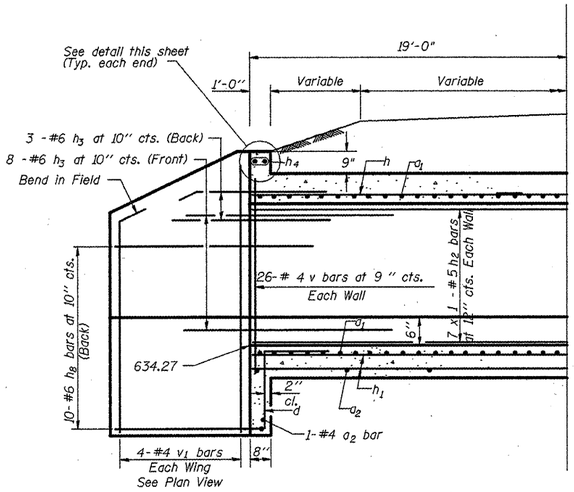
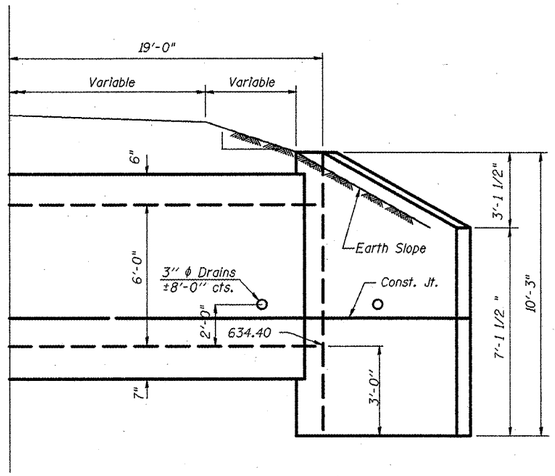
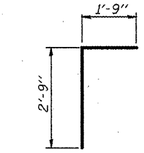


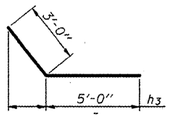
HALF LONG. SECTION



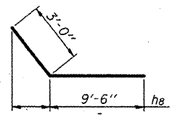
HALF ELEVATION



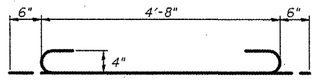
BAR d



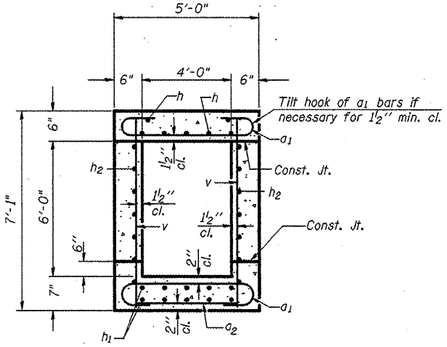
BARS h3



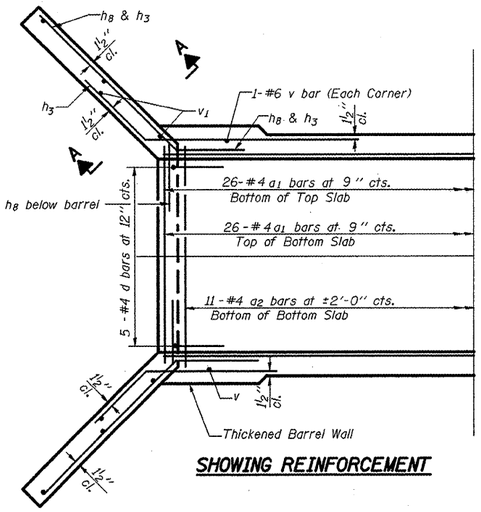
BARS h8



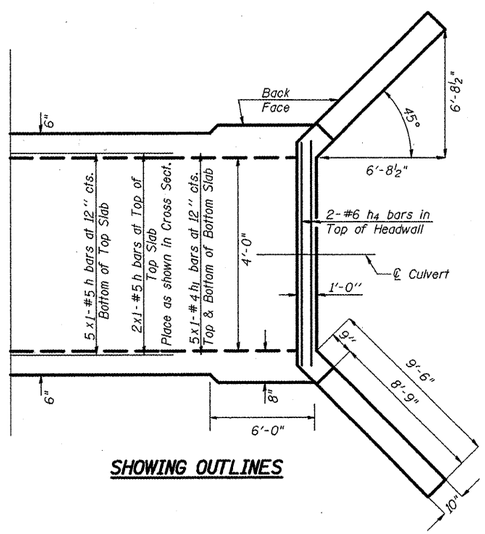
BAR a1



SECTION THRU BARREL

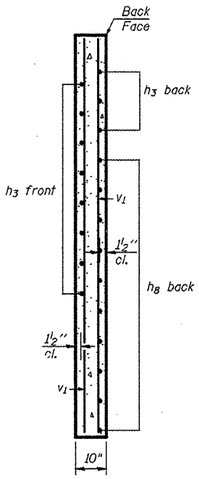


SHOWING REINFORCEMENT

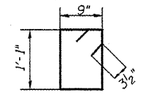


SHOWING OUTLINES

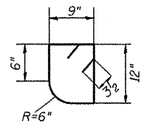
PLAN



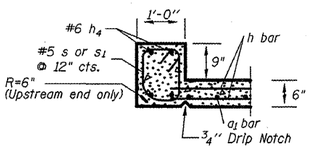
SECTION A-A



DOWNSTREAM HEADWALL DETAIL, s



UPSTREAM HEADWALL DETAIL, s,



HEADWALL DETAIL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_1	104	#4	5'-8"	
a_2	24	#4	4'-8"	
d	10	#4	4'-6"	
h	14	#5	18'-8"	
h_1	20	#4	18'-8"	
h_2	28	#5	18'-8"	
h_3	44	#6	8'-0"	
h_4	4	#6	4'-8"	
h_8	40	#6	12'-6"	
v	108	#4	6'-9"	
v_1	16	#4	9'-11"	
s	6	#5	4'-5"	
s_1	6	#5	4'-5"	
Concrete Removal		Cu. Yd.	7.2	
Concrete Box Culverts		Cu. Yd.	28.3	
Reinforcement Bars		Pound	3521	
¾" ϕ Expansion Bolts		Each	28	
Rock Fill		Ton	97.4	
Geotech Fabric		Sq Yd	46.4	
Filter Fabric		Sq. Yd.	107.6	
R&D Unsuitable		Cu. Yd.	47.5	
Temp Soil Retention		Sq. Ft.	685.8	

DESIGN STRESSES

fy = 60,000 psi
f'c = 3,500 psi

LOADING HS 20-44 & ALT.

NOTES

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

All construction joints shall be bonded.

SSB-H-0 10-22-04

FILE NAME = miscellaneous_sheets.dgn	USER NAME = horstkj	DESIGNED - KJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BOX CULVERT EXTENSION DETAIL STA 793+46				
		DRAWN - JGJ	REVISED -						
	PLOT SCALE = 100.0000 ' / IN.	CHECKED -	REVISED -						
	PLOT DATE = 4/19/2010	DATE - 01-05-10	REVISED -		SCALE:	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	103
		CONTRACT NO. 88703		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		