

PLAN VIEW

NOTES:

1. FOR INSTALLATION INSTRUCTIONS AND NOTES, SEE SHEET 5.
2. FOR BUTT STRAP THICKNESS AND WIDTH, SEE TABLE 1, SHEETS 6 & 7.
3. FOR FINAL BUTT STRAP CONNECTION AND MORTAR COATING DETAILS, SEE DETAILS ON SHEET 3.
4. FOR PREPARING SCRW PIPE (C303) FOR BUTT STRAP INSTALLATION, SEE SHEET 4.

SHEET 1 OF 7

REVISION	BY	APPROVED	DATE
ORIGINAL	EH	J. NAGELVOORT	09/18

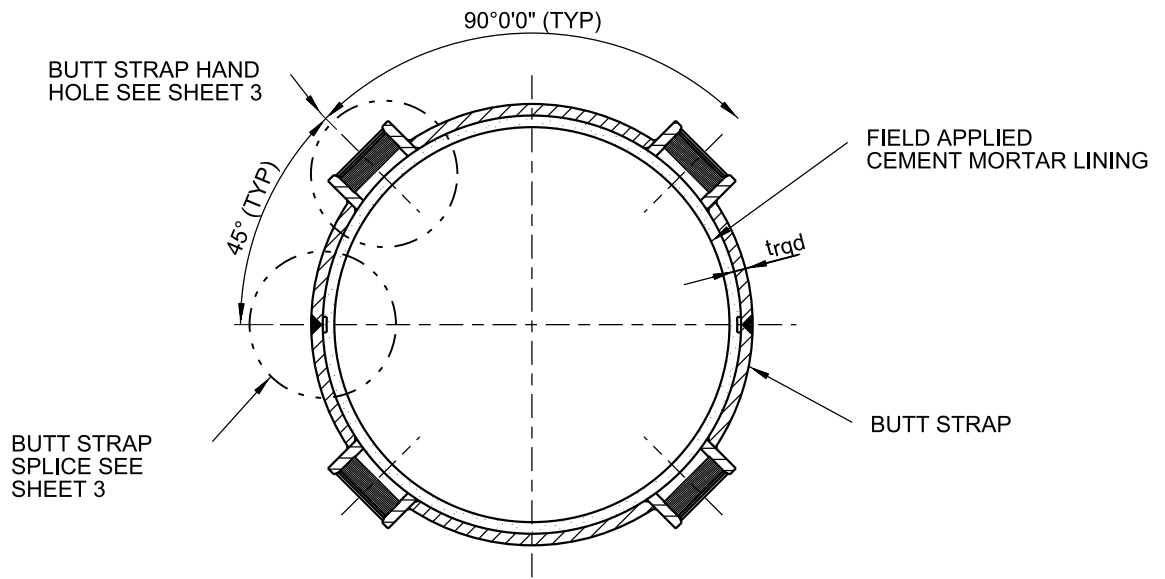
CITY OF SAN DIEGO – STANDARD DRAWING

RECOMMENDED BY THE CITY
OF SAN DIEGO STANDARDS COMMITTEE

**BUTT STRAP CONNECTION
BETWEEN SCRW AND WSP
20" TO 54" DIAMETER PIPE**

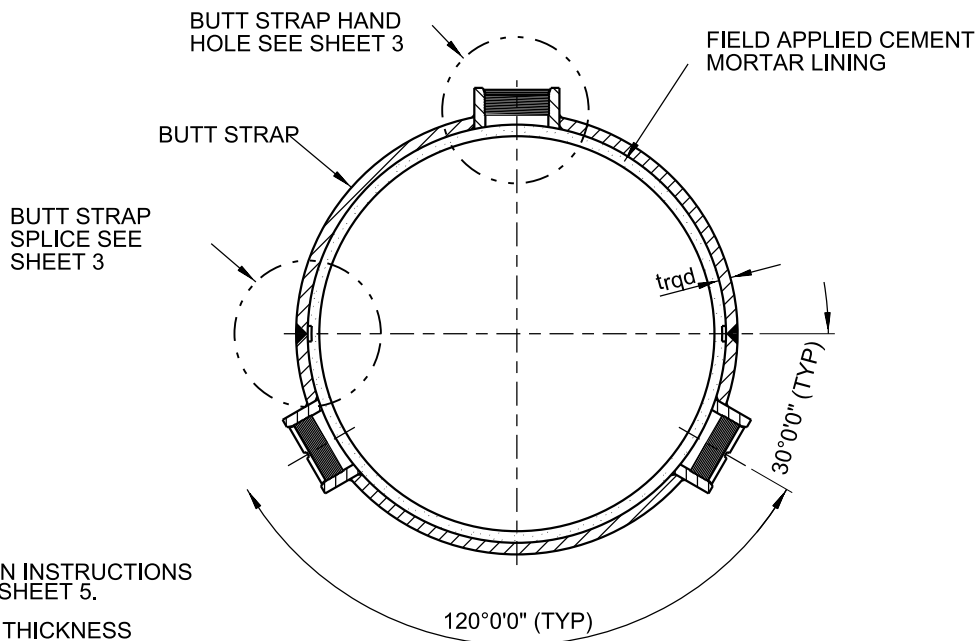
Chungga 9/7/18
COORDINATOR R.C.E. 56523 DATE

DRAWING
NUMBER **SDW-175**



SECTION A-A

36" TO 54" DIAMETER PIPE
SEE NOTE 12 ON SHEET 5



SECTION B-B

20" TO 33" DIAMETER PIPE
SEE NOTE 4
SEE NOTE 12 ON SHEET 5

NOTES:

1. FOR INSTALLATION INSTRUCTIONS AND NOTES, SEE SHEET 5.
2. FOR BUTT STRAP THICKNESS AND WIDTH, SEE TABLE 1.
3. FOR FINAL MORTAR COATING DETAILS, SEE SHEET 3.
4. CONTRACTOR MAY ALSO USE TWO HAND HOLES ON TOP HALF OF PIPE, PER SECTION A, FOR PIPE DIAMETERS 24 INCHES AND LESS.

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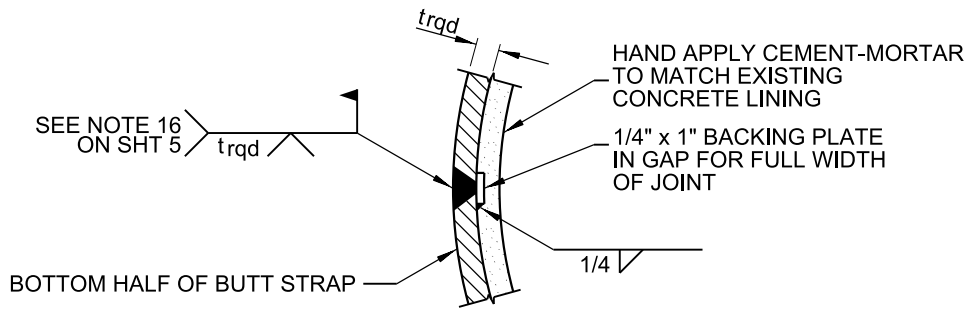
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**BUTT STRAP CONNECTION
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20" TO 54" DIAMETER PIPE**

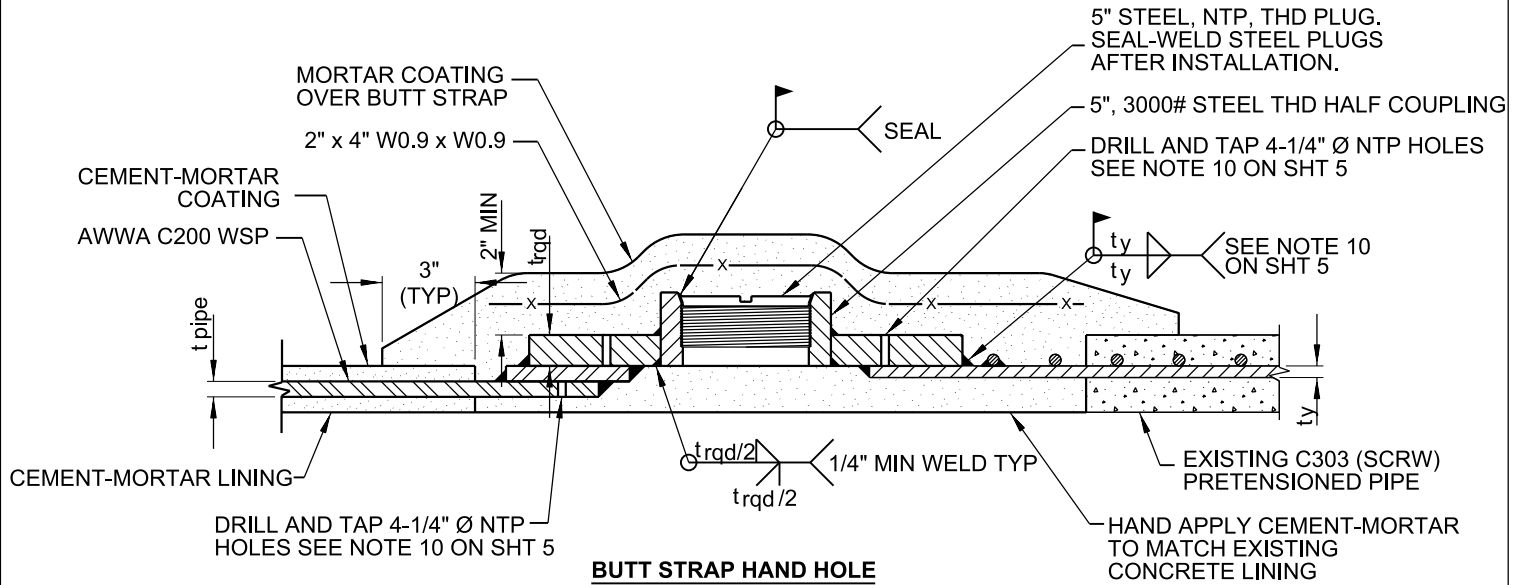
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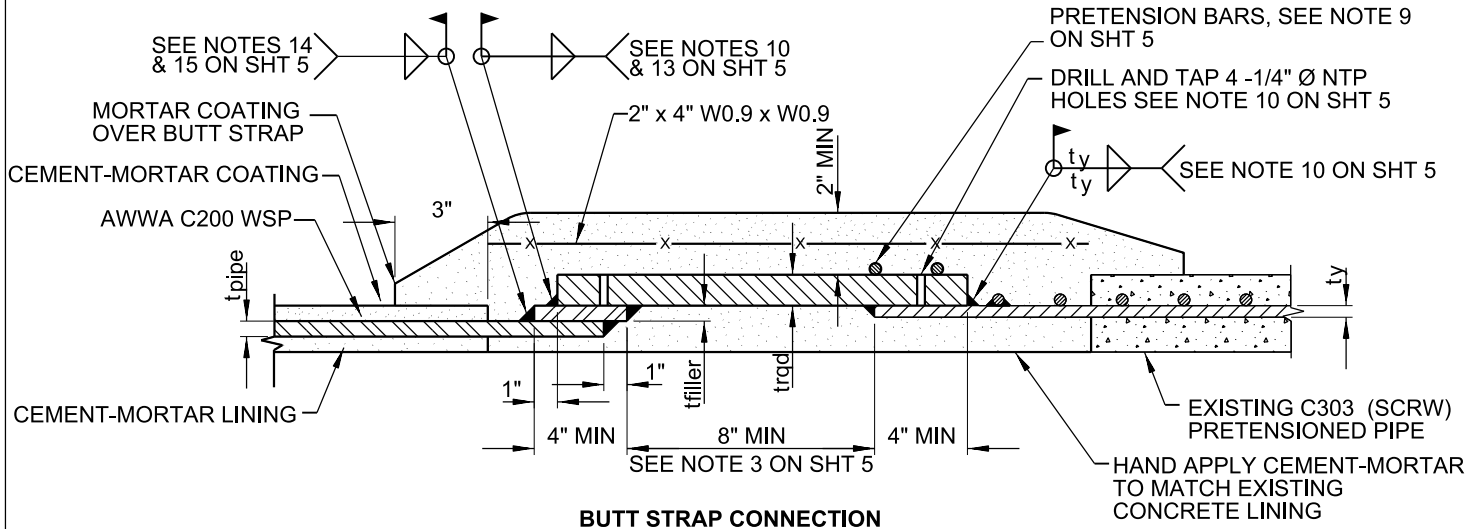
DRAWING NUMBER **SDW-175**



BUTT STRAP SPLICE



BUTT STRAP HAND HOLE



BUTT STRAP CONNECTION

NOTES:

1. FOR INSTALLATION INSTRUCTIONS AND NOTES SEE, SHEET 5.
2. FOR BUTT STRAP THICKNESS AND WIDTH, SEE TABLE 1, SHEETS 6 & 7.
3. OUTSIDE DIAMETER OF STEEL CYLINDER (C200) WITH FILLER BAR SHALL BE OUTSIDE DIAMETER OF SCRW PIPE STEEL CYLINDER (C303) +0\" -1/8\".

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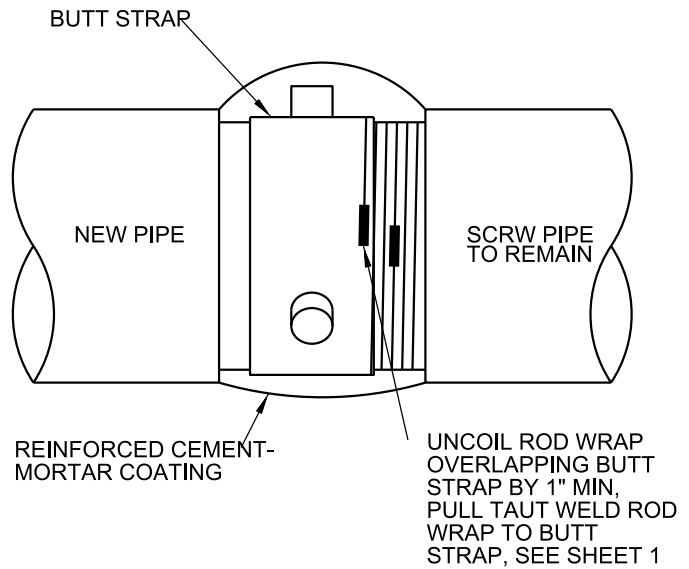
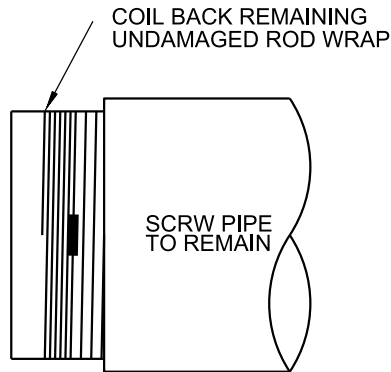
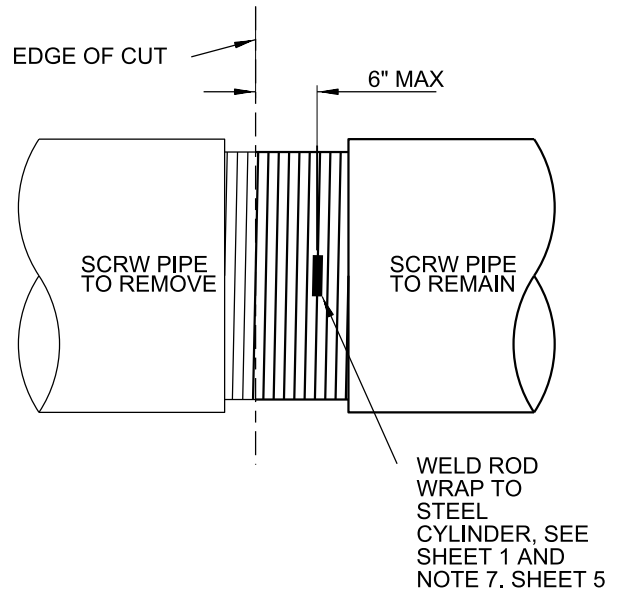
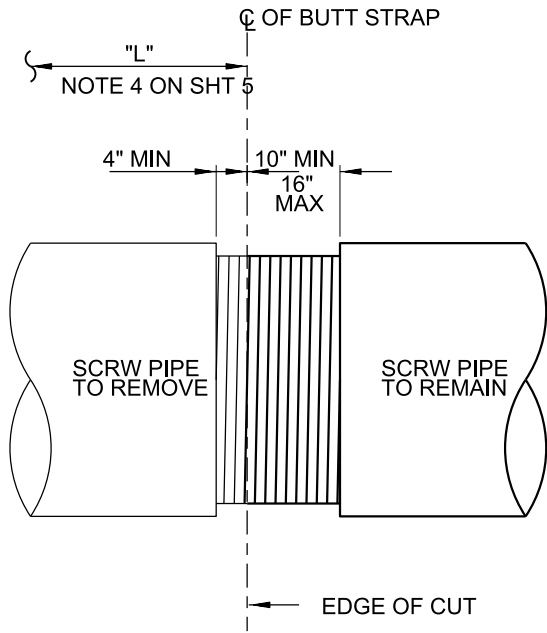
CITY OF SAN DIEGO - STANDARD DRAWING

**BUTT STRAP CONNECTION
BETWEEN SCRW AND WSP
20\" TO 54\" DIAMETER PIPE**

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DRAWING NUMBER **SDW-175**



CUT PROCEDURE

NOTES

1. SEE SHEET 5 FOR DETAILED INSTALLATION INSTRUCTIONS.
2. SEE SHEETS 1, 2 & 3 FOR BUTT STRAP INSTALLATION.
3. SEE SHEETS 6 & 7 FOR BUTT STRAP DIMENSIONS.

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CITY OF SAN DIEGO – STANDARD DRAWING

**BUTT STRAP CONNECTION
BETWEEN SCRW AND WSP
20" TO 54" DIAMETER PIPE**

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OF SAN DIEGO STANDARDS COMMITTEE

Chungga 9/7/18
COORDINATOR R.C.E. 56523 DATE

DRAWING NUMBER **SDW-175**

NOTES:

1. DETERMINE THE PIPE DIAMETER, CYLINDER THICKNESS AND PRESSURE RATING OF THE EXISTING PIPELINE. IF THE CYLINDER THICKNESS IS LESS THAN 10 GAGE (0.135"), DO NOT USE THIS DETAIL. THE ENTIRE PIPE SECTION (TO THE NEAREST JOINT) SHOULD BE REMOVED AND REPLACED.
2. DO NOT WELD REINFORCING TO CYLINDER OR CUT REINFORCING WHILE PIPE HAS INTERNAL PRESSURE.
3. FABRICATE THE BUTT STRAP USING THE DIMENSIONS SHOWN ON TABLE 1, SHEETS 6 AND 7. THE BUTT STRAP WIDTH SHOWN ON TABLE 1 IS THE MINIMUM WIDTH. THE WIDTH MAY BE INCREASED TO MEET FIELD CONDITIONS.
4. DETERMINE LENGTH "L" OF PIPE TO BE REMOVED AND MARK ON PIPE.
5. CAUTIOUSLY CHIP OFF 10" TO 16" OF THE MORTAR COATING FROM THE CENTERLINE OF THE CUT MARK FOR THE PIPE THAT WILL REMAIN. THEN CHIP OFF THE MORTAR COATING 4" FROM THE CENTERLINE OF THE CUT MARK FOR THE PIPE THAT WILL BE REMOVED.
6. MARK THE CUT LOCATION ON THE EXPOSED ROD WRAPPED CYLINDER.
7. MAKE A 4" LONG WELD ON ONE CIRCUMFERENTIAL ROD WRAP TO THE STEEL CYLINDER OF THE PIPE TO REMAIN; 6" MAX FROM THE CUT MARK. NOTE THE ROD WRAP HAS TENSION AND CANNOT BE CUT UNTIL IT IS PROPERLY WELDED TO THE STEEL CYLINDER. ALL WELDING SHALL BE PERFORMED USING E60XX WELDING RODS AND THE WELDERS SHALL BE CERTIFIED WELDERS PER ASME BPVC, SECTION IX.
8. AFTER WELDING THE ROD WRAP TO THE STEEL CYLINDER, CUT THE CYLINDER AND ROD WRAP ALONG CUT MARK AND REMOVE PIPE AND ANY ROD NOT STILL CONNECTED TO THE REMAINING PIPE. COIL BACK PORTION OF UNTENSIONED ROD WRAP SO THE BUTT STRAP CAN BE INSTALLED (DO NOT BEND THE RODS).
9. WELD THE BUTT STRAP TO THE CYLINDER, AS SHOWN. PULL TAUT THE REMAINING ROD WRAP AND OVERLAP THE BUTT STRAP BY 1" AND WELD ROD AS SHOWN ON SHEET 1.
10. DRILL AND TAP HOLES FOR AIR TESTING PRIOR TO WELDING, CONTRACTOR SHALL PLUG WELD TAPPED HOLES ON COMPLETION OF SOAP AND AIR TEST. IF INSIDE WELD CANNOT BE PERFORMED DUE TO THE LACK OF ACCESS, AIR TEST HOLES CAN BE OMITTED AND FILLET WELDS SHALL BE TESTED USING PENETRANT TEST.
11. AFTER WELDING AND TESTING OF BUTT STRAP IS COMPLETE, APPLY PORTLAND CEMENT MORTAR LINING USING HAND HOLES. THEN INSTALL HAND HOLE PLUG AND SEAL WELD. APPLY PORTLAND CEMENT MORTAR COATING TO EXTERIOR OF PIPE IN ACCORDANCE WITH AWWA C205/C303 REINFORCED WITH WELDED WIRE FABRIC HELD 3/8" FROM THE STEEL.
12. HAND-HOLES CAN BE OMITTED IF INTERIOR OF PIPE IS ACCESSIBLE THROUGH NEARBY ACCESS MANWAY OR SIMILAR ACCESS POINT.
13. IF t_{wr} IS LESS THAN t_{sc} , THEN WELD SIZE SHALL BE t_{wr} , ELSE WELD SIZE SHALL BE t_{sc} .
14. IF t_{wr} IS LESS THAN t_c THEN WELD SIZE SHALL BE t_{wr} , ELSE WELD SIZE SHALL BE t_c .
15. t_{wr} SHALL NOT BE LESS THAN t_c .
16. PENETRANT TESTING SHALL BE PERFORMED ON THE GROOVE WELD ROOT PASS.

SHEET 5 OF 7

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				BUTT STRAP CONNECTION BETWEEN SCRW AND WSP 20" TO 54" DIAMETER PIPE	<small>9/7/18</small> <small>R.C.E. 56523</small> <small>DATE</small>
					DRAWING NUMBER
					SDW-175

Buttstrap Table 1

Nom Pipe Dia Inches D	Max Pressure Class P	C303 (SCRW) Cylinder thickness inches (guage) t_y	Min Buttstrap Thickness Required inches t_{reqd}	Min Buttstrap Total Width inches W_{butt}	Note
20	125	0.06 (16)	not permitted		Connect at nearest joint.
20	175	0.075 (14)	not permitted		Connect at nearest joint.
20	250	0.105 (12)	not permitted		Connect at nearest joint.
20	325	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
20	400	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
21	125	0.06 (16)	not permitted		Connect at nearest joint.
21	175	0.075 (14)	not permitted		Connect at nearest joint.
21	250	0.105 (12)	not permitted		Connect at nearest joint.
21	325	0.134 (10)	0.375 (3/8)	16	See Note 3 on sh. 5
21	400	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
24	150	0.075 (14)	not permitted		Connect at nearest joint.
24	225	0.105 (12)	not permitted		Connect at nearest joint.
24	275	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
24	350	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
24	400	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
27	125	0.075 (14)	not permitted		Connect at nearest joint.
27	200	0.105 (12)	not permitted		Connect at nearest joint.
27	250	0.134 (10)	0.375 (3/8)	16	See Note 3 on sh. 5
27	300	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
27	350	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
27	400	0.25	0.5 (1/2)	16	See Note 3 on sh. 5
30	125	0.075 (14)	not permitted		Connect at nearest joint.
30	175	0.105 (12)	not permitted		Connect at nearest joint.
30	225	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
30	275	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
30	325	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
30	400	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
33	100	0.075 (14)	not permitted		Connect at nearest joint.
33	150	0.105 (12)	not permitted		Connect at nearest joint.
33	200	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
33	250	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
33	300	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
33	400	0.25	0.75 (3/4)	16	See Note 3 on sh. 5
36	100	0.09 (13)	not permitted		Connect at nearest joint.
36	150	0.105 (12)	not permitted		Connect at nearest joint.
36	175	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
36	225	0.164 (8)	0.375 (3/8)	16	See Note 3 on sh. 5
36	275	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
36	350	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
36	400	0.312	0.75 (3/4)	16	See Note 3 on sh. 5

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				BUTT STRAP CONNECTION BETWEEN SCRW AND WSP 20" TO 54" DIAMETER PIPE	 COORDINATOR R.C.E. 56523
					9/7/18 DATE
					DRAWING NUMBER
					SDW-175

Buttstrap Table 1 (continued)

Nom Pipe Dia Inches D	Max Pressure Class P	C303 (SCRW) Cylinder thickness inches (gauge) t_y	Min Buttstrap Thickness Required inches t_{reqd}	Min Buttstrap Total Width inches W_{butt}	Note
39	100	0.09 (13)	not permitted		Connect at nearest joint.
39	125	0.105 (12)	not permitted		Connect at nearest joint.
39	175	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
39	200	0.164 (8)	0.375 (3/8)	16	See Note 3 on sh. 5
39	250	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
39	325	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
39	375	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
39	400	0.375	0.75 (3/4)	16	See Note 3 on sh. 5
42	125	0.105 (12)	not permitted		Connect at nearest joint.
42	150	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
42	200	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
42	225	0.188	0.4375 (7/16)	16	See Note 3 on sh. 5
42	300	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
42	350	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
42	400	0.375	0.875 (7/8)	16	See Note 3 on sh. 5
45	100	0.105 (12)	not permitted		Connect at nearest joint.
45	150	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
45	175	0.164 (8)	0.375 (3/8)	16	See Note 3 on sh. 5
45	200	0.188	0.4375 (7/16)	16	See Note 3 on sh. 5
45	275	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
45	325	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
45	400	0.375	0.875 (7/8)	16	See Note 3 on sh. 5
48	100	0.105 (12)	not permitted		Connect at nearest joint.
48	125	0.134 (10)	0.25 (1/4)	16	See Note 3 on sh. 5
48	175	0.164 (8)	0.4375 (7/16)	16	See Note 3 on sh. 5
48	200	0.188	0.5 (1/2)	16	See Note 3 on sh. 5
48	250	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
48	300	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
48	375	0.375	0.875 (7/8)	16	See Note 3 on sh. 5
51	125	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
51	150	0.164 (8)	0.375 (3/8)	16	See Note 3 on sh. 5
51	175	0.188	0.4375 (7/16)	16	See Note 3 on sh. 5
51	250	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
51	300	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
51	350	0.375	0.875 (7/8)	16	See Note 3 on sh. 5
54	125	0.134 (10)	0.3125 (5/16)	16	See Note 3 on sh. 5
54	150	0.164 (8)	0.375 (3/8)	16	See Note 3 on sh. 5
54	175	0.188	0.4375 (7/16)	16	See Note 3 on sh. 5
54	225	0.25	0.625 (5/8)	16	See Note 3 on sh. 5
54	275	0.312	0.75 (3/4)	16	See Note 3 on sh. 5
54	350	0.375	1	16	See Note 3 on sh. 5

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