

BUCKET PILES

INSTALLATION

PRE-CONSTRUCTION CHECKLIST

SAFETY

- PPE
- Follow OSHA excavation safety measures
- Rigging & Lifting
- Electrical

PLANNING

- Locate underground utilities
- Use approved lifting/rigging devices and equipment
- Ensure no damage to the piles and installation tooling

EQUIPMENT

- Lifting and rigging equipment
- Appropriately sized torque motor and excavator
- Helical and bucket installation tooling
- Shovels, level, and measuring tape
- Welding equipment

PROJECT PLAN REVIEW

- Make sure you completely understand project plans, details, and specifications
- Ask the design engineers any questions you have about the project before starting
- Follow OSHA excavation safety measures
- Consider having a Pre-installation meeting



INSTALLATION

THE DETAILS

1. Survey and mark the pile locations prior to mobilizing the bucket pile installation equipment and crew.
2. Attach helical pile installation tool to the Kelly bar.
3. Install helical lead section.
 - Apply sufficient crowd/downforce to aid with pile advancement, do not attempt to push or force the pile into the ground with the equipment. This can damage and bend the helix leading to limited pile advancement.
 - See installation tooling notes on the next page for more information.
4. Add helical extensions as required to meet the design depth.
5. Once all of the helical sections have been installed, change out the drive tooling to install the bucket section.
6. Install bucket section to the designed depth.
 - If you are unable to advance the bucket section to the desired depth, predrilling may be required.
 - See notes on predrilling on next page for more information.
7. Once the bucket pile is fully installed to the designed depth, the pile may then be terminated appropriately depending on its application.
 - If it is to be cast into a concrete pad, a square cap plate can be bolted or field welded to the top of the pile.
 - When used to support direct bury poles, they can be backfilled with crushed aggregate or non-shrink grout to the proper pole base elevation. Additional crushed aggregate or non-shrink grout should be added once the pole is placed in the bucket. A concrete collar can then be poured around the top of pile if desired.

NOTES ON INSTALLATION TOOLING

- The installation tooling connects directly to the torque motor's out put shaft/kelly bar making it quick and easy to change out.
- These tools are made to order and interface with a specific pile diameter and kelly bar.
- The tooling can be reused on future projects.

NOTES ON PREDRILLING

- Predrilling should only occur if the necessary torque required to advance the pile is greater than what the pile is rated for.
- To ensure that the pile can function as designed, it is recommended to predrill the smallest practical diameter and depth to aid in the installation of the bucket pile.
- Allow the cuttings to remain in the predrilled hole.

NOTES ON SIZING YOUR TORQUE MOTOR

For the smoothest installation possible, the torque motor you select should have a higher torque limit than the bucket pile assembly. You can reference the below generalized table for sizing the torque motor.

BUCKET DIAMETER (IN.)	TORQUE MOTOR RATING (FT-LBS)
14 TO 18	50,000
18 TO 24	100,000
>24	>150,000

