21-105

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Proposed Underground Drainage Statement

Development at

Former Combs Hostel, Hall Lane, WF12 0PL

Project: 21-105

Issue Status	Draft	Initial & date	Final	Initial & date		Initial & date
Report Author:	NM	March 2021	NM	March 2021		
Checked:						
Approved:	RJP	March 2021	RJP	March 2021		

PROPOSED DEVELOPMENT OFF HALL LANE, WF12 0PL

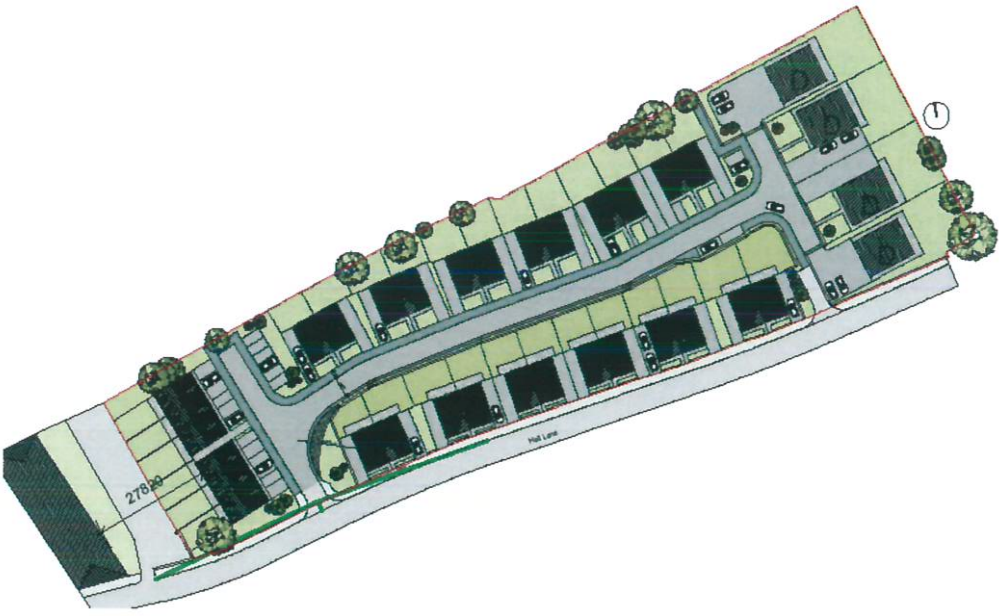
Existing site and proposed development

The site is located approximately 3.5 Kilometres to the south of Dewsbury town centre with the site located off Hall Lane and adjacent to Thornhill Cricket & Bowling Club.

The site is generally a rectangular shape covering an approximate area of 550m^2 with the site topography generally forming a mild slope with a full kerb along the road.

Site location

The proposal involves the constructions of 34 No. residential dwellings with associated parking. Access for the properties is to be located via new road entrances from Hall Lane.



Proposed Site layout

Holdgate have examined historic mapping information for the area from 1855 to 2000 in order to identify changes in land use on the site and throughout the catchment which may be relevant to flood risk.

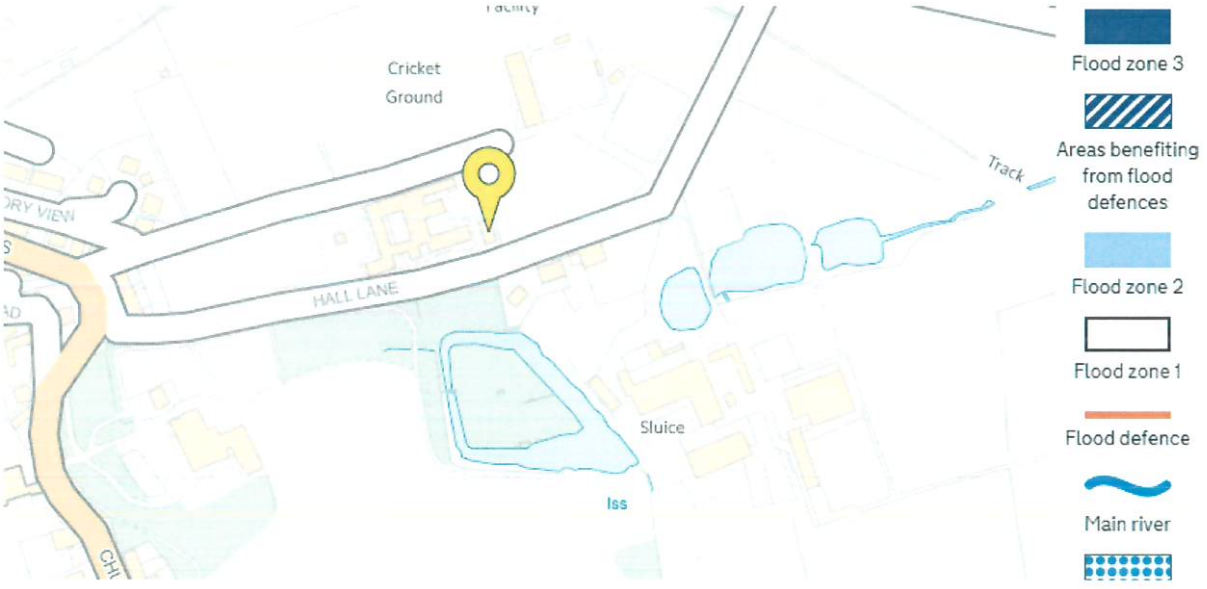
Historical maps show the site and majority of the surrounding area to be open fields around 1855 with Thornhill Hall shown adjacent to Hall Lane. The surround areas also contain a number of quarries north of the site adjacent to River Calder with no identifiable water features in close proximity of the site.

By 1955 the mapping shows the area as open field with a cricket field to the north and a pond in the grounds of Thornhall Cottages. Combs Hill School appears to have been constructed on site around 1960.

The site currently is soft landscaping with a boundary hedge along the pavement and Hall Lane. The topography of the site currently has the field falling towards the existing building.

FLOOD RISK INFORMATION

The Environmental Agency (EA) Flood mapping shows the development to be within Flood Zone 1(Low Probability) as shown below. This is outside of the area which is at risk from extreme fluvial or tidal flooding and the site is therefore not at risk from inundation in a 1 in 1000 year event or 0.1% Annual Exceedance Probability event (AEP) or events with a 1% AEP (1 in 100 year).



Surface water flood map

The area of surface water flooding to the north of the site appears to be situated around the River Calder with flood waters contained within the designated flood storage areas. It should be noted that the model used to determine surface water risk will identify low lying ground and indicate that it is at risk of flooding, regardless of whether it is a watercourse, drainage ditch or other low lying feature.

EXISTING INFORMATION

From the information received from Yorkshire Water, the topography of the site, and site observations, it is most likely that the existing site is currently draining into the adjacent combined sewer. From the mapping records there is a 300mm combined sewer located along Hall Lane. The brick sewer is flowing in an easterly direction at a depth of approximately 3.0m. This would appear to be the most suitable location for discharging the flows generated on site. Further investigation of this sewer will be required with depth and invert to be confirmed.

FOUL DRAINAGE

The proposal foul discharge from the new building should be collected into a separate systems on site and then discharged via a single connection into the existing combined public sewer that is located along Hall Lane and subject to agreement with Yorkshire Water. The topography of the site should allow the foul drainage to flow under gravity into the adjacent sewer system.

SURFACE WATER DRAINAGE

Requirement H3 of the Building Regulations 2000 states that the preferred hierarchy for disposal of surface water is infiltration then watercourse then sewer. Consideration must therefore be given to the use of infiltration methods as a means of disposal of surface water run-off from the development.

A preliminary assessment of the surround area indicated that the ground conditions are generally firm clay with sandstone/mudstone boulders over laid by some made ground.

It is therefore likely that disposal of surface water by means of infiltration would be unsuitable for surface water to discharge via soakaways located adjacent to the proposed buildings. This would therefore require further site investigations to establish the actual ground conditions. A soil percolation test is required (in accordance with BRE365) to establish the infiltration rate of the soil. If following the site investigation, soakaways are deemed to be unsuitable, the surface water should be collected from the roof and hardstanding areas into suitable onsite attenuation with a limited discharge into the adjacent public sewer. The nearest sewer is a 300mm diameter sewer located along Hall Lane.

SURFACE WATER ATTENUATION

Following soil percolation testing on site, if soakaways are found to be unsuitable, the site will require attenuation storage with a limited discharge into the existing sewer. Based on the existing roof area of the existing building the proposed peak discharge would be 24 l/sec. With a 30% reduction the peak flow of 16.5 l/sec will require on site attenuation of 197m^3 of surface water storage (subject to detailed design). The surface water storage would also include an allowance for 30% climate change within the site storage.

SUMMARY

The development site is not within the Environmental Agency's indicative flood envelopes and is therefore classed as being within Flood Zone 1. Based on the compatibility of the developments within each Flood Zone, set out within the Planning Practice Guidelines, the site is suitable for all types of developments.

The site should be investigated for utilising SUDs as a means of disposing surface water from the site. It is proposed to carry out site soil percolation testing which will form part of the pre site commencement conditions. This will indicate the suitability of soakaways on site. If SUDs are deemed to be unsuitable following testing, then site attenuation storage will be provided with a discharge limit to approval of utilities provider/Local Authority.

The proposed foul drainage from the buildings should discharge into a separate foul drainage system into a final combined manhole before connecting into the existing combined sewer located adjacent to the site.

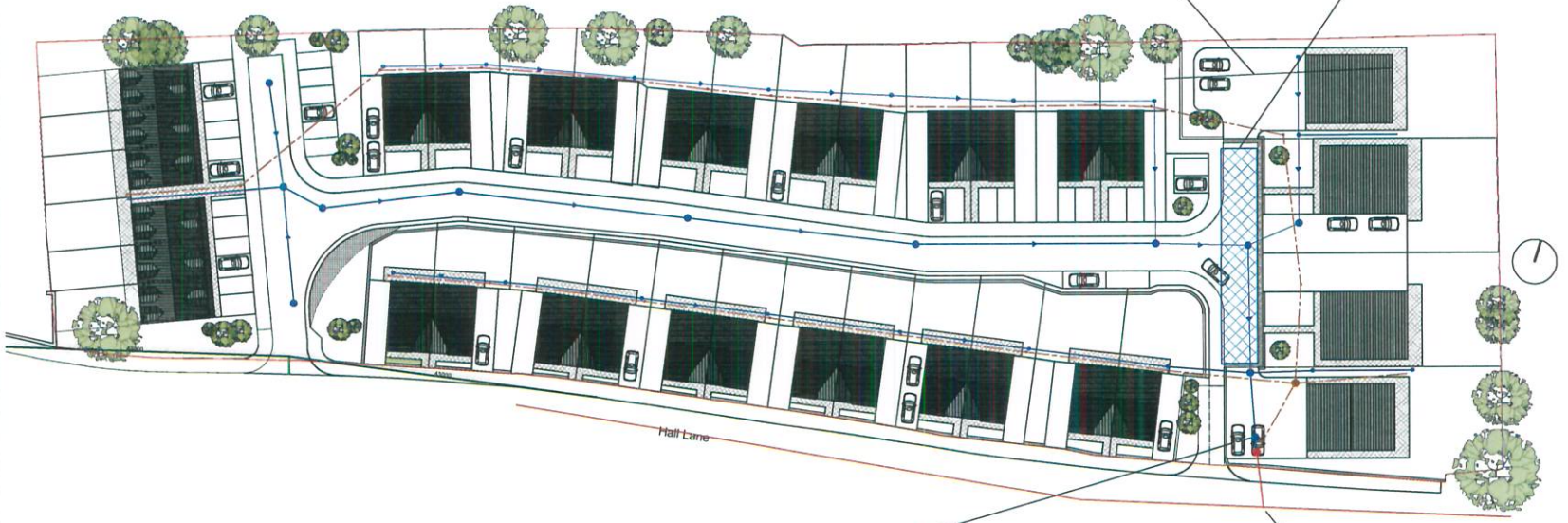
The site should be developed to ensure that overland flows are contained within their current location and do not adversely affect the proposed development or existing developments elsewhere in the catchment.

APPENDIX - A

PROPOSED LAYOUT

KEY

- Surface Water Sewer
- Foul Water Sewer
- Combined Sewer
- Surface Water to be abandoned
- Foul Water Sewer to be abandoned
- Existing Surface Water Sewer
- Existing Foul Water Sewer
- Existing Combined Sewer



Preliminary drainage layout if SUDs are unsuitable following site investigation.

Scheme/layout to be amended following detailed drainage design

Proposed Drainage Plan

NOTE:
Surface water pipes to be 100mmø uPVC @ 1:80 unless specified otherwise.

Foul drain pipes to be 100mmø uPVC @ 1:60 unless specified otherwise.

All external/floor levels to be confirmed by architect.

All sewer connections/closures/diversion agreements to be in place and agreed with LA/ service provider prior to works on site.

Notes

1. Do not scale drawings. The Contractor is to check all dimensions on site before carrying out works.
2. This drawing is to be read in conjunction with the Architect's drawings which should be used to verify layout, setting out, finishes etc. any discrepancies are to be brought to the attention of the Architect prior to construction.
3. All tolerances are to be agreed with the Architect. The Contractor will be responsible for ensuring that sufficient tolerances provided are integrated throughout all elements of the work.
4. The Contractor is entirely responsible for maintaining the stability and integrity of all existing buildings and structures within and adjacent to the works and of all works from the date of possession of the site until practical completion of the works.
5. The Contractor shall design, install and maintain all necessary temporary works and shall advise the Architect before commencement of to works, of his proposals for temporary supports and sequence of construction.
6. The Contractor shall prevent overloading of any completed or partially completed elements. Details of the design loads may be obtained from the Architect.
7. All articles, materials and goods shall be new and of good quality, suitable for the required purpose and shall conform to their appropriate British Standard where such exists.
8. New timber shall be softwood grade C16 unless noted otherwise and shall be treated against rot, infection etc. including cut ends.
9. Brickwork and blockwork specification: see Architect's details.
10. Mortar levelling beds for beams to be 1:3 (cement:sand ratio).
11. All structural steelwork is to be mild steel thoroughly cleaned of all scale and rust then painted with two coats of red oxide prior to installation.
12. All metal fixings to be BAT or similar approved and fixed in accordance with manufacturer's instructions unless noted otherwise. All nails to be square twisted.
13. Concrete padstones and beam surrounds to be as follows:
    C20 OPC
    20mm max. agg. size
    Min. cement content 330kg/m
    Beams are to bear centrally on full width padstone.
14. Mortar shall be 1:3 mix with plasticiser.
15. Cavity shall be filled in max. 400mm lifts and concrete shall be min. strength C25. On site mix may be 1:3:2 (cement:sand:gravel ratio) with 10mm aggregate.
16. Concrete to be class C35 utilising sulphate resisting cement.
17. Cover to all reinforcement to be 40mm unless noted otherwise.
18. Minimum laps to reinforcement are to be 400mm for 10mm bars, 480mm for 12mm bars, 640mm for 16mm bars and 800mm for 20mm bars.
19. Foundation concrete shall be C35 strength, utilising a minimum cement content of 300 kg/m.
20. Cover to foundation reinforcement to be minimum 40mm.
21. Items noted 'to be verified on site' are to be exposed by the Contractor for inspection by the Engineer.
22. New foundations are to bear 150mm into firm clay (or other approved material) at a depth to match existing foundations.
23. See Architect's details for damp proofing specification and location.
24. Finish to top surface of concrete to be as per Architect's detail.
25. All bolts to be grade 8.8 unless stated otherwise.
26. Beneath raft foundations sub-strata to be well compacted before laying imported Type 1 stone to depth as indicated by Building Control (but min. 350mm), and to be compacted in layers.
27. All junctions between new masonry and existing to raft extensions to have a furfix joint full height with a polysulphide sealant.

Preliminary

Mark	Date	Made by	Revision
A	22.03.21	NM	Drainage Layout revised

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Job Title

Former Combs Hostel,
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Drawing Title

Preliminery Drainage Plan

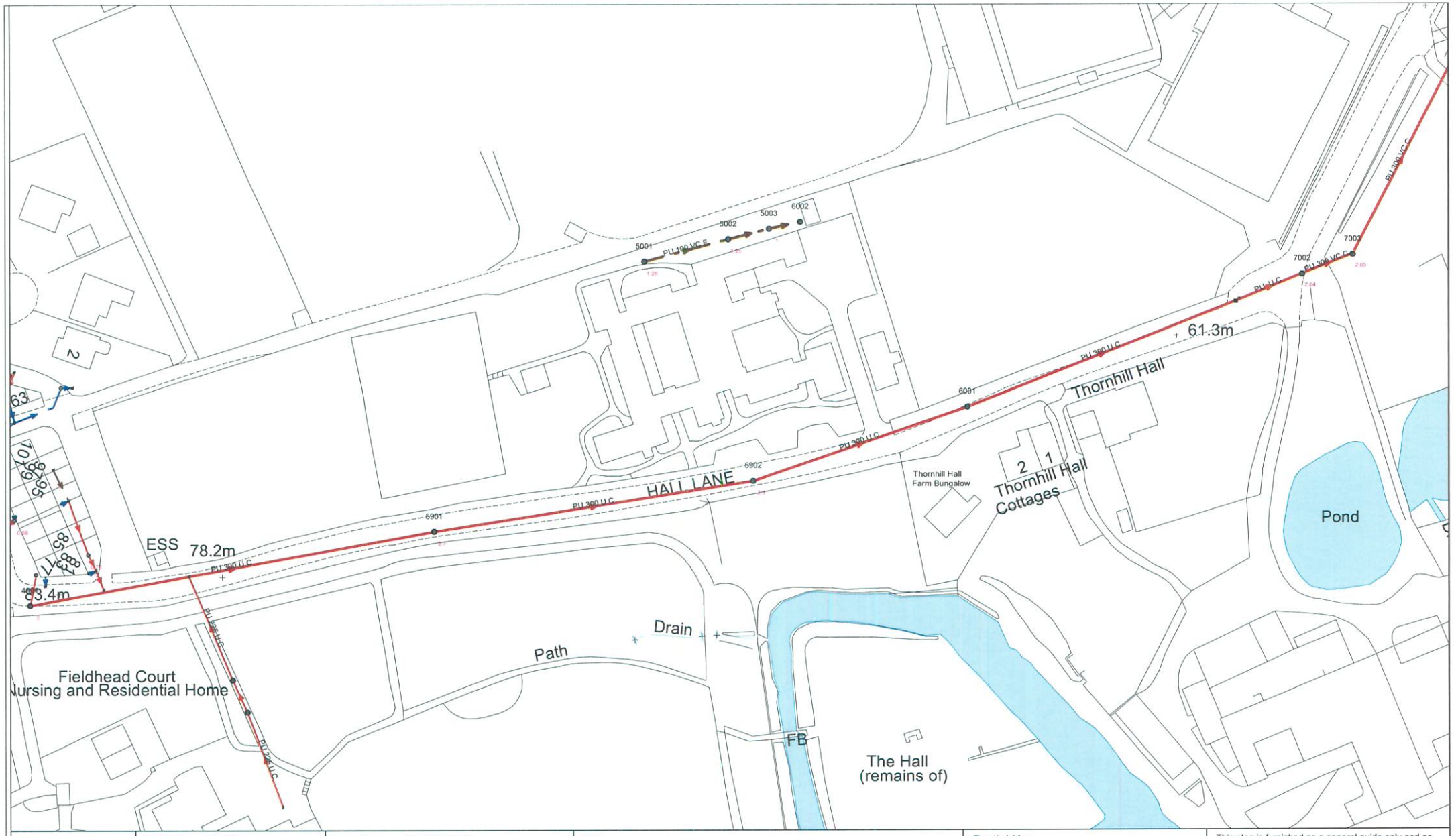
Job No.	Drawing No.	Revision
21–105	D01	–

Scales NTS

Drawn by	Date	Checked
IAP	22.03.21	NM

APPENDIX - B

EXISTING SEWER PLAN



	425417 : 418903	Map Name : SE2518NW	Title	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 excavations or other works made in the vicinity of public sewers. No house or property connections are shown.
	Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ Contact Name : YorMap Advisor C ROBERTS Contact Tel : 87 2582		Notes	Foul Sewer = F Combined Sewer = C Surface Water Sewer = SW Trade Sewer = TD Partially Separate = PS	
				Date Req : 01/03/2021, 14:19:15	Date Gen : 01/03/2021, 14:19:41
				Source : Sewer Network Enquiry	

UPN: Undefined Originator: C ROBERTS, YorMap, 87 2582

APPENDIX - C

YORKSHIRE WATER

YorkshireWater

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nasar@holdgateconsulting.com

Yorkshire Water Services
Developer Services
Pre-Development Team
PO BOX 52
Bradford
BD3 7AY

Tel: 0345 120 8482
Fax:

Email:
technical.sewerage@yorkshirewater.co.uk

Your Ref:
Our Ref: X002659

For telephone enquiries ring:
Chris Roberts on 0345 120 8482

1st March 2021

Dear Mr Mohammed,

Former Combs Hostel, Hall Lane, Dewsbury, WF12 0LF - Pre-Planning Sewerage Enquiry U140713 (RESIDENTIAL)

Thank you for your recent enquiry and remittance. Our official VAT receipt has been sent to you under separate cover. 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:

YorkshireWater

Existing Infrastructure

There is a 100 mm diameter public foul sewer recorded on the site. In this instance, building-over may take place under the control of Part H4 Building Regulations 2000. No trees planted within 5 (five) metres of this public sewer. It may not be acceptable to raise or lower ground levels over the sewer, nor to restrict access to the manholes on the sewer. If you wish to have this sewer diverted under Section 185 of the Water Industry Act 1991 an application should be made in writing. To discuss this matter, please telephone 0345 120 84 82.

Foul Water

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 can discharge to the 300 mm diameter public combined sewer recorded in Hall Lane., at a point to the south east of the site.

Surface Water

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.

It is understood that a watercourse is located to the south of the site. This appears to be the obvious place for surface water disposal (if SuDS are not viable).

YorkshireWater

Please note Yorkshire Water cannot provide plans of culverted watercourses or highway drains. To obtain plans please contact the Lead Local Flood Authority for more details.

If other methods of surface water disposal are not viable and subject to providing satisfactory evidence as to why they have been discounted, curtilage surface water discharges to the public sewer will be restricted to the level of run-off - i.e. same rate of discharge - to that from the existing use of the site less a 30% reduction in the existing discharge. Any discharge of surface water from the site should discharge to similar points of connection to that of the existing use of the site. You will need to demonstrate positive drainage, based on a 1 in 1 year storm, to the public sewer to Yorkshire Water by means of investigation and calculation carried out at your expense.

To do this, Yorkshire Water requires to see existing and proposed drainage layouts with pipe sizes, gradients, gullies, downpipes and connection points, measured impermeable areas of the present and proposed use of the site, along with the calculations that show the existing and proposed discharge rate from the site to the public sewer.

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.

Other Observations

Any new connection to an existing public sewer will require the prior approval of Yorkshire Water. You may apply on line or obtain an application form from our website (www.yorkshirewater.com) or by telephoning 0345 120 84 82.

An off-site foul and surface water sewer may be required which may be provided by the developer and considered for adoption under Section 104 of the Water Industry Act 1991. Please telephone 0345 120 84 82 for advice on sewer adoptions.

YorkshireWater

Alternatively, the developer may in certain circumstances be able to requisition off-site sewers under Section 98 of the Water Industry Act 1991 for which an application must be made in writing. For further information, please telephone 0345 120 84 82.

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 0345 120 84 82) for further information.

All the above comments are based upon the information and records available at the present time and is subject to formal planning approval agreement. 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 sincerely

Chris Roberts
Development Services Technician