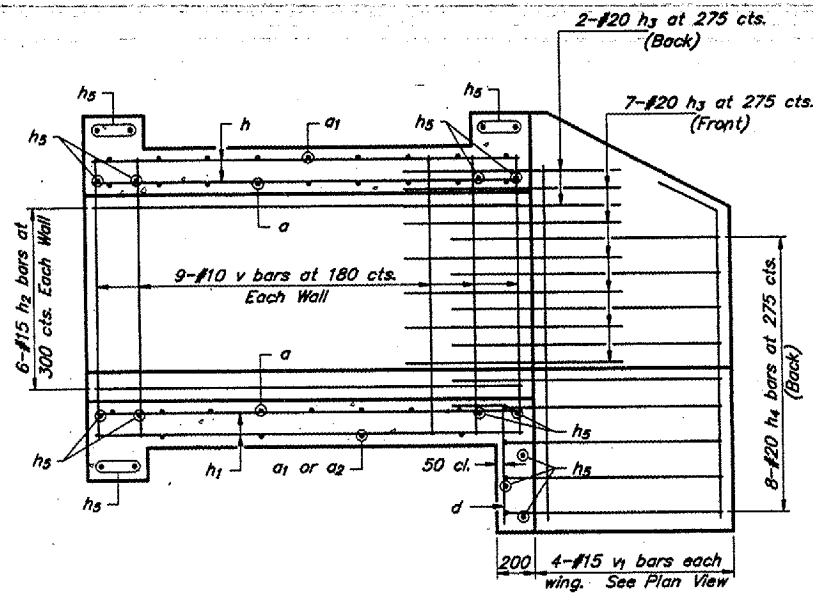
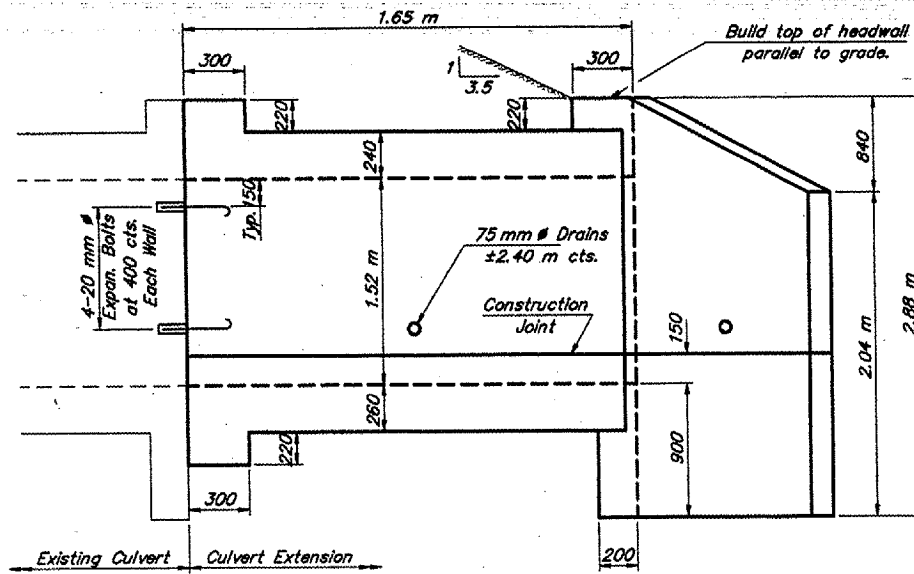


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	14
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

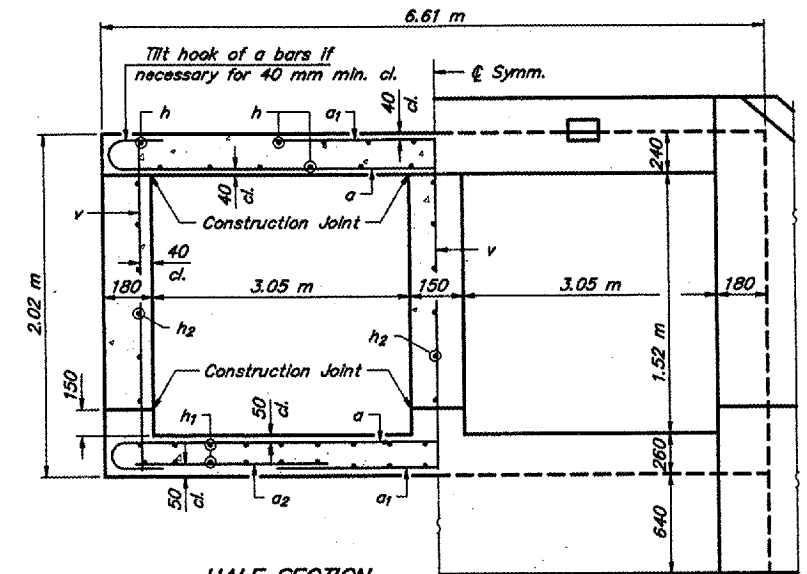


SHOWING REINFORCEMENT



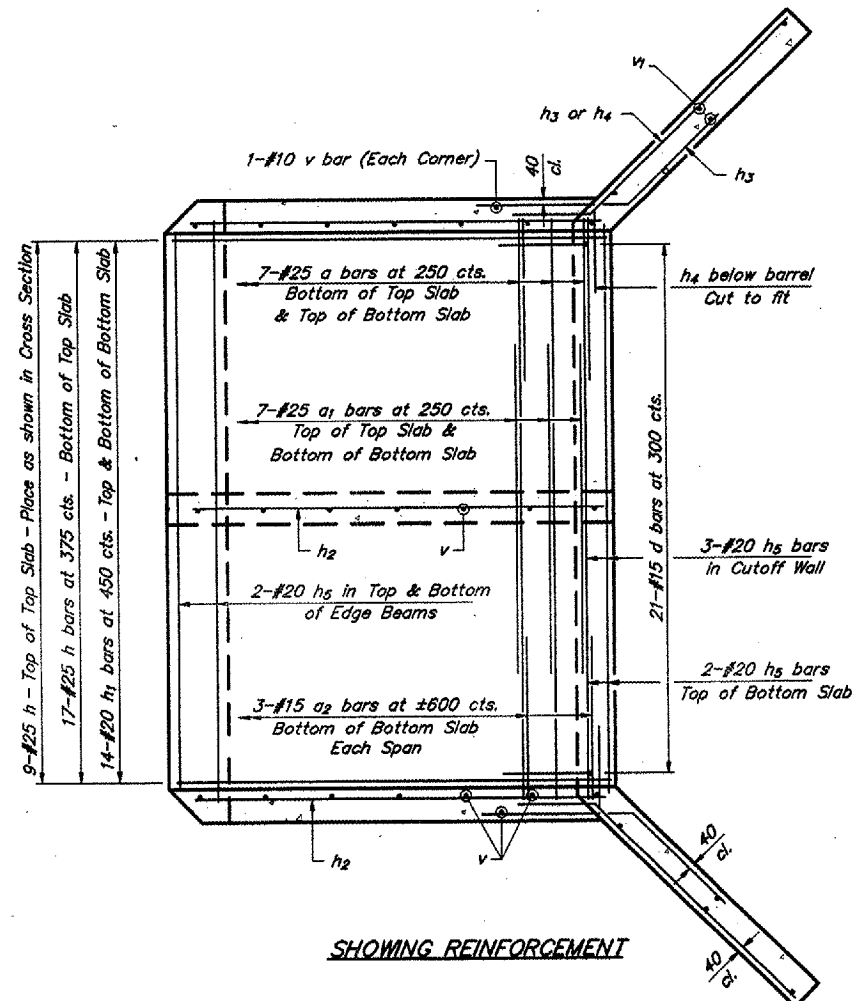
SHOWING OUTLINE

ELEVATION

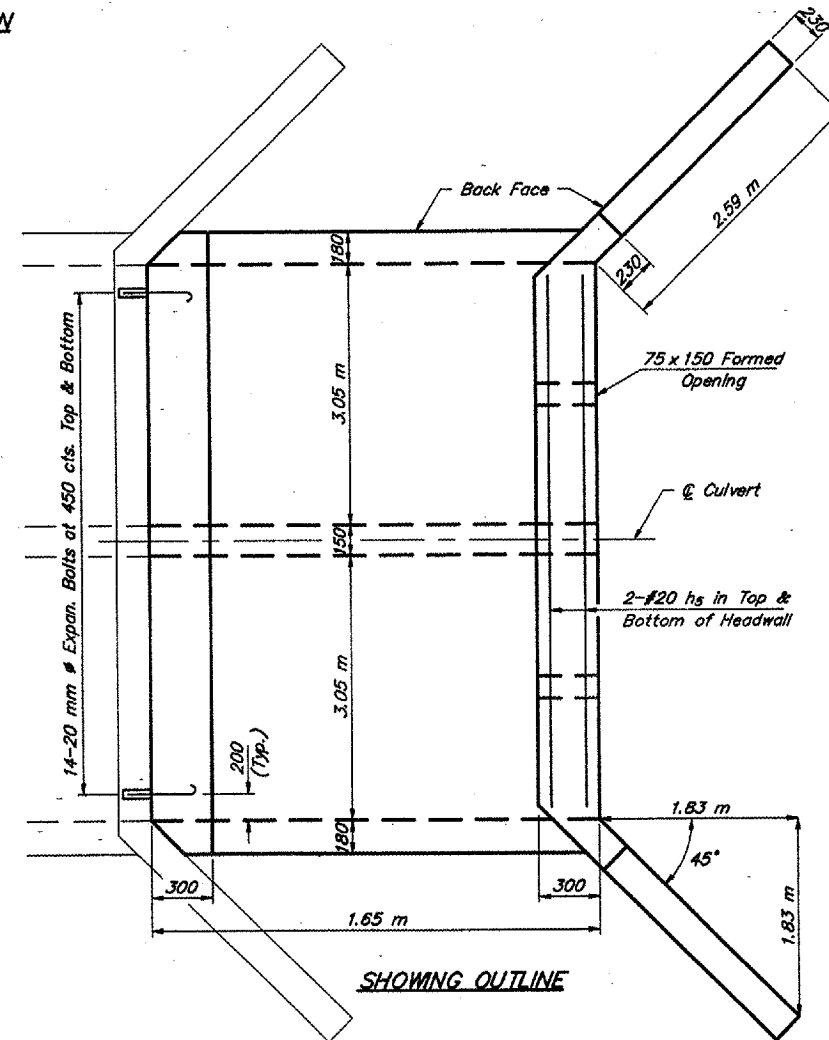


HALF SECTION THRU BARREL

HALF END ELEVATION

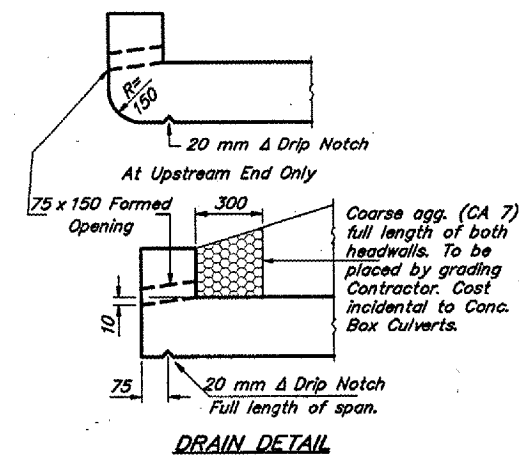


SHOWING REINFORCEMENT



SHOWING OUTLINE

PLAN



BILL OF MATERIAL (One Extension)

Bar	No.	Size	Length
a	14	#25	7.06
a1	14	#25	2.66
a2	6	#15	2.50
d	21	#15	1.36
h	26	#25	1.55
h1	28	#20	1.55
h2	18	#15	1.55
h3	18	#20	2.40
h4	16	#20	3.49
h5	17	#20	6.40
v	29	#10	1.92
v1	8	#15	2.70
Conc. Box Culverts	m ³		11.2
Reinforcement Bars	kg		1480
Expansion Bolts	Each		40

NOTES

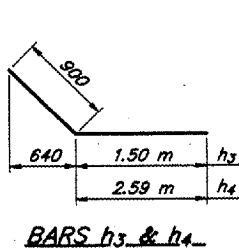
Barrel shall be poured monolithically with wingwalls. Exposed edges shall be beveled 20 mm. Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 400. Expansion bolts shall consist of self drilling expansion shields and 20 mm # hooked bolts. Bolts shall extend a minimum of 225 mm into new concrete. All dimensions are in millimeters (mm) except as noted.

DESIGN STRESSES

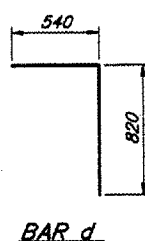
$f_y = 400 \text{ MPa}$
 $f_c = 24 \text{ MPa}$

LOADING MS.1B & ALT.

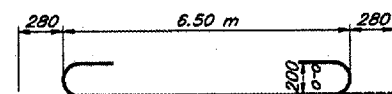
BOX CULVERT EXTENSION
STATION 1+507.3 LT.
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934 (108)
HARDIN COUNTY



BARS h3 & h4



BAR d



BAR a