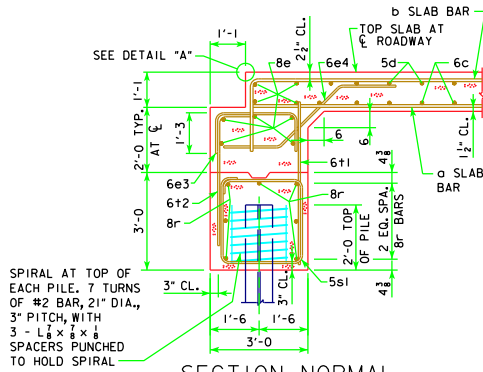
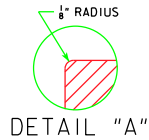
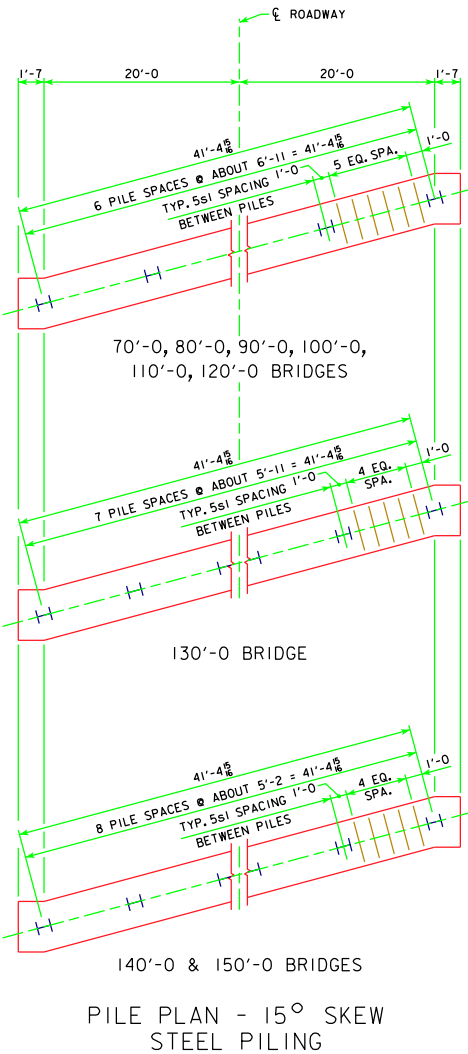
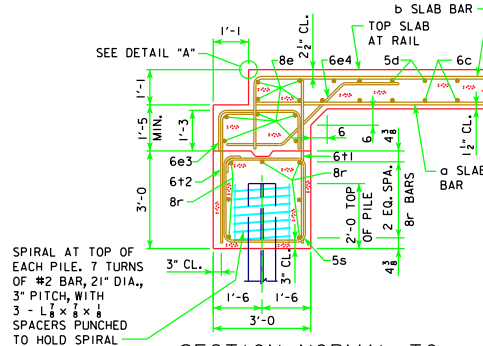


REVISED 11-08 - REVISED SHEET FOR NEW PAVING NOTCH & WING DESIGN FOR HL-93 LOADING.



SECTION NORMAL TO ABUTMENT AT CL



SECTION NORMAL TO ABUTMENT AT GUTTERLINE

ABUTMENT NOTES:

ALL PILING ARE HP 10 X 42.

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.

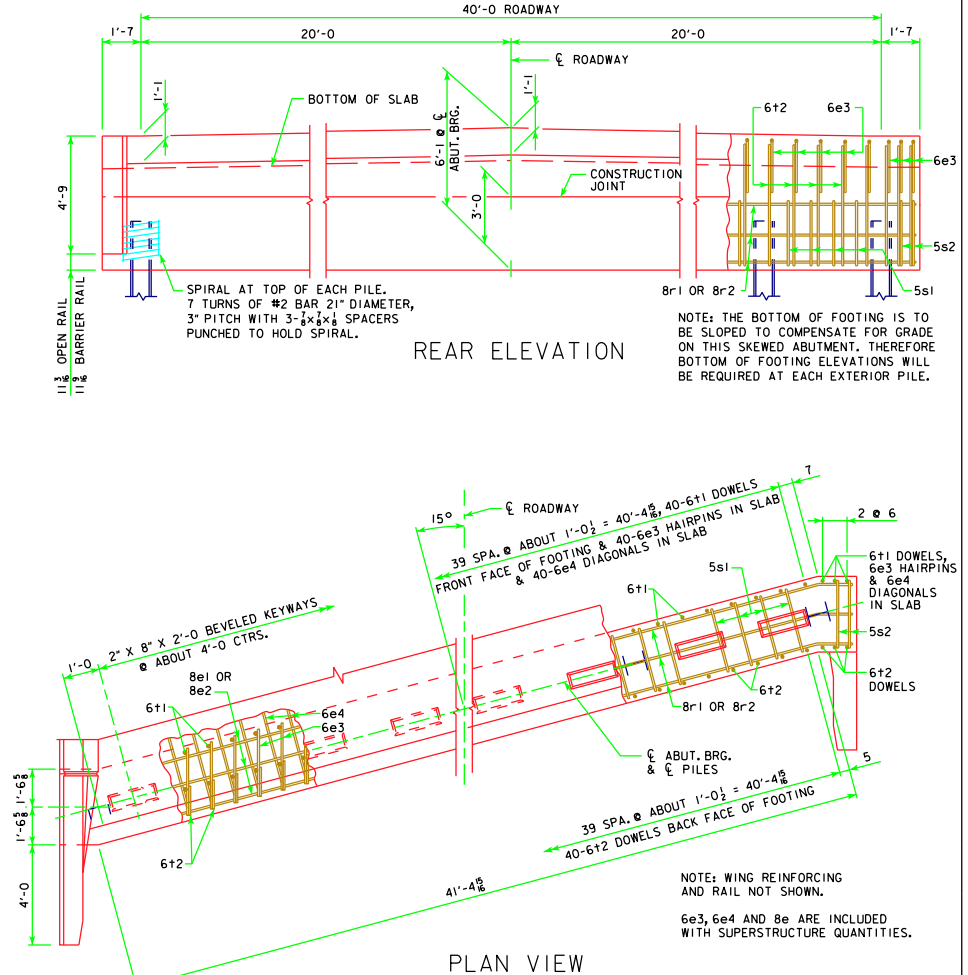
STEEL PILING USED AS FRICTION PILE SHALL BE DRIVEN TO FULL PENETRATION IF PRACTICABLE BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET.

ALL REINFORCING STEEL IS TO BE GRADE 60.

ABUTMENT PILING WAS DESIGNED FOR HL-93 LOADING WITH AN ALLOWANCE FOR 20 LBS. PER SQ.FT. FUTURE WEARING SURFACE.

BRIDGE LENGTH	70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
REACTION - KIPS	366	388	409	435	461	490	519	Δ 594	Δ 628
BEARING - TONS	27	28	30	32	33	35	33	33	35
PILING - NUMBER	7	7	7	7	7	7	8	9	9
STRENGTH 1 REACTION - KIPS	488	520	550	590	627	671	713	Δ 835	Δ 884

Δ INCLUDES IMPACT



REAR ELEVATION

PLAN VIEW

NOTE: THE BOTTOM OF FOOTING IS TO BE SLOPED TO COMPENSATE FOR GRADE ON THIS SKEWED ABUTMENT. THEREFORE BOTTOM OF FOOTING ELEVATIONS WILL BE REQUIRED AT EACH EXTERIOR PILE.

NOTE: WING REINFORCING AND RAIL NOT SHOWN.
6e3, 6e4 AND 8e ARE INCLUDED WITH SUPERSTRUCTURE QUANTITIES.

11-08 LATEST REVISION DATE	 Iowa Department of Transportation Highway Division STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES CONTINUOUS CONCRETE SLAB BRIDGES NOVEMBER, 2006	APPROVED BY BRIDGE ENGINEER THOMAS C. McQUINN	ABUTMENT DETAILS 15° SKEW - STEEL PILING	J40-40-06