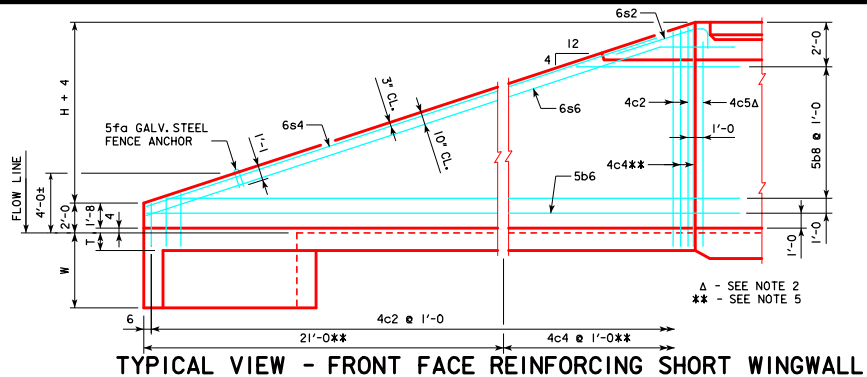
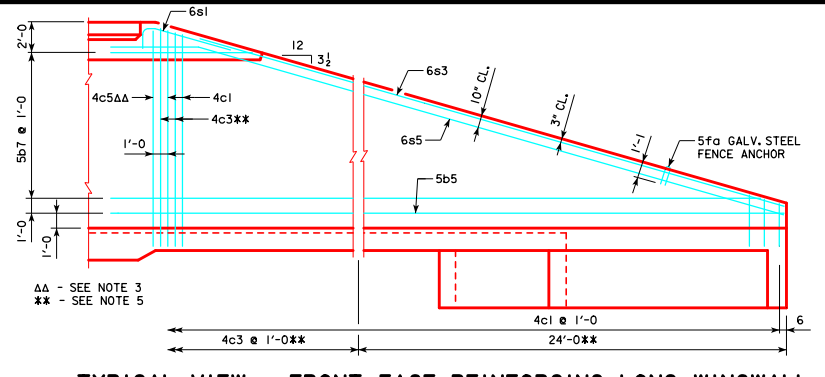


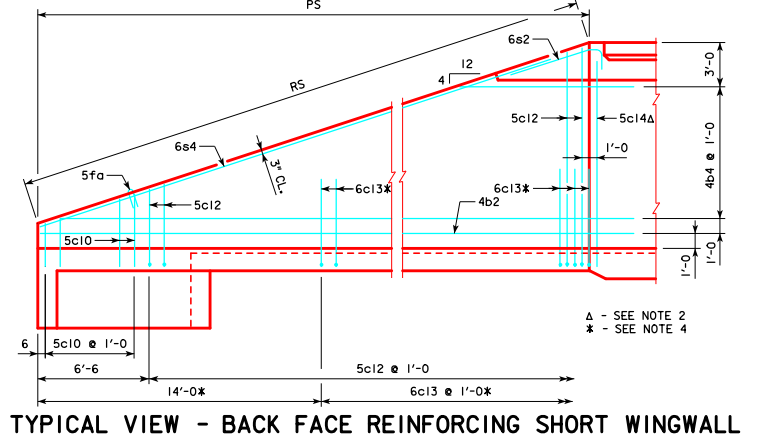
REVISED 05-13 - CHANGED BAR MARK 6c3 TO 6c13 IN TYPICAL VIEW - BACK FACE REINFORCING LONG WINGWALL DETAIL.
 REVISED 07-2016 - REMOVED 1'-0" VERTICAL DIMENSION FROM 6s5 & 6s6 BARS TO TOP OF PARAPET. THIS ALLOWS FOR THE VARIABLE VERTICAL LOCATION OF THE HORIZONTAL LEG IN THE SLAB.
 ENGLISH DESIGN INC./MUNICIPALITY OF IOWA - TWH 15-5-12 - THIS SHEET ISSUED 04-12



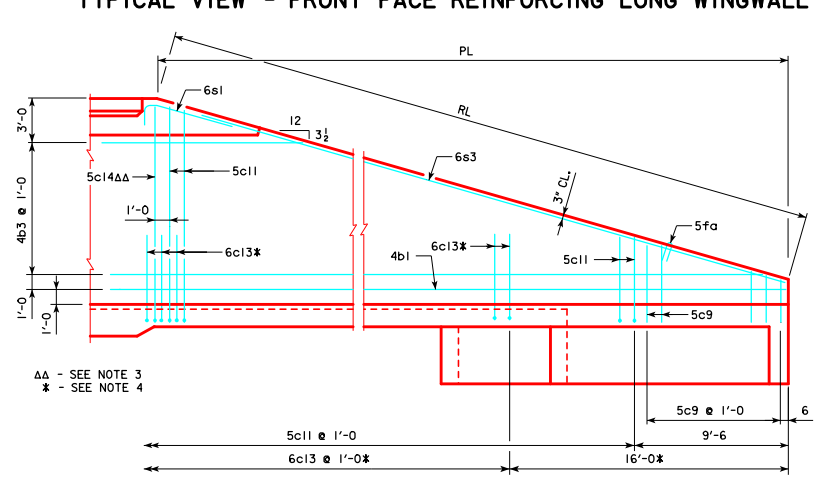
TYPICAL VIEW - FRONT FACE REINFORCING SHORT WINGWALL



TYPICAL VIEW - FRONT FACE REINFORCING LONG WINGWALL

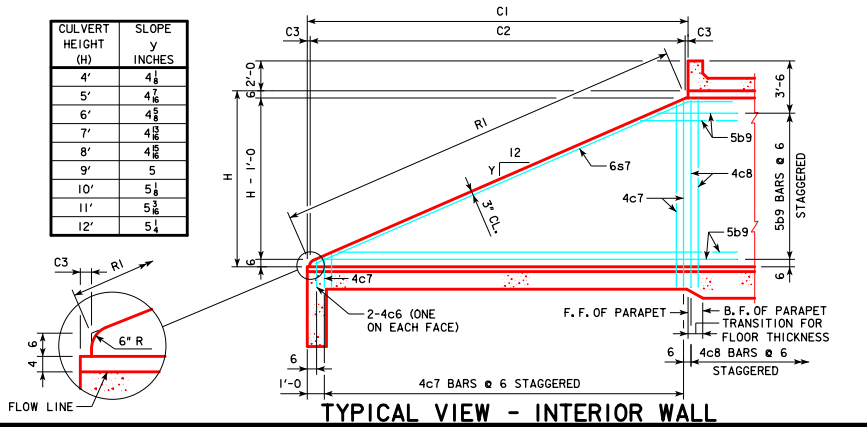


TYPICAL VIEW - BACK FACE REINFORCING SHORT WINGWALL



TYPICAL VIEW - BACK FACE REINFORCING LONG WINGWALL

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



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 ALL HEADWALLS.
3. TWO 4c5 & TWO 5c14 BARS FOR 4', 5', 7', 9', 10' & 12' HEIGHT HEADWALLS. ONE 4c5 & ONE 5c14 BAR FOR 6', 8' & 11' HEIGHT HEADWALLS.
4. NOT APPLICABLE FOR 4' & 5' HEADWALLS.
5. NOT APPLICABLE FOR 4' THRU 8' HEIGHT HEADWALLS.
6. FOR DIMENSION TABLE SEE SHEET TWH 15-2-12.

LATEST REVISION DATE 07-2016	 APPROVED BY BRIDGE ENGINEER	Iowa Department of Transportation Highway Division
FLARED WING HEADWALLS 15° SKEW		TWH 15-5-12