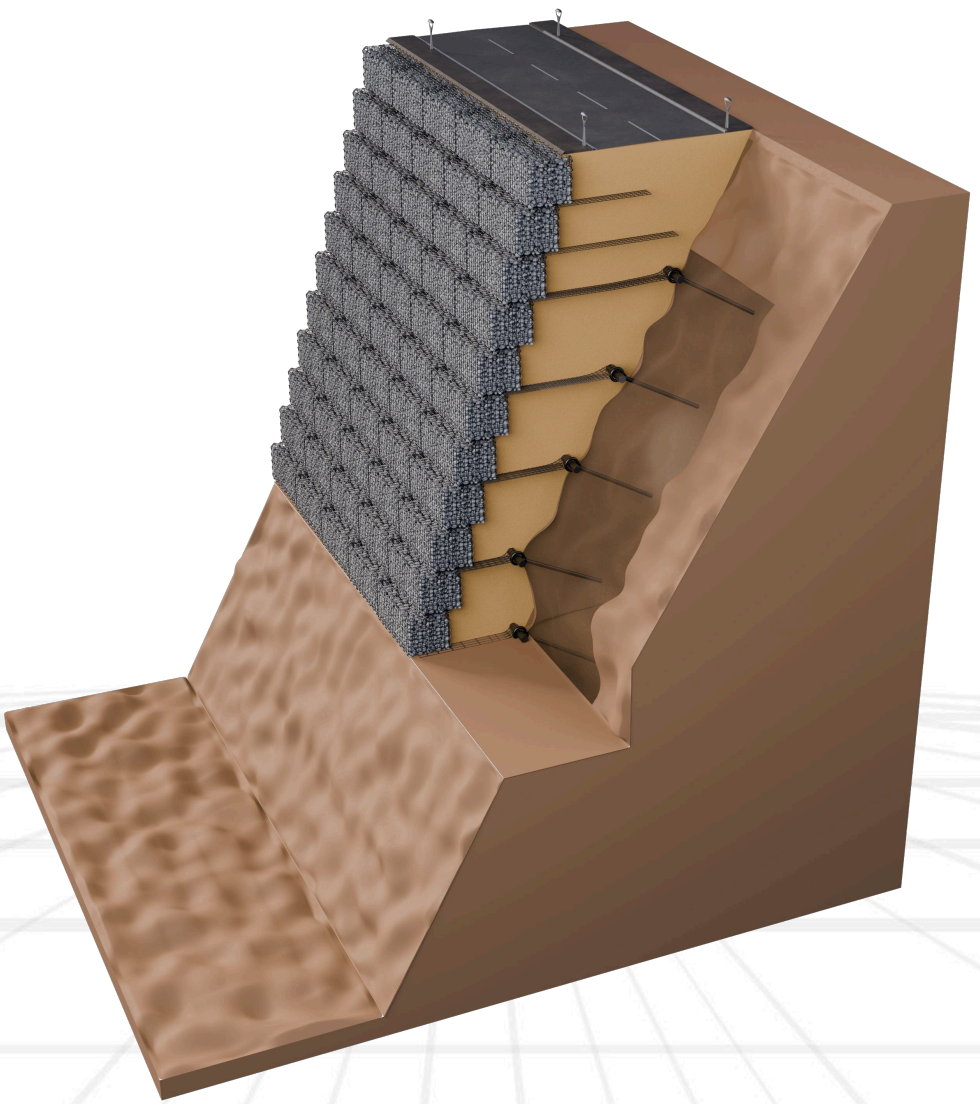
CONSTRUCK

SLOPEECO-MESHWALL

Engineered Wall Stability for Steep Slopes



CST-EMW-BRO-00022

CONSTRUCK SYSTEMS & TECHNOLOGY

Research and Development | Design | Manufacturing | Geotechnics

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Engineered Wall Stability for Steep Slopes

High-tensile geogrid. Deep rock-bolt anchorage. Modular wall facing.



ConstruckSlope Eco-MeshWall is a high-strength retaining wall solution that integrates geogrids and rock bolts for superior stability and load-bearing capacity — even on steep, narrow, or constrained sites. Unlike traditional MSE walls, Eco-MeshWall requires less fill and minimal excavation, reducing environmental impact while enabling taller, stronger walls. Its innovative design stabilizes slopes, controls erosion, and provides reliable long-term support — ideal for roadways, embankments, and critical infrastructure.

Geosynthetic Reinforcement

High-tensile geogrid forms a reinforced soil mass, distributing lateral earth pressures and preventing movement.

Deep Rock-Bolt Anchorage

Rock bolts connect directly to the geogrid, transferring loads into the slope for superior resistance to sliding and overturning.

Modular Facing Options

Gabion or concrete-panel configurations adapt to curves, varying heights, and tight spaces — no curing or additional supports required.

SPaaP® — Slope Protection as a Product

The world's first SPaaP® system: defined components, tested performance, and a clear installation path from specification to site.

Places of Use

- Loose, unstable, or high-plasticity clay soils
- Areas prone to landslides or slope instability
- Rocky, irregular, or variable terrain
- Steep roadside and infrastructure corridors
- Sites with restricted construction space

What Eco-MeshWall Delivers

- Taller, stronger walls with less excavation and fill
- Superior resistance to sliding, overturning, and seismic forces
- Faster installation with minimal site disruption
- Reliable long-term stability in dynamic or high water table conditions
- Adaptable geometry for complex or constrained topography

System, Components & Key Benefits



ConstruckGrid HS — Geogrid Reinforcement



ConstruckRod & ConstruckAnchor — Rock-Bolt System



ConstruckGabion or ConstruckPanel — Wall Facing

Benefits at a Glance

Engineered Strength

Advanced geogrid-to-rock-bolt integration improves shear strength and distributes lateral earth pressures in even the most demanding slope conditions.

Minimal Excavation

Requires significantly less fill and excavation than traditional MSE walls, reducing cost, environmental impact, and site disruption.

Faster Construction

Modular components install quickly with no curing time, cutting labor costs and reducing project delays on fast-track developments.

Deep Anchorage Stability

Rock bolt anchoring delivers superior resistance to sliding, overturning, and seismic forces — even on steep or unstable ground.

Adaptable Geometry

Modular system conforms to curved alignments, irregular surfaces, steep rocky slopes, and constrained footprints.

Long-Term Performance

Reliable stability in dynamic environments, high water table conditions, and vibration-prone areas.

How Eco-MeshWall® Outperforms Traditional MSE Walls

Geogrid Reinforcement

High-tensile geogrid develops tensile resistance within the reinforced zone, forming a composite soil mass that resists lateral earth pressure.

Rock-Bolt Anchorage

Rock bolts anchor directly into the slope, connecting to the geogrid and transferring loads deep into stable ground — eliminating the need for large base geogrid areas.

Permeability & Drainage

Water passes freely through stone voids in gabion facing. Compatible filtration layers retain adjoining soil while allowing drainage — reducing hydrostatic pressure on the wall.

More than a retaining wall— A SPaaP® Specialty Fully Loaded with Engineering Features



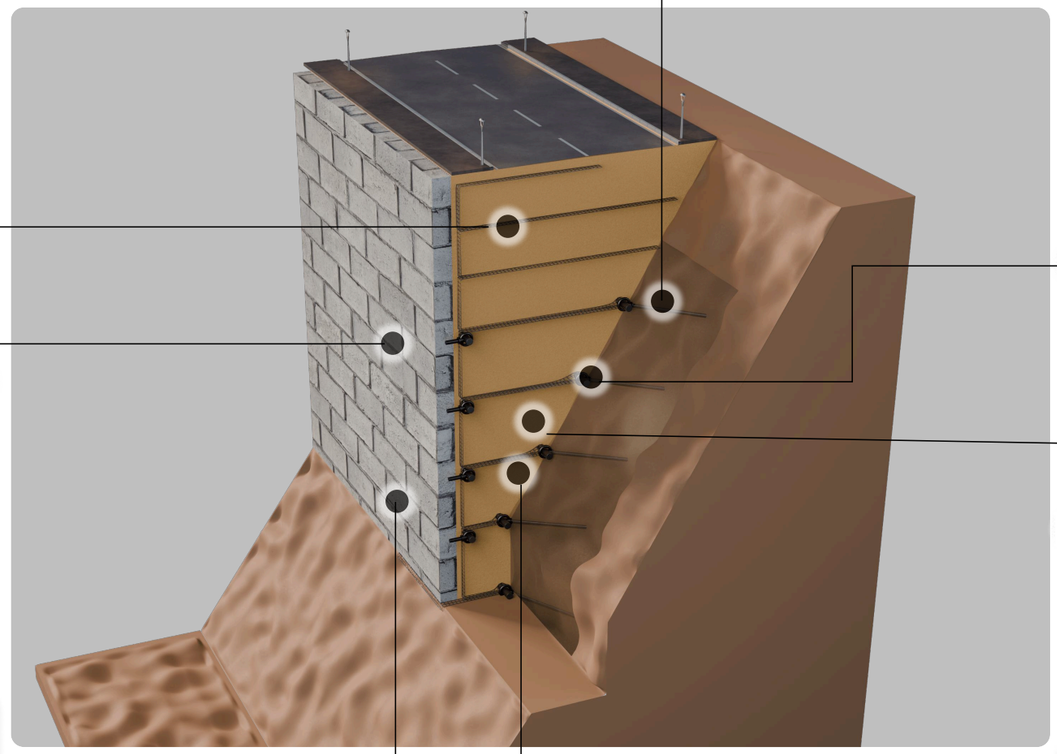
High-strength geogrid reinforcement

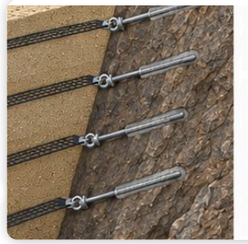
Geogrid layers reinforce the fill and develop tensile resistance, helping the retained zone carry demand as an integrated mass.



Grouted rock-bolt anchorage

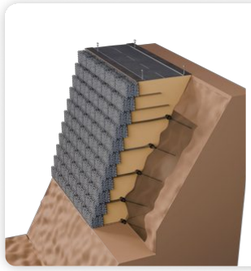
Rock bolts extend into suitable rock, providing anchorage beyond the reinforced fill and contributing to the wall's designed resistance.





A defined reinforcement connection

The eye nut and metal connection element link the geogrid to the rock bolt, giving tensile demand a defined route into the anchoring ground.



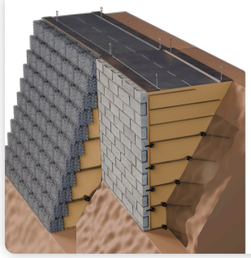
A footprint shaped around the slope

Anchored reinforcement allows the wall arrangement to be developed around restricted space, reducing excavation and fill requirements where the engineered layout permits.



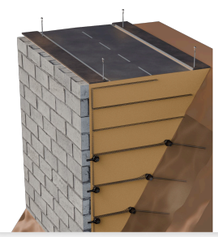
Reinforced fill that works with the system

Selected fill, placed and compacted in controlled layers, works with the geogrid to form the reinforced zone. Clear fill and compaction requirements support installation quality.



Modular facing. Adaptable geometry.

Gabion and concrete-panel options give designers a choice of facing, with arrangements developed around wall height, alignment and site constraints.



One connected retaining system

Facing, geogrid, connections and anchorage perform complementary roles. Their coordinated design connects the visible wall to the reinforcement and ground behind it.





Performance, Installation & Spec Snapshot

How Eco-MeshWall delivers stability on steep, constrained, and unstable slopes

Reinforce + Anchor + Hold

Geogrid reinforcement forms a composite soil mass, while rock bolts transfer loads deep into stable ground to resist sliding and overturning.

Engineered for Site Conditions

Designed around slope geometry, wall height, soil strength, water table, and seismic demands, with anchorage and geogrid lengths sized per project.

Quality & Constructability

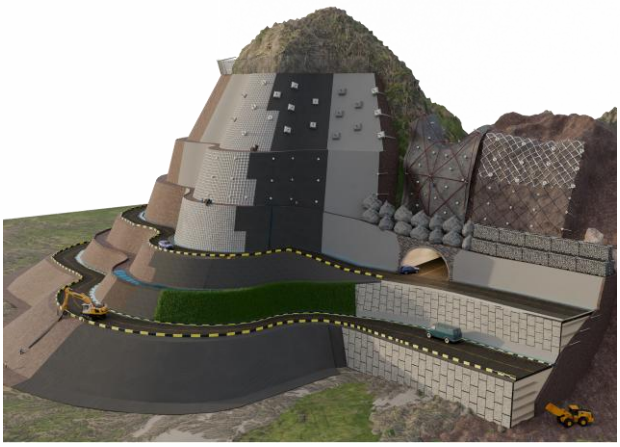
Matched system components, controlled accessories, defined installation procedures, and traceable QA make the system easier to approve, install, and maintain.

Eco-MeshWall Spec & Installation Path

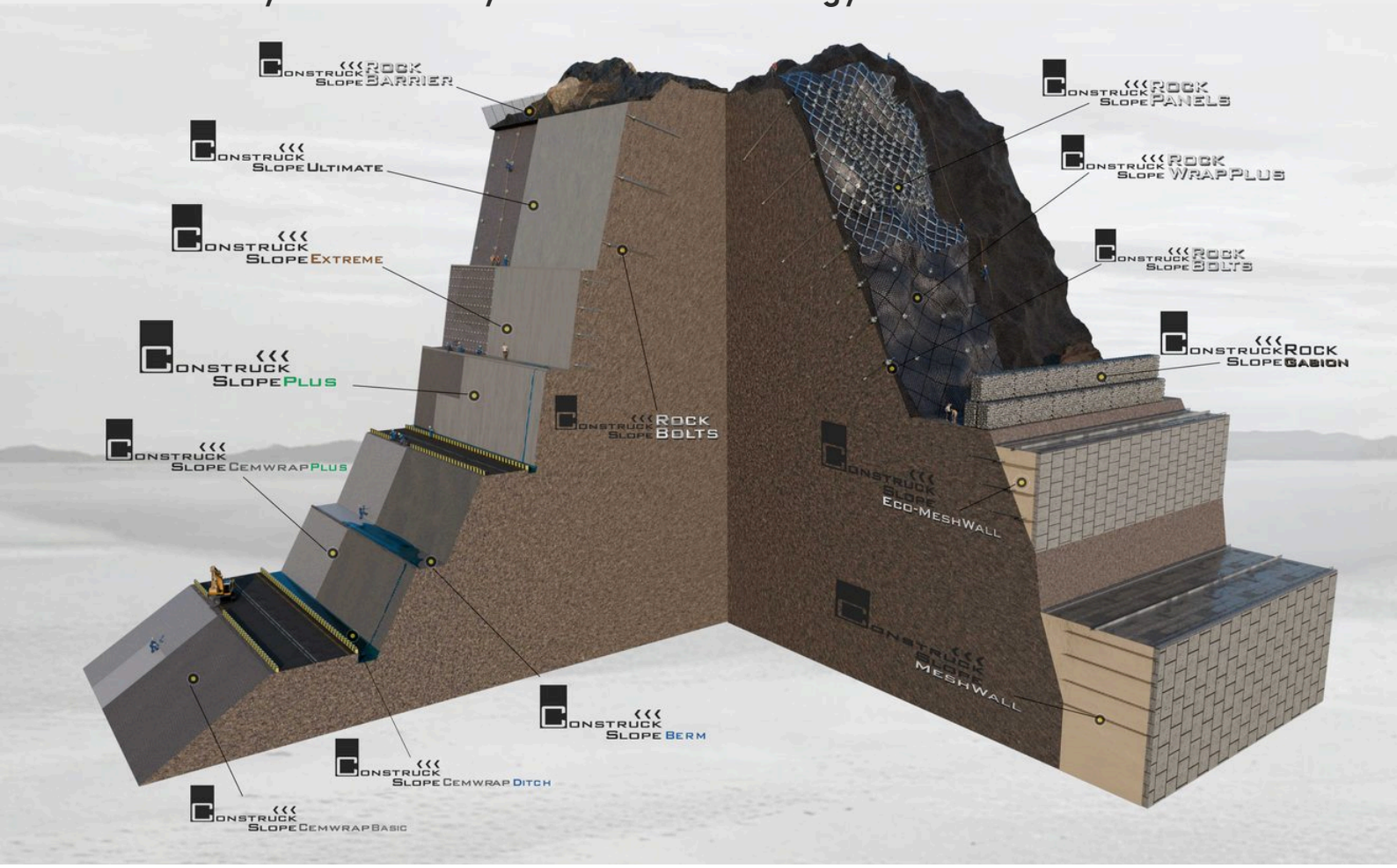
- One matched kit of geogrid, rock bolts, and facing components from a single supplier.
- Project-specific design based on wall height, slope angle, soil properties, and anchor loads.
- Faster schedules with fewer trades and lighter logistics than rigid concrete or heavy MSE options.
- Clear inspection and maintenance guidance over the structure's life.

Advantages

- **Less excavation and fill:** Requires significantly less material than traditional MSE walls.
- **Deep load path:** Rock bolts connect the geogrid to stable ground, resisting sliding, overturning, and seismic forces.
- **Adaptable geometry:** Gabion or concrete-panel facing conforms to curves, varying heights, and tight footprints.
- **Water-friendly drainage:** Gabion voids and compatible filtration layers reduce hydrostatic pressure on the wall.
- **Suitable for harsh conditions:** Performs on loose clays, rocky terrain, steep roadside corridors, and high water table sites.
- **Long-term durability:** Galvanized and coated steel options support use in hot, coastal, or arid environments.



The Widest Range of SPaaP® in the World, Powered by Construck Systems and Technology.



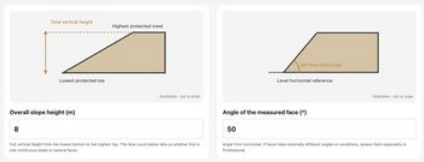
Digital support

Better decisions. A stronger project.

Explore the options, strengthen the technical basis and connect the people, information and delivery behind your Construck system.

Construck Calc

Understand the ground.
Build the technical case.



Actual Quick Check interface / sample geometry.

Quick Check
A free first step into relevant systems, preliminary quantities and indicative cost.

Professional
Bring surveys, ground conditions and existing studies into a project-specific assessment.

A further stability study
A project-specific stability study is included for each slope we take forward for protection.

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ProjectSuite

One connected platform.
Support from start to finish.



Actual development workspace / sample records.

Manufacturer expertise, local support
Connect technical teams and authorised local partners around the selected Construck system.

Supply and construction, coordinated
Keep technical preparation, material supply and installation quality in the same workflow.

Sustainability and handover
Relate environmental estimates to project quantities and retain useful information for the asset.

construck.me/project-suite

Quick Check is preliminary guidance. Professional assessment and support follow the agreed scope and required approvals.













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