GEO PRODUCTS, LLC

INSTALLATION GUIDE:
Soil Stabilization

ENVIROGRID® GEOCELL

MANUFACTURING

ENVIROGRID® GEOCELL

SINCE 1990

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INSTALLATION GUIDE:
Base stabilization

CONTENT

ENVIROGRID® OVERVIEW:
HOW IT WORKS

The EnviroGrid® GeoCell takes the concept of two dimensions, length and width, and expands it to a third; depth. This vertical and horizontal confinement of the entire depth of the base layer not only provides maximum stability, but has major implications on cost effectiveness and long-term performance of the project.

The system essentially acts as a large mat when its panels are expanded, resulting in a three-dimensional honeycomb structure that distributes weight over an extended area. Because of this resistance to lateral movement, a local and less costly base and infill material can be used.

EnviroGrid® has the ability to achieve a higher structural number while using less material, cutting maintenance time and costs even more. The cells strengthen the infill material and result in a greater thickness level, compared to using a greater amount of material. The table below is comparing EnviroGrid® filled with sandy soil, to the structural coefficients of other fill material.

EQUIVALENT LAYER THICKNESS

MATERIAL	ENVIROGRID® FILLED WITH SANDY SOIL	ASHPALTIC CONCRETE	CRUSHED STONE	SANDY GRAVEL	LIME-STABILIZED SOIL	SANDY SOIL
STRUCTURAL COEFFICIENT	0.35	0.41-0.44	0.14	0.07-0.11	0.08-0.15	0.05-0.10
THICKNESS EQUIVALENT	4" (100MM)	3.4" (86MM)	10" (254MM)	12.7" (323MM)	17.5" (445MM)	20" (508MM)
	6" (150MM)	5.1" (123MM)	15" (381MM)	19.1" (485MM)	26.3" (668MM)	30" (762M)
	8" (200MM)	6.8" (173MM)	20" (508MM)	25.5" (648MM)	35" (889MM)	40" (1016MM)

ACCESSORIES

Adjacent sections of EnviroGrid® must be joined to keep them from moving when the infill material is placed. Depending on various factors of the job, there are two avenues of connecting panels that can be taken.

EnviroLock

The EnviroLock is a one-piece, high strength nylon mechanical device that can join up to 6" of the joints. One EnviroLock is used per cell joint. They do not require any additional equipment to install.

STAPLES

The use of pneumatic stapler and staples is another method, primarily used for larger jobs. The staples are attached through each set of adjoining cells. This requires a small compressor (100psi) and generator. The number of recommended staples per various cell heights are listed below.

Number of staples required

cell height	# Staples/joint
3" (75mm)	3
4" (100mm)	4
6" (150mm)	5
8" (200mm)	5

INSTALLATION:
STEP BY STEP

The following are installation recommendations of the EnviroGrid® GeoCell. A base installation crew is comprised of (5) laborers and (1) supervisor.

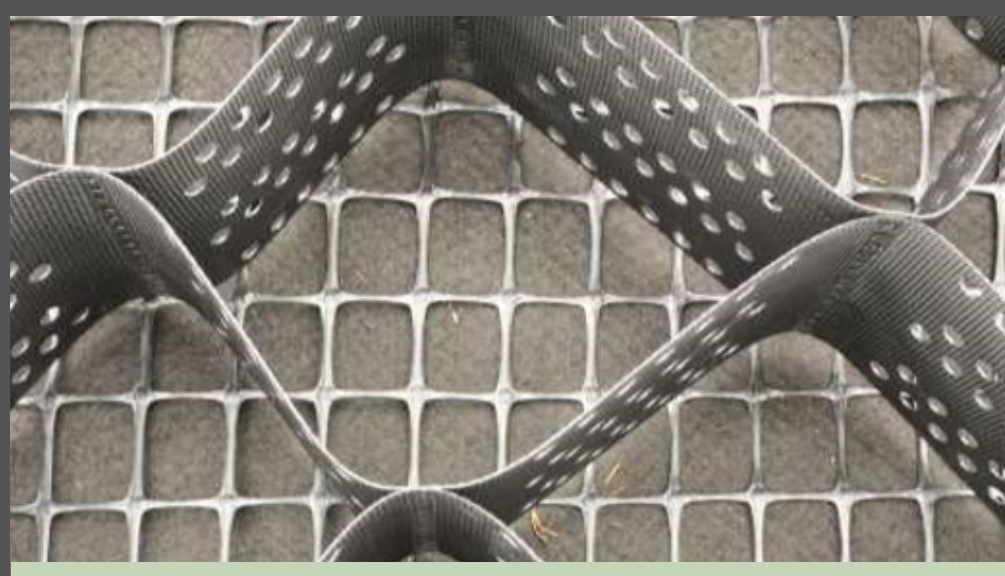
1. PREPARE SUBGRADE

Per the project engineer's specification, the sub-grade is prepared based on depth, grade, and compaction.

2. LAY GEOTEXTILE

The geotextile is used as a separator to impede EnviroGrid® material from migrating into the sub-grade.
If required, place non-woven geotextile directly over the prepared sub-grade. If geomembrane liner is part of the installation, place it directly over the geotextile. Once the liner is welded, a secondary layer of geotextile is installed.

A biaxial grid may also be installed, per the manufacturer's recommendation.



INSTALLATION:
STEP BY STEP

3. PANEL EXPANSION

Expand the panels to the full length of expansion based off of the cell aperture. The standard panel dimensions are as follows.

EGA 20

8.4' x 21.4' (2.56m x 6.52m)

EGA 30

8.4' x 27.4' (2.56m x 8.35m)

EGA 40

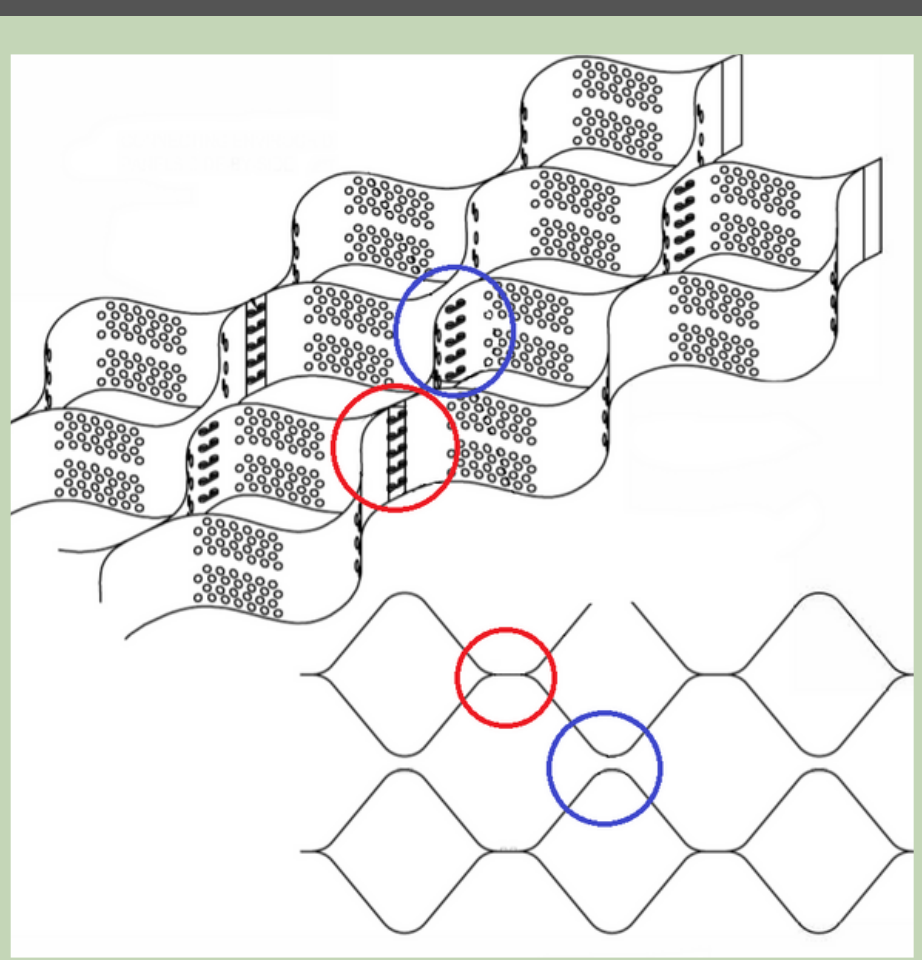
8.4' x 45' (2.56m x 13.72m)

4. PANEL CONNECTION

Join the panels with either EnviroLocks or the pneumatic stapler and staples. Each cell along the width and the length must be attached at the joints.

Width	Length
EGA 20 | 10 joints	29 joints per
EGA 30 | 8 joints	standard panel
EGA 40 | 5 joints	

Staples	EnviroLocks
3" | 3 per joint	1 per joint
4" | 4 per joint	
6", 8" | 5 per joint	



INSTALLATION:
STEP BY STEP

When first pulled open, the cells will have the tendency to open in an hourglass shape. When proper length is reached, pull the panel edges to insure rectangular expansion. Then, stake the panels at each cell along the width at either end, and along the cell every other cell. Straight re-bar or wooden stakes can be used.

5. FILL PANELS

Fill the cells with choice of infill material. An excavator can be used to push the fill material on to empty cells. When dumping fill material, keep the bucket as close to the empty cells as possible and limit drop height to no more than 2 feet above the cells. Once filled, the stakes can be removed.

6. OVERFILL & COMPACT

Typical overfill of the cells is 2-3 inches. After that has been accomplished, a vibratory roller is used to get the desired compaction. Typical compaction is done with a 9-ton roller.

LEGAL NOTICE

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