



## Helical Pile Installation with an Electric Motor (Zero Emissions) for the Historic Wieting Theatre Built in 1913

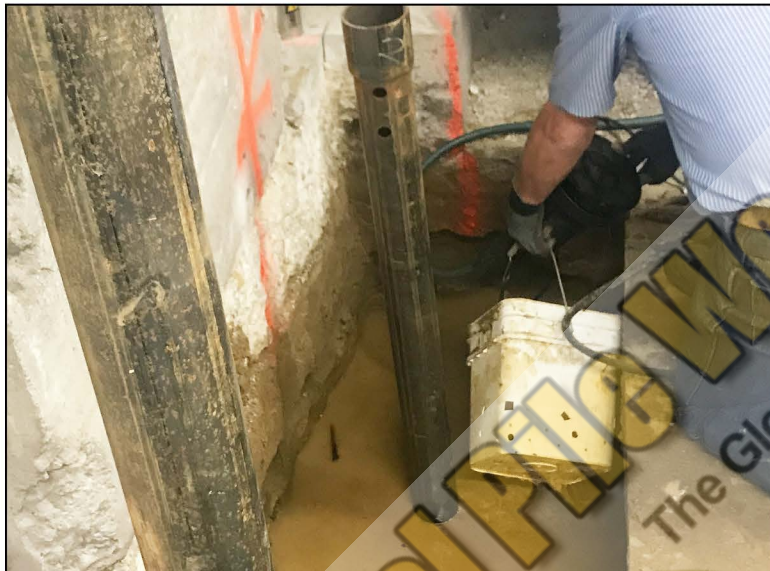
Spring 2018



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<b>Project Name &amp; Location:</b>	Historic Wieting Theater - Toledo, IA
<b>Project Date:</b>	Spring 2018
<b>Project Type:</b>	Foundation Augmentation
<b>Helical Pile Installation Contractor:</b>	Techno Metal Post of Central Iowa - <a href="#">website</a>
<b>General Contractor:</b>	Henning Companies - Johnston, IA - <a href="#">website</a>
<b>Helical Piles Specifications:</b>	(8) Model P3 3.50" (88.9mm) O.D. X .218" (5.54mm) Wall Round Shaft Piles with 12", 16" Helix Bearing Plates; Non-Galvanized
<b>Soils &amp; Installation Depths:</b>	Clay; Average Installation Depth of 16-20 ft. Below Basement Grade
<b>Installation Timeline:</b>	(5) Days
<b>Helical Pile Manufacturer:</b>	Techno Metal Post



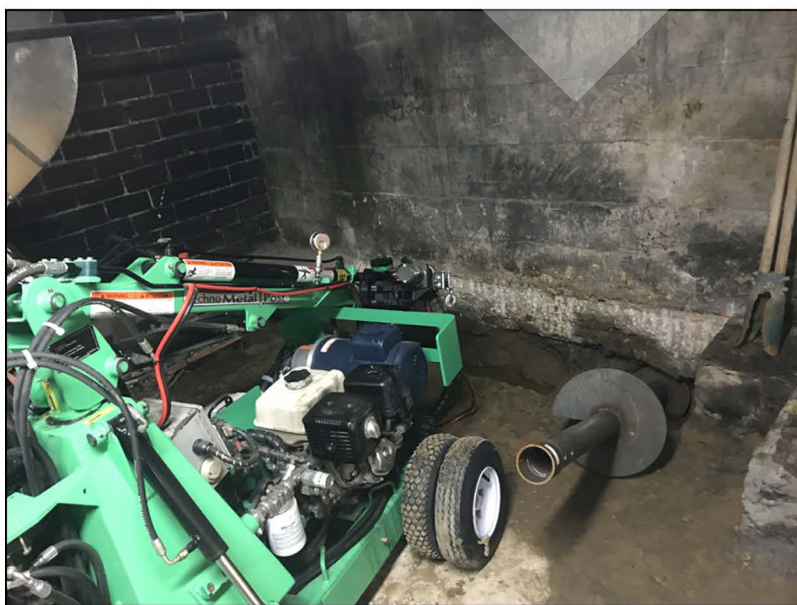
### Project Description

This job is for the basement of a 105 year old theatre listed on the National Register of Historic Places. The two story brick structure measures 50 ft. by 100 ft. (15 m by 30 m). The interior is composed of an auditorium, balcony, stage, dressing rooms, and an orchestra pit. The engineer's design specified adding (8) 20K helical piles to support the loads of the roof and theatre rigging.

### Project Goals

The roof trusses were not rated for 2018 lighting and rigging.

The general contractor is installing (4) 40' tall 8" square steel poles from the basement floor to the roof. These (4) poles, along with additional beams, are going to provide the new support for the theatre premises. Techno Metal Post of Iowa Installed the (8) helical piles to support the concrete pads to which the (4) steel poles will be anchored.



### Obstacles

- Must use electric motor – no gas motors were allowed due to the sensitivity of building's belongings
- Access to the basement of 105 year old building
- Building on the National Register of Historical Places
- Limited height – basement height was only 7 feet
- Each one of the cut-out pier pads was full of sloppy mud
- Limited access – existing HVAC equipment was installed along with tight access to the rooms - less than 30"

### Advantages

- Electric motor for pile installation
- Access with the installation equipment (R2D – small machine)
- No excavation
- Speed of installation

