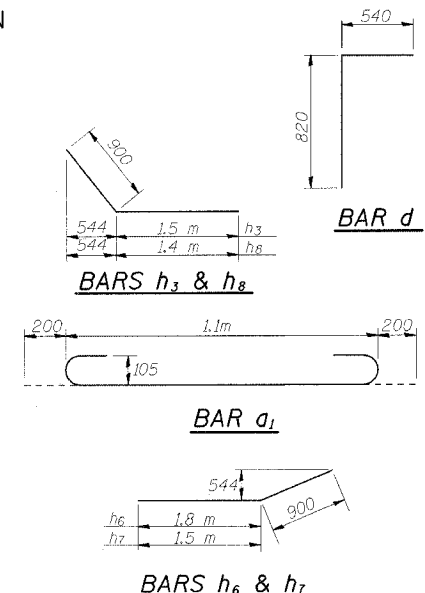
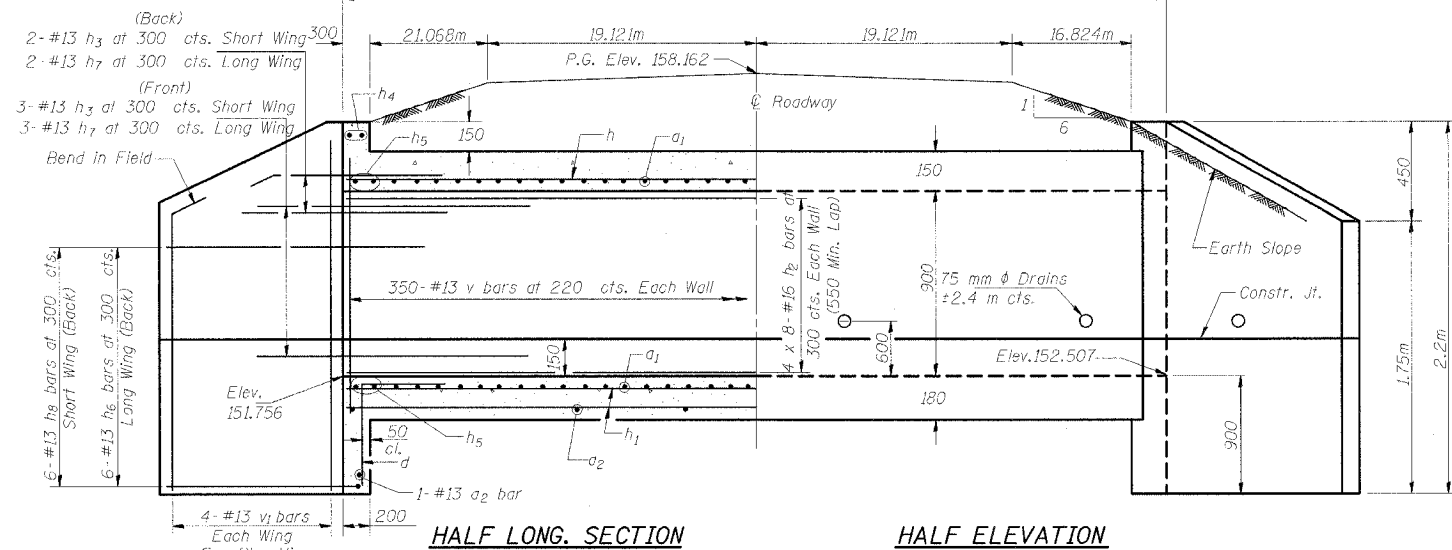
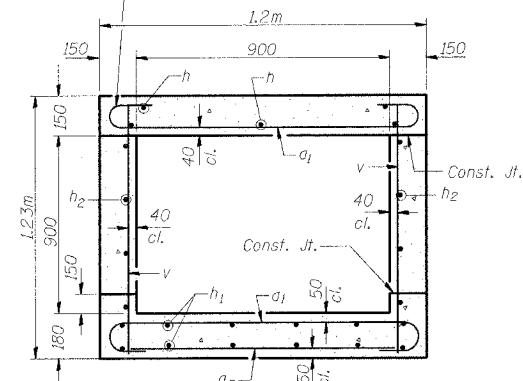


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

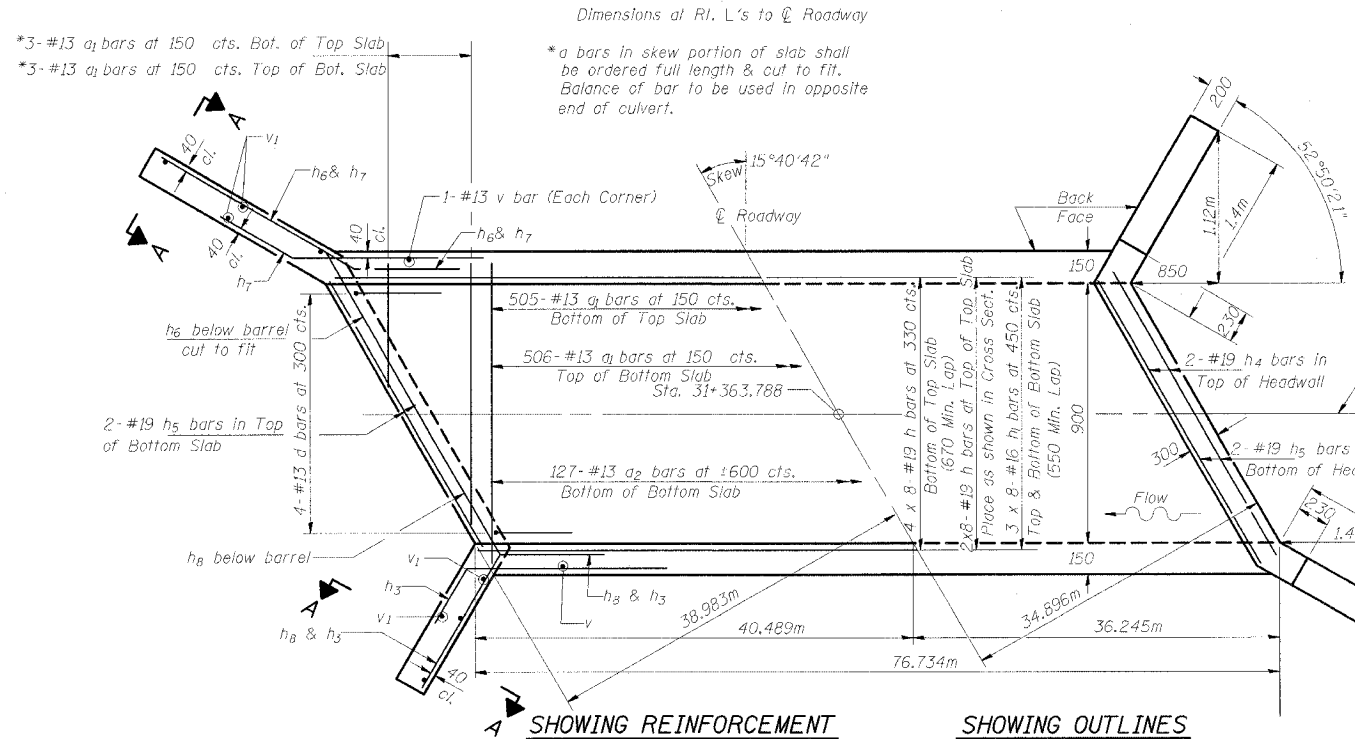
FAP NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310		MADISON	452	147
STA. 31+633.788				
FED. ROAD DIST. NO. 8		ILLINOIS	FED. AID PROJECT-	



Tilt hook of a1 bars if necessary for 40 mm min. cl.



SECTION THRU BARREL



SHOWING REINFORCEMENT      SHOWING OUTLINES

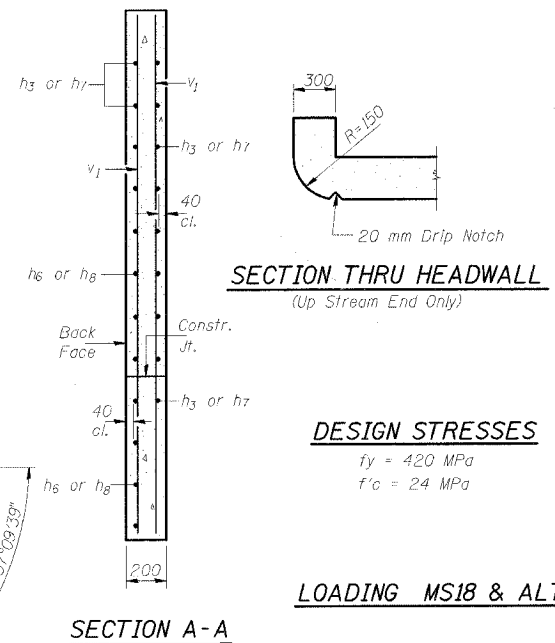
PLAN

NOTES

A distance of half the length of the wingwall but not less than 2 m of the barrel shall be poured monolithically with the wingwalls.  
Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 420.  
Bars indicated thus 12 x 4-#16 etc. indicates 12 lines of bars with 4 lengths per line.  
All dimensions are in millimeters (mm) except as noted.  
All construction joints shall be bonded.

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

SSB-H-L (M) 6-1-2000



DESIGN STRESSES

$f_y = 420 \text{ MPa}$   
 $f'_c = 24 \text{ MPa}$

LOADING MS18 & ALT.

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
a1	1017	#13	1.50	U
a2	129	#13	0.98	—
d	8	#13	1.36	L
h	48	#19	10.16	—
h1	48	#16	10.06	—
h2	64	#16	10.06	—
h3	10	#13	2.40	—
h4	4	#19	1.18	—
h5	8	#19	1.34	—
h6	12	#13	2.70	—
h7	10	#13	2.40	—
h8	12	#13	2.30	—
v	704	#13	1.15	—
v1	16	#13	2.12	—
Concrete Box Culverts		m <sup>3</sup>	54.0	
Reinforcement Bars		kg	5470	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FA 310  
SECTION 60-14  
MADISON COUNTY  
STATION 31+633.788

PLANS PREPARED BY:

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