Diamond Pier®
High Technology Foundations

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MANUFACTURER'S INSTALLATION INSTRUCTIONS

Diamond Pier® - Model **DP-75**

The following are generic instructions for the DP-75– the medium Diamond Pier.
They may be varied for specific projects or unique applications as necessary. See also our Installation DVD.

You will need: Diamond Piers with the corresponding number of Pins and Pin Caps, a shovel, automatic driving hammer with driving head, a sledge hammer, a level, and a reciprocating or cut off saw with a steel cutting blade. (Note: *Most applications will not require the use of a cut off saw.*) **Note**: Check for buried utilities before Pin Driving.

Step 1: Dig a hole with a conical base which is approximately the shape of the base of the concrete pier and slightly larger than the width of the pier itself to allow for adjustment. *(On sloping terrain, dig the hole deeper on the uphill side so that the concrete pier sits level.)*

Step 2: Position the concrete pier in the hole, and plumb - brace as necessary. (*The hole may be backfilled with soil as a substitute for bracing, provided that no further adjustments for plumb or centering will be required.) See Note 1.*

Step 3: Slide opposing Pins through the driving cavities in the concrete pier, and, making sure to support them in the center of the cavity, set the Pins a foot or two into the soil with the sledge hammer or sliding post driver. Then drive each Pin alternately in increments with the automatic hammer, periodically checking for plumb and centering. *(Avoid hitting the Pier with the automatic hammer.)* Do not attempt to drive the pins all the way down just with the sledge hammer, or allow the weight of the auto-hammer to force the pin against the lower half of the cavity. The piers are concrete and may crack if subjected to continued impact blows with the Pin in this orientation. A cracked pier must be removed and replaced.

Step 4: Finish driving the Pin with the automatic hammer or sledge, leaving 3/4" protruding from the top of the cavity, and being careful not to damage the precast pier, or upper ends of the pin. Once dead loads have been applied, verify the length of the protruding pin, adjust as necessary by tapping with the sledge, and cover the exposed end of the Pin with the cap, sealing it against the concrete with a 50 year, siliconized adhesive caulk, or equal. The cap is larger than the Pin and is intended to fit loosely. (Note: *Ensure that the concrete is dry before applying caulk.)* Repeat steps 1 through 4 for the remaining Concrete Piers.

Note 1: Do not drive a Pin all the way down at once if this causes the Pier to be pulled to one side. Continue to rotate around the Pier, driving the Pins in increments, until the growing strength in the pile group is sufficient to allow final driving. If loss of plumb is not a problem, the Pins may be driven all the way one at a time.

Do not continue to hammer away at a Pin which is bouncing or rattling against an impassable object if it causes the Pier to ride up the pile along the sleeve. Ensure that the pier will remain in place when encountering difficulties in the soil, and when following the steps in Note 2.

Note 2: If a Pin meets substantial resistance in the soil before it has been driven its full length, full tip end bearing has been achieved and it may be left in this partially driven position and cut off, provided: 1) the pin will not drive more than an inch during a full 60 seconds of uninterrupted automatic hammering, 2) attempts to drive the pin with single sudden 10 lb. sledge hammer blows have been made, and 3) if after a reasonable period, attempts to redrive the Pin using both methods 1) & 2) have been made. Pin ends may be sharpened to improve driving in difficult material. Provide a double miter cut or other symetrical point. (Assymetrical points will cause the pin to "skate" off line.)

If an obstruction is close enough to the surface or within the soil frost zone, it may be dug up and removed. Once accomplished, recompact the soils and reset the pier and redrive the Pin. The pier may also be turned, or relocated, within the parameters of your superstructure design, in order to avoid underground obstacles. Pins may be removed by turning them with a monkey wrench and corkscrewing them upward.