



# Large Diameter ACIP / CFA Piles

**BERKEL** is the most experienced designer and installer of single-pass, cast-in-place foundation systems in the U.S. and is available to assist with developing the most efficient foundation solution for your project.

**Augered, Cast-In-Place (ACIP) Piles** are a mature foundation technology throughout the North America. General guidelines for the design and construction of ACIP piles are available along with numerous references for design in specific North American geologies. Historically, ACIP piles may have been considered to generally be 12-in to 24-in diameter. However, diameters of up to 48-in have been installed with increasing frequency over the past two decades. Some installers may refer to large diameter ACIP Piles as CFA (continuous flight auger) piles.

**BERKEL** has pioneered the development of installation tools and techniques to advance augers in a variety of geologies including:

- residual soils and partially weathered rock of the Piedmont region up the Atlantic Coast to depths of about 150-ft to the underlying Granite/Schist bedrock to support over 1000 tons per pile
- soft limestone in South Florida to depths of about 160-ft to support over 1000 tons per pile
- sedimentary rocks (shale, sandstone, clay and siltstone) underlying the alluvial plains of the Midwest to support up to 1000 tons per pile
- up to 65 ft of California Young Bay Mud underlain by older alluvium to depths of over 150-ft (often socketed into Franciscan Mélange bedrock as deep as 120-ft)
- lagoon deposits (coralline/calcareous sands), alluvium, coral, volcanic tuff, basalt or nested boulders in Hawaii to depths of about 190-ft

Large-diameter ACIP/CFA pile drilling tools may be advanced on leads that are either supported by crawler-crane platforms or rigidly fixed to the installation platform. The appropriate drilling platform, drilling tools (particularly the cutting head of the auger tip), and installation technique are selected based on the local geology and the loads to be resisted. Leads supported by cranes are rigidly held on location by spotters. Both techniques are included in industry documents such as the Augered, Cast-In-Place Pile Manual (3rd Edition) of the Deep Foundations Institute.

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