YD2703 - HOYLE MILL LANE

INTERNAL SEWER FLOOD ALLEVIATION SCHEME

Design and Access Statement

Introduction

The proposed development is a grass embankment to cover a new sewer laid across the field adjacent to the River Don and next to the former premises of South Yorkshire Home Improvements.

The new sewer is required to increase capacity on the sewer system in this area because the existing sewer is hydraulically overloaded and this is causing internal property flooding to a local property. Due to the ground profile of the field the new sewer would be above ground in places, it is proposed to form an embankment over the new sewer, so it is underground and thus protected. To minimise the depth of cover required on the new sewer the pipework will be made of ductile iron.

Design

Use

The embankment is proposed to give a minimum of 0.5 metres of soil cover to the new sewer pipe. The cover is required to protect the new sewer, reduce the likelihood of future root ingress in to the pipe, provide protection from frost and provide freeboard (airspace above the flows) within the new manholes.

Amount

In consultation with the landowner the slopes of the embankment are proposed to be approximately 1:4 gradient to allow the grass to be mown or grazed as the rest of the field is. The existing ground profile, line and route of the new sewer, cover and slope gradient of the embankment mean it will have a total volume of approximately 309m^3. Where possible the material excavated from the site will be retained on the site meaning some 295m^3 of clean fill needs to be imported to the site. The source of this fill is yet to be determined however attempts will be made find a locally sourced recycled material via the Yorkshire Water Waste Manger.

Layout

The proposed embankment would run parallel and be connected to the existing embankment present on the site that covers an existing sewer pipe.

Scale

Once the embankment is in place it will not be possible to tell its size as it will meet the existing undulating ground surrounding it. At its highest point the embankment will be some 1.17 metres tall; however height varies along the embankments length and is typically around 0.5 metres tall. The embankment is approximately 85 metres long, along the length of the pipe and varies in width from 7.5 to 12 metres.

Landscaping / Appearance

The embankment will be grass seeded to blend in with the surrounding landscape. The manhole covers will be flush with the surrounding ground level and shall have concrete surround to protect them and allow for man access to the sewer.

Access

Routine access to inspect and maintain the new sewer would be pedestrian access and via the manholes along the route of the sewer. No provision is made for vehicle access.

During the period of works activity, public access will be prohibited for safety reasons. Where Public Rights of Way cross directly through the works site, these sections will be subject to a temporary closure. In addition to warning signs and notices, temporary fencing will be erected around the works and security measures will be in operation during construction activity only. Contractor welfare facilities will be provided at the fenced works compound.

Consultation

Pre-application consultation with the land owner and his representative has taken place by way of site meeting. This lead to a slackening in the gradient of the proposed embankment to allow for mowing by tractor pulled mechanical mower. Internal consultation has also taken place with Yorkshire Water's Solution Engineer for the area Simon Byrne. This lead to the suggesting of laying the sewer in ductile iron to allow the amount of cover to the new pipe to be reduced from the desired 0.9 metre minimum to the proposed 0.5 metres.