



CASE STUDY: UMA designed an excavation support and underpinning system, which involved installing a soil nail wall and micropiles. Terra-Crete™ was also applied as a backfill solution.

MICROPILES, TERRA-CRETE™

The Customer
Prysmian Cable

Location
Hickory,
North Carolina

Type
Industrial

**Date of Project
Completion**
June 2020

Interesting Fact
By utilizing Terra-Crete™, UMA was able to efficiently & effectively provide an excavatable backfill material which facilitates the ability to expand the structure again at a later date.

THE PROJECT

The Cable Towers project in Hickory, N.C. involved an expansion of this industrial facility. One of the challenges during retrofit construction is that consideration to future expansions is not typically planned for during the initial design and implementation of the structure. UMA not only prepared this manufacturer for future expansions, but we kept the facility operating during construction.

THE CHALLENGE

It was critical to do the work, while also allowing continual operation of the cable manufacturer's building during the project, and providing the flexibility needed for future renovations.



CASE STUDY

THE SOLUTION

UMA assisted with the intricate design-build implementation of an excavation support system, micropile underpinning system, and low-density cellular concrete (Terra-Crete™) to facilitate a cost-effective, low-vibration, and fast solution to limit disturbance to other facility activities.

THE RESULTS

UMA designed an excavation support and underpinning system to install the retrofit tower foundations below the existing floor elevation. We designed and installed a soil nail wall along portions of the structure that could not be sloped. Micropiles were installed at existing caissons before excavation to mitigate settlement after soil removal. Using Terra-Crete™ significantly reduced excavation backfilling time by eliminating the need to compact lifts of traditional soil backfill, while enabling the project schedule to exceed the general contractor's and owner's expectations.



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