

GRATED CULVERT EXTENSION NO. 1

SN 043-1063 - LT & RT STA 182+98.97 (IL RTE 78)

TWIN CULVERT @ 22° SKEW

BILL OF MATERIALS * (FOR INFORMATION ONLY - ONE EXTENSION)

BAR	NO.	SIZE	LENGTH	SHAPE
a	6	#4	4'-7"	—
d	10	#4	4'-8"	L
h	6	#4	18'-9"	—
h ₁	32	#4	1'-1"	—
h ₂	15	#5	10'-4"	—
h ₃	6	#4	5'-11"	—
h ₄	11	#4	5'-3"	—
h ₅	4	#4	4'-11"	—
h ₆	4	#4	1'-9"	—
h ₇	4	#4	1'-6"	—
h ₈	4	#4	19'-1"	—
h ₉	7	#4	18'-10"	—
u	52	#4	8'-3"	U
u ₁	6	#6	18'-3"	U
u ₂	15	#5	5'-11"	U
v	30	#4	6'-4"	—

DESCRIPTION	UNIT	QTY
CLASS "SI" CONCRETE	CU YD	12.6
REINFORCEMENT BARS	LB	1200
3" GALVANIZED STEEL PIPE	FOOT	2 @ 11' - 1 9/16"
3" GALV PIPE CAPS	EACH	8
1/4" GALV STEEL PLATE (9" NOMINAL)	EACH	4
1/2" x 4" x 14" GALV STEEL PLATE	EACH	8
5/8" x 9" GALV STEEL BOLTS	EACH	4
EXPANSION BOLTS 1/2"Ø	EACH	16

GENERAL NOTES:

THE CONTRACT UNIT PRICE "EACH" FOR GRATED CULVERT EXTENSION NO. 1 SHALL INCLUDE THE EXPANSION BOLTS, GALVANIZED PIPE, ANCHOR PLATES, & CAPS, CLASS SI CONCRETE, REINFORCEMENT BARS, BOLTS NUTS, WASHERS, INSTALLATION ON THE PROPOSED CULVERT, EARTH EXCAVATION WHERE REQUIRED, CONNECTION COLLAR, PIPE GRATING, AND ANY NECESSARY GRADING TO FIT GRATED CULVERT EXTENSION AS SHOWN IN THE CROSS SECTIONS OR TO SLOPE.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. EXPOSED EDGES SHALL BE BEVELED 3/4".

BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH ARTICLE 1006.08 OF THE STANDARD SPECIFICATION AND SHALL BE GALVANIZED.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GR. 60 (IL MODIFIED).

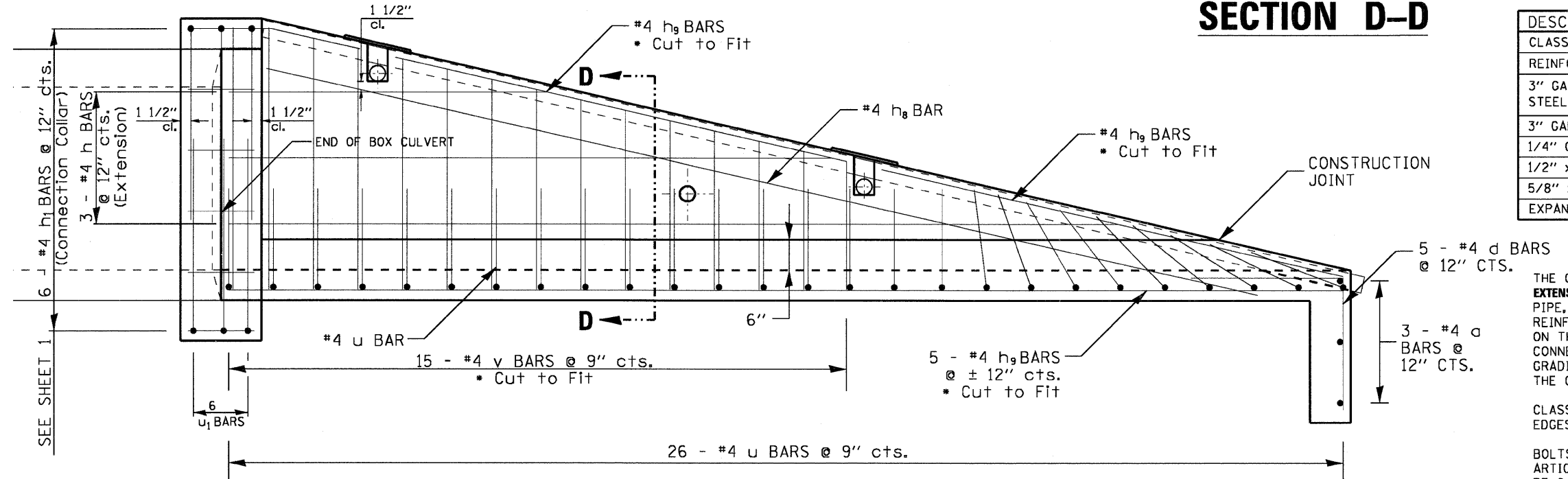
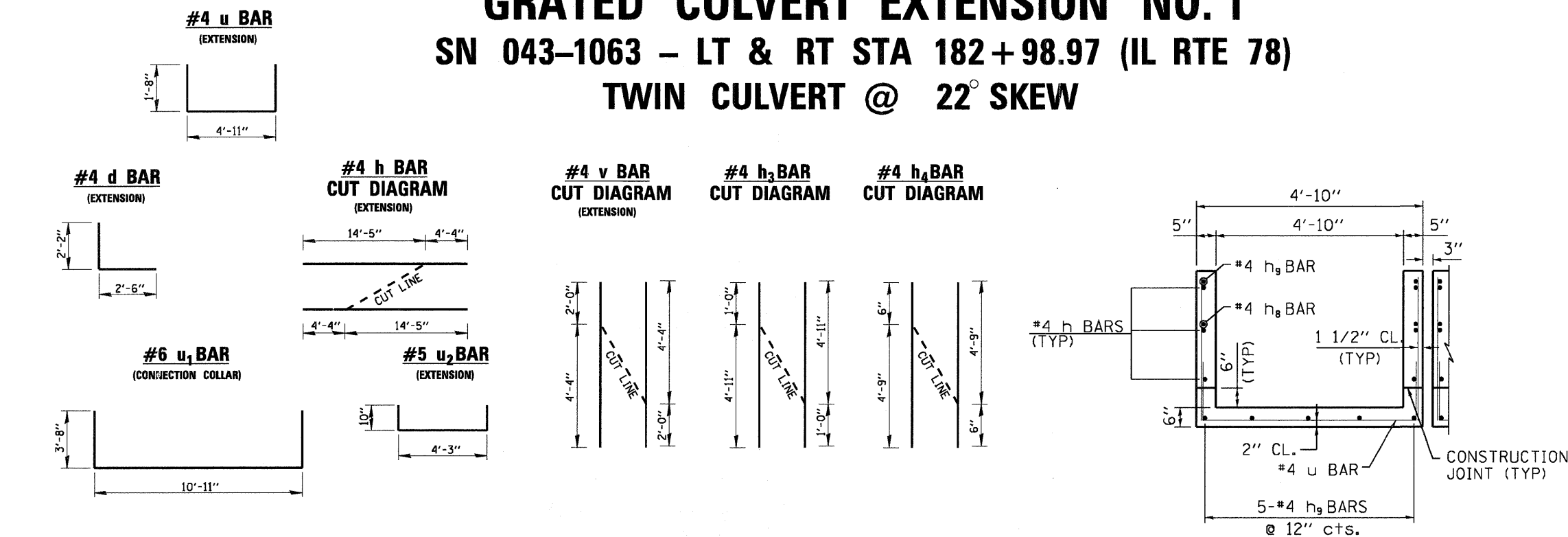
SEE CROSS SECTION SHEET FOR MORE INFORMATION INCLUDING INVERT ELEVATIONS.

STEEL PLATES SHALL CONFORM TO AASHTO M-183 AND SHALL BE GALVANIZED CONFORMING TO AASHTO M-111.

STEEL PIPE SHALL CONFORM TO ASTM A-53 (TYPE E OR S), GRADE B, SCHEDULE 40 AND SHALL BE GALVANIZED CONFORMING TO AASHTO M-111.

GRATING DESIGN CONFORMS TO AASHTO ROADSIDE DESIGN GUIDE ART. 3.4.2.1.

* A TOTAL OF TWO (2) GRATED CULVERT END SECTIONS ARE REQUIRED.



SIDE VIEW - ALONG SKEW (REINFORCEMENT DETAIL)