

# It's Covered <sup>01</sup>

## PROVEN GEO-SOLUTIONS

**PROJECT:** Phase II Class I Landfill Expansion, Central County Solid Waste Disposal Complex

**CLIENT:** Municipality of Sarasota Florida

**DESIGNED BY:** HDR Engineering

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**SIZE:** 7.2 million square feet

**GENERAL CONTRACTOR:** Glover Construction

**INSTALLER:** Geo-Synthetics Inc. (GSI)

**MATERIALS SUPPLIER:** Gundle/SLT Environmental, Inc. (GSE)

**Geo-Synthetics Incorporated** provides geo-solutions nationwide for containment, waste management and seepage control in a wide range of applications from coastal protection and dewatering to solid waste landfills and evaporation ponds. GSI is recognized and respected as a full service company offering distribution, fabrication and installation of geo-synthetic materials. You can rely on our experience to assist in project planning, accurate estimating, project management. Which is why we have the best geo-synthetic installation reputation in the industry. With the installation of more than 350 million square feet of geo-solutions under our belt, our clients are confident in our expertise. Whatever your need...wherever your location, **we've got you covered.**

## A Big Job

The 7.2 million square-foot expansion of the Sarasota Municipal Landfill, designed by HDR engineering, is the state of Florida's largest single landfill installation. In addition to adhering to state and federal regulations, Sarasota County requested that the design accommodate possible future vertical expansion that could double the height of the landfill. Provisions for potential leachate recirculation, bioreactor operations and methane reuse were also built into the design.

HDR specified a double synthetic liner system. From the prepared sub-grade up, the system is comprised of: GCL alternative clay foundation, a secondary liner made from textured 60 mm HDPE, a leak-detection layer of geo-composite, a primary layer of 60mm textured HDPE, another layer of geo-composite for leachate collection and two feet of sand that functions as a protective cover layer.

The site itself sits a scant 20 feet above the natural ground water level, and is surrounded on all sides by protected wetlands. In addition to the delicate nature of the environment, the 62-acre installation had to be completed between Florida's rainy season and hurricane season, a time frame of less than six months.

### SOMEBODY'S GOT TO DO IT

Smart people understand the value in hiring experts to accomplish specialty work. Coordinating the manufacture, transportation and installation of the 1,163 rolls of GCL, 5,651 rolls of geo-composite and 2,494 rolls of liner used in the project required the expertise of three companies that





have a long history of working together. “Before the county awarded the project, they had us call around and do a detailed check of all the contractor and sub contractor references,” explains Tom Yanoschak, engineer for HDR. “They wanted to be certain that the companies that won the bid had a good performance record, and a good reputation for working together. A project like this is too big for one company to handle, and too important to be compromised if communication breaks down.”

Ultimately the county of Sarasota chose excavation specialists Glover Construction as the general contractor for the project. Their bid included the installation expertise of GSI (Geo-Synthetics Inc.), who specified

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custom manufactured materials from leading geo-synthetic manufacturer GSE (Gundle/SLT Environmental, Inc.). The three companies share a long history and a commitment to quality. “We have done so many projects together and we work so well together that we are able to make sure things go very smoothly,” says Steve Daniels, Vice President and General Manager for GSI.

### GO TIME

In any landfill installation, timing is crucial. In order to preserve the integrity of the materials, they must be covered as quickly as they are put down. Well before the official notice to proceed, GSE, GSI and Glover were hard at work coordinating the equipment, personnel and materials necessary to execute such a large project within the designated time frame. “Glover and GSI work very well together because they have a clear division of responsibility,” says Steve Eckhart, Vice President of Sales and Marketing for GSE. “They have very good communication so everyone knows who is responsible for what along the way, which is why they have never had a job run over.”

Three weeks prior to beginning construction, Jerry Walski, Site Superintendent for Glover, was in Sarasota surveying the site. 22-years of experience on the job make Walski well-qualified to do the initial construction assessment, which includes deciding what equipment to bring in from Glover’s

vast inventory and where to mobilize. In the case of the Sarasota expansion, the existing landfill was fully operational, so preparation also meant getting familiar with the people who work there. “We like to introduce ourselves to people before we swamp them,” says Walski, “you don’t want to walk onto a site for the first time with 50 trucks pouring in behind you.”

Before Glover started work on the site, Walski made sure storm water controls were in place, “You make sure nothing escapes the site, or you don’t start work,” says Walski. There were also checks of compaction values, slopes, grades and erosion controls, all of which had to be approved by the engineer before construction began. “We do all of our work based on the specifications of the owners and engineers of a project,” says Walski. “Our job is not to change orders, it’s to execute them.”

While Glover planned the preliminary site preparations, GSI organized everything liner-related. On-going contact with GSE ensured that liner-materials were produced and delivered to the site in time for construction. “We use GSE as our supplier for liner materials because they have the capacity to make every kind of geo-synthetic and geotextile used on virtually any project,” says GSI Project Manager James Larsen. “Having one source for everything is a big advantage, it significantly streamlines the logistics of moving materials.” Larsen also made arrangements to have the specially out-fitted skid-steers used to dispatch the rolls of geosynthetics, on-site. A hand-selected crew of experienced laborers and well-trained technicians from GSI’s large workforce was re-located to Sarasota where they lived for the duration of the installation.





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STEVE ECKHART, VICE PRESIDENT OF SALES AND MARKETING FOR GSE

### **IF IT WAS EASY, EVERYONE WOULD DO IT**

GSE's tight control in manufacturing the geo-synthetics, from raw materials to delivery, is only half of what determines whether or not a liner system will perform. The other half has to do with how the materials are cared for on the job and how they are installed. “We don't sell our materials to everybody who asks us for a bid,” says Eckhart. “There is a lot of liability attached to these things, and a lot at stake. We only partner with people if we have confidence in their work. They must fully understand the materials and have the same commitment to quality as we do, which is why GSI is one of

our best customers,” says Eckhart. “Basically, after we sell a job we don't want to get any phone calls.”

Due to the sheer size of the Sarasota Landfill expansion, the project was completed in small sections. This required careful coordination between Glover and GSI. Glover started construction with the preparation of the subgrade. For Sarasota, 700,000 cubic yards of fill were brought to the site to build up the necessary gradient for the landfill. Federal regulations require a 2-foot layer of clay for the first layer above the subgrade in all liner systems. Since there is no appropriate clay in the vicinity, the first layer GSI installed was GCL, a geo-textile infused with



bentonite clay. GCL has the same performance value of 24-inches of clay, but it is extremely sensitive to moisture, so it must be covered right away. GSI installed all the layers of the liner system in one section before moving on to the next. When a section was complete, Glover topped it with 2-feet of protective sand. "We work hard to get out of their way, and then they work hard to get out of ours," says Walski.

### TESTING

GSI's Site Superintendent for the Sarasota project Larry Boles has 23-years of experience installing liners. It is evident in the attention to detail Boles brings to any project. In Sarasota, Boles started everyday on the job with a safety meeting that outlined the day's objectives. In addition to the third party quality control, every member of the GSI team attended these meetings. "Production wise, things go a lot more smoothly when everyone on the team is in the loop," explains Boles, who works closely with Walski.

As the installer, GSI was responsible for quality control regarding the liner. A dedicated team conducted and recorded the standard quality assurance tests during the installation. Samples of the liner seam were taken every 500 feet and pulled apart by a tensometer, to measure seam stretch under strain. Destruction tests were also performed on each panel, which required



GSI GENERAL MANAGER STEVE DANIELS (RIGHT) CHECKS IN WITH THE GSI SITE SUPERINTENDENT LARRY BOLES (LEFT)

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extracting a circle of liner and performance testing it. The location and results were recorded, and then the hole was patched with an extrusion welder. The information collected from these tests was compiled into a report that was provided to the state for review prior to issuing the permit for use.

### QUALITY

The standard tests measure the performance of the liner material, but the real quality of liner installation has to do with the way the contractor, installer and supplier work together. The huge Sarasota Landfill expansion, with its limited time frame and special environmental considerations, demanded the careful coordination of expertise that can only come from a seasoned team of experts. "We have done similar projects with Glover and GSE many times before," says Eckhart. "We all share a commitment to quality. Installations have a lot of moving parts, and to make everything go smoothly each company has to have confidence in the abilities of the others."



2401 Pewaukee Road  
Waukesha, Wisconsin 53188-6904  
800-444-5523 • 262-524-7979  
FAX 262-524-7961  
www.geo-synthetics.com