**PRODUCT SPECIFICATIONS**

Chance® Instant Foundation® products

• 3-½” Dia x 0.300” Wall • 4” Dia x 0.226” Wall

• 6-5⁄8” Dia x 0.280 Wall • 8-5⁄8” Dia x 0.250” Wall

• 10-3⁄4” Dia x 0.250” Wall

The usual application for this foundation is where loads are moderate and the project requires greater column stiffness than is possible with the typical square shaft helical pile. Examples of applications are: Light Standards, Curbside Business Sign Support, electrical/Mechanical equipment Pad Support, Cantilevered Loads, etc.

**PART 1 – GENERAL**

**1.1 Scope of Work**

This work consists of furnishing labor, tools, equipment and materials associated with the preparation and installation of the Chance® Instant Foundations for structural foundation support according to the specifications contained herein. The work includes, but is not limited to, the following:

1. Diligent investigation of the possible existence and location of underground utilities situated at or near the area of work;
2. Excavation and preparation of foundation soil to grade for foundation installation;
3. Mounting of the hydraulic gear motor on a backhoe unit or similar auxiliary powered equipment, and the installation of the Instant Foundations product to the required torque resistance at the required depth (if torque resistance measurement is required).
4. Removal of the hydraulic gear motor.
5. Conducting an optional Field Load Test on one or more Instant Foundations products.
6. Clean Up.

**1.2 References**

1. Building Officials and Code administrators International, Inc. (BOCA) Basic National Building Code.
2. American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

**1.3 Delivery, Storage and Handling**

All foundation products shall be handled and transported carefully to prevent any deformation or damage. Care should be taken to prevent the accumulation of dirt, mud or other foreign matter on the steel materials. Such accumulation shall be completely removed prior to installation.

**PART 2 - MATERIAL**

**2.1 Hydraulic Gear Motor**

The torque rating of the hydraulic gear motor used to install the Instant Foundations product shall be adequate to install the required foundation. It is suggested that the torque rating be 25 percent higher than the planned installation torque. Depending upon the soil conditions and pile configuration, different hydraulic gear motors may be required.

**2.2 3-1/2” and 4” Diameter Helical Instant Foundations Series**

**2.2.1 Foundation Shaft Section**

The shaft section consists of a tubular hot rolled steel pile section 3-1/2” in diameter with a 0.300” wall thickness, or 4” diameter with a wall thickness of 0.226” conforming to ASTM A-53, A-252 and A-500. The length of the foundation shall be as specified: 4’, 4’-8”, 5’, etc. The lead end of the 3.5” and 4” foundations shall have a single or double bevel cut to aid in starting the foundation installation. Welded to the shaft shall be one ASTM A-635 steel helical plate with a thickness of 3/8” and a 3” pitch.

**2.2.2 Foundation System Base Mounting Plates**

Foundation base plates may be round or square, of various sizes in plan view and may vary in thickness from 1/2” to 1-1/2” depending on job requirements.

**2.3 6-5/8”, 8-5/8” and 10-3/4” Diameter Helical Instant Foundations Series**

**2.3.1 Foundation Shaft Section**

The shaft section consists of 6” diameter (6-5/8” outside diameter with 0.280” wall), 8” diameter

(8-5/8” outside diameter with 0.250” wall) or 10” (10-3/4” outside diameter with 0.250” wall) steel pipe conforming to ASTM A-53, A-252 or A-500. The length of the foundation may be 4’, 5’, 7’, 8’ or 10’ long as required by the application. The pile section shall have two wire access slots located 180° from each other. The integral foundation cap plate shall have an alignment notch located

Directly above one of the wire access slots. Welded to the lead end of the foundation shaft shall be a steel helical plate with a 3” pitch. To aid in starting the pile, a 1-1/4” diameter steel rod shall extend beyond the center of the helix to provide a pilot.

**2.3.2 Foundation System Base Mounting Plates**

Foundation base plates may be round or square, of various sizes in plan view and may vary in thickness from 3/4” to 1-1/2” depending on job requirements.

**2.4 Weldments**

All welded connections shall conform to the requirements of the American Welding Society Structural Welding Code, AWS D1.1 and applicable revisions.

**PART 3 - EXECUTION**

The following is intended to provide the controlling specification for the major steps undertaken in the installation of the Chance® Instant Foundation systems. Variations in the installation procedure may occur depending on the application and the structural support required.

WARNING! THOROUGHLY INVESTIGATE THE POSSIBLE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES SITUATED AT OR NEAR THE AREA OF WORK BEFORE PROCEEDING. SERIOUS INJURY MAY RESULT FROM FAILURE TO LOCATE ALL UNDERGROUND UTILITIES.

**3.1 Preparation**

The soil shall be excavated to the proper grade for placement of the Chance® Instant Foundations product. Stakes should be set at each foundation location prior to commencement of work. The foundation layout and staking should be under the supervision of the responsible structural engineer and be accomplished using fully qualified and trained technicians familiar with foundation layout.

**3.2 Installation of The Instant Foundations Product**

The hydraulic gear motor shall be installed on a backhoe or other suitable pile installation unit. Mount the Instant Foundations Product to the hydraulic gear motor via the appropriate Kelly bar adapter and installing tool using two structural grade bolts and nuts. The foundation is positioned vertically over a marked pile location and driven into the soil by means of the hydraulic gear motor. Rotary installation continues until the required design torque is achieved at or below the predetermined depth. The baseplate is typically installed to grade or slightly above to allow clearance for bolt mounting of the pole base. It is important that the installation torque remain at or above the predetermined value during this process. Details of the installation shall be provided to the supervising engineer for review.

**3.3 Documentation**

When required, the dealer/installing contractor shall monitor the torque applied to the foundation during installation. It is suggested, but not mandatory that the installation torque be recorded at one-foot intervals throughout the installation. The installation torque may be measured with a calibrated torque indicator. At the conclusion of the installation, a copy of the foundation installation record shall be provided to the engineer for review.

**3.4 Load Test (Optional)**

A detailed description on the requirements and procedures for conducting a Load Test may be found in Appendix B (Load Tests). The results of the Field Load Test provide guidance for determining the ultimate and allowable foundation loads.

Load testing should be conducted under the supervision of the responsible engineer.

Depending on the project specifications, a Working Load Test may be required. Normally, the first installed foundation is selected for this test; however, some specifications require ultimate loading of the foundation. If an Ultimate Load Test is required, a test foundation must be installed in an alternate location on the site in addition to the pile locations marked. After the Ultimate Load Test is completed, the test foundation may be removed from the soil and used on the project, provided it is not damaged.

**3.5 Clean Up**

Upon completion of the installation of the Chance® Instant Foundations product, all equipment shall be removed from the site. Any disturbed soils in the area of the foundation shall be restored to the dimensions and condition specified by the engineer.

**END OF SPECIFICATION**