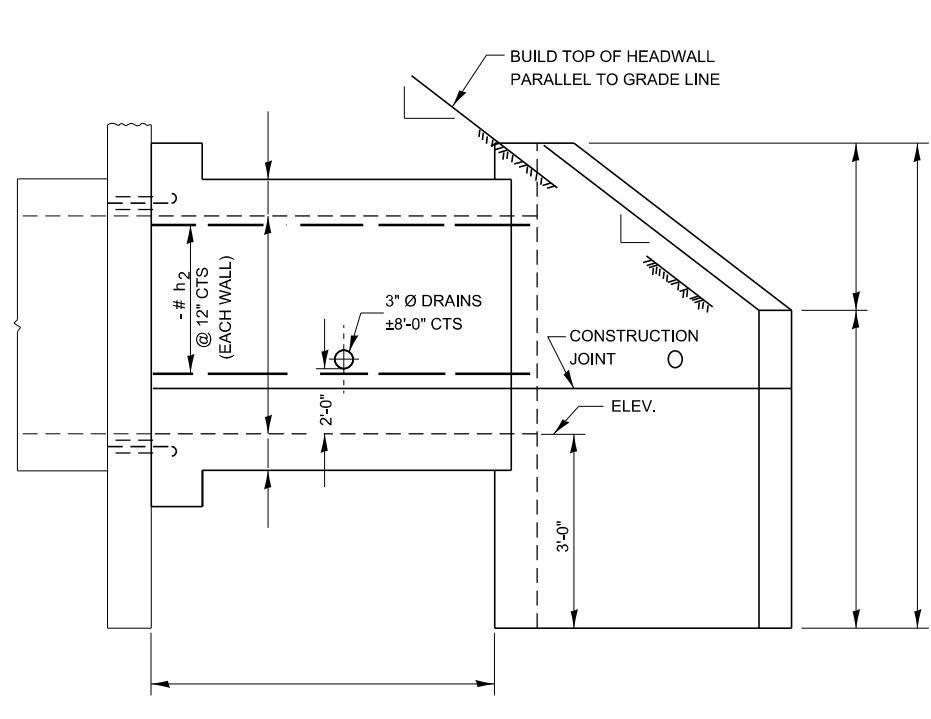
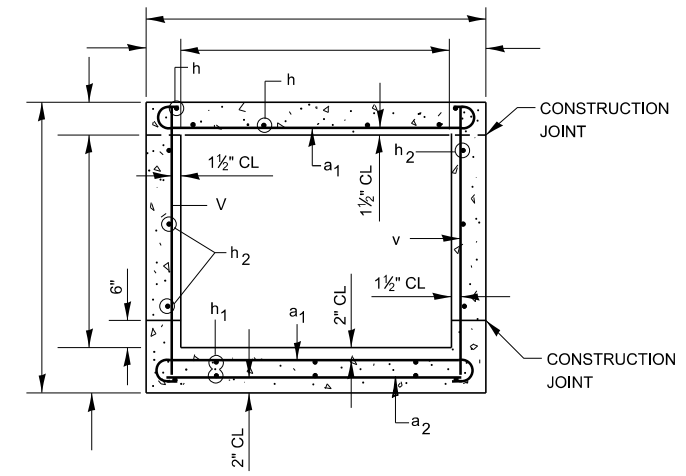


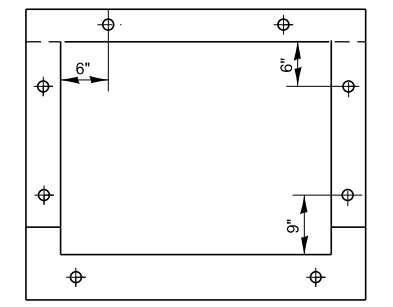
**HALF LONG SECTION**



**HALF ELEVATION**



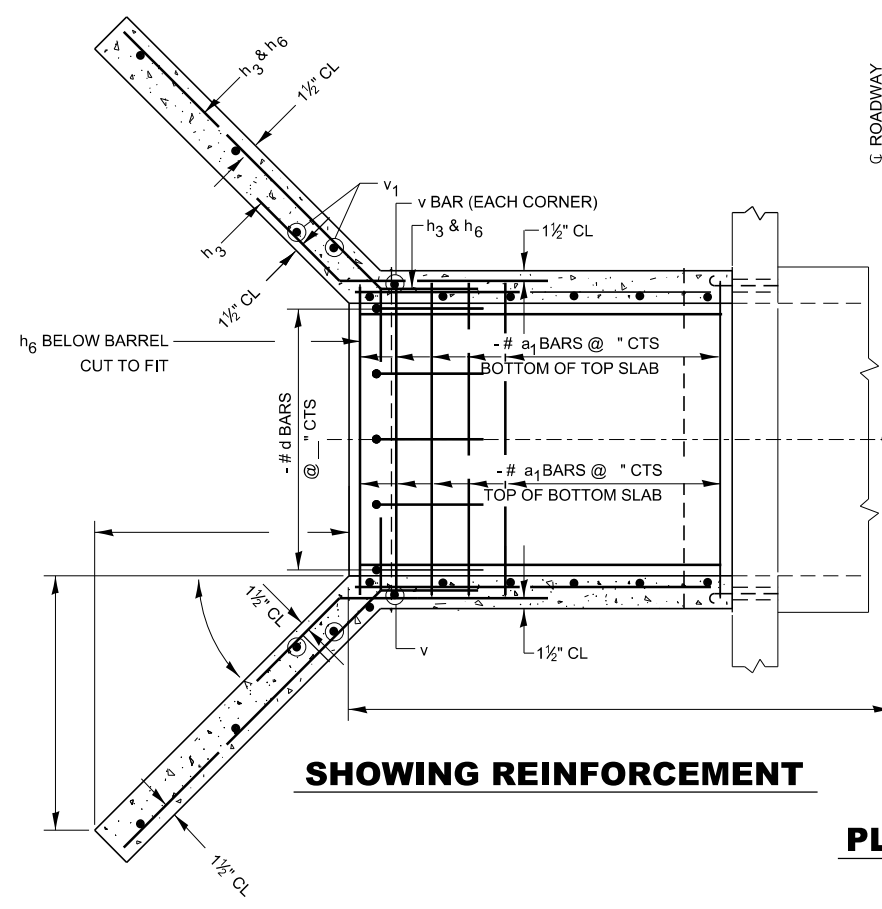
**SECTION THRU BARREL**



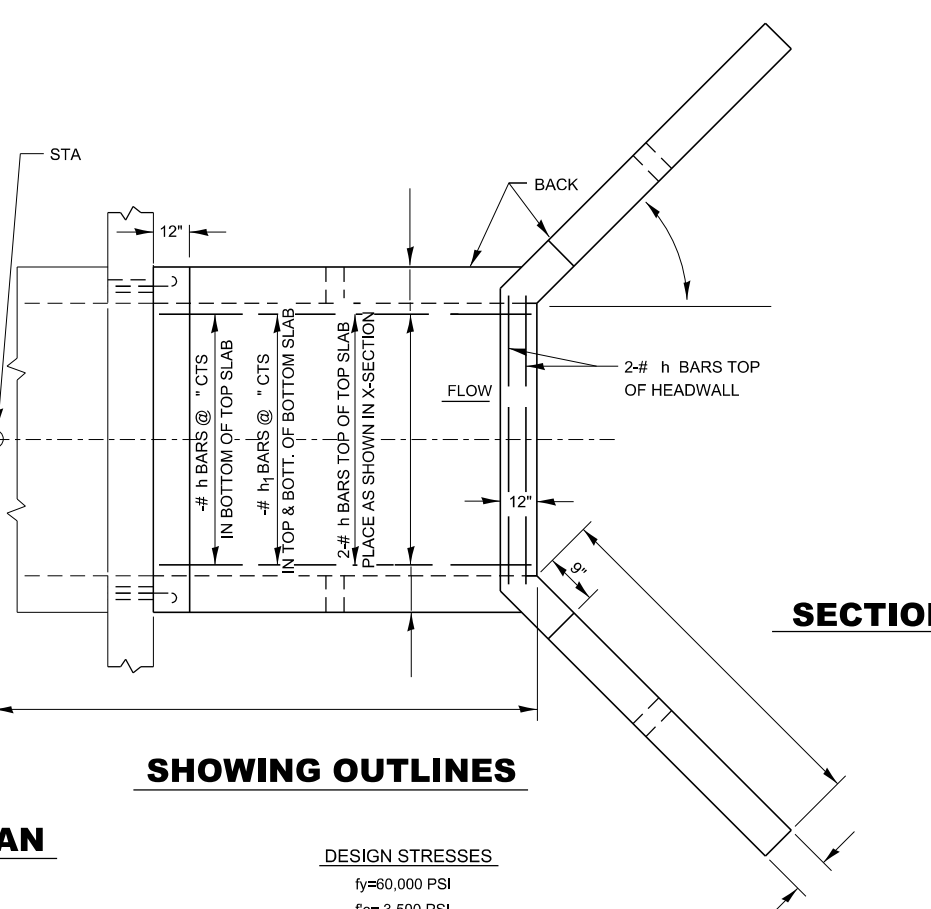
SIDEWALLS . . . . . @ " CTS  
TOP & BOTTOM . . @ " CTS

**EXPANSION BOLT LOCATION**

NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELD AND 3/4" DIAMETER HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE. MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.



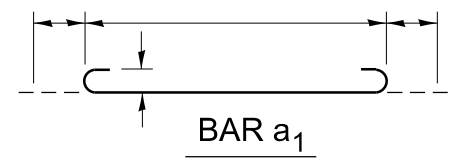
**SHOWING REINFORCEMENT**



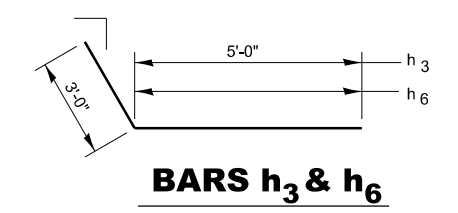
**SHOWING OUTLINES**

DESIGN STRESSES  
fy=60,000 PSI  
fc= 3,500 PSI

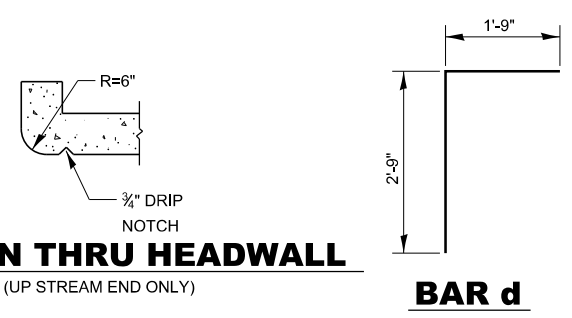
LOADING HS 20-44 & ALT



**BAR a<sub>1</sub>**



**BARS h<sub>3</sub> & h<sub>6</sub>**



**BAR d**

**SECTION THRU HEADWALL**

(UP STREAM END ONLY)

**BILL OF MATERIALS**

BAR	NUMBER	SIZE	LENGTH
a <sub>1</sub>			
a <sub>2</sub>			
a <sub>3</sub>			
d			
h			
h <sub>1</sub>			
h <sub>2</sub>			
h <sub>3</sub>			
h <sub>4</sub>			
h <sub>6</sub>			
v			
v <sub>1</sub>			
v <sub>2</sub>			
CONCRETE BOX CULVERTS		CU YDS	
REINFORCEMENT BARS		LBS	
EXPANSION BOLTS		EACH	

**GENERAL NOTES**

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.  
AT LEAST SIX FEET OF BARREL SHALL BE POURED MONOLITHICALLY WITH WINGWALLS.  
EXPOSED EDGES SHALL BE BEVELED 3/4".  
FOR BACKFILLING AND EMBANKMENTS SEE STANDARD SPECIFICATIONS.  
TILT HOOK OF a<sub>1</sub> BARS, IF NECESSARY, TO OBTAIN 1 1/2" MINIMUM CLEARANCE AT TOP OF HOOK.  
REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42, ORM-53, GRADE 60.

MODEL det 3 dets1b  
FILE Name: p:\w\l\c\paw\benley.com\PIV\DOT\Documents\DOT Office\District 3\Standards - District 3\DETAILS\SUBSTRUCT 3 STANDARD DETAILS.DGN\500-599 STRUCTURES.dgn

USER NAME = ronald.pohar	DESIGNED -	REVISED -
PLOT SCALE = 100,000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 3/15/2024	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BOX CULVERT EXTENSION STATION**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				