



Project Description

The Lean Quarry landfill site near Liskeard is an important facility to meet the residential and commercial waste disposal requirements in Cornwall. It is located in an environmentally sensitive area and therefore subject to close Environment Agency supervision. The site also accepts waste from Devon and this volume of waste meant that additional capacity was required. Viridor Waste Management Ltd approached SLR Consulting to design a new cell for this landfill site.

The Challenge

A new 45m deep landfill cell was required to be developed at the Lean Quarry landfill site using cost effective geosynthetic materials for this deep application.

The requirement was to design a geosynthetic lining solution that would comprise of a double lining system (GCL and HDPE membranes), geocomposite drainage / protection layer on steep 1 in 2.5 basal side slopes and drainage stone on the cell base (10/20mm layer below the 20/40mm granite).

Project Information

Client	Viridor Waste Management
Contractor	Moulding Contracts
Products	Pozidrain Protector 745
Quantity	10,000m ²
Benefits	<ul style="list-style-type: none">• Excellent geomembrane protection at 1,200kPa loading• High flow capacity in both directions• Replaced 5,000m³ of drainage stone• Rapid installation on steep slopes



ABG Pozidrain Protector

Landfill Drainage

Basal Drainage, Pozidrain Protector, Lean Quarry Landfill, UK



The Solution

The designer SLR Consulting worked with ABG to develop a geosynthetic drainage and protection solution that would provide the required puncture resistance and flow capacity to ensure effective geomembrane protection and leachate drainage. ABG's Pozidrain Protector 745 geocomposite drainage layer with enhanced protection and UV resistance was specified and installed on top of the 2mm HDPE textured geomembrane on steep side slopes. Environment Agency cylinder test results for the Pozidrain Protector and stone material from this site indicated sufficient puncture resistance and protection performance to achieve the required factor of safety for the 45m deep installation and 1,200kPa pressure (2.5 times service loading).

The ABG Service

ABG provided technical advice and design assistance. This included cylinder testing and flow capacity calculations.



Double lining system installation GCL and 2mm textured HDPE geomembranes



Pozidrain Protector puncture resistance to deliver geomembrane protection at 45m depth



UV resistant Pozidrain geotextile tack welding with a hot air gun

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