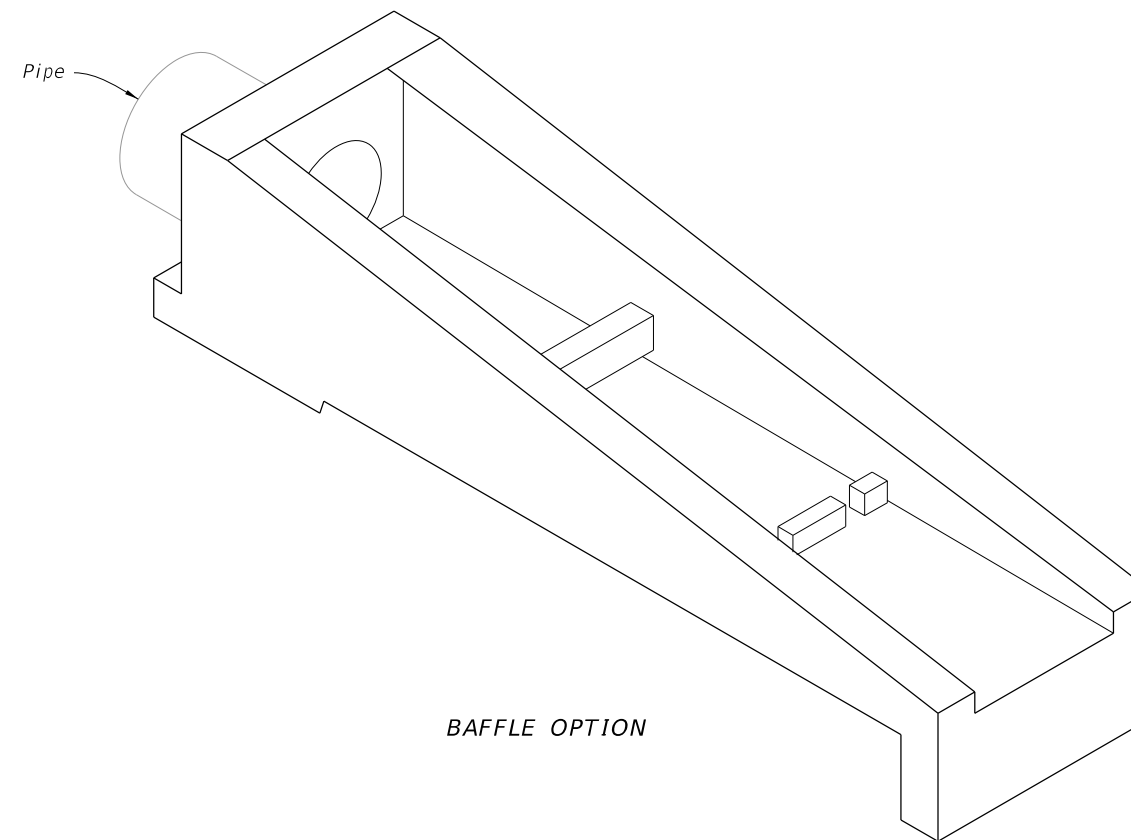
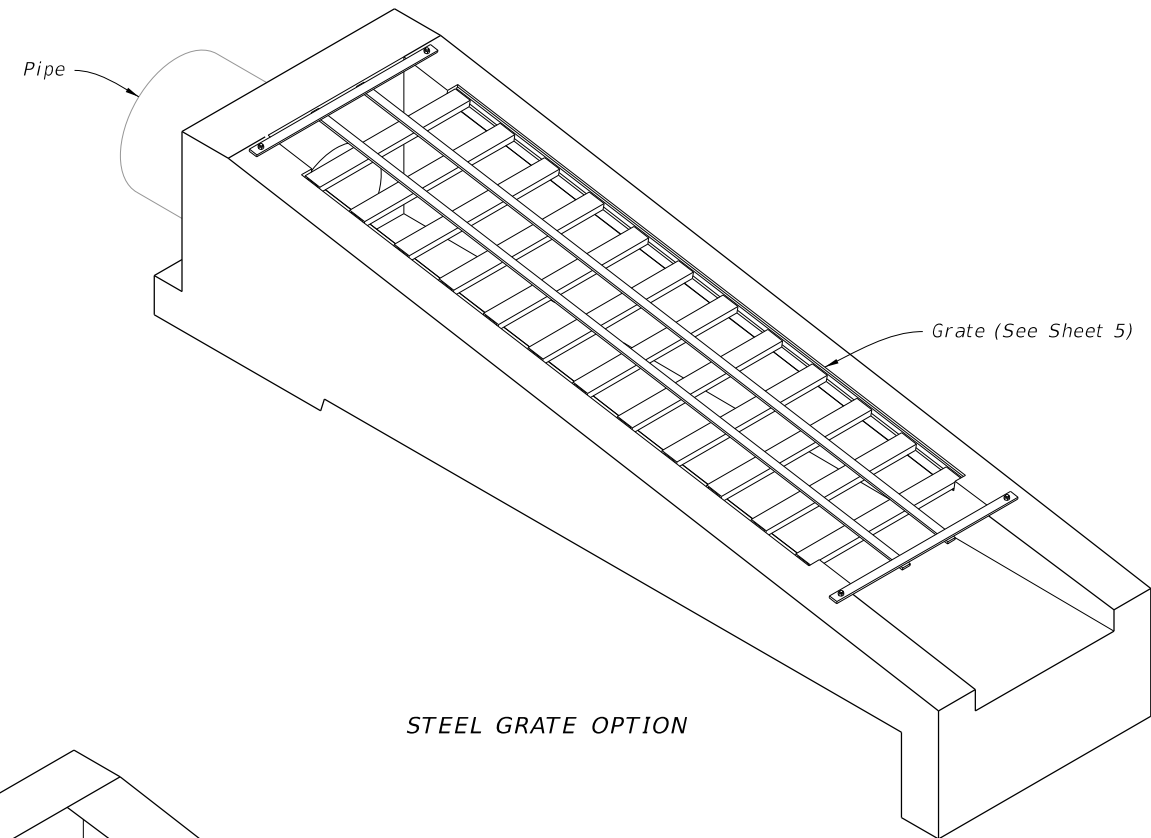


**GENERAL NOTES:**

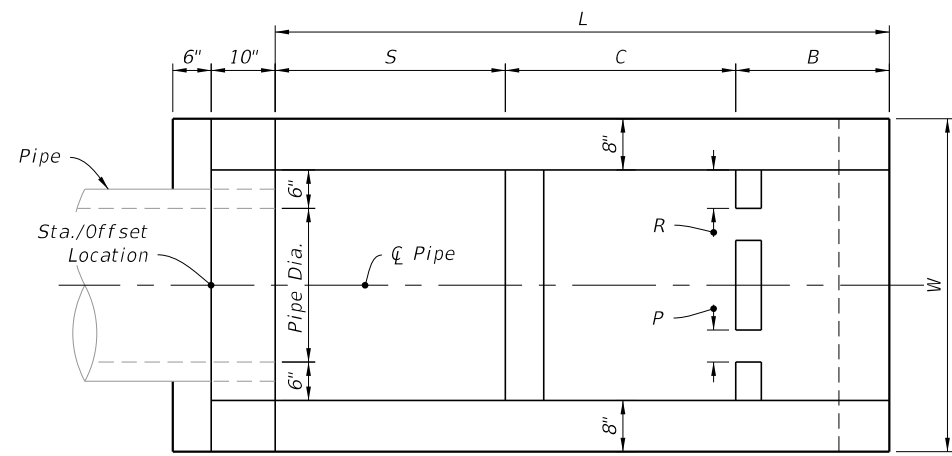
1. Use Class I concrete
2. Construct Baffles only when called for in Plans.
3. See Sheet 5 when steel grating is required on endwall.
4. All reinforcing #4 bars with 2" clearance except as noted.
5. Channel section C 3x6 may be substituted for C 4x5.4 channel.
6. Endwall may be cast in place or precast 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

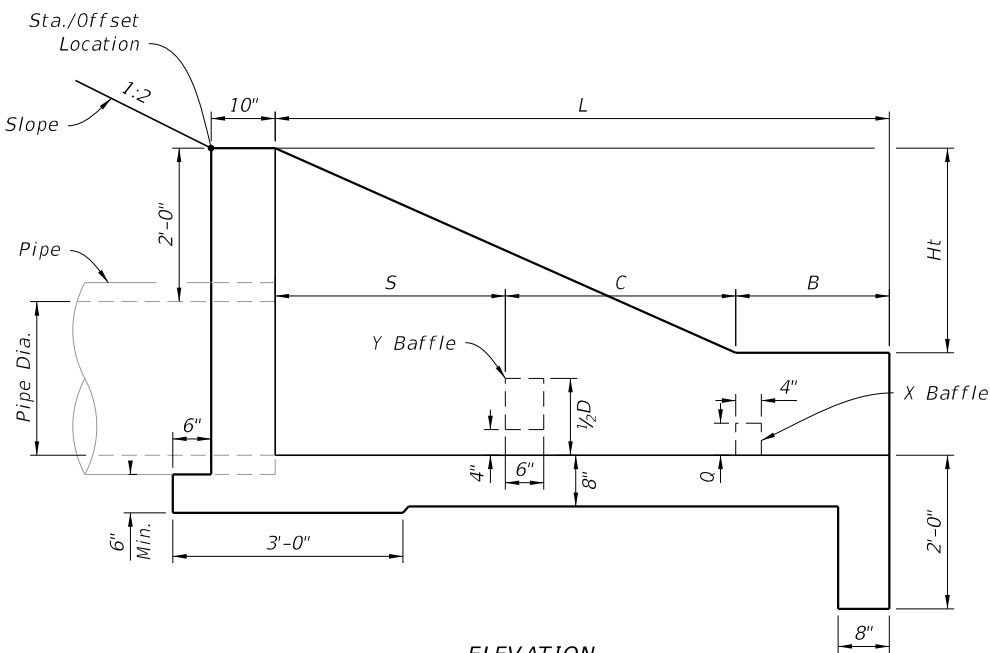


U-TYPE CONCRETE ENDWALLS

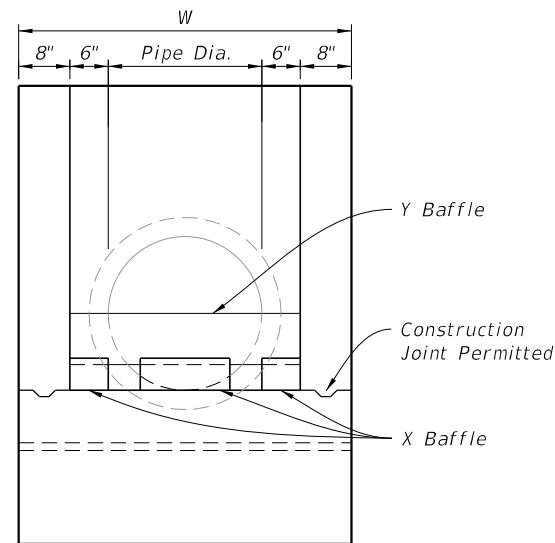
10/29/2019 2:44:33 PM



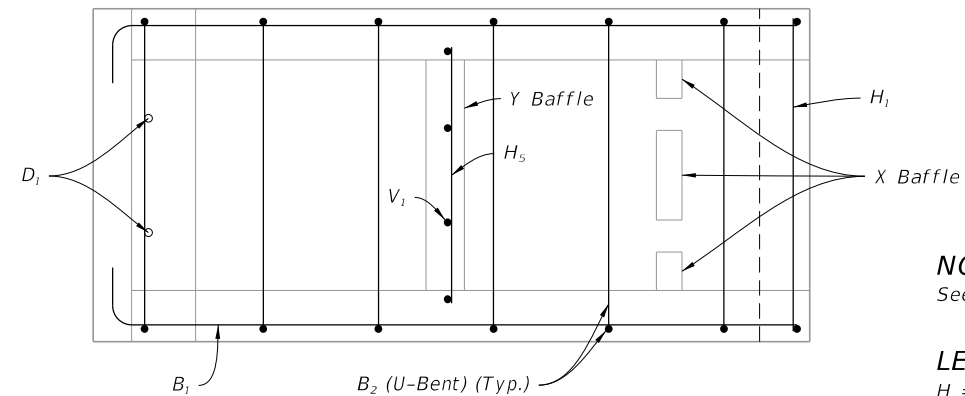
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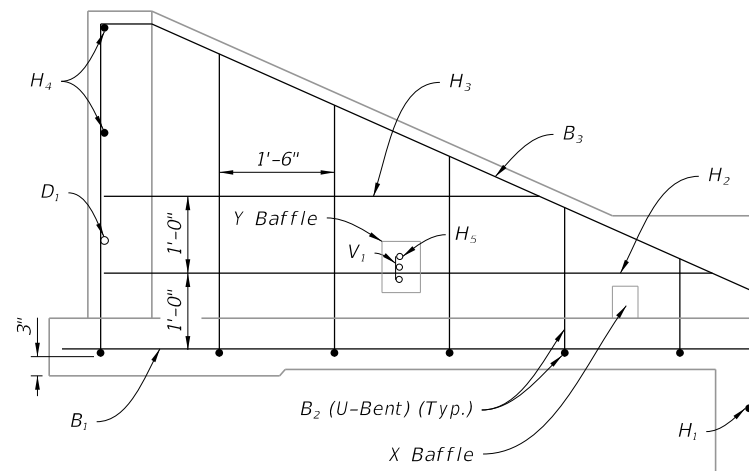
ELEVATION



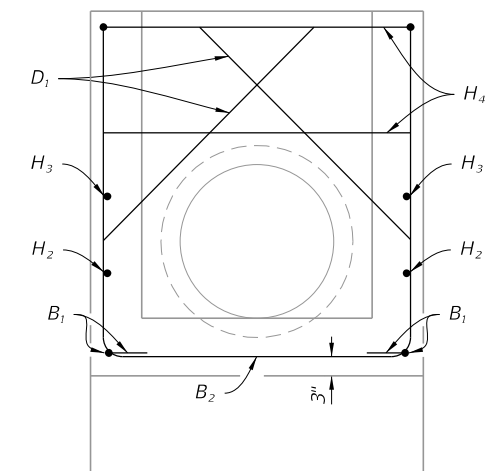
FRONT VIEW



PLAN



ELEVATION



BACK VIEW

**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

DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL														
Pipe		L	Ht	W	S	B	C	X Baffle			Y Baffle Reinf. Steel		Class I Conc. Cu. Yd.	Reinf. Steel lbs.
Dia.	Area Sq. Ft.							P	Q	R	Bars V <sub>1</sub>	Bars H <sub>5</sub>		
15"	1.23	5'-9"	2'-3 1/2"	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

10/29/2019 2:44:33 PM

LAST REVISION 11/01/19	DESCRIPTION:
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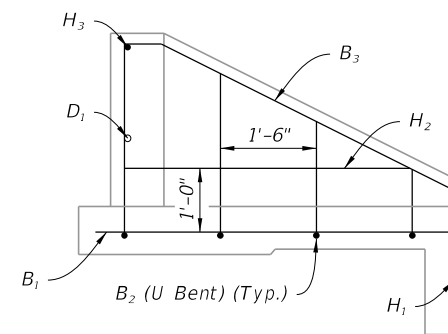
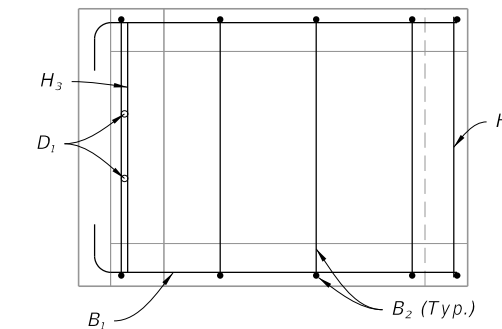
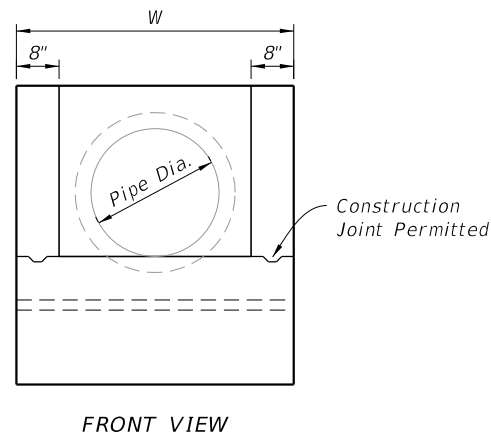
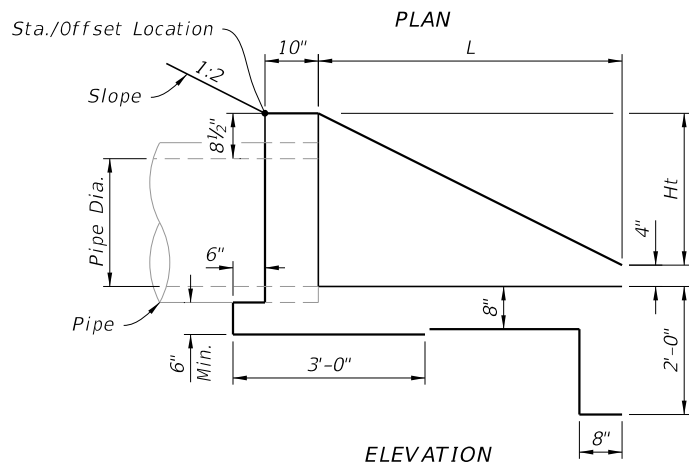
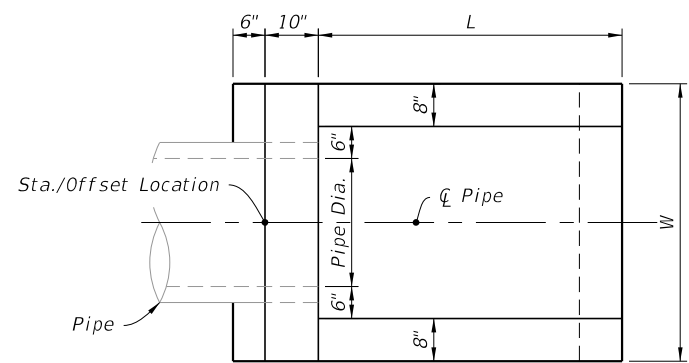


FY 2020-21  
STANDARD PLANS

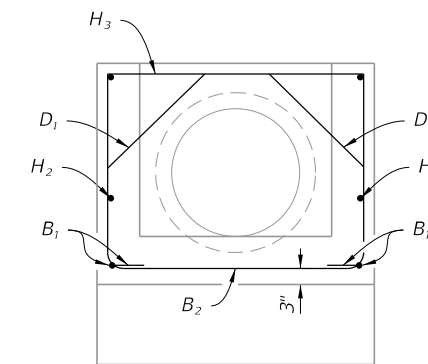
U-TYPE CONCRETE ENDWALLS BAFFLES  
& GRATE OPTIONAL 15" TO 30" PIPE

INDEX  
430-011

SHEET  
2 of 5



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

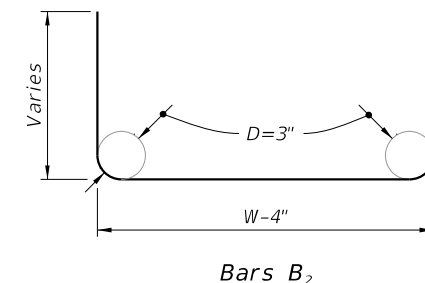
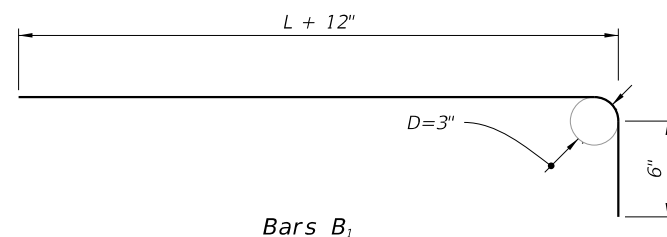


DIMENSIONAL DETAILS

REINFORCING DETAILS

Pipe		L	Ht	W	Class I Conc. Cu. Yd.	Reinf. Steel lbs.
Dia.	Area Sq. Ft.					
15"	1.23	3'-3"	1'-7 1/2"	3'-7"	0.89	39
18"	1.77	3'-9"	1'-10 1/2"	3'-10"	1.05	43
24"	3.14	4'-9"	2'-4 1/2"	4'-4"	1.40	55
30"	4.91	5'-9"	2'-10 1/2"	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 11/01/19	DESCRIPTION:
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FY 2020-21  
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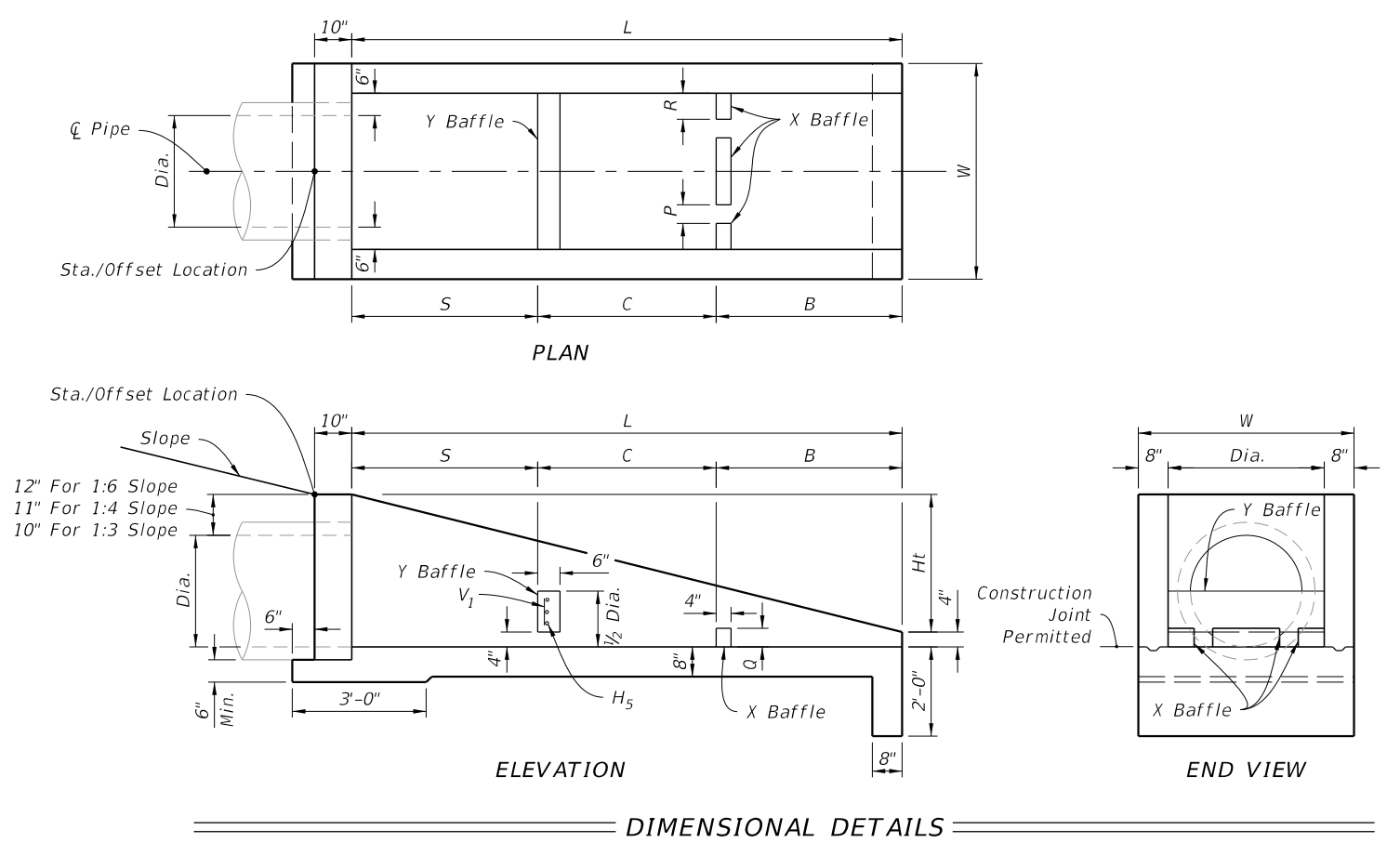
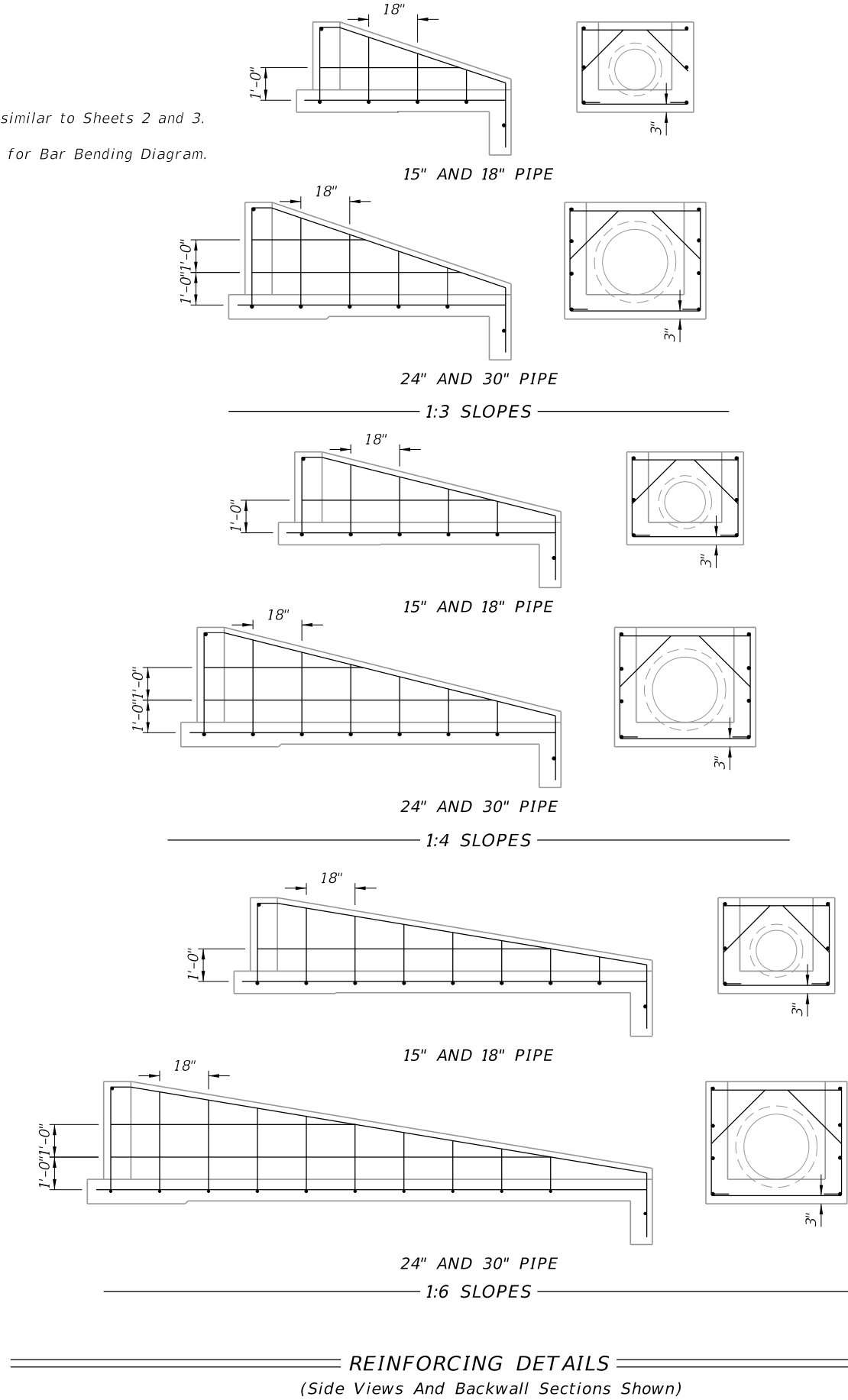
U-TYPE CONCRETE ENDWALLS BAFFLES  
& GRATE OPTIONAL 15" TO 30" PIPE

INDEX  
430-011

SHEET  
3 of 5

**NOTE:**

1. Reinforcing similar to Sheets 2 and 3.
2. See Sheet 3 for Bar Bending Diagram.



DIMENSIONS AND QUANTITIES FOR BAFFLES							
Pipe Dia.	X Baffle			Y Baffle Reinf. Steel		Class I Concrete Cu. Yd.	Reinf. Steel lbs.
	P Width	Q Height	R Length	Bar V <sub>1</sub>	Bar H <sub>5</sub>		
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

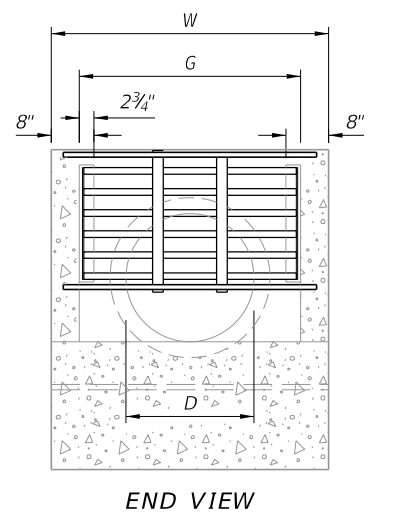
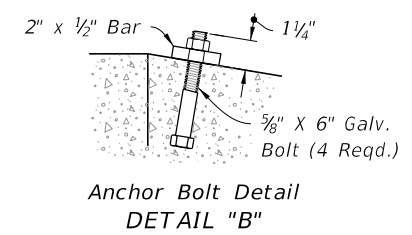
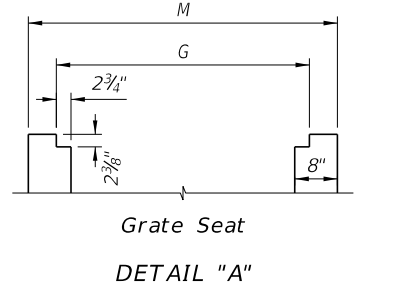
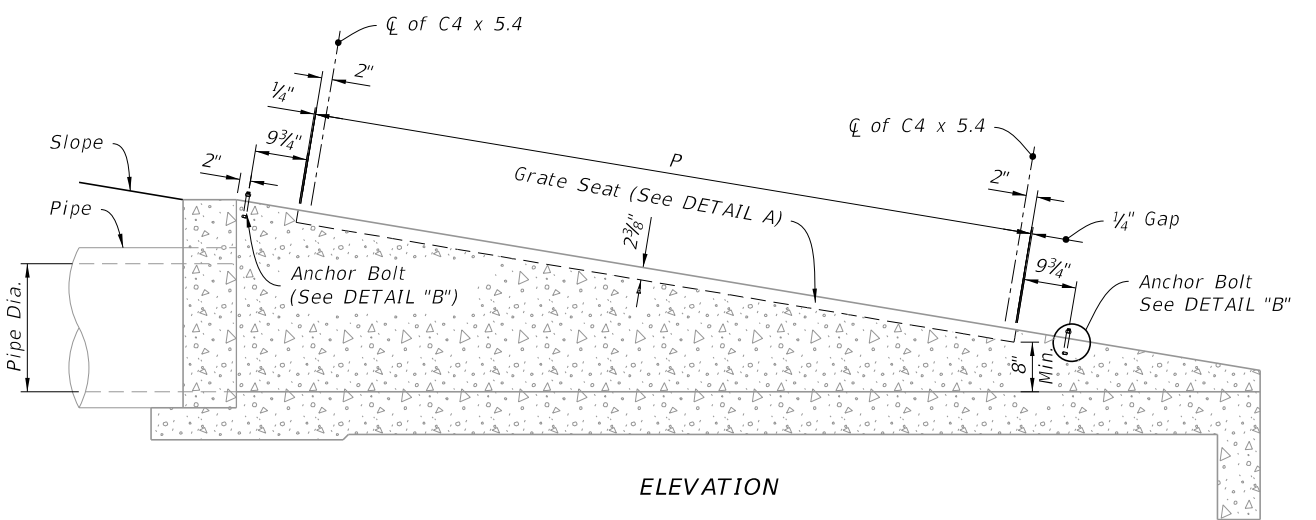
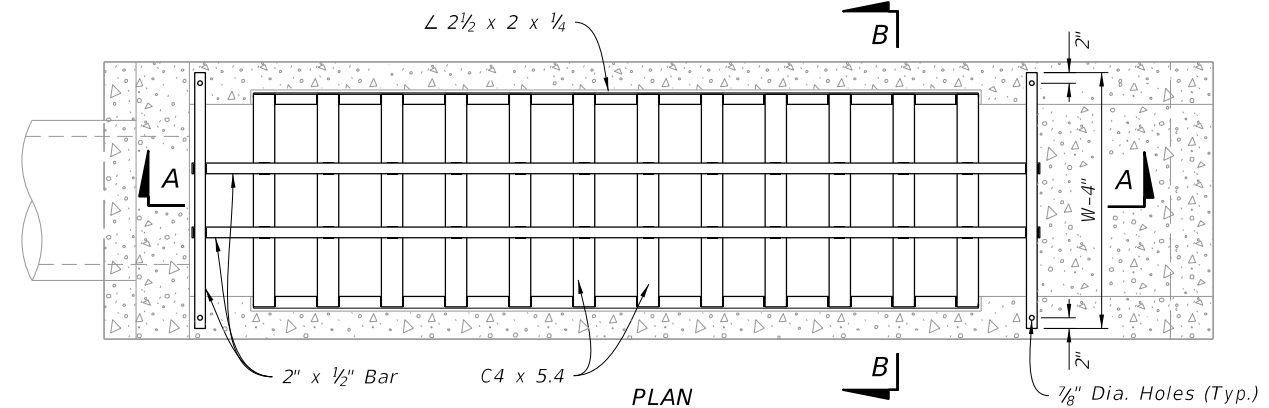
DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL										
Rate Of Slope	Pipe		L	Ht	W	Baffle Locations (When Required)			Class I Concrete Cu. Yd.	Reinf. Steel lbs.
	Dia.	Area (Sq. Ft.)				S	B	C		
1 : 3	15"	1.23	5'-3"	1'-9"	3'-7"	1'-9"	1'-9"	1'-9"	1.19	51
	18"	1.77	6'-0"	2'-0"	3'-10"	2'-0"	2'-0"	2'-0"	1.42	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
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**

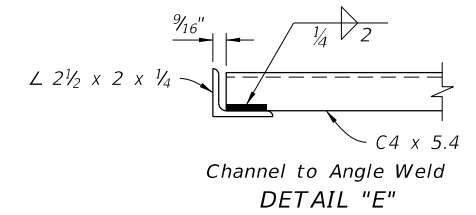
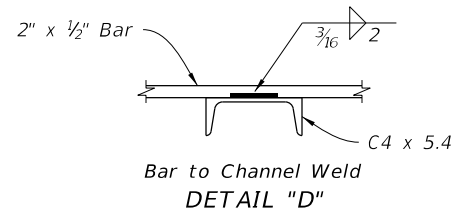
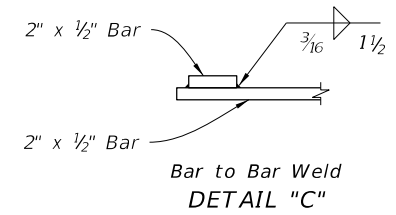
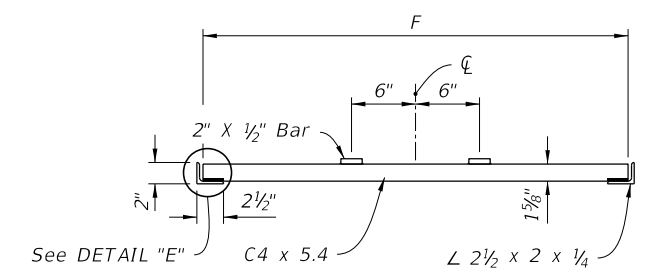
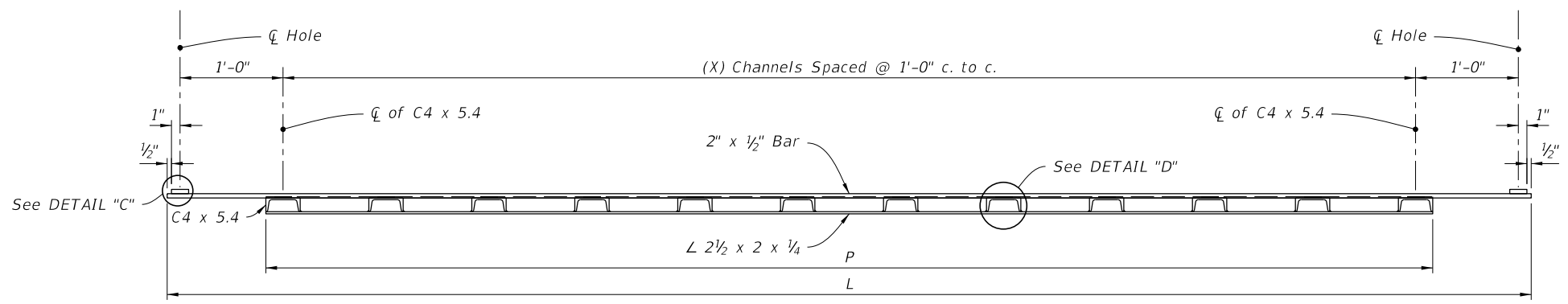
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**TABLE OF DIMENSIONS AND QUANTITIES FOR ONE GRATE**

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' - 8 1/2"	4'-3"	3'-3"	51	3	2' - 6 7/8"	42	2'-4"	17	110
	18"	2' - 11 1/2"	5'-3"	3'-6"	60	4	2' - 9 7/8"	61	3'-4"	24	145
	24"	3' - 5 1/2"	6'-3"	4'-0"	70	5	3' - 3 7/8"	90	4'-4"	31	191
	30"	3' - 11 1/2"	8'-3"	4'-6"	87	7	3' - 9 7/8"	145	6'-4"	46	278
1:4	15"	2' - 8 1/2"	6'-3"	3'-3"	65	5	2' - 6 7/8"	70	4'-4"	32	167
	18"	2' - 11 1/2"	7'-3"	3'-6"	73	6	2' - 9 7/8"	92	5'-4"	39	204
	24"	3' - 5 1/2"	9'-3"	4'-0"	90	8	3' - 3 7/8"	144	7'-4"	53	287
	30"	3' - 11 1/2"	11'-3"	4'-6"	107	10	3' - 9 7/8"	206	9'-4"	68	381
1:6	15"	2' - 8 1/2"	9'-3"	3'-3"	85	8	2' - 6 7/8"	111	7'-4"	53	249
	18"	2' - 11 1/2"	10'-3"	3'-6"	94	9	2' - 9 7/8"	137	8'-4"	62	292
	24"	3' - 5 1/2"	13'-3"	4'-0"	117	12	3' - 3 7/8"	215	11'-4"	82	414
	30"	3' - 11 1/2"	16'-3"	4'-6"	141	15	3' - 9 7/8"	310	14'-4"	104	555



**STEEL GRATE MOUNTING**



**STEEL GRATE DETAILS**

**STEEL GRATE OPTION**

10/29/2019 2:44:36 PM

LAST REVISION 11/01/19	REVISION	DESCRIPTION:		FY 2020-21 STANDARD PLANS	U-TYPE CONCRETE ENDWALLS BAFFLES & GRATE OPTIONAL 15" TO 30" PIPE	INDEX 430-011	SHEET 5 of 5
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