



DO NOT USE ON PRIMARY ROADWAYS



ALLOWABLE BURY DEPTH

CLASS IV RCP

CLASS III RCP

Pipe Diameter	Class R-1	Class R-2	Clas	s R-3 & R-4 Be	dding
(in)	Bedding	Bedding	No Steel	As=0.4%	As=1.0%
12	7'	10'	15'	19'	27'
15	8'	10'	16'	19'	27'
18	8'	11'	16'	20'	40'
21	8'	11'	18'	26'	40'
24	8'	12'	23'	36'	40'
27	10'	15'	30'	40'	40'
30	11'	15'	29'	40'	40'
33	11'	15'	28'	40'	40'
36	11'	15'	27'	40'	40'
42	11'	15'	26'	38'	40'
48	11'	15'	26'	36'	40'
54	11'	15'	25'	34'	40'
60	11'	15'	25'	33'	40'
66	11'	15'	24'	32'	40'
72	11'	15'	24'	32'	40'
As = Area of S	teel Reinforcin	g			•

Plpe Dlameter	Class R-1	Class R-2	Class R-3 & R-4 Bedding					
(in)	Bedding	Bedding	No Steel	As=0.4%	As=1.0%			
12	12'	15'	23'	28'	40'			
15	12'	16'	23'	30'	40'			
18	13'	16'	29'	40'	40'			
21	13'	18'	40'	40'	40'			
24	16'	23'	40'	40'	40'			
27	19'	30'	40'	40'	40'			
30	19'	29'	40'	40'	40'			
33	19'	28'	40'	40'	40'			
36	19'	28'	40'	40'	40'			
42	18'	27'	40'	40'	40'			
48	18'	26'	40'	40'	40'			
54	18'	25'	40'	40'	40'			
60	18'	25'	40'	40'	40'			
66	18'	25'	40'	40'	40'			
72	18'	24'	40'	40'	40'			

CLASS V RCP

Pipe Diameter	Class R-1	Class R-2	Clas	s R-3 & R-4 Be	dding
(in)	Bedding	Bedding	No Steel	As=0.4%	As=1.0%
12	18'	23'	35'	40'	40'
15	19'	24'	40'	40'	40'
18	19'	30'	40'	40'	40'
21	25'	40'	40'	40'	40'
24	34'	40'	40'	40'	40'
27	40'	40'	40'	40'	40'
30	40'	40'	40'	40'	40'
33	40'	40'	40'	40'	40'
36	40'	40'	40'	40'	40'
42	37'	40'	40'	40'	40'
48	35'	40'	40'	40'	40'
54	33'	40'	40'	40'	40'
60	32'	40'	40'	40'	40'
66	31'	40'	40'	40'	40'
72	31'	40'	40'	40'	40'
As = Area of S	teel Reinforcin	g			

EXTRA STRENGTH VCP

CONCRETE ARCH PIPE

HORIZONTAL ELLIPTICAL RCP

VERTICAL ELLIPTICAL RCP

				Bedding Cis								1									
	Plpe						Pipe Size	Equiv.	Plpe	Class	Pipe Size	Equiv.	Pipe	Class	Pipe Size	Equiv.		Pipe	Class		
	(in)	R-1	R-2		R-3& R-4		(in x in)	(in)			(in x in)	(In)	HE-III	HE-IV	(in x in)	(In)	VE-III	VE-IV	VE-V	VE-VI	
				No Steel	As=0.4%	6 As=1.0%			A-III	A-IV	14 x 23	18	10'	221	23 × 14	19	10'	15'	22'	33'	
	6	25'	30'	30'	30'	30'	18 x 11	15	6'	11'	14 × 25	10	12	22	23 × 14	10	10	10	22		
	8	20'	26'	30'	30'	30'	22 x 13	18	6'	11'	19 x 30	24	15'	29'	30 x 19	24	10'	16'	34'	40'	
	10	18'	23'	30'	30'	30'	26 x 15	21	6'	13'	22 x 34	27	15'	28'	34 x 22	27	11'	20'	40'	40'	
	12	16'	20'	30'	30'	30'	29 x 18	24	7'	15'	24 x 38	30	15'	27'	38 x 24	30	12'	23'	40'	40'	
	15	15'	19'	28'	30'	30'	36 x 22	30	8'	15'	27 x 42	33	15'	27'	42 x 27	33	15'	30'	40'	40'	
Fic	18	14'	18'	30'	30'	30'	44 x 27	36	8'	14'	29 x 45	36	15'	26'	45 x 29	36	15'	29'	40'	40'	
Ϋ́	21	15'	22'	30'	30'	30'	51 x 31	42	8'	15'	32 x 49	39	15'	26'	49 x 32	39	15'	29'	40'	40'	
Ĩ	24	18'	28'	30'	30'	30'	51 × 51	48	8'	15'	34 x 54	42	15'	25'	54 x 34	42	15'	28'	40'	40'	
301	24	10	20	30	30		56 X 30	40	0	15	38 × 60	48	15'	25'	60 x 38	48	15'	27'	40'	40'	
0	2/	20	30	30	30	30	65 X 40	54	0	15	43 x 68	54	15'	24'	68 x 43	54	15'	27'	40'	40'	EIGUDE 2010 102 STANDARD BOAD BLAN SW-102
02	30	19'	29	30'	30'	30	73 x 45	60	8.	14'	48 x 76	60	15'	24'	76 x 48	60	15'	26'	40'	40'	SHEET 2 of 2
	33	20'	30'	30'	30'	30'	88 x 54	72	9'	14'	-10 × 10	00	15	24	0252	60	451	25	40	40'	REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.
ş	36	20'	30'	30'	30'	30'	Based on Cla	ss R-5 bed	ding		53 X 83	66	15	24'	83 X 53	66	15	25	40	40	Der III I II-Mili
面	39	19'	29'	30'	30'	30'					58 x 91	72	15'	24'	91 x 58	72	15'	25'	40'	40'	SUDAS DIRECTOR DESIGN METHODS ENGINEER
4	42	18'	26'	30'	30'	30'					63 x 98	78	15'	23'	98 x 63	78	15'	25'	40'	40'	, i i i i i i i i i i i i i i i i i i i
2 C	As = Are	ea of Stee	el Reinfo	rding							68 x 106	84	15'	23'	106 x 68	84	15'	24'	40'	40'	RIGID GRAVITY PIPE
)F 2]					Based on Clas	s R-5 bedo	ing		Based on Cl	ass R-5 bedo	ding				TRENCH BEDDING



DO NOT USE ON PRIMARY ROADWAYS





CONCRETE COLLAR FOR PIPES 12" AND SMALLER

1 Lap ends of wire mesh a minimum of 6 inches.

- (2) Concrete collar is required when annular space between the outside of the pipe and the wall of the structure is 2 inches or greater.
- (3) Provide two #4 hoop bars in concrete collar. Lap bars a minimum of 6 inches.
- (4) Trowel concrete flush with inside wall of structure.

3URE 4020.211	
SHEET 1 OF	

PIPE TO STRUCTURE CONNECTION

		REV 2	04-17-18	
FIGUPE 4020 211		SW-211		
REVISIONS: Removed 'Inv lowa DOT and	ert' callout on Pipe to Structure Vie d SUDAS logos with new logos.	SHEE w. Retitled an	T 1 of 1 d replaced old	
Rue D. L SUDAS DIREC	Vigand Bria	n dm	ith_	
	•			

REINFORCING BAR LIST

	D	W	Mark	Size	Length	Count	D	W	Mark	Size	Length	Count
	401	01.41	4f1	4	2'-0"	3	401	71.4.01	4f1	4	7'-6"	3
	12	2-4	4f2	4	3'-8"	2	48	7-10	4f2	4	3'-8"	6
	15"	21 10 1/1	4f1	4	2'-6 ½"	3	E 4"	0' 5"	4f1	4	8'-1"	3
7	15	2-10 /2	4f2	4	3'-8"	2	54	C-0	4f2	4	3'-8"	6
2	10"	2' 5"	4f1	4	3'-1"	3	60"	0' 1 1''	4f1	4	8'-7"	3
į	10	3-5	4f2	4	3'-8"	3	60	8-11	4f2	4	3'-8"	6
5	24"	4' C"	4f1	4	4'-2"	3	66"	0' 1 1''	4f1	4	8'-7"	3
	24	4-0	4f2	4	3'-8"	3	00	0-11	4f2	4	3'-8"	6
	20"	E! 7"	4f1	4	5'-3"	3	70"	10' 0"	4f1	4	9'-8"	3
	30	5-7	4f2	4	3'-8"	4	12	10-0	4f2	4	3'-8"	7
	26"	6' 0"	4f1	4	6'-4"	3	70"	10' 7"	4f1	4	10'-3"	3
i	30	0-0	4f2	4	3'-8"	5	18	10-7	4f2	4	3'-8"	7
	40"	7' 2"	4f1	4	6'-11"	3	0.4"	111 11	4f1	4	10'-9"	3
í	42	1-3	4f2	4	3'-8"	5	04	-	4f2	4	3'-8"	8

SUDAS Standard Specifications

RCP APRON SECTION FOOTING

Extend thrust blocks to undisturbed soil. Excavation into trench wall may be necessary.

Form vertical surfaces of poured concrete thrust blocks except on bearing surface.

Encase all fittings in polyethylene wrap. Do not allow concrete to directly contact

Blamotor of			BEARING	3 SURFA	CE (sf)	
Plpe, D		Bei	nds		Tees	and
(inches)	11 ¹ / ₄ °	22 ¹ ⁰	45 ⁰	90 ⁰	Dead	Ends
4	1	1	2	4	3	
6	1	2	4	8	6	
8	2	4	7	14	10)
10	3	6	11	21	15	5
12	4	8	16	29	21	1
14	5	11	21	39	28	3
16	7	14	27	50	36	6
18	9	17	34	63	45	5
20	11	21	42	78	55	5
24	15	31	60	111	78	3
30	24	47	92	171	12	0
36	34	67	132	244	17	3
		-				
						REVISI
	Tab	SUDA	.s Ø	IOWA	DOT	REVISI 1
	FIGU	> SUDA			DOT	nevisi 1 WM-
	FIGU	> SUDA	.S 🚱 1 STAN	IOWA Idard Roa	DOT D PLAN	REVISI 1 WM- SHEET
	FIGU REVISIO	SUDA	LS O 1 STAN	IOWA IDARD ROA	DOT D PLAN cos with new	REVISI 1 WM- SHEET logos.
	FIGU	SUDA		IOWA IDARD ROA Ind SUDAS log and	DOT D PLAN os with new Brian DESIGN ME	REVISI 1 WM- SHEET logos. *. & meint



Figure 6010.306

RESERVED FOR FUTURE USE















FIGURE 6010.403 SHEET 2 OF













^{*}Place a minimum of one w1 bar above each pipe opening

~ 우 30" or smaller 4

SHALLOW RECTANGULAR STORM SEWER MANHOLE









Refer to SW-514 for boxout details.



FIGURE 6010.504 SHEET 10F









Maximum pipe diameters are set based on maximum structure depth of 6 feet-6 inches and the objective of placement of the centerline of the pipe on the centerline of the manhole opening for maintenance purposes.

Refer to SW-514 for boxout details.

- (1) Install four #4 diagonal bars at manhole opening and at all pipe openings.
- (2) If Wall 1 is widened to 4 feet, the maximum pipe diameter can be increased to 36 inches.
- (3) If Wall 1 is widened to 4 feet, the maximum pipe diameter in Wall 3 can be increased to 42 inches.

MAXIMUM PIPE DIAMETERS			
Wall	Max. Dia		
1	30" (2)		
2	24"		
3	36" (3)		
4	42"		

		REVISION		
SUDAS		4	04-21-20	
		SW-506		
FIGURE 6010.506	STANDARD ROAD PLAN			
		SHEET 1 of 2		
REVISIONS: Added Class I Bedding Material.				
Paul D. Wiegand Stront Mide-				
SUDAS DIRECTOR (] DESIGN METHODS ENGINEER				
DOUBLE GRATE INTAKE WITH MANHOLE				






























Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.

Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

- Construct inlet openings with 15 inch #4 epoxy coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.
- (2) Grade to inlet elevation on open sides. Grade to top elevation on closed sides.
- (3) Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15 inch #4 bar in pier.
- (4) Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15 inch #4 bar in pier.
- (5) Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.
- (6) Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
- (7) Install four #4 diagonal bars at all pipe openings.
- (8) 12 inch minimum wall height above all pipes.

























1 6 inches or same as thickness of adjacent pavement, whichever is greater.

(2) Linear Trench Drain.

- (3) For joint details, see PV-101.
- (4) Slope same as adjacent pavement.
- (5) Width as determined by manufacturer. Minimum 6 inches.
- (6) Standard or sloped curb. For curb details, see PV-102.
- (7) Minimum thickness same as thickness of adjacent pavement or curb width, whichever is greater.



(1) 39 inches when attaching the SW-542 extension unit.

(2) 37 inches when attaching the SW-542 extension unit.

(3) Additional keyed construction joint when attaching the SW-542 extension unit.







PLAN (SW-542 EXTENSION AND SW-541 INTAKE) Extension unit may be used on either or both sides of SW-541 intakes. Details are similar when extension unit is on the opposite side.

- (1) g3 for 6 inch standard curb; g5 for 4 inch sloped curb.
- (2) c1 for 6 inch standard curb; c2 for 4 inch sloped curb. See SW-541 for reinforcing.

③ The location station is where the centerline of intake meets the back of the curb line.

Placing sequence:	1. Base;	2. Walls and Extension	, 3 Top;	4. Insert
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SPACING	WEIGHT	LENGTH	NO.	SHAPE	LOCATION	SIZE	BAR
9"	5.0	2'-6"	3	_	Intake Wall	4	b2
9"	9.5	4'-9"	3		Bottom	4	f1
18"	4.2	1'-7"	4	—	Bottom	4	f2
12"	Varies*	Varies*	5		Wall	4	g1
-	3.1	4'-8"	1		Wall	4	g2
18"	Varles**	Varles**	4	Γ	Тор	4	g3
-	12.7	6'-4"	3		Тор	4	g4
18"	Varies**	Varies**	4		Тор	4	g5

b2 / 15"	93**
D=4"	x - D=4"
$ \begin{array}{c c} g1^* & \frac{x}{10^{\circ}} \\ & 12^{\circ} \\ \hline & 12^{\circ} \\ \hline & 14^{\circ} \\ 16^{\circ} \\ 18^{\circ} \\ \end{array} \\ Provide one of each length \\ \end{array} $	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$



	REVISION						
	5	10-20-20					
	OWNE 40						
FIGURE 6010.542	STANDARD ROAD PLAN	388-342					
		SHEET	۲1 of 4				
REVISIONS: Removed Interim from standard.							
Poul D. Wigand Stront Mide-							
SUDAS DIRECTOR / DESIGN METHODS ENGINEER							
EXTENSION UNIT FOR							
OPEN-THROAT CURB							
INTAKE UNDER PAVEMENT							












































- (19) Use 18 inch long dowel bars with a tolerance of $\pm 1/8$ inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch
- 20 Use wires with a minimum tensile strength of 50 ksi.
- (21) Details apply to both transverse contraction and expansion joints.
- (22) Weld alternately throughout.

Diameter

(Tubular)

<u>7</u>"

1<u>3</u>"

1<u>5</u>"

1<u>5</u>"

Diameter

(Solid)

<u>3</u>" 4

1<u>1</u>"

1<u>1</u>"

1<u>1</u>"

- (23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.
- (24) Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
- (25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
- 26 Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
- (27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
- 28 Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

	-	REVISION			
SUDAS		11	04-19-22		
FIGURE 7010.101	STANDARD ROAD PLAN	80-101			
		SHEET 6 of 8			
REVISIONS: Modified circle note 32.					
Proce D. Wigand Stront Mide					
SUDAS DIRECTOR DESIGN METHODS ENGINEER					
JOINTS					



- (19) Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.
- 20 Use wires with a minimum tensile strength of 50 ksi.
- ② Details apply to both transverse contraction and expansion joints.
- 22 Weld alternately throughout.
- (23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.
- Aximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
- (25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
- (26) Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
- (27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
- (28) Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.
- (29) Clip and remove center portion of tie during field assembly.
- (30) 1/4 inch diameter wire.

		REVISION				
SUDAS		11	04-19-22			
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FIGURE 7010.101 STANDARD ROAD PLAN		PV-101				
		SHEET 7 of 8				
REVISIONS: Modified circle note 32.						
Prue D. Wigand Stront Mide						
SUDAS DIRECTOR DESIGN METHODS ENGINEER						
JOINTS						























FIGURE 7010.905 SHEET 1 OF










































































PLAN VIEW

1'-10" min.

#8 Vertical Bars (8)

Type B Foundation is applicable for traffic signal poles with mast arm lengths up to 60 feet.

If the excavation for a Type B Foundation is left open for more than 1 calendar day, install temporary barrier rail if any part of the excavation is located within the clear zone. Temporary barrier rall layout requires the Engineer's approval.

Competent rock has an average unconfined compressive strength (q_{ii}) of at least 2.0 ksi and rock quality designation of at least 90%. Conditions not meeting minimum requirements will require either: - A site specific design, or

- Using the parameters for Mast Arm Pole Foundation in Soil.
- (2) Install rodent guard or non-shrink grout with weep hole.
- (3) Furnish nut, nut and plate, or nut and anchor bolt assembly ring plate on embedded end.
- (4) Provide conduits as per plans.
- (6) When in contact with rock, place ground rods as specified in National Electrical Code, current edition, adjacent to foundation or in adjacent handhole.
- (7)Cast foundation concrete against competent rock. If foundation is formed, place backfill with concrete cast against rock.
- (8) Place 13 equally spaced #8 vertical bars.
- (9)#6 bars spaced at 8 inch maximum. Ties may be welded to vertical bars.

	@ IOWADOT	REVISION	
SUDAS		5	04-19-22
		TC 400	
FIGURE 8010.102	STANDARD ROAD PLAN	19.	102
HOURE CONTINUE		SHEE	T 2 of 4
REVISIONS: Removed hooks from foundation reinforcing, Updated notes for condult Installation. Clarified placement of ground rod.			
Poul D. Wigand Strent Mide			
SUDAS DIRECTOR DESIGN METHODS ENGINEER			
TRAFFIC SIGNAL POLE FOUNDATION			

GUR

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It may be necessary to combine two or more examples to adequately address the traffic control needed.

Utilize vehicle warning lights (amber, high-intensity rotating, flashing, oscillating, or strobe light) on all shadow and work vehicles.

Vehicle hazard lights may be used to supplement warning lights. Do not use hazard lights alone.

Flags may be used to call attention to the advanced warning signs.

If a closure extends overnight, utilize channelizing devices with retroreflective sheeting.

Speed limit refers to the legally established and signed speed limit.

If an arrow board is used on 2-lane roads, operate only in the caution mode.

Adjust the position of warning signs and channelizing devices for available sight distance.

Do not install temporary traffic control devices until work is ready to begin, and remove or cover all signs and devices promptly when they are not needed.

The END WORK (G20-2) signs shown on all figures are

REVISION New 10-17-17

8030.101

SHEET 1 of 1

TEMPORARY TRAFFIC CONTROL GENERAL INFORMATION

SUDAS



ONTO TRAVELED WAY







Use is restricted to roadways where average daily traffic is fewer than 2,000 vehicles per day and good sight distance exists. Use during daylight hours only.

Do not park vehicles or equipment on opposite side of work area.

A work vehicle displaying vehicle warning lights may be substituted for the Type III barricade.

Refer to Figure 8030.101 for symbol key and sign spacing.

Flagger Notes:

Allow traffic in the open lane to flow freely.

Stop the first vehilcle in the closed lane from the flagger position shown, then move toward the centerline to stop other vehicles.

A second flagger may be required when the flagger's view of approaching traffic in the open lane is less than $\frac{1}{4}$ mile or the work site is in an area of restricted sight distance (such as a No Passing Zone); and excessive traffic delays and conflicts are encountered.

If second flagger is required, refer to Figure 8030.106.



SUDAS Standard Specifications

LANE CLOSURE FOR SHORT-TERM OR MOVING OPERATIONS USING A SINGLE FLAGGER



An optional BE PREPARED TO STOP sign may be added between the Flagger sign and the ONE LANE ROAD AHEAD sign.

Extend the buffer space as required so the two-way traffic taper is placed before a horizontal curve (or crest vertical curve) to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Refer to Figure 8030.101 for symbol key and sign spacing.

Flagger Notes:

Stop the first vehicle in the closed lane from the flagger position shown, then move toward the centerline to stop other vehicles.

Provide lighting to mark flagger stations at night.

A single flagger may be used for low volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions. Refer to Figure 8030.105.

Refer to Figure 8030.107 for work in vicinity of a street-rail crossing.



SUDAS Standard Specifications

LANE CLOSURE ON TWO-LANE ROAD USING TWO FLAGGERS











Place arrow board within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical, while keeping it on the paved surface.

If the work area extends across the crosswalk, the crosswalk should be closed using appropriate information and devices.

For traffic signal maintenance, consider using law enforcement and/or a shadow vehicle.

For intersection approaches reduced to a single lane, left-turning movements may be prohibited to maintain capacity for through motor vehicle traffic.

Right lane closure shown; for left lane closure, modify sign messages and arrow board.

Refer to Figure 8030.101 for symbol key and sign spacing.



SUDAS Standard Specifications

LANE CLOSURE AT AN INTERSECTION






Maintain a minimum lane width of 10 feet as measured to the near face of channelizing devices. For short-term use on low speed, low volume roads without wider heavy-commercial vehicles, a minimum lane width of 9 feet may be used.

Left turns may be prohibited as required by geometric and traffic conditions.

For short-duration work, the channelizing devices may be eliminated if a vehicle displaying vehicle warning lights is positioned in the work space. Arrow signs (W1-6) may be used to replace the KEEP RIGHT signs.

Refer to Figure 8030.101 for symbol key and sign spacing.



SUDAS Standard Specifications

CLOSURE IN CENTER OF INTERSECTION

Use for pavement marking and surface maintenance operations in daylight hours only. Place vehicle-mounted signs at an elevation so they are not obscured by equipment or materials and are fully visible to approaching traffic. Cover or turn sign legends from view when work is not in progress. Refer to Figure 8030 101 for symbol key and sign spacing. If an arrow board is used, operate in the caution mode (optional) Use sign shape and legend appropriate to the type of work CRACK WET FRESH Examples include: SEALING 0IL PAINT FIGURE 8030.115 REVISION New 10-17-17 SUDAS 8030.115 SHEET 1 of 1 SUDAS Standard Specifications SHEET MOVING OPERATIONS ON TWO LANE ROADS

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Use when crosswalks, sidewalks, or other pedestrian facilities are closed or relocated. Ensure temporary facilities are detectable and include accessibility features consistent with the features present in the existing pedestrian facility.

Signs such as KEEP RIGHT (LEFT) may be placed to guide or direct pedestrians.

Provide continuous barriers or fencing complying with the requirements of PROWAG to secure work areas from pedestrians.

When required in the contract documents, provide auxiliary lighting or audible information devices to assist pedestrians with visual disabilities.

Only the temporary traffic control devices related to pedestrians are shown. Other devices related to control of vehicular traffic may be necessary.

Refer to Figure 8030.101 for symbol key and sign spacing.



SUDAS Standard Specifications

SIDEWALK DETOUR



Use when crosswalks, sidewalks, or other pedestrian facilities are closed or relocated. Ensure temporary

the requirements of PROWAG to secure work areas

roadways, provide a temporary traffic barrier and, if specified in the contract documents, a crash cushion, to separate the temporary sidewalk from vehicular

auxiliary lighting or audible information devices to













































RISER	CYLINDER				MINIMUM TOP	
Diameter (in.)	Diameter (in.)	Thickness (gage)	Height (H) (in.)	Minimum Size Support Bar	Thickness	Stiffener
12	18	16	6	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	
15	21	16	7	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	
18	27	16	8	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	
21	30	16	11	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C), 14 ga (F)	
24	36	16	13	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C), 14 ga (F)	
27	42	16	15	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C), 14 ga (F)	
36	54	16	17	#8 rebar	14 ga (C), 12 ga (F)	
42	60	16	19	#8 rebar	14 ga (C), 12 ga (F)	
48	72	16	21	1 1/4" pipe or 1 1/4" X 1 1/4" X 1/4" angle	14 ga (C), 10 ga (F)	
54	78	16	25	1 1/4" pipe or 1 1/4" X 1 1/4" X 1/4" angle	14 ga (C), 10 ga (F)	
60	90	14	29	1 1/2" pipe or 1 1/2" X 1 1/2" X 1/4" angle	12 ga (C), 8 ga (F)	
66	96	14	33	2" pipe or 2" X 2" X 1/4" angle	12 ga (C), 8 ga (F)	2" X 2" X 1/4" angle
72	102	14	36	2" pipe or 2" X 2" X 1/4" angle	12 ga (C), 8 ga (F)	2 1/2" X 2 1/2" X 1/4" ang
78	114	14	39	2 1/2" pipe or 2" X 2" X 1/4" angle	12 ga (C), 8 ga (F)	2 1/2" X 2 1/2" X 1/4" ang
84	120	12	42	2 1/2" pipe or 2" X 2" X 1/4" angle	12 ga (C), 8 ga (F)	2 1/2" X 2 1/2" X 5/16" an

Notes:

FIGURE 9040.116

ЯH

C

1. The criterion for sizing the cylinder is that the area between the inside of the cylinder and the outside of the riser is equal to or greater than the area inside the riser. Therefore, the above table is invalid for use with concrete pipe risers.



SUDAS Standard Specifications

2. C - Corrugated F - Flat.

ANTI-VORTEX DEVICE


























9070.103 SHE









9080.102 SHE 0











