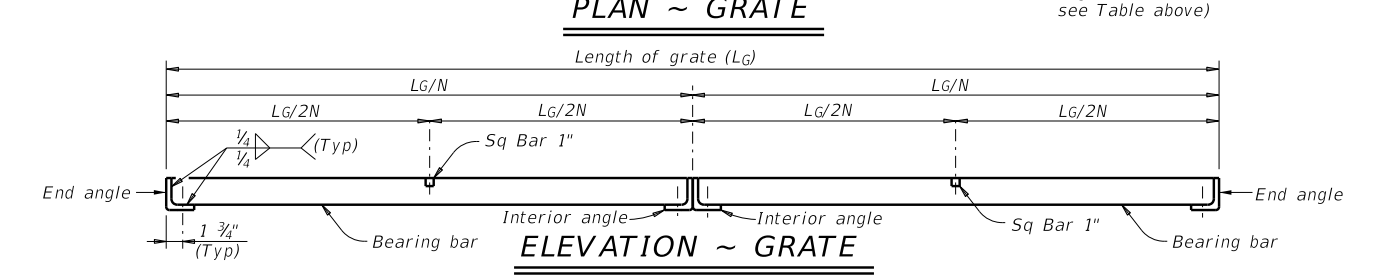
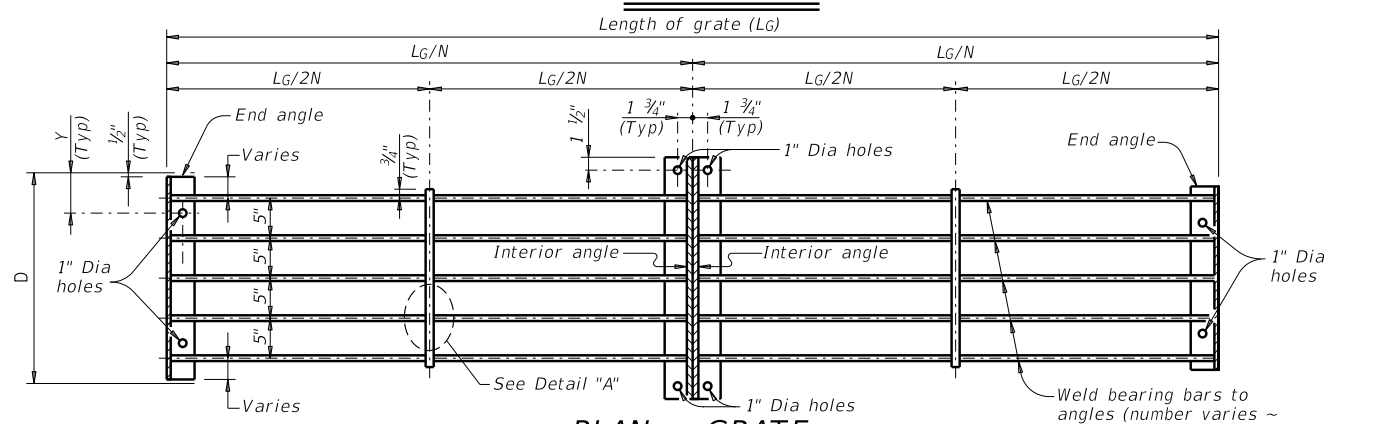
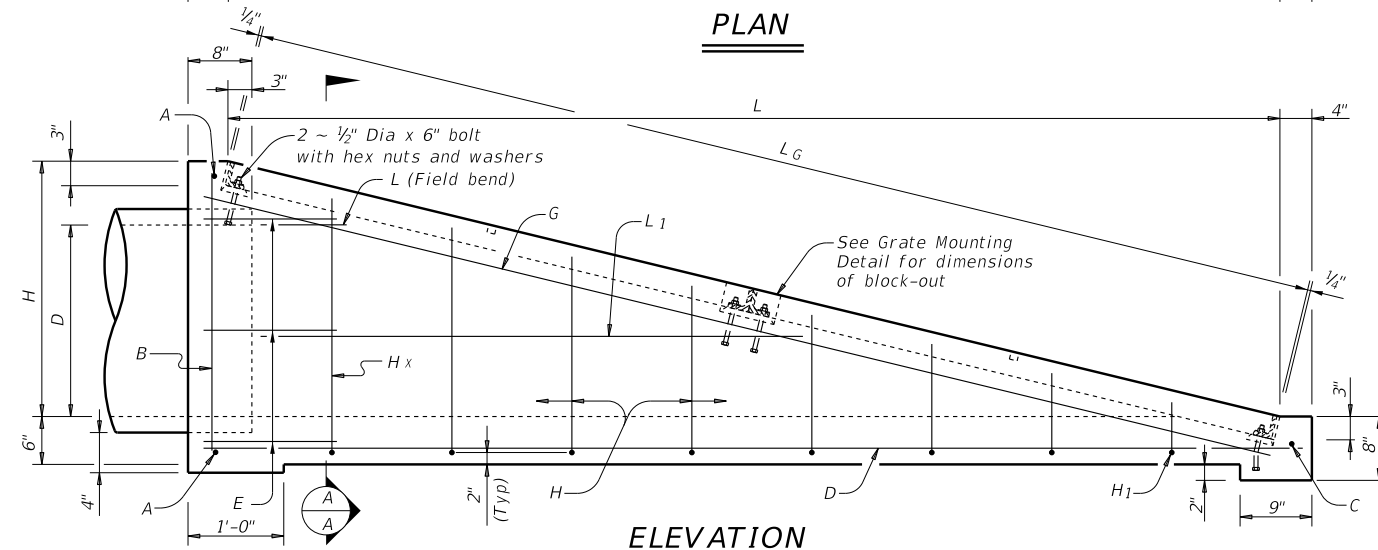
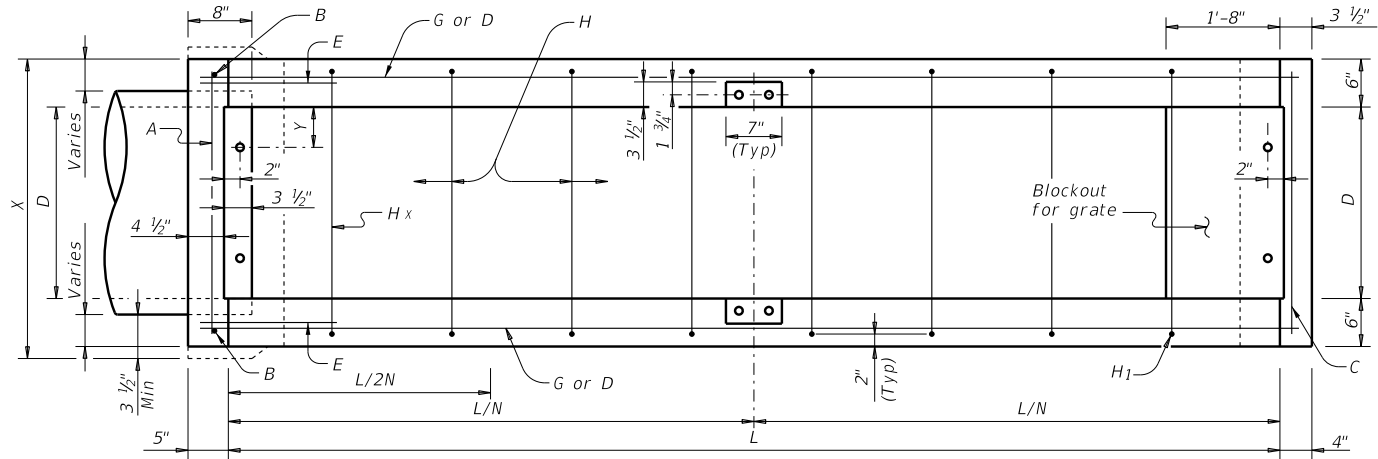


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DATE: FILE:

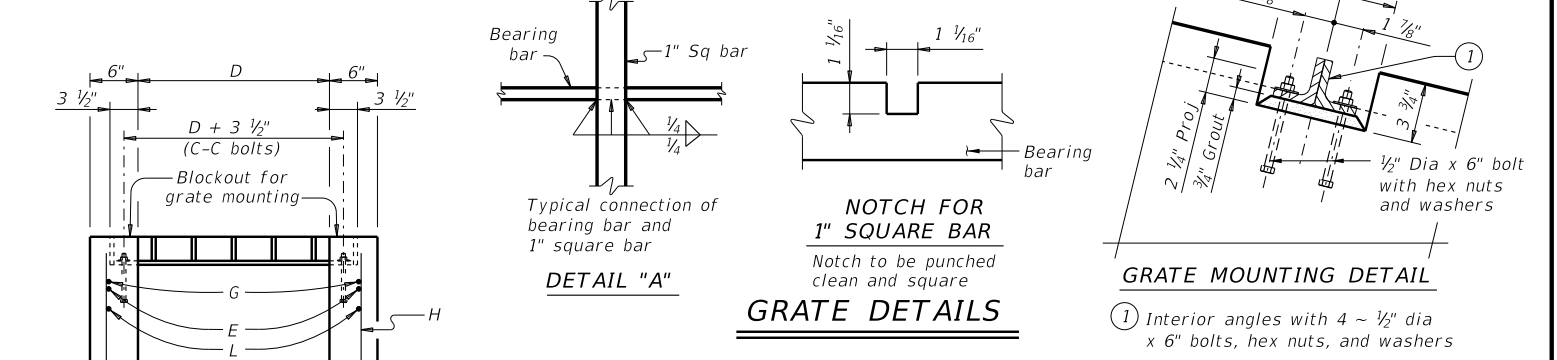
BILL OF REINFORCING STEEL

SLOPE	Y	N	DIA OF PIPE = D	TABLE OF DIMENSIONS			BARS A												BARS B												BARS C												BARS D												BARS E												BARS G												BARS H Av												BARS L												BARS L ₁ Av												TOTAL QUANTITIES	
				X	H	L	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	No.	Spa	Length	Wgt	Lb	CY																																																																
				6:1	4 1/2"	2	18"	2'-6"	2'-1 1/2"	12'-9"	2	~	2'-3"	3	2	~	2'-5"	3	1	~	2'-3"	2	3	12" ±	13'-3"	27	6	12" ±	2'-6"	10	2	~	13'-5"	18	12	12" ±	4'-5"	35	2	12" ±	2'-0"	3	2	12" ±	6'-10"	9	110	1.1																																																																				
6:1	5"	2	24"	3'-0"	2'-8"	16'-0"	2	~	2'-10"	4	2	~	3'-0"	4	1	~	2'-9"	2	4	12" ±	16'-6"	44	8	12" ±	2'-6"	13	2	~	16'-9"	22	15	12" ±	5'-6"	55	2	12" ±	2'-0"	3	2	12" ±	9'-10"	13	160	1.7																																																																								
6:1	5 1/2"	3	30"	3'-6"	3'-2 1/2"	19'-3"	2	~	3'-5"	5	2	~	3'-7"	5	1	~	3'-3"	2	4	12" ±	19'-9"	53	8	12" ±	2'-6"	13	2	~	20'-0"	27	19	12" ±	6'-6"	83	2	12" ±	2'-0"	3	4	12" ±	10'-1"	27	218	2.4																																																																								
6:1	6"	3	36"	4'-0"	3'-9"	22'-6"	2	~	4'-0"	5	2	~	4'-2"	5	1	~	3'-9"	3	5	12" ±	23'-0"	77	10	12" ±	2'-6"	17	2	~	23'-3"	31	22	12" ±	7'-7"	111	2	12" ±	2'-0"	3	6	12" ±	13'-9"	55	307	3.3																																																																								
6:1	6 1/2"	3	42"	4'-6"	4'-3 1/2"	25'-9"	2	~	4'-7"	6	2	~	4'-9"	6	1	~	4'-3"	3	5	12" ±	26'-3"	88	10	12" ±	2'-6"	17	2	~	26'-8"	36	25	12" ±	8'-7"	143	2	12" ±	2'-0"	3	6	12" ±	13'-10"	55	357	4.4																																																																								
6:1	4 1/2"	4	48"	5'-0"	4'-10"	29'-0"	2	~	5'-2"	7	2	~	5'-4"	7	1	~	4'-9"	3	6	12" ±	29'-6"	118	12	12" ±	2'-6"	20	2	~	29'-10"	40	29	12" ±	9'-7"	186	2	12" ±	2'-0"	3	8	12" ±	14'-5"	77	461	5.7																																																																								

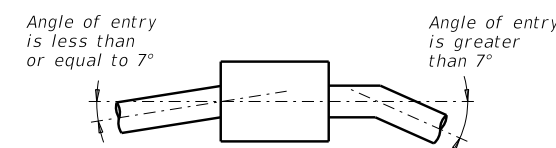


SLOPE	Y	N	DIA OF PIPE = D	BEARING BARS at 5" C-C												INTERIOR ANGLES				END ANGLES				1" SQUARE BARS				TOTAL WEIGHT Lb
				No.	Size	Lg/N	Wgt	No.	Size	Length	Wgt	No.	Size	Length	Wgt	No.	Length	Wgt	No.	Length	Wgt							
				6:1	4 1/2"	2	18"	8	2 1/2" x 1/2"	6'-5 3/8"	220	2	3" x 3" x 1/2"	2'-0 1/2"	38	2	3" x 3" x 1/2"	1'-5"	27	2	1'-4 1/2"	9	294					
6:1	5"	2	24"	10	2 1/2" x 1/2"	8'-1 3/8"	345	2	3" x 3" x 1/2"	2'-6 1/2"	48	2	3" x 3" x 1/2"	1'-11"	36	2	1'-9 1/2"	12	441									
6:1	5 1/2"	3	30"	18	2 1/2" x 1/2"	6'-6 1/8"	498	4	3" x 3" x 1/2"	3'-0 1/2"	114	2	3" x 3" x 1/2"	2'-5"	45	3	2'-2 1/2"	23	680									
6:1	6"	3	36"	21	2 1/2" x 1/2"	7'-7 1/4"	679	4	3" x 3" x 1/2"	3'-6 1/2"	133	2	3" x 3" x 1/2"	2'-11"	55	3	2'-7 1/2"	27	894									
6:1	6 1/2"	3	42"	24	2 1/2" x 1/2"	8'-8 3/8"	888	4	3" x 3" x 1/2"	4'-0 1/2"	152	2	3" x 3" x 1/2"	3'-5"	64	3	3'-0 1/2"	31	1,135									
6:1	4 1/2"	4	48"	40	2 1/2" x 1/2"	7'-4 1/8"	1249	6	3" x 3" x 1/2"	4'-6 1/2"	256	2	3" x 3" x 1/2"	3'-11"	74	4	3'-10 1/2"	53	1,632									

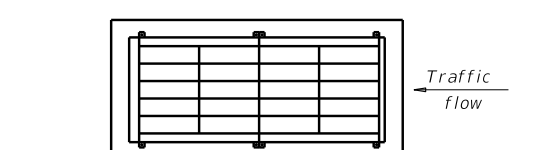
Note: For pipe sizes of 21", 27" and 33" use inlets for pipe sizes 24", 30" and 36", respectively.
N = Number of Grate Units



GENERAL NOTES:
 Quantities shown are for one end of one pipe culvert.
 Quantities shown are for Contractor's information only. Unless otherwise shown in the plans, payment will be made for each inlet of the type specified.
 When approved, precast inlets with equivalent structural capacity may be furnished. Submit sealed engineering calculations and drawings for precast inlets for approval prior to construction.
 Shop drawings will not be required.
 In areas of conflict between reinforcing steel, blockouts, pipes, anchor bolts or other reinforcing steel, bend or adjust reinforcement to clear as directed by the Engineer.
 Provide structural steel for grates conforming to the requirements of ASTM A36.
 Provide bolts conforming to the requirements of ASTM A307. Hex nuts must conform to ASTM A563.
 Provide (#4) reinforcing steel unless otherwise noted.
 Galvanize steel components except reinforcing, after fabrication, in accordance with Item 445 "Galvanizing."
 Repair galvanizing damaged during transport or construction in accordance with the specifications.
 Provide Class "A" concrete (f'c = 3,000 psi).
 Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



Connect pipes within 7° of normal to inlet wall. If necessary, use pipe elbow or curved approach alignment to stay within this limit.



If possible, orient horizontal grate inlet such that both traffic and ditch water approach parallel to bars on grate. If this is not possible, orientation must favor traffic flow.

Texas Department of Transportation
Bridge Division Standard

SLOPING INLET TYPE S (18" to 48" PIPES)

IL-S

FILE: il-sstd-20.dgn	DN: TxDOT	CK: TER	DW: MCB	CK: TER/GAF
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REVISIONS				
DIST	COUNTY			SHEET NO.