Design and Access Statement –Cudworth WwTW

Design Principles

Cudworth Wastewater Treatment Works (WwTW) is located to the south of the town of Cudworth. Sewage from this town and from the surrounding areas is treated at the Works before final effluent is released into the River Dearne.

The effluent discharge consent for the WwTW outfall has recently been reviewed and new limits for ammonia and BOD are to be introduced as of September 2013. The existing assets are of insufficient capacity to meet this tighter consent.

Refurbishment of the existing inlet works has been discounted as impractical and a replacement plant is proposed to the South-West of the existing inlet works on the existing hardstanding area. A new is proposed at this location in order to house the control panels for this new plant.

In order to meet the tighter consent, further filtration and tertiary treatment will be necessary. Control of these processes will also require a new weatherproof enclosure to house the MCC.

Policy Review

Article 70 Clause 2 of the ***Town and Country Planning Act 1990*** refers the local planning authority firstly to the Local Development Plan for the area, in considering planning applications.

Planning guidelines for the Barnsley Region, therefore, fall under ***The Yorkshire and Humber Plan -Regional Spatial Strategy to 2026.*** In this document, it is categorically stated that the Environmental Strategy *ENV3* requires local plans and strategies to "*provide for adequate sewerage infrastructure and treatment capacity*". The purpose of ENV3 to *"maintain high water quality standards by ensuring an adequate sewage and wastewater treatment system"* is clearly relevant to this planning application. The capacity of the existing treatment works at Cudworth is not sufficient to maintain the requisite water standards.

In ***Barnsley Strategy, Policy and Justification Volume 1*** a number of local aims are stated including:

> "To *seek, through land use and development policies and proposals, and through liaison with public utilities and public bodies to prevent pollution and the adverse effects of development on health, safety and local amenity" (Goal B)*

This aim requires the continued development of sewage treatment facilities to keep up with increasing local demand.

The requirement for tertiary treatment at Cudworth WwTW is required in order to meet legislative requirements as per the Urban Wastewater Directive. *Policy ES3* discusses the Council's objectives with respect to Water Quality in the region.

> *"The council will, in conjunction with the national rivers authority, use all its available powers and influence to prevent the pollution of all surface and underground water and seek to improve their quality consistent with European Union water quality objectives."*

Site Appraisal

Cudworth WwTW is located in the Barnsley district to the south of Cudworth town. To the North-Northwest it is bounded by a domestic property. In all other directions the site is surrounded by agricultural holdings. Carrs Lane runs to the North-West of the site and site access is via this road. The site is overlooked from the rear of properties on *Pleasant View* to the North-East of the site.

Ecological Issues

A walk-over of this site has been undertaken to ensure there are no sensitive ecological issues in the vicinity. No sites of archaeological import have been identified in this area. There was no evidence of the presence of any protected species, no protected habitats nor records or evidence of invasive species.

Use

The inlet works at Cudworth WwTW comprises a screening process and a grit removal system, along with a screenings handling system to cope with the removed solids. The inlet works on site are not sized to cope with existing high flows or estimated future flows and currently poses an environmental risk. The replacement inlet system will provide similar preliminary treatment to the incoming wastewater.

The existing primary settlement tanks and humus settlement tanks are considered to be sufficiently sized. However, a fourth filter bed is required.

In order to meet the 3mg/l ammonia consent, tertiary treatment will be required at Cudworth WwTW. The new process will comprise installation of Moving Bed Bioreactors (MBBR) and Disk Filters. 2 No. blowers will be required to service the MBBR. These will be housed in acoustic enclosures. Control of the MBBRs and the Disk Filters will be housed in a GRP enclosure.

A number of pumping stations and pipelines will also be refurbished as part of the works.

Amount

The Inlet Works Control Panel Enclosure will have a footprint of (3.1m x 6.0m) = ***18.60 m²*** while the Tertiary Treatment Control Panel Enclosure will have a footprint of (4.7m x 11.2m) = ***52.64 m²***. This gives a total increase floor space of **71.24 m².**

Layout

In order to limit the footprint of the plant on site, the proposed inlet works will be located on the existing screenings handling hardstanding. The enclosure containing the controls for the inlet works will be located to the east of the plant. The enclosure will be raised above ground level to allow access directly from the Inlet works and to allow the outlet pipe from the Screens to pass beneath it.

The proposed tertiary treatment plant is to be located to the south of the existing works. This is to minimise pipework and in order to avoid, where practicable, construction on made ground which covers much of the central area of the site. In order to minimise cable lengths and to allow safe work on the tertiary treatment area the enclosure housing the tertiary treatment controls will be located adjacent to the tertiary treatment area, to the west.

Landscaping and Access

This application relates specifically to the two proposed MCC enclosures. New site roads and resurfacing of the existing will provide access to the enclosures. Both are located adjacent to proposed vehicle access to allow delivery and removal of panels as necessary. New steps to the South East of the Inlet Works Enclosure will provide an alternate exit route.

Appearance

Both enclosures are to be of GRP construction throughout walls and roof. The finish is to be green of shade 14-C-39 (BS5252/BS4800). Lighting will be provided at the entrance to the kiosk. Access to the Inlet Works Control Panel Enclosure from the screens area will be by a door from the raised platform, while a second door on the opposite side will provide an emergency exit. The larger Tertiary Treatment Control Panel Enclosure will have one set of double doors with transom, as above, and a single pedestrian door to allow egress in the event of emergency.