



E96/6063/MH/PW/L002A

7<sup>th</sup> October 2014

James Hobson  
Signet Planning  
Rowe House  
10 East Parade  
Harrogate  
North Yorkshire, HG1 5LT

**Re: Proposed Development off Roberttown Lane, Roberttown**

Please find attached a summary statement of the existing drainage in relation to the site and outline drainage proposals for the new development.

**Foul Water**

The records indicate no existing foul sewers crossing the site. There is a 300mm dia combined sewer in Roberttown Lane to the north of the site. In addition there is a 150mm dia foul sewer to the north east of the site in Richmond Park Ave.

Yorkshire Water have stated in their initial correspondence attached that foul sewerage from the site may discharge into the 300mm dia pipe combined sewer in Roberttown Lane, however it is evident from the site survey that not all of the site is able to discharge directly into this sewer via a gravity connection. Therefore Yorkshire Water have been re-consulted and have agreed that a maximum of 60 properties may discharge into the 150mm dia foul sewer in Richmond Park Ave, the depth of the existing sewer is in excess of 5.0m and therefore we are confident that a gravity connection is feasible. Further to reviewing the proposed planning arrangement information supplied we have highlighted the likely split for the foul drainage on site, this will need to be developed and confirmed as the planning layout is progressed into a more detailed design.

A fall back position would be to upsize the existing 150mm dia foul sewer in Richmond Park avenue or lay a new third sewer to Roberttown Lane.

In addition we can confirm that the WWTW at Mitchell Laithes currently has sufficient capacity to serve the proposed development of 240 houses. Please note capacity at WWTW is assigned on a first come basis and therefore may need to be re-confirmed if the development start date is substantially into the future.



## **Surface Water**

The Yorkshire Water records do not indicate any surface water sewers crossing the site. There is a 225mm dia surface water sewer in Roberttown Lane which upsizes to a 375mm dia sewer prior to the junction with Richmond Park Ave. The surface water system in Richmond Park Ave, is an attenuated system designed to accommodate the recent housing development. This presumably has a restricted discharge into Roberttown Lane. Please note the existing system has not been designed to accept any additional flows from the site.

There are no recognised watercourses crossing the site or directly adjacent to the site. The nearest watercourse is Tanhouse Beck located approximately 500m north of the site. There is a drain indicated on the OS plan within the site. However further to our site visit this appears to be a short ditch without an outfall possibly constructed by the existing landowner to control current surface water runoff across the site. This should be further investigated during any on-site investigation works. The location, level and condition of this drain on site will not be suitable to provide a gravity outfall for the whole site.

The current hierarchy of drainage requires sustainable drainage techniques to be thoroughly investigated first. The feasibility of soakaways should be investigated on site as part of any planned site investigation works, the British Geological website indicates the bedrock below the site to be highly variable permeability. Should soakaways prove successful design requirements will need to be considered as follows:

1. The use of soakaways will need to be agreed with Kirklees land drainage and highways.
2. All soakaways are to be designed for a minimum 1 in 30 year storm.
3. The additional 1 in 100 year and climate change rainfall must be catered for on-site. Flood routing should be considered with possible, dry swales located at the southern boundary of the site, to contain the excess rainfall. In addition this will provide additional protection against soakaway failure.
4. All soakaways to be located a minimum of 5m away from buildings.
5. Further soakaway testing required during winter conditions. Suggest this is arranged for later this year.
6. Cross-section through site required to check site gradients/strata and ensure that the surface water will not re-emerge further downstream on the site.
7. Highway soakaways to be located outside of road areas in separate adoptable areas. Areas to be demarcated by channel blocks and block paved. Areas to be coloured on S38 plans and adopted.
8. Soakaways to be interconnected with pipes possibly enlarged to cater for additional volumes.



As discussed above the nearest suitable off-site watercourse (Tanhouse Beck) is located approximately 500m to the north of the site culverted within the works, beyond Spen Valley College sports pitches. The existing watercourse eventually outfalls to the River Spen to the east. The Yorkshire Water surface water system discharges into this system via a 225mm dia pipe leading from Roberttown Lane. We have undertaken some previous investigation work and understand that this upsizes to a 375mm dia pipe through the existing works site. However further site investigation work is recommended to fully understand the existing arrangement and confirm capacities.

The watercourse is susceptible to flooding and therefore strict limitations will be imposed via Kirklees Land Drainage authority and the Environment Agency. A greenfield run-off discharge rate from the site of 2.5l/s/ha has been assumed to date. This will require surface water attenuation of approximately 3385m<sup>3</sup> for the 1 in 100yr storm plus 30% climate change. A 900mm deep detention basin of approximately 62 x 62m square area will be required to attenuate this entire storage volume. This is a much larger area than indicated on the current plans at present. Alternatively the 1 in 30yr rainfall volumes could be located below ground in culverts, requiring approximately half the above volume above ground.

As discussed above the Yorkshire Water pipe is indicated to reduce in size as it leaves Roberttown Lane and runs adjacent to Spen Valley College. In addition there is the further complication of the existing attenuation system in Richmond Park Ave, which was designed to solely serve the recent housing development and is based upon a 1200mm dia storage pipe with a restricted discharge. Therefore any flows from our development are likely to affect the capacity of this system.

Yorkshire Water will need to undertake modelling work to establish if any spare capacity is available in their current systems. Various options could be looked at for either upsizing the existing pipe downstream or reducing the discharge rate further. Alternatively constructing a new offsite requisitioned sewer to re-connect further downstream where sufficient capacity should be available. It may be possible to re-model the existing attenuation in Richmond Park Ave and combine with our site to provide an overall storage solution.

Please note we do not have any rights of discharge to outfall a new requisitioned connection into the downstream watercourse, therefore the existing outfall provided by Yorkshire Water will be essential to achieve a surface water outfall solution if sustainable drainage techniques are unsuccessful.

I would be grateful if you would wish to instruct Yorkshire Water to investigate surface water capacities downstream at this juncture, at present this is likely to cost a minimum of £5000. In addition it could be a lengthy procedure, and would delay certainty in costs and a final design solution until completed.



**Haigh Huddleston & Associates**

**Civil & Structural Engineering Consultants**

Firth Buildings, 99 - 101 Leeds Road, Dewsbury, WF12 7BU

t 01924 464342 f 01924 450662 e [trevor.haigh@haighhuddleston.co.uk](mailto:trevor.haigh@haighhuddleston.co.uk)

I trust the above is suitable for your present requirements, but should you have any queries please do not hesitate to contact me direct.

Yours faithfully

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MARTIN HUDDLESTON MEng

[martin@haighhuddleston.co.uk](mailto:martin@haighhuddleston.co.uk)

cc John England – Strata

# APPENDIX A

## YORKSHIRE WATER CORRESPONDENCE



Haigh Huddleston & Associates  
Firth Buildings  
99-101 Leeds Road  
Dewsbury  
WF12 7BU

Yorkshire Water Services  
Developer Services  
Sewerage Technical Team  
PO BOX 52  
Bradford  
BD3 7AY

Tel: 0845 120 8482  
Fax: (01274) 372 834

FAO M Dean

Email:  
Technical.Sewerage@yorkshirewater.co.uk

Your Ref:  
Our Ref: Q005682

For telephone enquiries ring:

Kashif Khan on (0845)120 8482

9th April 2014

Dear Sir,

**Roberttown Lane, Roberttown, Liversedge - Pre-Planning Enquiry on P392462**

Thank you for your recent enquiry. Our charge of £89.00 (plus VAT) will be added to your account with us, reference MWA057. You will receive an invoice for your account in due course.

Please find enclosed a complimentary extract from the Statutory Sewer Map which indicates the recorded position of the public sewers. Please note that as of October 2011 and the private to public sewer transfer, there are many uncharted Yorkshire Water assets currently not shown on our records. The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site and are valid for a maximum period of twelve months:

Development of the site should take place with separate systems for foul and surface water drainage. The separate systems should extend to the points of discharge to be agreed.

Foul water domestic waste should discharge to the 300 mm diameter public combined sewer recorded in Roberttown Lane, at a point adjacent to the site.

The developer's attention is drawn to Requirement H3 of the Building Regulations 2000. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

The local public sewer network does not have capacity to accept any discharge of surface water from the proposal site. If SuDS are not viable, the developer is advised to contact the Environment Agency/local Land Drainage Authority with a view to establishing a suitable watercourse (if any nearby) for discharge.

It is understood that watercourses are located through/to the north of the site. This appears to be the obvious place for surface water disposal (if SuDS are not viable).

Please note further restrictions on surface water disposal from the site may be imposed by other parties. You are strongly advised to seek advice/comments from the Environment Agency/Land Drainage Authority, with regard to surface water disposal from the site.

Prospectively adoptable sewers and pumping stations must be designed and constructed in accordance with the WRc publication "Sewers for Adoption - a design and construction guide for developers" 6th Edition as supplemented by Yorkshire Water's requirements, pursuant to an agreement under Section 104 of the Water Industry Act 1991. An application to enter into a Section 104 agreement must be made in writing prior to any works commencing on site. Please contact our Developer Services Team (telephone 0845 120 84 82) for further information.

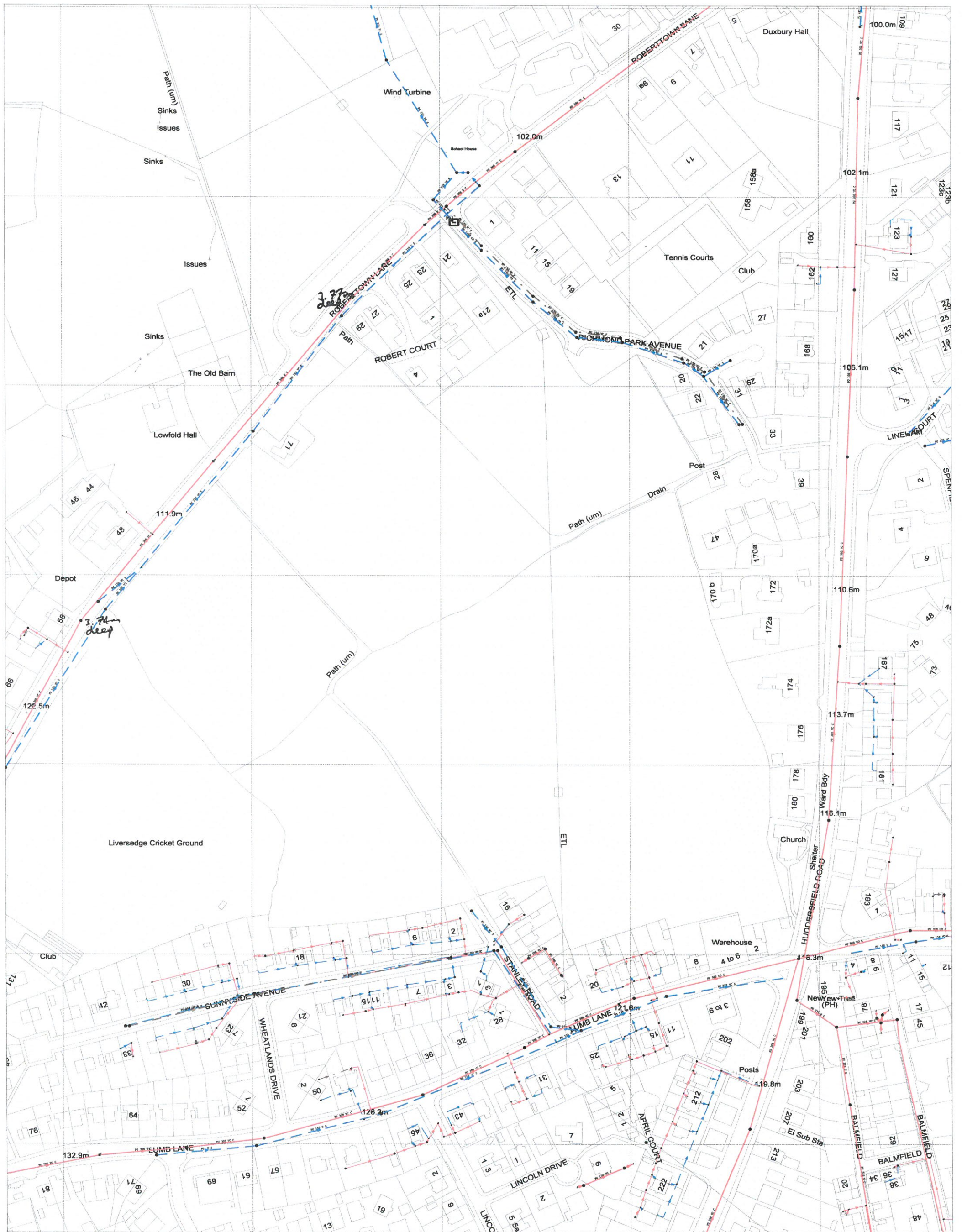
The public sewer network is for domestic sewage purposes. This generally means foul water for domestic purposes and, where a suitable surface water or combined sewer is available, surface water from the roofs of buildings together with surface water from paved areas of land appurtenant to those buildings. Land and highway drainage have no right of connection to the public sewer network. No land drainage to be connected/discharged to public sewer.

Any new connection to an existing public sewer will require the prior approval of Yorkshire Water. You may obtain an application form from our website ([www.yorkshirewater.com](http://www.yorkshirewater.com)) or by telephoning 0845 120 84 82.

All the above comments are based upon the information and records available at the present time. The information contained in this letter together with that shown on any extract from the Statutory Sewer Map that may be enclosed is believed to be correct and is supplied in good faith. Please note that capacity in the public sewer network is not reserved for specific future development. It is used up on a 'first come, first served' basis. You should visit the site and establish the line and level of any public sewers affecting your proposals before the commencement of any design work.

Yours faithfully

 Developer Services Team



419872 : 422686



Map Name : SE1922NE  
 Yorkshire Water,  
 PO Box 500,  
 Halifax Road,  
 Bradford BD6 2LZ  
 Contact Name :  
 K KHAN  
 Contact Tel :

Title	Notes
Partial Key	This plan is furnished as a general guide only and no warranty as to its correctness is given or implied. This plan must not be relied upon in the event of excavation or other works made in the vicinity of public sewers. No house or property connections are shown.
Foul Sewer = F	
Combined Sewer = C	
Surface Water Sewer = SW	
Trade Sewer = TD	
Partially Separate = PS	
Date Req : 09/04/2014, 12:33:20	Date Gen : 09/04/2014, 12:33:31
Source : Sewer Network Enquiry	





Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

As the proposal site is currently undeveloped no surface water is known to have previously discharged to the public sewer network

If it is proven that all other means of surface water disposal are not viable and only as a last resort, a feasibility study, carried out under section 98 of the Water Industry Act 1991 and at the developers expense, will be required. This will determine suitable surface water connection points, any available capacity in the public sewer network, together with any likely costs and timescales for any potential upgrading works required.

The 1200mm diameter surface water sewer and associated detention tank recorded in Richmond Park Avenue and the sewer system down stream of this will require upsizing in order to accept any discharge of surface water from this site as the system was not designed to cater for more than what is currently being served. For further information regarding the feasibility study, you can contact Martin Cowley within our capital team on the above number.

Please note further restrictions on surface water disposal from the site may be imposed by other parties. You are strongly advised to seek advice/comments from the Environment Agency/Land Drainage Authority/Internal Drainage Board, with regard to surface water disposal from the site.

Yours faithfully

Developer Services Team

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Spotted a leak?

If you spot a leak please report it immediately. Call us on 0800 57 3553 or go to <http://www.yorkshirewater.com/leaks>

Get a free water saving pack

Don't forget to request your free water and energy saving pack, it could save you money on your utility bills and help you conserve water. <http://www.yorkshirewater.com/savewater>

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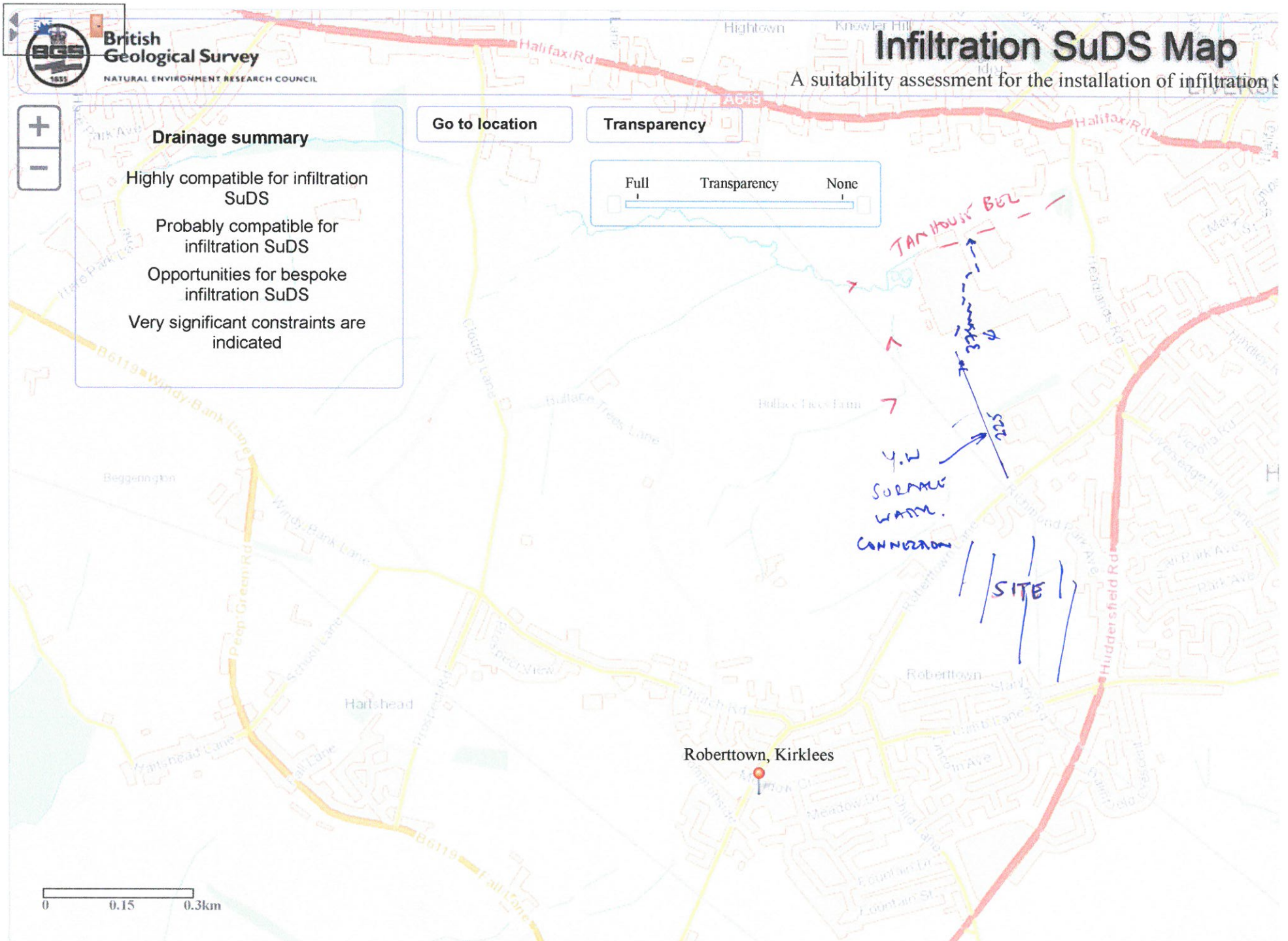
## APPENDIX B

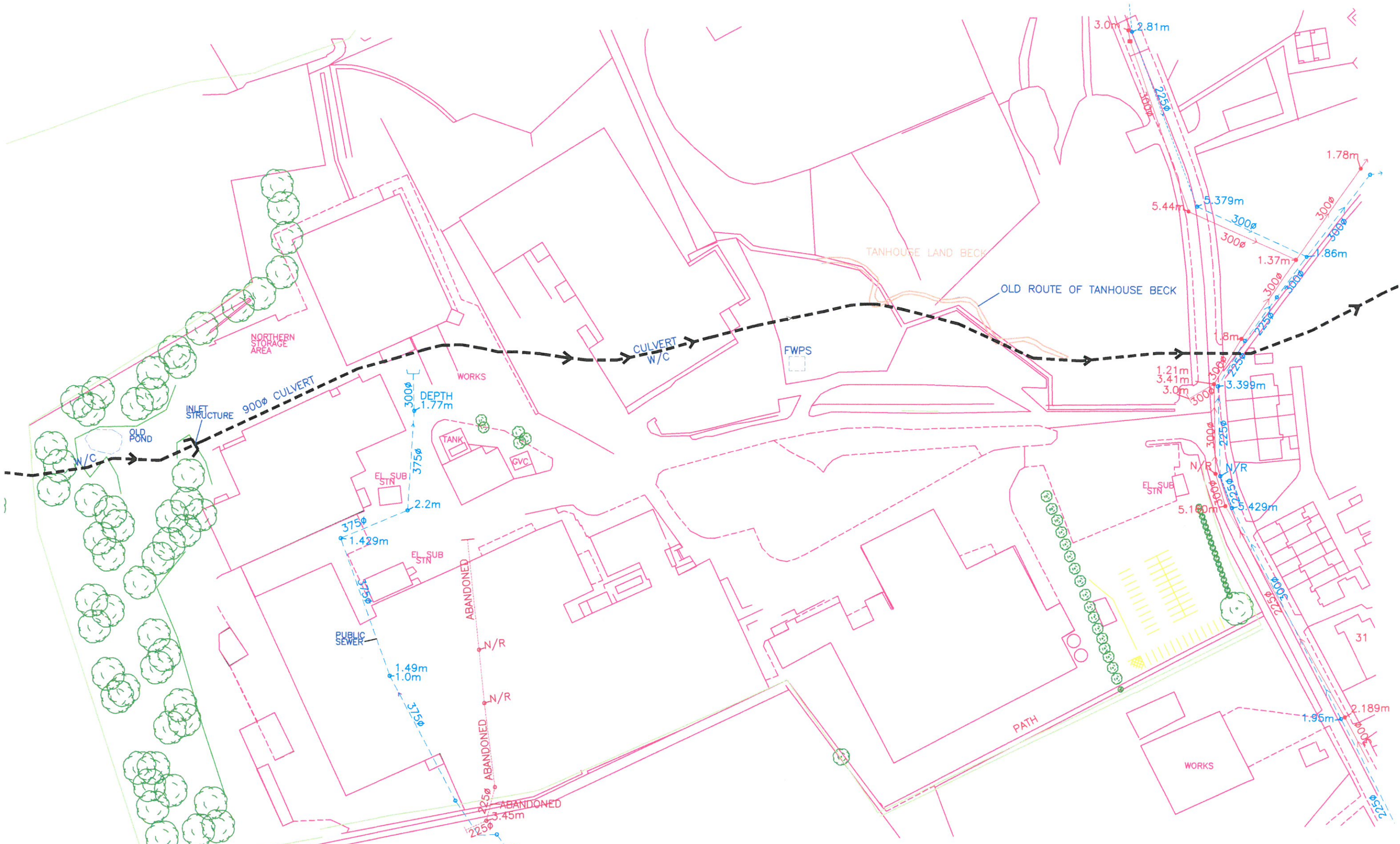
### PROPOSED FOUL DRAINAGE OUTFALLS



## APPENDIX C

### EXISTING OFFSITE DRAINAGE





~ y.w connection to  
Tanhouse Beck.