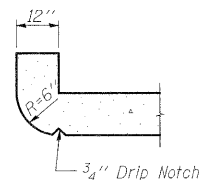
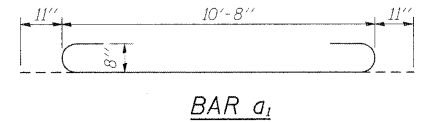
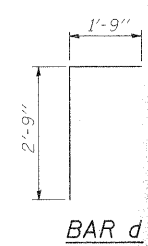
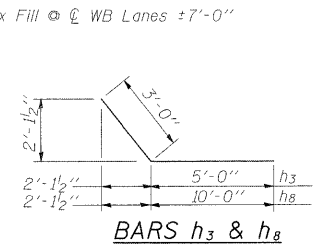
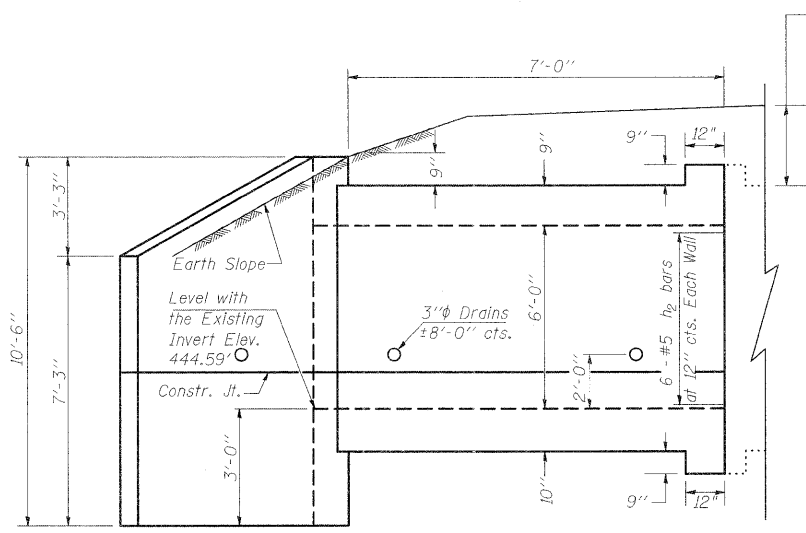
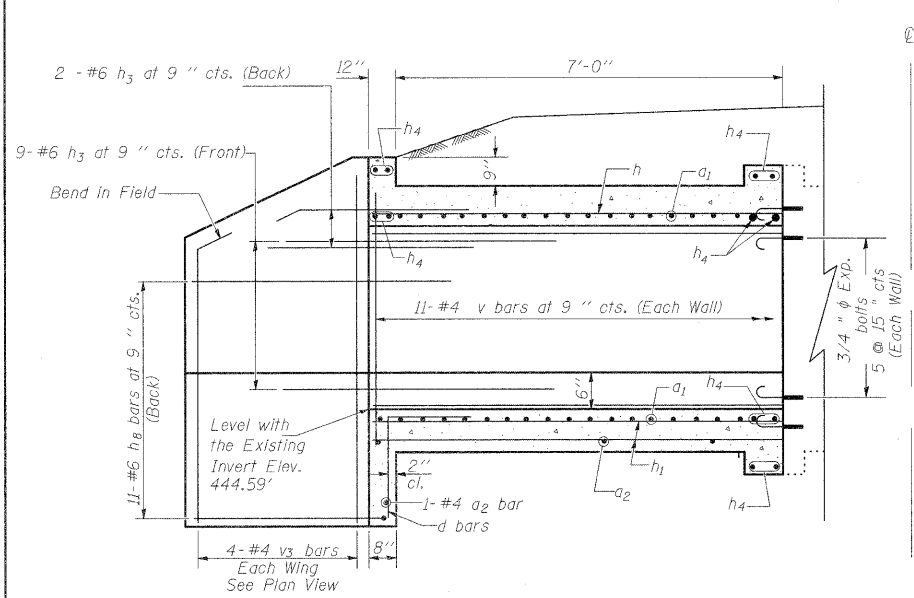


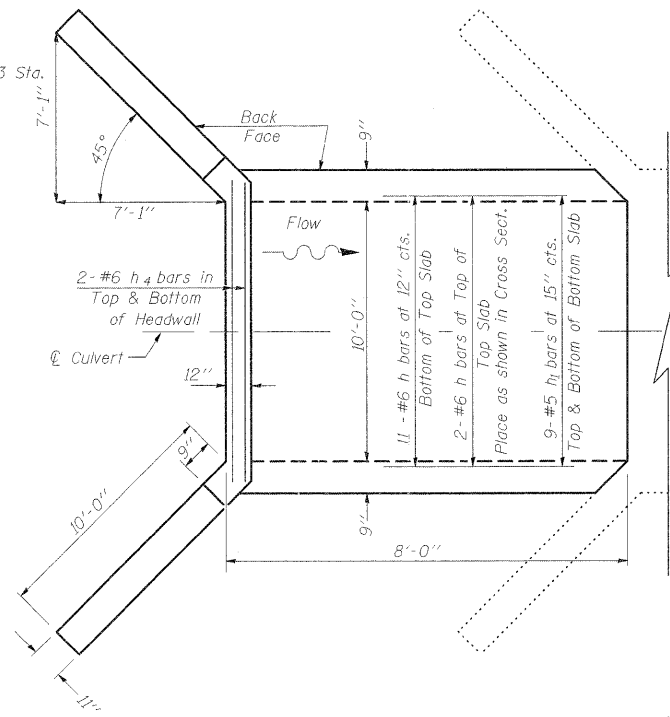
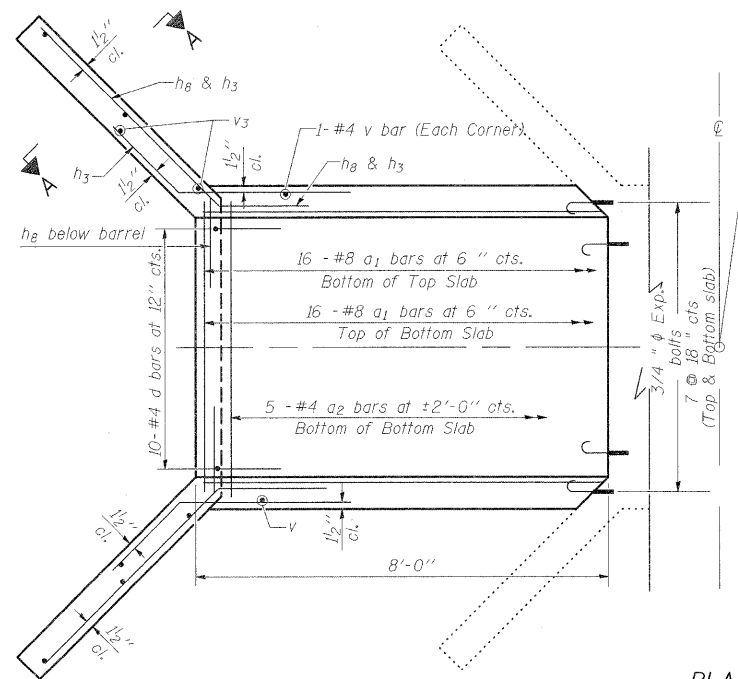
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**ELEVATION**

Dimensions at Rt. L's to  $\perp$  Roadway  
Looking East

**SECTION THRU HEADWALL**  
(Up Stream End Only)



**PLAN**

**NOTES**

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.  
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.

All construction joints shall be bonded.  
Expansion bolts shall be 3/4 inch diameter x 12 inch hooked bolts. Hooked bolts shall extend a minimum of 9 inches into new concrete and have a minimum certified proof load of 4,080 lbs.

**DESIGN STRESSES**

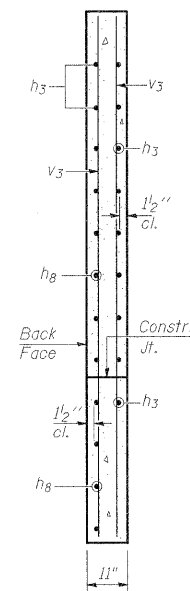
$f_y = 60,000$  psi  
 $f'_c = 3,500$  psi

LOADING HS 20-44

**\* BILL OF MATERIAL**

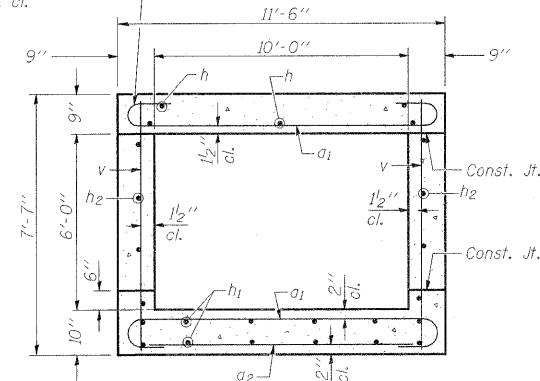
Bar	No.	Size	Length	Shape
a1(E)	32	#8	12'-6"	C
a2(E)	5	#4	10'-6"	—
d(E)	10	#4	4'-6"	—
h(E)	13	#6	7'-8"	—
h1(E)	18	#5	7'-8"	—
h2(E)	12	#5	7'-8"	—
h3(E)	22	#6	8'-0"	—
h4(E)	12	#6	10'-6"	—
h5(E)	22	#6	13'-0"	—
v(E)	24	#4	7'-3"	—
v3(E)	8	#4	10'-3"	—
Concrete Box Culverts		Cu. Yd.	15.8	
Reinforcement Bars		Pound	2580	
Epoxy Coated				
3/4" Expansion bolts		Each	24	

\* All Reinforcement Bars shall be Epoxy Coated



**SECTION A-A**

Tilt hook of a1 bars if necessary for 1/2" min. cl.



**SECTION THRU BARREL**

REVISIONS

NO.	DATE	DESCRIPTION
DRAWN	2-04	
REVISED	5-09	SHT CELL
REVISED		
REVISED		

BASED ON: **SSB-H-0** 6-1-2000

FILE NAME	USER NAME	DESIGNED	REVISED
c:\pwork\pwork\knightem\d0157472\sh-t\svt\joint.dgn	knightem	-	-
		DRAWN	REVISED
		CHECKED	REVISED
		DATE	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BOX CULVERT EXTENSION STATION 850+03.00  
10' X 6', SKEW 0° EXTEND 8'-0"

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1R-1RS-2,N-2,TS-3)	WILLIAMSON	167	86
				CONTRACT NO. 78155
ILLINOIS FED. AID PROJECT				