Make the following section part of the Standard Specifications:

"SECTION 719 – GEOCELL SYSTEM

719.01 General Requirements.

(A) Geocell Base Material. Polyethylene used to make strips for geocell sections shall have a density of 0.935 - 0.965 g/cm3 (58.4 - 60.2 lb/cu.ft) tested per ASTM D1505.

Polyethylene used to make strips for geocell sections shall have an Environmental Stress Crack Resistance (ESCR) of 3000 hour tested per ASTM D1693.

The resin manufacturer's certification of polyethylene density and ESCR shall be available upon request from the manufacturer.

Carbon black shall be used for ultra-violet light stabilization. Carbon black content shall be 1.5% - 2% by weight through the addition of a carrier with a certified carbon black content. The carbon black shall be homogeneously distributed throughout the material.

(B) Strip Properties. Strips used to make geocell sections shall have a sheet thickness, of 1.27 mm -5% +10% (50 mil -5% +10%) tested per ASTM D5199. Thickness shall be determined in the flat, before any surface texturing or other surface disruption.

Perforations shall be such that the peak friction angle between the surface of the perforated plastic and a #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method per ASTM D 5321. The quantity of perforations shall remove 19.6% ± 3% of the cell wall area.

(C) Cell Seam Peel Strength Tests. Cell seam strength shall be uniform over the full depth of the cell. Minimum seam peel strengths shall be: 2840 N (640 lbf) for the 200 mm (8.0 in) depth cell, 2130 N (480 lbf) for the 150 mm (6.0 in) depth cell, 1420 N (320 lbf) for the 100 mm (4.0 in) depth cell, 1060 N (240 lbf) for the 75 mm (3.0 in) depth cell.

Long-term seam peel-strength test shall be performed on all resin or pre-manufactured sheet or strips. A 100 mm (4.0 in) wide seam sample shall support a 72.5 kg (160 lb) load for a period of 168 hours (7 days) minimum in a temperature-controlled environment undergoing a temperature change on a 1-hour cycle from ambient room to 54°C (130°F). Ambient room temperature is per ASTM E41.

(D) Geocell Dimensions. The geocell sections shall be fabricated using strips of sheet polyethylene each having a length of 3.61 m (11.8 ft). Polyethylene strips shall be connected using full-depth, ultrasonic spot-welds aligned perpendicular to the longitudinal axis of the strip. The ultrasonic weld melt-pool width shall not exceed 25 mm (1.0 in).

The geocell sections shall be "GW20V6WWLL" sections. "6" indicates the cell depth in inches, "WW" and "LL" indicate the expanded section width and length in number of cells.

The number of expanded cells per unit area shall be 34.6/m² (28.9/yd²).

(E) Tendoned Geocell Sections. Geocell sections shall be provided with a series of aligned holes through the cell walls for the insertion of tendons in the expanded direction of the section. Tendons are inserted in the field such that they pass through the geocell section in the direction of expansion. Hole diameter shall be 13 mm (0.5 in).

The polyester tendon shall be manufactured from high-tenacity, industrial continuous-filament polyester yarn woven into a braided strap. Elongation shall be 9-15% at break. The tendon shall have a minimum break strength of 3.1 kN (700 lbf) and minimum diameter/width of 13 mm (0.5 in).

(F) Anchors. Geocell sections shall be anchored with rows of anchors that bear against and hook over the cells walls.

The anchor shall be composed of glass fiber-reinforced polymer with the outer surface of the stake sand coated and deformed by a helical wrap of glass. Glass reinforcement content shall be 75% minimum by weight and shall be continuous longitudinal filament. Polymer shall be vinyl ester, isopthalic polyester, or other matrix material. The outer surface of the stake shall be sand coated and deformed by a helical wrap of glass. The stake shall have a minimum tensile strength of 655 MPa (95 ksi) per ASTM D638. The stake shall be non-magnetic, non-conducting and corrosion resistant. The stake diameter shall be 12-13 mm (1/2 in). The length shall be per construction drawings.

The minimum stake length shall be 18-inches.

END OF SECTION 719