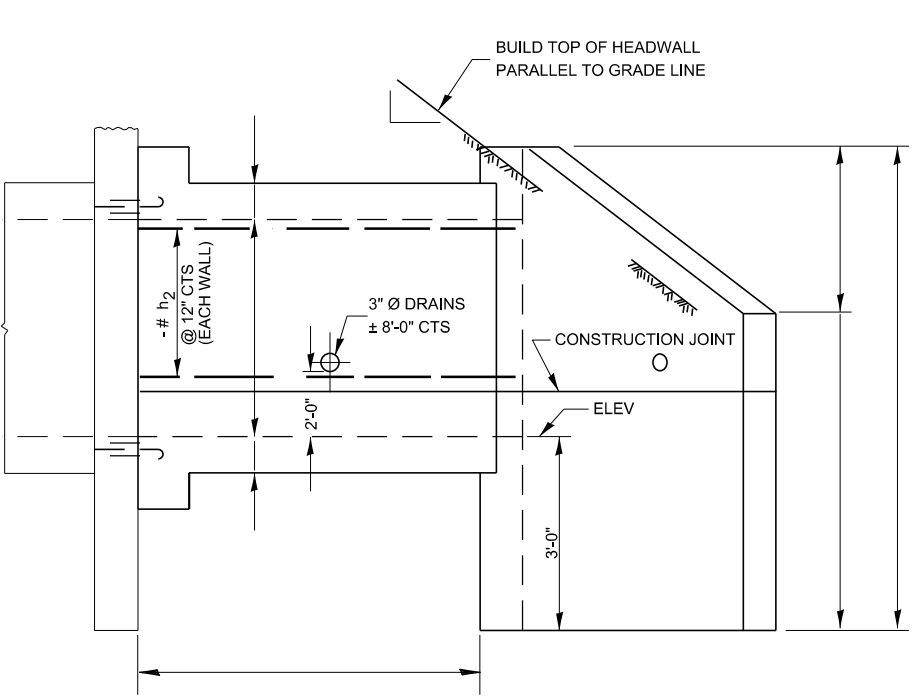
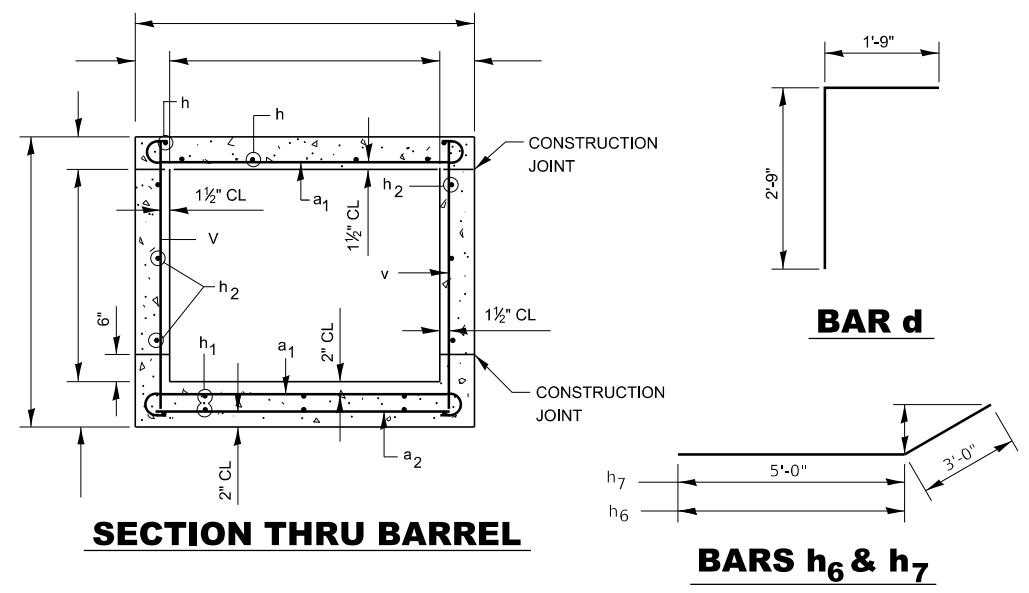


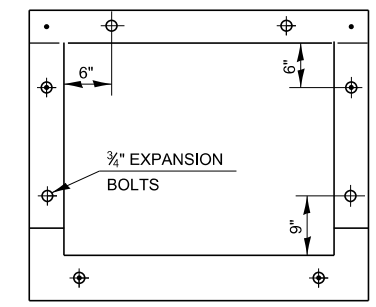
**HALF LONG SECTION**



**HALF ELEVATION**

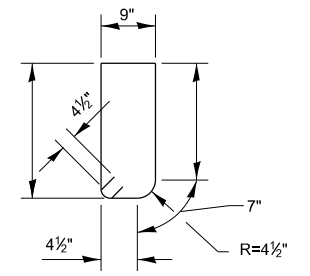


**SECTION THRU BARREL**

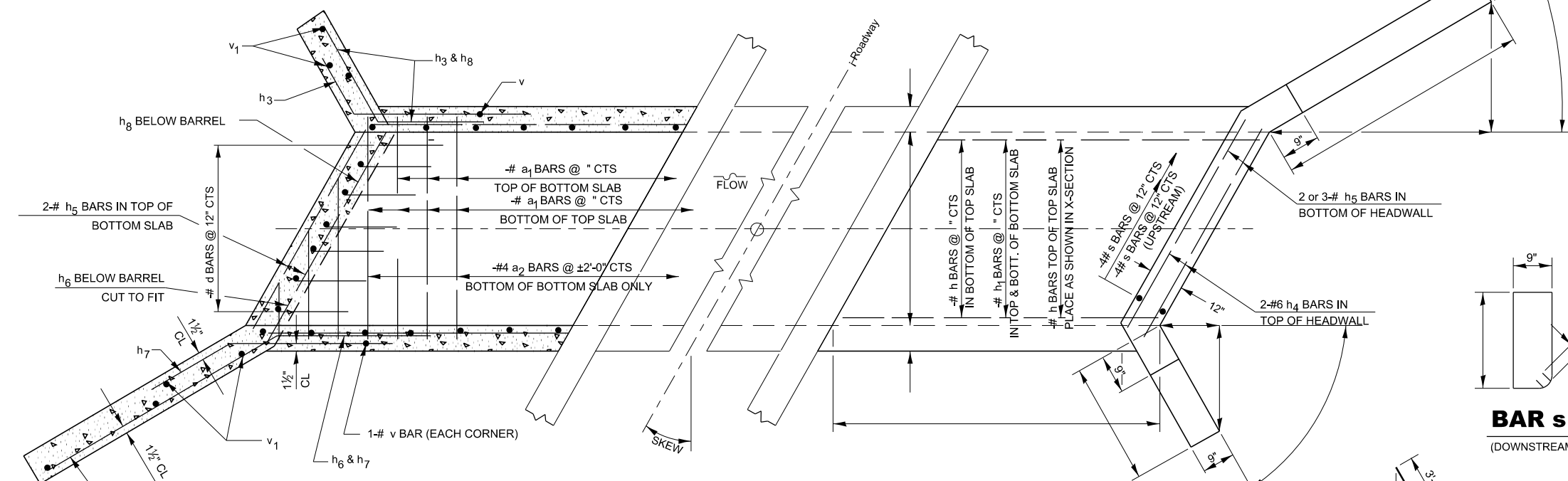


**EXPANSION BOLT LOCATION**

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



**BAR s**  
(UPSTREAM)



**SHOWING REINFORCEMENT**

**PLAN**

**SHOWING OUTLINES**

**BAR s1**  
(DOWNSTREAM)

**BARS h3 & h8**

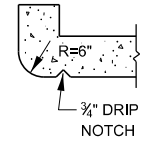
**DESIGN STRESSES**

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

**LOADING HS 20-44 & ALT**

**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 a1 BARS, IF NECESSARY, TO OBTAIN 1 1/2" MINIMUM CLEARANCE AT THE TOP OF HOOK.  
REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53, GRADE 60.



**SECTION THRU HEADWALL**  
(UP STREAM END ONLY)

**BILL OF MATERIALS**

BAR	NUMBER	SIZE	LENGTH
a1			
a2		#4	
d			
h			
h1			
h2			
h3			
h4		#6	
h5			
h6			
h7			
h8			
v			
v1			
s		#4	
s1		#4	
CONC BOX CULV		CU YDS	
REINFORCEMENT BARS		LBS	
EXPANSION BOLTS		EACH	

540-4

MODEL: det 3 details  
FILE: \\p01\share\paw\benitez\com\p01\DOT\Documents\DOT Office\Drawings\3\Projects\3-Darcy Detail\Revisions\2023\500-599 STRUCTURES.dgn

USER NAME = Anthony.Grunstad	DESIGNED -	REVISED -
PLOT SCALE = 100,000 ' / in.	DRAWN -	REVISED -
PLOT DATE = 9/27/23	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				