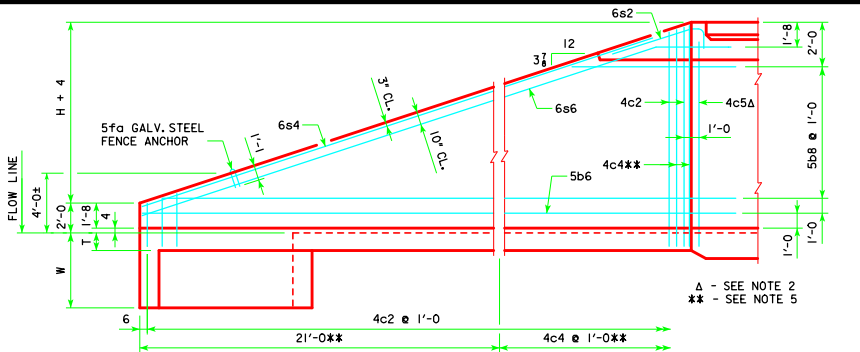
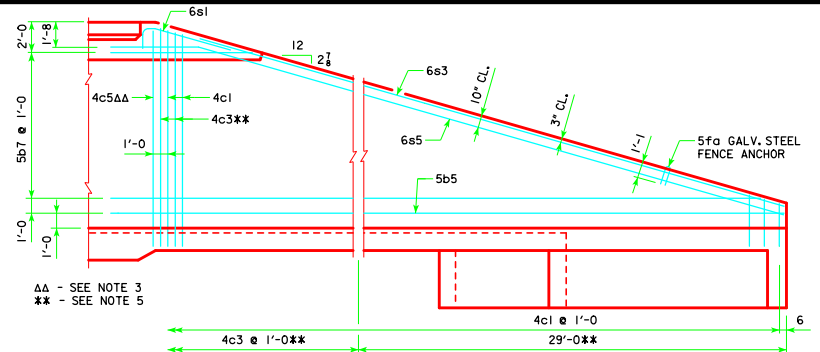


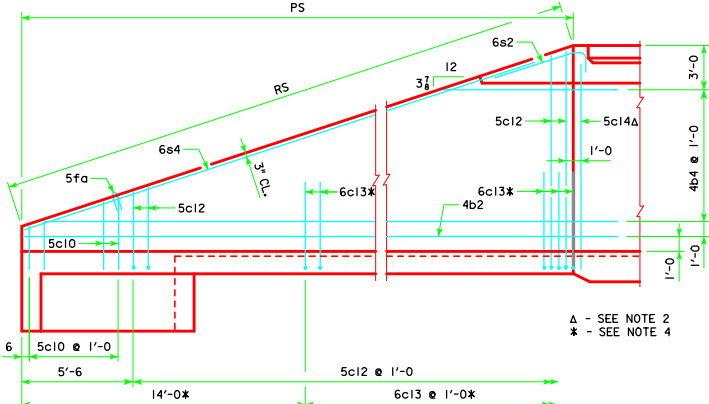
REVISED 05-13 - CHANGED DIMENSIONS WHEN TO BEGIN PLACING BARS 4c3, 5c11, 5c12, & 6c13 IN WINGWALLS. FROM FISH REPAIRS TO TRIPLE REINFORCED CONCRETE. TRH 30-6-12 - THIS SHEET ISSUED 04-12.



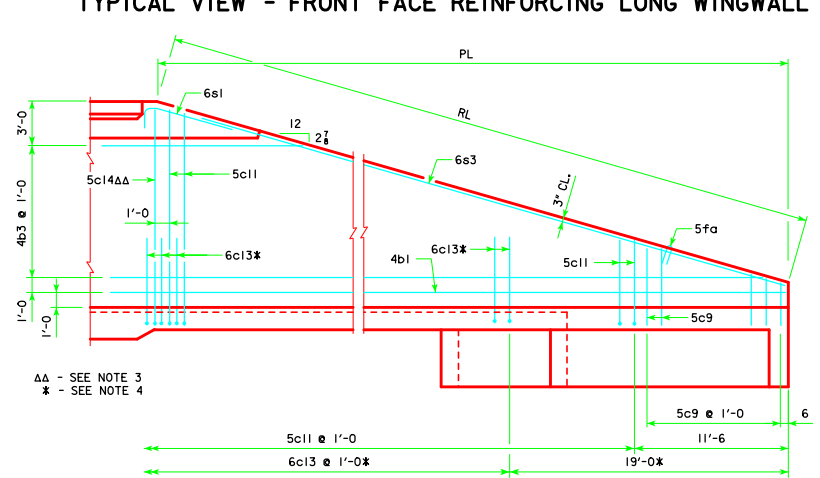
TYPICAL VIEW - FRONT FACE REINFORCING SHORT WINGWALL



TYPICAL VIEW - FRONT FACE REINFORCING LONG WINGWALL

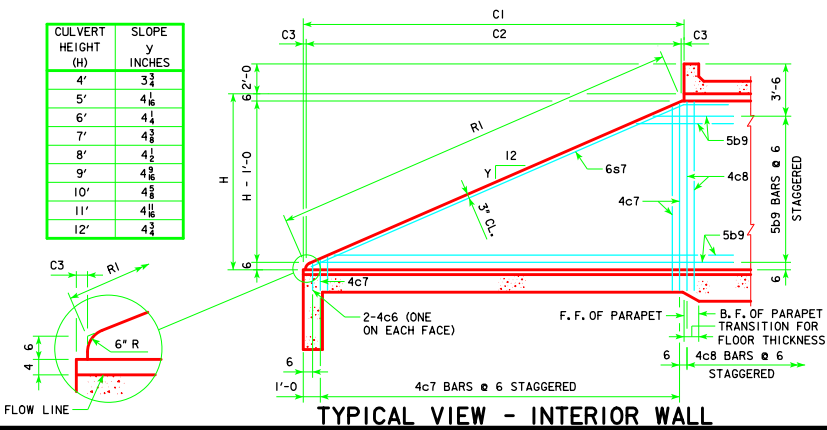


TYPICAL VIEW - BACK FACE REINFORCING SHORT WINGWALL



TYPICAL VIEW - BACK FACE REINFORCING LONG WINGWALL

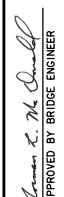

CULVERT HEIGHT (H)	SLOPE y INCHES
4'	3 3/4
5'	4 1/4
6'	4 3/8
7'	4 3/8
8'	4 1/2
9'	4 5/8
10'	4 5/8
11'	4 5/8
12'	4 3/4



TYPICAL VIEW - INTERIOR WALL

NOTES:

1. BAR SPACINGS AND POSITIONS SHOWN ARE SIMILAR FOR ALL SIZES OF HEADWALLS IN THIS STANDARD.
2. TWO 4c5 & TWO 5c14 BARS FOR 4', 8', 9', 10', 11' & 12' HEIGHT HEADWALLS, ONE 4c5 & ONE 5c14 BAR FOR 5', 6' & 7' HEIGHT HEADWALLS.
3. TWO 4c5 & TWO 5c14 BARS FOR 4', 5', 6', 10', 11' & 12' HEIGHT HEADWALLS, ONE 4c5 & ONE 5c14 BAR FOR 7', 8' & 9' HEIGHT HEADWALLS.
4. NOT APPLICABLE FOR 4' & 5' HEADWALLS.
5. NOT APPLICABLE FOR 4' THRU 8' HEIGHT HEADWALLS.
6. FOR DIMENSION TABLE SEE SHEET TRH 30-2-12.

05-13 LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 Iowa Department of Transportation Highway Division STANDARD DESIGN TRIPLE REINFORCED CONCRETE BOX CULVERTS APRIL, 2012
	FLARED WING HEADWALLS 30° SKEW	
	TRH 30-6-12	