



landfill facility - case study

Client: Biffa Waste Services
Site: Cottonmount, Northern Ireland
Project: Development of a New Landfill Facility



Multidisciplinary Approach Aids the Development of a New Landfill in Northern Ireland

Biffa Waste Services opened their new landfill facility at Cottonmount, Northern Ireland on 1 November 2006 in time to start receiving waste under their contract with ARC 21. The facility has been developed within an active quarry and has permission to accept 400,000 tonnes per annum of non-hazardous waste. SLR's wide range of technical services has helped to get the project off the drawing board and into reality.

Initially SLR Consulting was appointed by Biffa in July 2005 to produce a Pollution Prevention and Control (PPC) Permit Application for the new landfill facility. The Application sought to authorise the disposal of non-hazardous wastes, the utilisation of landfill gas for the production of electricity and the operation of a leachate treatment plant. The application was successful and a permit was granted in April 2006.

SLR was then retained for the detailed design and construction management of the first phase of the landfill's development. This involved the design of the landfill void and containment system, which comprised a clay attenuation layer and a Dense Asphaltic Concrete (DAC) liner. The DAC liner at Cottonmount is the first to be installed in Northern Ireland. However, in addition to the landfill lining system, SLR's brief also included the design of the

infrastructure required for a modern landfill site to operate, which included: a surface water management system, access roads, offices, weighbridge and a waste quarantine area.

The site also has a requirement that the operational area of the landfill is totally enclosed with a bird netting system, in order to eliminate the risk of bird strikes owing to the close proximity of Belfast International Airport. SLR produced the design and build tender for the construction of the bird netting system and has worked closely with the Biffa and the successful contractor for a number of years in developing the waste infilling programme to minimise costs.

SLR is still heavily involved at the site having overseen the construction of two further stages of landfill construction and the installation of the initial landfill gas management system. In June 2008 SLR was successful in gaining planning approval for a void swap, whereby the footprint of the landfill has been moved to reduce the conflict of interests between the quarry and landfill, whilst providing an equivalent void space and achieving a more sympathetic restoration. SLR has also gained approval for an alternative lining system that uses Trisoplast® and a HDPE geomembrane as a replacement to the DAC liner.

The construction of the forth phase of engineered containment was the first cell to be constructed in line with the new permission with construction occurring between September 2007 and January 2008.

The development of Cottonmount landfill has more than any other project undertaken by SLR in recent years demonstrated the strength of SLR's multidisciplinary approach, and its ability to pull in expertise from across the company into one project.

For more information and advice on similar projects contact:

John Cole
 SLR Consulting Limited
 Aspect House
 Aspect Business Park
 Bennerley Road
 Nottingham
 NG6 8WR

T: +44 (0)115 964 7280
 F: +44 (0)115 975 1576
jcole@slrconsulting.com