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## **SPECIFICATIONS – DIAMOND PIERS™ - DP-50 & DP-100**

This information has been developed to assist in providing standard format specifications for specific projects. It is a guideline only, and should be altered as appropriate to fit specific conditions or project design. **Note: DP-50 piers shall only be specified for residential construction.**

### **Part 1 GENERAL**

#### **1.01 Scope/Description**

- A. The general conditions, alternates and addenda, applicable drawings and technical specifications shall apply to all work under this section.
- B. The contractor shall furnish all materials, labor, equipment and incidentals as shown, specified and required to install Pin Foundations.
- C. Work includes preparing site and soil, furnishing, preparing foundation components, aligning, leveling, plumbing and installing foundation components, setting and driving foundation pins, and capping pins.

#### **1.02 Related Work**

- A. Superstructure Construction
- B. Wood treating/Field Treating

#### **1.03 References/Standards**

- A. ASTM A 53 - Pipe, Steel, Black and Hot dipped, Zinc-coated
- B. ASTM A123 - Zinc (hot-galvanized) coatings on Shaped Steel Products
- C. ASTM A153 - Zinc coating (hot-dip) on Steel Hardware
- D. ASTM, ACI and CRSI standards for precast concrete products
- E. ASTM A 820, Type 1- Steel Fiber Re-inforcing.

#### **1.04 Delivery/Storage and Handling**

- A. Contractor shall verify upon delivery that all the proper materials have been received.
- B. Contractor shall protect the materials from damage. See Temporary Product Storage of Galvanized Components in Manufacturer's Installation Instructions.
- C. Contractor shall review MSDS documents and, when required, maintain a copy on site at all times.

#### **1.05 Submittals**

- A. Latest edition of Manufacturer's Installation Instructions.
- B. Manufacturer's evaluation of foundation system load capacities for this project.

#### **1.06 Quality Assurance/Testing**

- A. Stamped certified soil testing and outside inspection or vendor supervision will be paid for by the owner.

### **Part 2 Products**

#### **2.01 Manufacturer**

- A. Pin Foundations, Inc. 8607 58th Ave. NW, Gig Harbor, WA 98332 (253) 858-8809

#### **2.02 System Type**

- A. Diamond Pier – DP-100 - Precast heads to be minimum 3500 psi concrete, six sack mix, 3/8" aggregate, with 5-7% total air entrainment. Reinforcing to be 1 1/2" corrugated steel fiber strand reinforcing- ASTM A820, Type 1. Cast in place pin cavities.
- B. Diamond Pier – DP-50 – Precast heads to be minimum 3500 psi concrete, six sack mix, 3/8" aggregate, with 5-7% total air entrainment. Reinforcing to be 1 1/2" corrugated steel fiber strand reinforcing- ASTM A820, Type 1. Cast in place pin cavities.

#### **2.03 Pins/Capacity**

- A. Four pins per pier. Capacity relative to length, diameter, and driving angle in site specific soils. Stamped capacities shall rely on stamped local geotechnical evaluations. All Pins to be galvanized steel pipe with butt cut driving ends, UNO. DP-100 to use Schedule 40, or schedule 80, 1 1/2" nominal pipe - 1.9" actual OD. DP-50 to use schedule 40, 1" nominal pipe - 1.315" actual OD. Pins to be capped with UV resistant vinyl caps, sealed with 50 year adhesive caulk.

#### **2.04 Connections/Posts/Beams**

- A. Diamond Pier connection to be galvanized steel post base attached to pier with single galvanized anchor bolt, UNO. Anchor bolt for DP-100 to be 5/8" hot dip galvanized, ASTM A 307 grade A bolt. For DP-50, anchor bolt to be 1/2" hot dip galvanized, ASTM A 307, grade A bolt.
- B. Pressure treated posts to have treated ends at bracket interface when feasible.

### **Part 3 Execution**

#### **3.01 Inspection**

- A. Contractor shall verify superstructure layout, spans and resulting loads for consistency with the manufacturer's evaluated capacities, and report any inconsistencies to the owner's agent prior to installation.

#### **3.02 Site prep**

- A. Alteration of site soils or vegetation is to be kept to a minimum to avoid erosion and the need for re-vegetation.

#### **3.04 Equipment/Installation**

- A. Foundation system to be installed with hand-carried/hand-held tools only.
- B. Pins to be full length as specified before driving. No coupled or welded pins are to be used.
- C. Follow Manufacture's Installation Instructions for Pier Placement and Pin Driving
- D. Pins may be cut off in a partially driven position if it they meet substantial resistance in the soil. Refer Manufacturer's Installation Instructions.

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