1. Work this Index with the Pile Data Table in the Structures Plans.

2. Concrete:
   A. Piles: Class V (Special)
   B. Splice: Class IV
   C. Silica Fume: See "GENERAL NOTES" in Structures Plans for locations where the use of silica fume, metakaolin or ultra-fine flyash is required for options using stainless steel strand and reinforcing.

3. Concrete Strength at time of prestress transfer:
   A. Piles: 6,000 psi minimum.

4. Reinforcing:
   A. Bars:
      a. Stainless Steel: Meet the requirements of Specification Section 931 for Type 304, Grade 75.
      b. Carbon FRP: Meet the requirements of Specification Section 932.
   B. Prestressing Strands:
      a. Stainless Steel: Seven-wire HSSS, UNS S32205 (Type 2205) or UNS S31803 strand, meeting the requirements of Specification Section 933.
      b. Carbon FRP: Meet the requirements of Specification Section 933.
   C. Spiral Ties:
      a. One half turn is required for carbon steel spiral splice.
      b. One full turn is required at the pile head and tip.

5. Pile Splices:
   A. Epoxy: Type AB Epoxy Compound or Mortar must meet the requirements of Specification Section 926.
      a. Use a Type AB Epoxy Bonding Compound or Epoxy Mortar, as recommended by the manufacturer, to form the joint between pile sections.
      b. Use a Type AB Epoxy Bonding Compound as a bonding agent on internal pile surfaces.
   B. Driving: Resume pile driving after splice concrete reaches a minimum strength of 5,500 psi.
   C. Mark piles at the pick-up points to indicate the proper points for attaching handling lines.

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**TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS**

<table>
<thead>
<tr>
<th>Maximum Pile Length (Feet)</th>
<th>Required Storage and Transportation Detail</th>
<th>Pick-Up Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>119</td>
<td>2, 3, or 4 point</td>
<td>1 Point</td>
</tr>
<tr>
<td>170</td>
<td>2, 3, or 4 point</td>
<td>2 Point</td>
</tr>
</tbody>
</table>
**Description:**

- **54" Concrete Cylinder Pile**

**Section A-A**
- Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")
- Roughen inside surface of 54" Ø Pile to 1/8" amplitude for Spliced Pile Section
- Closed No. 4 CFRP Bars or 0.3" Ø CFRP Strand Spiral Ties @ 1'-0" ± (Typ.)
- Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")

**Section B-B**
- 24 ~ No. 6 CFRP Bars @ Equal Spaces
- 1'-0" Ø Void, open top and bottom to allow through venting of sections

**Alternate Strand Patterns**

- 48 ~ 0.5" Ø, Single-Strand, at 28 kips
- 48 ~ 0.6" Ø, 7-Strand, at 29 kips

**Detail "A"**
- Clean inside surface of 54" Ø Pile with a high pressure water blast (3000 psi Min.) and apply bonding agent for Driven Prestressed Pile

**Notes:**

- For Spun Cast Cylinder Piles, the following requirements for concrete cover apply:
  1. Slightly or Moderately Aggressive Environments: The concrete cover may be reduced to 2 inches.
  2. Extremely Aggressive Environments: The concrete cover may be reduced to 2 inches as long as the concrete has a documented chloride ion penetration apparent diffusion coefficient with a mean value of 0.005 in2 per year or less; otherwise, a 3-inch concrete cover is required.
Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")

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**SS POST-TENSIONED PILE DETAILS**

**ALTERNATE STRAND PATTERNS**

- 72 ~ 0.375" Ø, HSSS Strands, at 21 kips (24~3 strand tendons)
- 58 ~ 0.375" Ø, HSSS Strands, at 24 kips (29~2 strand tendons)
- 48 ~ 0.6" Ø, HSSS Strands, at 32 kips (24~2 strand tendons)

**DETAIL "A"**

Inside Pile Wall

Full epoxy compound joint

Temporary Blocking Form to retain epoxy compound

Gasket

Form to retain epoxy compound

Outside Pile Wall

**SECTION A-A**

- 4 ~ Longitudinal Spacers (No. 3 Bars or W11 wire) for Spiral Ties @ Equal Spaces
- W11 Spiral Wire Ties
- 3'-0" Ø Void, Cover (Typ.)
- 3'-0" Ø Void, Cover (Typ.)
- 1'-0" Ø Formed Holes for Tendons @ Equal Spaces
- 2'-0" Ø Formed Holes for Tendons @ Equal Spaces

**SECTION B-B**

- 4 ~ Longitudinal Spacers (No. 3 Bars or W11 wire) for Spiral Ties @ Equal Spaces
- W11 Spiral Wire Ties
- 3'-0" Ø Void, Cover (Typ.)
- 3'-0" Ø Void, Cover (Typ.)
- 1'-0" Ø Formed Holes for Tendons @ Equal Spaces
- 2'-0" Ø Formed Holes for Tendons @ Equal Spaces