

Temporary Excavation Support

- Sheet Piling
- Soldier Beam and Lagging
- Soilnail and Shotcrete Walls

Temporary excavation support systems are installed to prevent cave-ins and collapse of trenches and excavations. OSHA regulations mandate strict compliance with established safe methods and ignoring these standards can result in injury, death, and severe property damage.

Earthcore has the capability and experience to install all types of shoring including soldier beam/lagging, sheeting, and soilnail/shotcrete systems. The site subsurface conditions and structural requirements dictate which method is best suited for the project. The design must be performed by a competent geotechnical engineer with many years experience in designing and building shoring systems. Earthcore partners with these engineering firms to assist in determining the best shoring system for each project.

Many other individual geotechnical foundation procedures/elements are utilized in the construction of these excavation support systems including tiebacks, soilnails, and grouting. Earthcore has extensive experience and the specialty equipment required to perform all tasks for the safe and efficient installation of all shoring systems.



Soil and Rock Anchors

- Tiebacks
- Rock Anchors
- Soil Nails
- Anchor Load Testing

Drilled elements installed below grade that resist pull-out or uplift are categorized as tieback anchors, rock anchors, soil anchors, or soil nails. These geotechnical anchors work in combination with larger design systems to achieve the desired result. They can be designed to prevent shoring or retaining wall bending/ overturning, hold down large structural foundations, stabilize slopes, and as rockfall prevention.

The common method of installation is via cased hole drilling and the subsequent grouting of a steel bar within the section of the anchor. Upon completion of grouting, the casing is removed and the anchor is load tested after curing. Earthcore has installed thousands of anchors in many different applications and design loads. The steel bar can be specified as temporary or permanent, with many different combinations of bar strength and corrosion protection available.

Many projects require extensive testing to confirm design assumptions. The schedule is adversely affected when anchors fail load testing and must be re-grouted or reinstalled. Earthcore has perfected many different methods of installation and has an extremely high success rate in production and success rate on load testing of installed anchors.



Permanent Retaining Walls

- Soldier Beam and Reinforced Concrete Plank Walls
- Structural Soilnail and Shotcrete Walls

Recent advances in the geotechnical industry have enabled engineers to provide designs for special application retaining walls that are economical to construct. Permanent walls are built using methods such as soldier beam/concrete plank, soilnail/shotcrete, and variations of the two combined with cast-in-place concrete.

Site conditions often preclude conventional wall construction if the design requires excavation behind the wall for footing and geogrid installation. When a zero lot line setback prevents over excavation to construct these standard walls, Earthcore can build permanent retaining walls on the lot line. Top down construction with soldier beams and wood lagging for excavation support is followed by the installation of pre-cast concrete plank as a wall finish.

Soilnail walls can be designed when it is not practical to over-excavate for geogrid installation or if shallow rock prohibits the excavation for a geogrid wall. Soilnail walls are constructed top down in approximately 5' vertical lifts. The soilnails are drilled and grouted in place, followed by reinforcing and shotcrete placement. This process is repeated in stages until the design depth of excavation is reached. Then additional reinforcing and a permanent shotcrete or cast in place concrete finish is applied. These walls typically require less material and smaller equipment to construct than conventional walls.



Horizontal Boring

- Jack and Bore
- Receive and Approach Pits
- Steel and PVC Casing
- Annulus Grouting

Horizontal boring is the process of drilling or tunneling underground to install conduits or piping when trenching is not permitted or not economical. The boring is advanced from the jacking pit to the receiving pit by incrementally drilling and installing casing in short sections. Often pipes or conduits are pulled back through the casing.

Trenching is usually much more expensive than horizontal boring – especially if roadway traffic is interrupted during the process. Earthcore has the capability to mobilize the rigs and equipment necessary to perform horizontal boring for typical piping/conduit installations under roadways, driveways, and streams.

Often the jack and receive pits may require the installation of shoring and de-watering well points to support the drilling operations on the more complicated project sites. Earthcore has multiple sized specialty equipment and can provide all the work necessary to complete these projects efficiently and economically.

