

Origination Form
Proposed Revisions to a Standard Plans Index

Originator:	Turley, Joshua	Index Number:	455-060
Date:	5/15/2025	Sheet Number(s):	Sheet 1
E-mail:	Joshua.Turley@dot.state.fl.us	Index Title:	60" PRESTRESSED CONCRETE CYLINDER PILE

Summary of the changes:

Sheet 1: Changed the pitch spacing of the stirrups in the ELEVATION.

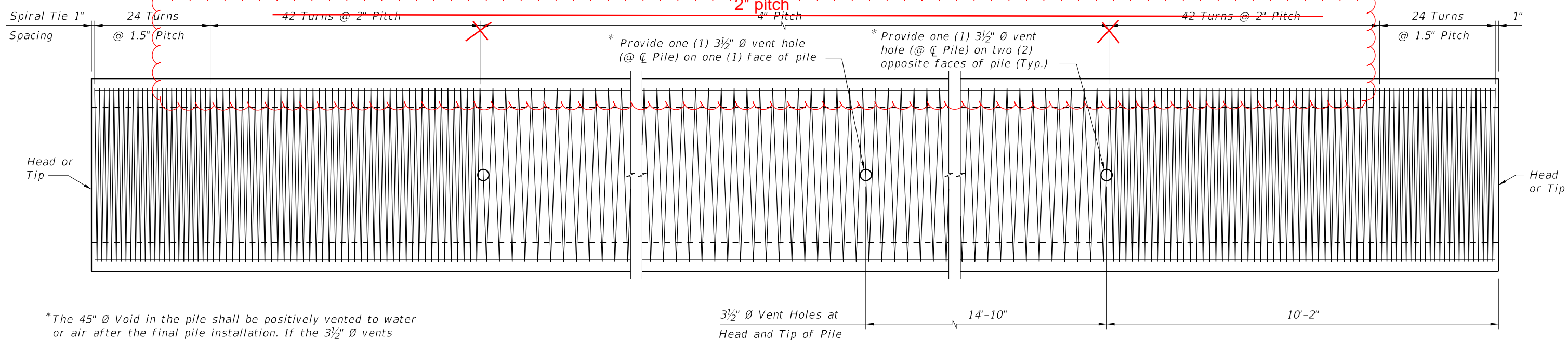
Commentary/Background:

Vertical cracking has been observed in hollow core prestressed concrete piles, including 30-in. voided square HMC and conventional piles, and 60-in. hollow cylindrical piles, during installation and service. To address cracks frequently occur within the 4" stirrup pitch zone, a reduction in stirrup pitch to 2" is proposed to help mitigate cracking in these areas.

Other Affected Documents/Offices	Person Contacted	Affected (Yes/No)
Other Standard Plans		No
FDOT Design Manual		No
Standard Specifications		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No

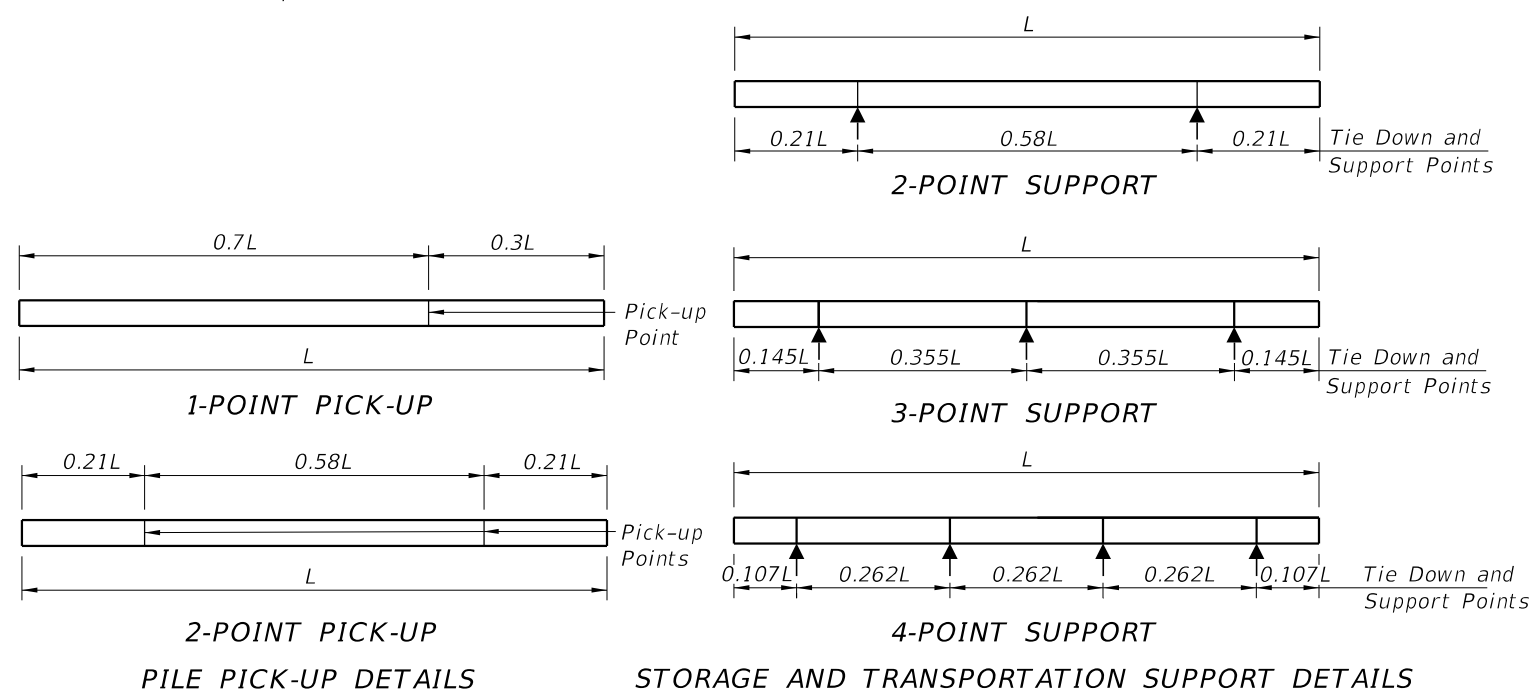
Implementation

["FY-Standard Plans (Next Release)"]



*The 45" Ø Void in the pile shall be positively vented to water or air after the final pile installation. If the 3½" Ø vents are included in the pile cut-off section, then venting shall be provided by the use of a 1" Ø PVC conduit through the substructure cap or column.

ELEVATION

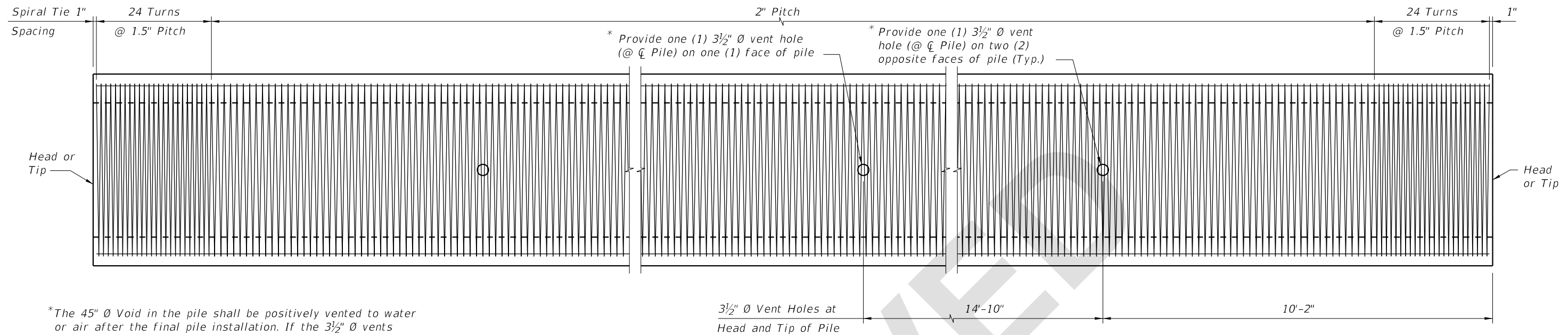


NOTES

1. Work this Index with the Pile Data Table in the Structures Plans.
2. Concrete:
 - A. Piles: Class V
 - B. Splice Collar: Class IV
 - C. See "GENERAL NOTES" in the Structures Plans for locations where the use of Highly Reactive Pozzolans is required.
3. Concrete Strength at time of prestress transfer:
 - A. Piles: 4,000 psi minimum.
4. Carbon-Steel Reinforcing:
 - A. Bars: Meet the requirements of Specification Section 415
 - B. Prestressing Strands: Use 0.6 dia. carbon-steel, Grade 270, low-relaxation strand stressed to 44.0 kips that meets the requirements of Specification Section 933.
 - C. Protect all carbon-steel strands permanently exposed to the environment and not embedded under final conditions in accordance with Specification Section 450.
5. Spiral Ties:
 - A. One half turn is required for carbon-steel spiral splices
 - B. One full turn is required at the head and tip of each pile
6. Pile Splices:
 - A. Epoxy: Type AB Epoxy Compound or Epoxy 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. Splices: Resume pile driving after the splice concrete reaches a minimum strength of 5,500 psi.
7. Mark piles at the pick-up points to indicate the proper points for attaching handling lines.

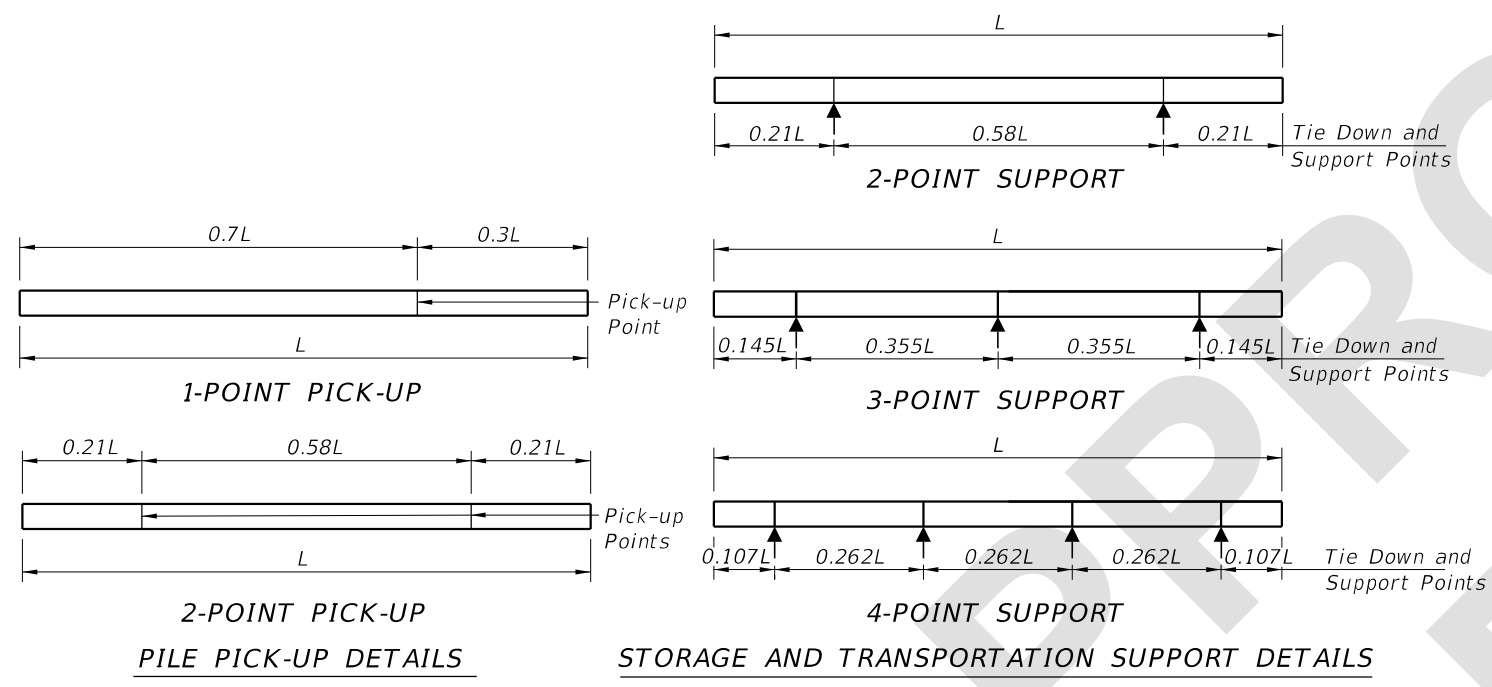
Maximum Pile Length (Feet)	Required Storage and Transportation Detail	Pick-Up Detail
122	2, 3, or 4 point	1 Point
174	2, 3, or 4 point	2 Point

10/17/2024 10:03:03 AM



*The 45" Ø Void in the pile shall be positively vented to water or air after the final pile installation. If the 3 1/2" Ø vents are included in the pile cut-off section, then venting shall be provided by the use of a 1" Ø PVC conduit through the substructure cap or column.

ELEVATION



NOTES

1. Work this Index with the Pile Data Table in the Structures Plans.
2. Concrete:
 - A. Piles: Class V
 - B. Splice Collar: Class IV
 - C. See "GENERAL NOTES" in the Structures Plans for locations where the use of Highly Reactive Pozzolans is required.
3. Concrete Strength at time of prestress transfer:
 - A. Piles: 4,000 psi minimum.
4. Carbon-Steel Reinforcing:
 - A. Bars: Meet the requirements of Specification Section 415
 - B. Prestressing Strands: Use 0.6 dia. carbon-steel, Grade 270, low-relaxation strand stressed to 44.0 kips that meets the requirements of Specification Section 933.
 - C. Protect all carbon-steel strands permanently exposed to the environment and not embedded under final conditions in accordance with Specification Section 450.
5. Spiral Ties:
 - A. One half turn is required for carbon-steel spiral splices
 - B. One full turn is required at the head and tip of each pile
6. Pile Splices:
 - A. Epoxy: Type AB Epoxy Compound or Epoxy 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. Splices: Resume pile driving after the splice concrete reaches a minimum strength of 5,500 psi.
7. Mark piles at the pick-up points to indicate the proper points for attaching handling lines.

TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS		
Maximum Pile Length (Feet)	Required Storage and Transportation Detail	Pick-Up Detail
122	2, 3, or 4 point	1 Point
174	2, 3, or 4 point	2 Point

5/23/2025 12:21:45 PM