

Phase I/II Site Investigation for Energy from Waste Facility



Location:
Energy Works, Hull, East
Riding of Yorkshire



Client:
Energy Works (Hull) Ltd.



Architect:
Elevation Design



Civil Engineering

Structural
Engineering

Building Consultancy

Geotechnical and
Geoenvironmental
Engineering

Project Management

Specialist services

Energy Works is a £200 million renewable waste to energy generator which will produce enough electricity to power 43,000 homes.

Engineering and Design Factors

The site has historically been occupied by a number of flour and oil mills, varnish works, and a cocoa extracting works. The site is located adjacent to the River Hull and the local bedrock is classified by the Environment Agency as a Principal Aquifer.

Alan Wood & Partners have been involved in the site investigation process and are currently undertaking a programme of groundwater monitoring of the site in order to identify potential environmental impact of the site operations.

Description of the Works

Alan Wood & Partners have undertaken several phases of ground investigations at the site. Initial site investigations were carried out in order to establish a ground model for the site. The investigations established contaminant levels within the near surface made ground deposits and produced an initial site risk assessment. This investigation also established geotechnical properties of the near surface superficial deposits and depth to bedrock in order to inform foundation design.

An environmental baseline survey was completed in order to produce a site wide environmental model for the site prior to commencement of energy production. Groundwater monitoring installations were constructed across the site and targeted significant features; fuel storage tanks, areas where odorous soils had been previously identified, and adjacent to the River Hull. Three deep borehole wells were constructed to monitor groundwater in the underlying Principal bedrock aquifer.

A programme of groundwater monitoring is currently being completed on a six-monthly basis and will be ongoing throughout the operational lifetime of the energy facility. Samples of groundwater have been analysed for a suite of contaminants as proposed within the groundwater monitoring protocol, which was developed by Alan Wood & Partners and was based on the site specific information that had been accumulated on the site.

Following each groundwater monitoring visit, the laboratory test results are being assessed in isolation and in relation to previous groundwater laboratory test results. A final environmental site investigation will be completed following the closure of the plant as part of a site decommission assessment.

Core services

Geotechnical and Geoenvironmental Engineering

Sectors

Energy and Renewables / Industrial, Manufacturing and Petrochemical