.5' (longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a maximum 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- W *New construction sidewalk width. See contract plans for dimension.*
- ⇦ *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)*
- ⇦ *Counter slope 4.0% maximum ascending or descending (Maximum 5.0% finished surface slope) Slope as required for drainage*
- ⬅ *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

UNIQUE CURB RAMP

2024

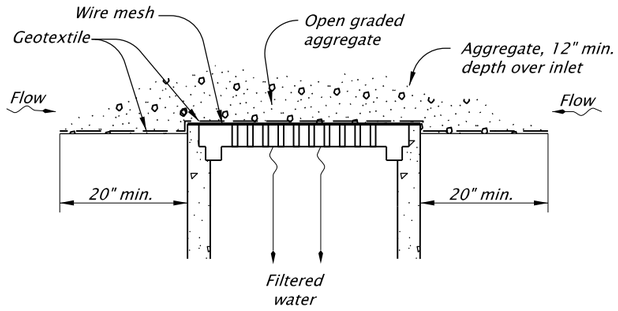
DATE	REVISION DESCRIPTION
01-2025	UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 10-JAN-2025 | **RD960**

10-JAN-2025

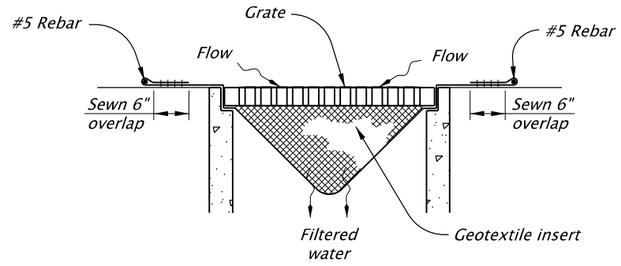
RD960.dgn

Effective Date: June 1, 2025 - November 30, 2025



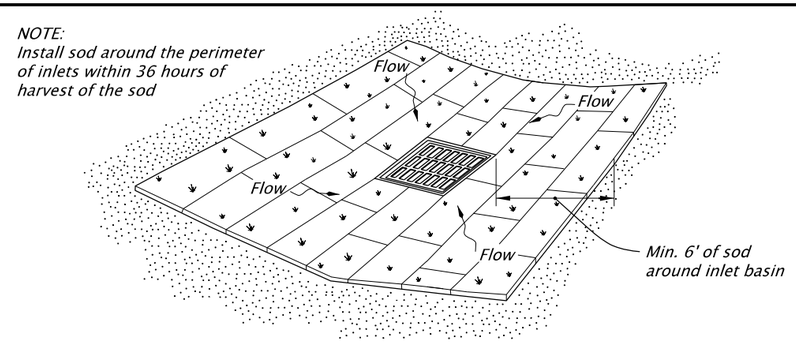
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2

NOT TO SCALE



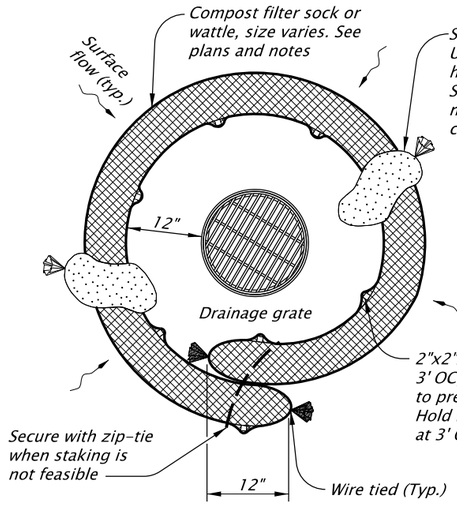
PREFABRICATED FILTER INSERT - TYPE 3

NOT TO SCALE

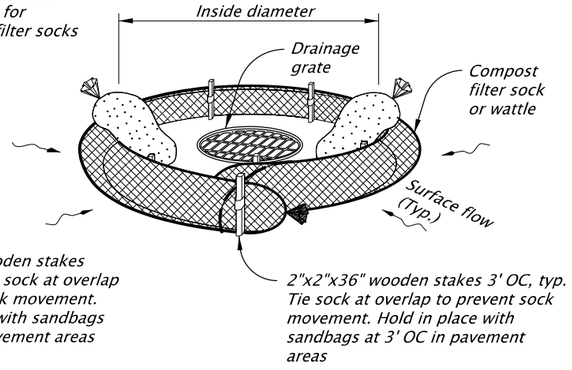


SOD PROTECTION - TYPE 6

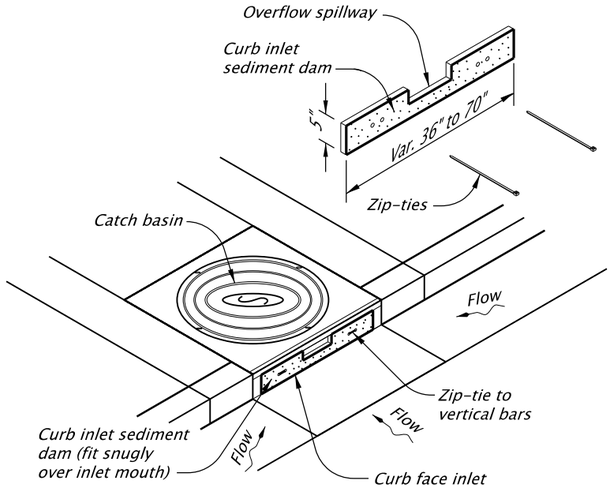
NOT TO SCALE



AREA DRAIN PLAN

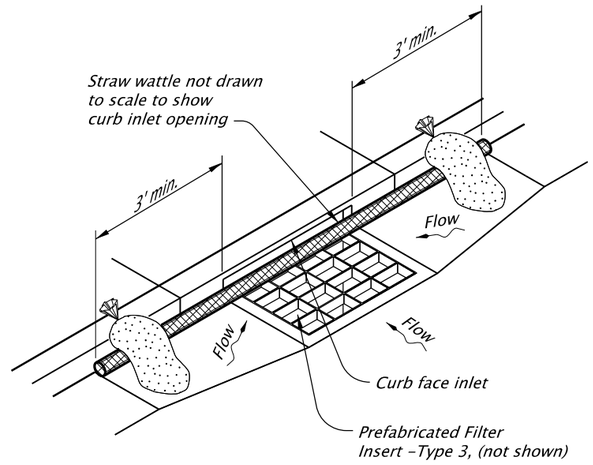


AREA DRAIN PERSPECTIVE VIEW



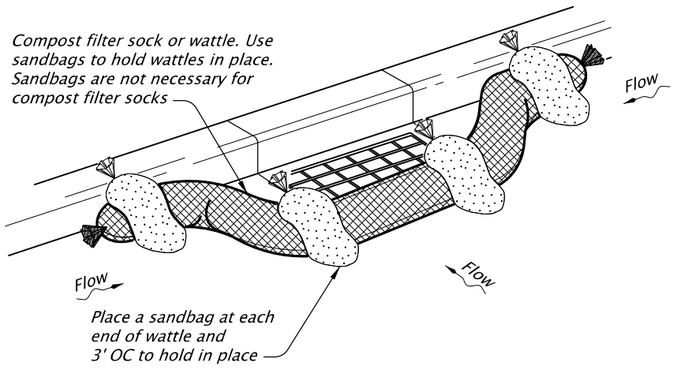
CURB INLET SEDIMENT DAM - TYPE 10

NOT TO SCALE



WATTLE BARRIER WITH FILTER INSERT - TYPE 11

NOT TO SCALE



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

NOT TO SCALE

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

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

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

2024

DATE	REVISION DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS
01-2021	MOVED NOTES UP FROM OVERLAPPING THE SHEET BORDER

CALC. BOOK NO. N/A | SDR DATE 20-JAN-2021 | **RD1010**

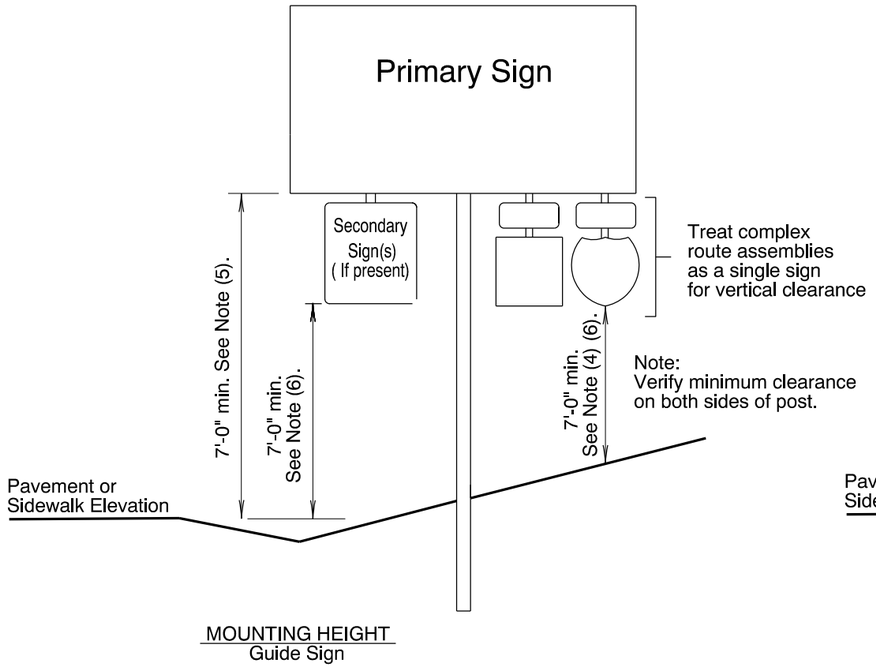
Effective Date: June 1, 2025 - November 30, 2025

20-JAN-2021

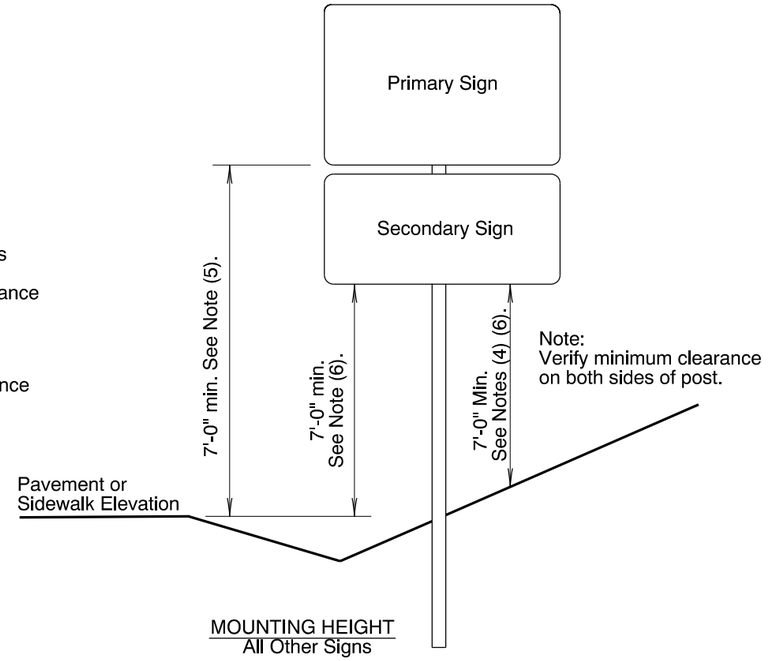
RD1010.dgn

07-JAN-2022

TM200.dgn



MOUNTING HEIGHT
Guide Sign



MOUNTING HEIGHT
All Other Signs

General Installation Notes:

a. Signing details shown on this sheet are intended to convey "typical" conditions only. Individual locations may require installation different from those shown.
For guidance regarding unique installations or exceptions call the Project Sign Designer or Region Traffic Section.

b. Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance and breakaway performance. See Dwg. No. TM635 for more information.

c. For wood post support details see Dwg. No. TM670.

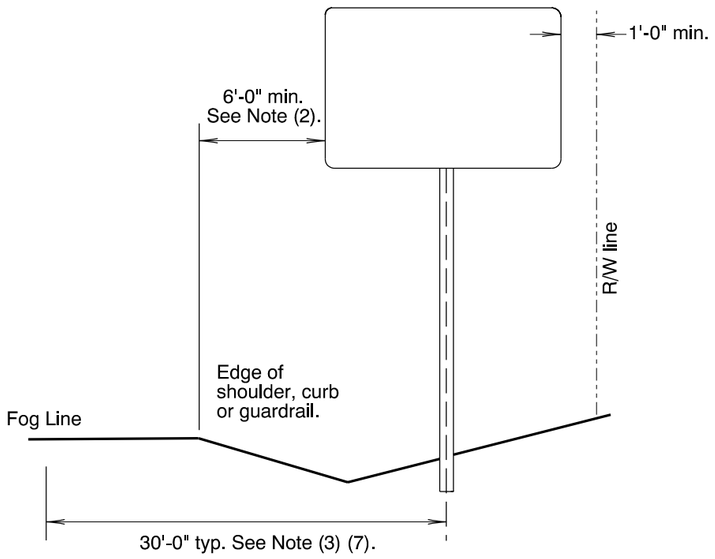
d. For perforated steelsquare tube support details see Dwg. No. TM681.

e. For triangular base breakaway support details see Dwg. No. TM602.

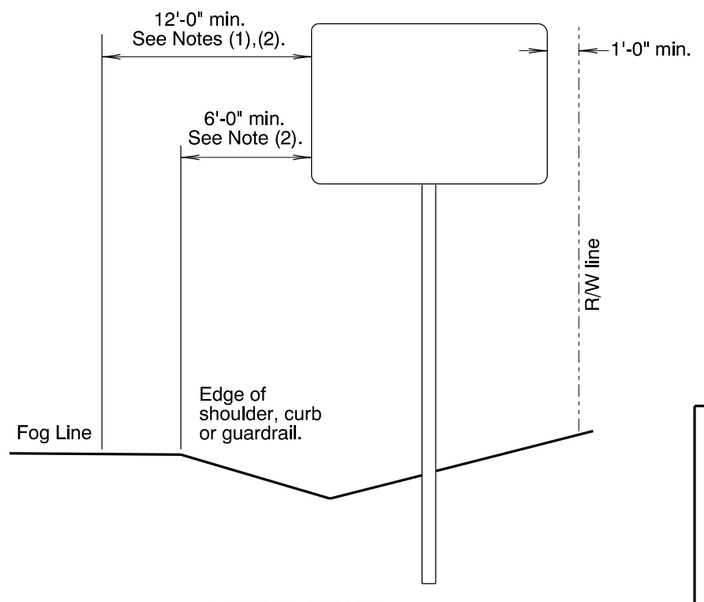
f. For multi-post breakaway support details see Dwg. No. TM600.

g. Mounting heights should not be more than 3 inches more than the minimum heights shown, where practical.

h. 2" vertical spacing between all signs.



LATERAL OFFSET
Guide Signs



LATERAL OFFSET
All Other Signs

Notes:

1). 6' minimum if behind barrier.

2). 2' minimum if restricted R/W.

3). 20' for ramp terminals.

4). 8' minimum if bicycle path underneath.

5). 8' minimum if secondary signs attached.

6). 5' minimum if outside clearzone, in rural areas and no pedestrians underneath.

7). For multi-post installations measure distance from post closest to roadway.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SIGN INSTALLATION DETAILS

2024

DATE	REVISION DESCRIPTION
01/22	Edited elevation text in Mounting Height details

CALC. BOOK NO. N/A | SDR DATE 07 JAN 2022 | **TM200**

Effective Date: June 1, 2025 - November 30, 2025

07-01-2020

TM500.dgn

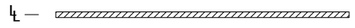
W

4" WHITE LINE

W-2

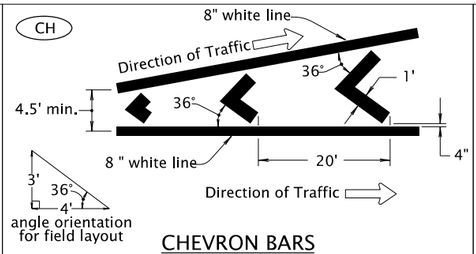
8" WHITE LINE

Y



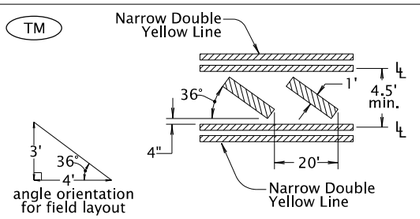
4" YELLOW LINE

CH



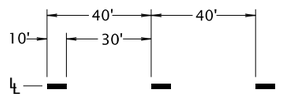
CHEVRON BARS
1' WHITE BARS AT 20' SPACING

TM



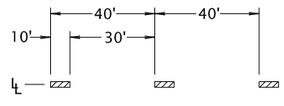
TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 20' SPACING

WB



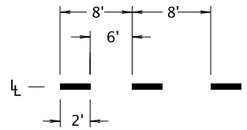
4" WHITE BROKEN LINE

YB



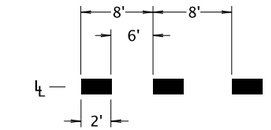
4" YELLOW BROKEN LINE

WD



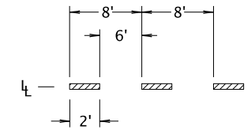
4" WHITE DOTTED LINE
For lane extensions

WD-2



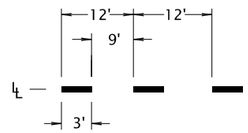
8" WHITE DOTTED LINE
For lane extensions and bike lane extensions

YD



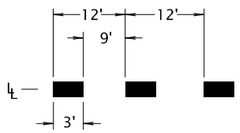
4" YELLOW DOTTED LINE
For lane extensions

DLL



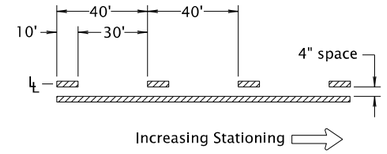
4" WHITE DOTTED LANE LINE
For lane lines in acceleration/deceleration lanes

DLL-2



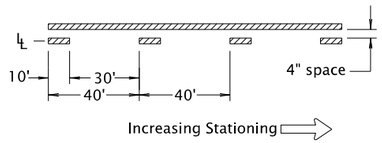
8" WHITE DOTTED LANE LINE
For lane lines in drop lanes

NPR



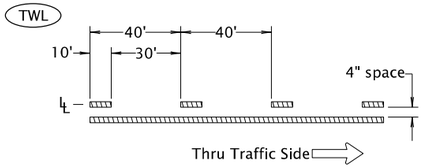
NO-PASS RIGHT
4" YELLOW LINES

NPL



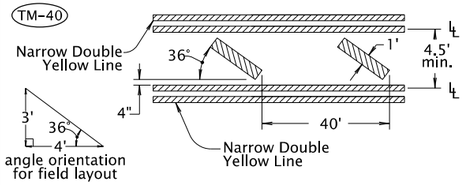
NO-PASS LEFT
4" YELLOW LINES

TWL



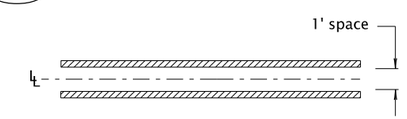
TWO-WAY LEFT TURN
4" YELLOW LINES

TM-40



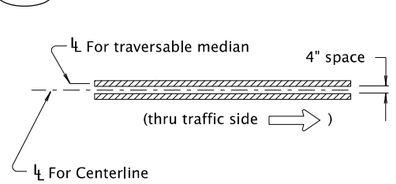
TRANSVERSE MEDIAN BARS
1' YELLOW BARS AT 40' SPACING
For use at painted medians where
distance between left turn refuges exceeds 200'

D



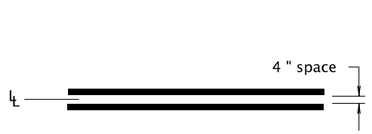
DOUBLE NO-PASS
TWO 4" YELLOW LINES

ND



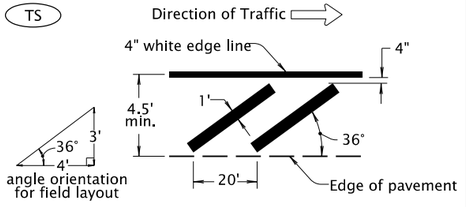
NARROW DOUBLE NO-PASS
TWO 4" YELLOW LINES

NDW



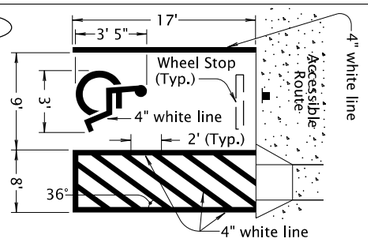
NARROW DOUBLE NO-LANE CHANGE
TWO 4" WHITE LINES

TS



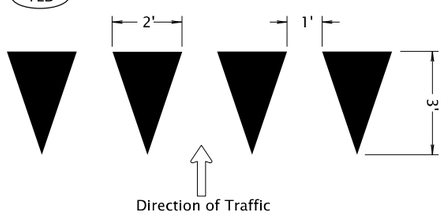
TRANSVERSE SHOULDER BARS
1' WHITE BARS AT 20' SPACING

HC



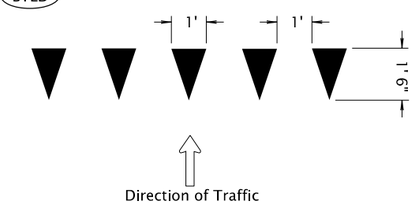
DISABLED PARKING DETAIL (white)

YLD



YIELD LINE (white)

BYLD



BICYCLE YIELD LINE (white)

LEGEND

Direction Of Traffic, Increasing Stationing
Or Thru Traffic Side

℄ — Lane line dimensions are shown on the striping plans

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with
the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2024

DATE	REVISION DESCRIPTION
07-2020	Changed Min. widths for CH, TM, TM-40, and TS

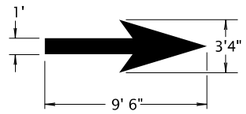
CALC. BOOK NO. N/A | SDR DATE 07-01-2020 | **TM500**

Effective Date: June 1, 2025 - November 30, 2025

01-03-2022

TM501.dgn

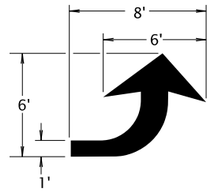
SA



STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

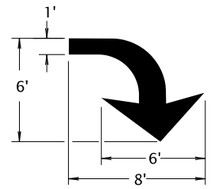
LA



LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

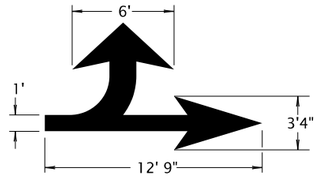
RA



RIGHT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

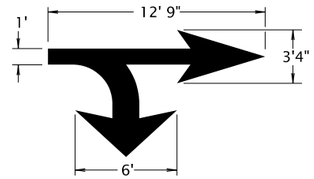
LSA



LEFT TURN STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

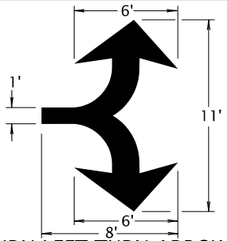
RSA



RIGHT TURN STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

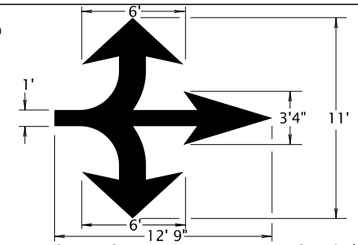
RALA



RIGHT TURN LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

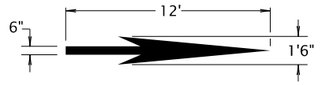
RSLA



RIGHT TURN STRAIGHT LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

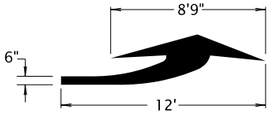
E-SA



ELONGATED STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

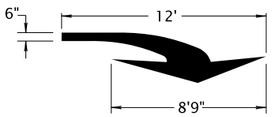
E-LA



ELONGATED LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

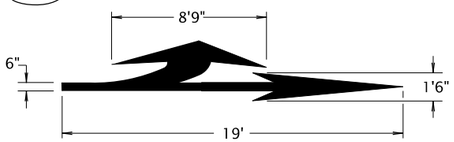
E-RA



ELONGATED RIGHT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

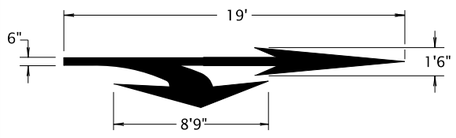
E-LSA



ELONGATED LEFT TURN STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

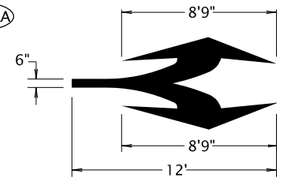
E-RSA



ELONGATED RIGHT TURN STRAIGHT ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

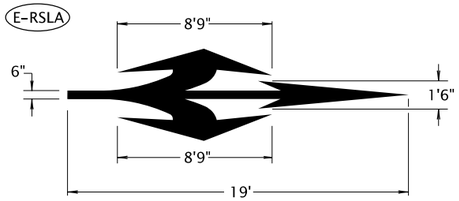
E-RALA



ELONGATED RIGHT TURN LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

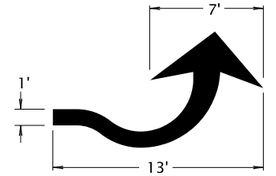
E-RSLA



ELONGATED RIGHT TURN STRAIGHT LEFT TURN ARROW (white)

For arrow proportion details, see current version of Standard Highway Signs

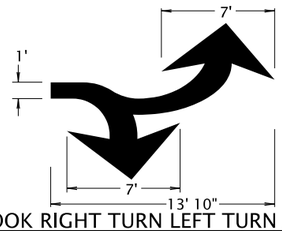
F-LA



FISH-HOOK LEFT TURN ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

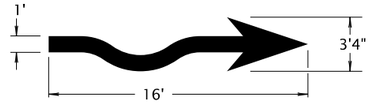
F-RALA



FISH-HOOK RIGHT TURN LEFT TURN ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

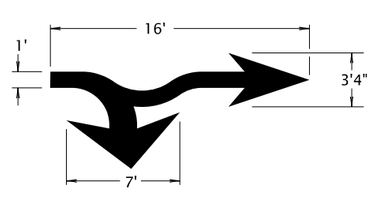
F-SA



FISH-HOOK STRAIGHT ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

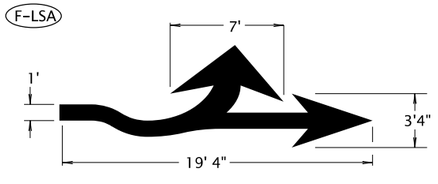
F-RSA



FISH-HOOK RIGHT TURN SRAIGHT ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

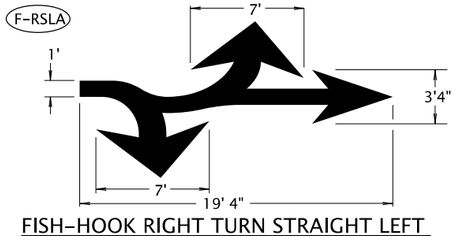
F-LSA



FISH-HOOK LEFT TURN STRAIGHT ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

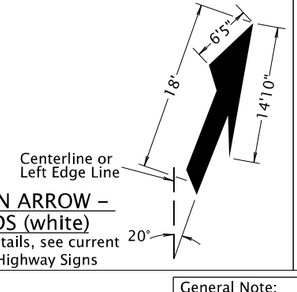
F-RSLA



FISH-HOOK RIGHT TURN STRAIGHT LEFT TURN ARROW (white)

For arrow proportion details, see the current ODOT Traffic Line Manual

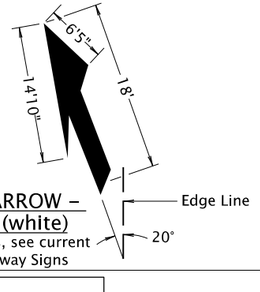
LRA-L



LANE REDUCTION ARROW - LEFT LANE ENDS (white)

For arrow proportion details, see current version of Standard Highway Signs

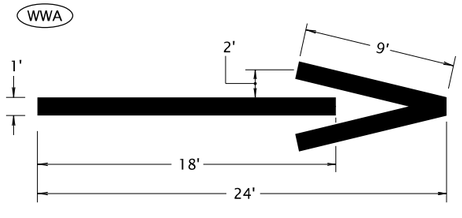
LRA-R



LANE REDUCTION ARROW - RIGHT LANE ENDS (white)

For arrow proportion details, see current version of Standard Highway Signs

WWA



WRONG-WAY ARROW (white)

General Note:

1. Center pavement markings within the lane width.
2. Arrow and letter dimensions nominal, excluding WWA.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2024

DATE	REVISION DESCRIPTION
07-2020	Some Detail Blocks moved to new Std. Drawing TM504
	Fish-hook Arrows added, LRA split into LRA-L and LRA-R
01-2022	Corrected bubble callout of LRA-L and typo in LRA-R

CALC. BOOK NO. N/A

SDR DATE 01-03-2022

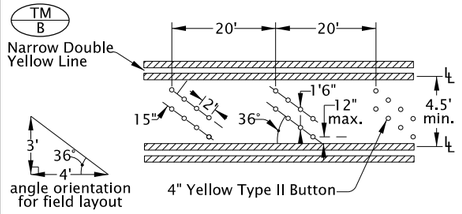
TM501

Effective Date: June 1, 2025 - November 30, 2025

TM502.dgn

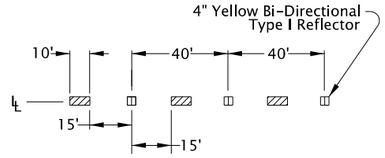
01-03-2022

TM B



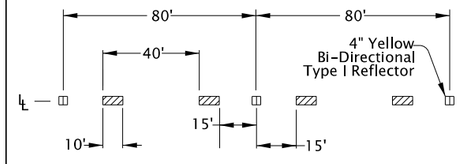
TRANSVERSE MEDIAN BAR SUBSTITUTION BUTTON

YB R-40



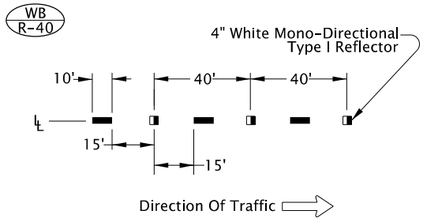
YELLOW BROKEN LINE SUPPLEMENTATION
REFLECTORS WITH 4" YELLOW BROKEN LINE

YB R-80



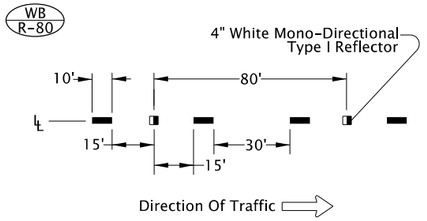
YELLOW BROKEN LINE SUPPLEMENTATION
REFLECTORS WITH 4" YELLOW BROKEN LINE

WB R-40



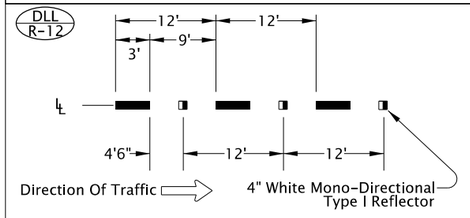
WHITE BROKEN LINE SUPPLEMENTATION
REFLECTORS WITH 4" WHITE BROKEN LINE

WB R-80



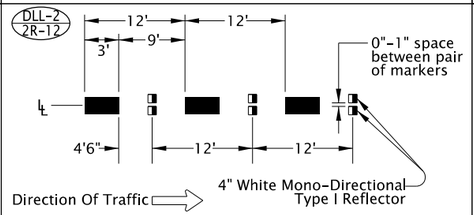
WHITE BROKEN LINE SUPPLEMENTATION
REFLECTORS WITH 4" WHITE BROKEN LINE

DLL R-12



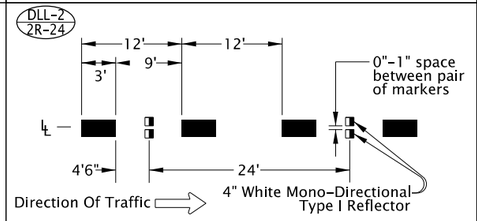
WHITE DOTTED LANE LINE SUPPLEMENTATION
REFLECTORS WITH 4" WHITE DOTTED LANE LINE

DLL-2 2R-12



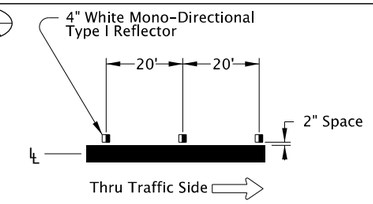
WIDE DOTTED LANE LINE SUPPLEMENTATION
REFLECTORS WITH 8" WHITE DOTTED LANE LINE

DLL-2 2R-24



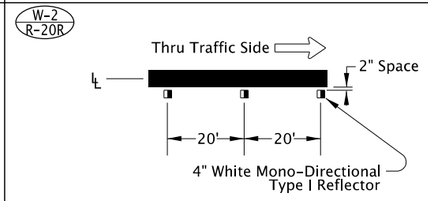
WIDE DOTTED LANE LINE SUPPLEMENTATION
REFLECTORS WITH 8" WHITE DOTTED LANE LINE

W-2 R-20L



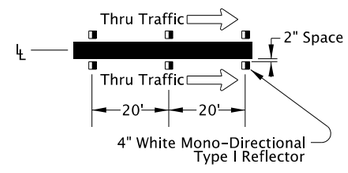
CHANNELIZING LINE POSITIONING GUIDE
REFLECTORS WITH 8" WHITE LINE

W-2 R-20R



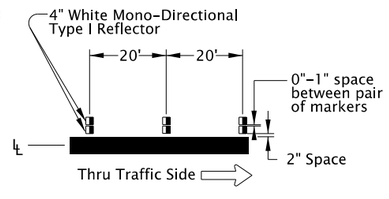
CHANNELIZING LINE POSITIONING GUIDE
REFLECTORS WITH 8" WHITE LINE

W-2 2R-20



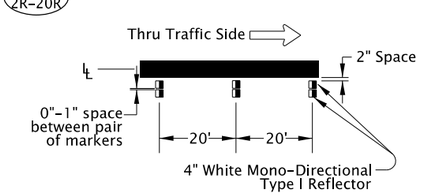
CHANNELIZING LANE LINE POSITIONING GUIDE
REFLECTORS WITH 8" WHITE LINE

W-2 2R-20L



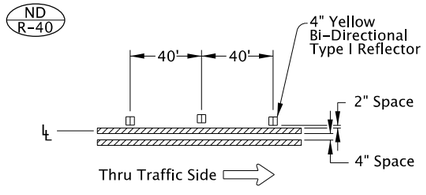
CHANNELIZING LINE SUPPLEMENTATION
REFLECTORS WITH 8" WHITE LINE

W-2 2R-20R



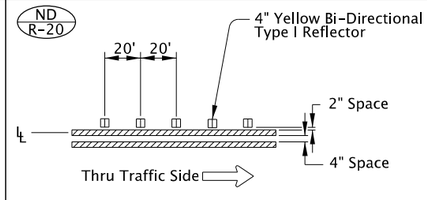
CHANNELIZING LINE SUPPLEMENTATION
REFLECTORS WITH 8" WHITE LINE

ND R-40



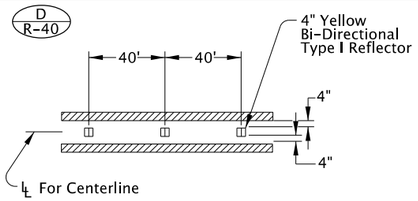
NARROW DOUBLE YELLOW POSITIONING GUIDE
REFLECTORS WITH TWO 4" YELLOW LINES

ND R-20



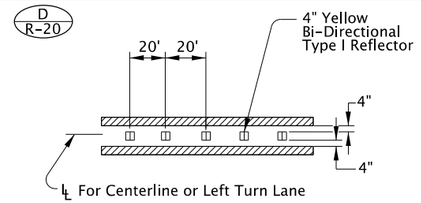
NARROW DOUBLE YELLOW POSITIONING GUIDE
REFLECTORS WITH TWO 4" YELLOW LINES

D R-40



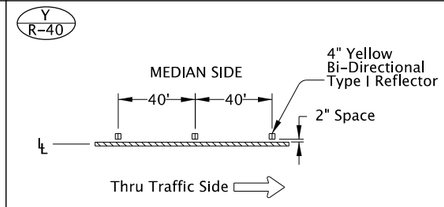
DOUBLE NO-PASS POSITIONING GUIDE
REFLECTORS WITH TWO 4" YELLOW LINES

D R-20



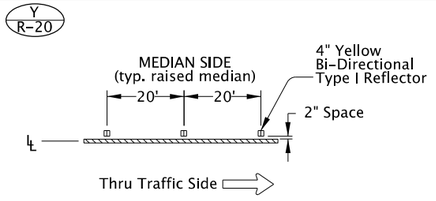
DOUBLE NO-PASS POSITIONING GUIDE
REFLECTORS WITH TWO 4" YELLOW LINES

Y R-40



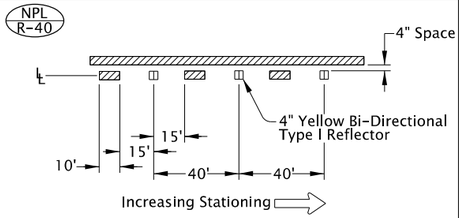
YELLOW LINE POSITIONING GUIDE
REFLECTORS WITH 4" YELLOW LINE

Y R-20



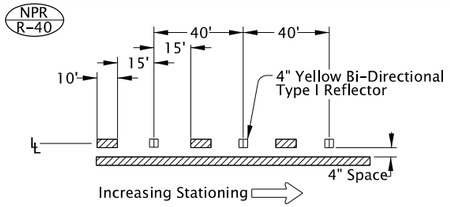
YELLOW LINE POSITIONING GUIDE
REFLECTORS WITH 4" YELLOW LINE

NPL R-40



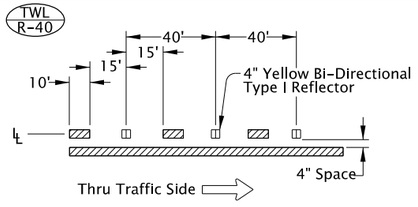
NO-PASS LEFT POSITIONING GUIDE
REFLECTORS WITH 4" YELLOW LINES

NPR R-40



NO-PASS RIGHT POSITIONING GUIDE
REFLECTORS WITH 4" YELLOW LINES

TWL R-40



TWO WAY LEFT TURN POSITIONING GUIDE
REFLECTORS WITH 4" YELLOW LINES

General note:

1) Surface mount Raised Pavement Markers (RPMs) unless otherwise specified.

LEGEND

- Direction Of Travel, Increasing Stationing or Thru Traffic Side
- ℄ — Lane line dimensions are shown on the striping plans
- Mono-directional crystal white marker reflects white to the left in this symbol
- Bi-directional yellow marker reflects yellow both left and right in this symbol

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2024

DATE	REVISION DESCRIPTION
07-2020	Changed min. width of TM/B from 6' to 4.5'
01-2022	Removed "LANE" from W-2/R-20R title

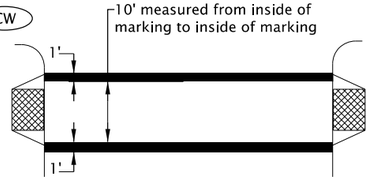
CALC. BOOK NO. N/A | SDR DATE 01-03-2022 | **TM502**

Effective Date: June 1, 2025 - November 30, 2025

07-08-2022

TM503.dgn

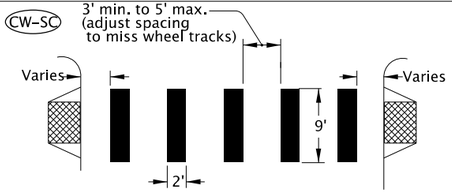
CW



STANDARD CROSSWALK
TWO 1' WHITE BARS

Install per Standard Drawing TM530

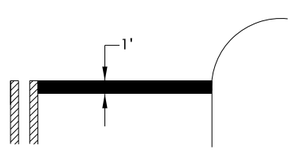
CW-SC



STAGGERED CONTINENTAL CROSSWALK
2' WHITE BARS

Install per Standard Drawing TM530

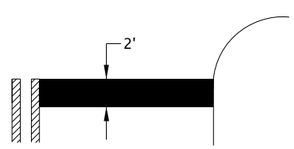
S



STOP BAR
1' WHITE BAR

Install per Standard Drawing TM530

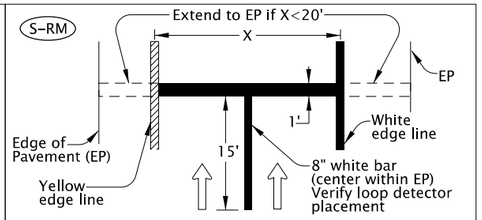
S-2



STOP BAR - LARGE
2' WHITE BAR

Install per Standard Drawing TM530

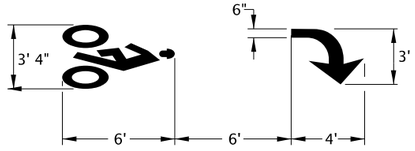
S-RM



RAMP METER STOP BAR
1' & 8" WHITE BARS

For multi-lane ramp meter applications

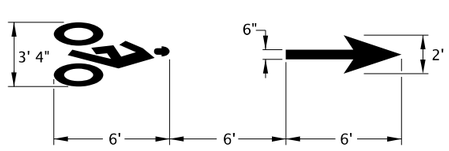
BR



BIKE RIGHT TURN STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

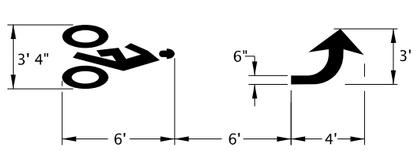
BS



BIKE LANE STANDARD STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

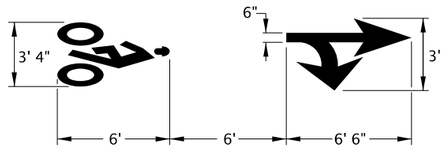
BL



BIKE LEFT TURN STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

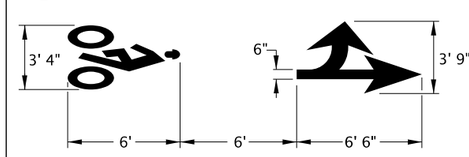
BRS



BIKE RIGHT TURN STRAIGHT STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

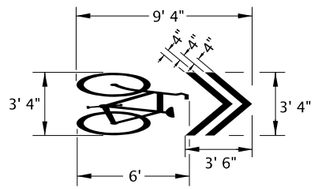
BLS



BIKE LEFT TURN STRAIGHT STENCIL (white)

Center marking within lane width
For proportion details, see current version of Standard Highway Signs

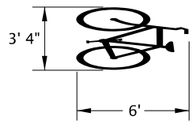
SLM



SHARED LANE MARKING (white)

Center marking within lane width or as shown
For proportion details, see current version of Standard Highway Signs

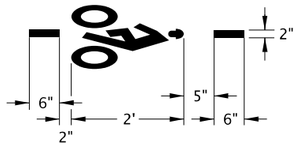
B



BIKE STENCIL (white)

Used for Intersection Bicycle Box applications
Place marking within bicycle box, ceneterd with motor vehicle lane width

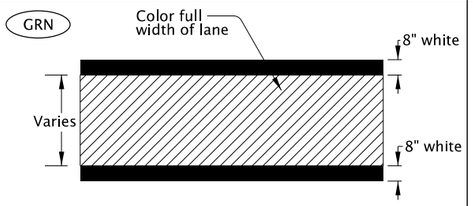
BD



BICYCLE DETECTOR MARKING (white)

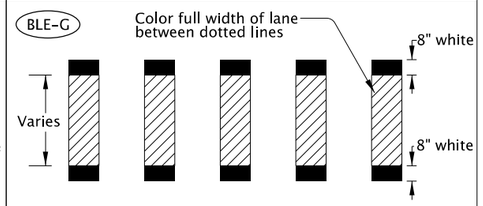
PLace Bicycle Detector Pavement Marking in optimum loction where bicycle acuates the traffic signal

GRN



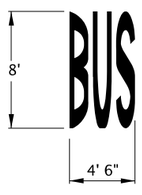
GREEN SUPPLEMENTAL BICYCLE LANE
SOLID LINE (green)

BLE-G



GREEN SUPPLEMENTAL BICYCLE LANE
DOTTED LINE EXTENSION (green)

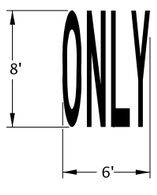
BUS



BUS (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

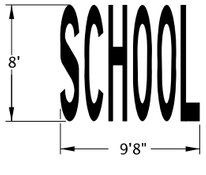
ON



ONLY (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

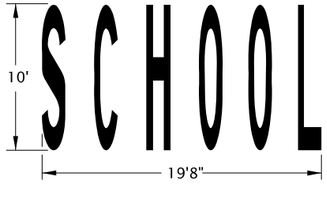
SCH



SCHOOL (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

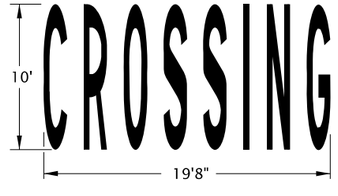
SCH-LG



SCHOOL - LARGE (white)

Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs

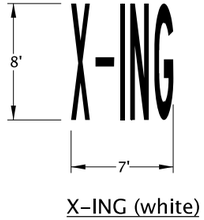
CRS-LG



CROSSING - LARGE (white)

Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs

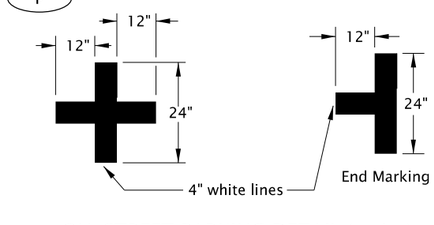
XNG



X-ING (white)

Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs

P



ON-STREET PARKING DETAIL (white)

General Note:

1. Arrow, letter, and bike symbol dimensions nominal.

LEGEND

Direction of Trave

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAVEMENT MARKING STANDARD DETAIL BLOCKS

2024

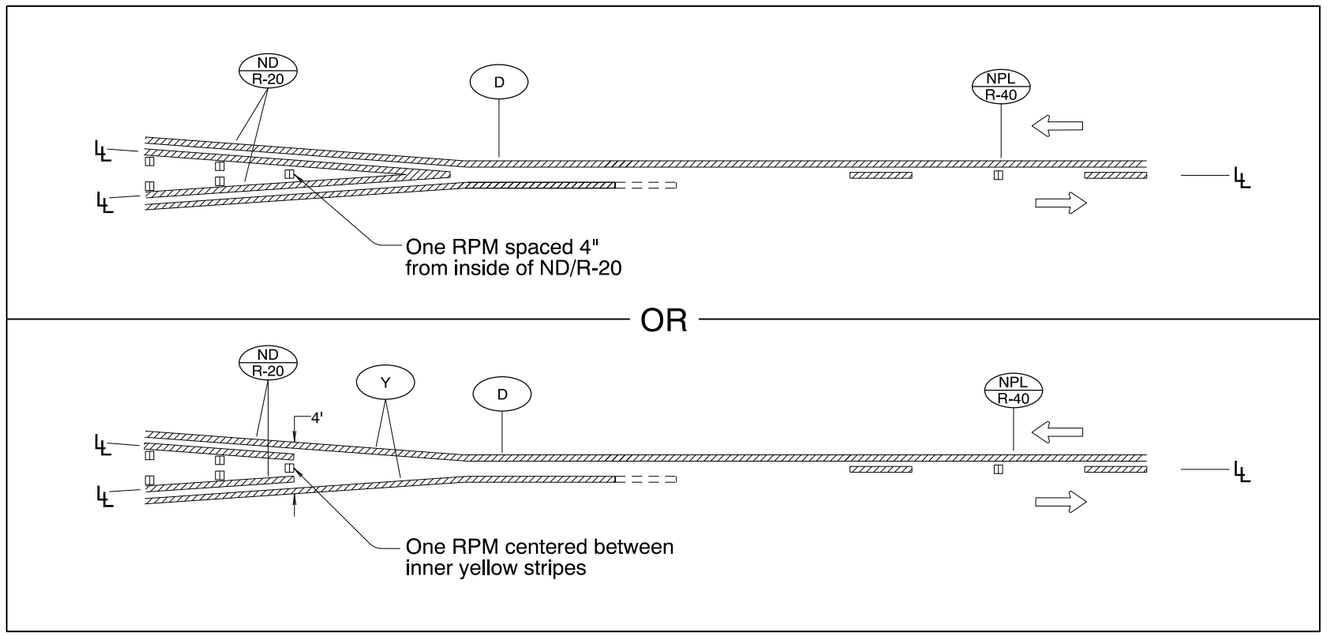
DATE	REVISION DESCRIPTION
07-2022	Added note for measurement of Standard Crosswalk

CALC. BOOK NO. N/A

SDR DATE 07-08-2022

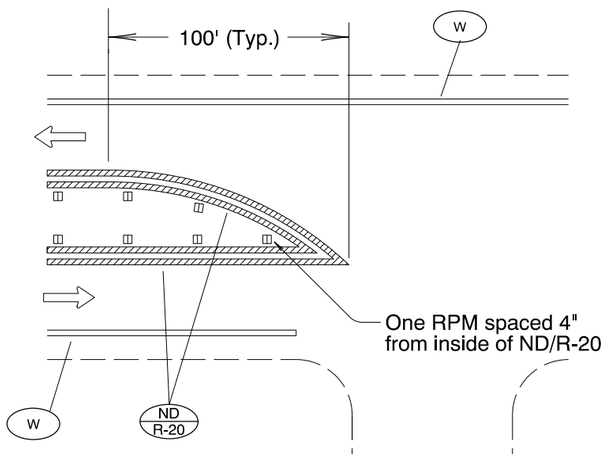
TM503

Effective Date: June 1, 2025 - November 30, 2025

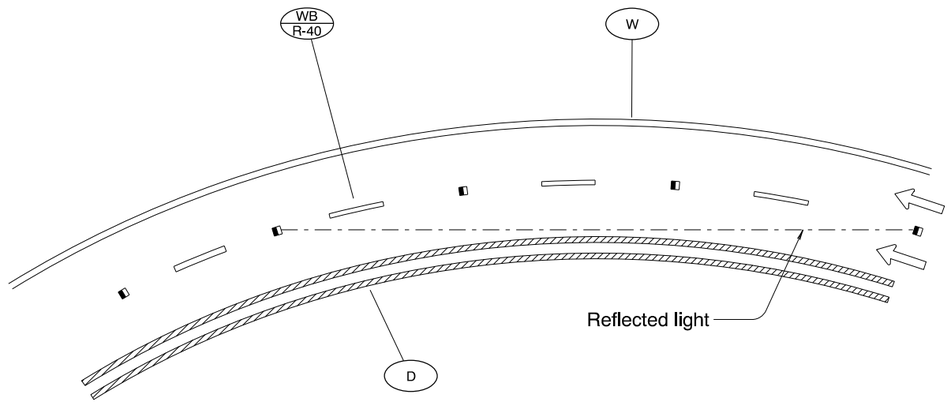


MEDIAN WIDTH TRANSITION

(TWO NARROW DOUBLE YELLOW LINES TO ONE-DIRECTION NO-PASSING LINE)
(Refer to TM539 for additional details)



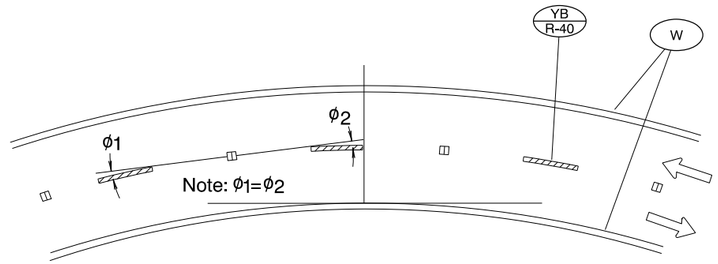
MEDIAN BULLNOSE DETAIL



NOTE:

On one way sections the marker shall be installed with the reflective surface aimed to direct the reflected light back three markers.

(a) PAVEMENT MARKER INSTALLATION FOR MONO-DIRECTIONAL RAISED PAVEMENT MARKERS



(b) PAVEMENT MARKER INSTALLATION FOR BI-DIRECTIONAL RAISED PAVEMENT MARKERS

PAVEMENT MARKER INSTALLATION ON HORIZONTAL CURVES

LEGEND

- Mono-Directional White (marker reflects white to left in this symbol)
- Bi-Directional Yellow (marker reflects yellow to both the left and right in this symbol)
- Increasing stationing from left to right
- Direction of Travel
- Lane line dimensions are shown on the striping plans.

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAVEMENT MARKERS

2024

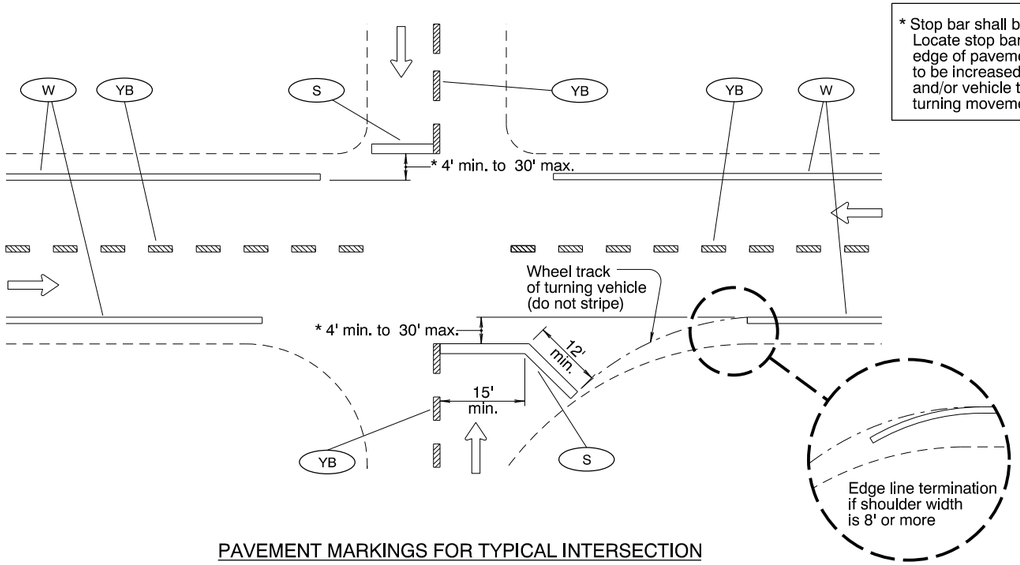
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2015 | **TM515**

Effective Date: June 1, 2025 - November 30, 2025

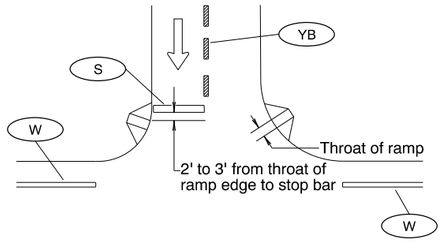
01-JUL-2015

TM515.dgn

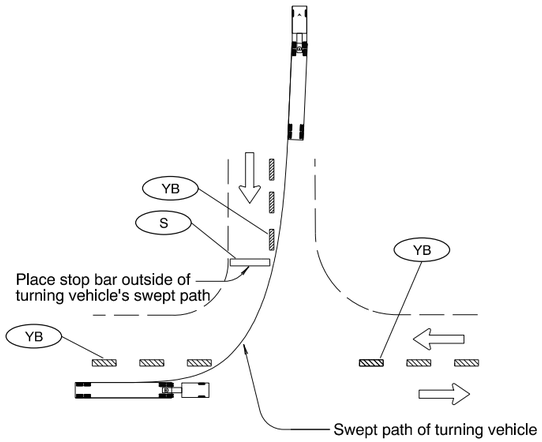


PAVEMENT MARKINGS FOR TYPICAL INTERSECTION

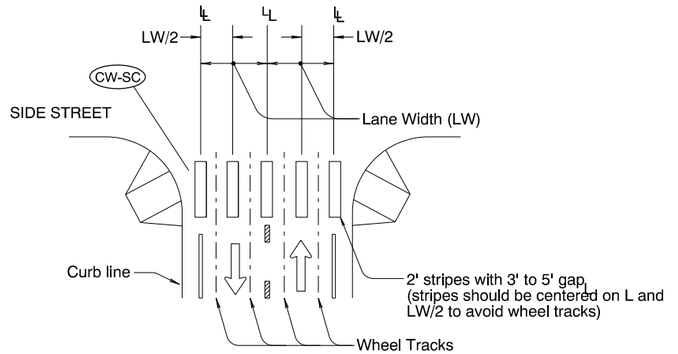
* Stop bar shall be placed as near as possible to the intersecting traveled way. Locate stop bar 4' min. to 30' max. in advance of the extended fog line, edge of pavement, or curb face. Minimum stop bar distance may need to be increased, depending on location of pedestrian ramps (see Detail "A") and/or vehicle turn radii (see Detail "B"). Field verify sight distance and truck turning movements.



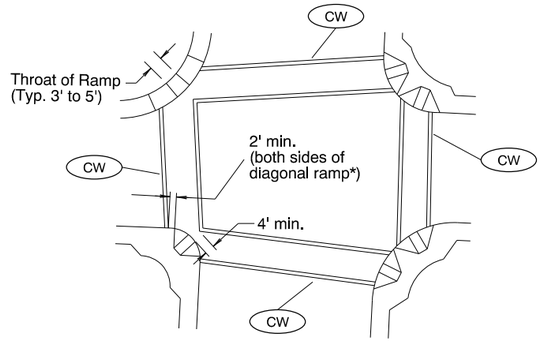
Detail "A"
STOP BAR PLACEMENT WITH
RESPECT TO PEDESTRIAN RAMPS



Detail "B"
STOP BAR PLACEMENT WITH
RESPECT TO TURN RADII

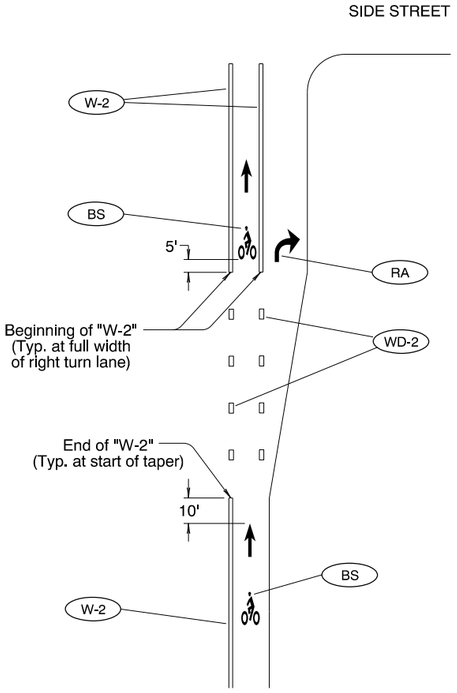


STAGGERED CONTINENTAL LAYOUT

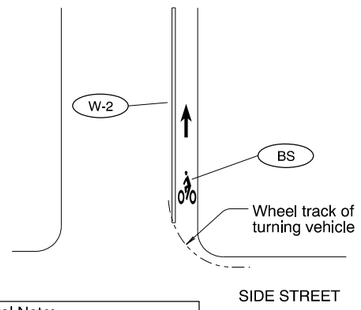


STANDARD CROSSWALK BARS
AT INTERSECTION

* = Refer to Std Dwg RD916



INSTALLATION OF BIKE LANE STENCILS
FOR BIKE LANE SEPARATED BY RIGHT TURN LANE



General Note:

Install bike lane stencil to avoid right turning vehicle wheel tracks.

INSTALLATION OF BIKE LANE STENCILS
FOLLOWING INTERSECTIONS

General Note:

1. Install crosswalk bars such that the throat of the ADA ramp is entirely within crosswalk markings, or 5' back of extended fog line, edge of pavement, or curb face.

LEGEND

⇦ Direction of Travel

L - Lane line dimensions are shown on the striping plans

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

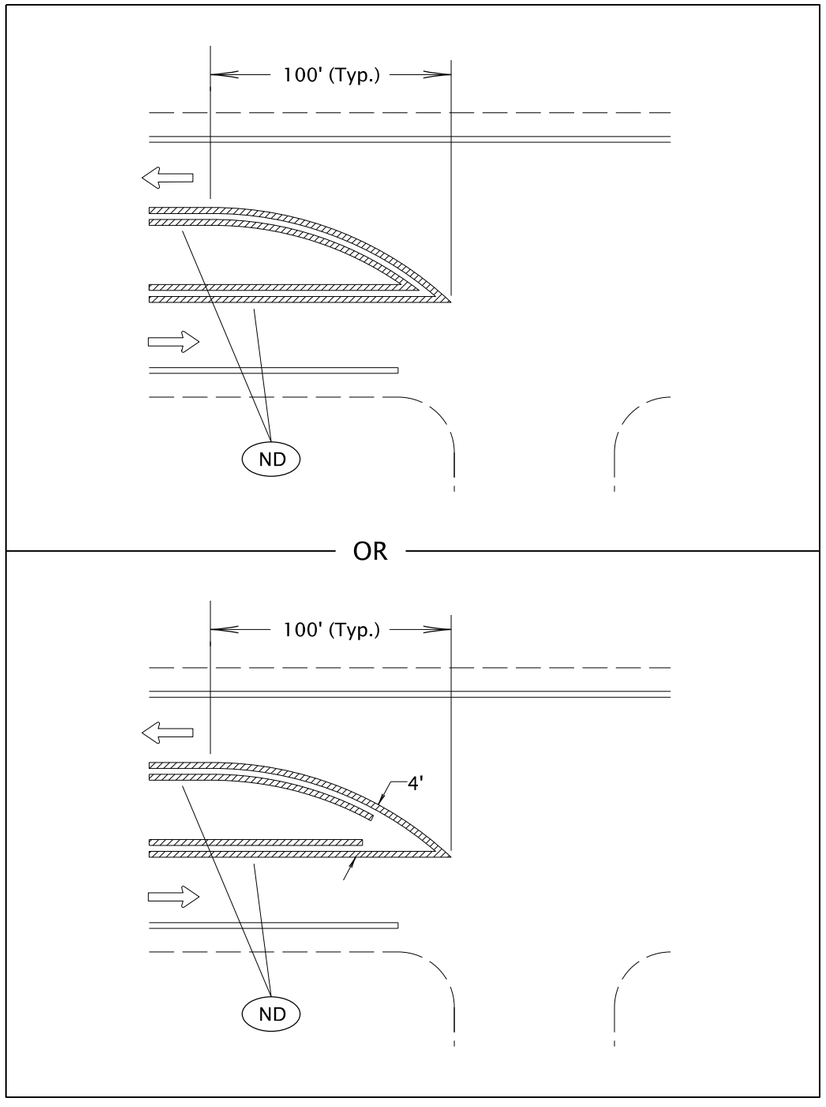
INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)

2024

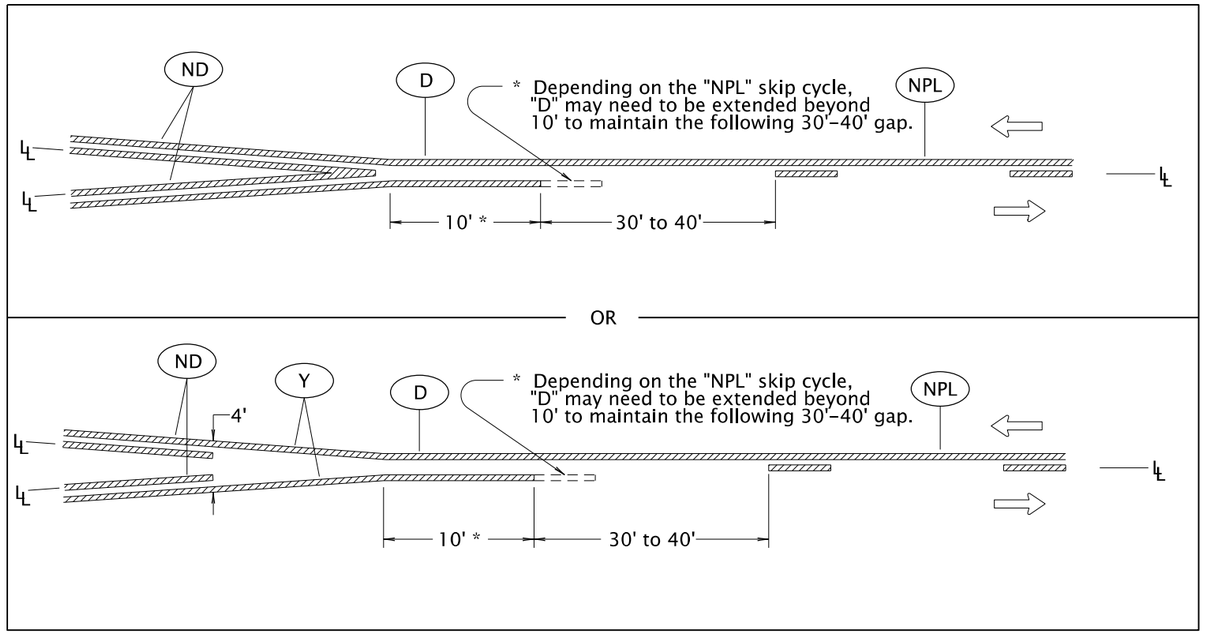
DATE	REVISION DESCRIPTION
07-2022	Added Roadway Standard Drawing reference to detail for clarity

CALC. BOOK NO. N/A | SDR DATE 06-JUL-2022 | **TM530**

Effective Date: June 1, 2025 - November 30, 2025



MEDIAN BULLNOSE DETAIL



MEDIAN WIDTH TRANSITION
(TWO NARROW DOUBLE YELLOW LINES TO ONE-DIRECTION NO-PASSING LINE)

LEGEND

Increasing stationing from left to right

Direction of Travel

Lane line dimensions are shown on the striping plans

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

MEDIAN AND LEFT TURN CHANNELIZATION DETAILS

2024

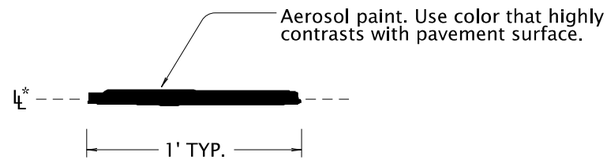
DATE	REVISION DESCRIPTION
07-2020	Extended accompanied by drawings to include TM504

CALC. BOOK NO. N/A | SDR DATE 07-01-2020 | **TM539**

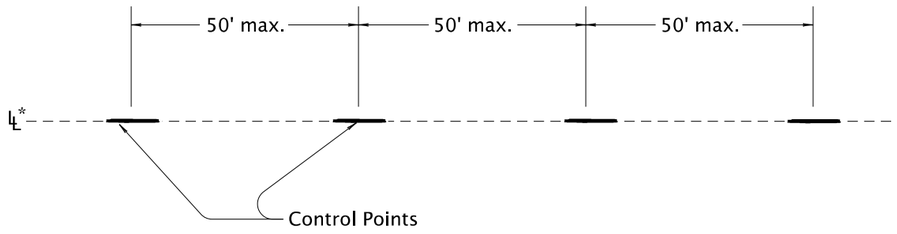
Effective Date: June 1, 2025 - November 30, 2025

07-01-2020

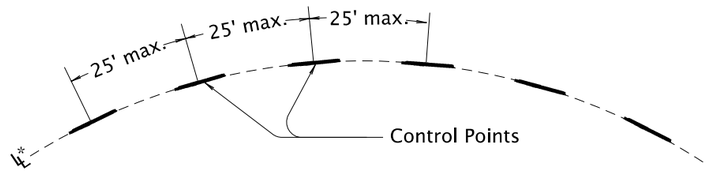
TM539.dgn



CONTROL POINT



CONTROL POINT LAYOUT - TANGENT SECTIONS



CONTROL POINT LAYOUT - CURVE SECTIONS

General note:

1.) Use control points to make continous narrow guideline as specified.

* Control points are placed along the lane line for all longitudinal lines except the following:

ND For center lines only	A control point layout 4" offset from the lane line is required for a ND line when used as a center line.

LEGEND

℄ — Lane line dimensions are shown on the striping plans.

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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 first consulting a Registered Professional Engineer.

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OREGON STANDARD DRAWINGS

ALIGNMENT LAYOUT: GENERAL

2024

DATE	REVISION DESCRIPTION
07-2020	Extended accompanied by drawings to include TM504

CALC. BOOK NO. N/A | SDR DATE 07-01-2020 | **TM560**

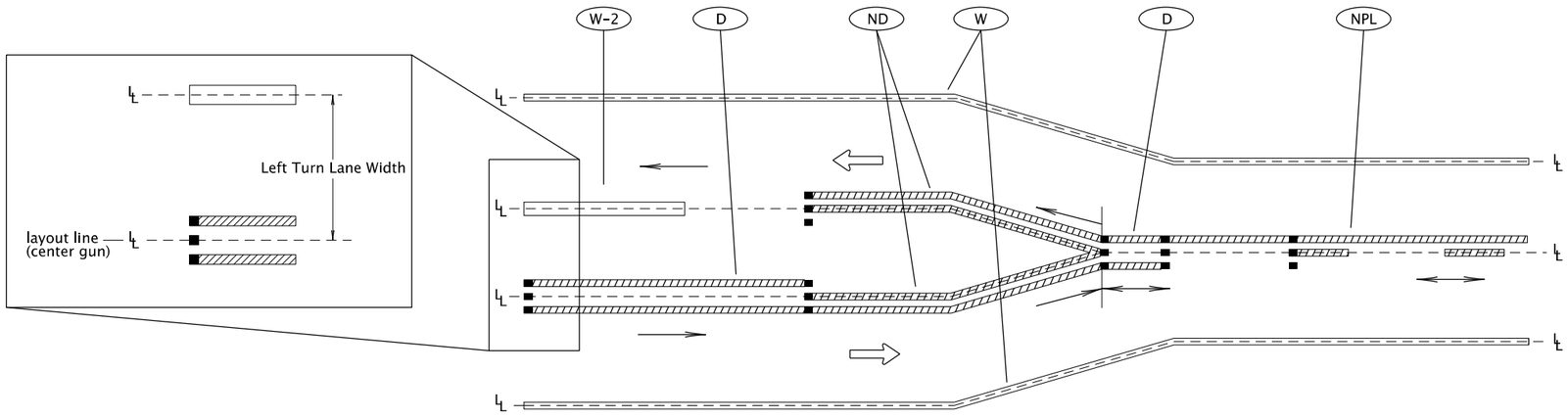
Effective Date: June 1, 2025 - November 30, 2025

07-01-2020

TM560.dgn

07-01-2020

TM561.dgn



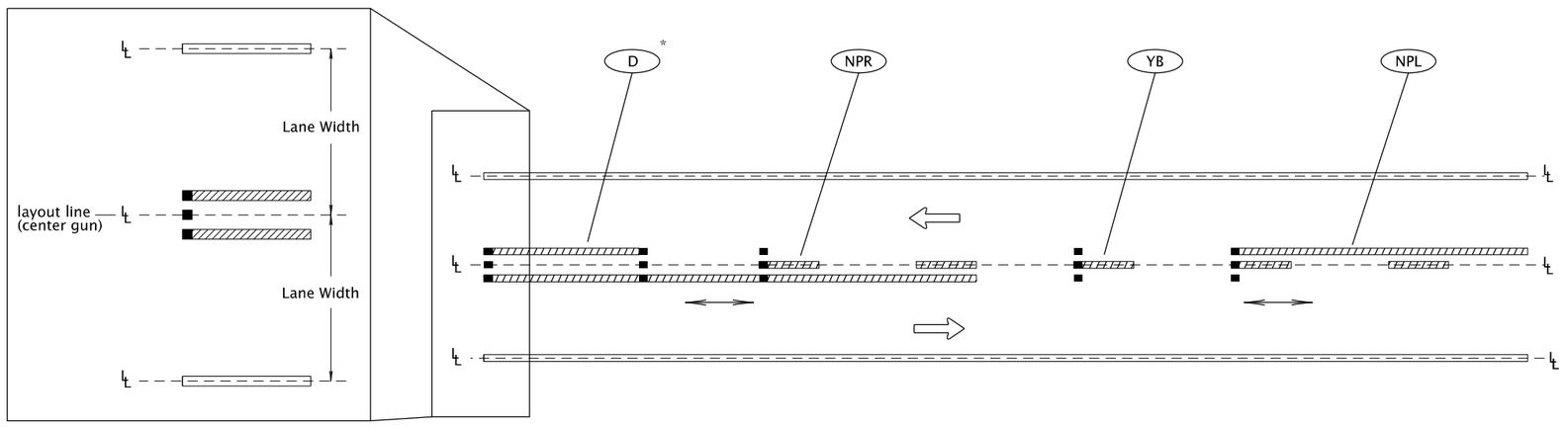
LEFT TURN LANE ALIGNMENT LAYOUT

General note:

1) Install control points for pavement marking alignment layout along the center gun location.
2) Increasing stationing from left to right

LEGEND

- Direction Of Travel and Thru Traffic Side.
- Lane line dimensions are shown on the striping plans.
- Direction of striping truck (may go either direction)
- Direction of striping truck (may go one direction only)
- Three gun installation system (center dot represents center gun)



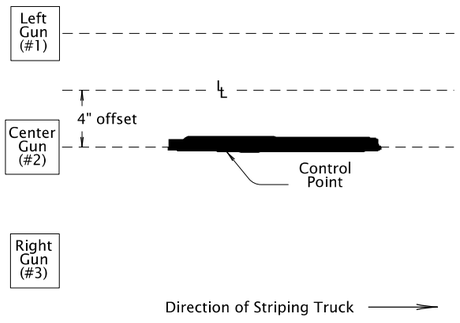
CENTERLINE ALIGNMENT LAYOUT

*When ND is used as centerline markings, a control point layout 4" offset from the lane line is required.

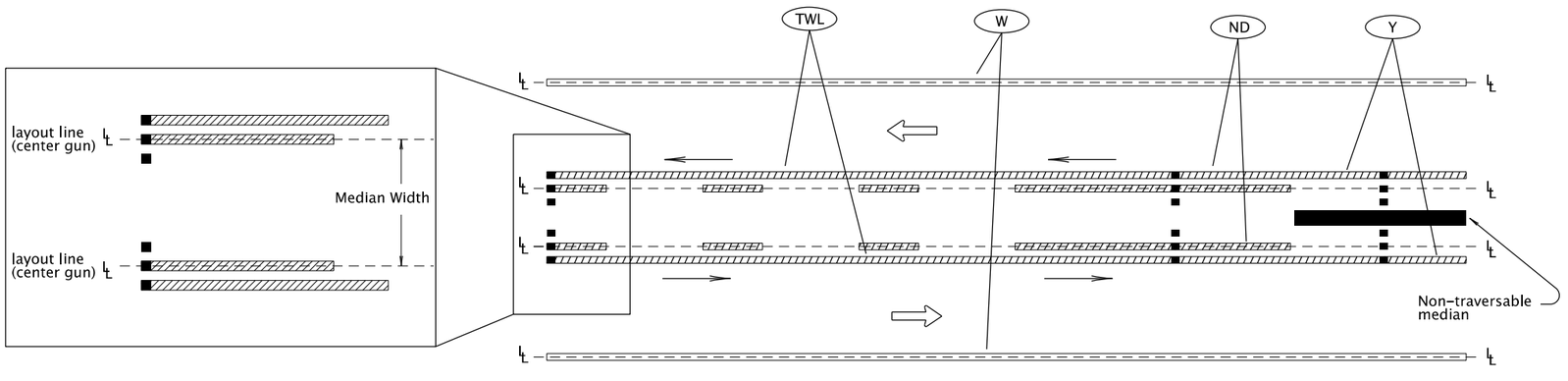
Line Types requiring control points to be 4" offset from lane line:

ND

For centerlines only



4" Offset of Lane Line and Center Gun



MEDIAN ALIGNMENT LAYOUT

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

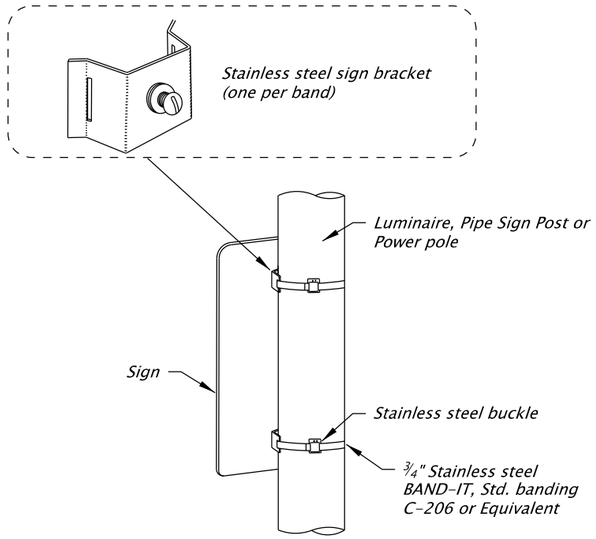
ALIGNMENT LAYOUT: LEFT TURN LANE, CENTERLINE & MEDIANS

2024

DATE	REVISION DESCRIPTION
07-2020	Extended accompanied by drawings to include TM504

CALC. BOOK NO. N/A | SDR DATE 07-01-2020 | **TM561**

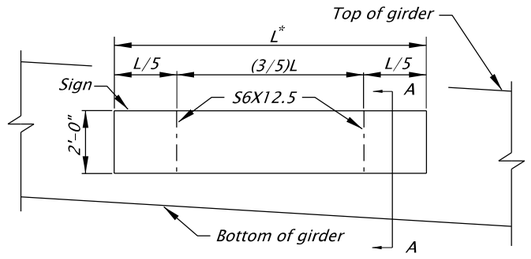
Effective Date: June 1, 2025 - November 30, 2025



Signs mounted to vertical posts that use stainless steel clamps shall not be wider than 36". Use 2 clamps for all signs less than 48" in height and 3 clamps for signs 48" to 60" in height.

STAINLESS STEEL CLAMP (SSC) DETAIL

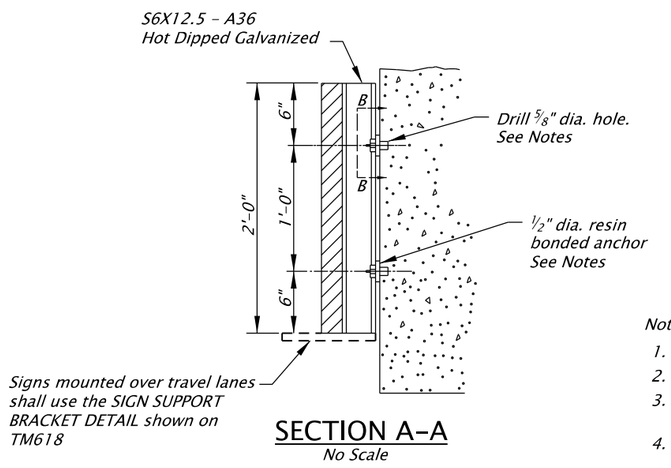
No Scale



** - L maximum is 14'-0".*

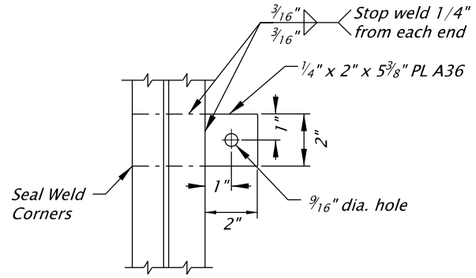
SIGN ELEVATION

No Scale



SECTION A-A

No Scale



SECTION B-B

No Scale

Notes:

1. *Install resin bonded anchors according to Section 00535.*
2. *Resin bonded anchors shall conform to ASTM A307.*
3. *The hole depths shall develop the pullout strength specified in Table 00535-1.*
4. *Tighten 1/2" dia. anchors using 16 ft-lb of torque for waxed galvanized and 40 ft-lb of torque for galvanized only connections.*

ROAD NAME SIGN STRUCTURE MOUNT DETAIL

GENERAL NOTES

1. *For Secondary Sign Mounts See TM678.*

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SIGN MOUNTS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 06-JUL-2015 | **TM677**

Effective Date: June 1, 2025 - November 30, 2025

12-JUL-2022

TM800.dgn

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

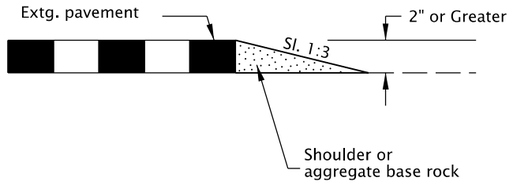
MINIMUM LENGTHS TABLE					
"L" VALUE FOR TAPERS (ft)					BUFFER "B" (ft)
★ SPEED (mph)	W = Lane or Shoulder Width being closed or shifted				
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	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 = $S^2W/60$, 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

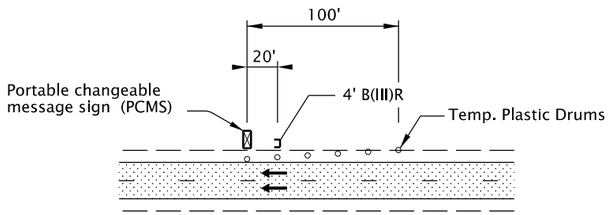
NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
- When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

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.



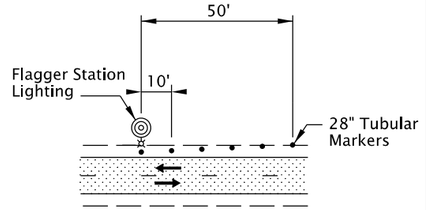
EXCAVATION ABRUPT EDGE

NOTES:
- 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



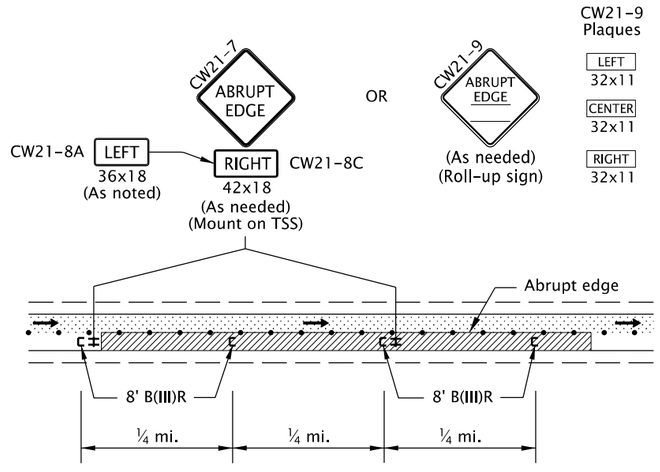
PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

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.
- 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.
- Coordinate and control pedestrian movements through a Temporary Accessible Route using Flaggers, Traffic Control Measures, or as directed.
- Provide a truck mounted attentuator (TMA) to protect the active work area on high speed divided highways or freeways when positive protection is not available, or as directed.
- To be accompanied by Dwg. Nos. TM820 & TM821.

○ ○ ○ Temp. Plastic Drums See TCD Spacing Table for max. spacing.

• • • 28" Tubular Markers See TCD Spacing Table for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

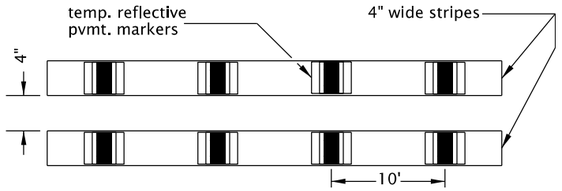
TABLES, ABRUPT EDGE AND PCMS DETAILS

2024

DATE	REVISION DESCRIPTION
07-2022	Added a note for TPARs
07-2024	Added a note for TMAs

CALC. BOOK NO. N/A | SDR DATE 12-JUL-2024 | **TM800**

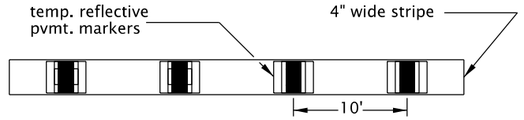
Effective Date: June 1, 2025 – November 30, 2025



LAYOUT "A"
(Supplemented double solid lines)

TYPICAL APPLICATIONS:

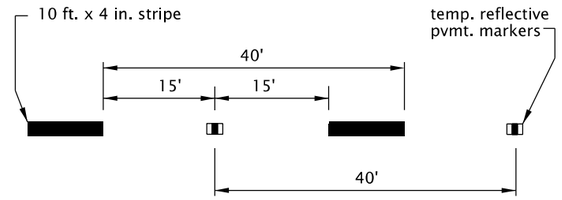
- To prohibit lane changes or passing (include appropriate regulatory signs).
- Freeway or multilane shifts and crossovers.
- For projects in place through winter months.
- Two-lane, two-way centerlines.



LAYOUT "B"
(Supplemented solid line)

TYPICAL APPLICATIONS:

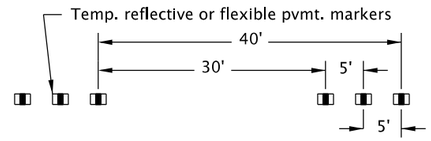
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- For projects in place through winter months.



LAYOUT "C"
(Supplemented broken lines)

TYPICAL APPLICATIONS:

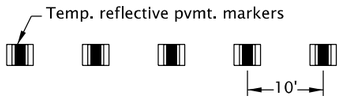
- Freeway and multilane broken lines.
- High ADT 2 lane roads (greater than 10,000).
- For projects in place through winter months.



LAYOUT "D"
(Simulated broken lines)

TYPICAL APPLICATIONS:

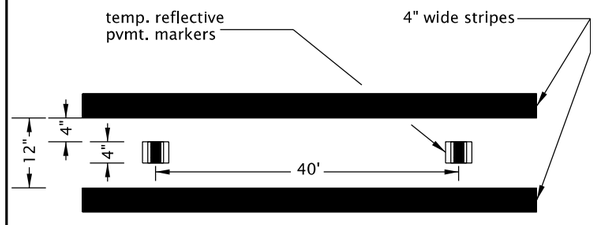
- During staging on finished/existing surfaces.
- HMAC intermediate surfaces.
- Emulsified asphalt surface treatments (chip seals) where permanent pavement markings cannot be placed within two weeks.



LAYOUT "E"
(Simulated Solid Lines)

TYPICAL APPLICATIONS:

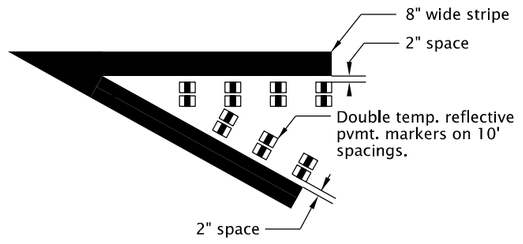
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- Edge lines for short durations, less than 14 days.



LAYOUT "F"
(Supplemented wide double solid lines)

TYPICAL APPLICATIONS:

- To prohibit lane changes or passing (include appropriate regulatory signs).
- 2 lane, 2 way centerlines.
- 2 lane, 1 way alignments on freeways or multi-lane highways.



LAYOUT "G"
(Supplemented solid 8" line)

TYPICAL APPLICATIONS:

- Gore areas
- Alignment splits (bifurcations)

GENERAL NOTES FOR ALL DETAILS:

- When using Supplemented or Simulated lines:
  1. Yellow Bi-Directional Pavement Markers are required for Two-Way Traffic.
  2. White Mono-Directional Pavement Markers are required for one-way traffic or edge lines.
- Supplemented lines are painted lines enhanced with Reflective Pavement Markers.
- Simulated lines are Reflective Pavement Markers placed in a pattern to substitute for a painted line.
- Pavement marking colors shall conform to the MUTCD.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TEMPORARY PAVEMENT MARKINGS

2024

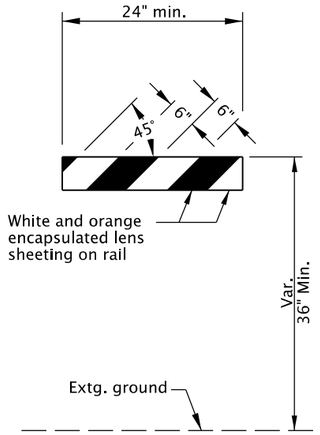
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM810**

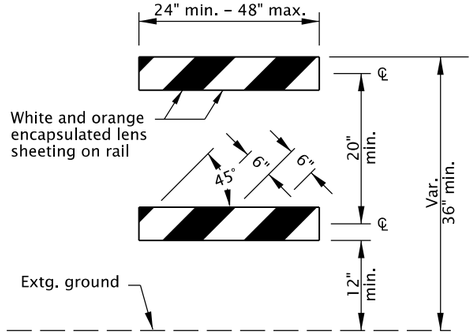
Effective Date: June 1, 2025 - November 30, 2025

01-JUL-2020

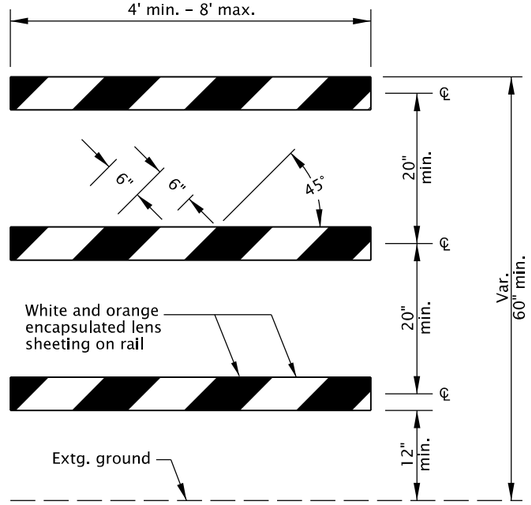
TM820.dgn



TYPE I



TYPE II



TYPE III

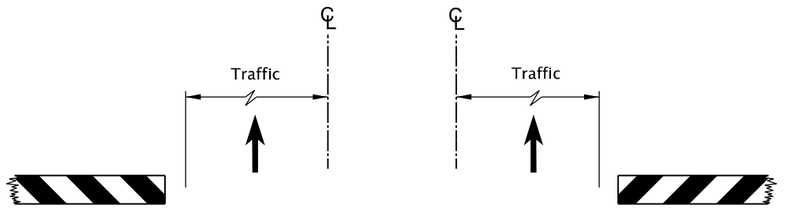
BARRICADE RAIL LAYOUT

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. TM844.

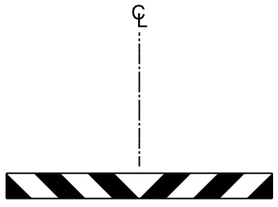
NOTES:

- 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.

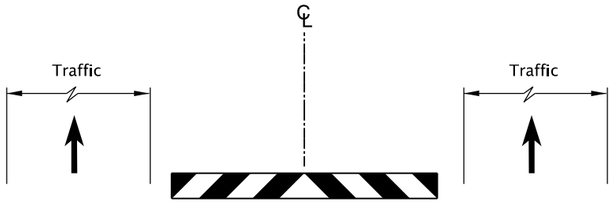


LT. SIDE - L
(For approaching traffic)

RT. SIDE - R
(For approaching traffic)

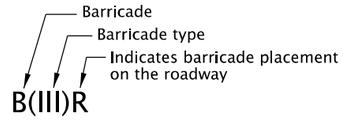


CLOSED - C
(For approaching traffic)



LT. / RT. - LR
(For approaching traffic)

DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING



BARRICADE NOTATION

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

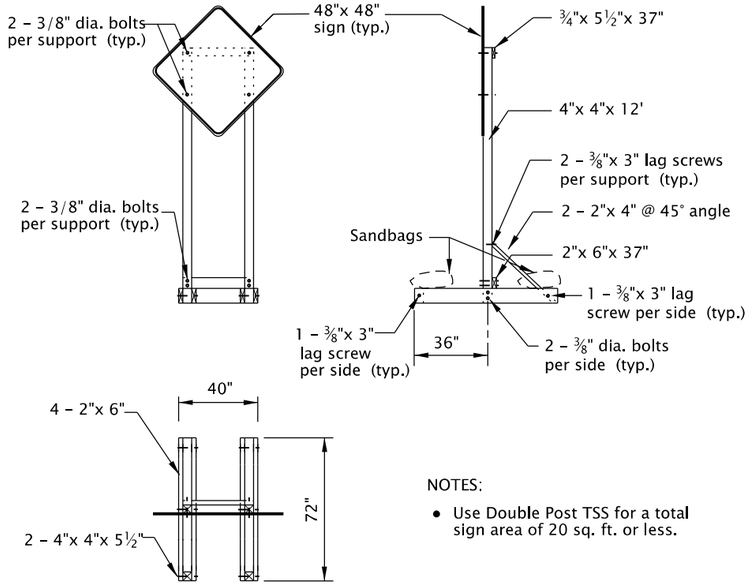
TEMPORARY BARRICADES

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM820**

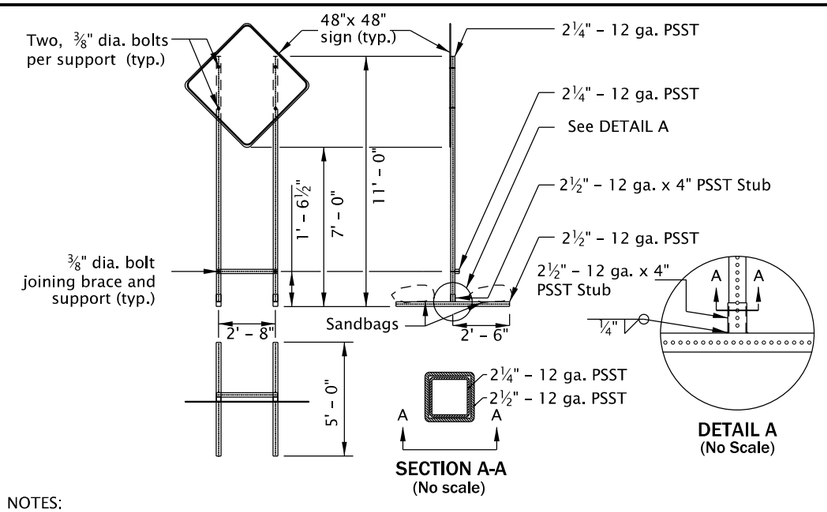
Effective Date: June 1, 2025 – November 30, 2025



NOTES:

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

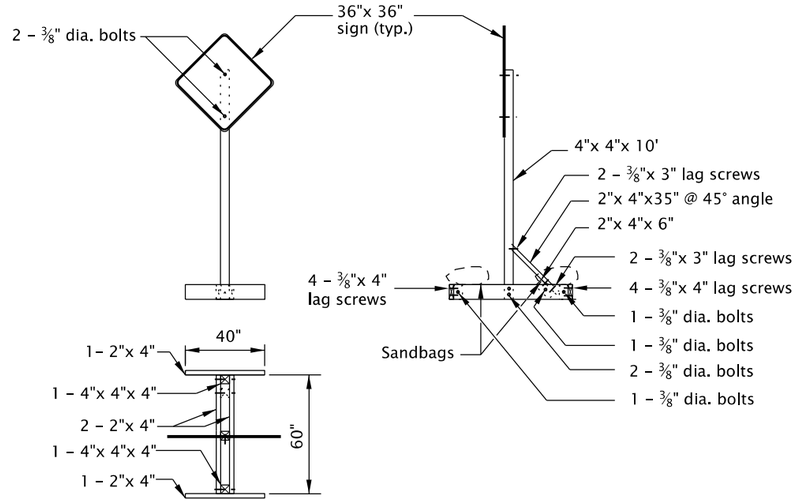
DOUBLE POST DETAIL



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.
- 2¼" - 12 ga. PSST to extend entire length inside of the 2½" - 12 ga. x 4" PSST Stub.
- Do not use bolt to secure 2¼" PSST inside of the 2½" - 12 ga. x 4" PSST Stub.
- Weld steel according to American Welding Society (AWS) D.1.1.

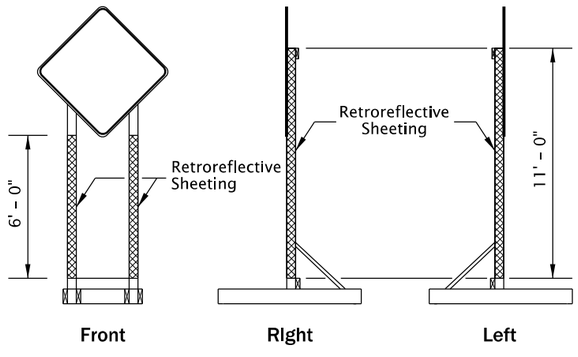
PERFORATED STEEL SQUARE TUBE (PSST) DETAIL



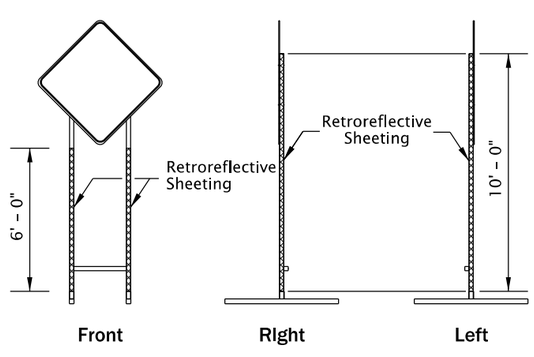
NOTES:

- 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.

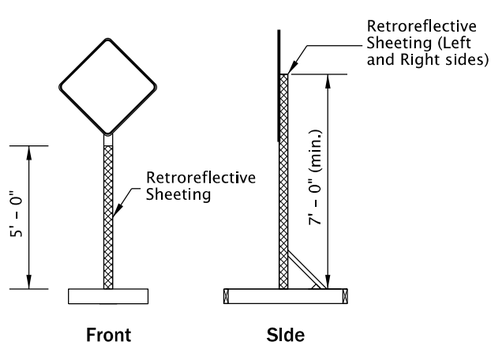
SINGLE POST DETAIL



Double Post



Perforated Steel Square Tube (PSST)



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 not in use, locate TSS as far from Public Traffic as practicable and turn away from traffic, or cover the sign. Do not cover reflective sheeting on the TSS posts.
- 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).
- See Dwg. No. TM204 for flag board mounting detail.

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

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2024

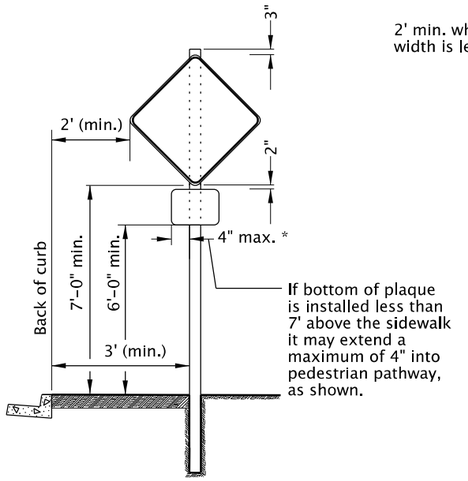
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | TM821

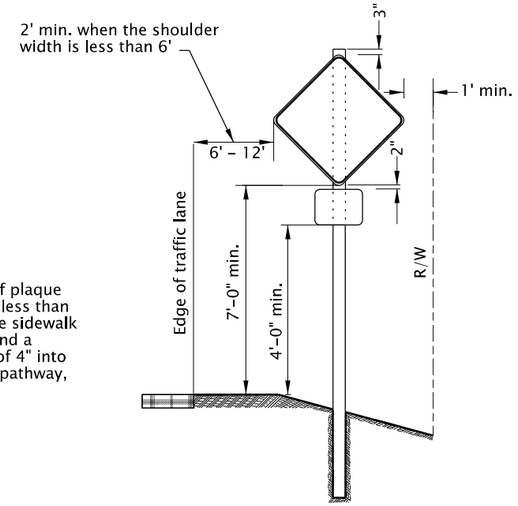
Effective Date: June 1, 2025 – November 30, 2025

NOTES:

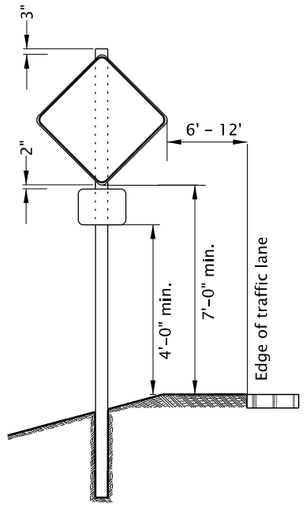
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Dwg. Nos. TM670, TM671, TM687, TM688 & TM689.



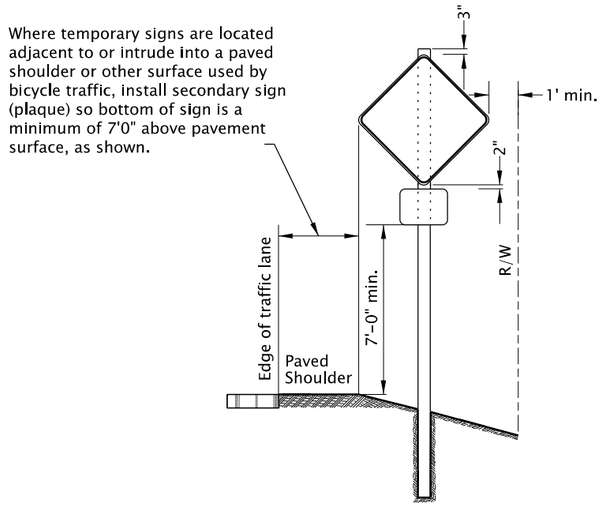
Urban Areas With Curb/Sidewalk



Rural Areas

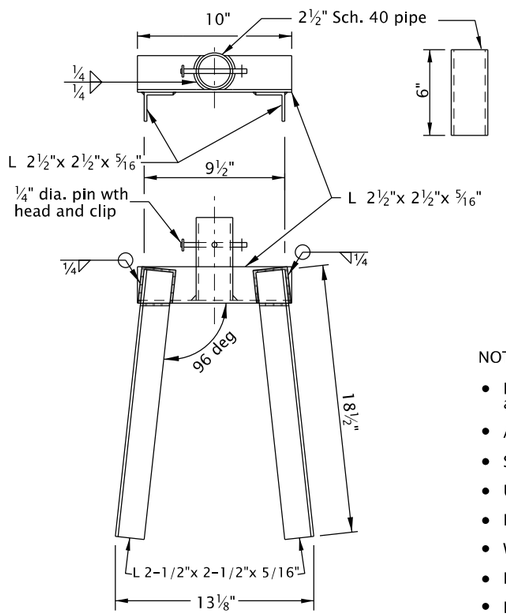


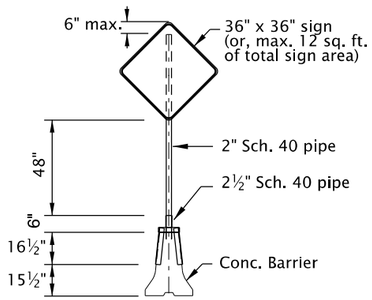
Divided Highway/Freeway Medians
No Curb/Sidewalk



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.
- Follow manufacturer recommendation when installing signs on barrier other than concrete.

CONCRETE BARRIER SIGN SUPPORT

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM822**

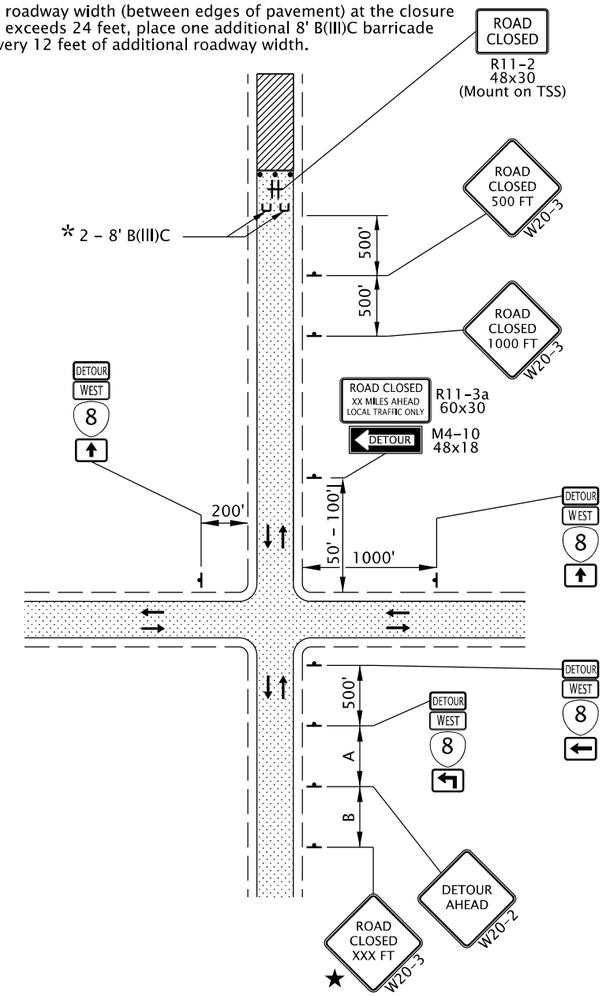
01-JUL-2020

TM822.dgn

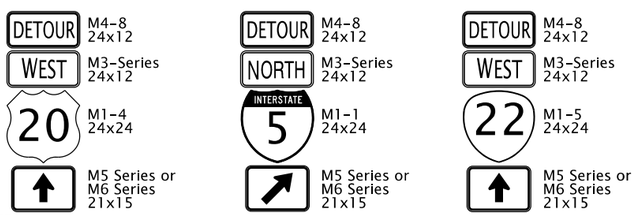
Effective Date: June 1, 2025 - November 30, 2025

NOTES:
If closure point is less than 1500 ft. from nearest intersection, use a "ROAD CLOSED TO THRU TRAFFIC" (R11-4)sign in place of the "ROAD CLOSED XX MILES AHEAD" sign.

* If the roadway width (between edges of pavement) at the closure point exceeds 24 feet, place one additional 8' B(III)C barricade for every 12 feet of additional roadway width.

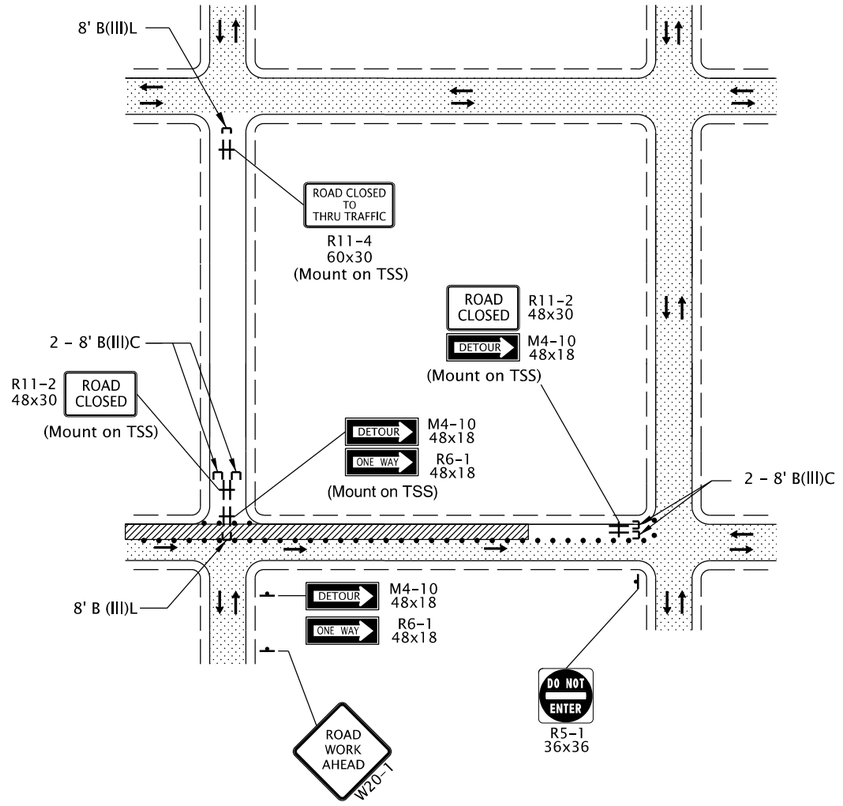


TYPICAL ROAD CLOSURE WITH DETOUR



NOTE:
- When detour routes overlap, each Route Shield will include a seperate cardinal direction, detour, and directional arrow auxiliary sign assembly.

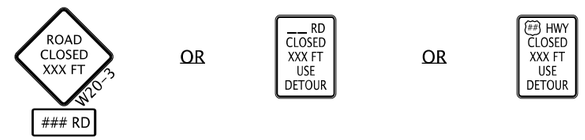
TYPICAL TRAILBLAZER ASSEMBLY



TYPICAL PARTIAL ROAD CLOSURE

GENERAL NOTES FOR ALL DETAILS:

★ A "Street Name" rider may be used to enhance Road Closure signing; or provide a project specific design; or, as shown in the traffic control plan.



##x18 Rider
Rider width to be determined by width of street name.

48 x 60 (nom.)
Project Specific Design

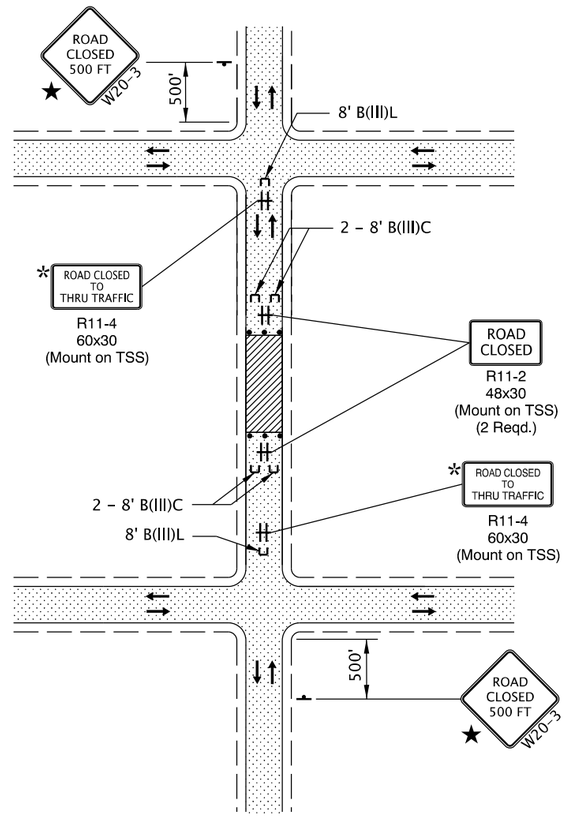
48 x 60 (nom.)
Project Specific Design

- Use a minimum of two Type III barricades for a road closure. For roads ≥ 36' wide between curbs or edge of pavement, use a minimum of three Type III barricades for the closure point.
- For full road closures, the C or LR barricade may be used.
- Place additional signing as directed.
- To determine sign spacing A, B, & C, use the "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- To be accompanied by Dwg. Nos.TM820 & TM821.

• • • • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION



NOTE:
* If accesses exist between intersection and point of closure, install "ROAD CLOSED TO THRU TRAFFIC" sign as shown.

TYPICAL ROAD CLOSURE

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CLOSURE DETAILS

2024

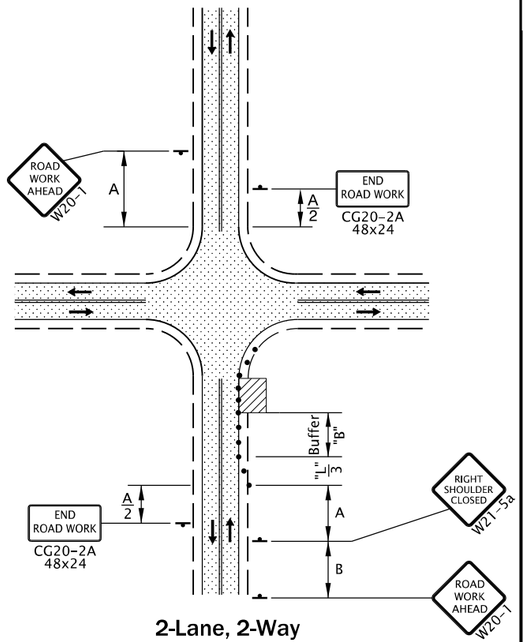
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM840**

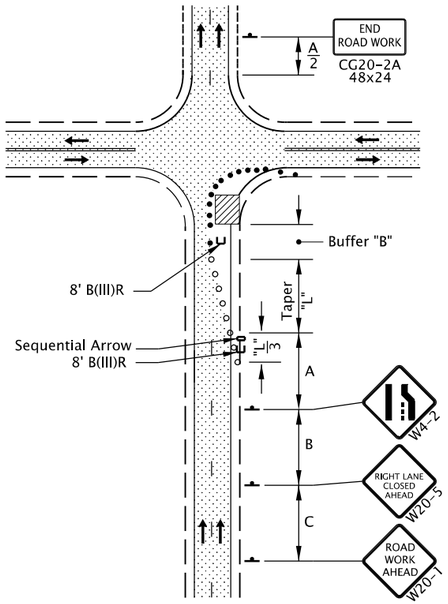
01-JUL-2020

TM840.dgn

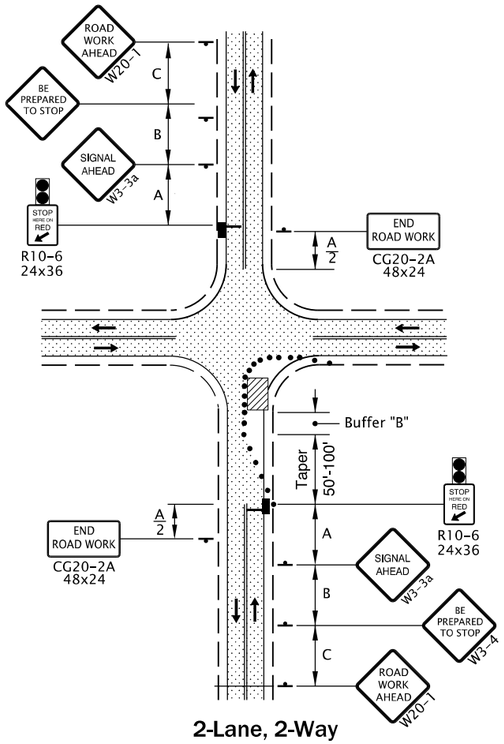
Effective Date: June 1, 2025 - November 30, 2025



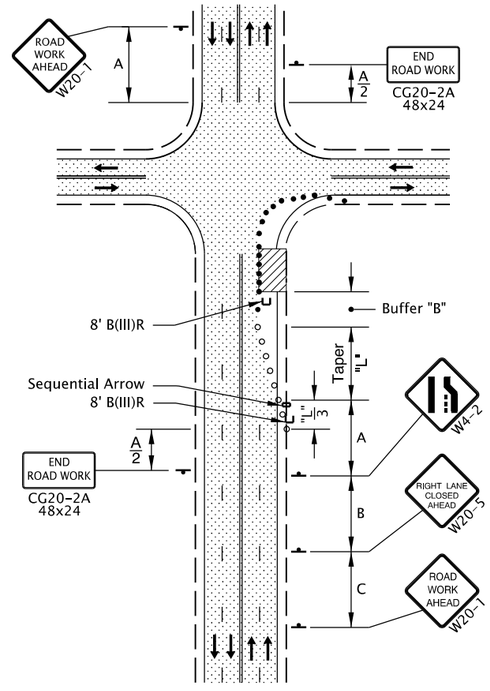
2-Lane, 2-Way
SHOULDER CLOSURE



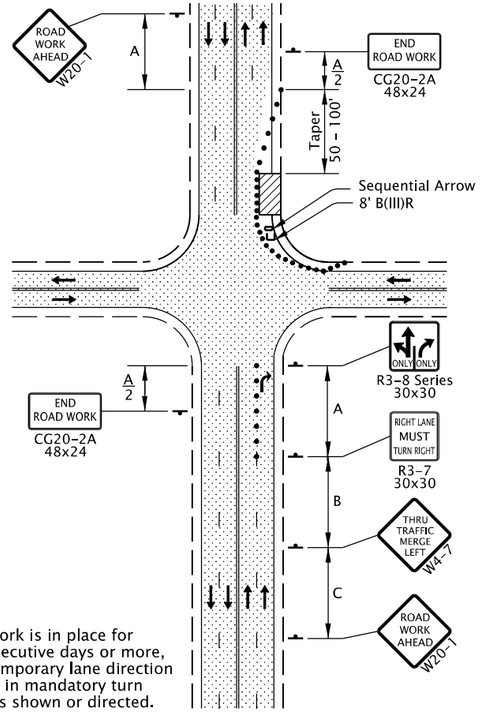
2-LANE, 1-WAY
RIGHT LANE CLOSURE



2-Lane, 2-Way
ONE LANE CLOSURE

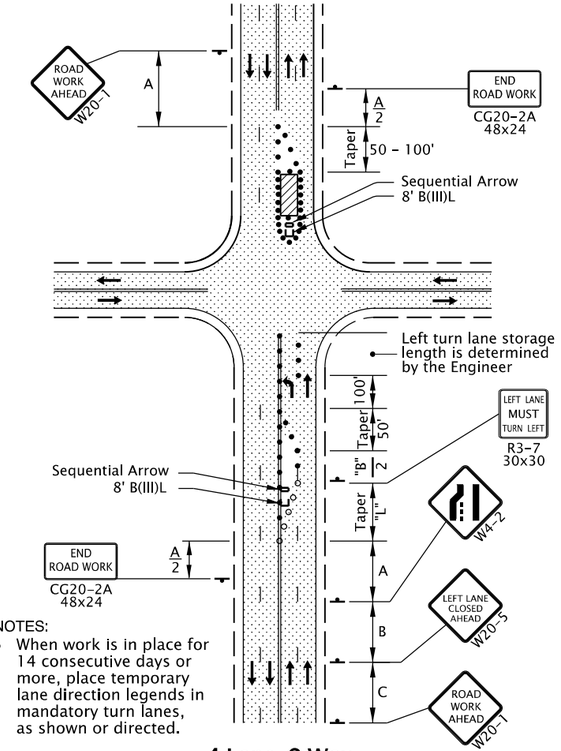


4-Lane, 2-Way
RIGHT LANE CLOSURE, NEAR SIDE



NOTES:
- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

4-Lane, 2-Way
RIGHT LANE CLOSURE, FAR SIDE



NOTES:
- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

4-Lane, 2-Way
LEFT LANE CLOSURE, FAR SIDE

GENERAL NOTES FOR ALL DETAILS:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- The "SIGNAL AHEAD" (W3-3a) sign may be substituted with the signal ahead symbol (W3-3) sign.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Dwg. TM800.
- For left lane or shoulder work, place TCD to close left lane or shoulder. Use "LEFT LANE CLOSED AHEAD" (W20-5) sign, "LEFT LANE ENDS" (W4-2L) symbol sign, or "LEFT SHOULDER CLOSED" (W21-5a) sign, where applicable.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING 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.
- Tubular markers may be used in lane closure tapers where posted speed is 40 mph or less.
- Where shoulder width is limited, Sequential Arrow may be placed within the lane closure taper.
- 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.
- To be accompanied by Dwg. Nos. TM820, TM821, TM840 & TM854.

Automated Flagging Assistance Device (AFAD)

28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

Temp. Plastic Drums See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

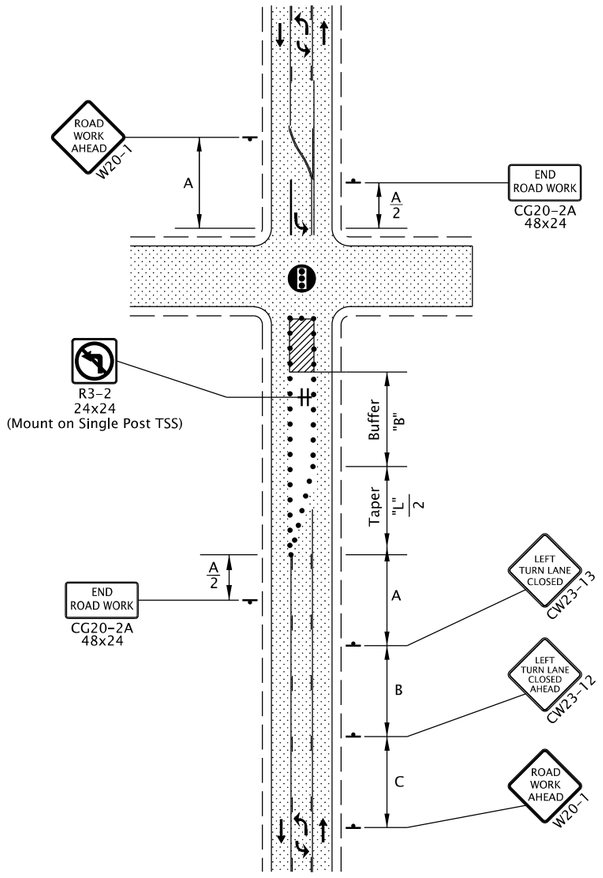
INTERSECTION WORK ZONE DETAILS

2024

DATE	REVISION DESCRIPTION
01-2022	Added AFADs to drawing.
07-2024	Fixed a typo.

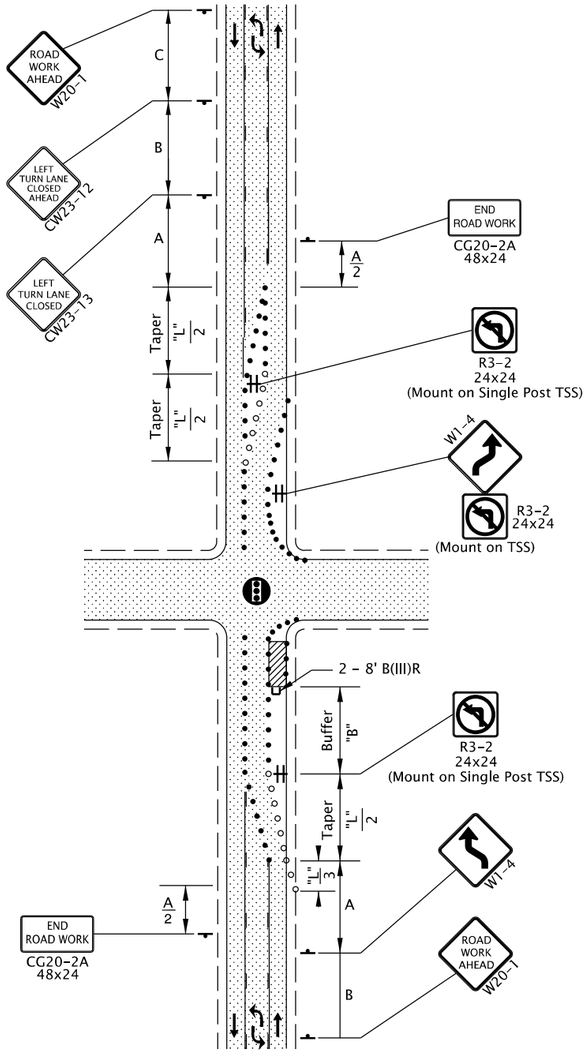
CALC. BOOK NO. N/A | SDR DATE 12-JUL-2024 | **TM841**

Effective Date: June 1, 2025 - November 30, 2025



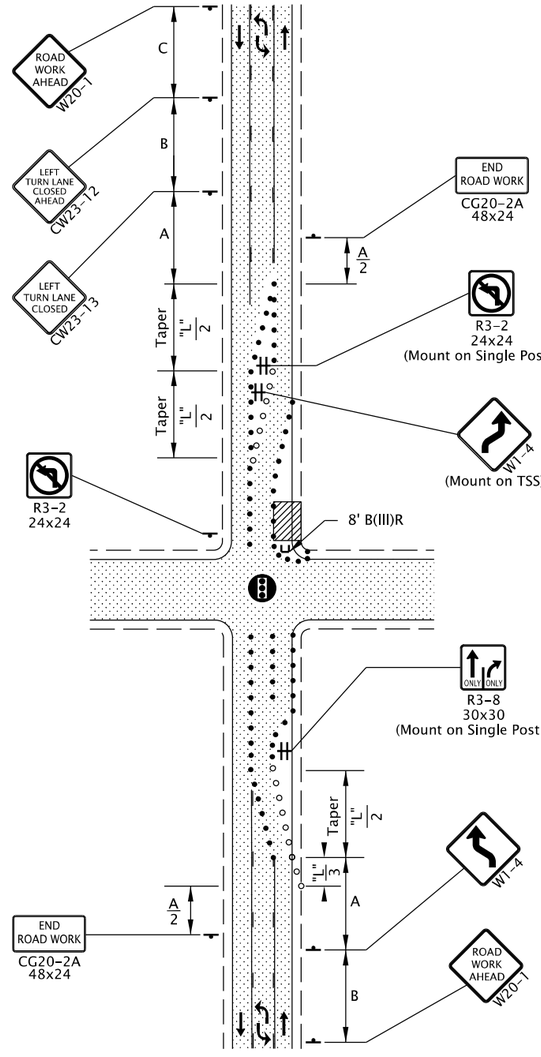
2-Lane, 2-Way Roadway With Left Turn Median

LEFT TURN MEDIAN CLOSURE



2-Lane, 2-Way Roadway With Left Turn Median

RIGHT LANE CLOSURE, NEAR SIDE



2-Lane, 2-Way Roadway With Left Turn Median

RIGHT LANE CLOSURE, FAR SIDE

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 "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.

Signal

28" Tubular Markers
See TCD Spacing Table on TM800 for max. spacing

Temp. Plastic Drums
See TCD Spacing Table on TM800 for max. spacing

UNDER TRAFFIC

UNDER CONSTRUCTION

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SIGNALIZED INTERSECTION DETAILS

2024

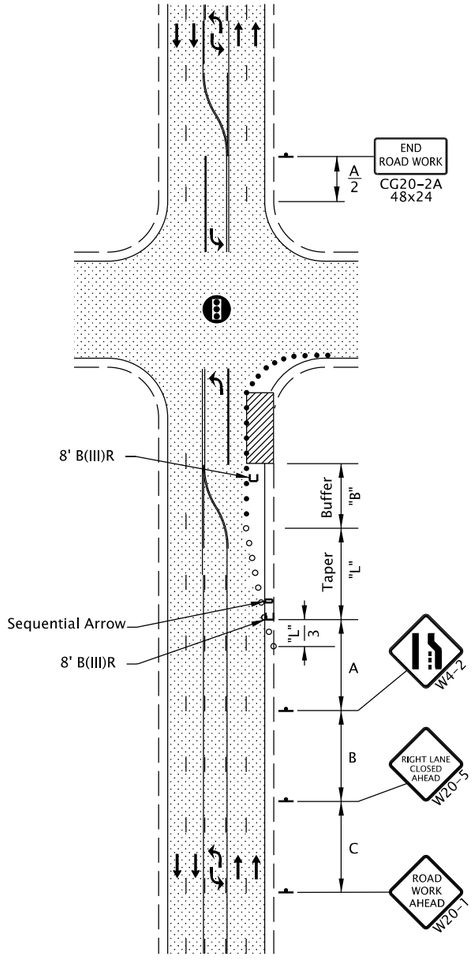
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 19-JAN-2024 | **TM842**

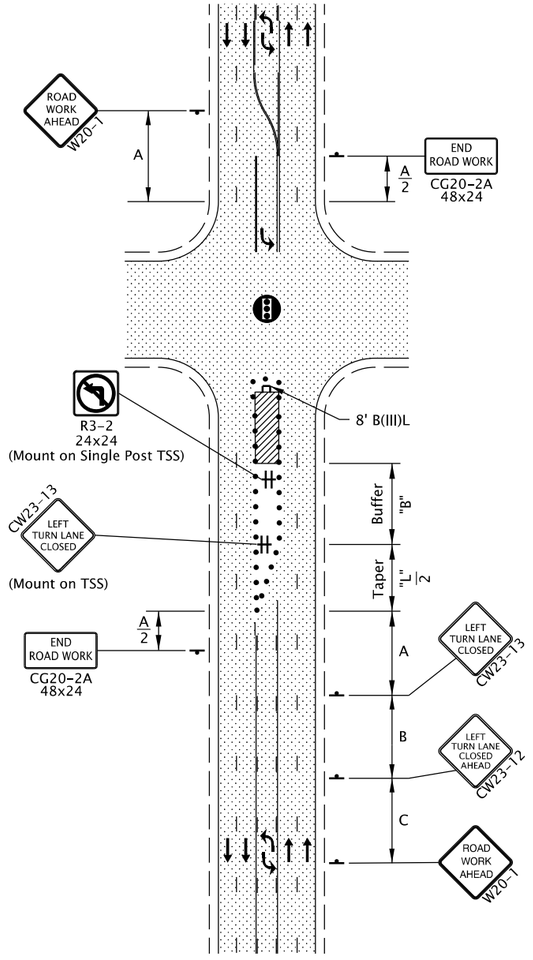
Effective Date: June 1, 2025 - November 30, 2025

01-JUL-2020

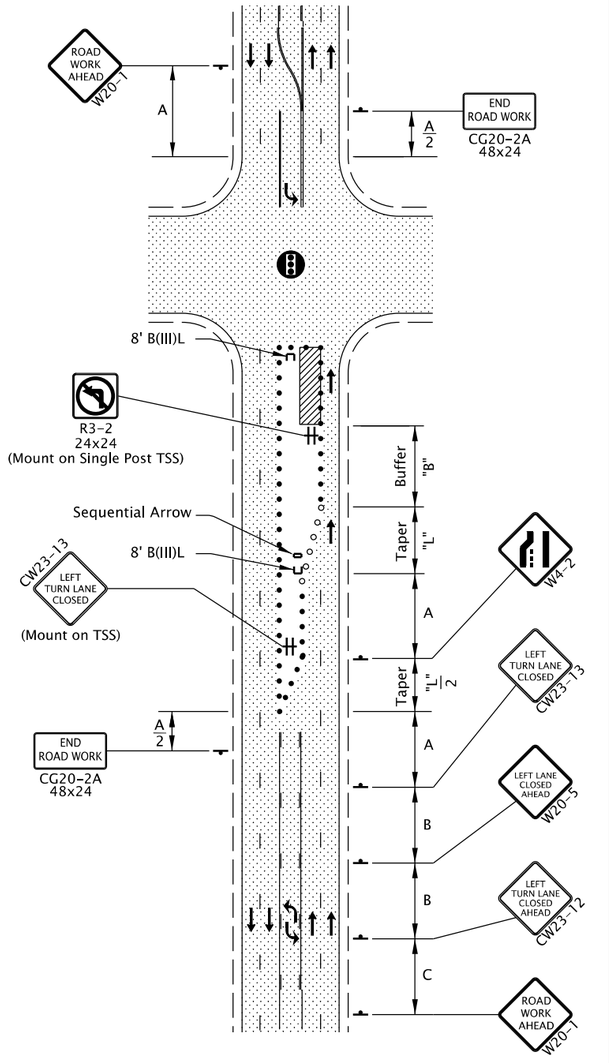
TM843.dgn



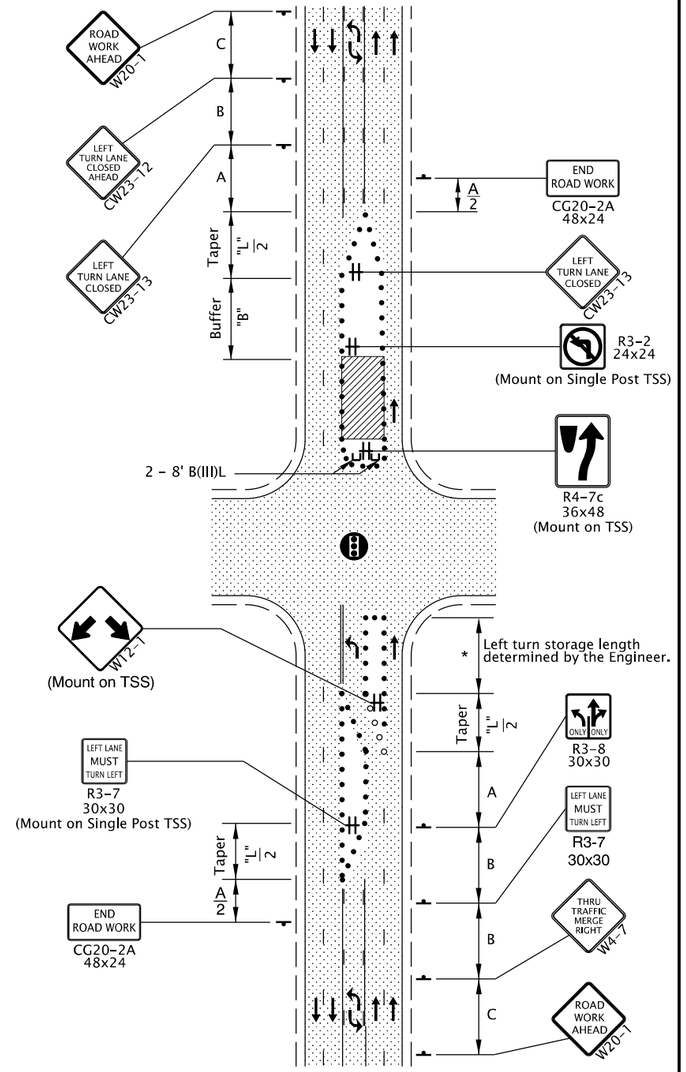
4-Lane, 2-Way Roadway With Left Turn Median
RIGHT LANE CLOSURE



4-Lane, 2-Way Roadway With Left Turn Median
LEFT TURN MEDIAN CLOSURE



4-Lane, 2-Way Roadway With Left Turn Median
LEFT TURN MEDIAN AND LEFT LANE CLOSURE



4-Lane, 2-Way Roadway With Left Turn Median
LEFT TURN MEDIAN & LEFT LANE CLOSURE, FAR SIDE

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.

Signal

28" Tubular Markers
See TCD Spacing Table on TM800 for max. spacing.

Temp. Plastic Drums
See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

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OREGON STANDARD DRAWINGS

MULTI-LANE SIGNALIZED INTERSECTION DETAILS

2024

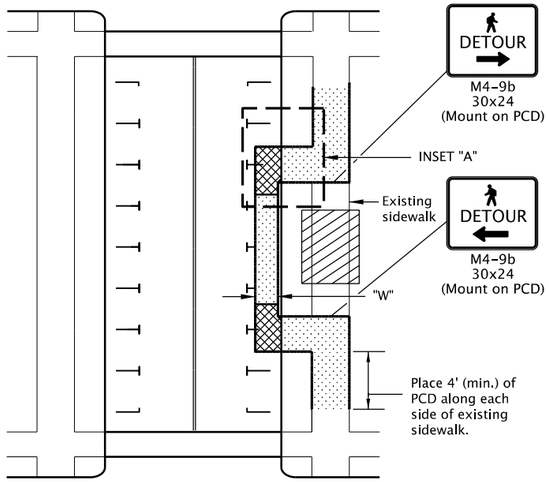
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2020 | **TM843**

Effective Date: June 1, 2025 - November 30, 2025

14-JUL-2023

TM844.dgn



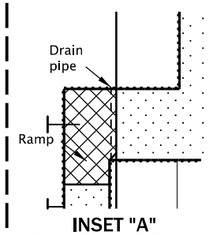
Within Roadway
SIDEWALK DIVERSION

NOTES:

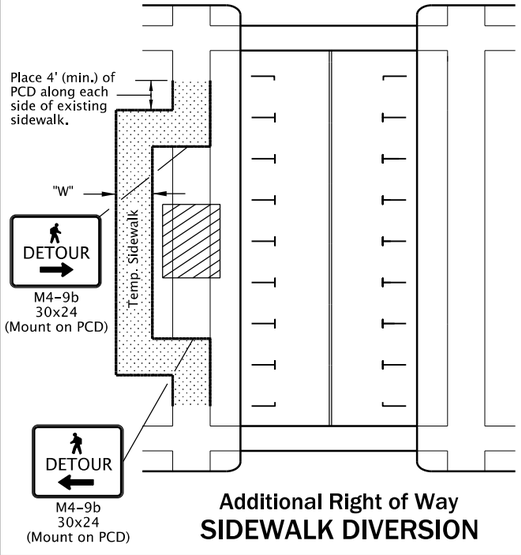
- Place or construct temp. sidewalk ramp, as needed.
- For roadways with a pre-construction posted speed of 40 mph or less.
- See inset "A" for Temp. Sidewalk Ramp details.
- "W" = 60", or, where 60" width cannot be maintained through the entire route, provide 48" min. width with 60" x 60" passing spaces every 200 ft.
- Use temporary ADA compliant surfaces to cross planter strips or other non-traversable surfaces.

NOTES:

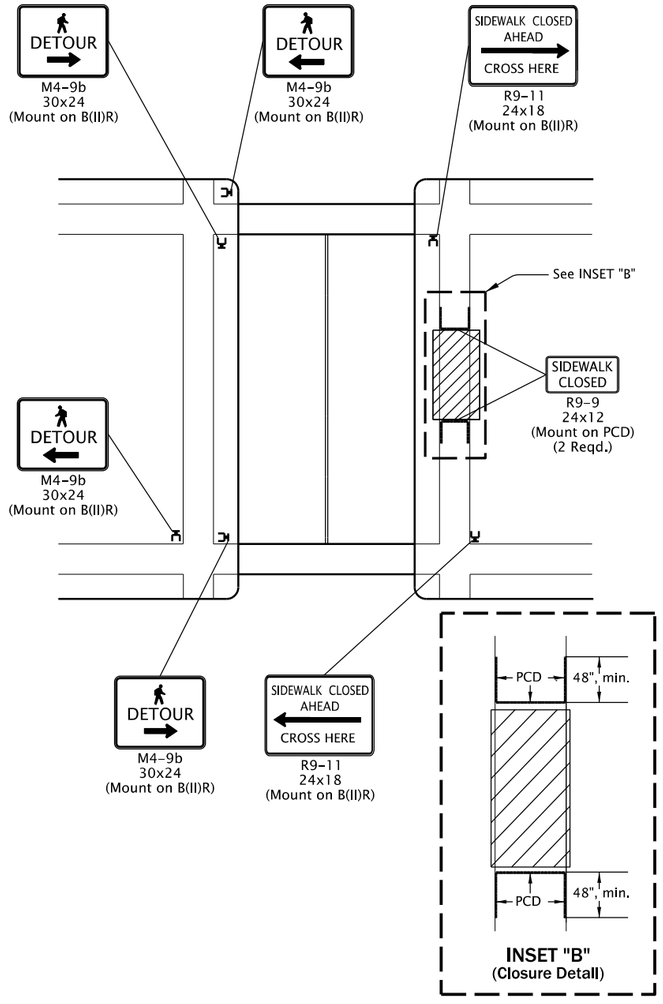
- Ramp size will vary. Ramp must meet ADA requirements incl. max. finished surf. slope of 8.3% and max. finished cross slope of 2.0%.



INSET "A"
(Temp. Sidewalk Ramp)



Additional Right of Way
SIDEWALK DIVERSION

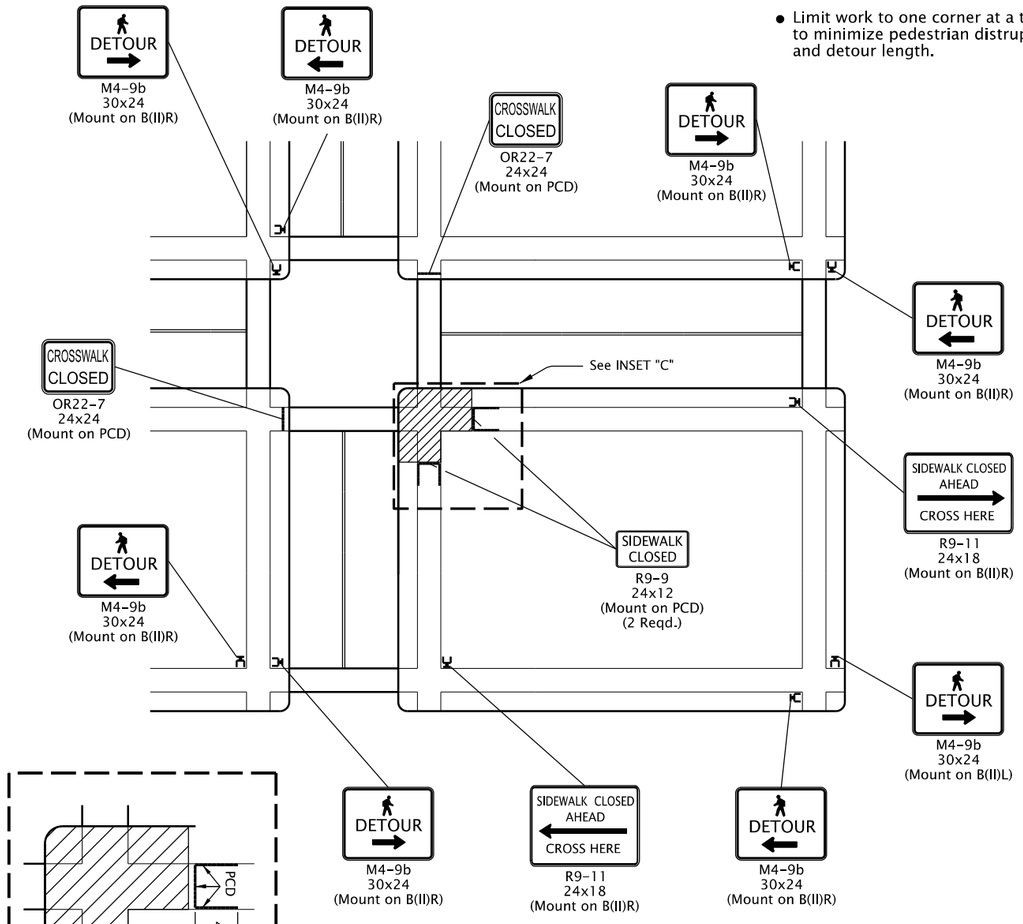


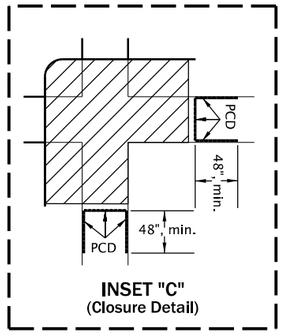
INSET "B"
(Closure Detail)

SIDEWALK CLOSURE, MIDBLOCK

NOTE:

- Limit work to one corner at a time to minimize pedestrian distruption and detour length.





INSET "C"
(Closure Detail)

SIDEWALK CLOSURE, CORNER

GENERAL NOTES FOR ALL DETAILS:

- When closing or relocating crosswalks or other pedestrian facilities provide ADA compliant facilities. Include accessibility features consistent with existing pedestrian facilities by providing adequate slope transitions and surfacing.
- Provide non-slip, 60 inch minimum wide surface through entire pedestrian route. If not possible, provide 48" min. width with 60" x 60" passing spaces every 200 feet along the route.
- Only TCD for pedestrians are shown. Other devices may be necessary to control vehicular traffic.
- Stage work, as necessary, to provide a temporary pedestrian access route at all times. For roadways with no available detours, maintain one open sidewalk at all times.
- Minimize pedestrian out-of-direction travel.
- To be accompanied by Dwg. Nos. TM820 & TM821.

UNDER PEDESTRIAN TRAFFIC

UNDER CONSTRUCTION

PEDESTRIAN CHANNELIZING DEVICE (PCD)

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TEMPORARY PEDESTRIAN ACCESSIBLE ROUTES

2024

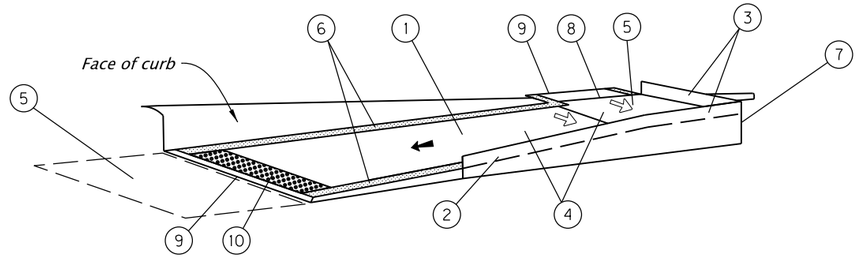
DATE	REVISION DESCRIPTION
DATE	REVISION DESCRIPTION
01-2022	Revised notes for temporary sidewalk ramp.
07-2023	OR22-8 signs were replaced with OR22-7 signs.

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **TM844**

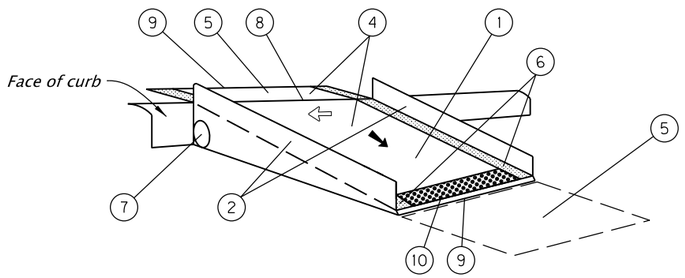
Effective Date: June 1, 2025 - November 30, 2025

14-JUL-2023

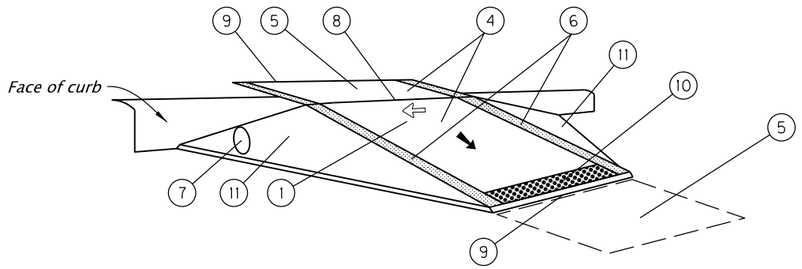
TM845.dgn



TEMPORARY CURB RAMP, PARALLEL TO CURB



WITH PROTECTIVE EDGE



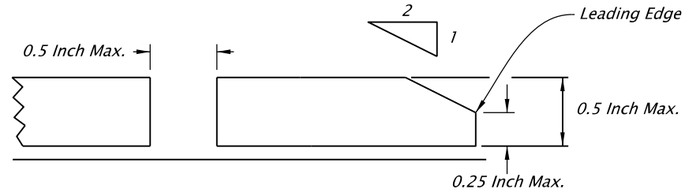
WITH SIDE FLARES

TEMPORARY CURB RAMP, PERPENDICULAR TO CURB

GENERAL CONSTRUCTION NOTES:

1. *Clear width shall be greater than or equal to 48 inches. The curb ramp surface shall be firm, stable and slip-resistant. The ramp surface shall have a 8.3% max. finished surface slope.*
2. *Detectable edging with a min. 6 inch height shall be placed along the ramp run when there is a vertical drop exceeding 6 inches or is adjacent to a slope exceeding 1:3 (v:h).*
3. *Detectable edging with 6 inch min. height and contrasting color shall be placed on all turning spaces where the walkway changes direction.*
4. *Curb ramps and turning spaces shall have a 2.0% max. finished cross slope.*
5. *Clear space of 48 inch x 48 inch or greater shall be provided above and below the curb ramp.*
6. *The curb ramp walkway edge shall be marked with a contrasting color, 4 inch wide stripe. The marking is optional where contrasting detectable edging is used.*
7. *Provide an approved means to prevent water from accumulating at the bottom of the ramp, or overflowing onto the ramp surface.*
8. *Lateral joints or gaps between surfaces shall be less than 0.5 inch wide. Surface slopes that meet at grade break shall be flush. See edge treatment detail.*
9. *Changes between surface heights shall not exceed 0.5 inch. Lateral edges should be vertical up to 0.25 inch high, and beveled at 1:2 (v:h) between 0.25 inch and 0.5 inch height. See edge treatment detail.*
10. *Install a min. 2 ft wide detectable warning surface at pedestrian street crossings. Omit detectable warning surfaces at end of sidewalk transitions that are not at a crosswalk.*
11. *Side flares where provided shall have 10% max. slope.*
12. *The curb ramp surface shall be capable of supporting a min. surface load of approximately 800 pounds.*
13. *The curb ramp shall be either self-balasting or include an anchoring system capable of keeping the platform stationary under pedestrians traffic including motorized wheelchairs.*
14. *The curb ramp platform shall be free of sharp or rough edges or abrasive elements that may harm pedestrians.*

Max. 8.3% surface slope | *Max. 2.0% surface slope* | *Detectable warning surface*



EDGE TREATMENT DETAIL

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 first consulting a Registered Professional Engineer.

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OREGON STANDARD DRAWINGS

TEMPORARY SIDEWALK RAMPS

2024

DATE	REVISION DESCRIPTION
07-2023	NEW DRAWING CREATED

CALC. BOOK NO. N/A | SDR DATE 14-JUL-2023 | **TM845**

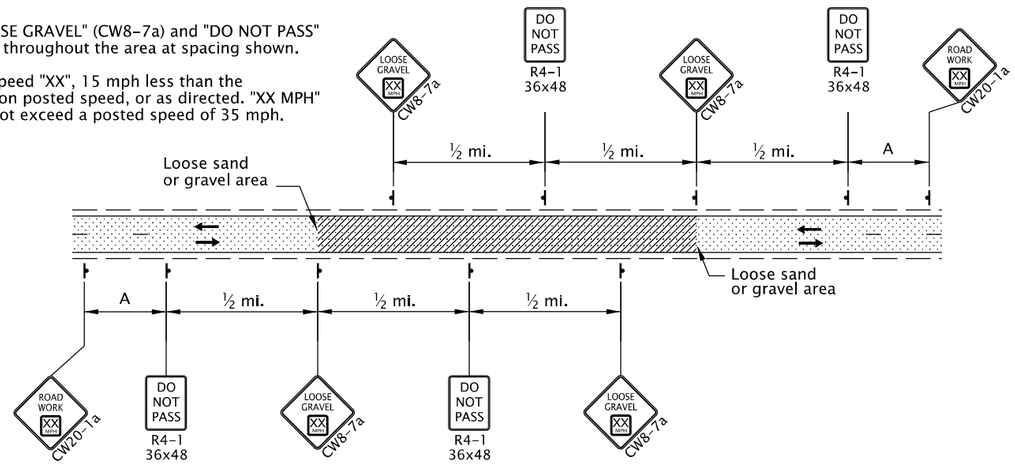
Effective Date: June 1, 2025 - November 30, 2025

01-JUL-2022

TM850.dgn

NOTE:

- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
- Use advisory speed "XX", 15 mph less than the pre-construction posted speed, or as directed. "XX MPH" placard shall not exceed a posted speed of 35 mph.

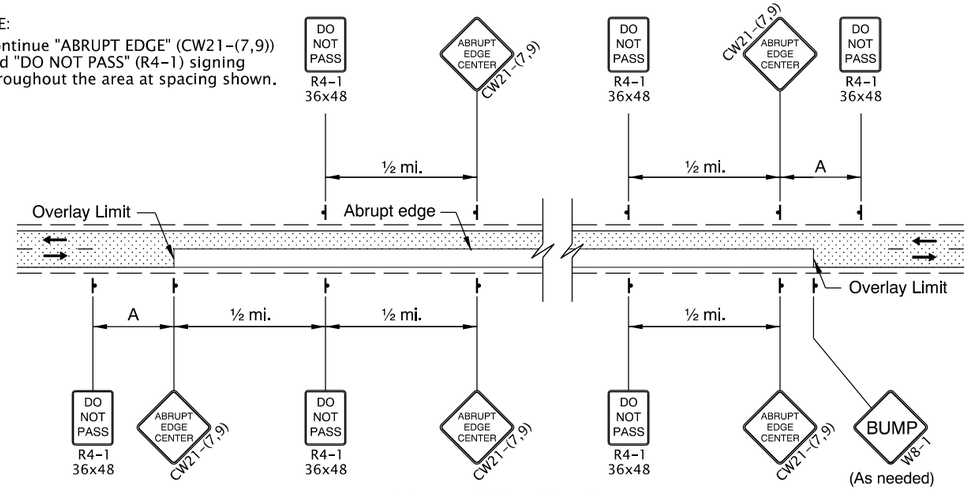


2-Lane, 2-Way Roadway

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.

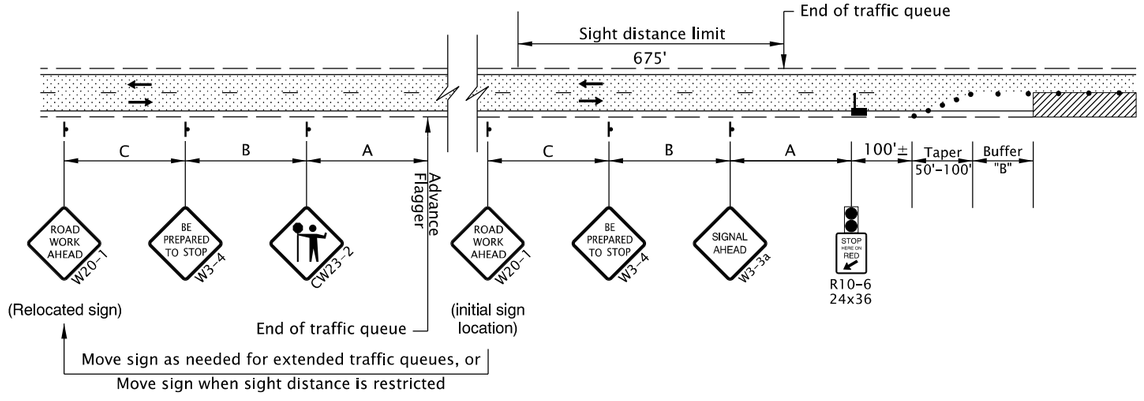


2-Lane, 2-Way Roadway

OVERLAY AREA SIGNING

NOTES:

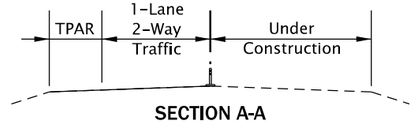
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional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



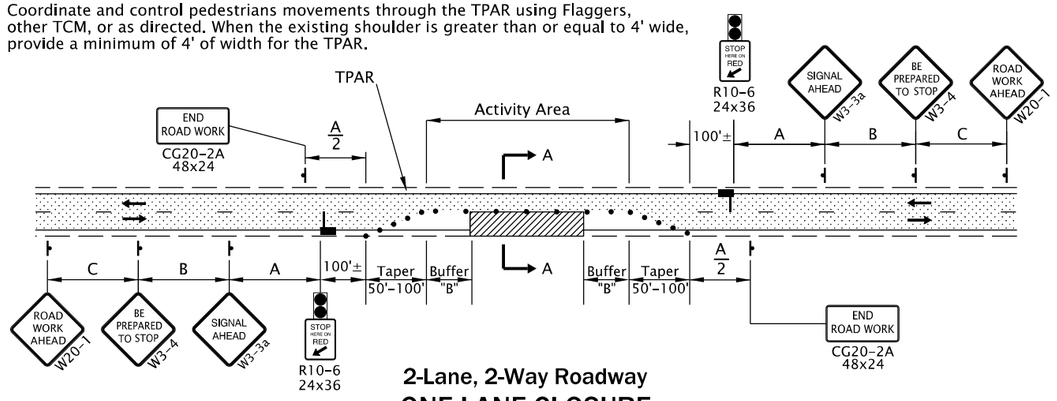
ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

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 "WAIT FOR FLAGGER" (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.



SECTION A-A



2-Lane, 2-Way Roadway

ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

- The "SIGNAL AHEAD" (W3-3a) sign may be substituted with the Signal Ahead (W3-3) symbol 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 Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. 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.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820, TM821 & TM854.

Automated Flagging Assistance Device (AFAD)

• • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

• • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

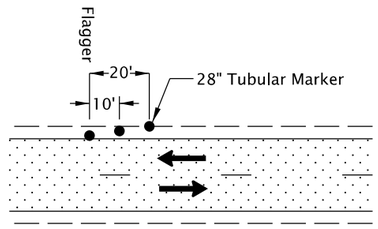
UNDER TRAFFIC

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

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

DATE	REVISION DESCRIPTION
01-2022	Added AFADs to drawing.

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2022 | **TM850**

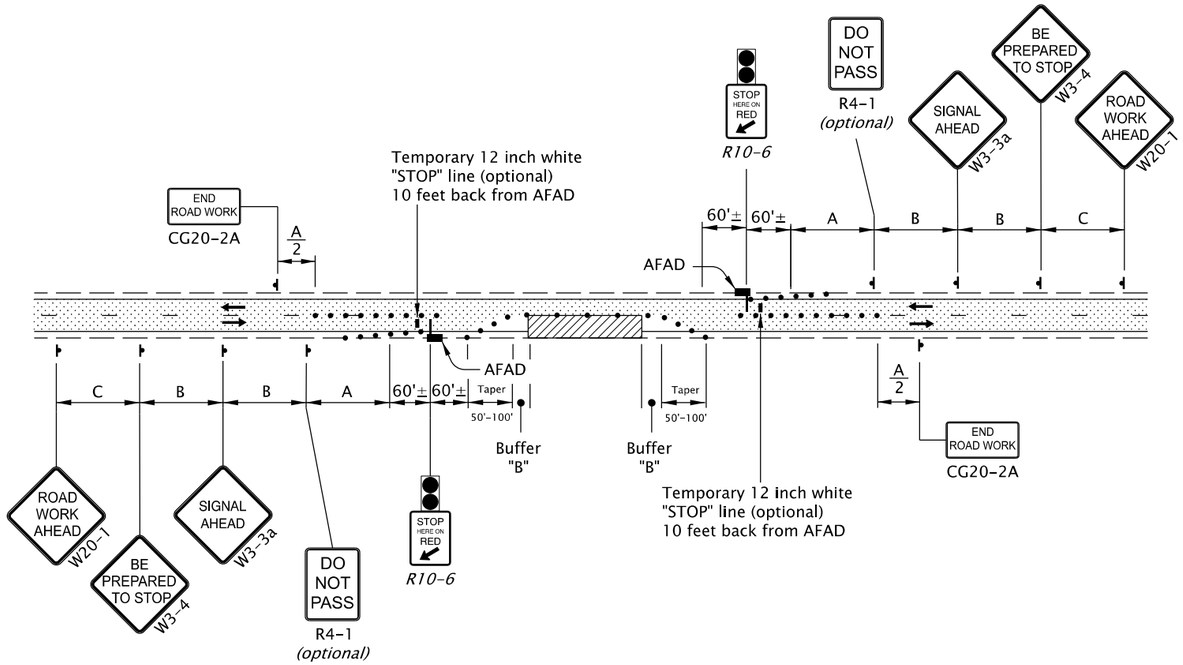
Effective Date: June 1, 2025 - November 30, 2025

14-JUL-2023

TM854.dgn

NOTES:

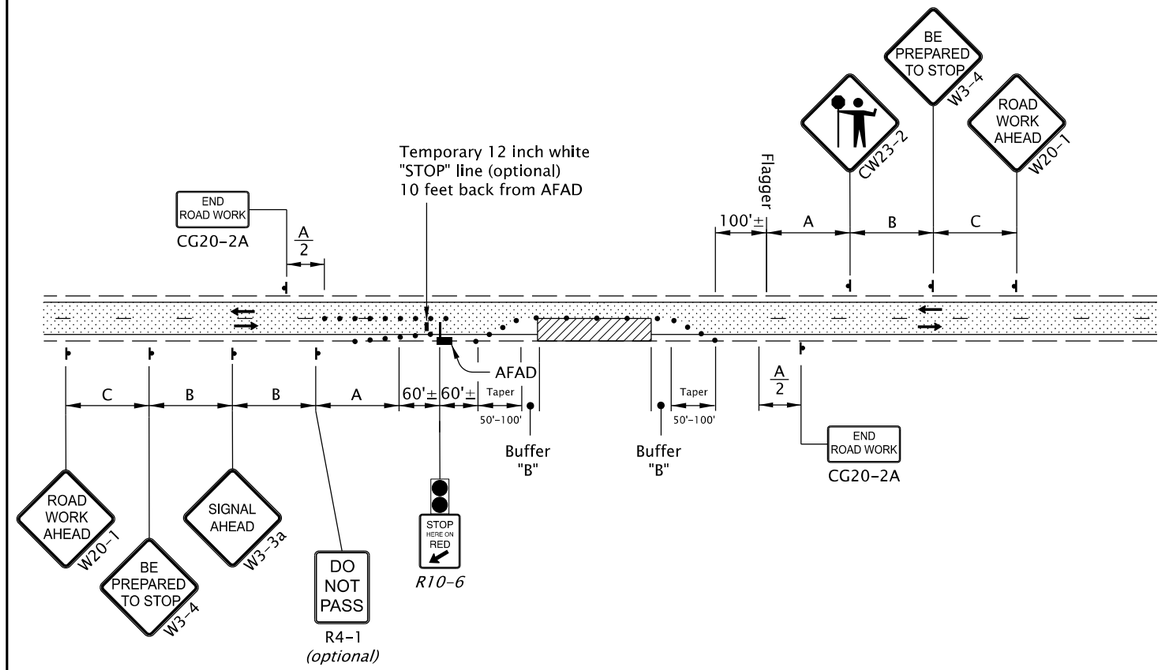
- An AFAD operator shall be provided for each AFAD. A single operator may not simultaneously operate two AFADs.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, TWO AFADs

NOTES:

- The AFAD operator shall not flag traffic and operate an AFAD at the same time.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, ONE AFAD & ONE FLAGGER

GENERAL NOTES FOR ALL DETAILS:

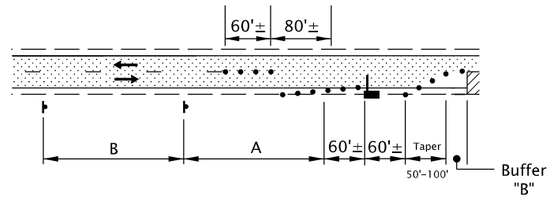
- Flagger station shall be delineated according to "FLAGGER STATION" detail shown on Standard Drawing TM800
- Bottom of lens housing shall be a minimum of 7 ft. above surface when mounted on shoulder and at least 17 ft. above any portion of the travel lane.
- The gate arm shall cover at least one half of the approaching vehicle travel lane.
- Signing and other TCD installed in conjunction with the work area, shall move with the work area.
- Use 1/3 "L" taper for shoulder closure, where necessary.
- For Taper Length ("L") and Buffer Length ("B") shown on this sheet, use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- The AFAD operator shall be a certified flagger who has been trained in the operation of the AFAD in use.
- Operator shall operate AFAD from a designated area. Designated area should maintain visual presence of the AFAD and should be at least 50' away from the AFAD and have an escape route available for the operator.
- Remove existing striping and install temporary striping as required.
- See "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800 for sign spacing A, B, and C.
- Cover existing passing lane signing (as directed)
- When extended traffic queues develop during AFAD operations, protect traffic by providing advance flaggers(s) and signing according to the "Extended Traffic Queues Detail" shown on Standard Drawing TM850.
- When AFAD is not in use for less than one work shift, turn off AFAD, or switch YELLOW lens to flashing mode, and cover or remove all accompanying signing.
- When AFAD is not in use for longer than one work shift, remove AFAD and all accompanying signing from the roadway.
- Do not use the AFAD to control more than one lane of approaching traffic.
- Use temporary pavement markings or a white portable rumble strip for temporary stop line. Remove temporary stop line when AFAD is no longer in use.
- Tubular markers along centerline placed in advance of AFAD to first sign are optional, unless the DO NOT PASS sign is used.

Automated Flagger Assistance Device (AFAD)

• • • • • 28" Tubular Markers
See TCD spacing table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION



OVER-DIMENSIONAL VEHICLE ACCOMMODATION DETAIL

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO.	SDR DATE	
N/A	14-JUL-2023	**TM854**

Effective Date: June 1, 2025 - November 30, 2025