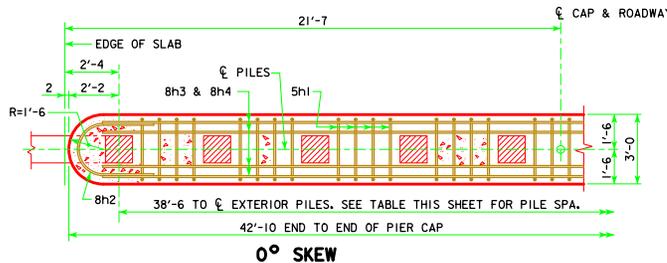


HALF SECTION BELOW SLAB

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



TYPICAL NUMBERS OF PILES AND SPACINGS AND FACTORED PIER LOADS

| BRIDGE LENGTH | 70'-0 | 80'-0 | 90'-0 | 100'-0 | 110'-0 | 120'-0 | 130'-0 | 140'-0 | 150'-0 |
|---------------------------------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-------------------------|-------------------------|------------------------|------------------------|
| ① TYP. NO. OF PILES | 10 | 10 | 10 | 11 | 12 | 14 | 15 | 16 | 16 |
| TYP. PILE SPACES @ 0° | 9 SPA. @ ABOUT 4'-3 | 9 SPA. @ ABOUT 4'-3 | 9 SPA. @ ABOUT 4'-3 | 10 SPA. @ ABOUT 3'-10 | 11 SPA. @ 3'-6 | ② 13 SPA. @ ABOUT 2'-11 | ③ 14 SPA. @ ABOUT 2'-9 | ③ 15 SPA. @ ABOUT 2'-7 | ③ 15 SPA. @ ABOUT 2'-7 |
| TYP. PILE SPACES @ 15° | 9 SPA. @ ABOUT 4'-5 | 9 SPA. @ ABOUT 4'-5 | 9 SPA. @ ABOUT 4'-5 | 10 SPA. @ ABOUT 4'-0 | 11 SPA. @ ABOUT 3'-7 | ② 13 SPA. @ ABOUT 3'-0 | ③ 14 SPA. @ ABOUT 2'-10 | ③ 15 SPA. @ ABOUT 2'-8 | ③ 15 SPA. @ ABOUT 2'-8 |
| TYP. PILE SPACES @ 30° | 9 SPA. @ ABOUT 4'-11 | 9 SPA. @ ABOUT 4'-11 | 9 SPA. @ ABOUT 4'-11 | 10 SPA. @ ABOUT 4'-5 | 11 SPA. @ ABOUT 4'-1 | 13 SPA. @ ABOUT 3'-5 | ② 14 SPA. @ ABOUT 3'-2 | ② 15 SPA. @ ABOUT 3'-0 | ② 15 SPA. @ ABOUT 3'-0 |
| TYP. PILE SPACES @ 45° | 9 SPA. @ ABOUT 6'-1 | 9 SPA. @ ABOUT 6'-1 | 9 SPA. @ ABOUT 6'-1 | 10 SPA. @ ABOUT 5'-5 | 11 SPA. @ ABOUT 4'-11 | 13 SPA. @ ABOUT 4'-2 | 14 SPA. @ ABOUT 3'-11 | 15 SPA. @ ABOUT 3'-8 | 15 SPA. @ ABOUT 3'-8 |
| ④ PU STRENGTH I DESIGN LOAD FOR PIER (KIPS) | 812 KIPS | 900 KIPS | 1001 KIPS | 1109 KIPS | 1215 KIPS | 1341 KIPS | 1465 KIPS | 1595 KIPS | 1739 KIPS |

- ① THIS TYPICAL NUMBER OF PILES MAY NEED TO BE MODIFIED DEPENDING ON SELECTED P10L PILE TYPE AND SIZE, HEIGHT, AND RESISTANCE. IF THE NUMBER OF PILES IS DIFFERENT THAN IN THE TABLE FOR THE BRIDGE LENGTH, THE NUMBER OF 5H1 BARS AND OTHER QUANTITIES NEED TO BE CHECKED AND ADJUSTED AS NEEDED. PILES 10 INCHES AND 12 INCHES IN SIZE MUST BE SPACED 2'-6 OR MORE, PILES 14 INCHES IN SIZE MUST BE SPACED 2'-11 OR MORE, AND PILES 16 INCHES IN SIZE MUST BE SPACED 3'-4 OR MORE.
- ② MAXIMUM P10L PILE SIZE AT THIS SPACING IS 14 INCHES.
- ③ MAXIMUM P10L PILE SIZE AT THIS SPACING IS 12 INCHES.
- ④ STRENGTH I PIER DESIGN LOAD INCLUDES DYNAMIC LOAD ALLOWANCE (1M), AND PIER CAP WEIGHT IS BASED ON 45° SKEW. USE THIS PU FOR DETERMINING NUMBER OF PILES AND PILE LENGTH.

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.

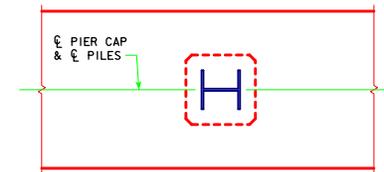
THE PIER PILES ARE TO BE DRIVEN TO FULL PENETRATION, IF PRACTICABLE, BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET. ADDITIONAL DRIVING CAPACITY MAY BE REQUIRED THROUGH SCOURABLE LAYERS. REFER TO GENERAL PLAN NOTES FOR ADDITIONAL INFORMATION.

CAP STEEL AS DETAILED ON P10L 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

| | | | |
|----------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------|
| LATEST REVISION DATE | Approved by Bridge Engineer <i>Thomas E. McQuill</i> | | |
| | | STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES CONTINUOUS CONCRETE SLAB BRIDGES JULY, 2014 | |
| | | MONOLITHIC PIER CAP DETAILS ALL BRIDGES | J40-25-14 |