

**PILE BENT NOTES:**

THESE PIER BENTS ARE DESIGNED FOR USE IN LOCATIONS WHERE ICE AND DRIFT CONDITIONS ARE NOT SEVERE.

FOR DETAILS OF TRESTLE PILES, TYPES 1, 2 AND 3, SEE STANDARD PIOL.

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

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

**REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT**

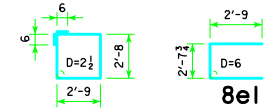
| BAR                       | LENGTH | SHAPE | 9 PILE BENT |      |        | 10 PILE BENT |      |        | 11 PILE BENT |      |        | 12 PILE BENT |      |        | 13 PILE BENT |      |        | 14 PILE BENT |      |        | 15 PILE BENT |      |        | 16 PILE BENT |      |        |
|---------------------------|--------|-------|-------------|------|--------|--------------|------|--------|--------------|------|--------|--------------|------|--------|--------------|------|--------|--------------|------|--------|--------------|------|--------|--------------|------|--------|
|                           |        |       | NO.         | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT | NO.          | SIZE | WEIGHT |
| q1                        | 42'-8  |       | 6           | 9    | 870    | 6            | 9    | 870    | 6            | 9    | 870    | 6            | 9    | 870    | 6            | 9    | 870    | 6            | 9    | 870    | 4            | 9    | 580    | 4            | 9    | 580    |
| q2                        | 42'-8  |       | 4           | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    | 4            | 8    | 456    |
| b1                        | 42'-8  |       | 4           | 9    | 580    | 4            | 9    | 580    | 4            | 9    | 580    | 4            | 9    | 580    | 4            | 9    | 580    | 4            | 9    | 580    | 4            | 8    | 456    | 4            | 8    | 456    |
| 5c1                       | 11'-10 |       | 34          | 5    | 420    | 38           | 5    | 469    | 42           | 5    | 518    | 46           | 5    | 568    | 50           | 5    | 617    | 54           | 5    | 666    | 30           | 5    | 370    | 47           | 5    | 580    |
| 8e1                       | 8'-2   |       | 4           | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     | 4            | 8    | 87     |
| ① REINFORCING STEEL (LB.) |        |       | 2413        |      |        | 2462         |      |        | 2511         |      |        | 2561         |      |        | 2610         |      |        | 2659         |      |        | 1949         |      |        | 2159         |      |        |
| STRUCTURAL ②              |        |       | PILE TYPE   |      |        |              |      |        |              |      |        |              |      |        |              |      |        |              |      |        |              |      |        |              |      |        |
| CONCRETE (CY)             |        |       | 1, 2        |      |        | -----        |      |        | -----        |      |        | 15.2         |      |        | 15.2         |      |        | 15.2         |      |        | 15.1         |      |        | 15.1         |      |        |
|                           |        |       | 3           |      |        | 15.7         |      |        | 15.7         |      |        | 15.7         |      |        | 15.7         |      |        | 15.7         |      |        | 15.7         |      |        | -----        |      |        |

NOTE: THE REINFORCING STEEL QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

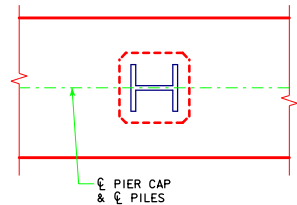
NOTE: THE CONCRETE QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

NOTE: THE NUMBER OF PILES AND THE PILE TYPE ARE TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

**BENT BAR DETAILS**



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.



**PILE ORIENTATION DETAIL FOR TYPE 3 TRESTLE BENT PILES**

| E-E<br>ABUTMENT<br>BEARING | FRICTION BEARING PILING |                |  | FRICTION OR POINT BEARING PILING |           |  |
|----------------------------|-------------------------|----------------|--|----------------------------------|-----------|--|
|                            | PIOL TYPE 1 OR 2        |                |  | PIOL TYPE 3                      |           |  |
|                            | NUMBER OF TRESTLE PILES | ③ *K* (INCHES) | ④ LRFD PU, STRENGTH I DES. LOAD (KIPS) | NUMBER OF TRESTLE PILES          | PILE SIZE | ④ LRFD PU, STRENGTH I DES. LOAD (KIPS) |
| 138'-10                    | 13                      | 14             | 92                                     | 9                                | HP10x57   | 133                                    |
|                            | 11                      | 16             | 109                                    | 9                                | HP12x53   | 133                                    |
| 151'-4                     | 14                      | 14             | 90                                     | 9                                | HP10x57   | 140                                    |
|                            | 12                      | 16             | 105                                    | 10                               | HP12x53   | 126                                    |
| 163'-10                    | -----                   | -----          | -----                                  | 10                               | HP10x57   | 136                                    |
|                            | 13                      | 16             | 105                                    | 11                               | HP12x53   | 124                                    |
| 176'-4                     | -----                   | -----          | -----                                  | 10                               | HP10x57   | 143                                    |
|                            | -----                   | -----          | -----                                  | 11                               | HP12x53   | 130                                    |
| 188'-10                    | -----                   | -----          | -----                                  | 11                               | HP10x57   | 135                                    |
|                            | -----                   | -----          | -----                                  | 12                               | HP12x53   | 124                                    |
| 201'-4                     | -----                   | -----          | -----                                  | 12                               | HP10x57   | 138                                    |
|                            | -----                   | -----          | -----                                  | 13                               | HP12x53   | 127                                    |
| 213'-10                    | -----                   | -----          | -----                                  | 12                               | HP10x57   | 145                                    |
|                            | -----                   | -----          | -----                                  | 13                               | HP12x53   | 134                                    |
| 226'-4                     | -----                   | -----          | -----                                  | 13                               | HP10x57   | 141                                    |
|                            | -----                   | -----          | -----                                  | 14                               | HP12x53   | 131                                    |
| 243'-0                     | -----                   | -----          | -----                                  | 14                               | HP10x57   | 137                                    |
|                            | -----                   | -----          | -----                                  | 15                               | HP12x53   | 128                                    |

- ① SEE SHEET H40-17-14 FOR STEP REINFORCING STEEL QUANTITIES AND DETAILS.
- ② CONCRETE QUANTITIES SHOWN HAVE HAD THE VOLUME OF EMBEDDED PILES DEDUCTED FOR TYPES 1 AND 2 BASED ON 0.8 FT<sup>3</sup> PER FOOT OF EMBEDMENT. THE CONCRETE QUANTITIES FOR TYPE 3 PILES DO NOT REQUIRE REDUCTION FOR PILE EMBEDMENT.
- ③ SEE STANDARD PIOL FOR \*K\* DIMENSION.
- ④ NOTE: PU, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

NOTE: FRICTION BEARING INCLUDES SIDE FRICTION AND END BEARING IN SOIL. POINT BEARING INCLUDES SIDE FRICTION AND POINT BEARING IN ROCK.

|                      |                                 |  |                  |
|----------------------|---------------------------------|--|------------------|
| LATEST REVISION DATE | <br>APPROVED BY BRIDGE ENGINEER | <br>STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE<br><b>PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES</b><br>SEPTEMBER, 2014 |                  |
|                      |                                 | <b>PILE BENT PIERS</b>   | <b>H40-49-14</b> |
|                      |                                 | 15° SKEW   |                  |