MARKET SECTOR:
Housing & Residential

LOCATION:
Bourne Estate
Piddlehinton
Dorset

CONTRACTOR:
Mark Farwell Plant & Contracting.

Case

STUDY

BENTOTEX® GCL
Piddlehinton
Anaerobic Digestion Plant

The

BACKGROUND

ECO Sustainable Solutions identified a need locally in Dorset for an anaerobic digestion plant.

The proposed site had a limited footprint available. In order to proceed with the development as planned and utilise the Bentotex® GCL 100 as the containment layer of choice, some engineering and installation details needed to be considered.

Early concerns about cat-ion exchange due to the "Chalky" alkaline nature of the underlying soil were laid to rest by a laboratory test report.

Our Client's

REQUIREMENTS

A sustainable solution for an anaerobic digestion plant.

The Bentotex® was put forward initially because of it's ease of installation and it's self-healing properties.

Bentotex® GCL is lapped and sealed using Bentotex® granules; it does not need specialist welding like a traditional manmade liner. If the full site footprint was to be made available, the batters at the perimeter of the bunded area needed to be > 45o.

This presented a problem with the 300mm of required cover over the Bentotex® GCL; It is difficult to retain the fill on a slope greater than 30o. To enable the use of Bentotex® GCL we put forward a solution that employed the use of our Envirogrid cellular confinement system.

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Our Value Engineered

SOLUTION

The proposed solution using Bentotex® GCL in conjunction with Envirogrid had benefits to both client and contractor:-

- Full site footprint could be utilised
- One contractor could complete the entire installation
- The GCL provides a resilient secondary containment liner
- The desired green finish could be achieved around the site perimeter.

When commissioned and working the plant will produce renewable energy by handling a large percentage of Dorset Counties food waste as well as providing high grade fertiliser material to nearby farms.

The benefits of using Bentotex® GCL in this case were:
Full site footprint could be utilised,
One contractor could complete the entire installation as it does not need specialist welding like a traditional manmade liner.
The GCL provides a resilient secondary containment liner due to its self-healing abilities.

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