**DESIGNER NOTES**

- Full design loading can be used if pressurized well is large enough to avoid free magnetics and allow filling with sand.

See Bridge Manual Section 11.3.1.17.7 for pile resistance values.

- If less than the minimum axial resistance is required by design, state only the required corresponding driving resistance on the plans. Consult with the geotechnical engineer regarding possible estimated pile length adjustments.

**NOTES**

- Cast-in-place pile shell material shall be in accordance with the standard specification.

- If applicable, place the following note on the plans: 'PILES PLACED IN PRESSURIZED WELL CORED INTO ROCK DO NOT REQUIRE DRIVING.'

**PILE DETAILS**

- HP WELD DETAIL

- END PLATE DETAIL FOR CIP PILING

- END PLATE DETAIL FOR CIP PILING IN ARTESIAN CONDITIONS

- CAST-IN-PLACE PILING USED WHEN PILES ARE EXPOSED (OPEN PILE BENTS OR TIMBER BACKED ABUTMENTS)

- SECTION THRU CONCRETE

<table>
<thead>
<tr>
<th>PILE DETAILS</th>
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<tbody>
<tr>
<td><strong>BUREAU OF STRUCTURES</strong></td>
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<tr>
<td><strong>STANDARD 11.01</strong></td>
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<tr>
<td><strong>B-U4a-GF</strong> OR <strong>B-U4a</strong> OR LESS IF 't' IS '&quot;' THICKNESS FOR FCAW. FOR SMAW AND '&quot;' MIN. '&quot;' MIN. THICKNESS BACK UP RING.</td>
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- TERMINATE REINFORCEMENT 12'-0" BELOW TOP OF PILE ON WING PILING. TIE REINFORCEMENT 6" BELOW TOP FOR TIMBER BACKED ABUTMENTS, CUT OFF GROUNDLINE OR STREAMBED ELEVATION. TERMINATE REINFORCEMENT 10'-0" BELOW (FOR ALL PILE SIZES) INTO CONCRETE CAP. INCLUDE IN BILL OF BARS. EXTEND 1'-2" FOR 14" DIA. PILES, USE 8 - #7 BARS. FOR 12" DIA. PILES, USE 6 - #7 BARS.

- FOR ARTESIAN CONDITIONS

- USE 2'-0" CENTER SPACING FOR ALL PILE SIDES INTO CONCRETE CAP. FOR TIMBER BACKED ABUTMENTS, CUT OFF STEEL REINFORCEMENT 6" BELOW TOP OF PILE ON WING PILES.

- 3" BARS AT 2'-0" CENTERS, INCLUDE IN BILL OF BARS.

- NON-CORRODING BAR SPACERS ARE USEFUL FOR CORRODING BAR REINFORCEMENT AT 3" CENTERS.

- 48" DIAM. AT 2'-0" CENTERS, INCLUDE IN BILL OF BARS.

- PILE DIAMETER + 2" END PLATE TO BE SAME DIAMETER AS PILE.