

Landfill's Erosion Issue Solved

For most county and municipal landfills around the U.S., controlling sideslope erosion can be problematic—especially as the landfill elevation increases. The Tomoka landfill in Volusia County, Fla., is a prime example.

With the county experiencing significant population growth in recent years, the landfill's elevation rose quickly. With the frequency of rain events in this region, water quickly collected at the facility's towering 145-ft summit. At its overflow point, storm water would flow off the summit in sheets as it traveled down the landfill's slopes. Over time, the runoff from the ever-increasing summit had become difficult to control. Constant maintenance of the landfill slopes and replacement of the topsoil layers were both time-consuming and expensive.

For the past several years, the Tomoka landfill's management team has had an ongoing initiative to improve operations and maintenance efficiencies at the county facility. As part of this program, the maintenance team was searching for better water flow management products to help solve the landfill's historic down-slope soil erosion issues. Traditional methods of erosion control and channel lining simply were not working or functioning as designed.

After a thorough review of several current technologies, the team settled on the SmartDitch system, a thermoformed, high-density polyethylene (HDPE), trapezoidal-shaped, ribbed-channel liner that comes in easy-to-handle 9.5-ft sections.

SmartDitch is an engineered drainage system specifically designed to manage water flow and velocity. In this particular case, it was installed to allow the water to flow down the side of the north end through a single channel at a controlled pace. Once the water reaches the bottom, a fabricated SmartDitch flared-end section will further displace the water onto a bed of riprap contained in a basin. At this point, much of the energy has been removed from the storm water flow. With it now under control, the water slowly makes its way to a series of large collection ponds below the riprap-filled catch basins.

Additional advantages of the SmartDitch system are its durability, ease of installation and reusability. The channels



are manufactured with UV-resistant and corrosion-resistant HDPE. Because the channels are easy to handle and weigh only 80 lb, minimal equipment is needed to install the system (typically a small backhoe, shovels and hammer drill). In this case, the Tomoka landfill maintenance crew was trained by the manufacturer to install the system on its own, which saved time and money. Because the system also is removable and reusable, the landfill maintenance team plans to remove the sections in the winter of 2014 and reuse them in a different location. **SWS**

SmartDitch
866.576.2783 • www.smartditch.com
Write in 820