



Bleakdown Leachate Treatment Plant

AGGREGATE INDUSTRIES PROJECT VALUE: £400,000

JANUARY 2017 TO JUNE 2017

Bleakdown LTP Case Study

The Bleakdown Leachate Treatment Plant was designed and built by Phoenix Engineering (Phoenix) for Aggregate Industries. Located at the Bleakdown Landfill Site on the Isle of Wight, it is designed to treat 50m³/day of leachate from the landfill.

Contract

The Contract was awarded to Phoenix by Aggregate Industries under the NEC Engineering and Construction Contract Option A. Phoenix undertook the role of Principal Contractor. The Contract included for the design and construction of the treatment plant including all Civil and MEICA Engineering Works.

Treatment Plant

The new treatment plant was integrated into an existing older treatment plant to provide an up to date robust and reliable facility. The integration ensured that the overall layout and material features of the new facility provided new efficient management of the treatment process without varying footprint and form.

Raw leachate, collected from the Bleakdown Landfill is stored in one of the refurbished existing plant tanks converted to form a raw leachate balancing tank, to provide both storage and blending.

Raw leachate from the balance tank is pumped at controlled rates and operator adjustable volumes to the SBR via a duty standby pump set located on a specially designed and fabricated pump skid. Biological nitrification takes place in the SBR. The SBRs comprise an aqueous matrix of leachate and biomass. The treatment cycle consists of an aeration and feed period, followed by a settlement period, where the treated leachate is separated from the biomass. The supernatant is then decanted during the decant period. The overall treatment cycle takes place over 24 hours, seven days a week.

Treated leachate is discharged via duty/standby pump arrangement to a permitted discharge point along a discharge pipeline.

Following construction and biological commissioning, Phoenix now operates and maintains the treatment plant on behalf of Aggregate Industries.



Control Panels

Phoenix designs and builds all its own control panels in-house to ensure close integration between all MEICA equipment and PLC based control systems.



Duty/Standby Feed Pumps

Phoenix designs and selects all its own mechanical equipment. Then fabricates it to produce bespoke mechanical installations.