Alberta Government

Product ID: 8131-2
Initiation Date: May 2005
Revision Date: February 22, 2024
Expiry Date: February 2027 (for Soil Stabilization category)

Product Evaluation

RE: Review of Geoweb cellular confinement system

PRODUCT INFORMATION

Product Name: Geoweb system
Website: www.Prestogeo.com
Manufacturer: Presto Geosystems, Appleton, Wisconsin
Supplier: Layfield Canada, Edmonton

VENDOR CLAIMS AND INFORMATION

CLAIMS

Geoweb cellular confinement system is manufactured from quality products under an ISO-9001; 2000 quality management system. Geoweb has 4 major applications:

The **Geoweb® load support system** prevents shear failure and lateral movement of aggregate materials through confinement. The system stabilizes the infill, providing a load distribution system over weak soils, base stabilization for paved surfaces and surface stabilization for unpaved surfaces. Ideal for the following applications: granular access roads and porous pavements; pavement subbases and bases; parking lots, intermodal and storage yards; retaining wall spread footings; low level water crossings and boat ramps; railroad track sub-ballasts.

The **Geoweb® slope protection system** provides a structurally stable topsoil environment for vegetation through a network of interconnected cells. The system confines and reinforces the vegetated upper soil layer, increasing its resistance to erosive and sliding forces. Ideal for the following applications: embankment slopes; containment dikes and levees; abutment protection; landfill lining and covers; dam faces and spillways; shoreline revetments; cut slopes; detention ponds and lagoons.

The **Geoweb® channel protection system** provides flexible, durable protection within defined roughness and stability. Single or multi-layer protection systems are configured to meet a wide range of structural and hydraulic requirements.

The multi-layered **Geoweb® earth retention system** is used for a wide range of design requirements and site conditions. The system's flexibility allows it to withstand large differential settlements and conform to a contoured landscape while typically using on-site infill materials. The system's outer cells, when filled with topsoil, provide an ideal environment to support vegetation.

DESCRIPTION

Geocell panels have three-dimensional cells that contain, confine, and reinforce a variety of fill materials. It comes in different sizes (GW20V – 289 cm2; GW30V – 460 cm2; GW40V – 1206 cm2) with 3”, 4”, 6” and 8” heights and comes in compact bundles.

POTENTIAL USAGE

Used in landscape, construction, and erosion control.

STANDARDS

ASTM D 8269 - Use of Geocells in Geotechnical and Roadway Projects

Alberta Government

Product ID: 8131-2
Initiation Date: May 2005
Revision Date: February 22, 2024
Expiry Date: February 2027 (for Soil Stabilization category)

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE
Alberta Transportation and Economic Corridors has experience with cellular confinement systems installed in highway ditches in multiple locations.

APPLICABLE STANDARDS
Transportation and Economic Corridors does not have a standard for cellular confinement systems for soil stabilization purpose. Therefore, the cellular confinement systems shall follow the ASTM standards used by the manufacturer for soil stabilization purpose.

For erosion and sediment control purpose, the installer shall follow the Best Management Practices, BMP#15 of Alberta Transportation Erosion and Sedimentation Control Manual (2010).

RECOMMENDATIONS
Geoweb cellular confinement system be listed as a Proven Product under Alberta Transportation and Economic Corridors Product List, Erosion and Sediment Control Systems – Cellular Confinement System – Proprietary.

Geoweb cellular confinement system be listed as a Trial Product under Alberta Transportation and Economic Corridors Products List – Stabilization (Soil) – Cellular Confinement Systems – Proprietary, based on the information provided. Final acceptance as a proven product will be based on field performance.

RESTRICTIONS ON USE
Caveats: The Cellular Confinement Systems shall be designed by a qualified engineer registered with APEGA and should be designed for the specific site conditions.

TRIAL PROJECTS

Anthony Henday Dr. SW;
Anthony Henday Dr./Whitemud Creek (2008);
3.2KM of the Mahihkan Road (spring of 2023)
0.5KM of the Maskwa Road (off HWY892)
Hwy 986:02 Daishowa E. Hill
Yellowhead Tr./184 St. (2008)
6.8KM of HWY 892

Rishi Adhikari
cc New Products Evaluation Group – Roger Skirrow, Rocky Wang