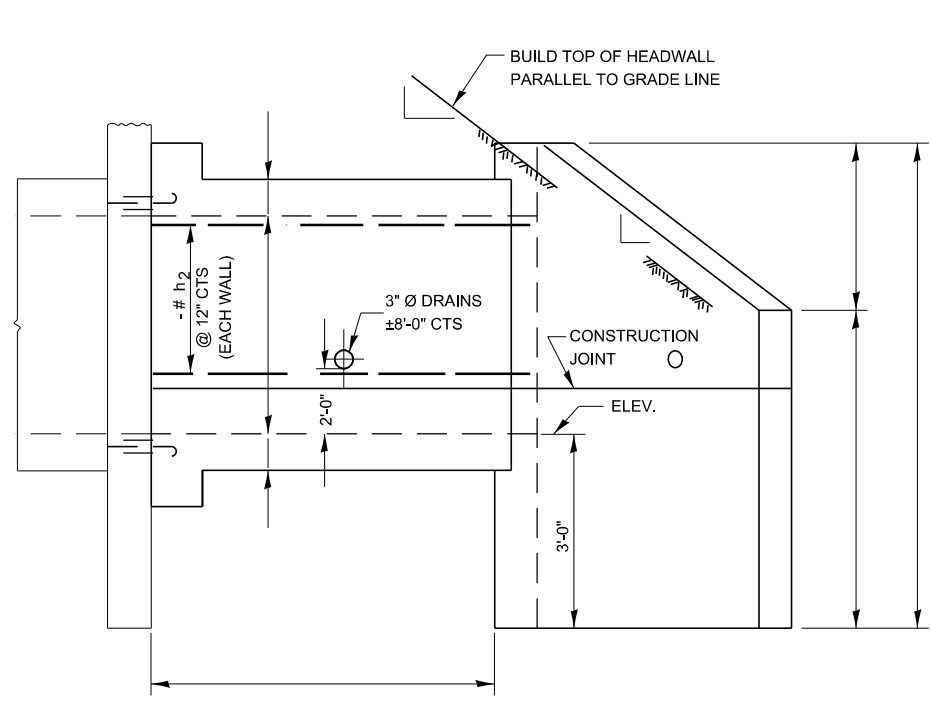
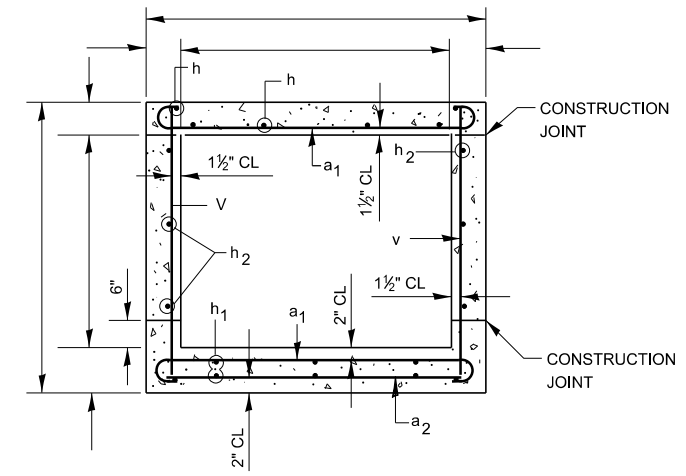


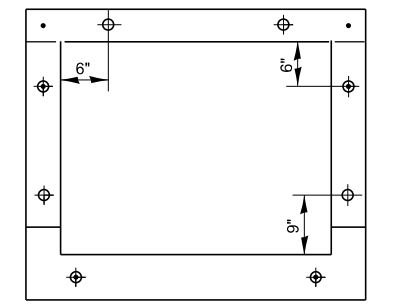
HALF LONG SECTION



HALF ELEVATION



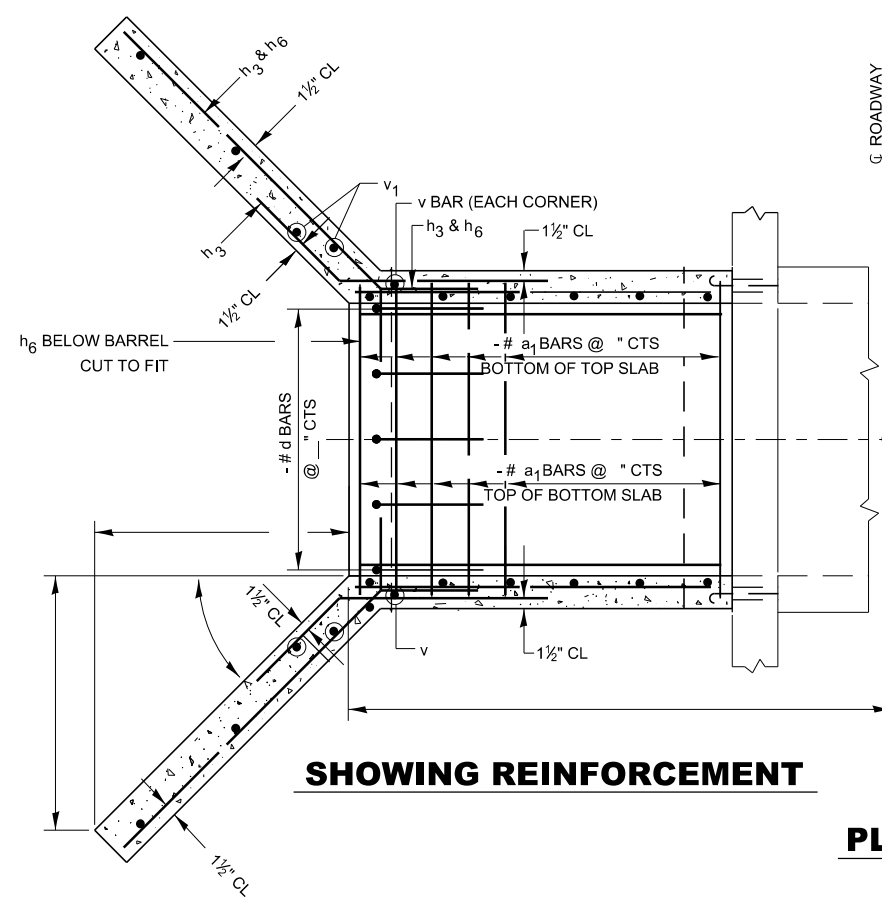
SECTION THRU BARREL



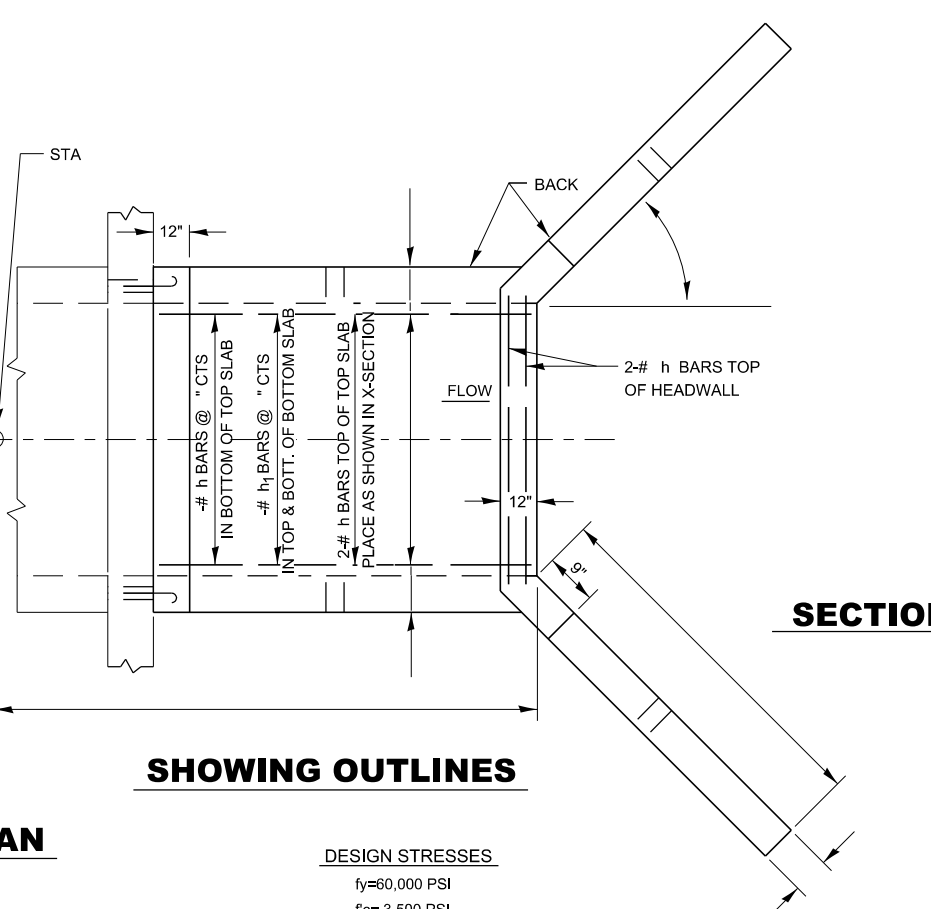
SIDEWALLS @ " CTS
TOP & BOTTOM . . . @ " CTS

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

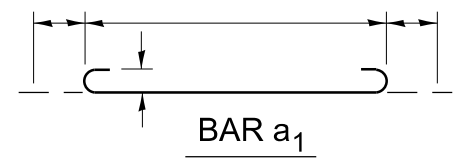


SHOWING OUTLINES

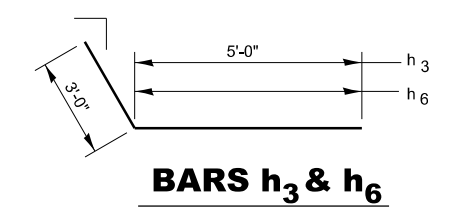
PLAN

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

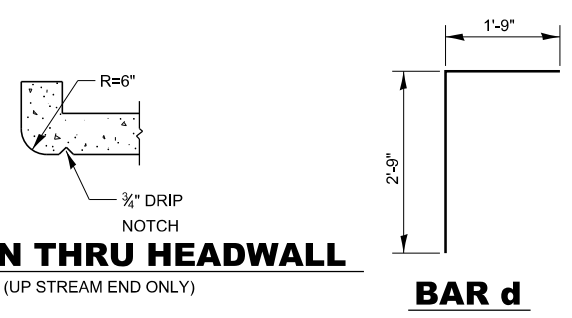
LOADING HS 20-44 & ALT



BAR a₁



BARS h₃ & h₆



BAR d

SECTION THRU HEADWALL

(UP STREAM END ONLY)

BILL OF MATERIALS

BAR	NUMBER	SIZE	LENGTH
a ₁			
a ₂			
a ₃			
d			
h			
h ₁			
h ₂			
h ₃			
h ₄			
h ₆			
v			
v ₁			
v ₂			
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 a₁ 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 det 1b
FILE: h:\m\p\paw\benet\com\p\m\DOT\Documents\DOT Office\Drawings\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				