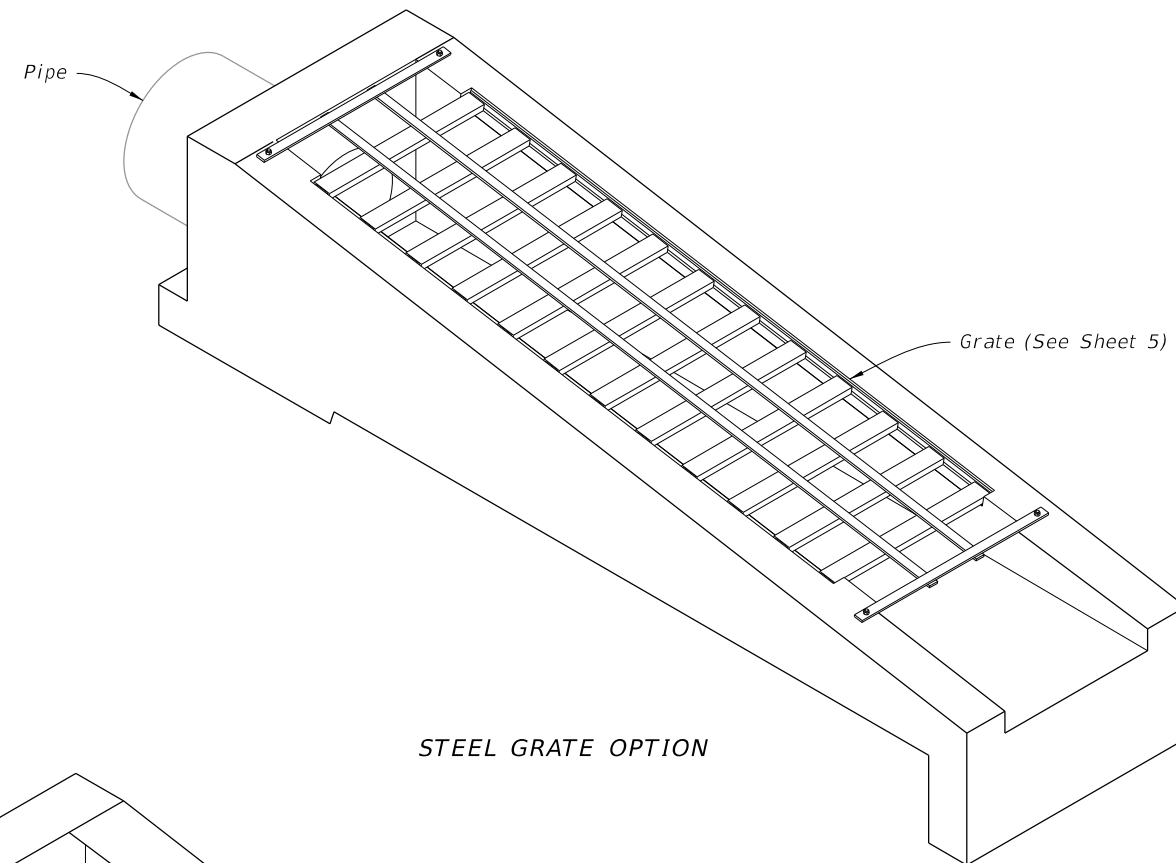


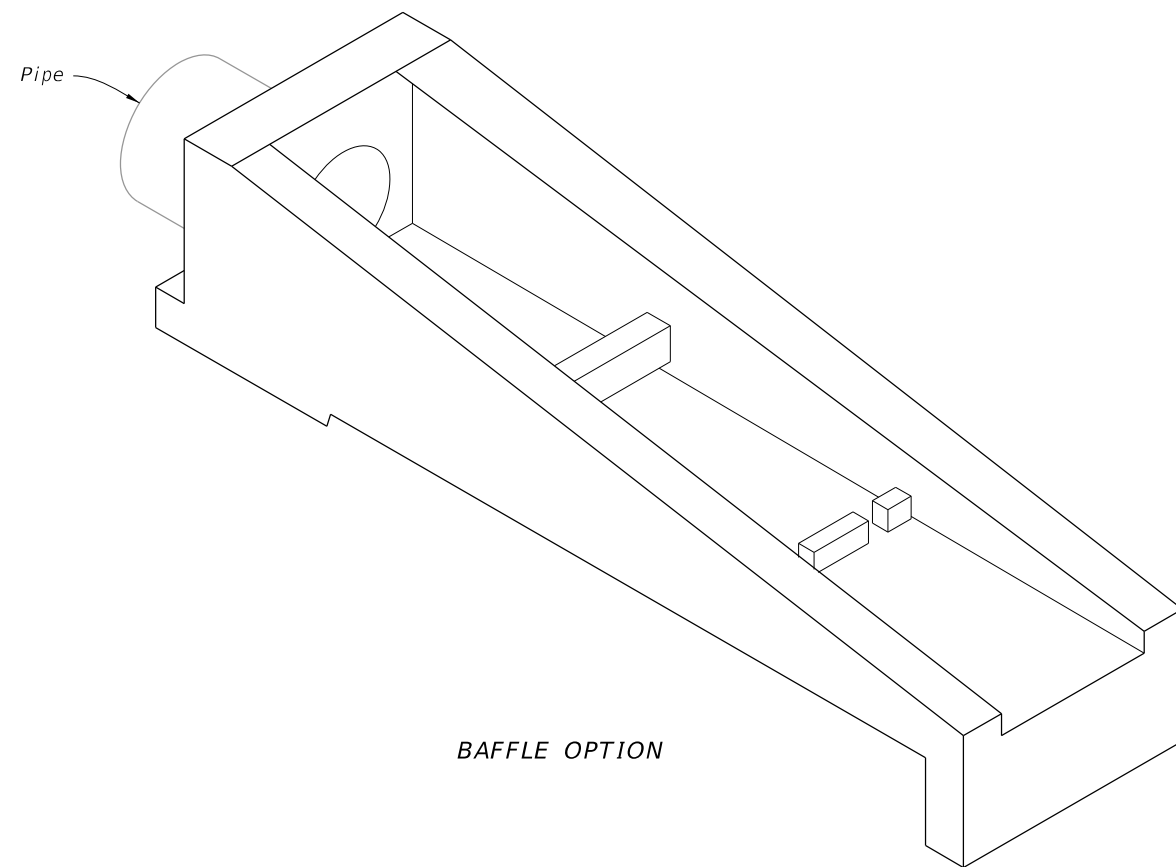
GENERAL NOTES:

1. Use Class II concrete.
2. Construct Baffles only when called for in Plans.
3. See Sheet 5 when steel grating is required on endwall.
4. All reinforcing #4 bars with 2" clearance except as noted.
5. Channel section C 3x6 may be substituted for C 4x5.4 channel.
6. Endwall may be cast in place or precast concrete. Construct precast units to dimensions shown, or as shown in approved shop drawings. Submit requests for shop drawing approvals to the Engineer. Use Index 425-001 for opening and grouting details.
7. Quantities shown are for estimating purposes only.

TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Endwalls for 1:2 Slopes With Baffles
3	Endwalls for 1:2 Slopes Without Baffles and Bending Bar Diagram
4	Endwalls for 1:3, 1:4, and 1:6 Slopes
5	Steel Grate Option



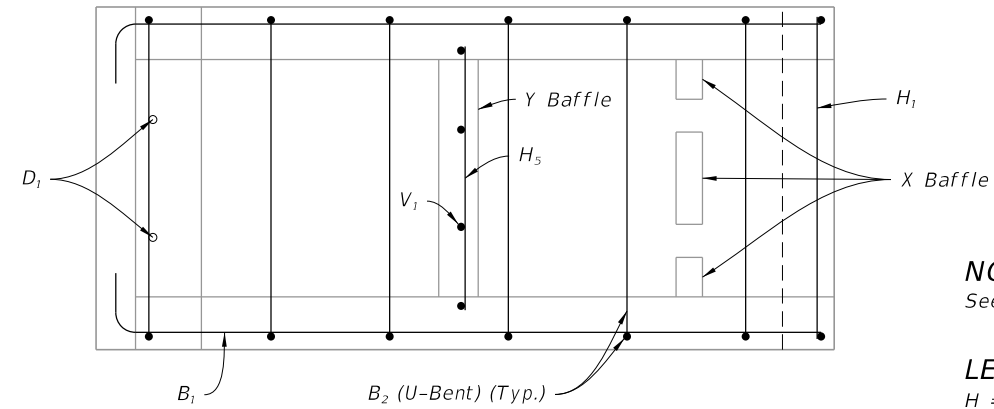
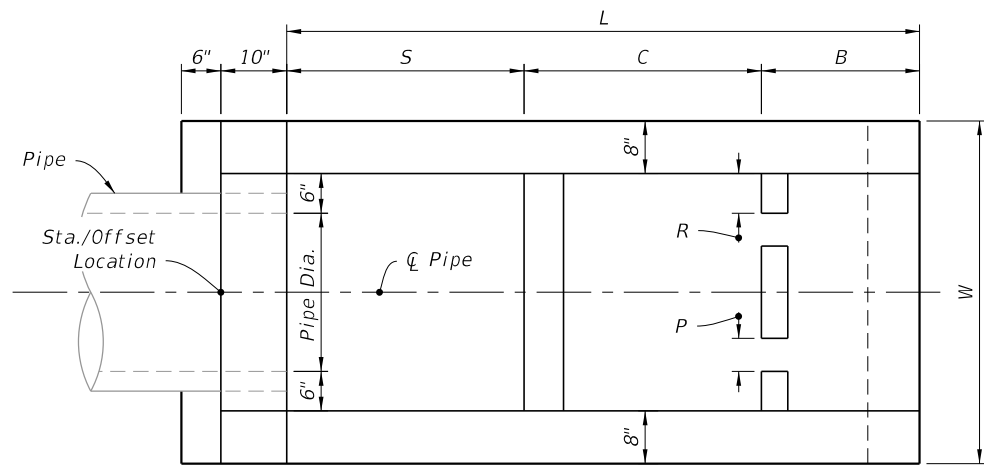
STEEL GRATE OPTION



BAFFLE OPTION

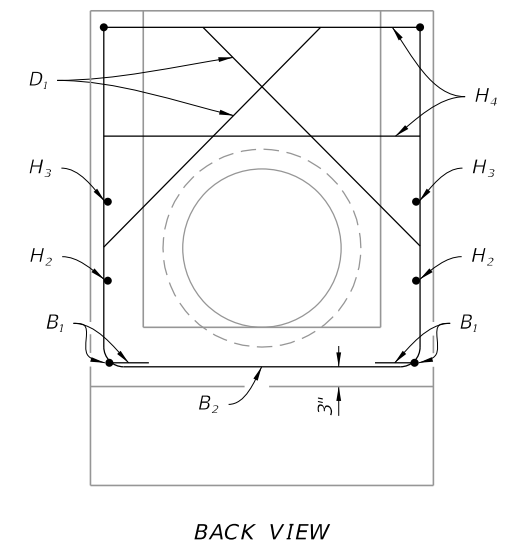
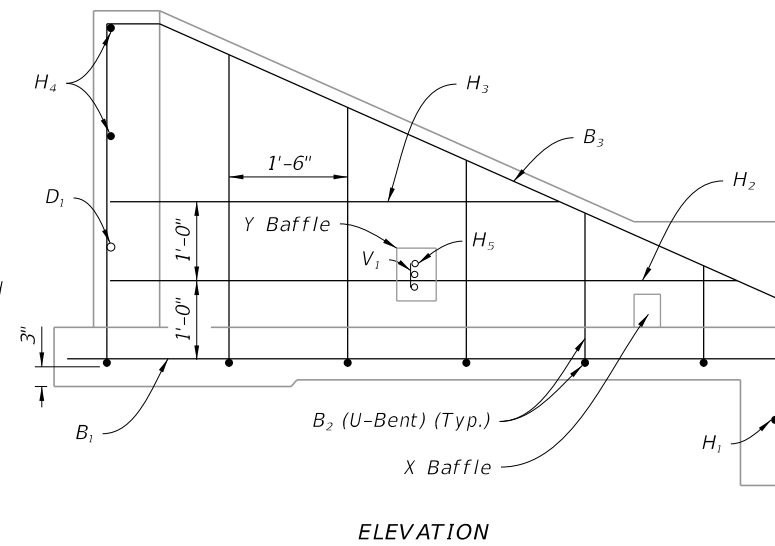
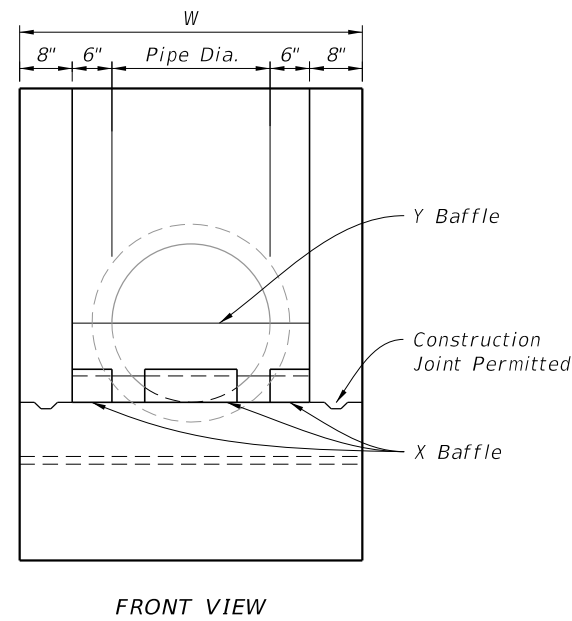
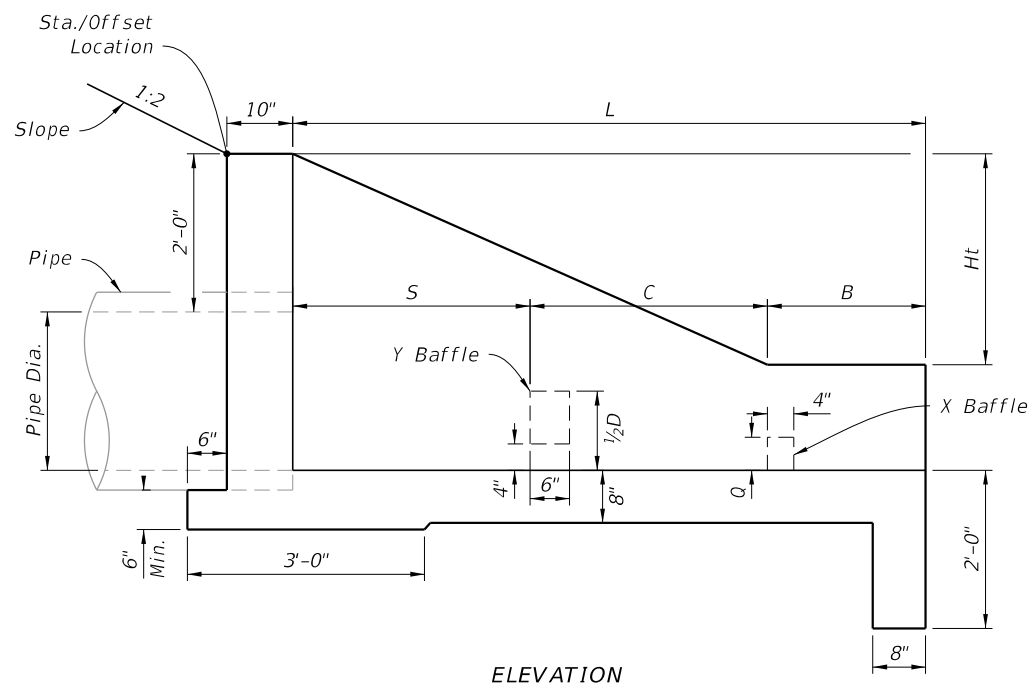
U-TYPE CONCRETE ENDWALLS

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NOTE:
See Sheet 3 for Bar Bending Diagram.

LEGEND:
H = Horizontal Bars
V = Vertical Bars
B = Bent Bars
D = Dowels or Diagonal Bars



DIMENSIONAL DETAILS

REINFORCING DETAILS

TABLE-1
DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL

Pipe		L	Ht	W	S	B	C	X Baffle			Y Baffle Reinf. Steel		Class II Conc. Cu. Yd.	Reinf. Steel lbs.
Dia.	Area Sq. Ft.							P	Q	R	Bars V ₁	Bars H ₅		
15"	1.23	5'-9"	2'-3½"	3'-7"	2'-3"	1'-3"	2'-3"	4"	4"	4"	2 #4	1 #4	1.61	72
18"	1.77	6'-6"	2'-5"	3'-10"	2'-6"	1'-6"	2'-6"	4"	4"	5"	3 #4	2 #4	1.89	86
24"	3.14	8'-0"	2'-8"	4'-4"	3'-0"	2'-0"	3'-0"	5"	5"	6"	4 #4	3 #4	2.52	108
30"	4.91	9'-6"	2'-11"	4'-10"	3'-6"	2'-6"	3'-6"	5"	5"	7"	4 #4	4 #4	3.34	131

ENDWALLS FOR 1:2 SLOPES WITH BAFFLES

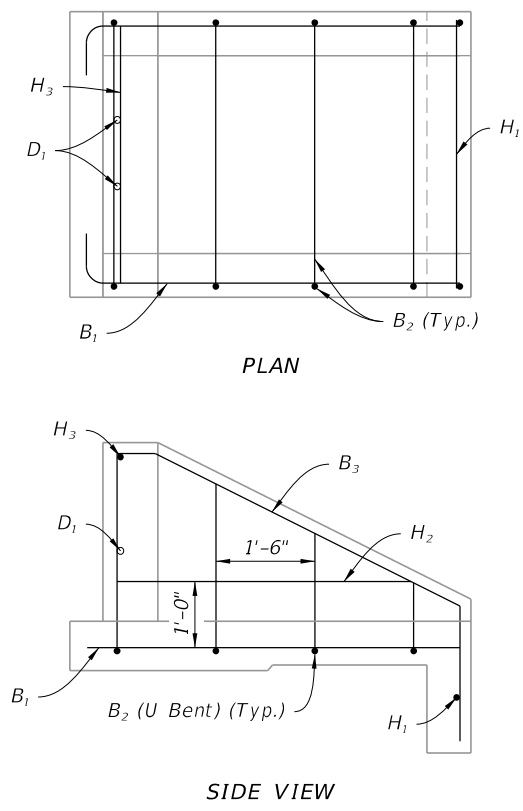
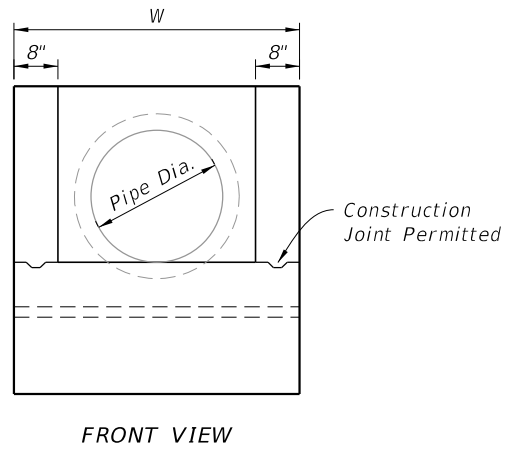
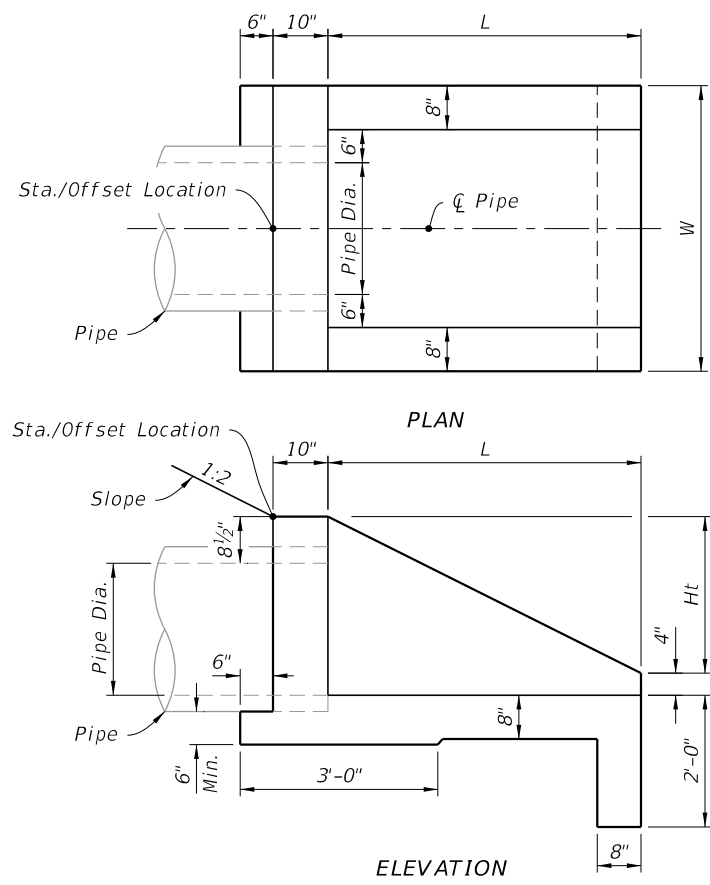
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LAST REVISION 11/01/21	REVISION	DESCRIPTION:
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FY 2023-24
STANDARD PLANS

U-TYPE CONCRETE ENDWALLS BAFFLES
AND GRATE OPTIONAL 15" TO 30" PIPE

INDEX 430-011	SHEET 2 of 5
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LEGEND:
 H = Horizontal Bars
 V = Vertical Bars
 B = Bent Bars
 D = Dowels or Diagonal Bars

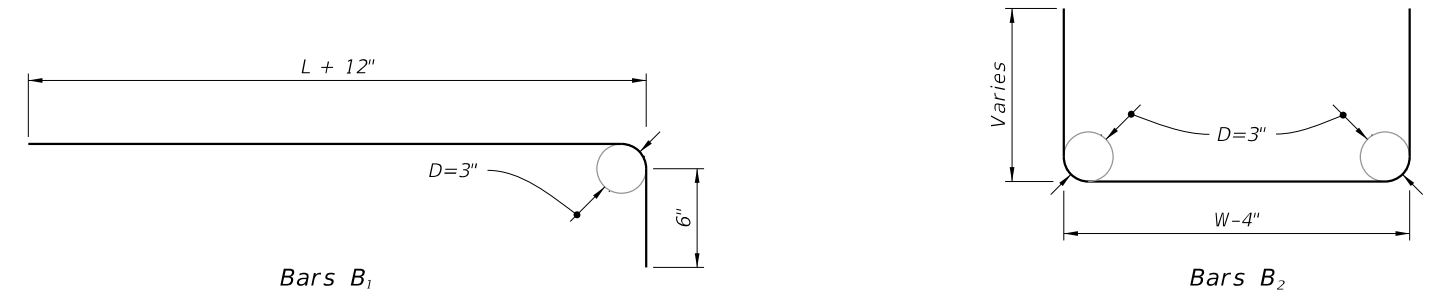
DIMENSIONAL DETAILS

REINFORCING DETAILS

TABLE-2
DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL

Pipe		L	Ht	W	Class II Conc. Cu. Yd.	Reinf. Steel lbs.
Dia.	Area Sq. Ft.					
15"	1.23	3'-3"	1'-7½"	3'-7"	0.89	39
18"	1.77	3'-9"	1'-10½"	3'-10"	1.05	43
24"	3.14	4'-9"	2'-4½"	4'-4"	1.40	55
30"	4.91	5'-9"	2'-10½"	4'-10"	1.88	64

ENDWALL WITHOUT BAFFLES



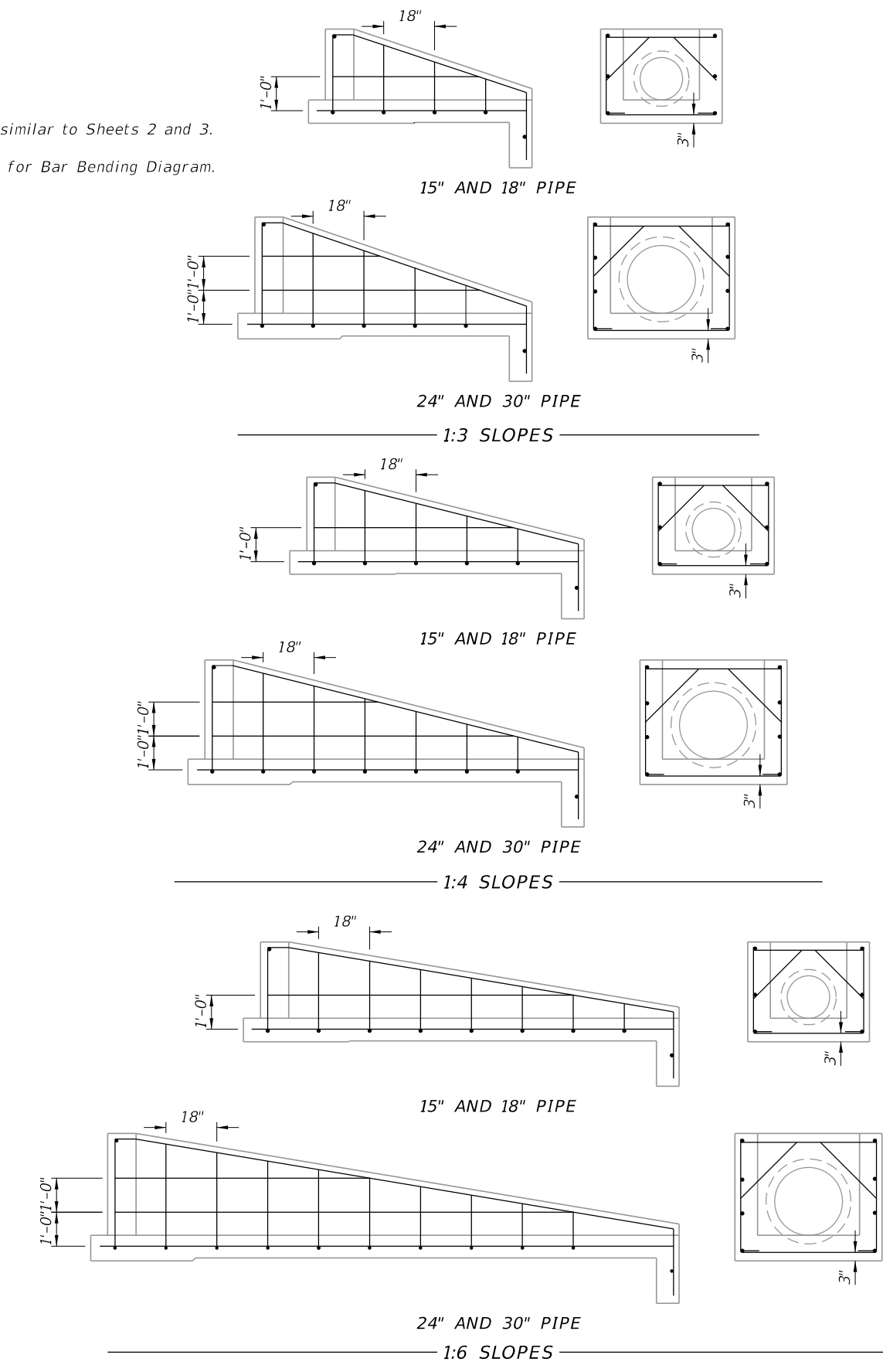
BENDING DIAGRAM

ENDWALLS FOR 1:2 SLOPES WITHOUT BAFFLES AND BAR BENDING DIAGRAM

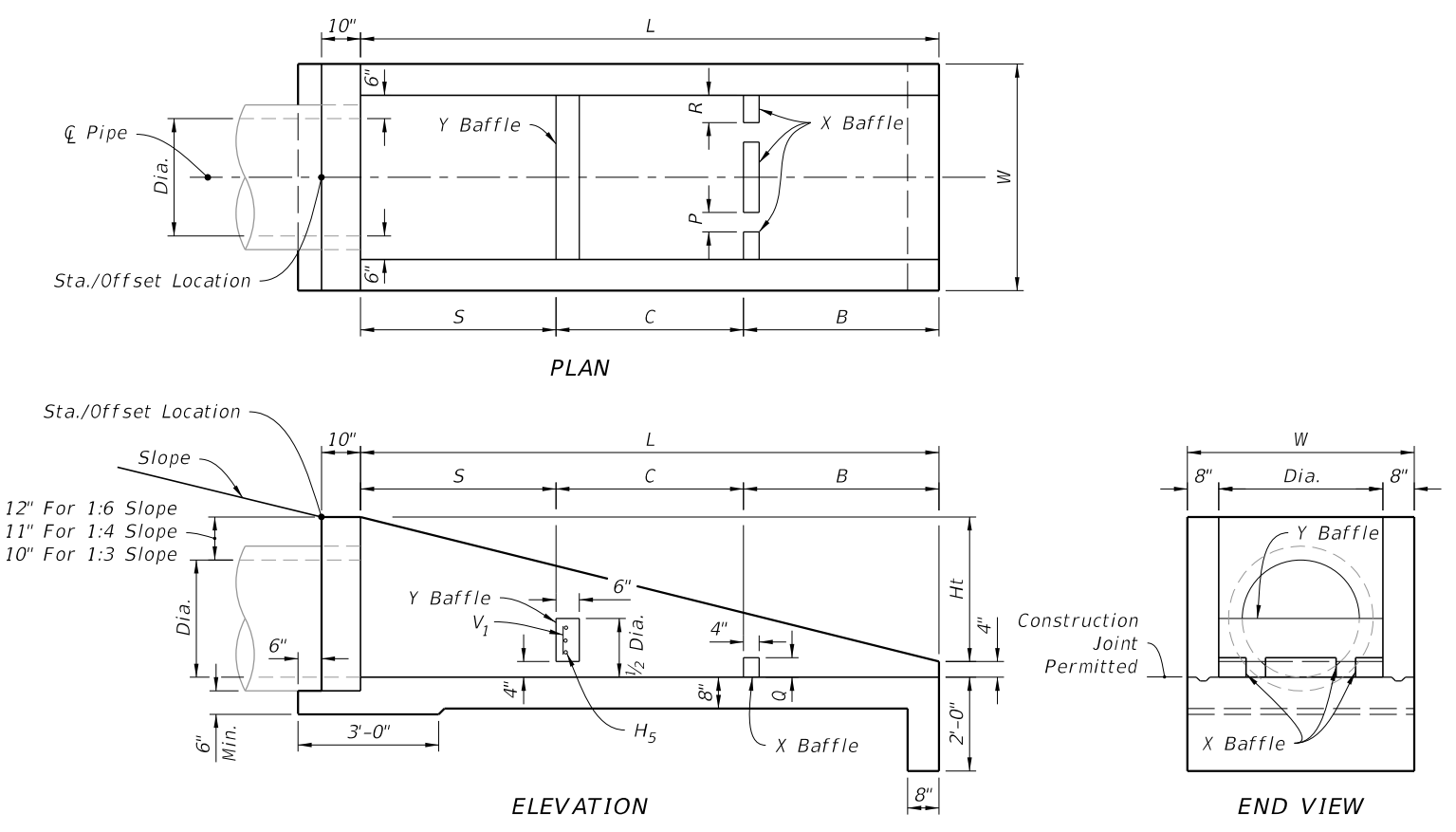
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LAST REVISION 11/01/21	REVISION	DESCRIPTION:		FY 2023-24 STANDARD PLANS	U-TYPE CONCRETE ENDWALLS BAFFLES AND GRATE OPTIONAL 15" TO 30" PIPE	INDEX 430-011	SHEET 3 of 5
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NOTE:
 1. Reinforcing similar to Sheets 2 and 3.
 2. See Sheet 3 for Bar Bending Diagram.



REINFORCING DETAILS
 (Side Views And Backwall Sections Shown)



DIMENSIONAL DETAILS

TABLE-3
DIMENSIONS AND QUANTITIES FOR BAFFLES

Pipe Dia.	X Baffle			Y Baffle Reinf. Steel		Class II Concrete Cu. Yd.	Reinf. Steel lbs.
	P Width	Q Height	R Length	Bar V ₁	Bar H ₅		
15"	4"	4"	4"	2- #4	1- #4	0.10	4
18"	4"	4"	5"	3- #4	2- #4		8
24"	5"	5"	6"	4- #4	3- #4		12
30"	5"	5"	7"	4- #4	4- #4		16

TABLE-4
DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL

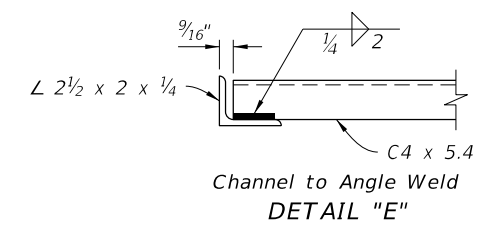
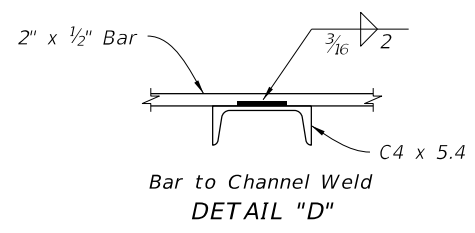
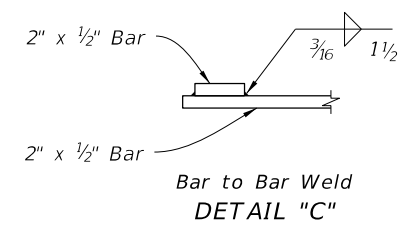
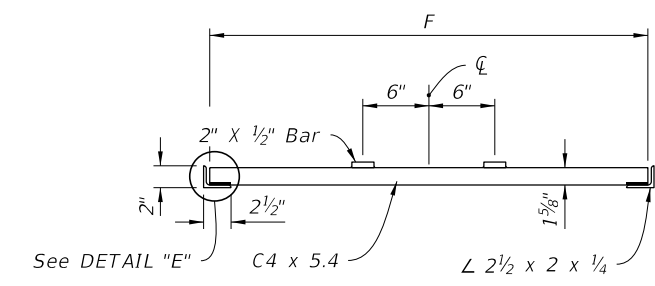
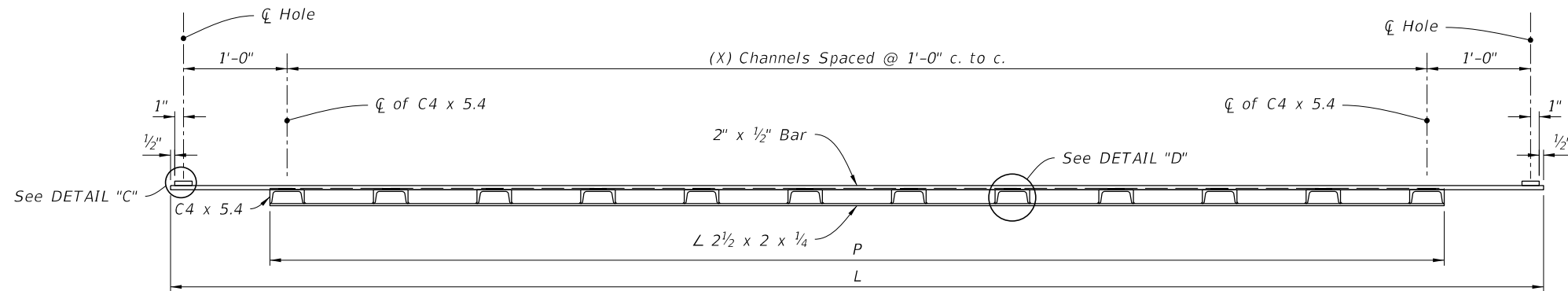
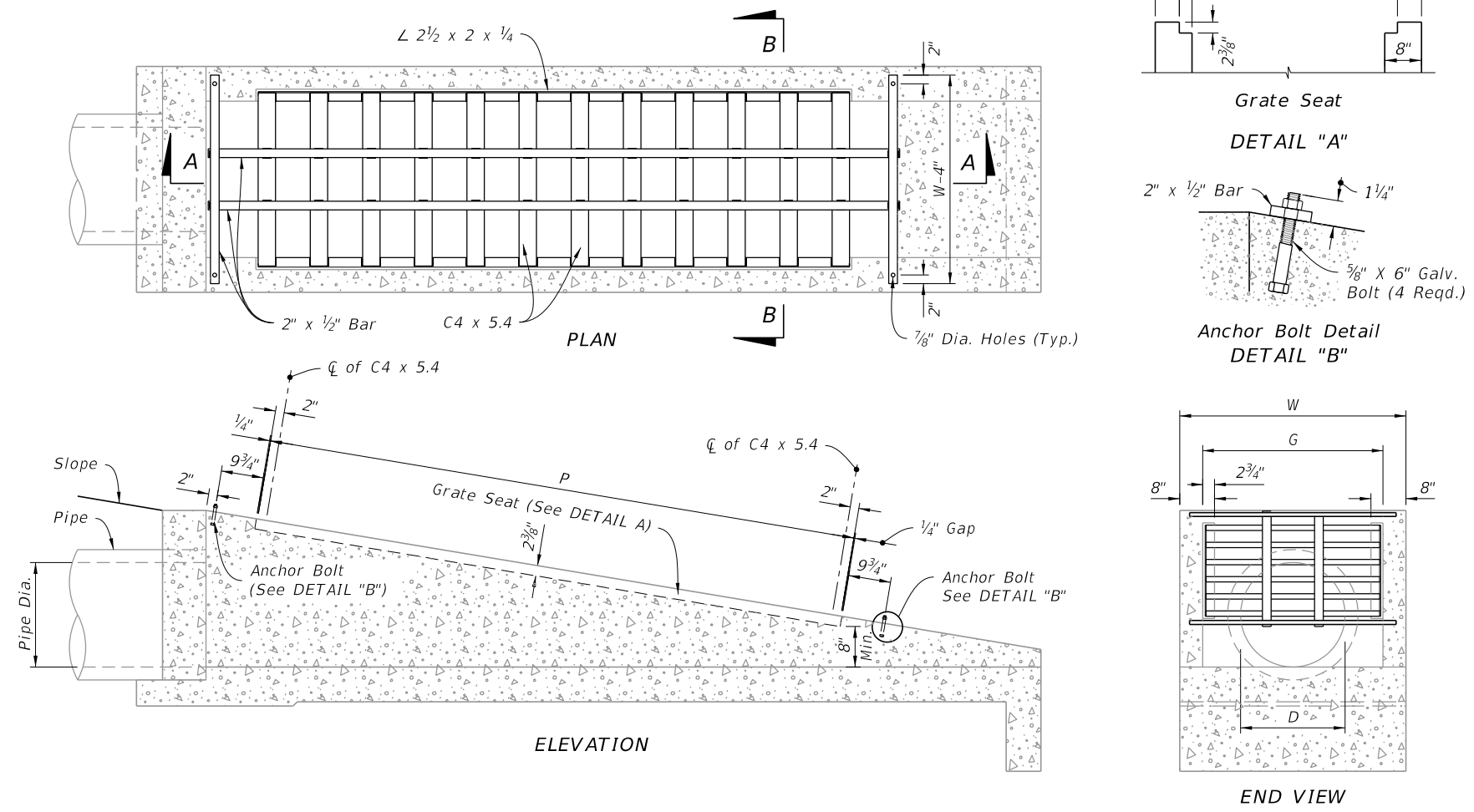
Rate Of Slope	Pipe		L	Ht	W	Baffle Locations (When Required)			Class II Concrete Cu. Yd.	Reinf. Steel lbs.
	Dia.	Area (Sq. Ft.)				S	B	C		
1 : 3	15"	1.23	5'-3"	1'-9"	3'-7"	1'-9"	1'-9"	1'-9"	1.19	51
	18"	1.77	6'-0"	2'-0"	3'-10"	2'-0"	2'-0"	2'-0"	1.42	56
	24"	3.14	7'-6"	2'-6"	4'-4"	2'-6"	2'-6"	2'-6"	1.94	77
	30"	4.91	9'-0"	3'-0"	4'-10"	3'-0"	3'-0"	3'-0"	2.54	96
1 : 4	15"	1.23	7'-4"	1'-10"	3'-7"	2'-6"	2'-6"	2'-4"	1.54	64
	18"	1.77	8'-4"	2'-1"	3'-10"	2'-10"	2'-10"	2'-8"	1.84	71
	24"	3.14	10'-4"	2'-7"	4'-4"	3'-6"	3'-6"	3'-4"	2.53	92
	30"	4.91	12'-4"	3'-1"	4'-10"	4'-2"	4'-2"	4'-0"	3.34	124
1 : 6	15"	1.23	11'-6"	1'-11"	3'-7"	3'-10"	3'-10"	3'-10"	2.19	89
	18"	1.77	13'-0"	2'-2"	3'-10"	4'-4"	4'-4"	4'-4"	2.63	103
	24"	3.14	16'-0"	2'-8"	4'-4"	5'-4"	5'-4"	5'-4"	3.59	143
	30"	4.91	19'-0"	3'-2"	4'-10"	6'-4"	6'-4"	6'-4"	4.81	180

ENDWALLS WITH AND WITHOUT BAFFLES FOR 1:3, 1:4, AND 1:6 SLOPES

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TABLE-5
TABLE OF DIMENSIONS AND QUANTITIES FOR ONE GRATE

Rate of Slope	Size Dia.	G	2 Each Bars @ 3.4 lb/ft			(X) Channels @ 5.4 lb/ft			2 Angles @ 3.62 lb/ft		Total Weight (lb)
			L	W-4"	lbs	(X)	F	lbs	P	lb	
1:3	15"	2'-8½"	4'-3"	3'-3"	51	3	2'-6⅞"	42	2'-4"	17	110
	18"	2'-11½"	5'-3"	3'-6"	60	4	2'-9⅞"	61	3'-4"	24	145
	24"	3'-5½"	6'-3"	4'-0"	70	5	3'-3⅞"	90	4'-4"	31	191
1:4	15"	2'-8½"	6'-3"	3'-3"	65	5	2'-6⅞"	70	4'-4"	32	167
	18"	2'-11½"	7'-3"	3'-6"	73	6	2'-9⅞"	92	5'-4"	39	204
	24"	3'-5½"	9'-3"	4'-0"	90	8	3'-3⅞"	144	7'-4"	53	287
1:6	15"	2'-8½"	11'-3"	4'-6"	107	10	3'-9⅞"	206	9'-4"	68	381
	18"	2'-11½"	10'-3"	3'-6"	94	9	2'-9⅞"	137	8'-4"	62	292
	24"	3'-5½"	13'-3"	4'-0"	117	12	3'-3⅞"	215	11'-4"	82	414
	30"	3'-11½"	16'-3"	4'-6"	141	15	3'-9⅞"	310	14'-4"	104	555



STEEL GRATE DETAILS

STEEL GRATE OPTION

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