Jones Homes (Yorkshire) Ltd

Land off Dunford Road, Hade Edge
Site A - South

Flood Risk Assessment

sanderson associates
consulting engineers

Control Sheet

CLIENT:	Jones Homes (Yorkshire) Ltd
PROJECT TITLE:	Land off Dunford Road, Hade Edge
	Site A - South
REPORT TITLE:	Flood Risk Assessment
PROJECT REFERENCE:	166337
DOCUMENT NUMBER:	002
ISSUE NUMBER:	03
DATE:	March 2026

Issue & Approval Schedule	Issue 01 <Status>	Name	Signature	Date
	Prepared by	L Hewlett	A signed copy is available on request	April 2025
	Checked by	D Bowker		April 2025
	Approved by	D Bowker		April 2025

Issue Record	Issue	Date	Status	Description	Name	
	02	March 2026	Final	Site Layout and EA mapping updated	Prepared	S Mirza
					Checked	T Conroy
					Approved	D Bowker
	03	March 2025	Final	Amended flowing Client comments received 10/03/2026	Prepared	S Sellers
					Checked	T Conroy
					Approved	D Bowker

Acknowledgements

Google My Maps has been used to generate figures included in this report for illustrative purposes only.

Contents

List of Figures

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1. Introduction

1.1 Sanderson Associates Consulting Engineers have been appointed to undertake a Flood Risk Assessment for a proposed development off Dunford Road at Hade Edge. The site is located at 414694, 405223, grid reference SE146052.

1.2 The assessment discusses the present and future flood risk to the site, using a risk-based approach and reference to the Sequential and Exception Test where appropriate.

1.3 This assessment of flood risk has been undertaken in accordance with the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance (PPG).

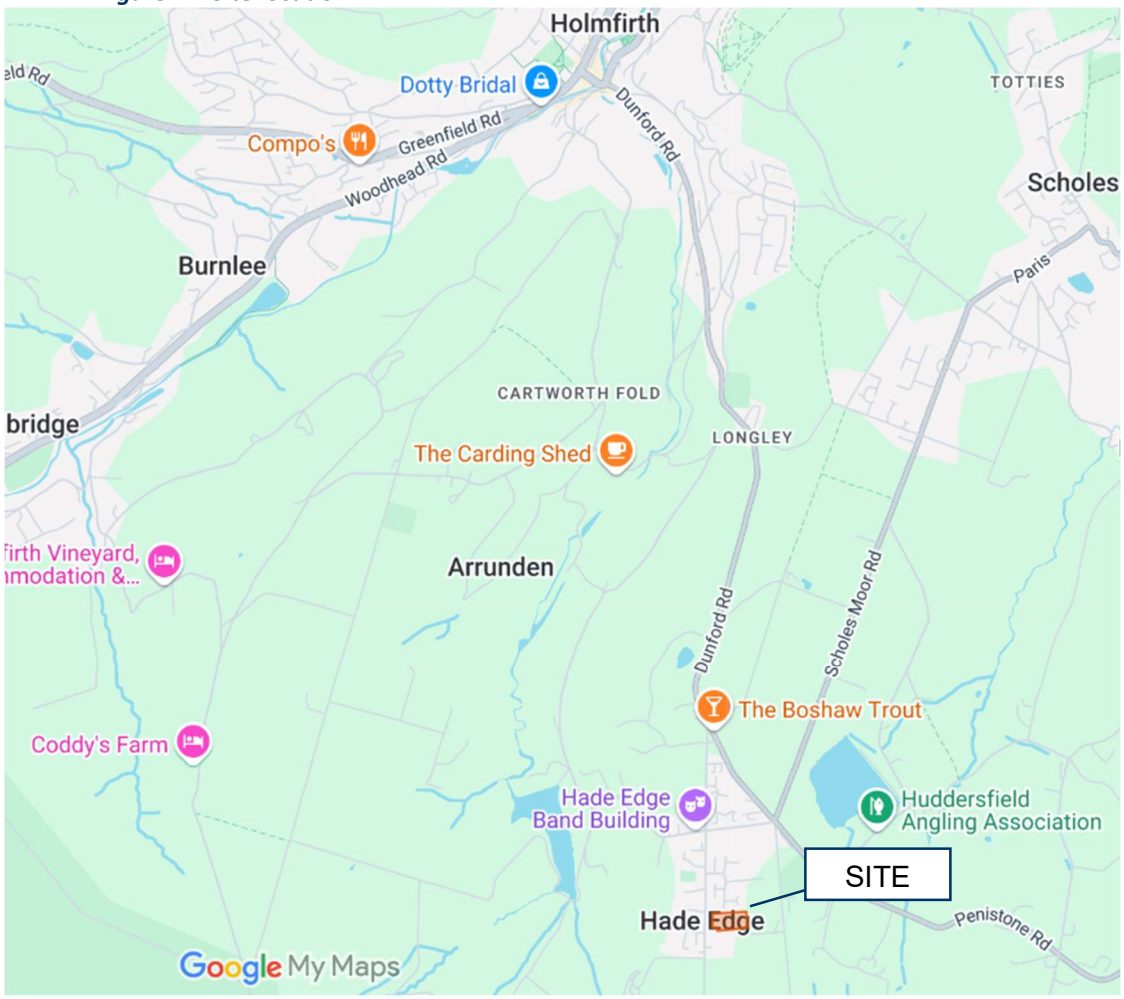
1.4 The report also looks at the proposed surface water drainage mechanism and considers drainage requirements to ensure a suitable and acceptable strategy for surface water discharge is pursued.

1.5 A formal consultation with the Environment Agency (EA) has not been undertaken as their generalised mapping data shows the site to be located within Flood Zone 1. Environment Agency and local water authority mapping data has been reviewed and referred to during the preparation of this report.

2. Existing Situation

2.1 The site location is shown at **Figure 1** which indicates the development site and its context within the wider area.

Figure 1 – Site location



2.2 The development site is currently a greenfield site.

2.3 The site is bound to the north by existing properties at Boshaw View, to the west by Dunford Road, and to the south and east by agricultural land.

2.4 The site is currently accessed via gates from the surrounding agricultural land.

2.5 The closest watercourse to the site is Long Ing Dike which is located to the southwest of the site at its closest point and generally flows from south to north parallel with the site and discharges into Holme Styes reservoir.

2.6 During any flash floods and heavy downpours, the surface water runoff is likely to migrate directly to the greenfield site to the east of the site due to the existing ground gradient.

2.7 The site area is 8,600sqm (0.86Ha) and as described above is a greenfield site.

2.8 The greenfield runoff rate has been calculated using the greenfield runoff method IH124 results from HR Wallingford.

2.9 QBar = 4.8l/s has been obtained by using the following parameters:

- → SAAR 1289
- → WRAP Soil type 3
- → SPR 0.37
- → Hydrological region 3

2.10 A copy of the calculation is included at **Appendix A**.

3. Consultation

3.1 Flood Zone Designation

3.1.1 Environment Agency (EA) flood mapping confirms that the site extents fall wholly within **Flood Zone 1**.

3.1.2 Flood Zone 1 is land that has been assessed as having a less than 1:1000 (0.1%) annual probability of flooding from rivers or the sea in any given year. It is the lowest risk flood zone in line with NPPF definitions.

3.1.3 As the site falls wholly within flood zone 1, no further consultation with the Environment Agency has been undertaken.

Figure 2 – Extract from Environment Agency Flood Map for Planning

3.2 Flood Risk Vulnerability

3.2.1 The Flood Risk Vulnerability Classification has been determined in accordance with Planning Practice Guidance, Flood Risk and Coastal Change.

3.2.2 The Flood Zone Compatibility has been reviewed in accordance with Table 2 from Planning Practice Guidance, Flood Risk and Coastal Change paragraph 079:

Figure 3 – Flood Risk Vulnerability and Flood Zone Incompatibility

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✔	✔	✔	✔	✔
Zone 2	✔	Exception Test required	✔	✔	✔
Zone 3a †	Exception Test required †	X	Exception Test required	✔	✔
Zone 3b *	Exception Test required *	X	X	X	✔ *

Key:

✔ Exception test is not required

X Development should not be permitted

3.2.3 In accordance with Annex 3 of NPPF, residential development is classed as 'More vulnerable', but as the site lies wholly within Flood Zone 1, an exception test is not required.

4. Assessment of Flood Risk

4.1 As set out in NPPF, all potential sources of flooding need to be considered:

- → Rivers
- → Sea
- → Land
- → Groundwater
- → Sewers
- → Artificial Sources such as reservoirs and canals

4.2 River / Fluvial

4.2.1 Flooding from rivers can occur from flows that are not contained with the channel due to high levels of rainfall within the catchment.

4.2.2 As noted in paragraph 2.5, there are no watercourses within the site boundary and the closest watercourse to the site is Long Ing Dike some 500m to the west of the site at a significantly lower level.

4.2.3 The Environment Agency flood map shows that the site lies wholly within Flood Zone 1, therefore it is considered that the site is at very low risk of flooding from river / fluvial sources.

4.3 Sea

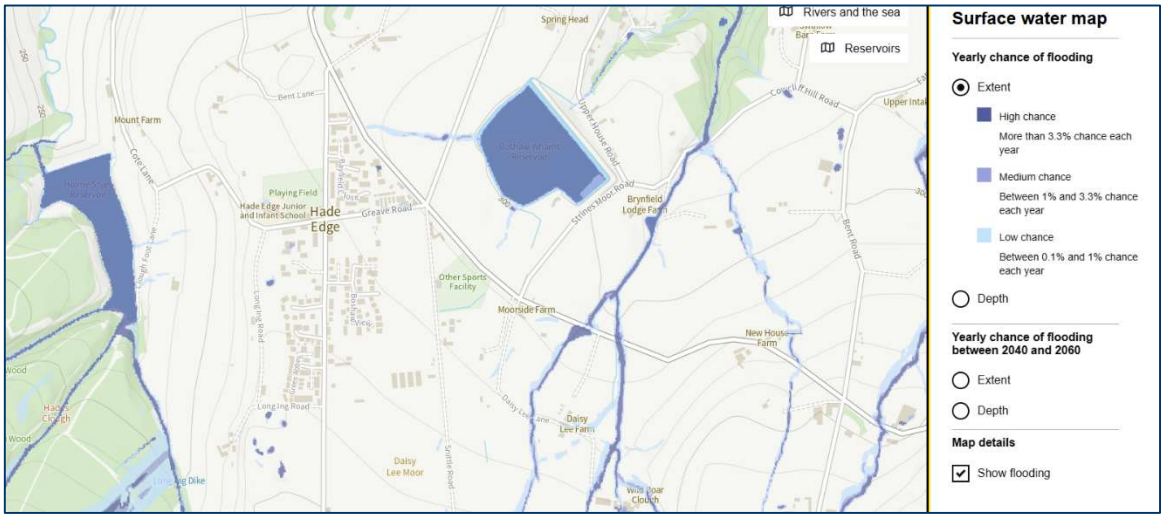
4.3.1 Flooding can occur from the sea due to high tides or surges.

4.3.2 The site is inland and is not at risk of flooding from the sea.

4.4 Land

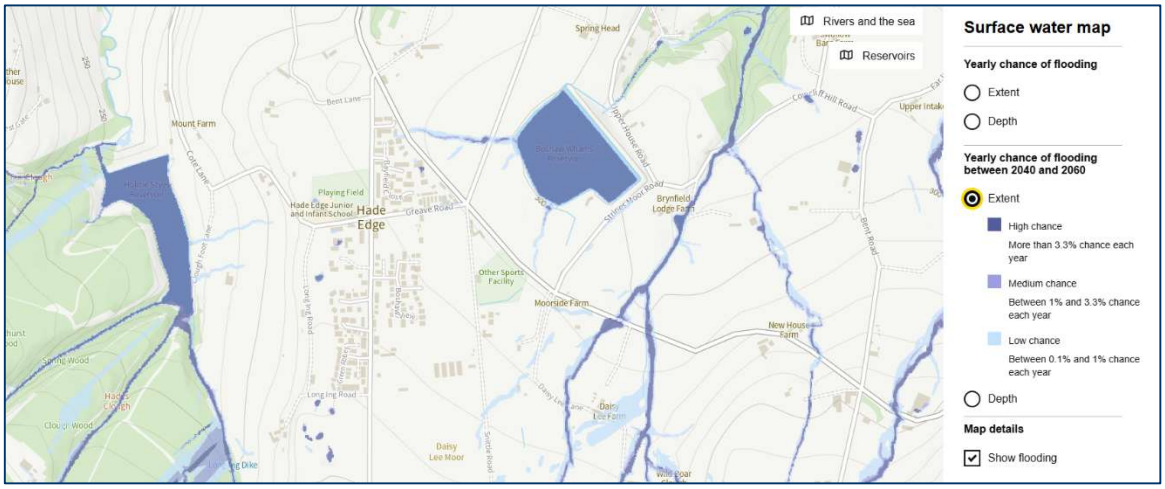
4.4.1 The Environment Agency online surface water mapping has been reviewed and shows that the site has a less than 1:1000 (0.1%) annual probability of flooding from surface water. This is classed as 'very low'.

Figure 4 – Extract from Environment Agency Surface Water Map



4.4.2 The chance of surface water flooding remains 'very low' between 2040 and 2060.

Figure 5 – Extract from Environment Agency Surface Water Map – 2040 to 2060



4.5 Groundwater

4.5.1 Groundwater flooding occurs when water levels in the ground rise above surface levels. This is most common in low lying areas that are underlain by permeable ground, and usually due to extended periods of wet weather.

4.5.2 British Geological Survey Geology viewer shows that the site bedrock geology as rough rock – sandstone. Sedimentary bedrock formed between 320 and 319 million years ago during the carboniferous period.

4.5.3 The site is located within a higher lying area and therefore is not considered to be at risk of groundwater flooding.

4.6 Sewers

4.6.1 Consultation has been undertaken with Yorkshire Water. Yorkshire Water records show that there are combined sewers in both Greave Road and Dunford Road, to the north and west of the site respectively, but no existing sewers traverse the site.

4.6.2 A copy of the response received from Yorkshire Water is contained at **Appendix B**.

4.6.3 The mitigation measures for the proposed development, discussed in Section 6, will also protect against any flooding from this source should the risk increase over the lifetime of the development.

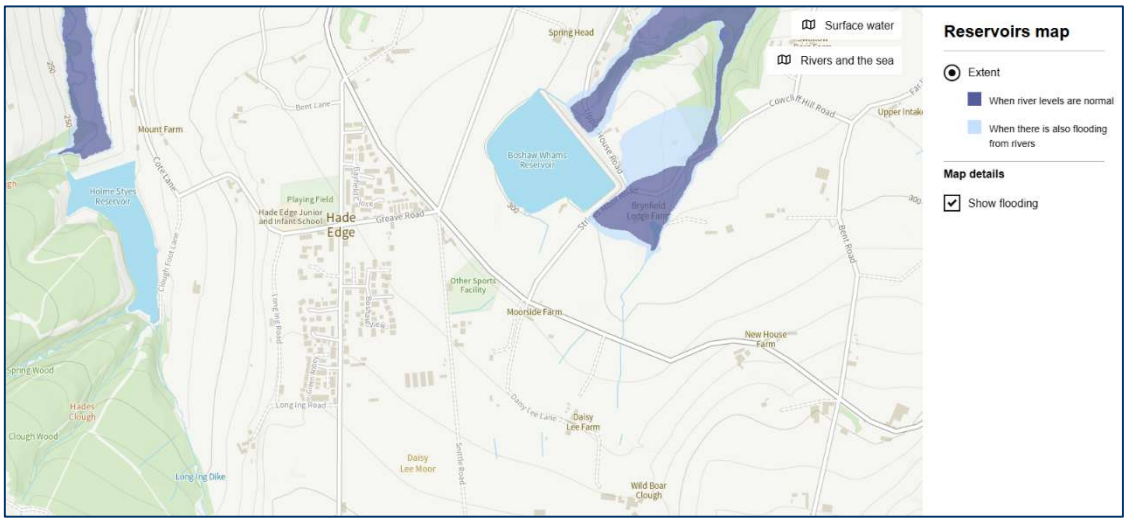
4.7 Artificial Sources

4.7.1 Flooding can be caused from artificial sources such as the failure of canals, reservoirs, industrial processes, blocked sewers, failed pumping stations and burst water mains.

4.7.2 There is no such infrastructure in the vicinity of this site that could impact this site.

4.7.3 The Environment Agency reservoir flooding map shows that the site is not at risk of flooding from reservoirs either when river levels are normal or when there is also flooding from rivers.

Figure 6 – Extract from Environment Agency Reservoirs Map



5. Proposed Development

5.1 The proposals consist of a development of 22 residential dwellings and associated infrastructure with access taken from Boshaw View. A proposed site layout is included at **Appendix C**.

5.2 The site will have a total impermeable area of 5,028sqm. This is demonstrated on drawing 166337-SAN-DRH-STH-DR-C-05_002 contained at **Appendix D**.

5.3 The drainage for the site should be designed and implemented in accordance with current guidance, advice and the requirements of the Local Authority and Local Water Authority to ensure suitable measure are introduced to restrict and manage surface water discharge.

5.4 Yorkshire Water have advised that the local public sewer network does not have capacity to accept any surface water from the proposed site. In accordance with Requirement H of the Building Regulations 2010, consideration should first be given to discharge to soakaway, infiltration system and watercourse in that priority order.

5.5 For the access road, the surface water will discharge via gullies and a piped system into the existing pipe network within Boshaw View to the existing soakaway to the north-east of the site. The access road within the lower part of the site will discharge via gullies and a piped system into soakaway to the north of the site. Private drives and dwellings it will discharge via private soakaways located in gardens.

5.6 Although no soakaway tests have been carried out on this site, they were undertaken in 2016 on the adjacent site that is now built out as Boshaw View. Given the immediate proximity of the site and the same type of original land use, it has been assumed that similar rates would be achieved on this site.

5.7 The results from these tests are referenced in the Flood Risk Assessment prepared by Dudleys Structural and Civil Consultants (reference: 15383 Dunford Road, Hade Edge) which accompanied the planning application for that site (Kirklees planning application reference: 2017/91623).

5.8 Section 4 of the above-mentioned report shows soil infiltration rates from the three trial pits as:

- → 1.39×10^{-4}m/s
- → 1.41×10^{-5}m/s
- → 1.93×10^{-5}m/s

5.9 In accordance with Table 25.1 from CIRIA Suds Manual 2015, replicated overleaf as **Figure 7**, the infiltration rates fall in the range for 'Good Infiltration Media'.

Figure 7 – Typical Infiltration Coefficients [Table 25.1 CIRIA Suds Manual 2015]

TABLE 25.1 Typical infiltration coefficients based on soil texture (after Bettess, 1996)

Soil type/texture	ISO 14688-1 description (after Blake, 2010)	Typical infiltration coefficients (m/s)
Good infiltration media		
• gravel	Sandy GRAVEL	$3 \times 10^{-4} - 3 \times 10^{-2}$
• sand	Slightly silty slightly clayey SAND	$1 \times 10^{-5} - 5 \times 10^{-5}$
• loamy sand	Silty slightly clayey SAND	$1 \times 10^{-4} - 3 \times 10^{-5}$
• sandy loam	Silty clayey SAND	$1 \times 10^{-7} - 1 \times 10^{-5}$
Poor infiltration media		
• loam	Very silty clayey SAND	$1 \times 10^{-7} - 5 \times 10^{-6}$
• silt loam	Very sandy clayey SILT	$1 \times 10^{-7} - 1 \times 10^{-5}$
• chalk (structureless)	N/A	$3 \times 10^{-8} - 3 \times 10^{-6}$
• sandy clay loam	Very clayey silty SAND	$3 \times 10^{-10} - 3 \times 10^{-7}$
Very poor infiltration media	–	
• silty clay loam	–	$1 \times 10^{-8} - 1 \times 10^{-6}$
• clay	Can be any texture of soil	$< 3 \times 10^{-6}$
• till	described above	$3 \times 10^{-9} - 3 \times 10^{-6}$

5.10 All soakaways will be located a minimum of 5m from any existing or proposed buildings and will be designed to ensure that surface water flows are contained on site for the 1:100 year plus 40% climate change critical duration event.

5.11 Yorkshire Water have confirmed that the foul water can discharge to a 150/225mm public combined sewer recorded in Boshaw View to the north of the site.

5.12 As previously noted, a copy of the consultation response from Yorkshire Water is contained at **Appendix B**.

6. Mitigation Measures

6.1 The following section outlines a number of measures that can be employed to help protect the development from a flood event.

6.2 Drains and drainage apparatus associated with the development should be inspected and cleared post construction and when necessary to reduce the risk of blockages and flooding.

6.3 Any hardstanding should, where possible, be constructed from permeable surfacing and / or fall into permeable areas such as landscaping and soft margins to promote the natural percolation of runoff.

6.4 Any hardstanding areas to the outside of the buildings should fall away from entrance points, wherever possible, with a minimum gradient of 1:100. Where this is not possible then the introduction of linear drainage at the entrance points to the buildings will provide extra protection to the building in times of extreme rainfall.

7. Conclusion

7.1 Sanderson Associates Consulting Engineers have been appointed to undertake a Flood Risk Assessment for a proposed development off Dunford Road at Hade Edge. This Flood Risk Assessment has been prepared to support a full planning application for 22 residential units, associated car parking, garages, vehicular, pedestrian and cycle access and infrastructure, foul and surface water drainage infrastructure, public open space and landscape.

7.2 Environment Agency (EA) flood mapping confirms that the site extents fall wholly within **Flood Zone 1**.

7.3 In accordance with Annex 3 of NPPF, residential development is classed as 'More vulnerable', but as the site lies wholly within Flood Zone 1, an exception test is not required.

7.4 The flood risk from all potential sources of flooding has been assessed. This showed that the site has a very low risk of flooding from rivers, the sea, surface water, groundwater, sewers or artificial sources.

7.5 Surface water will discharge via a mixture of permeable paving and soakaways. There will be no surface water discharge to the public combined sewer in Boshaw View.

7.6 Foul water will discharge to the 150/225mm public combined sewer recorded in Boshaw View to the north of the site.

7.7 Additional mitigation measures will be incorporated with the design of the site to further reduce the risk of flooding.

7.8 In conclusion, the proposed development off Dunford Road at Hade Edge is at a very low risk of flooding and the surface water runoff from the developed site can be sustainably managed in accordance with planning policy and is not expected to impact flood risk elsewhere.

Appendix A

IH124 Calculation

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	25/04/2025
Calculated by	
Reference	
Model version	2.0.0

Location

Site name: Site A

Site location: Hade Edge

Site easting: 414692

Site northing: 405335

Site details

Total site area (ha): 0.81 ha

Greenfield runoff

Method

Method	IH124

IH124

	My value		Map value
SAAR (mm)	1289 mm		1289
How should SPR be derived?	WRAP soil type		
WRAP soil type	3		5
SPR	0.37		
QBar (IH124) (l/s)	4.8 l/s		

Growth curve factors

	My value		Map value
Hydrological region	3		3
1 year growth factor	0.86		
2 year growth factor	0.94		
10 year growth factor	1.45		
30 year growth factor	1.75		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

Method	IH124	
Flow rate 1 year (l/s)	4.1	l/s
Flow rate 2 year (l/s)	4.5	l/s
Flow rate 10 years (l/s)	6.9	l/s
Flow rate 30 years (l/s)	8.3	l/s
Flow rate 100 years (l/s)	9.9	l/s
Flow rate 200 years (l/s)	11.3	l/s

Disclaimer

Appendix B

Yorkshire Water Consultation Response

YorkshireWater

Yorkshire Water Services
Land and Property
Western House
Western Way
Halifax Road
Bradford
BD6 2SZ

Tel: 0345 120 8482
Fax:

Email:
technical.sewerage@yorkshirewater.co.uk

Sanderson Associates Consulting Engineers
Sanderson House; Jubliee Way
Huddersfield
WF4 4TD

Your Ref:
Our Ref: A007623

For telephone enquiries ring:
George Mullaney on 0345 120 8482

16th April 2025

Dear Sir/Madam,

Dunford Road, Land off Greave Road, Hade Edge, Kirklees HD9 2JG - Pre-Planning Sewerage Enquiry V861094

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:

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 150/225 mm diameter public foul sewer recorded in Boshaw View, at a point to the north the site.

YorkshireWater

Surface Water

The developer's attention is drawn to Requirement H3 of the Building Regulations 2010. 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.

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

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

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 online or obtain an application form from our website (www.yorkshirewater.com/developers/sewerage/sewerage-connections/) 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 Code for Adoption under Section 104 of the Water Industry Act 1991. Please telephone 0345 120 84 82 for advice on sewer adoptions. 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 Code for Adoption, pursuant to an agreement under Section 104 of the Water Industry Act 1991. We are happy to offer pre-development technical advice on any prospective sites that you would like to put forward for adoption, prior to submission of your adoption application.

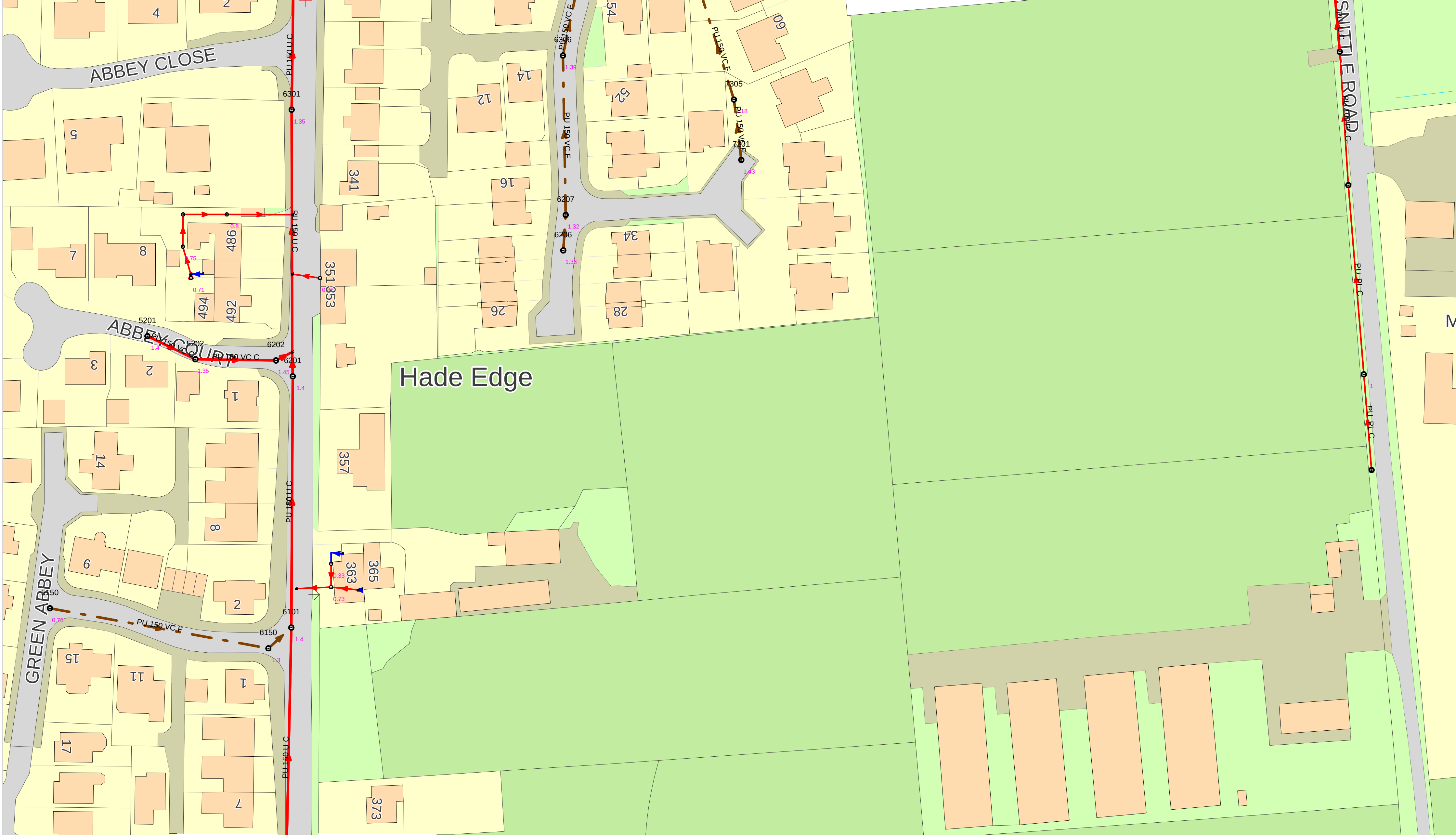
YorkshireWater

An application to enter into a Section 104 agreement must be made in writing prior to any works commencing on site. Please contact our Sewer Adoption, Diversion and Requisition (telephone 0345 120 84 82) or email technical.sewerage@yorkshirewater.co.uk or visit - https://www.yorkshirewater.com/developers/sewerage/sewer-adoptions/ for further information.

All the above comments are based upon the information and records available at the present time and are valid for a period of 12 months. 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

George Mullaney
Town Planning Technician



414644 : 405189	Map Name : SE1405SE	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 : G Mullaney. Contact Tel :		Notes	Foul Sewer = F Combined Sewer = C Surface Water Sewer = SW Trade Sewer = TD Partially Separate = PS	
			Date Req : 16/04/2025, 12:03:13	Date Gen : 16/04/2025, 12:03:44
			Source : Sewer Network Enquiry	

UPN: Undefined Originator: G Mullaney, ,

Appendix C

Proposed Site Layout

LEGEND:

SF10 - 1800mm(h) FEATHER EDGED TIMBER FENCE

SF7 - 850mm PLOT DEFINITION FENCE

N

S

EXISTING ADJACENT JONES HOMES SITE

ABBEY CLOSE

ABBEY COURT

GREEN ABBEY

DUNFORD ROAD

Schedule of Accommodation										
To be read in conjunction with drawing no. 0005-015-NIE-XX-XX-DR-A-PL_005-P11										
Ref.	**Name**	**Storeys**	**Beds**	**Format**	**Ft²**	**M²**	**No.**	**%**	**Sub-total Ft²**	**Sub-total M²**
OMS										
ALDER	**Alder**	2	2	Semi-detached	753.00	69.96	4	18%	3012	279.82
MERE	**Mere**	2	3	Semi-detached	1017.00	94.48	2	9%	2034	188.96
MERE	**Mere**	2	3	Detached	1017.00	94.48	2	9%	2034	188.96
DEL	**Delamere**	2	3	Detached	1110.00	103.12	1	5%	1110	103.12
HEN	**Henley**	2	5	Detached	1867.00	173.45	6	27%	11202	1040.70
DUR	**Durham**	2	4	Detached	1768.00	164.25	4	18%	7072	657.01
LUD	**Ludlow**	2	4	Detached	1670.00	155.15	3	14%	5010	465.44
						Total	22	100%	31474	2924.03

rev	date	issued	checked	description
P11	02.02.26	JB	SN	Garden room removed from Henley type. Schedule of accommodation updated.
P10	06.01.26	JB	SN	Additional parking added to plot 18 & 19.
P9	16.10.25	JB	SN	Garden room added to Henley house type. Schedule of accommodation sqft updated to all types.
P8	01.08.25	JB	SN	House types amended to 2025 cribs.
P7	02.05.25	JB	SN	Plots 5 changed to a Bentley type. Schedule of accommodation updated.
P6	24.03.25	JB	SN	Plots 16-22 amended. Schedule of accommodation updated.
P5	03.03.25	JB	SN	Plot 3 position adjusted slightly. Minor adjustments to visitor parking. House type blocks updated to latest cribs. Junction markings added to highway at side of plot 3. Schedule of accommodation updated.
P4	30.01.25	JB	SN	Plot 5 amended to a Bentley 'S' type. Plot 8 amended to a Latchford type.
P3	09.12.24	JB	SN	Plot 20 amended to a Bentley 'S' type. Plot 21 handed. Parking adjusted to plot 3.
P2	26.09.24	JB	SN	Red edge adjusted. Plot 10 amended to Bentley 'S' type. Plot 7 amended to Latchford type. Plots 2 & 3 detached. Highway adjusted fronting plot 12 and private drive shown.
P1	18.09.24	JB	SN	First issue.

Hade Edge

Proposed Site Layout - Option A (Site A)

title:
Dunford Road,
Hade Edge

client:
Jones Homes

scale:
1:500@A1

Planning

Niemen Architects
Deck 2, The Waterscape
42 Leeds & Bradford Road
Kirkstall, Leeds, LS5 3EG
T: 0113 239 5400
office@niemen.co.uk

niemen studio

subject to accurate measured survey

subject to structural review

client ref.	job ref.	originator	zone	level	type	role	drawing no.	revision
							0005-015-NIE-XX-XX-DR-A-PL_005	P11

Appendix D

Proposed Impermeable Area Plan

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK

- Sanderson Associates Consulting Engineers ("the consultant"), has not checked or verified, and shall have no liability whatsoever for any inaccuracies which may be attributable to any data, reports, base plan(s) and drawings provided by the client, or purchased by the consultant on the client's behalf, that may have been utilised within this drawing.
- The consultant shall not be liable for the use by any person of any document for any purpose other than that for which the same were provided by the consultant.
- No liability whatsoever is accepted by the consultant for any error or omissions.
- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or it's vehicle libraries.
- The locations of utilities apparatus, if shown, is reproduced from plans supplied to the consultant, although care has been taken when duplicating this information. These locations are approximate only and no guarantee can be given for their accuracy. It is the client's or it's appointed agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
- Service connections are not shown but their presence should be anticipated.
- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.

KEY

IMPERMEABLE AREAS

HARDSTANDING:	1,990m²	(24%)
BUILDINGS:	2,168m²	(27%)
CARRIAGEWAY	870m²	(11%)
TOTAL:	5,028m²	(59%)

PERMEABLE AREA

PERMEABLE	3,572m²	(41%)
TOTAL AREA	8,600m²	(100%)

P03	AMENDED FOLLOWING CLIENT COMMENTS RECIEVED 06/03/2026	SS	10/03/2026	TC
P02	LATEST LAYOUT ADDED & AREAS AMENDED TO SUIT	JBG	04/03/2026	TC
P01	FIRST ISSUE	TC	22/04/2025	DB
Rev	Amendment	Drawn	Date	Checked

Drawing Status

S3 - FOR COMMENT

sanderson associates consulting engineers
Highways | Traffic | Transportation | Water
T 01924 844080 mail@sandersonassociates.co.uk
www.sandersonassociates.co.uk

Client

JONES HOMES (YORKSHIRE) LIMITED

Project Title

LAND OFF DUNFORD ROAD, HADE EDGE, SOUTHERN SITE

Drawing Title

PROPOSED IMPERMEABLE AREA PLAN

Scale	Drawing Size	Drawn By	Checked By
1:250	A1	TC	DB

Project Number	Date	Approved By
166337	April 25	DB

Drawing Number	Rev
166337-SAN-DRH-STH-DR-C-05_002	P03

Sanderson House, Jubilee Way, Grange Moor,
Huddersfield, WF4 4TD

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