

THATCHER FOUNDATIONS INC.

Earth Retention

DEEP FOUNDATIONS • EARTH RETENTION SYSTEMS • MARINE CONSTRUCTION

Thatcher is the one-stop shop for all your earth retention needs. Through the use of the proper, cost-effective earth retention system, Thatcher takes your worries away. We have been keeping things right where they are for over 60 years.

Earth retention systems we design and install include:

- Sheet Piling
- Soldier Beams and Lagging
- Soil Nails and Shotcrete™
- External bracing – soil anchors or tie backs
- Internal bracing – struts, diagonals, and rakers
- Secant and Tangent Pile Walls
- Underpinning

Why do you need earth retention? Whenever you dig into the ground there are several items that you need to think about:

- Protection of the workers during construction
- Adjacent structures
- Utilities
- Public/municipal/private property

What installation method(s) will be most effective? Driven, drilled, vibrated or hydraulic-pressed? Perhaps some combination of these will work best.

Thatcher provides full engineering and project management services:

- We have an in-house licensed Structural Engineer and a Civil Engineering Ph.D. We know design/build.
- Let our experience help you reduce your costs. The earlier we become involved in the project, the more we can optimize the design. It is not uncommon for us to optimize ourselves right out of work!
- For projects in Chicago, we can help you navigate the city's permit process. We can shave days, weeks, and sometimes months off the process.

How do you know which type of earth retention is right for you? Below is a very basic chart to guide you through three typical systems:

Soil Condition	Sheet Piling	Soldier Beams & Lagging	Soil Nails & Shotcrete™
Granular soil, excavation above water table	X	X	
Granular soil, excavation below water table	X		
Cohesive soil, excavation above water table	X	X	X
Mixed soil, excavation above water table	X	X	
Mixed soil, excavation below water table	X		
Retaining wall, back filled after installation	X	X	
Any soil, excavation next to existing structures	X		X*

*Cohesive soil and underpinning is necessary





The most common types of earth retention are sheet piling and soldier beams and lagging. They are usually installed in the following configurations:

- Cantilevered – for shallower excavations, typically 8 feet or less if there is no adjacent structure.
- Internally Braced – walers and struts transfer the load to the opposite wall, concrete deadmen, or sheet piling deadmen. Typical of deeper excavations 8 feet or more, or if there is an adjacent structure.
- Tie-backs – soil anchors are drilled through the sheet piling or soldier beams, grouted, and tested for design capacity. The load is transferred through a waler. Typical of deeper excavations 8 feet or more, or if there is an adjacent structure. Also used if the excavation must be free of obstructions.
- Combination of all three – not all sites are the same on all sides; therefore, we typically utilize one or more configurations to optimize the earth retention system and reduce costs.



Thatcher Foundations’ goal is to provide the most cost-effective, least obtrusive earth retention system while affording the maximum protection to workers on the site and minimizing movement of the adjacent earth.

In the winter of 1958, a very reputable and upstanding General Contactor tried to make an open excavation along Jackson Street in the west Loop. It was early January and the ground was frozen so they didn’t think that they needed to have any earth retention. After all, the ground was hard as a rock and it was only going to be open for a few days. What’s the worst thing that could happen?

A thaw. A couple of days later as temperatures crept above 40°, the ground started to creep into the excavation. Pretty soon water mains were cracking and electric lines were breaking. Thatcher got a phone call in the afternoon. We were there the next morning. We set up our “Office Trailer” in Lou Mitchell’s Coffee Shop. The job was completed and order restored. But our work wasn’t done there. Almost 50 years later, we are still providing earth retention all around Chicago, the suburbs, and northwest Indiana - everywhere it is needed. And you can still find us at Lou Mitchell’s most mornings at 5:30 a.m. sharp.

Call us today and let us show you how we can help you complete your project on time and on budget.

THATCHER FOUNDATIONS

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