

**VERT- Vertical Earth Reinforcement Technology**

VERT: Vertical Earth Reinforcement Technology is the use of soil mixing to reinforce a zone of soil and create a gravity soil mass that functions as a retaining wall. Soil mixing is a technique that mixes in-situ soil with a cement slurry to create an economical, low-strength concrete that uses the in-situ soil as a no-cost aggregate. Walls that use soil mixed columns for facing only have been used in the United States for approximately eight years but only for temporary support of excavations. Such walls typically use expensive steel reinforcement along with tie-back anchors and steel braces. Soil mix walls have been constructed by treating 100% of a wide block of soil with cement to form a gravity mass. A VERT wall requires no steel reinforcement, and for the same width of the soil mass, the volume of soil to be mixed is reduced to approximately 15 - 35% of the mass. The judicious placing of the soil mix elements within the block of soil causes the entire block of treated soil to act as a composite gravity mass or wall. VERT combines the concept of soil reinforcement with soil mixing to create an in-situ structure that can be constructed prior to excavation. The VERT wall can function either as a temporary support of excavation or as a permanent retaining wall. As opposed to conventional construction, excavation does not have to be halted to place steel bracing or tie-back anchors to support the wall as the excavation gets deeper. The first VERT wall was constructed by Geo-Con at the National Geotechnical Experimentation Site at Texas A&M University in the Spring of 1998. The wall was heavily instrumented and performed in an exemplary fashion.

Contact: Peter J. Nicholson  
Organization: Geo-Con, Inc.  
Address: 4075 Monroeville Blvd.  
Corporate One Building II  
City: Monroeville  
State/Province: PA  
Postal Code: 15146  
Country: USA  
Phone No: 412-856-7700  
FAX: 412-373-3357  
URL:  
Email: