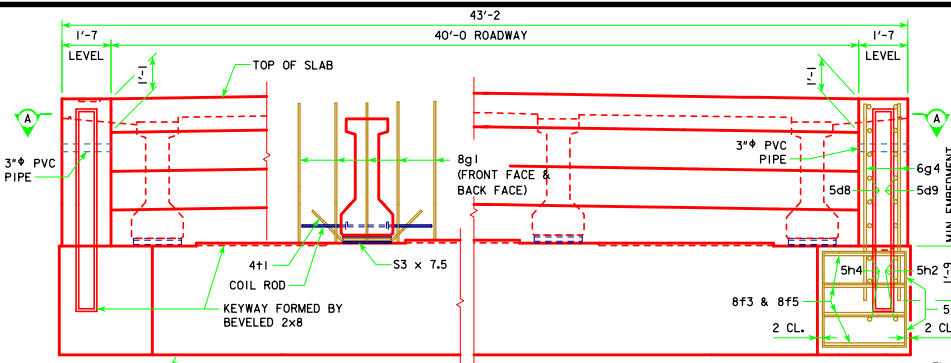
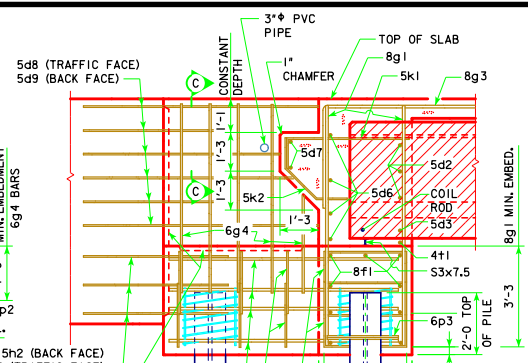


REVISED 05-13 -- REVISION FOR LRFD PILE DESIGN.



**PART REAR ELEVATION AT ABUTMENT**  
NOTE: TOP OF ABUTMENT SHOWN FOR SOLID BARRIER RAIL



**PART SECTION B-B**  
21'-8"

**ABUTMENT NOTES:**  
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

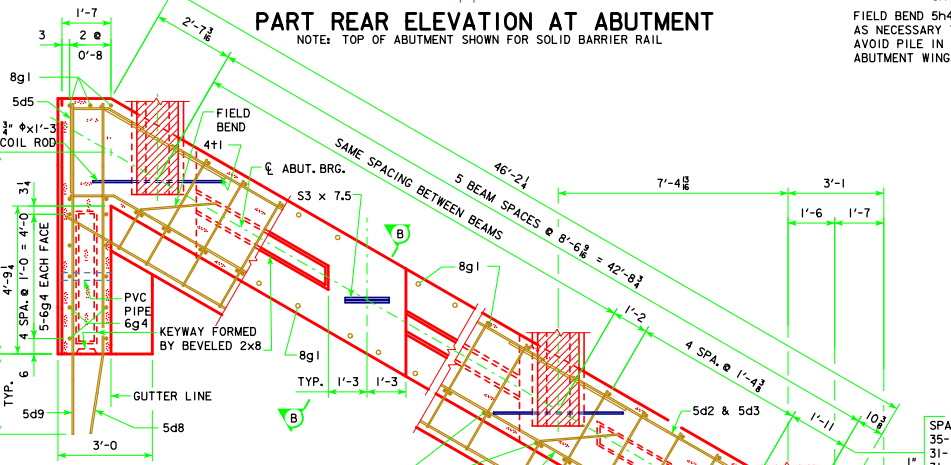
IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE COUNTY OR STATE.

ABUTMENT PILES SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.

BARRIER RAIL NOT SHOWN IN DETAILS.

IF ROCK IS CLOSER THAN 15' BELOW ABUTMENT FOOTING, SPECIAL ANALYSIS MAY BE REQUIRED.

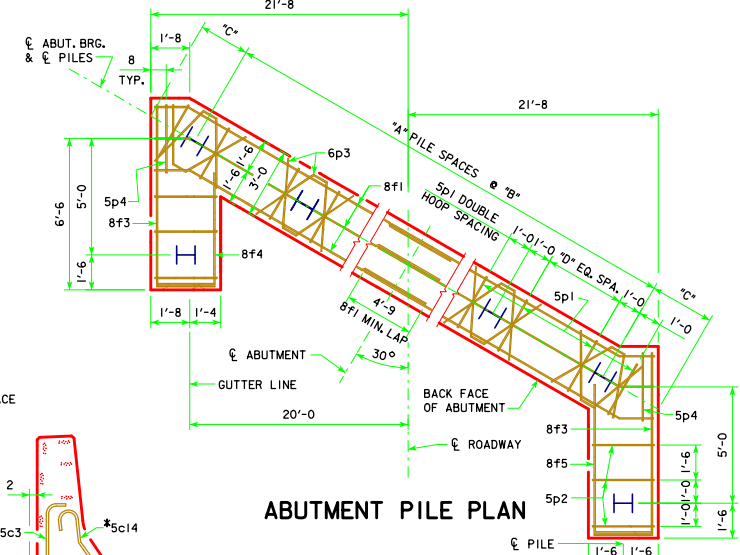
NOTE:  
THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF NO. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - L<sub>4</sub> x 1/4 x 1/4 SPACERS PUNCHED TO HOLD SPIRAL.



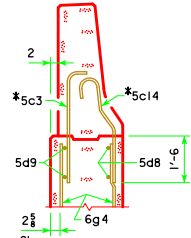
**PART SECTION A-A**

ABUTMENT PILE SPACING		CL-CL ABUT. BRG.	201'-4	213'-10	226'-4	243'-0
WITH STEEL H-PILES	"A" PILE SPACES		7	7	8	8
	"B" (FT. - IN.)		6'-4	6'-4	5'-7	5'-7
	"C" (FT. - IN.)		2'-10 1/4	2'-10 1/4	2'-8 1/4	2'-8 1/4
	"D" EQUAL SPACES		4	4	3	3
	NO. OF PILES PER ABUT.		10	10	11	11
	P <sub>u</sub> STRENGTH I DESIGN LOAD (KIPS)		140	144	132	140

NOTE: P<sub>u</sub> STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.



**ABUTMENT PILE PLAN**



**PART SECTION C-C**

\* NOTE: SEE BARRIER RAIL SHEET FOR DETAILS. REINFORCING BARS 5c3 AND 5c14 ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.

05-13  
LATEST REVISION DATE  
*Thomas E. McQuinn*  
APPROVED BY BRIDGE ENGINEER

**Iowa Department of Transportation**  
Highway Division

STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE  
**PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES**  
AUGUST, 2009

**ABUTMENT DETAILS**  
30° SKEW C BEAMS

**H40-19-06**