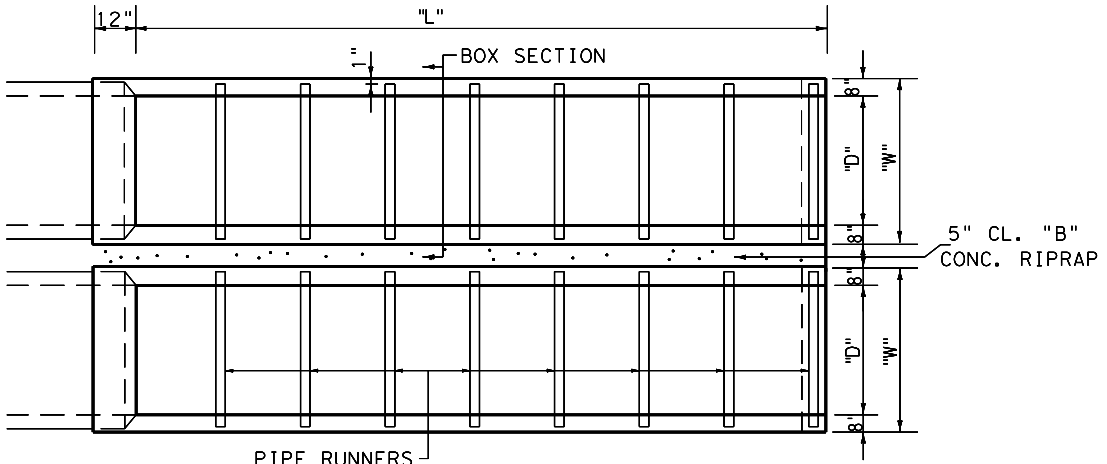


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http://www.dot.state.tx.us/ftw/spec/info/standard.htm set2.dgn

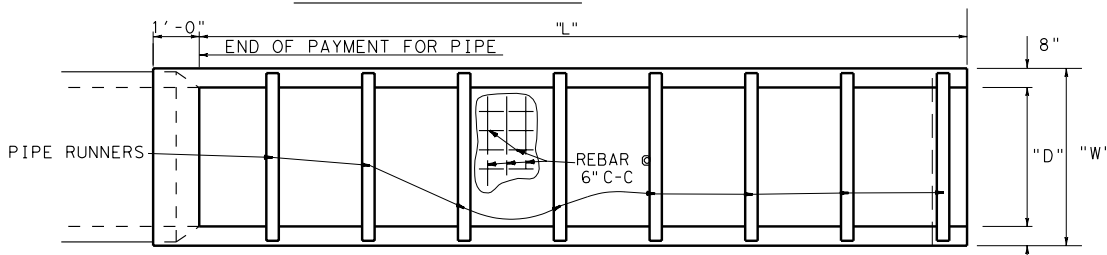
"D"	SLOPE	"L"	"W"	CL "A" CONC.	5"CL.B CONC RIPRAP (CY)	PIPE RUNNERS	
						LENGTH	NO.
33"	6:1	17'-10 1/2"	4'-1"	3.32 (N)	0.14*(N-1)	3'-11"	10
33"	8:1	24'-2"	4'-1"	4.39 (N)	0.18*(N-1)	3'-11"	13
36"	6:1	19'-6"	4'-4"	3.84 (N)	0.19*(N-1)	4'-2"	10
36"	8:1	26'-4"	4'-4"	5.07 (N)	0.25*(N-1)	4'-2"	14
42"	6:1	22'-9"	4'-10"	4.98 (N)	0.31*(N-1)	4'-8"	12
42"	8:1	30'-8"	4'-10"	6.59 (N)	0.41*(N-1)	4'-8"	16
48"	6:1	26'-0"	5'-4"	6.27 (N)	0.46*(N-1)	5'-2"	14
48"	8:1	35'-0"	5'-4"	8.31 (N)	0.61*(N-1)	5'-2"	18
54"	6:1	29'-3"	5'-10"	7.70 (N)	0.71*(N-1)	5'-8"	15
54"	8:1	39'-4"	5'-10"	10.22 (N)	0.94*(N-1)	5'-8"	20
60"	6:1	32'-6"	6'-4"	9.29 (N)	0.87*(N-1)	6'-2"	17
60"	8:1	43'-8"	6'-4"	12.32 (N)	1.16*(N-1)	6'-2"	22

NOTE: "N" = # OF CULVERT PIPES



PIPE RUNNERS

MULTIPLE PIPE PLAN

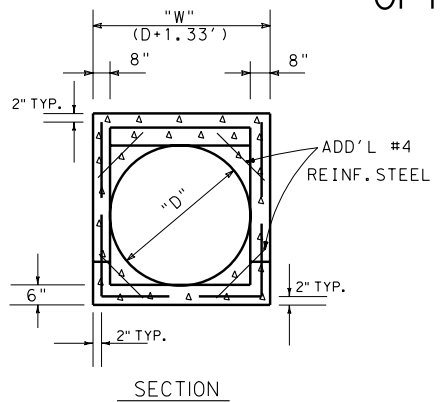


SINGLE PIPE PLAN

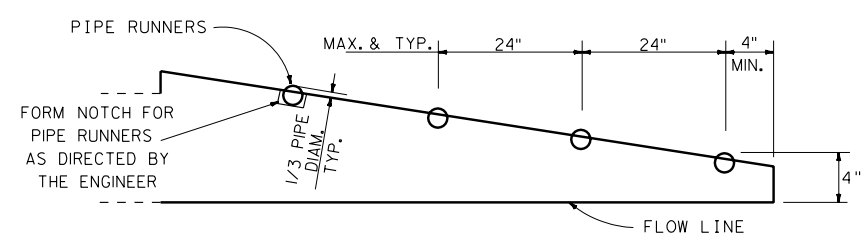
ELEVATION

SLOPED CLASS "A" CONCRETE BOX

OPTION TWO

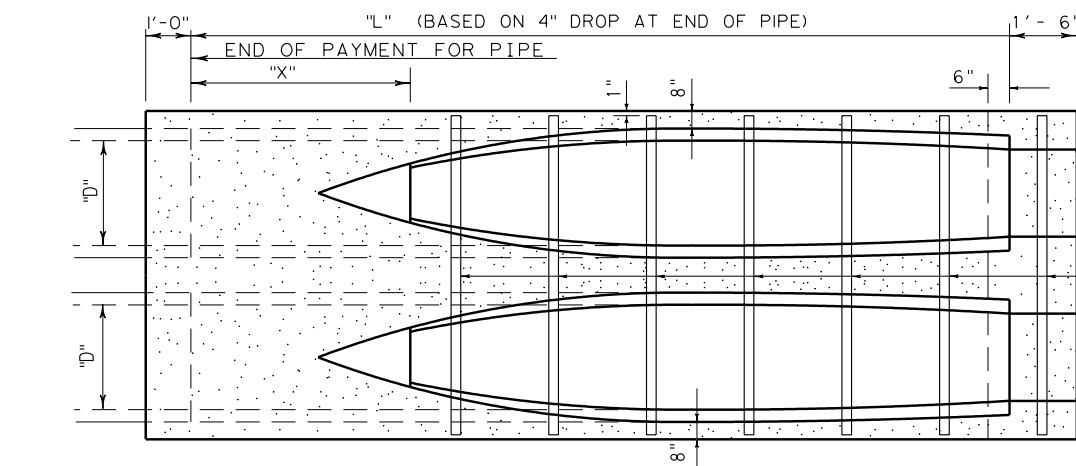


SECTION



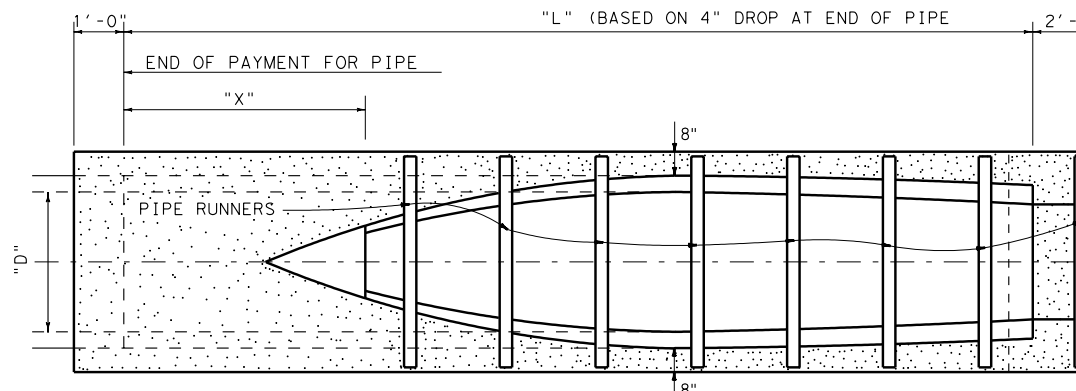
TYPICAL PLACEMENT FOR PIPE RUNNERS (ALL OPTIONS)

"D"	SLOPE	"T"	"L"	"X"	"W"	SINGLE PIPE		MULTIPLE PIPES N=# OF CULVERT PIPES		PIPE RUNNERS	
						CL "B" RIPRAP	"W" (INCHES)	CL "B" RIPRAP (CY)	LENGTH	NO.	
33"	6:1	3 3/4"	17'-10 1/2"	3'-4 1/2"	4'-8 1/2"	2.19CY	54.5 (N)+2	0.142+2.047 (N)	"W-2"	9	
33"	8:1	3 3/4"	24'-2"	4'-10"	4'-8 1/2"	2.69CY	54.5 (N)+2	0.182+2.513 (N)	"W-2"	11	
36"	6:1	4"	19'-6"	3'-6"	5'-0"	2.40CY	59 (N)+1	0.076+2.321 (N)	"W-2"	9	
36"	8:1	4"	26'-4"	5'-0"	5'-0"	2.96CY	59 (N)+1	0.097+2.859 (N)	"W-2"	12	
42"	6:1	4 1/2"	22'-9"	3'-9"	5'-7"	2.83CY	68 (N)-1	-0.08+2.916 (N)	"W-2"	11	
42"	8:1	4 1/2"	30'-8"	5'-4"	5'-7"	3.50CY	68 (N)-1	-0.11+3.615 (N)	"W-2"	14	
48"	6:1	5"	26'-0"	4'-0"	6'-2"	3.29CY	77 (N)-3	-0.29+3.577 (N)	"W-2"	12	
48"	8:1	5"	35'-0"	5'-8"	6'-2"	4.08CY	77 (N)-3	-0.37+4.458 (N)	"W-2"	16	
54"	6:1	5 1/2"	29'-3"	4'-3"	6'-9"	3.77CY	88 (N)-7	-0.74+4.518 (N)	"W-2"	14	
54"	8:1	5 1/2"	39'-4"	6'-0"	6'-9"	4.70CY	88 (N)-7	-0.96+5.665 (N)	"W-2"	18	
60"	6:1	6"	32'-6"	4'-6"	7'-4"	4.28CY	96 (N)-8	-0.93+5.214 (N)	"W-2"	15	
60"	8:1	6"	43'-8"	6'-4"	7'-4"	5.34CY	96 (N)-8	-1.21+6.558 (N)	"W-2"	20	



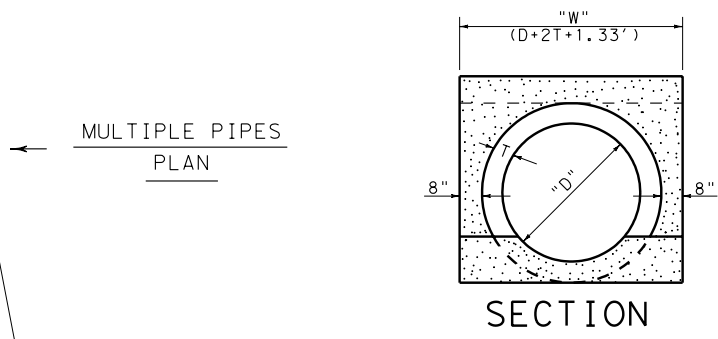
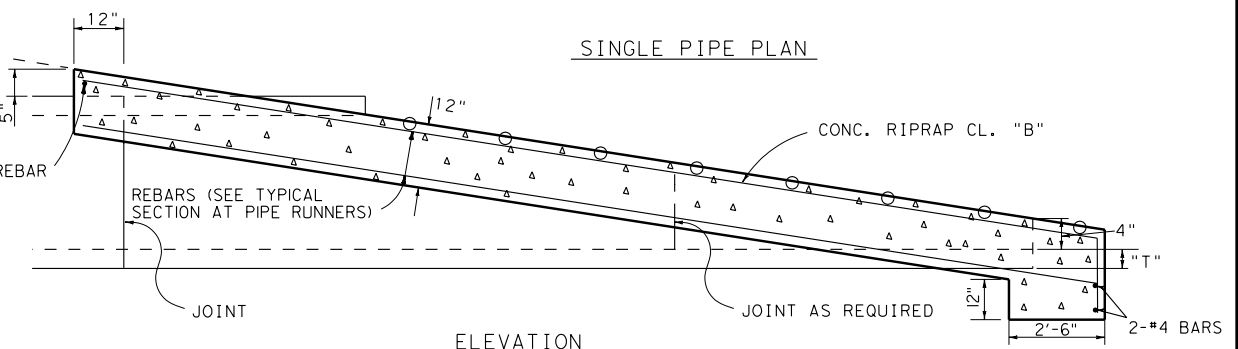
MULTIPLE PIPES PLAN

PIPE RUNNERS



SINGLE PIPE PLAN

ELEVATION



SECTION

SLOPED REINFORCED CONCRETE PIPE OPTION ONE

GENERAL NOTES:

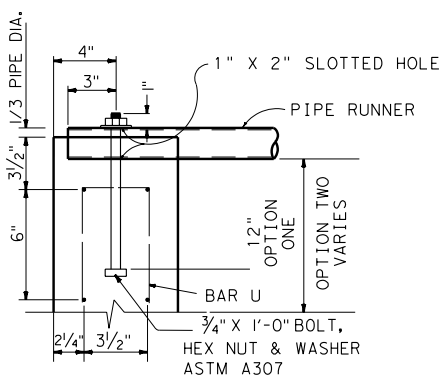
- ALL MITERED PIPE SECTIONS, REINFORCING STEEL, BOLTS, NUTS, WASHERS, CONCRETE AND PIPE RUNNERS ARE CONSIDERED PARTS OF THE SAFETY END TREATMENT FOR PAYMENT.
- ALL REBARS ARE #4, UNLESS NOTED ALL REBARS SHALL HAVE 1/2" MINIMUM COVER.
- DESIGN: SAFETY PIPE RUNNERS ARE DESIGNED FOR A TRAVERSING LOAD OF 10,000 POUNDS AT YIELD AS RECOMMENDED BY RESEARCH REPORT 280-2F, SAFETY TREATMENT OF ROADSIDE PARALLEL DRAINAGE STRUCTURES, TEXAS TRANSPORTATION INSTITUTE, JUNE 1981.
- PIPE RUNNERS MAY BE SIMPLE SPAN OR CONTINUOUS ACROSS MULTIPLE PIPES. ADEQUATE SUPPORT AND ANCHORAGE FOR PIPE RUNNERS SHALL BE PROVIDED AS SHOWN ON THIS SHEET AND AS DIRECTED BY THE ENGINEER
- QUANTITIES IN ABOVE TABLES ARE SHOWN FOR CONTRACTOR'S INFORMATION ONLY

TYPE II SAFETY END TREATMENT - PARALLEL DRAINAGE - 33" TO 60" SINGLE OR MULTIPLE PIPES SET (2) (FW)



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REVISED-AUG. 1984-H. G. O.	STATE	FEDERAL AID PROJECT NO.	PIPING NO.
REVISED-APR. 1985-R. O. N.	6	TEXAS	
REVISED-FEB. 1986-J. B. C.			
REVISED-OCT. 1986-L. J. M.			
REVISED-FEB. 1987-J. A. T.			
REVISED-NOV. 1991-M. J. N.			
REVISED-FEB. 1994-E. R. F.			



BARS U (ALL OPTIONS)

TWO BARS U ARE REQUIRED AT EACH ANCHOR BOLT, PLACED 4" EACH SIDE OF THE ANCHOR BOLT.

LEVELS DISPLAYED	6
1	
2	
3	
4	
5	
6	