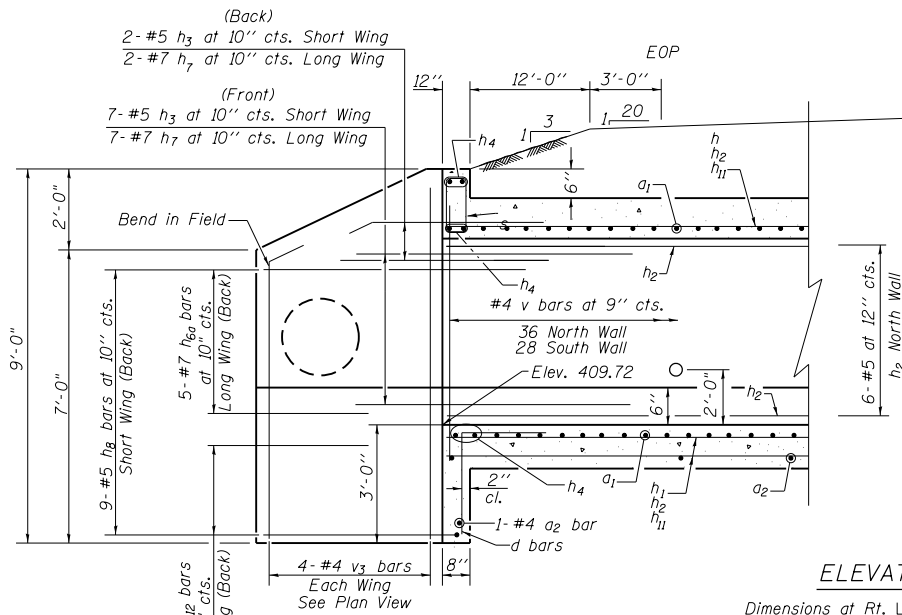
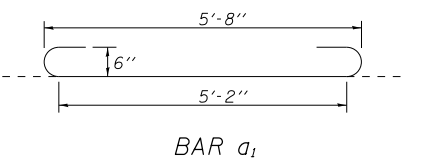
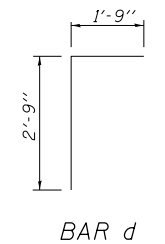
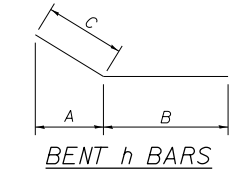
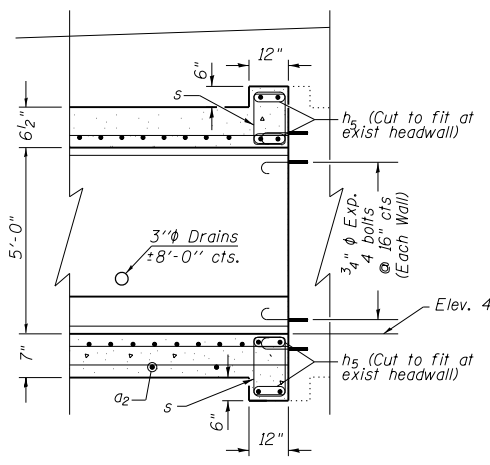


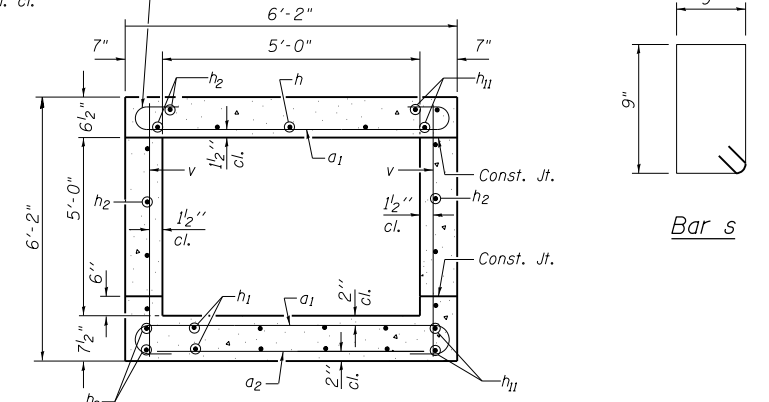
STATE OF ILLINOIS
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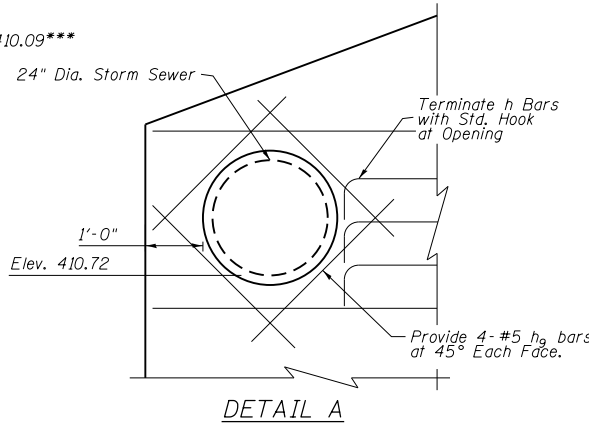
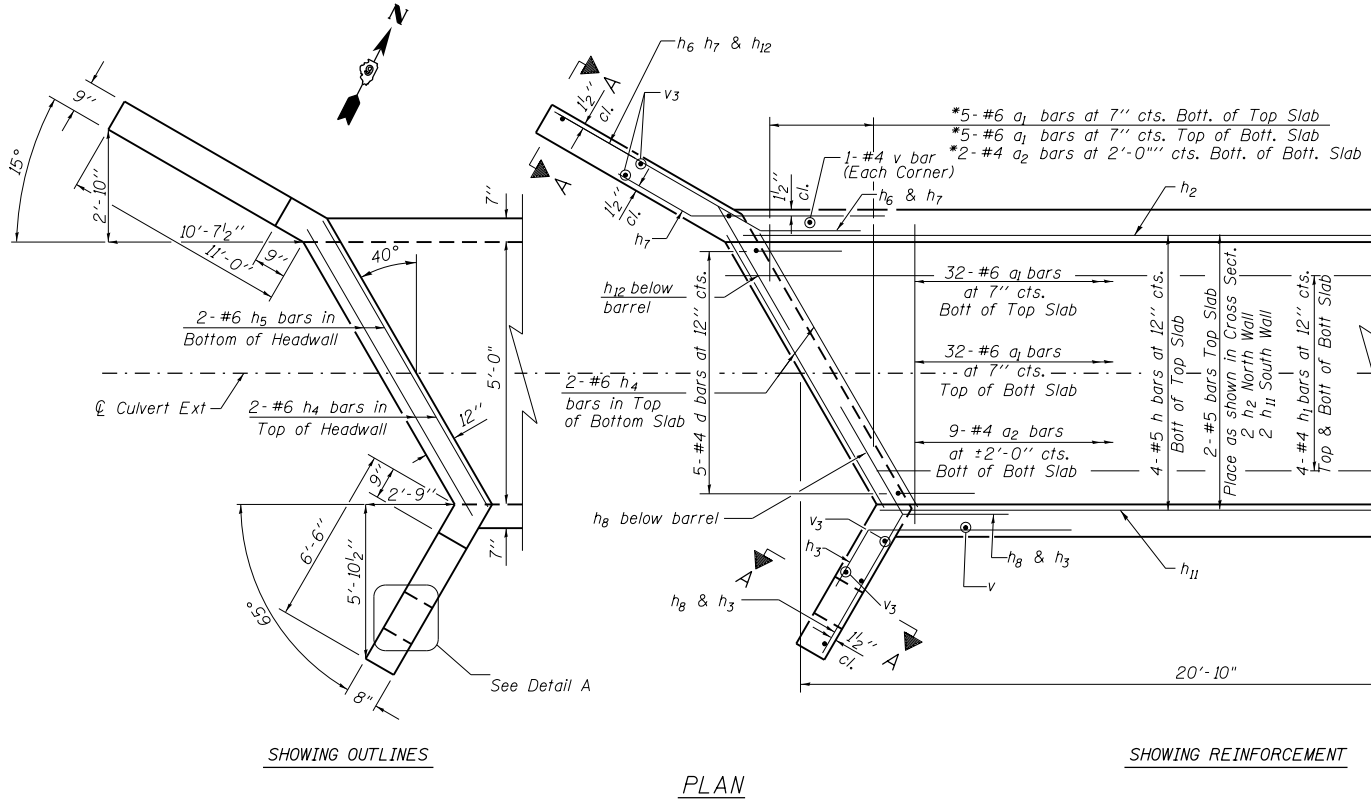
- * a_1 and a_2 bars in skew portion of slab shall be ordered full length and cut to fit.
- ** Array 4 a_1 bars in Bott of Top Slab and Top of Bott Slab at bend, maintain 7" cts. max spacing.
- *** Dimensions based on existing conditions. See Note 4.
- **** 4 a_1 bars, Bott of Top Slab and Top of Bott Slab
2 a_2 bars, Bott of Bott Slab
- ***** 4 h_{10} bars at 12" cts. Bott of Top Slab
4 h_{10} bars at 12" cts. Top and Bott of Bott Slab



Tilt hook of a_1 bars if necessary for 1/2" min. cl.



Bar s



SECTION THRU BARREL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	Dims		
					A	B	C
a_1	90	#6	7'-3"				
a_2	14	#4	5'-3"				
d	5	#4	4'-6"				
h	4	#5	22'-7"				
h_1	8	#4	22'-7"				
h_2	10	#5	27'-0"	3'-2"	24'-0"	3'-7"	
h_3	9	#5	8'-0"	1'-3"	5'-0"	3'-0"	
h_4	6	#6	6'-8"				
h_5	8	#6	5'-10"				
h_6	5	#7	14'-4"	2'-11"	11'-4"	3'-0"	
h_7	9	#7	8'-0"	2'-11"	5'-0"	3'-0"	
h_8	9	#5	9'-6"	1'-3"	6'-6"	3'-0"	
h_9	8	#5	4'-0"				
h_{10}	12	#5	6'-7"				
h_{11}	10	#5	21'-7"	2'-0"	18'-7"	2'-3"	
h_{12}	4	#7	14'-4"	1'-11"	11'-4"	3'-0"	
s	15	#4	3'-9"				
v	64	#4	4'-9"				
v_3	8	#4	8'-7"				
Concrete Structures					Cu. Yd.	16.3	
Reinforcement Bars					Pound	2,831	
3/4" Expansion bolts					Each	16	
Box Culvert End Section, Culvert No. 1					Each	1	

DESIGN STRESSES

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

NOTES

- All work on this sheet is to be performed in accordance with Article 503 of the Standard Specifications.
- Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.
- Quantities of concrete structures and reinforcement bars are tabulated for information purposes only. All work associated with the "Box Culvert End Sections, Culvert No. 1" including, but not limited to, excavation, Concrete, Reinforcement Bars, 3/4" Expansion Bolts, Form work, etc. will be paid for at the unit price each bid for "Box Culvert End Sections, Culvert No. 1". No additional measurements or payments will be made.
- The dimensions shown for the cast-in-place end sections are based on assumed dimensions of the existing culvert as denoted by the ***. The Contractor may be required to make minor changes in the end section dimensions if the actual box culvert dimensions differ greatly from those shown in the plans. The cost of the minor changes, both in material quantities and labor, will not be paid for separately but is included in the unit price each bid for "Box Culvert End Sections, Culvert No. 1".
- 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.

REVISIONS

DRAWN	2-04
REVISED	5-09 SHT CELL
REVISED	
REVISED	

BASED ON: SSB-H-L 6-1-2000

FILE NAME = D978258-sht-drain-51.dgn
CH2MHILL

USER NAME = mfox	DESIGNED - DD	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN - DD	REVISED -
PLOT DATE = 1/31/2013	CHECKED - KM	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT EXTENSION: STATION 1+13.32 (COMMERCIAL DR)
5' X 5', SKEW VARIES 1.1° TO 26.1°, EXTEND 24'-4 12"

SCALE: SHEET NO. 1 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1-4IR-2, N-4, TS-4	WILLIAMSON	381	251
DRAWING NO. CD-01			CONTRACT NO. 78258	
ILLINOIS FED. AID PROJECT				