



# MOUNT OLIVET LUTHERAN CHURCH

HELICAL PILE FOUNDATION FOR AUDITORIUM  
EXPANSION IN TIGHT SITE CONDITIONS

# PROJECT OVERVIEW

Mount Olivet Lutheran Church in Minneapolis, Minnesota, planned a major expansion with a new auditorium addition adjacent to the existing structure. The site presented two major challenges: poor soil conditions and limited working space near the current building.

To minimize disturbance and deliver a stable foundation solution, the project team selected PierTech's patented helical pile system—engineered for deep foundation stability and efficient installation in challenging conditions.



## Installation

The piles were installed to depths ranging from 65 to 90 feet, with 15-foot section leads and extensions assembled on-site for faster advancement. Installation was completed using a PierTech 12K drive head.

Despite the tight working area, PierTech's helical system allowed crews to complete the work efficiently and safely without disrupting the existing church.

## Foundation Design

The foundation design utilized 90 helical piles featuring PierTech's 2-7/8" x .362" wall Cross Lock™ patented connection system, with each pile supporting an allowable compression capacity of 45 kips.

The pile configuration included:

- 90 piles with 8"-10"-12" helix configurations
- 370 galvanized Cross Lock™ extensions, each 15 feet long
- 90 galvanized Cross Lock™ extensions, 7 feet long
- 90 galvanized new construction brackets

To optimize efficiency and reduce material handling, the leads and extensions were manufactured in 15-foot sections, streamlining installation at significant depths.





## RESULTS

### Results

**45-kip allowable capacity per pile**, meeting engineering and load requirements.

**Efficient installation to depths of 65–90 feet** using 15-foot extensions to save time and material costs.

**Minimal site disruption**, allowing construction next to an occupied facility.

**A code-compliant, long-term foundation system** tailored to the site's poor soil conditions.

### Why PierTech Piles Were the Right Choice

For Mount Olivet Church, traditional deep foundation methods would have caused delays, excessive disturbance, and higher costs in the confined space. PierTech's Cross Lock™-connected helical piles provided a fast, flexible, and reliable solution, ensuring the auditorium addition could be built on time and on budget.

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