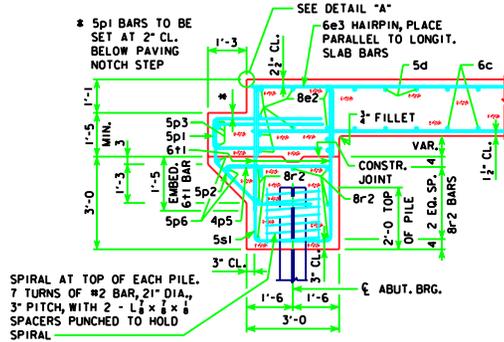


SECTION NORMAL TO ABUTMENT AT ROADWAY



SECTION NORMAL TO ABUTMENT AT RAIL



ABUTMENT NOTES:

ALL PILING HPI0X42.

THE CONCRETE AND REINFORCING STEEL FOR THE WINGS IS INCLUDED WITH THE SUPERSTRUCTURE.

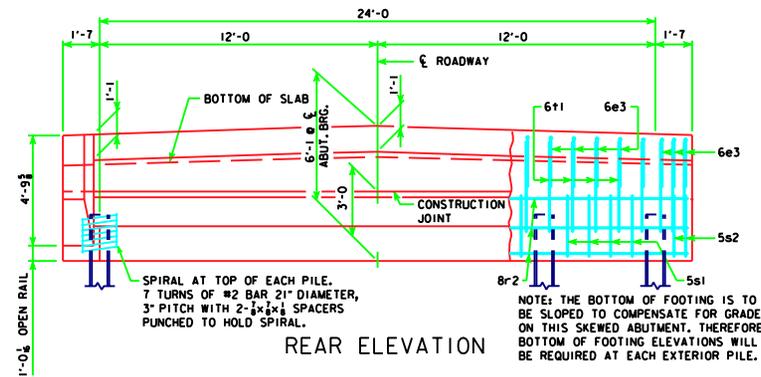
DETAILS ON THIS SHEET ARE TO BE USED ONLY WHEN ABUTMENTS ARE PLACED ON STEEL PILES. IF ROCK IS ENCOUNTERED CLOSER THAN 12' BELOW ABUTMENT FOOTING, SPECIAL ANALYSIS MAY BE REQUIRED.

THE MINIMUM CLEAR DISTANCE FROM THE FACE OF THE CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

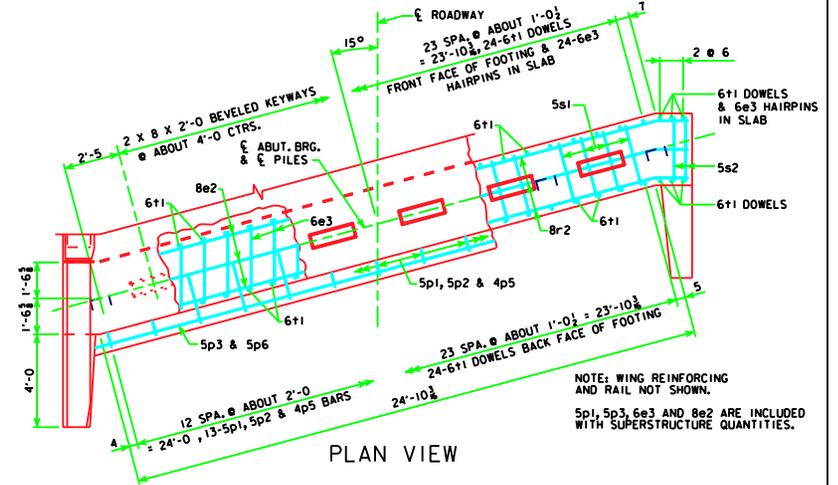
STEEL PILING USED AS FRICTION PILE SHALL BE DRIVEN TO FULL PENETRATION IF PRACTICABLE BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET.

ALL REINFORCING STEEL IS TO BE GRADE 60.

ABUTMENT PILING WAS DESIGNED FOR HS25 LOADING WITH AN ALLOWANCE FOR 20 LBS. PER SQ. FT. FUTURE WEARING SURFACE.



REAR ELEVATION



PLAN VIEW

REACTION, PILE NUMBER & BEARING										
BRIDGE LENGTH	70'-0"	80'-0"	90'-0"	100'-0"	110'-0"	120'-0"	130'-0"	140'-0"	150'-0"	
REACTION - KIPS	239	259	275	292	308	327	345	Δ 403	Δ 424	
BEARING - TONS	24	26	28	30	31	33	35	34	36	
PILING - NUMBER	5	5	5	5	5	5	5	6	6	

Δ INCLUDES IMPACT

LATEST REVISION DATE APPROVED BY BRIDGE ENGINEER <i>Thomas E. McQuinn</i>	Iowa Department of Transportation Highway Division	
	STANDARD DESIGN - 24' ROADWAY, 3 SPAN BRIDGES CONTINUOUS CONCRETE SLAB BRIDGES NOVEMBER, 2006	
	ABUTMENT DETAILS 15° SKEW - STEEL PILING	J24-35-06