Construction Quality Assurance - Site Bunding

The Anaerobic Digester at Much Fawley consists of two digester tanks of 1567 m3 less freeboard. Site bunding is required as part of CIRIA C736 to prevent potential impact on the local groundwater and ultimately the River Wye SSSI. Bunding has been constructed according to CIRIA C736 by using part horizontal panel and part Cast in situ concrete construction. Bund height varies between 1.2 metres and 3.6 metres as the overall construction has been varied to further mitigate potential noise, odour and aesthetic issues that may be created on the site.

Site Plan Drawing

Please see site plan EMS Section 7 showing the bund location and routing to the south west of the site.

Construction Details

Construction details (panels) can be found in EMS Section 20.
Construction details Cast in-situ Install can be found in EMS Section 20.

Concrete C45.
Polysulphide sealant – between panels as per installation instructions below. Hydrotite between poured concrete and steel. 1mm HDPE welded seam membrane under all construction and outside bund wall.

Prefabricated products Manufacturers specifications and guarantee

See Unbrako Certificate of Conformity. EMS Section 18.

Capacity Calculations

A containment capacity area of 1723 m3 is required to provide the 110% capacity of the largest tank which has a (less freeboard) volume of 1567 m3. A 1.2 metre high bund to allow for freeboard has been constructed to facilitate this. Drawing EMS Section 20 Bund Area Calculation clearly shows the additional capacity (2671 m3) that exists this follows a recent site survey to update all issues plans.

Monitoring

In summary

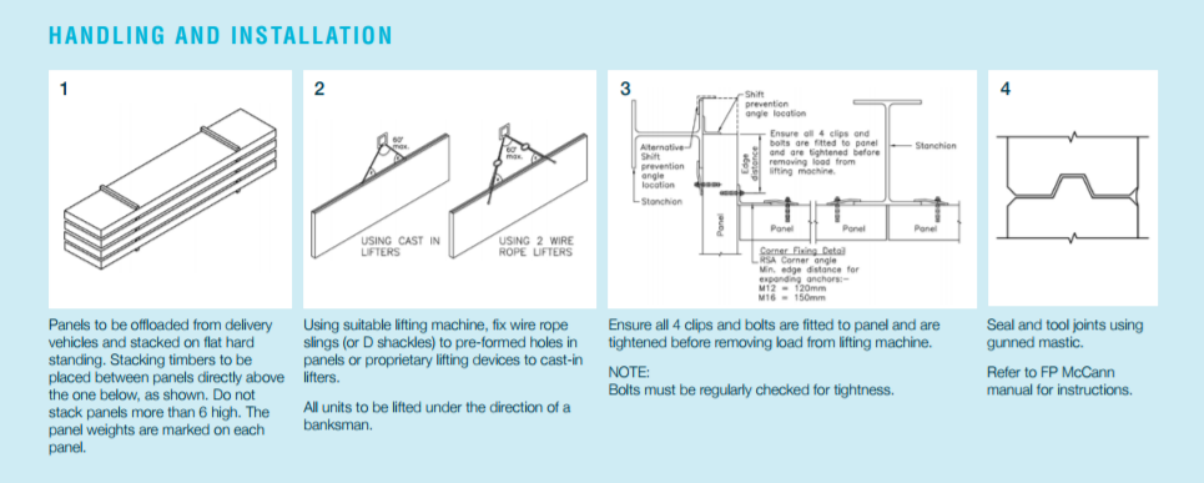
Visual Check – Daily and checklist entry.

Sampling – Weekly Ammonia Test leak detection and record if positive.

Washdown and integrity check including leak testing – 5 yearly or sooner if damage observed.

Installation and Testing

Installation as per Milbury System Instructions



Construction Documentation

Concrete Specification

Panels – C45 to ISO 9001 and ISO 14001. EN 14992:2007+A1:2012
Base – C45. 45 N/28 day strength.
Backfill (Where needed) – C45.

Joints

Sealoflex, polysulphide horizontal panels and hydrotite poured sections.

Life expectancy

20 years as panels installed as per manufacturers design criteria.

Leak Detection Systems

To mitigate against potential impact on the environment of the stored material CIRIA C736 compliant leak detection has been incorporated into the design. The Leak detection runs round the base of the wall. Sampling point is on the right hand side of the entry ramp onto the site see drawing– EMS Section 20. Ammonia Test as per maintenance schedule.

Construction Quality Assurance Report – Bunding

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Date 7/2/2018