

Note to Designer:  
 The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO	DESCRIPTION OF REVISIONS	DATE	MADE BY	CHKD BY
1	Original Issue	7-12		
2				
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		STEEL LIST																			
Mark	Bend	90° Dia.		96° Dia.		102° Dia.		108° Dia.		114° Dia.		120° Dia.		126° Dia.		132° Dia.		138° Dia.		144° Dia.	
		No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth	No	Size Lgth
a1	A	5	*5 8'-3	5	*5 8'-9	5	*5 9'-0	6	*5 9'-3	6	*5 9'-9	6	*5 10'-3	6	*5 10'-6	7	*5 10'-9	7	*5 11'-3	7	*5 11'-9
a2	A	5	*5 9'-0	5	*5 9'-6	5	*5 9'-9	6	*5 10'-0	6	*5 10'-6	6	*5 11'-0	6	*5 11'-3	7	*5 11'-6	7	*6 12'-3	7	*6 12'-9
a3	A	5	*5 9'-9	5	*5 10'-3	5	*5 10'-6	5	*5 11'-0	6	*6 11'-6	6	*6 12'-0	6	*6 12'-3	7	*6 12'-6	7	*6 13'-3	7	*7 13'-9
a4	A	4	*5 10'-6	5	*5 11'-0	5	*6 11'-3	5	*6 11'-9	5	*6 12'-3	6	*6 12'-9	6	*6 13'-0	6	*7 13'-6	6	*7 14'-0	7	*7 14'-6
a5	A	4	*5 11'-3	5	*6 11'-9	5	*6 12'-0	5	*7 12'-6	5	*7 13'-0	6	*7 13'-6	6	*7 13'-9	6	*7 14'-3	6	*7 15'-0	7	*8 15'-6
a6	A	4	*6 12'-0	4	*6 12'-6	5	*7 12'-9	5	*7 13'-6	5	*7 14'-0	5	*7 14'-6	6	*7 14'-9	6	*8 15'-3	6	*8 16'-0	6	*8 16'-6
a7	A	5	*5 8'-0	5	*5 8'-3	5	*5 8'-6	5	*5 8'-9	6	*5 9'-3	6	*5 9'-6	6	*5 9'-9	6	*5 10'-0	7	*5 10'-6	7	*5 10'-9
a8	A	4	*5 8'-9	5	*5 9'-0	5	*5 9'-3	5	*5 9'-6	5	*5 10'-0	6	*5 10'-6	6	*5 10'-9	6	*5 11'-0	6	*5 11'-6	7	*6 12'-0
a9	A	4	*5 9'-6	5	*5 10'-0	5	*5 10'-3	5	*5 10'-6	5	*5 11'-0	6	*6 11'-6	6	*6 11'-9	6	*6 12'-0	6	*6 12'-6	7	*6 13'-0
a10	A	4	*5 10'-3	4	*5 10'-9	5	*6 11'-3	5	*6 11'-6	5	*6 12'-0	5	*6 12'-3	6	*6 13'-0	6	*6 13'-3	6	*7 13'-9	6	*7 14'-3
a11	A	4	*5 11'-3	4	*6 11'-6	4	*6 12'-0	5	*7 12'-3	5	*7 12'-9	5	*7 13'-3	5	*7 14'-0	6	*7 14'-3	6	*7 14'-9	6	*7 15'-3
a12	A	4	*6 12'-0	4	*6 12'-6	4	*7 13'-0	5	*7 13'-3	5	*7 13'-9	5	*7 14'-3	5	*7 15'-0	6	*8 15'-3	6	*8 15'-9	6	*8 16'-6
b1	str	2	*4 26'-9	2	*4 28'-3	2	*4 29'-9	2	*4 31'-3	2	*4 32'-9	2	*4 34'-3	2	*4 35'-9	2	*4 37'-3	2	*4 38'-9	2	*4 40'-3
b2	str	8	*4 26'-6	8	*4 28'-0	8	*4 29'-6	8	*4 31'-0	8	*4 32'-6	10	*4 34'-0	10	*4 35'-6	10	*4 37'-0	10	*4 38'-6	12	*4 40'-0
b3	str	2	*4 16'-0	2	*4 20'-0	2	*4 22'-3	2	*4 25'-6	2	*4 30'-6	2	*4 23'-0	2	*4 27'-6	2	*4 30'-6	2	*4 35'-6	2	*4 29'-0
b4	str	2	*4 7'-0	2	*4 9'-6	2	*4 12'-6	2	*4 16'-3	2	*4 19'-9	2	*4 12'-9	2	*4 17'-3	2	*4 19'-9	2	*4 24'-9	2	*4 18'-3
b5	str					2	*4 3'-0	2	*4 7'-0	2	*4 9'-0	2	*4 2'-6	2	*4 7'-3	2	*4 9'-0	2	*4 14'-3	2	*4 7'-3
b6	str																	2	*4 3'-6		
b7	str	2	*4 24'-9	2	*4 26'-3	2	*4 27'-9	2	*4 29'-3	2	*4 30'-9	2	*4 32'-6	2	*4 34'-0	2	*4 35'-6	2	*4 37'-0	2	*4 38'-6
b8	str	6	*4 24'-6	8	*4 26'-0	8	*4 27'-6	8	*4 29'-0	8	*4 30'-6	8	*4 32'-0	8	*4 33'-6	10	*4 35'-0	10	*4 36'-6	10	*4 38'-0
b9	str	2	*4 23'-0	2	*4 16'-9	2	*4 20'-0	2	*4 23'-6	2	*4 26'-0	2	*4 29'-0	2	*4 31'-9	2	*4 27'-0	2	*4 29'-0	2	*4 33'-0
b10	str	2	*4 14'-0	2	*4 8'-3	2	*4 11'-3	2	*4 14'-6	2	*4 17'-3	2	*4 20'-3	2	*4 23'-0	2	*4 18'-3	2	*4 20'-3	2	*4 24'-3
b11	str	2	*4 5'-0			2	*4 2'-6	2	*4 5'-6	2	*4 8'-6	2	*4 11'-3	2	*4 14'-3	2	*4 9'-6	2	*4 11'-6	2	*4 15'-3
b12	str							2	*4 2'-6	2	*4 5'-6							2	*4 3'-0	2	*4 6'-6
c	str	5	*4 10'-6	5	*4 11'-0	5	*4 11'-6	5	*4 12'-0	5	*4 12'-6	5	*4 13'-0	5	*4 13'-6	5	*4 14'-0	5	*4 14'-6	5	*4 15'-0
d	A	6	*6 12'-3	6	*6 12'-9	6	*7 13'-3	6	*7 13'-9	6	*7 14'-6	6	*7 15'-0	6	*7 15'-6	6	*8 16'-0	6	*8 16'-6	6	*8 17'-0
e1	C	5	*5 4'-0	5	*5 4'-3	5	*5 4'-3	6	*5 4'-6	6	*5 4'-9	6	*5 4'-9	6	*5 5'-0	7	*5 5'-3	7	*5 5'-3	7	*5 5'-6
e2	C	5	*5 4'-3	5	*5 4'-6	5	*5 4'-6	5	*5 4'-9	6	*5 5'-0	6	*5 5'-3	6	*5 5'-6	6	*5 5'-9	7	*5 6'-0	7	*6 6'-0
e3	C	5	*5 4'-6	5	*5 4'-9	5	*5 5'-0	5	*5 5'-3	6	*5 5'-6	6	*5 5'-6	6	*5 5'-9	6	*6 6'-3	7	*6 6'-6	7	*6 6'-9
e4	C	4	*5 4'-9	5	*5 5'-0	5	*5 5'-3	5	*5 5'-6	5	*5 5'-9	6	*6 6'-0	6	*6 6'-3	6	*6 6'-6	6	*7 7'-9	7	*7 8'-3
e5	C	4	*5 5'-0	4	*5 5'-3	5	*5 5'-9	5	*5 6'-0	5	*6 6'-3	5	*6 6'-6	6	*6 6'-9	6	*7 8'-0	6	*7 8'-3	6	*7 8'-9
e6	C	4	*5 5'-3	4	*5 5'-6	5	*5 6'-0	5	*6 6'-3	5	*6 6'-6	5	*7 7'-9	6	*7 8'-0	6	*7 8'-6	6	*7 8'-9	6	*8 9'-6
e7	C	3	*5 5'-3	3	*5 5'-6	3	*5 6'-0	3	*6 6'-3	3	*6 6'-6	3	*7 7'-9	3	*7 8'-3	3	*7 8'-9	3	*7 9'-0	3	*8 9'-6
e8	C	9	*5 5'-3	9	*5 5'-6	10	*5 6'-0	10	*6 6'-3	11	*6 6'-6	11	*7 7'-9	12	*7 8'-3	12	*7 8'-9	13	*7 9'-0	13	*8 9'-6
e9	C	4	*5 5'-3	4	*5 5'-6	4	*5 6'-0	5	*6 6'-3	5	*6 6'-6	5	*7 7'-9	5	*7 8'-3	6	*7 8'-9	6	*7 9'-0	6	*8 9'-6
e10	C	4	*5 5'-3	4	*5 5'-6	4	*5 6'-0	4	*6 6'-3	5	*6 6'-6	5	*7 7'-9	5	*7 8'-0	5	*7 8'-6	6	*7 8'-9	6	*8 9'-6
e11	C	4	*5 5'-0	4	*5 5'-3	4	*5 5'-9	5	*5 6'-0	5	*6 6'-3	5	*6 6'-6	5	*6 6'-9	6	*7 8'-0	6	*7 8'-3	6	*7 8'-9
e12	C	4	*5 4'-9	4	*5 5'-0	5	*5 5'-3	5	*5 5'-6	5	*5 5'-9	5	*6 6'-0	6	*6 6'-3	6	*6 6'-9	6	*7 7'-9	6	*7 8'-3
e13	C	4	*5 4'-6	4	*5 4'-9	5	*5 5'-0	5	*5 5'-3	5	*5 5'-6	5	*5 5'-9	6	*6 6'-3	6	*6 6'-6	6	*6 6'-9	6	*6 6'-9
e14	C	4	*5 4'-3	5	*5 4'-6	5	*5 4'-6	5	*5 4'-9	5	*5 5'-0	6	*5 5'-3	6	*5 5'-6	6	*5 5'-9	6	*5 6'-0	7	*6 6'-0
e15	C	5	*5 4'-0	5	*5 4'-3	5	*5 4'-3	5	*5 4'-6	6	*5 4'-9	6	*5 4'-9	6	*5 5'-0	6	*5 5'-3	7	*5 5'-3	7	*5 5'-6
f1	str	5	*4 6'-6	5	*4 6'-9	5	*4 7'-3	6	*4 7'-6	6	*4 7'-9	6	*4 8'-3	6	*4 8'-6	7	*4 8'-9	7	*4 9'-3	7	*4 9'-6
f2	str	5	*4 7'-9	5	*4 8'-0	5	*4 8'-6	5	*4 8'-9	6	*4 9'-0	6	*4 9'-6	6	*4 10'-0	6	*4 10'-3	7	*4 10'-6	7	*4 11'-0
f3	str	4	*4 8'-9	5	*4 9'-3	5	*4 9'-6	5	*4 10'-0	5	*4 10'-6	6	*4 11'-0	6	*4 11'-3	6	*4 11'-6	6	*4 12'-0	7	*4 12'-6
f4	str	4	*4 10'-0	4	*4 10'-6	5	*4 10'-9	5	*4 11'-3	5	*4 11'-9	5	*4 12'-3	6	*4 12'-9	6	*4 13'-0	6	*4 13'-6	6	*4 14'-0
f5	str	5	*4 6'-3	5	*4 6'-6	5	*4 6'-9	5	*4 7'-0	6	*4 7'-3	6	*4 7'-6	6	*4 7'-9	6	*4 8'-0	7	*4 8'-3	7	*4 8'-6
f6	str	4	*4 7'-6	5	*4 7'-9	5	*4 8'-0	5	*4 8'-3	5	*4 8'-9	6	*4 9'-0	6	*4 9'-3	6	*4 9'-6	6	*4 10'-0	7	*4 10'-3
f7	str	4	*4 8'-6	4	*4 9'-0	5	*4 9'-3	5	*4 9'-6	5	*4 10'-0	5	*4 10'-6	5	*4 10'-9	6	*4 11'-3	6	*4 11'-6	6	*4 12'-0
f8	str	4	*4 9'-9	4	*4 10'-3	4	*4 10'-6	5	*4 11'-0	5	*4 11'-6	5	*4 12'-0	5	*4 12'-6	6	*4 12'-9	6	*4 13'-3	6	*4 13'-9
g	str	6	*4 9'-6	6	*4 10'-0	6	*4 10'-3	6	*4 10'-9	6	*4 11'-3	6	*4 11'-9	6	*4 12'-6	6	*4 13'-0	6	*4 13'-3	6	*4 13'-9
m1	str	4	*4 29'-6	4	*4 31'-3	4	*4 32'-9	4	*4 34'-6	5	*4 36'-3	5	*4 37'-9	5	*4 39'-6	6	*4 41'-3	6	*4 42'-9	6	*4 44'-6
m2	str	1	*4 29'-6	1	*4 31'-3	1	*4 32'-9	1	*4 34'-6	1	*4 36'-3	1	*4 37'-9	1	*4 39'-6	1	*4 41'-3	1	*4 42'-9	1	*4 44'-6
m3	str	4	*4 29'-3	4	*4 31'-0	4	*4 32'-9	4	*4 34'-6	5	*4 36'-3	5	*4 38'-3	5	*4 40'-0	6	*4 41'-9	6	*4 43'-9	6	*4 45'-6
m4	str	1	*4 29'-3	1	*4 31'-0	1	*4 32'-9	1	*4 34'-6	1	*4 36'-3	1	*4 38'-3	1	*4 40'-0	1	*4 41'-9	1	*4 43'-9	1	*4 45'-6
n1	str	4	*4 16'-3	4	*4 17'-3	4	*4 18'-0	5	*4 19'-0	5	*4 20'-0	5	*4 21'-0	5	*4 22'-0	6	*4 23'-0	6	*4 24'-0	6	*4 25'-0
n2	str	1	*4 16'-3	1	*4 17'-3	1	*4 18'-0	1	*4 19'-0	1	*4 20'-0	1	*4 21'-0	1	*4 22'-0	1	*4 23'-0	1	*4 24'-0	1	*4 25'-0
p	str	4	*5 11'-0	4	*5 11'-6	4	*5 12'-0	4	*5 12'-9	4	*5 13'-3	4	*5 13'-6	4	*5 14'-6	4	*5 15'-0	4	*5 15'-6	4	*5 16'-0
q	str	2	*6 13'-0	2	*6 13'-6	2	*6 14'-0	2	*6 14'-9	2	*6 15'-3	2	*6 15'-6	2	*6 16'-6	2	*6 17'-0	2	*6 17'-6	2	*6 18'-0
u	B	82	*4 7'-0	86	*4 7'-0	90	*4 7'-0	96	*4 7'-0	100	*4 7'-0	104	*4 7'-0	108	*4 7'-0	114	*4 7'-0	118	*4 7'-0	122	*4 7'-0
v	str	6	*4 27'-0	6	*4 28'-6	6	*4 29'-9	6	*4 31'-6	6	*4 32'-9	6	*4 34'-3	6	*4 35'-9	6	*4 37'-0	6	*4 38'-6	6	*4 40'-0
w	str	6	*4 25'-0	6	*4 26'-6	6	*4 27'-9	6	*4 29'-6	6	*4 30'-9	6	*4 32'-3	6	*4 33'-9	6	*4 35'-0	6	*4 36'-6	6	*4 38'-0

		PIPE DIAMETER									
		90°	96°	102°	108°	114°	120°	126°	132°	138°	144°
A	0'-6	0'-3	0'-6	0'-3	0'-6	0'-3	0'-6	0'-3	0'-6	0'-3	0'-3
B	2'-2	2'-2	2'-3	2'-3	2'-4	2'-4	2'-5	2'-5	2'-6	2'-6	2'-6
C	2'-2	2'-4	2'-5	2'-7	2'-8	2'-10	2'-11	3'-1	3'-2	3'-4	3'-4
D	1'-4	1'-6	1'-8	1'-10	2'-0	2'-2	2'-4	2'-6	2'-8	2'-10	2'-10