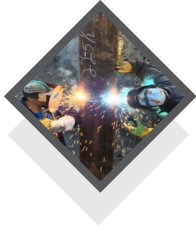




**PierTech Systems**  
Driven by Innovation



# ROBERTS RAMP GARAGE

HIGH-CAPACITY HELICAL SOLUTION  
FOR A FIVE-STORY PARKING STRUCTURE

# PROJECT OVERVIEW

The Roberts Ramp Garage in Fargo, North Dakota, required deep foundation support for a five-story elevated parking structure. Challenging subsurface conditions, strict jobsite requirements for low noise and vibration, and the need for a high-capacity, cost-effective solution made PierTech's Hercules Pile system the ideal choice.



## EQUIPMENT USED

The piles were installed with a CAT 349 excavator paired with a 230,000 ft-lbs PierTech drive head to generate the torque required for dense soils.

Static and dynamic load testing was performed to verify performance, with all piles meeting or exceeding the engineer's capacity requirements.

## Foundation Design

To meet the structural demands of the project, PierTech supplied **10 3/4" diameter Hercules Piles** with a proprietary tip engineered specifically for the region's soil profile. Each pile utilized **18" and 32" helices**, configured in groups of 3 to 6 piles per pier cap to distribute the load effectively.

The piles were driven to depths ranging from **100 to 120 feet**, penetrating dense glacial till, with each pile designed for an ultimate capacity of **800 kips**. To reach these depths, pile sections were field-welded in **20 to 25-foot lengths**, maintaining structural integrity throughout the install.





## RESULTS

### Results

**800-kip ultimate capacity** per pile, verified through load testing

**Low noise and zero vibration**, protecting adjacent properties and infrastructure

**Fast, efficient installation** despite challenging soil and extreme depths

**Customized solution** engineered for local conditions, ensuring long-term structural reliability

### Why Hercules Was the Right Choice

For the Robets Ramp Garage, traditional driven piles or drilled shafts would have resulted in significant noise, vibration, and cost, along with longer timelines. PierTech's high-capacity helical solution allowed for rapid installation, verified performance, and minimal disruption- making it the optimal foundation system for this urban, sensitive project.

**Address**

600 Trade Center BLVD  
Chesterfield, MO 63005

**Email**

[sales@piertech.com](mailto:sales@piertech.com)

**Phone**

866-536-5007

# Get In Touch