GEOQUEST

Geoquest Solutions

Henri Vidal

In 1963, French architect and engineer Henri Vidal files the patent for Reinforced Earth®. This brand-new technique associates a selected and controlled backfill, together with reinforcements and facing panels, creating a sustainable composite material. The easy-to-use Reinforced Earth® Mechanically Stabilized Earth (MSE) retaining wall technology quickly took hold as an ideal reinforced backfill solution in an array of applications in many market sectors.

In April of 1970 our Canadian office was established, we have since become a leader in the design and supply of proprietary Mechanically Stabilized Earth, (MSE) retaining wall systems with thousands of successful projects totalling over 1.7 million square meters of Reinforced Earth® structures from Vancouver Island to Newfoundland.

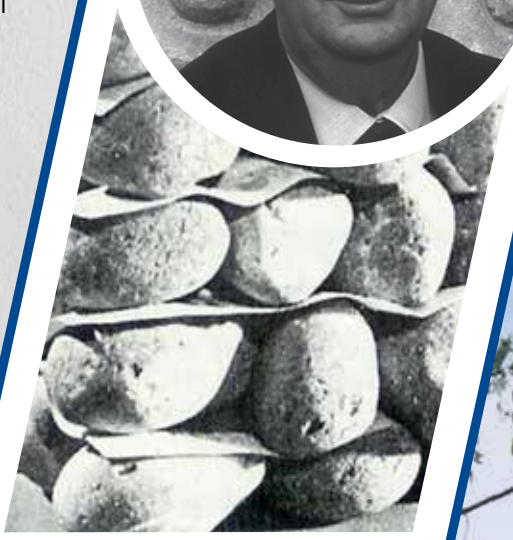
Since 1970, Reinforced Earth Company Ltd. has proudly operated in Canada as part of the global Terre Armée group known in many countries under names adapted to local languages. In 2025, we have united under a single worldwide identity:

GEOQUEST

What Does This Mean?

- Our trusted products and services will remain the same.
- We're expanding our portfolio to offer a more diverse range of engineered solutions.
- This rebrand reflects our growth beyond Reinforced Earth® Mechanically Stabilized Earth (MSE) retaining walls, showcasing our broader expertise.

55 YEARS
1970 - 2025



Geoquest Solutions

Retaining Structures

We offer a wide range of retaining wall solutions as the inventors of Reinforced Earth® MSE wall technology and leaders in the soil reinforcement sector.

Mechanically Stabilized Earth (MSE) Retaining Walls

Precast Modular Retaining Walls

Steep Slopes

Precast Arches & Boxes

Our tailored crossing solutions are utilized in building bridge abutments, bridges, and tunnels buried under backfill.

Basal Reinforcement

We design and supply high-strength reinforcement geosynthetic solutions for a wide range of applications in soil stabilization.

Protective Solutions

Our protective solutions help to safeguard people, infrastructure, and the environment from natural and industrial hazards.

Erosion Control

Nets

Barriers and Fences

Add-Ons

Special Precast Solutions

Specialty precast products as an alternative to cast-in-place concrete elements can be utilized with Reinforced Earth® and TechSpan® products for more efficient installation and an overall aesthetic end results.

Architectural Solutions

Engineering Support

GEOQUEST

Durable precast facing panels allow for a wide variety of surface textures and custom artwork.

Great adaptability to a wide range of environments.

Reinforced Earth®

We offer a high-performance and durable Mechanically Stabilized Earth (MSE) wall solution that is rapid and easy to install. Reinforced Earth® consists of engineered backfill that is reinforced with a choice of engineered elements

The ideal combination of soil, soil reinforcements and facing creates a sustainable reinforced soil structure. This technology can be adapted to suit retaining walls of any height. It is also capable of supporting major dead and live loads imposed by the associated structures, vehicles or other equipment.

- Strength, flexibility, and resilience
- Long service life and low cost of construction
- Inextensible soil reinforcements and bolted connections are secure, simple, and quick to install

*Visit **www.geoquest.ca** to find the right precast retaining wall for your project*

An economical solution for mining and remote location applications. Often used for mining dump walls, industrial platforms, and tunnel collars walls.

TerraTrel®

TerraTrel® is a lightweight MSE wall system structure that uses a durable steel wire mesh facing that can be used to build both permanent and temporary retaining wall structures. This retaining wall structure can support heavy loading while being tolerant to settlement The system provides a cost-effective solution for wall applications where aesthetics is not a critical requirement, precast concrete facing is not necessary, or heavy lifting is not feasible.

- Lightweight facing material, no heavy lifting needed
- Ideal for temporary walls
- Bolted connection of soil reinforcements is quick and easy

GeoStrap soil reinforcements and the patented connection are suitable for highly aggressive environments and corrosive soil conditions.

GeoMega®

GeoMega® is an MSE gravity retaining wall system where the soil reinforcing elements consist of high-strength extensible polyester geosynthetic reinforcing strips (GeoStrap®) connected through a patented sleeve embedded in precast concrete facing panels—an ideal solution for construction in seawater or other corrosion aggressive environments.

- High-strength GeoStrap soil reinforcements exhibit less extensibility than other geogrids
- GeoStrap connection to precast facing panels is simple and quick

Full height monolithic units eliminate the need for separate traffic barrier installation, and costly Cast-in-place moment slabs.

PianoWall™

Our PianoWall™ system is an integral precast concrete facing and traffic barrier. The uppermost level of soil reinforcements resists dynamic loading in the event of a vehicle impact on the barrier. This system eliminates need to install a separate traffic barrier and moment slab on top of a retaining wall saving a considerable amount of time—especially over a long stretch of road.

The PianoWall™ can be used in conjunction with other Geoquest Solutions.

- Durable precast units up to 4.8 m tall are perfect for low-height grade separations designed for highway impact loading.
- Rapid and predictable MSE construction process.

Ideal for widenings and earth shoring in close proximity to an existing slope or structure.

TerraLink®

TerraLink® anchored earth retaining wall technology is an innovative solution that is used when the reinforced fill zone is not wide enough to accommodate conventional lengths of reinforcements—allowing the construction of Reinforced Earth® walls in front of existing structures, with narrow space between them. These MSE structures are utilized for widenings or adding new structures by linking the new wall by way of anchors or nailing to an existing concrete retaining wall, or sloped terrain.

- Adaptability to existing structures
- Compatibility with Reinforced Earth® technics

This product is approved by most major railway and highway agencies and also can come in a wide range of custom architectural finishes.

T-Wall™

This precast concrete retaining wall system is constructed by combining structurally reinforced modular precast concrete units with engineered backfill. Each individual concrete unit is cast with a stem attached that stabilize the wall, providing pullout resistance against earth pressure on the back of the facing. Engineers specify this solution for building grade separations for roadways and railways, and for earth retention along coastlines and waterways.

- Easy installation with no mechanical connections
- Excavation and backfill quantities are minimized
- Allows for a wide range of acceptable backfill including recycled materials
- Limited requirements for bracing during installation

A versatile solution for narrow cut situations, or applications with extreme obstructions within the fill zone.

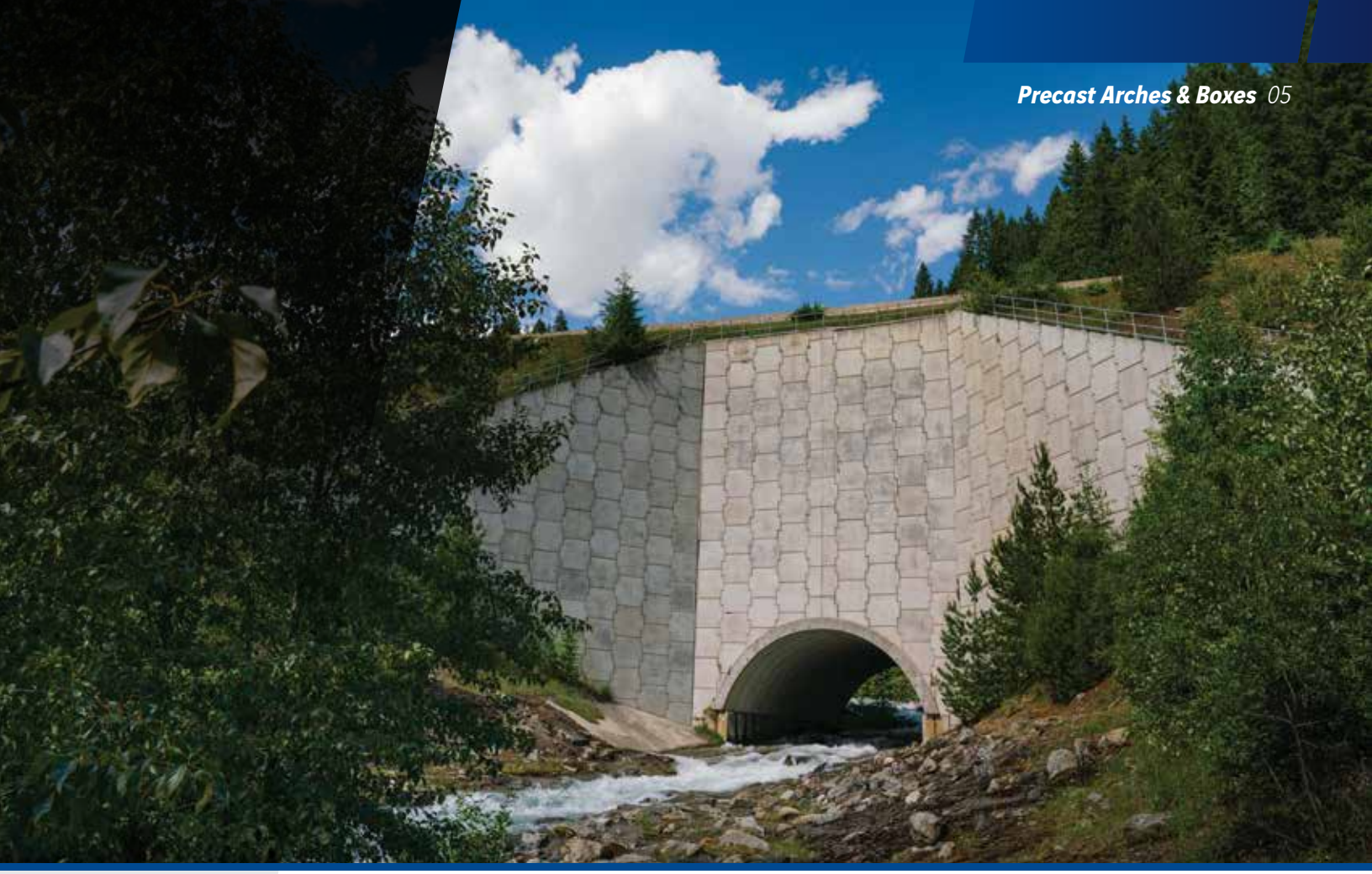
TechWall™

TechWall™ is a precast counterfort retaining wall system which combines counterfort design advantages with the quality and efficiency of precast concrete. Key to the overall efficiency of the system is the superiority of counterforts, acting as equivalent cantilever beams, in resisting lateral earth pressure.

TechWall is used when space or design constraints favor a cantilever type wall. Types of constraints include limited right-of-way, roadway widening, large utility zones, construction in cut conditions, soundwall freeboards and more.

- Full-height monolithic precast units eliminate the need for soil reinforcements.
- Simple and economical replacement to conventional cast-in-place cantilever wall designs.

*Visit **www.geoquest.ca** to learn more about our precast modular retaining walls*



Ideally suited for the construction or replacement of short span railway or road bridges, as well as water culverts, and access tunnels.

TechSpan®

TechSpan® is a, three-hinged, buried precast concrete arch system. It typically consists of half-arch units that meet at the crown, supported by a footing sized for site-specific foundation conditions. The backfill around the arch contributes to the resistance of the entire structure (soil-structure interaction).

TechSpan® precast arches provide all the benefits of precast concrete structures plus a number of additional advantages over the other culvert, bridge or arch systems.

- No scaffolding or bracing
- In freezing temperatures, reduces bridge icing problems
- No girder bearings or expansion joints required, eliminating maintenance

A quicker, safer and more efficient completion at the jobsite as compared with cast-in-place alternatives.

TechBox™

TechBox™ is a state-of-the-art solution for building large box bridges, culverts and rockfall protection shelters. These structures are built using precision-made segmental precast concrete sections that are assembled at the jobsite. The use of pre-engineered forming moulds, quality-controlled manufacturing, and pre-planned installation procedures reduce jobsite work duration.

- TechBox™ has proven to be a very durable solution.
- Using precast sections make it easier to organize safety at the jobsites through pre-planning and standardized procedures.

Steep slopes

Slopes are constructed to an angle to horizontal typically between 45° and 76°. These reinforced soil structures are commonly referred to by engineers as Reinforced Soil Slopes or Geosynthetic Reinforced Slopes

Our steep slope solutions are designed and engineered with the same level of technical expertise as our Reinforced Earth® walls, benefiting from our highest engineering and quality standards.

This technique minimizes consumption of concrete, steel and aggregates as an eco-friendly alternative

ArmaGreen®

ArmaGreen® is an engineered solution for reinforced soil slopes that require promotion of natural vegetation. This sustainable solution provides optimized "green" integration in natural landscapes.

- Structures will satisfy a sustainable life service and enduring functional requirements
- Strong in-house engineering and design expertise

This technology was used in a world record-setting MSE structure being built to a height exceeding 100 m.

ArmaStone®

ArmaStone® is an engineered solution for reinforced soil slopes which require a rock facing look. These rock faced steep slopes are used for the construction of road and rail infrastructure, airports, land development, industrial facilities, waste management and hydraulic works.

- Facing elements and soil reinforcement components are precisely engineered
- Flexibility to combine choices of facing elements

Basal Reinforcement and Soil Stabilization

Geoquest has developed strong engineering expertise and know-how for the design of basal reinforcement applications. These applications span over a wide range of possibilities such as Embankments on soft soils, Load Transfer Platforms and piled embankments, and embankments over subsidence and void bridging.

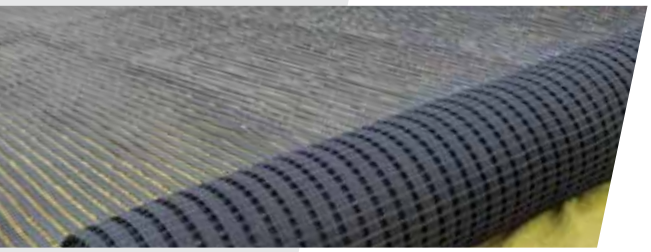
Improving stability while reducing the construction time

ArmaLynk®

ArmaLynk® is a high-strength PET geogrid used for various basal reinforcement and challenging ground stabilization needs in support of building roads, bridges, runways, railways, working platforms, and heavy-duty pavements.

The geogrid is made of co-extruded and oriented high tensile geosynthetic strips having discrete channels of closely packed high tenacity polyester (PET) yarns encased in a durable polyethylene sheath. These geosynthetic strips are welded to cross strips made from low shrinkage yarns, and together create a strong orthogonal matrix.

- Can be manufactured in extra-wide roll widths in customized lengths and edge strengths with high stiffness
- Embankment foundations reinforced with ArmaLynk® are able to withstand high static and dynamic loads.



Ideal for short term construction needs like for flyovers, interchanges, bridging and underpass solutions

ArmaGrid®

Our ArmaGrid® line provides engineers and builders with a straightforward, full-service approach for procuring biaxial and uniaxial, polyester (PET) and polypropylene (PP) geogrids. Our geogrid performance properties are easily identifiable to specify for use on projects of all types in all construction sectors.

- Improvement of sub-grade and sub-base performance in roads, railways and airport runways, taxiways and aprons
- Provide an integrated load-bearing platform on soft ground

geoquest

Erosion Control

Soil erosion can degrade the environment and threaten the integrity of embankments, slopes, and coastal areas. Geoquest Canada's Erosion Control solutions are designed to stabilize surfaces, manage runoff effectively, and protect against the relentless forces of water and wind. Our comprehensive approach includes selecting the right erosion control systems to sustain long-term stability while respecting the surrounding ecosystem.

In Collaboration with

Synthetex
Reinforcing infrastructure for good.

IECS
EST 1984

A budget-friendly solution for erosion control along riverbanks, spillways or low water crossings.

Articulating Concrete Block

Articulating Concrete Block (ACB) is a system used for meeting erosion control design needs, where each concrete block can flex and adapt to the natural terrain. With six available thickness options, this interconnected block system ensures economical stability tailored to the unique requirements of each project.

- Swift Installation compared to rock placement
- Conforms to existing ground contours, minimizing site preparation
- Low Maintenance when covered with vegetation or rocks
- Resistant to ice damage, freeze-thaw cycles & debris flood events

Ideal solution for underwater installation such as canal bank protection and lining, river bank protection, abutment or pier protection under flowing water.

Fabric Formed Grout Mattress

A Fabric Formed Grout Mattress is a durable solution for erosion protection. High strength non-woven geotextile former is used to provide the shape and form. Depending upon the design requirements and specific application, cables can be incorporated in the fabric form.

- Protects river banks or shorelines from wave and current actions
- Great for scour prevention and scour repair
- Provides a unique advantage where dewatering or constructing cofferdams is not possible

Prevent Disaster with Protective Systems from Geoquest

In Collaboration with

TRUMER Schutzbauten

Our protection systems mitigate the damage caused by natural disasters. Geoquest can bring together constructive solutions for rockfall, avalanche and landslides protection

Nets

Draped Mesh: A draped mesh system, sometimes known as simple drapery, consist of netting that are supported by a bearing rope system anchored to the brow of a slope. Its purpose is to control falling debris, guiding it to an area of deposition.

Anchored Mesh: Slope retention systems, also known as anchored mesh systems, consist of nets or netting anchored to the slope using a dense matrix of soil or rock anchors and specialized anchor plates. These systems prevent shallow landsliding and prevent erosion.

- Free draining
- Low maintenance

Barriers and Fences

Rockfall Protection: Rockfall barriers are modular systems typically built using steel posts and flexible-nets supported by wire rope. They are installed directly in the path of falling rocks and are secured to the ground using rock or soil anchors. The barriers use plastic deformation to help dissipate the impact energy and reduce the forces experienced at the anchors.

Avalanche Protection: Avalanche systems consist of nets strung with steel wire ropes between posts and anchored to the ground. They are installed in series, completely covering the initiation zone in order to provide structural support of the snowpack, therefore removing the risk of avalanche initiation. In addition, Reinforced Earth® protective berms offer robust resistance against avalanche impacts in the runout zones. Engineered for strength and durability, these long lasting structures help safeguard infrastructure and enhance public safety, even in the most challenging environments.

Debris Flow: Debris flow barriers are built directly in the flow path and are designed to retain debris while at the same time allowing the mass to drain. These systems are designed on a site-to-site basis depending on the unique loading characteristics. A simple gully net is often sufficient for narrow spans (e.g. less than 15 m), whereas a post and net system is required for wide channels or open-slope applications.

- Designed for simple installation & functionality.
- Eliminates hazard

GEOQUEST

Precast Traffic Barriers

Precast traffic barriers are a safety solution for retaining walls with vehicular traffic on top. It allows a contractor to set precast barrier units along the top of the wall, greatly reducing the use of cast-in-place concrete. Special barrier units can be designed to accommodate light poles, electrical conduits, drainage inlets, sound wall posts, sign structures, guide rail transition barriers, bridge approach slabs, tight curves, and other unique geometry in the barrier's alignment.

Complete Vertical Barrier

The entire unit is precast and gets tied into the cast-in-place moment slab.

Half Connector

It is just like a precast coping but with embedded rebars on the top for a cast-in-place parapet and embedded rebars on the back for the cast-in-place moment slab.

Precast Coping Solutions

Precast coping is a solution for applying a uniform appearance along the top of a retaining wall, hiding the top edge of facing panels The coping units are designed to rest atop the retaining wall stabilized by their own weight. Special coping units can be designed to accommodate pedestrian railing, fence posts, light poles, drainage inlets, drainage ditches, and other odd geometry in the wall's alignment.

Precast Leveling Pads

Precast leveling pads are an easy and quick way to create a base for our Reinforced Earth® front panels. They are a great alternative for cast-in-place base solutions.

TechSpan® Precast Collars and Footing

Our precast collars are custom-made for each TechSpan project and these collars cover the outer edge of TechSpan tunnels creating a uniform aesthetic look. Precast footings are a great alternative for cast-in-place footings for TechSpan projects ensuring an easy and quick way to create a base for TechSpan arches.

Sound Absorption Panels

Our sound absorbing wall panels are based on our traditional reinforced concrete core with a sound absorbing layer on the face exposed to the source of the noise. Ribbed porous concrete or wood concrete is used in the sound absorbing layer, which reduces sound reflecting capabilities

Architectural Finishes for MSE Walls

Our precast facing panels come in a selection of standard finishes such as Grave or Ashlar Stone, but if you have a more unique vision for your MSE wall then contact us. Whether it's a simple repeating pattern or an elaborate mural by a local artist, we can turn your retaining wall into a stunning work of art.


Grave

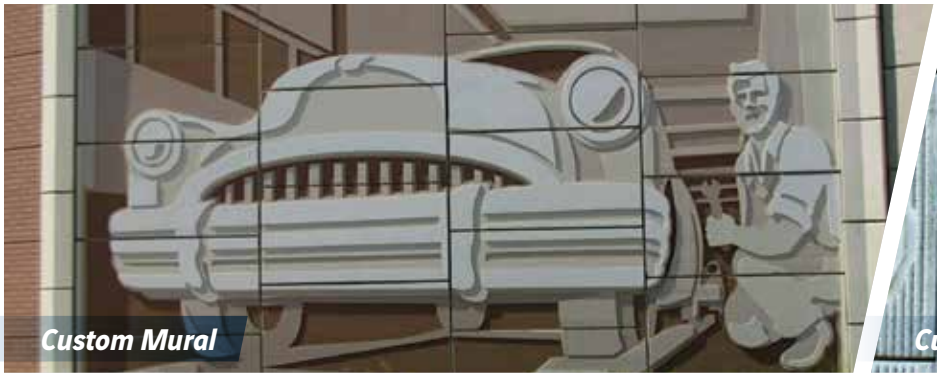

Ashlar Stone

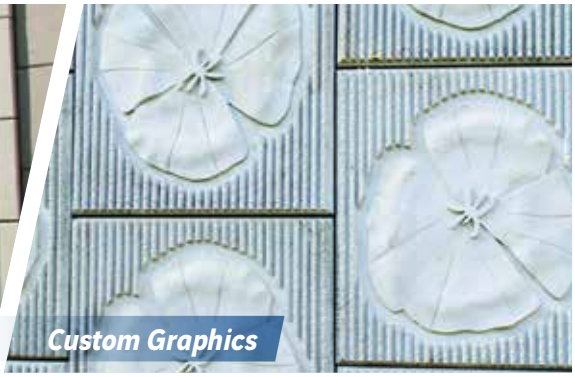

Raised Panel


Brick Texture


Geometric Design


Stone Texture


Custom Mural


Custom Graphics

GEOQUEST

Architectural Applications

Reinforced Earth® structures offer limitless aesthetics and architectural possibilities, giving architects the freedom to turn any creative vision into a reality. This is achieved through a collaboration between architect and MSE wall designer.

For decades we have helped property owners, engineers, and architects achieve their desired look with our Reinforced Earth® MSE products.

Curved Reinforced Earth® MSE Walls

Our experience in working on urban projects has driven us to innovate and adapt to complex architectural geometries. We can easily achieve wall curvatures by utilizing precast concrete panels. While the individual facing panels themselves are not curved, the curvature of the wall is formed by a series of short chords.

Tiered MSE Walls

A tiered retaining wall system consists of multiple stacked walls, with each higher wall strategically set back from the underlying one. This design allows the tiered MSE walls to effectively withstand significant differential settlements without experiencing distress. Beyond their functional capabilities, multi-tiered MSE walls also bring aesthetic enhancements, elevating the overall visual appeal of the site more effectively than a single, monolithic wall.

Incorporation of Staircases

The incorporation of staircases into the MSE retaining walls not only enhances the overall aesthetic appeal of the walls and the site, but also ensures functionality.

*Visit **www.geoquest.ca** to see all of our creative and architectural installations*

Professional Services from Geoquest

As a global specialist we operate as both designer and supplier of civil engineering solutions. As the inventor of the Reinforced Earth® solution, our strength is the result of an unrivalled combination of expertise in the fields of soil-structure interaction.

We have proudly been supplying Canadian clients with one-source design and supply services from our on-staff professional engineers since 1970. All of our projects are covered by product liability insurance.

Design Services

- Feasibility studies
- Written estimates
- Drawings with Professional Seal

Consultation Services

- Available anytime from our on-staff professional engineers
- Evaluation of existing structures

Construction Services

- Construction drawings
- Timely delivery to site
- On-site guidance

Why work with us

With over 55 years of experience, we are the original inventors of Mechanically Stabilized Earth (MSE) wall technology, proudly known as Reinforced Earth®. Our legacy is built on innovation, quality, and reliability. Clients consistently choose us for our proven expertise, engineering excellence, and commitment to delivering safe, durable, and cost-effective solutions.

www.geoquest.ca

+3,000
Structures
Across Canada

33 m
Tallest Canadian
Structure

1.7 Million m²
Reinforced Earth® Walls
From Coast to Coast

GEOQUEST

GEOQUEST

To contact us and learn more about GEOQUEST products and services please visit **www.geoquest.ca/contact**