



CHANCE®  
Helical Pier Foundations  
and Anchoring Systems

**CHANCE**™  
Since 1912  
DOWN. RIGHT. SOLID.



# New Foundation Systems for Civil Construction Applications: Residential, Commercial and Industrial

For new deep foundations, CHANCE® helical piers are installed at intervals between the footing forms and tie into the rebar gridwork prior to pouring concrete. The steel piers are extended to depths attaining the installing torque correlated to the required load bearing capacity.

- Reach competent soil below active zone
- Predictable via torque-to-capacity ratio
- No excavation or spoils to remove
- Loads may be immediately applied
- Installs in limited access
- Installs in any weather condition
- Loads may be immediately applied
- Installs in limited access
- Installs in any weather condition



## The Shape of Stability

The true helix geometry of each steel bearing plate minimizes soil disturbance during the vibration-free installation.

Approved by BOCA, ICBO, SBCCI, CCMC and ICC, CHANCE® helical piers have become the deep foundation system of choice for architects, builders, contractors, engineers and geotechnical firms.

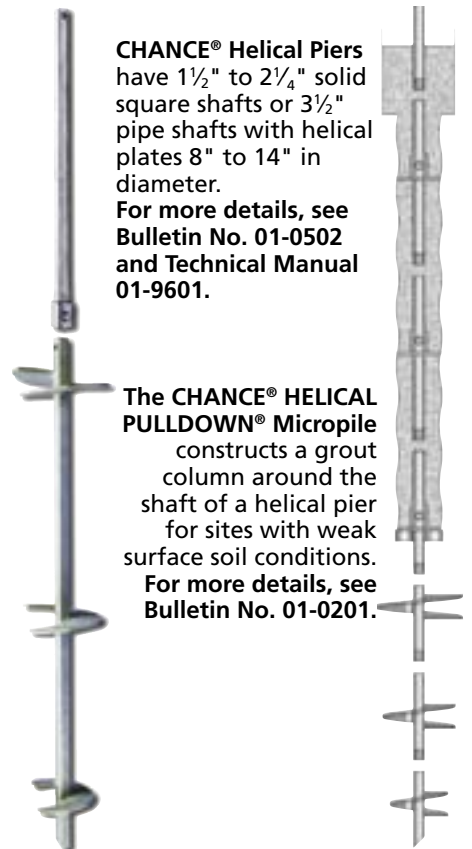


CHANCE® Helical Piers have 1½" to 2¼" solid square shafts or 3½" pipe shafts with helical plates 8" to 14" in diameter.

For more details, see Bulletin No. 01-0502 and Technical Manual 01-9601.

The CHANCE® HELICAL PULLDOWN® Micropile constructs a grout column around the shaft of a helical pier for sites with weak surface soil conditions.

For more details, see Bulletin No. 01-0201.



Design professionals may request a **New Construction Design Manual** on CD from their Distributor or Territory Manager listed on [www.abchance.com](http://www.abchance.com).

*Design Load	†Steel Pier Types
	†Certain pier types listed meet a portion of the associated design load range.
0 — 25 kip	SS5 Square Shaft Piers & 2⅞" Combo Piles
26 — 50 kip	SS150 & SS175 Square Shaft Piers & Combo Piles
51 — 150 kip	SS200 & SS225 Square Shaft Piers & Helical Pulldown® Micropiles

\*Based on a Safety Factor of 2 for pier ultimate loads.

For sample specs, technical library, case histories and distributors, go to [www.abchance.com](http://www.abchance.com)

# Foundation Repair and Augmentation Systems for Residential, Commercial and Industrial Applications:

For stabilizing/lifting foundations or retrofitting to increase load capacity, CHANCE® steel piers are installed at intervals around the perimeter at affected locations. Independent of the structure, the piers are extended to depths which attain the installing torque correlated to the required load bearing capacity.

Special brackets are located where needed around the perimeter and secured to the concrete foundation. Then a steel pier is torqued into the soil through each bracket. The brackets permit lifting by hydraulic jacks. Tightening the nuts on the bracket vertical bolts locks off the load.



- Reach competent soil below active zone
- Predictable via torque-to-capacity ratio
- No excavation or spoils to remove
- Loads may be immediately applied
- Installs in limited access/low headroom
- Installs in any weather condition



The 278 Pile System transfers loads to the end of its steel shaft (2 7/8" -diameter pipe, 0.203" wall). Special design's 10" drive plate penetrates rugged soil and blunt shaft end bears on solid rock. For more details, see Bulletin No. 01-0501.



Cutaway close up of drive end bearing on shallow rock stratum



CHANCE® Combo Piles provides maximum installation ease and load capacity per helix plus enhanced lateral stability of the upper section where required. They combine helical lead shafts of 1 1/2" square solid steel with 278 Pile plain extensions via a transition coupling. For more details, see Bulletin No. 01-0501.



CHANCE® Helical Piers have 1 1/2" to 2 1/4" solid square shafts or 3 1/2" pipe shafts with helical plates 8" to 14" in diameter. For more details, see Technical Manual 01-9601.

HeliCAP® Engineering Software helps design professionals quickly derive the proper helical pier for site- and load-specific data. For a free demo, visit [www.abchance.com](http://www.abchance.com). Then contact your local Distributor or Territory Manager about how to get a copy for your PC.

*Design Load	†Steel Pier Types
0 — 25 kip	SS5 Square Shaft Piers, 278 Pile System & 2 7/8" Combo Piles
26 — 50 kip	SS150 & SS175 Square Shaft Piers & Combo Piles
51 — 150 kip	SS200 & SS225 Square Shaft Piers & Helical Pulldown® Micropiles

\*Based on a Safety Factor of 2 for pier ultimate loads.

# SOIL SCREW® Retention Wall System

In a soil nail application, the SOIL SCREW® Retention Wall System constructs a gravity wall to reinforce in-situ soil with screw anchors nearly horizontal. Anchor sizes and grid spacing are determined by soil conditions and load requirements. A reinforced shotcrete veneer often is applied to the face.

- Same installing equipment as soil nails
- Terminations: Threadbar, stud, crosspin
- Capacity proportional to install torque
- No excavation or spoils to remove
- Installs in any weather conditions
- Immediate loading
- No drilling
- Installs in limited access areas



To remove the performance uncertainties and associated costs of grouted soil nails in soils of low shear strength, a SOIL SCREW® anchor acts as a bearing device. This load-bearing mode is its fundamental superiority compared to a grouted anchor which relies on friction between the soil and the grout.



**SOIL SCREW® Design Manual**, available on [www.abchance.com](http://www.abchance.com), is based on FHWA design-build guidelines and key software for internal and global stability. It also compares to tiebacks and MSE walls.

For more details, see Bulletin No. 31-0501.



For job-specific selections, leading and extension sections come with two or three 8"-diameter helical bearing plates spaced along the entire length of their 1½" square shafts. All components are available hot-dip galvanized per ASTM A 153 after fabrication. Each SOIL SCREW anchor has a 5,500 ft-lb torque rating and a 70 kip ultimate tension rating.

For sample specs, technical library, case histories and distributors, go to [www.abchance.com](http://www.abchance.com)



# Helical Tieback Anchors for New Construction and Repairs

CHANCE® tieback anchors for soldier-pile/waler walls come with shaft sizes and single- or multi-helix plate diameters selected for job-specific requirements. Building sitework, roadways, retaining walls, levees, dams and revetments are among typical applications. Anchor sizes are determined by soil conditions and load requirements.

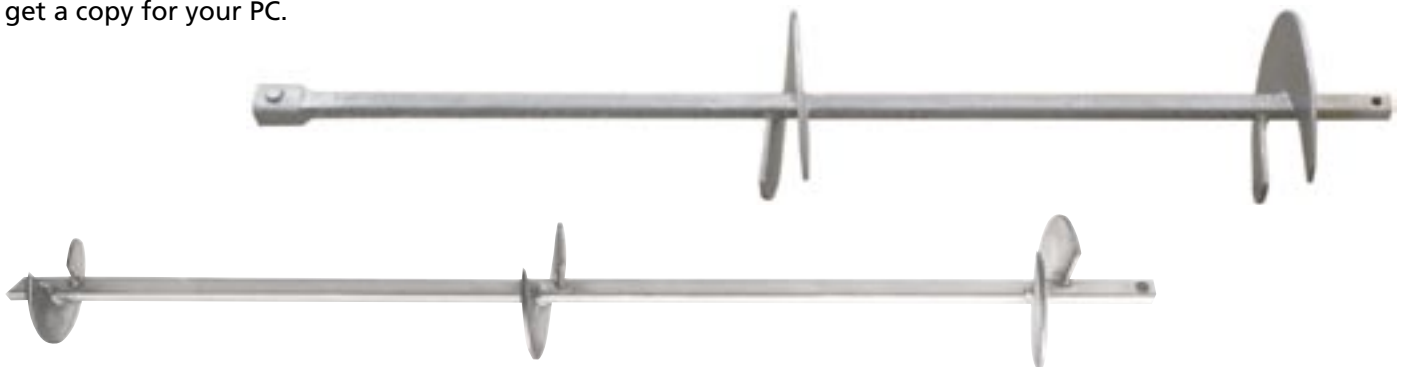
- Install with equipment for grouted tendons
- Terminations for various threadbars
- Capacity proportional to installing torque
- No excavation, drilling or spoils to remove
- Immediate proof testing and loading
- Permanent or temporary (removable)
- Installs in any weather
- Installs in limited access areas
- No concrete trucks or grout pumps needed
- Labor saving – as few as four on a crew



For more details, see Bulletin No. 31-0502.

Chance tieback anchors can be tested immediately following installation by conventional rotary drilling equipment. They remove performance uncertainties and associated costs of grouted tendons formed in loose sandy soils and low-shear-strength clays.

**HeliCAP® Engineering Software** helps design professionals quickly derive the proper helical tieback anchor for site- and load-specific data. For a free demo, visit [www.abchance.com](http://www.abchance.com). Then contact your local Distributor or Territory Manager about how to get a copy for your PC.



For job-specific combinations, helical tieback anchors have shafts in four square sizes ( $1\frac{1}{2}$ ",  $1\frac{3}{4}$ ", 2" and  $2\frac{1}{4}$ ") with helices in configurations of two to four and diameters from 6" to 14". Their torque ratings range from 5,500 to 20,000 ft-lb and ultimate tension ratings from 55 to 200 kip. All components are available hot-dip galvanized per ASTM A 153 after fabrication.

# Outdoor Lighting Helical Foundations

## for Decorative & Architectural Lighting

In 10 minutes a crew of two can complete this clean installation, ready for the lighting standard to be set. A steel CHANCE® INSTANT FOUNDATION® pier simply torques to grade by conventional hydraulic rotary equipment. Power conduit feeds into the side cableway, up and out the top. The variable bolt-circle baseplate bolts directly to the lighting standard without alignment problems.

Sizes combine 3½", 4", or 6⅝" pipe shafts 56" or 64" long with a 10" or 12" helix, plus sizes for Bollard lighting. **For more details, see Bulletin No. 02-0301.**



## for DOT and Utility Lighting

Approved for use by many state DOTs and in compliance with ASHTO Section 13.9 of the Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals, CHANCE® INSTANT FOUNDATION® anchors typically install in minutes for immediate mounting of the superstructure.

By design, these steel foundations overcome the stresses of tension, compression and shear. Highly resistant to overturning moments, they are selected based on site and application requirements.

Sizes combine 6⅝", 8⅝" or 10¾" pipeshafts 5' or 7' long with a 12", 14" or 16" helix. **For more details, see Bulletin No. 02-8701.**

## for Parking and Area Lighting

For light standards with bumper protection, penetration of a steel CHANCE® INSTANT FOUNDATION® anchor is stopped at the desired height. Power conduit is fed into the side cableway, up and out the baseplate. Then a form for the above-grade bumper is placed around the exposed Instant Foundation shaft to encase all but the baseplate in a poured-concrete cylinder.

Sizes combine 6⅝" or 8⅝" pipe shafts 5', 8' or 10' long with a 12" or 14" helix. **For more details, see Bulletin No. 02-9705.**

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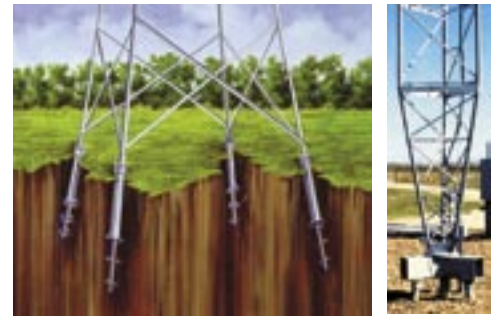
# Telecom and Power Tower Foundations and Guy Anchors

PCS telecom and electric utility transmission towers have been constructed and augmented for upgrades in record time on terrain nearly inaccessible using CHANCE® INSTANT FOUNDATION® and guy anchors.

Typical applications are anchor grillages for guyed and self-supported towers and equipment platform foundations. Connections may be by steel brackets or rebar gridwork of a concrete cap. For site-specific designs, these helical piers come in types matched to resist associated bending moments and lateral loads:

- Type HS (High Strength) – 3½" pipe 3' to 10' long; lead sections with single to triple helical plates 8" to 14"; and extension sections with forged couplers.
- Type T/C (Tension/Compression) – 3½" pipe lead sections 5' to 10' long with single to triple helical plates 8" to 14"; 8" pipe extension sections 3' to 10' long with 14" helical couplers.
- HS/SS Combo Piles – SS 1¾" or 2" square-shaft multi-helix lead sections; 3½" pipe extension sections with forged couplers.
- Helical Pulldown® Micropiles – 4" to 10" grout column around the central shaft above the helical plates of Type SS, Type HS, or HS/SS Combo Piles.

For guying towers, Type SS anchors offer up to 200 kip ultimate and may be applied individually, in pairs, with fan plates or in concrete-cap applications. For equipment platform supports, Type HS or HS/SS Combo Piles may be quickly installed and connected by a special cap plate assembly. For more details, see Bulletin 01-9701, Bulletin 02-0101 and Bulletin 02-8701.



Cap Plate connects equipment platform to Type HS or HS/SS Combo Pile foundations

## Geo-Environmental Tiedown and Support Systems

For these applications, helical piers and anchors are shown on the preceding pages.

### Harbor/aquaculture moorings –

Anchors install from surface. Shorter scoping chains fit more boats per harbor and reduce scouring of ecosystems on bottom. Retrievable anchors keep fish pens and ice barriers dependably positioned.

For more details, see Bulletin 31-9301, Bulletin 31-9303, Bulletin 31-9305, Bulletin 31-9306, Bulletin 31-9604, Bulletin 31-9605, and Bulletin 31-9606.

### Walkway supports –

Anchor systems and portable installing equipment access sensitive wetlands with minimal disturbance. Loads transfer to bearing stratum to isolate structure from seasonal changes.

For more details, see Bulletin 04-9409, Bulletin 04-9605 and Bulletin 31-9503.

### Pipeline and storage tanks –

Special hardware combines with anchors to overcome buoyancy and provide support, considering specific tension and compression loads.

For more details, see Bulletin 30-8101 and Bulletin 30-8201.



# Anchoring the World

Since 1912, Chance has been the international leader in earth anchoring. Our helical piers are used worldwide to secure residential and commercial buildings, tower foundations, heavy equipment foundations and many other deep foundation applications.

Engineered for dependability and long-term stability, CHANCE® helical piers feature exclusive anchoring techniques, tools, designs and sizes that make other foundation methods a thing of the past.

Approved by all national building code agencies, CHANCE® helical piers are your first line of defense against poor soil conditions, landslides, floods and time.

## Demand A Better Foundation

With nearly 400 dealers and distributors nationwide and in Canada, Chance is ready to provide you everything you need to get the job done right. Chance offers engineering guidance, field supervision, accessibility, warehouses, material traceability, AWC-certified welders, technical support and complete documentation.

Ask a distributor near you for our comprehensive design manual (hardcopy or CD) or download a complete CSI Manu-Spec® online. Demand a better foundation today. Locate your nearest distributor at [www.abchance.com](http://www.abchance.com).

## Down. Right. Solid.

Our tagline is our promise. CHANCE® helical piers and anchors go **down** with power into the ground and are accurate, level and **right** the first time. The result is **solid** stability.

# CHANCE™

Since 1912

DOWN. RIGHT. SOLID.

[www.abchance.com](http://www.abchance.com)



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Because

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