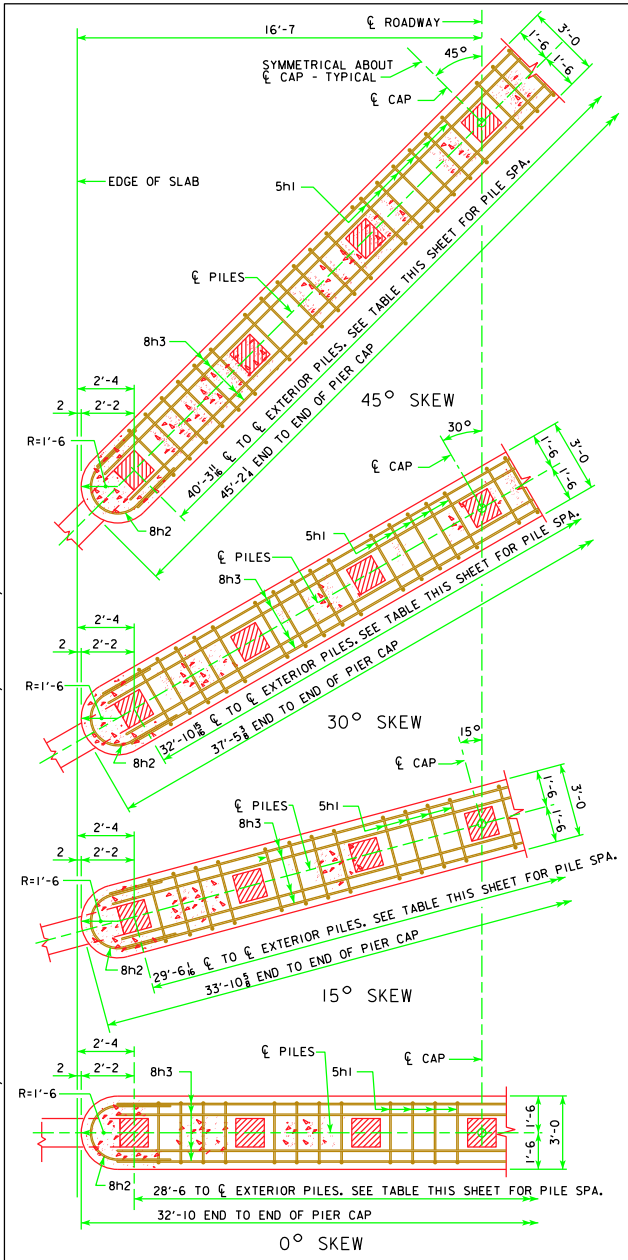
REVISED 12-08 - CHANGED PIER NOTES, PIER PILES NOW DESIGNED FOR HL-93. MODIFIED "REACTION, PILE SPACING, NUMBER AND BEARING" TABLE. ADDED PILE ORIENTATION DETAIL.



HALF SECTION BELOW SLAB

NOTE: NUMBER OF PILES AND STIRRUPS SHOWN ARE FOR A 70'-0 BRIDGE. CAP DIMENSIONS ARE TYPICAL FOR ALL BRIDGES.

REACTION, PILE SPACING, NUMBER AND BEARING

BRIDGE LENGTH	70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
0° SKEW	6 SPA. @ 4'-9	6 SPA. @ 4'-9	7 SPA. @ ABOUT 4'-1(-)	8 SPA. @ ABOUT 3'-7(-)	9 SPA. @ 3'-2	10 SPA. @ ABOUT 2'-10(+)	11 SPA. @ ABOUT 2'-7(+)	11 SPA. @ ABOUT 2'-7(+)	11 SPA. @ ABOUT 2'-7(+)
15° SKEW	6 SPA. @ ABOUT 4'-11(+)	6 SPA. @ ABOUT 4'-11(+)	7 SPA. @ ABOUT 4'-3(-)	8 SPA. @ ABOUT 3'-8(+)	9 SPA. @ ABOUT 3'-3(+)	10 SPA. @ ABOUT 2'-11(+)	11 SPA. @ ABOUT 2'-8(+)	11 SPA. @ ABOUT 2'-8(+)	11 SPA. @ ABOUT 2'-8(+)
30° SKEW	6 SPA. @ ABOUT 5'-6(-)	6 SPA. @ ABOUT 5'-6(-)	7 SPA. @ ABOUT 4'-8(+)	8 SPA. @ ABOUT 4'-1(+)	9 SPA. @ ABOUT 3'-8(-)	10 SPA. @ ABOUT 3'-3(+)	11 SPA. @ ABOUT 3'-0(-)	11 SPA. @ ABOUT 3'-0(-)	11 SPA. @ ABOUT 3'-0(-)
45° SKEW	6 SPA. @ ABOUT 6'-9(-)	6 SPA. @ ABOUT 6'-9(-)	7 SPA. @ ABOUT 5'-9(+)	8 SPA. @ ABOUT 5'-0(+)	9 SPA. @ ABOUT 4'-6(-)	10 SPA. @ ABOUT 4'-0(+)	11 SPA. @ ABOUT 3'-8(-)	11 SPA. @ ABOUT 3'-8(-)	11 SPA. @ ABOUT 3'-8(-)
① REACTION	424 KIPS	473 KIPS	530 KIPS	593 KIPS	652 KIPS	728 KIPS	801 KIPS	878 KIPS	964 KIPS
② STRENGTH I REACTION	563 KIPS	628 KIPS	703 KIPS	785 KIPS	866 KIPS	961 KIPS	1056 KIPS	1155 KIPS	1266 KIPS
① BEARING	31T	34T	34T	33T	33T	34T	34T	37T	41T
②③ BEARING	28T	31T	31T	31T	31T	32T	32T	35T	39T
* PILING (NO.)	7	7	8	9	10	11	12	12	12

① VALUE INCLUDES DEAD LOAD (PIER CAP WEIGHT IS BASED ON 45° SKEW), LIVE LOAD AND LIVE LOAD IMPACT.

② VALUE INCLUDES DEAD LOAD (PIER CAP WEIGHT IS BASED ON 45° SKEW), AND LIVE LOAD, WITHOUT IMPACT.

③ FOR ESTIMATING PILE LENGTHS AND FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.

* USE PILES AS SHOWN ON PIOA STANDARD PILE DRAWING. TYPE, SIZE, AND LENGTH OF PILES SHALL BE SPECIFIED ON THE PLAN. THE LARGER PILE SIZE SHOWN ON PIOA STANDARD PILE DRAWING SHALL BE USED IF EITHER THE ACTUAL "H" DIMENSION OR THE REQUIRED BEARING EXCEEDS THE MAXIMUM "H" OR MAXIMUM BEARING CAPACITY SHOWN FOR THE PILE.

PIER NOTES:

ALL MONOLITHIC PIER CAP REINFORCING AND CONCRETE IS INCLUDED IN SUPERSTRUCTURE ESTIMATE OF QUANTITIES.

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

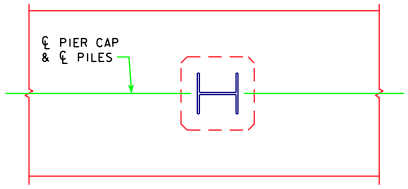
THE PIER PILES ARE TO BE DRIVEN TO FULL PENETRATION, IF PRACTICABLE, BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET. ADDITIONAL DRIVING CAPACITY MAY BE REQUIRED THROUGH SCOURABLE LAYERS. REFER TO GENERAL PLAN NOTES FOR ADDITIONAL INFORMATION.

CAP STEEL AS DETAILED ON PIOA STANDARD PILE DRAWING IS REQUIRED FOR MONOLITHIC PIER CAPS.

THE CONCRETE QUANTITIES ARE BASED ON THE USE OF TYPE 3 PILING. IF TYPE 1 OR TYPE 2 IS USED, THE CONCRETE QUANTITIES MAY BE ADJUSTED TO ACCOUNT FOR THE CONCRETE DISPLACED BY THE PILING.

ALL REINFORCING STEEL IS TO BE GRADE 60.

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



PILE ORIENTATION DETAIL FOR TYPE 3 TRESTLE BENT PILES

12-08
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

NOVEMBER, 2006

MONOLITHIC PIER CAP DETAILS
ALL BRIDGES

SHEET 1 OF 2

J30-23-06