TENAX® Corporation **Project Highlight**

Multi-layer Geogrid to Stabilize Sludge Landfill Capping

Trinity River Authority's landfill modification project in grand Prairie, Texas faced many design and construction difficulties. The 100-million gallon per day wastewater treatment plant was producing sludge at a faster rate than originally anticipated and 50% of the landfill areas were full. More room was required. Furthermore, a 200-acre landfill cell had reached its capacity and needed to be closed. A slurry trench was proposed to intercept percolated leachate and a cap system was designed to prevent infiltration. Low, extremely wet and unstable areas existed over the top of the landfill. How could the contractor achieve proper compaction in the 3-ft clay cap with an inadequate subgrade? What about differential settlements and landfill voids? What about the possibilities of the clay cap developing cracks and allowing infiltration? the answer

The Answer...

Freese and Nichols, the engineers for the project specified the use of an on-site soil sludge fill mixture to bring the cap up to the proper elevation, sloped to allow for drainage the primary problem was the instability of the top. The contractor had completely buried several pieces of equipment during his first traverse of the site. MS500 multi-layer geogrid was incorporated into the double layer cap system for two important reasons. The first problem ms500 solved was to help achieve proper compaction in the clay cap, ms500 geogrid utilized its excellent interlocking capacity to help achieve the required 95% compaction in the clay. MS 500 also served to stabilize and reinforce the soft, saturated soil-sludge mixture. And probably most importantly, ms500 geogrid prevents the future development of desiccation cracks, which promote infiltration.

Project Name: Sludge Landfill Cap Stabilization
Location: Grand Prairie, Texas
Products: Multi-layer geogrid MS 500
Application: Landfill capping Stabilization
Owner: Trinity River Authority
Installer: Brown & Lambrecht Earthmovers
Engineer: Freese & Nichols

MS 500 biaxially-oritated, muti-layer geogrids have proven time and time again their advantages for this Trinity River authority earthwork project, ms 500 geogrid saved costly lime stabilization or undercutting and utilized normally unsuitable on site material. Construction time was saved due to the ability of the MS geogrid to be effectively installed in wet conditions even in standing water, in this case.

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