



### **RENEWABLE ENERGY CENTRE, BARNSELY COLLEGE – A057544** **Strategic Drainage Design Statement**

#### **Drainage**

The drainage system will be developed with separate systems for foul and surface water on site. Refer to drawing A057544-21-C-D101

The main drainage pipelines, external to the building, will be routed around the building structure and designed in accordance with Building Regulations Appendix H and BS EN 752 'Drains and Sewer Systems Outside Buildings'

The subsidiary branch connections, below the slab, to the sanitary fittings etc will be fully coordinated with the foundation layout and electrical and mechanical services. Below slab drainage will be designed in accordance with Building Regulations Appendix H and BS EN 12056-1, 'Gravity Drainage Systems Inside Buildings'. The use of internal manholes will be kept to an absolute minimum and only provided to facilitate the associated guidance and/or best practice.

There are no existing drainage systems identified within the site boundary, private or adopted.

#### **Foul Drainage**

A separate below ground foul water drainage system will be provided to pick all above ground drainage connections. The location and type of these above ground connections was provided by the M&E Engineer/Architect.

The foul discharge from the site is to be conveyed, via gravity and connected off site to the existing sports hall pumping station, to the north. The total discharge from the pumping station will be restricted to that rate already agreed with Yorkshire Water.

## Drainage Design Philosophy



### Surface Water Drainage

A separate below ground surface water drainage system will be provided to convey surface water flows from all impermeable areas of the site, including those associated with the roofs and car parking areas.

The surface water drainage system will outfall into an onsite soakaway. (To be confirmed upon receipt of onsite permeability rates of the underlying accepting sub strata.) The soakaway is to be located such that any ground water recharge does not have any detrimental effect on the slope stability of the railway embankment to the east of the site. The soakaway will be designed in accordance with CIRIA 697 'The SUD's manual' and sized to accept the critical 1 in 30 year storm event (plus a 20% allowance for climate change) without flooding.

Flows in excess of the 1in 30 year standard and up to the 1in 100 year event, plus climate change, will be retained on site. It is envisaged that this element of storage could be achieved by setting levels such that local and temporary flooding of the parking areas and landscaping occurs. To achieve this it is recommended that FFL are set minimum 150mm above surrounding proposed ground levels to reduce the risk of flooding from overland flows, in accordance with normal best practice. (CIRIA report C635).

Onsite treatment of surface water will be in accordance with Yorkshire Water and the Environment Agency guidelines. It is proposed that all surface run off from car parking areas passes through a class 1 by pass oil interceptor, unless permeable paving, or another such SUD's system is utilised. This will alleviate any potential contamination of ground waters.

Surface water run-off generated from the roofed areas will pass through an above ground rainwater harvesting system (by others.). Any exceeded flows from this system will be connected into the below ground surface water drainage system for disposal.