

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.	DATE	DESCRIPTION OF REVISIONS
1	7-12	Original Issue
2		
3		
4		

		STEEL LIST																			
Mark	Bent	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	3	*5 5'-6	3	*5 6'-0	3	*5 6'-3	3	*5 6'-3	4	*5 6'-9	4	*5 7'-0	4	*5 7'-3	4	*5 7'-9	4	*5 7'-9	4	*5 8'-0
a2	A	3	*5 6'-9	3	*5 7'-3	3	*5 7'-6	3	*5 7'-6	3	*5 8'-3	3	*5 8'-6	4	*5 8'-9	4	*5 9'-3	4	*5 9'-3	4	*5 9'-6
a3	A	3	*5 8'-0	3	*5 8'-6	3	*5 8'-9	3	*5 9'-0	3	*5 9'-6	3	*5 10'-0	3	*6 10'-3	3	*6 10'-9	4	*6 11'-0	4	*6 11'-3
a4	A	3	*5 9'-3	3	*5 10'-0	3	*5 10'-3	3	*5 10'-3	3	*6 11'-0	3	*6 11'-3	3	*7 11'-9	3	*7 12'-3	3	*7 12'-6	3	*7 13'-0
a5	A	3	*5 10'-9	3	*6 11'-3	3	*6 11'-6	3	*6 11'-9	3	*7 12'-3	3	*7 12'-9	3	*7 13'-3	3	*7 13'-9	3	*8 14'-3	3	*8 14'-6
a6	A	2	*6 12'-0	2	*6 12'-6	3	*6 12'-9	3	*7 13'-0	3	*7 13'-9	3	*7 14'-3	3	*8 14'-9	3	*8 15'-3	3	*8 15'-9	3	*8 16'-3
a7	A	3	*5 5'-6	3	*5 5'-9	3	*5 6'-0	3	*5 6'-3	3	*5 6'-9	3	*5 6'-9	3	*5 7'-3	3	*5 7'-9	3	*5 7'-9	3	*5 8'-0
a8	A	3	*5 7'-0	3	*5 7'-6	3	*5 7'-9	3	*5 7'-9	3	*5 8'-6	3	*5 8'-3	3	*5 8'-9	3	*5 9'-3	3	*5 9'-3	3	*5 9'-6
a9	A	3	*5 8'-6	3	*5 9'-3	3	*5 9'-3	3	*5 9'-3	3	*5 9'-6	3	*5 9'-6	3	*5 10'-3	3	*5 10'-9	3	*6 11'-0	3	*6 11'-3
a10	A	2	*5 10'-3	3	*6 10'-9	3	*6 11'-0	3	*6 11'-0	3	*6 11'-9	3	*6 11'-6	3	*6 12'-0	3	*7 12'-3	3	*7 12'-6	3	*7 13'-0
a11	A	2	*6 11'-9	2	*6 12'-6	2	*6 12'-9	3	*7 12'-9	3	*7 13'-6	2	*7 13'-3	2	*7 13'-6	3	*7 13'-9	3	*8 14'-3	3	*8 14'-6
a12	A											2	*7 14'-6	2	*8 15'-0	2	*8 15'-3	2	*8 15'-9	3	*8 16'-3
b1	str	2	*4 17'-0	2	*4 17'-6	2	*4 18'-0	2	*4 18'-9	2	*4 19'-3	2	*4 19'-9	2	*4 20'-6	2	*4 21'-0	2	*4 21'-6	2	*4 22'-0
b2	str	4	*4 16'-0	4	*4 16'-6	4	*4 17'-0	4	*4 17'-6	4	*4 18'-0	4	*4 18'-6	6	*4 19'-0	6	*4 19'-6	6	*4 20'-0	6	*4 20'-6
b3	str	2	*4 12'-6	2	*4 14'-0	2	*4 14'-6	2	*4 15'-6	2	*4 16'-9	2	*4 17'-9	2	*4 18'-6	2	*4 19'-6	2	*4 20'-0	2	*4 20'-6
b4	str	2	*4 9'-0	2	*4 10'-9	2	*4 11'-3	2	*4 12'-3	2	*4 13'-6	2	*4 14'-3	2	*4 15'-6	2	*4 16'-6	2	*4 17'-6	2	*4 18'-6
b5	str	2	*4 6'-0	2	*4 7'-3	2	*4 8'-3	2	*4 8'-9	2	*4 10'-3	2	*4 11'-0	2	*4 12'-0	2	*4 13'-3	2	*4 14'-6	2	*4 15'-6
b6	str	2	*4 2'-6	2	*4 3'-9	2	*4 5'-0	2	*4 5'-6	2	*4 7'-0	2	*4 7'-6	2	*4 8'-6	2	*4 9'-6	2	*4 10'-6	2	*4 11'-6
b7	str	2	*4 14'-0	2	*4 14'-6	2	*4 15'-0	2	*4 15'-9	2	*4 16'-3	2	*4 16'-9	2	*4 17'-3	2	*4 18'-0	2	*4 18'-6	2	*4 19'-0
b8	str	4	*4 12'-6	4	*4 13'-0	4	*4 13'-6	4	*4 14'-0	4	*4 14'-6	6	*4 15'-0	6	*4 15'-6	6	*4 16'-0	6	*4 16'-6	6	*4 17'-0
b9	str	2	*4 10'-0	2	*4 10'-9	2	*4 11'-6	2	*4 12'-6	2	*4 13'-6	2	*4 14'-6	2	*4 15'-6	2	*4 16'-6	2	*4 17'-6	2	*4 18'-6
b10	str	2	*4 7'-3	2	*4 8'-0	2	*4 9'-0	2	*4 10'-0	2	*4 10'-9	2	*4 10'-9	2	*4 10'-6	2	*4 11'-6	2	*4 12'-3	2	*4 13'-0
b11	str	2	*4 4'-6	2	*4 5'-3	2	*4 6'-6	2	*4 7'-3	2	*4 8'-3	2	*4 7'-3	2	*4 7'-9	2	*4 8'-9	2	*4 9'-3	2	*4 10'-3
b12	str	2	*4 1'-9	2	*4 2'-6	2	*4 4'-0	2	*4 4'-9	2	*4 5'-6	2	*4 3'-6	2	*4 5'-0	2	*4 6'-0	2	*4 6'-6	2	*4 7'-3
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	*6 13'-3	6	*7 13'-9	6	*7 14'-6	6	*7 15'-0	6	*8 15'-6	6	*8 16'-0	6	*8 16'-6	6	*8 17'-0
e1	C	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	4	*5 3'-6	4	*5 3'-6	4	*5 3'-6	4	*5 3'-6
e2	C	3	*5 3'-9	3	*5 4'-0	3	*5 4'-0	3	*5 4'-0	3	*5 4'-0	3	*5 4'-3	3	*5 4'-6	3	*5 4'-6	4	*5 4'-6	4	*5 4'-6
e3	C	3	*5 4'-6	3	*5 4'-6	3	*5 4'-9	3	*5 4'-9	3	*5 5'-0	3	*5 5'-3	3	*5 5'-6	3	*6 5'-6	3	*6 5'-9	3	*6 5'-9
e4	C	3	*5 5'-0	3	*5 5'-3	3	*5 5'-6	3	*5 5'-9	3	*6 5'-9	3	*6 6'-0	3	*6 6'-3	3	*7 7'-9	3	*7 8'-0	3	*7 8'-3
e5	C	2	*5 5'-6	2	*6 6'-0	3	*6 6'-3	3	*6 6'-6	3	*7 7'-9	3	*7 8'-3	3	*7 8'-6	3	*7 8'-9	3	*7 9'-0	3	*8 9'-3
e6	C	2	*5 6'-3	2	*6 6'-9	2	*6 7'-0	2	*7 8'-6	3	*7 9'-0	3	*7 9'-3	3	*8 9'-9	3	*8 10'-0	3	*8 10'-3	3	*9 11'-0
e7	C	3	*6 6'-6	3	*6 7'-0	3	*6 7'-3	4	*7 8'-9	4	*7 9'-3	4	*7 9'-9	4	*8 10'-0	5	*8 10'-3	5	*9 11'-0	5	*9 11'-3
e8	C	9	*6 6'-6	9	*6 7'-0	10	*6 7'-3	10	*7 8'-9	11	*7 9'-3	11	*7 9'-9	12	*8 10'-0	12	*8 10'-3	13	*9 11'-0	13	*9 11'-3
e9	C	4	*6 6'-6	4	*6 7'-0	4	*6 7'-3	5	*7 8'-9	5	*7 9'-3	5	*7 9'-9	5	*8 10'-0	6	*8 10'-3	6	*9 11'-0	6	*9 11'-3
e10	C	2	*5 6'-3	2	*5 6'-9	2	*6 7'-0	2	*6 7'-3	3	*7 8'-3	3	*7 8'-6	2	*7 9'-6	2	*7 9'-6	2	*8 10'-6	2	*8 10'-9
e11	C	2	*5 5'-6	2	*5 5'-9	3	*5 6'-0	3	*5 6'-3	3	*6 6'-6	3	*6 6'-9	2	*7 8'-6	2	*7 8'-9	3	*7 9'-3	3	*7 9'-3
e12	C	3	*5 4'-9	3	*5 5'-0	3	*5 5'-0	3	*5 5'-3	3	*5 5'-3	3	*5 5'-6	3	*6 6'-3	3	*6 6'-6	3	*6 6'-9	3	*6 8'-3
e13	C	3	*5 4'-0	3	*5 4'-0	3	*5 4'-3	3	*5 4'-3	3	*5 4'-3	3	*5 4'-6	3	*5 5'-6	3	*5 5'-6	3	*5 5'-9	3	*5 5'-9
e14	C	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 3'-3	3	*5 4'-6	3	*5 4'-6	3	*5 4'-6	3	*5 4'-6
e15	C													3	*5 3'-6	3	*5 3'-6	3	*5 3'-6	3	*5 3'-6
f1	str	3	*4 3'-9	3	*4 4'-3	3	*4 4'-3	3	*4 4'-6	3	*4 4'-9	4	*4 5'-0	4	*4 5'-3	4	*4 5'-9	4	*4 5'-9	4	*4 6'-0
f2	str	3	*4 5'-9	3	*4 6'-3	3	*4 6'-3	3	*4 6'-6	3	*4 6'-9	3	*4 7'-3	3	*4 7'-6	3	*4 8'-0	4	*4 8'-3	4	*4 8'-6
f3	str	3	*4 7'-6	3	*4 8'-3	3	*4 8'-3	3	*4 8'-6	3	*4 9'-0	3	*4 9'-3	3	*4 9'-9	3	*4 10'-3	3	*4 10'-6	3	*4 11'-0
f4	str	2	*4 9'-6	2	*4 10'-3	3	*4 10'-3	3	*4 10'-6	3	*4 11'-0	3	*4 11'-6	3	*4 12'-0	3	*4 12'-6	3	*4 13'-0	3	*4 13'-6
f5	str	3	*4 3'-9	3	*4 4'-3	3	*4 4'-6	3	*4 4'-6	3	*4 5'-0	3	*4 5'-3	3	*4 5'-3	3	*4 5'-9	3	*4 6'-0	3	*4 6'-3
f6	str	2	*4 5'-6	2	*4 6'-0	2	*4 6'-6	3	*4 6'-9	3	*4 7'-3	3	*4 7'-6	3	*4 7'-9	3	*4 8'-3	3	*4 8'-6	3	*4 8'-9
f7	str	2	*4 7'-6	2	*4 8'-0	2	*4 8'-6	2	*4 9'-0	2	*4 9'-3	2	*4 9'-6	2	*4 10'-0	3	*4 10'-6	3	*4 11'-0	3	*4 11'-0
f8	str	2	*4 9'-6	2	*4 10'-0	2	*4 10'-6	2	*4 11'-3	2	*4 11'-6	2	*4 11'-9	2	*4 12'-6	2	*4 13'-0	2	*4 13'-6	3	*4 13'-6
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'-6	6	*4 14'-0
m1	str	4	*4 19'-9	4	*4 20'-6	4	*4 21'-0	5	*4 21'-9	5	*4 22'-3	5	*4 23'-0	5	*4 23'-9	6	*4 24'-3	6	*4 25'-0	6	*4 25'-9
m2	str	1	*4 19'-9	1	*4 20'-6	1	*4 21'-0	1	*4 21'-9	1	*4 22'-3	1	*4 23'-0	1	*4 23'-9	1	*4 24'-3	1	*4 25'-0	1	*4 25'-9
m3	str	4	*4 18'-6	4	*4 19'-3	4	*4 20'-0	5	*4 20'-9	5	*4 21'-6	5	*4 22'-3	5	*4 23'-3	6	*4 24'-0	6	*4 24'-9	6	*4 25'-6
m4	str	1	*4 18'-6	1	*4 19'-3	1	*4 20'-0	1	*4 20'-9	1	*4 21'-6	1	*4 22'-3	1	*4 23'-3	1	*4 24'-0	1	*4 24'-9	1	*4 25'-6
n1	str	4	*4 17'-9	4	*4 18'-9	4	*4 19'-9	5	*4 20'-9	5	*4 21'-9	5	*4 22'-9	5	*4 23'-9	6	*4 24'-9	6	*4 25'-9	6	*4 26'-9
n2	str	1	*4 17'-9	1	*4 18'-9	1	*4 19'-9	1	*4 20'-9	1	*4 21'-9	1	*4 22'-9	1	*4 23'-9	1	*4 24'-9	1	*4 25'-9	1	*4 26'-9
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	52	*4 7'-0	54	*4 7'-0	56	*4 7'-0	58	*4 7'-0	60	*4 7'-0	62	*4 7'-0	64	*4 7'-0	66	*4 7'-0	68	*4 7'-0	70	*4 7'-0
v	str	6	*4 16'-3	6	*4 16'-9	6	*4 17'-3	6	*4 17'-9	6	*4 18'-3	6	*4 18'-9	6	*4 19'-3	6	*4 19'-9	6	*4 20'-3	6	*4 20'-9
w	str	6	*4 13'-0	6	*4 13'-6	6	*4 13'-9	6	*4 14'-3	6	*4 14'-6	6	*4 15'-0	6	*4 15'-6	6	*4 16'-0	6	*4 16'-3	6	*4 16'-9

		PIPE DIAMETER									
Mark	Bent	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
B	2'-2	2'-2	2'-3	2'-3	2'-4	2'-4	2'-5	2'-5	2'-6	2'-6	
C	1'-4	1'-4	1'-4	1'-4	1'-4	1'-4	1'-4	1'-4	1'-4	1'-4	
D	3'-6	3'-10	4'-1	4'-5	4'-8	5'-0	5'-3	5'-7	5'-10	6'-2	
E	7'-0	7'-4	7'-8	8'-0	8'-4	8'-8	9'-0	9'-4	9'-		