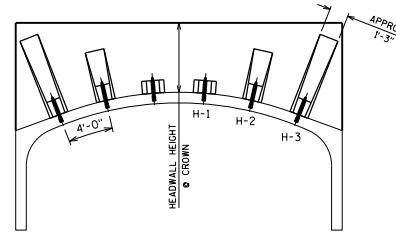


PRECAST HEADWALL TYPE H-1 COUNTERFORT

NOT TO SCALE



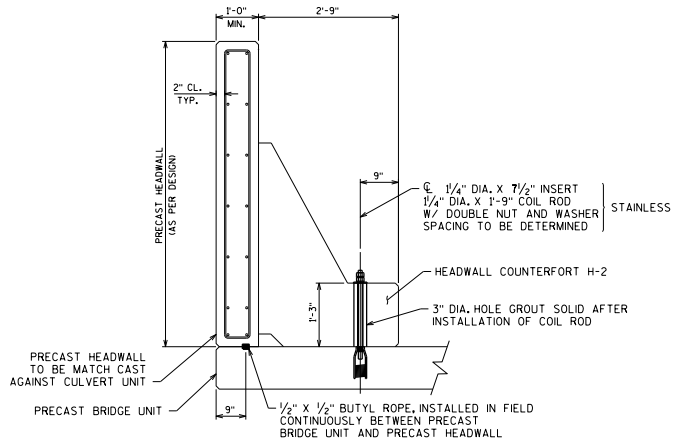
SAMPLE ELEVATION

NOTE:
THE ACTUAL NUMBER AND TYPE OF
PRECAST HEADWALL COUNTERFORTS
IS TO BE DESIGNED, HOWEVER, USE
THE FOLLOWING CHART AS A
GENERAL GUIDE TO FEASIBILITY OF
COUNTERFORT USE.

	COUNTERFORT	MAX HEADWALL HEIGHT @ COUNTERFORT LOCATION	
		NO SURCHARGE	W/ 2'-0" SURCHARGE
14'-0" SPAN	H-1	7'-0"	5'-0"
	H-2	7'-0"	5'-0"
	H-3	8'-0"	6'-0"
20'-0" - 42'-0" SPANS	H-1	8'-0"	6'-0"
	H-2	10'-0"	7'-0"
	H-3	10'-0"	8'-0"

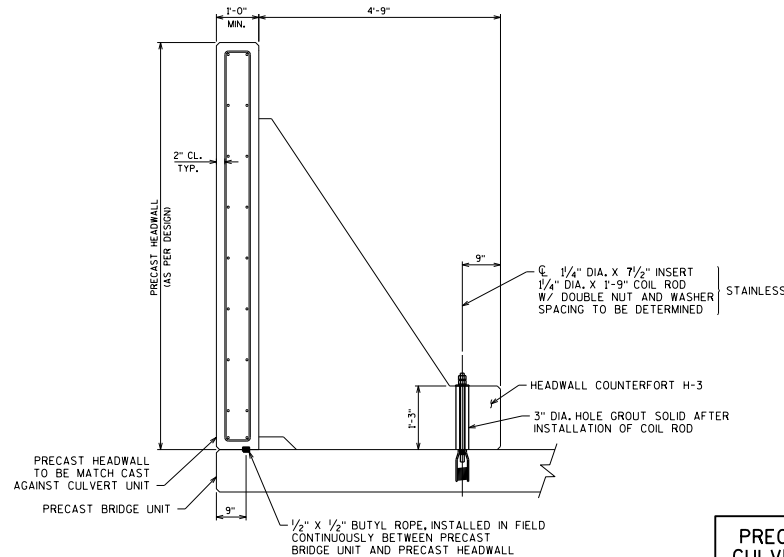
LRFD HEADWALL COUNTERFORTS

- HEADWALL DETAILS SHOWN HERE HAVE ONLY BEEN DESIGNED FOR THE FOLLOWING 2 LOAD CASES:
 - 1) EARTH PRESSURE ONLY
 - 2) EARTH PRESSURE + LIVE LOAD SURCHARGE
- THESE DETAILS ARE NOT TO BE USED WHERE A VEHICLE LOAD CAN BE TRANSMITTED THROUGH A BARRIER TO THE HEADWALL.
- ASSUMED 4'-0" SPACING OF COUNTERFORTS
- 1'-0" HEADWALL THICKNESS MIN.
- SOIL BEHIND HEADWALL IS AT SAME ELEVATION AS TOP OF HEADWALL
- ADDITIONAL HEADWALL HEIGHT MAY BE ACHIEVED WITH CLOSER COUNTERFORT SPACING
- FOR DETACHED HEADWALL DESIGNS ONLY



PRECAST HEADWALL TYPE H-2 COUNTERFORT

NOT TO SCALE



PRECAST HEADWALL TYPE H-3 COUNTERFORT

NOT TO SCALE

PRECAST THREE-SIDED BOX CULVERT HEADWALL DETAILS



DATE:
APPROVED: *Laura Shadewald* 1-11