



EKHO

INFRASTRUCTURE
SOLUTIONS

HYBRID MSE RETAINING WALL SYSTEM

Precast Post and Panel Retaining System
With Integral MSE

A HYBRID RETAINING SYSTEM

- COMBINATION MSE
RETAINING WALL SYSTEM
- VALUE-ENGINEERED
- ECONOMICAL & EFFICIENT
- NOISE WALL COMPATIBLE

With years designing and supplying precast post & panel retaining wall systems, our experience in reinforced backfill applications and other geotechnical structures for heavy civil engineering and commercial sites has led us to the development of the advancement of Mechanically Stabilized Earth (MSE) technology.

A product developed in the face of complex geotechnical engineering challenges; **EKHO's Hybrid MSE Retaining Wall System** combines the ingenuity of a stacked panel system with built-in Mechanically Stabilized Earth (MSE).

HOW IT WORKS

EKHO's Hybrid system utilizes our industry-leading steel post and precast concrete panel wall system as a Hybrid MSE RWS which is made possible using vertical structural posts, cylindrical post footings and precast concrete panels with integral MSE. **The rest is engineered to each site.**



RECENT EXAMPLE OF A HYBRID SOLUTION

The use of **horizontal integral geogrid** in the project example shown here, minimizes the applied loads to the steel posts and footings. As such, a slender and more efficient post and footing design is achieved.

The hybrid retaining wall structure is designed to **retain larger wall heights** without increasing panel thickness, or post and footing requirements.

Combination Noise & Earth Retaining wall posts installed



Installation of lower MSE earth retaining wall panels



Installation of lower MSE panels and lower panels



Completed wall installation



FEATURES & BENEFITS



STRONG & DURABLE

- Designed for a minimum **75-year service life** (per CHBDC).
- Can handle **surcharge loads**.
- Proven **long-term performance**.



VALUE-ENGINEERED

- **Extend heights** of a retaining wall without increasing post and footing requirements/materials.
- **Custom designed** based on material requirements to provide the most cost-effective solution.



INSTALLATION EFFICIENCY

- **Posts** are prefabricated with lifting holes and installed with perfect alignment and elevation prior to grade being cut.
- **Precast panels** are installed between the posts.
- **Backfilling operations** are much quicker with Precast panels are dropped into place between the posts.



COMBINATION SYSTEM

- A **single structure** that satisfies both retaining and above wall structure needs.
- **Compatible** with a range of wall system integrations above including EKHO noise walls.



ECONOMICAL

- **Fast to complete** panel installation and backfilling operations.
- **Economics** are achieved using the **EKHO Hybrid MSE system** when compared to other alternatives based on the following advantages:

Slender structural wall design that integrates with wall systems such as:

- guard rail
- hand rails
- noise walls
- privacy screens
- decorative fence
- windscreens
- chain link
- transparent
- headlight screens

Quicker installation of wall system that is designed for:

- temporary wind loading during construction
- 2 metre lifts of panels allowed prior to completion of back fill
- temporary panel bracing is not required during erection



ACHIEVE MORE WITH LESS

A single structure that satisfies both retaining and wall system needs, the Hybrid MSE RWS achieves economics through a slender post and footing design, faster installation and integration with wall systems installed direct to the retaining wall structure.



TECHNICAL DETAILS

GRADING

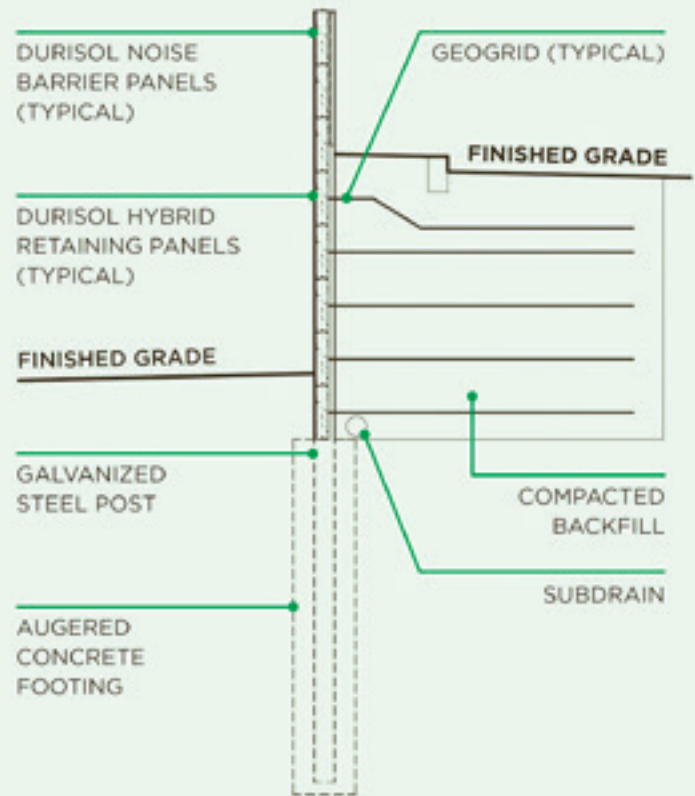
- Flexible grading options before the wall is installed or after the post/footings are installed.

POST + PANEL WALL SYSTEM

- Post spacing: standard post spacings up to 3.63 metres on centre.
- Panels sizes: Standard panels are typically 527 mm high.
- Alternative post spacing and panel size options available.

GEOGRID

- General rule:
 $0.8 \times \text{height of retaining wall} = \text{length of geogrid behind the wall}$



MEETS AND EXCEEDS THE REQUIREMENTS OF THE CANADIAN HIGHWAY BRIDGE DESIGN CODE (CHBDC).

APPLICATIONS

The Hybrid MSE RWS system can be used across site development footprints where grade separation is required, such as:



PERIMETER WALLS



BUILDING DEVELOPMENT(S)



ROADS, BRIDGES, AND
WATER MANAGEMENT
STRUCTURES



RAILWAY AND TRANSIT
INFRASTRUCTURE

A post and panel system is more cost effective where earth retaining heights above 1.5 metres is required.



ASK US HOW TO UTILIZE OUR RETAINING WALL SOLUTIONS TOGETHER



NARROW FOOTPRINT

Cantilevered systems for
when space is limited.



MECHANICALLY STABILIZED EARTH SYSTEM

Precast facing panels
with integral MSE



RETAINING BLOCK SYSTEM

Precast gravity segmental
wall system

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HYBRID RETAINING WALL SYSTEM

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MADE IN



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