

# Hoyland Barnsley, South Yorkshire

Flood Risk Assessment  
and Drainage Strategy

Issue Date:  
27 August 2025

Report Number:  
25035-01

Client:  
Bellway Homes

Revision:  
1

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Revision	Date	Comments	Prepared by	Checked by
-	30.06.25	Initial issue	PB	PL
1	27.08.25	Section 4.4 & Appendix F updated	PB	PB

## Executive Summary

<b>Site Location</b>	The proposed 3.6Ha development is located on land to the north of the B6096 Wood Walk in the town of Hoyland, Barnsley, South Yorkshire. Barnsley town centre is located approximately 5.5km north-west of the site.  National Grid Reference: SE 37366 01729  437366mE, 401729mN
<b>Site Proposals</b>	A residential development comprising of 83 properties with associated garages, gardens, and parking, with areas of public open space. Vehicular access to the development will be via a new junction on the B6096 Wood Walk on the site's southern boundary.
<b>Ground Conditions</b>	Approximately half of the site (centre and north) is underlain by the former Woodhead Farm Opencast Mine. Backfill has been found to be circa 26m deep. Natural ground outside of the opencast comprises of stiff clays and sandy gravel underlain by shallow sandstone and siltstone bedrock.
<b>Nearest Watercourse</b>	An unnamed watercourse approximately 90m from the site boundary located behind existing residential properties on Pepper Street to the south of the B6096 Wood Walk.
<b>Nearest Surface Water Sewer</b>	375mm diameter public surface water sewer in Wombwell Road to the south-west of the site.
<b>Nearest Combined Sewer</b>	225mm diameter public combined sewer in Wombwell Road to the south-west of the site.
<b>Nearest Foul Water Sewer</b>	None within vicinity of site.
<b>Flood Zone</b>	EA flood maps indicate that the development boundary is located almost entirely within an area classified as a <b>Flood Zone 1</b> . A narrow low spot extending approximately 10m inside the site's western boundary is classified as <b>Flood Zone 2</b> .
<b>Surface Water Flooding</b>	EA surface water flood maps show that the majority site is classified as being at <b>very low risk</b> of surface water flooding. A small area southern boundary is classified as being at <b>high to low risk</b> . A narrow band of <b>low risk</b> surface water flooding extends approximately 10m inside the site's western boundary.
<b>Ground Water</b>	The Geoenvironmental Appraisal report states " <i>no significant groundwater has been encountered</i> ". Groundsure reports consider the risk of groundwater flooding to be 'negligible'. The risk of flooding due to groundwater rise can be considered as <b>low</b> throughout the site.
<b>Surface Water Discharge Rate</b>	Surface water should be restricted to 3.5 litres/sec peak discharge for all events up to and including the 100-year event with a 40% allowance for climate change and 10% urban creep allowance providing betterment of up to 72% in comparison to the current regime.
<b>SUDS</b>	Detention basin  Vortex flow control

The above summary should not be used in isolation and reference should be made the full report.

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## 1. Introduction

Coast Consulting Engineers have been commissioned by Bellway Homes to assess the flood risk associated with a proposed development in Hoyland, Barnsley. This Flood Risk Assessment is reviewed in accordance with the National Planning Policy Framework (NPPF) for Development and Flood Risk. In conjunction with assessing the site for flood risk a proposed drainage strategy has been prepared.

This site-specific Flood Risk Assessment (FRA) has been undertaken to determine the risk of flooding to the proposed development from all sources in accordance with the National Planning Policy Framework (NPPF) and to assess the flood risk to others as a result of the development. The assessment will recommend how the risk can be managed in line with planning policy requirements.

One of the key aims of the National Planning Policy Framework (NPPF) is to ensure that flood risk is considered at all stages of the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas at highest risk. Where new development is necessary in such areas, the policy aims to make it safe without increasing flood risk elsewhere and where possible, reducing flood risk overall.

### 1.1 National Planning Policy Framework (NPPF)

The NPPF (2024) requires that:

- A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account the vulnerability of its users, without increasing flood risk elsewhere, and where possible, will reduce flood risk overall.
- A site-specific flood risk assessment is required for proposals greater than 1 ha in size in a Flood Zone 1; all proposals for new development in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as identified in the Strategic Flood Risk Assessment).

The following definitions for flood zones are derived from NPPF:

#### **FLOOD ZONE 1:**

This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).

#### **FLOOD ZONE 2:**

This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% – 0.1%) in any year.

### **FLOOD ZONE 3:**

This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

In addition to the risk of flooding from rivers or sea, consideration must also be given to surface water flooding, flooding due to ground water and flooding from artificial sources such as sewer failure or overtopping of reservoirs.

## 2. Site Location, Topographical Features and Proposals

### 2.1 Site Location

The proposed 3.6Ha development is located on land to the north of the B6096 Wood Walk in the town of Hoyland, Barnsley, South Yorkshire. Barnsley town centre is located approximately 5.5km north-west of the site.

National Grid Reference: SE 37366 01729

437366mE, 401729mN

Please refer to the site location plan shown below and in Appendix A.



**Figure 2.1 – Site location**

### 2.2 Existing Site Description

The irregular shaped 3.6Ha site currently comprises of greenfield land with a wooded area in the east. Vehicular access is from the B6096 Wood Walk.

The site is bound by the A6195 Dearne Valley Parkway to the north, and by the B6096 Wood Walk to the south and east. An residential estate and further grassland are present beyond the tree-lined western boundary.

A topographical survey dated March 2020 by TriCAD Solutions Ltd shows that site levels fall from a central high point towards the south-west and eastern boundaries. Please refer to Appendix B.

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### 2.3 Existing Watercourses

The Environment Agency's Statutory Main River Map shows that there are no Main Rivers within 1km of the site.

The closest watercourse is an unnamed watercourse approximately 90m from the site boundary located behind existing residential properties on Pepper Street to the south of the B6096 Wood Walk.

### 2.4 Existing Sewers and Drainage

Existing sewer records have been obtained from Yorkshire Water (YW). Sewer records show there are no public sewers located within the site boundary.

A 375mm diameter public surface water sewer is present in Wombwell Road to the south-west of the site.

A 225mm diameter public combined sewer is present in Wombwell Road to the south-west of the site.

A copy of the sewer records can be found in Appendix C.

### 2.5 Existing Ground Conditions

Lithos Consulting have produced a Geotechnical Appraisal report dated April 2023 which states that approximately half of the site (centre and north) is underlain by the former Woodhead Farm Opencast Mine. Backfill has been found to be circa 26m deep. Natural ground outside of the opencast comprises of stiff clays and sandy gravel underlain by shallow sandstone and siltstone bedrock.

### 2.6 Development Proposals

Architects' proposals show a residential development comprising of 83 properties with associated garages, gardens, and parking, with areas of public open space. Vehicular access to the development will be via a new junction on the B6096 Wood Walk on the site's southern boundary. Please refer to Appendix D.

### 3. Potential Sources of Flooding and Proposed Mitigation

As required by the National Planning Policy Framework (NPPF) and Technical Guidance to the NPPF, each potential source of flooding needs to be considered; rivers and sea, land, groundwater, sewers and artificial sources (such as reservoirs and canals). Consideration also needs to be given to the flood risk vulnerability classification for this type of development.

#### 3.1 Flood Risk Vulnerability Classification

Environment Agency flood maps (updated 25<sup>th</sup> March 2025) have been acquired to assist with this assessment. The flood maps indicate that the development boundary is located almost entirely within an area classified as a **Flood Zone 1**. Land located within a flood zone 1 is defined as having less than a 1 in 1,000 annual probability of river flooding (low risk). Refer to the extract below which identifies the Flood Zones within and in proximity to the development site. The site is not considered to be at risk of flooding from rivers or sea.

A narrow low spot extending approximately 10m inside the site's western boundary is classified as **Flood Zone 2**. This is consistent with a low area on the topographic survey and forms the start of a flood path which originated within the site and flows south across the A6195 Wood Walk. No plots are proposed within 20m of this area. Site boundary levels will remain as existing allowing this water to flow unobstructed and so not having an impact on downstream property.

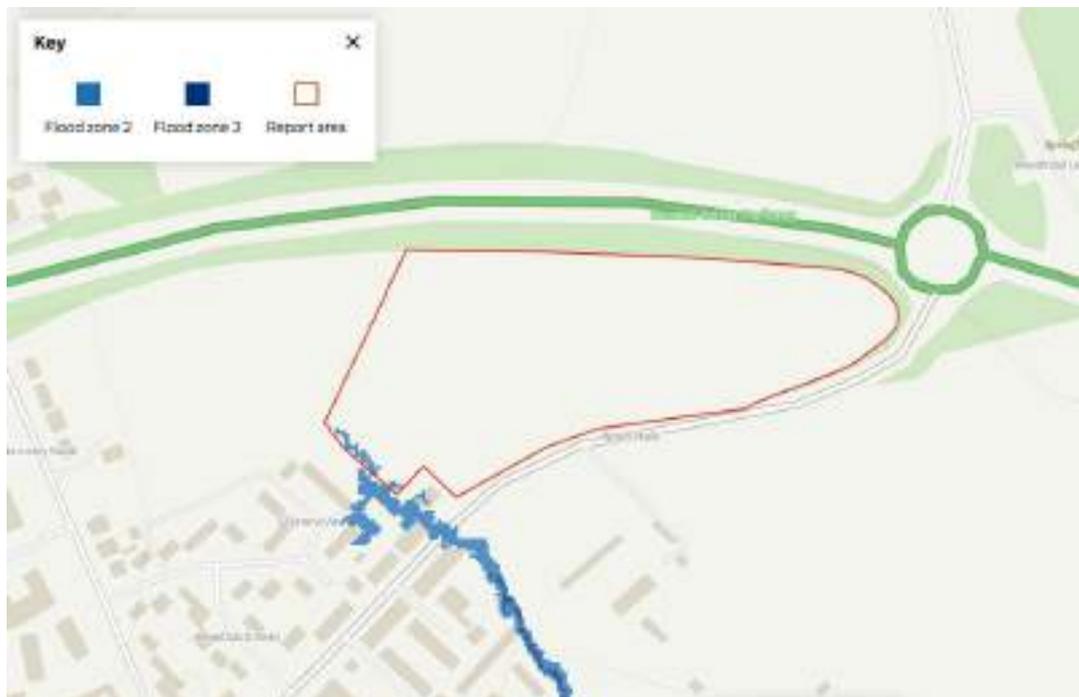


Figure 3.1 – Flood Zone Classification

### 3.2 Flood Risk Vulnerability Classification

Annex 3 of the National Planning Policy Framework (2024) states the following with respect to flood risk vulnerability classification.

#### More Vulnerable

- Hospitals.
- Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels.
- **Buildings used for dwelling houses**, student halls of residence, drinking establishments, nightclubs and hotels.
- Non–residential uses for health services, nurseries and educational establishments.
- Landfill and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

**Table 3** of the Technical Guidance to the National Planning Policy Framework states the following with respect to appropriate land uses:

Table 3: flood risk vulnerability and flood zone ‘compaibility’

Flood Risk Vulnerability Classification (See Table 2)	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
<b>Zone 1</b>	✓	✓	✓	✓	✓
<b>Zone 2</b>	✓	✓	Exception Test required	✓	✓
<b>Zone 3a</b>	Exception Test required	✓	x	Exception Test required	✓
<b>Zone 3b Functional Floodplain</b>	Exception Test required	✓	x	x	x

Key: ✓ Development is appropriate.  
X Development should not be permitted.

An exception test will not be required in this instance as development is located outside of a Flood Zone 2 or Flood Zone 3.

### 3.3 Surface Water Flood Risk

Environment Agency surface water flood maps show that the majority site is classified as being at **very low risk** of surface water flooding.

A small area southern boundary is classified as being at **high to low risk** of surface water flooding. This is consistent with low areas on the topographic survey. Post development, regrading of existing levels and installation of a positive surface water drainage system will reduce or eliminate occurrences of standing water.

A narrow band of **low risk** surface water flooding extends approximately 10m inside the site's western boundary. This is consistent with a low area on the topographic survey and forms the start of a flood path which originated within the site and flows south across the A6195 Wood Walk.

Finished floor levels should be raised locally to a minimum of 0.3m above the maximum water level of the proposed drainage features. In addition, proposed site levels should be designed to direct surface water away from dwelling entrances where possible.

Based upon the information outlined above, post development, the risk of surface water flooding to properties can be considered as **low** throughout the site.

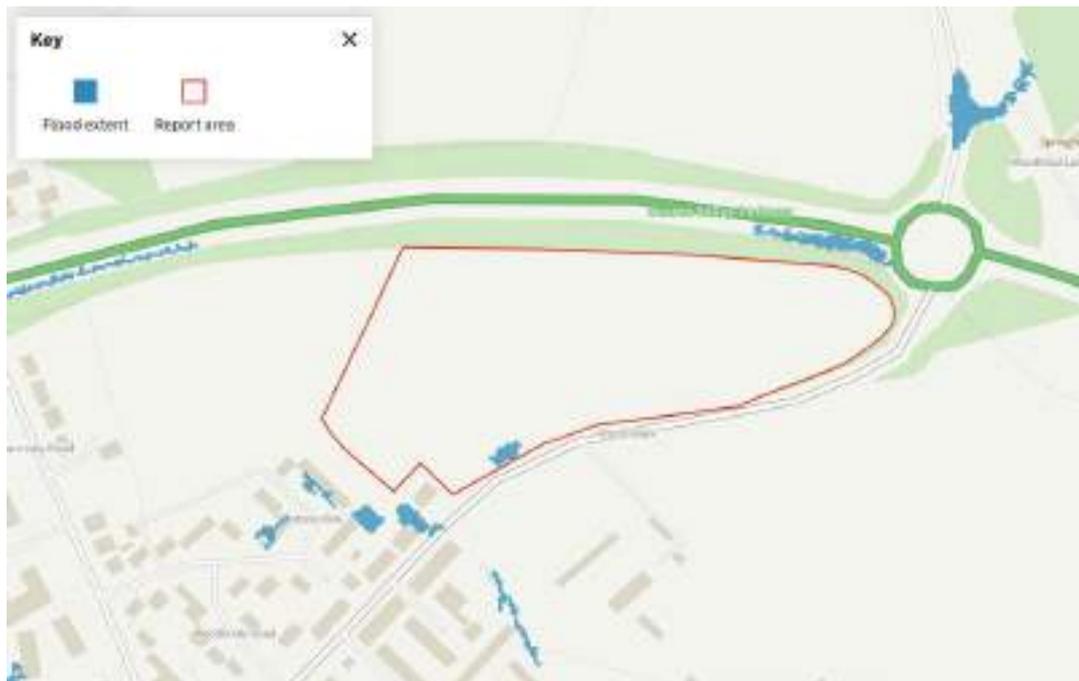
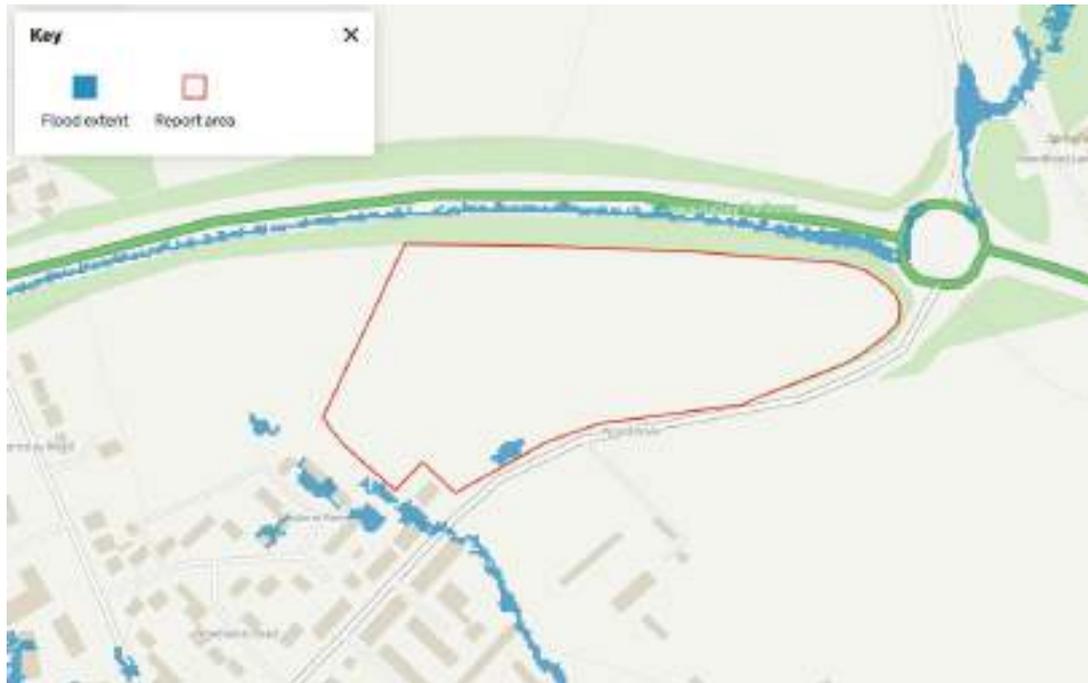
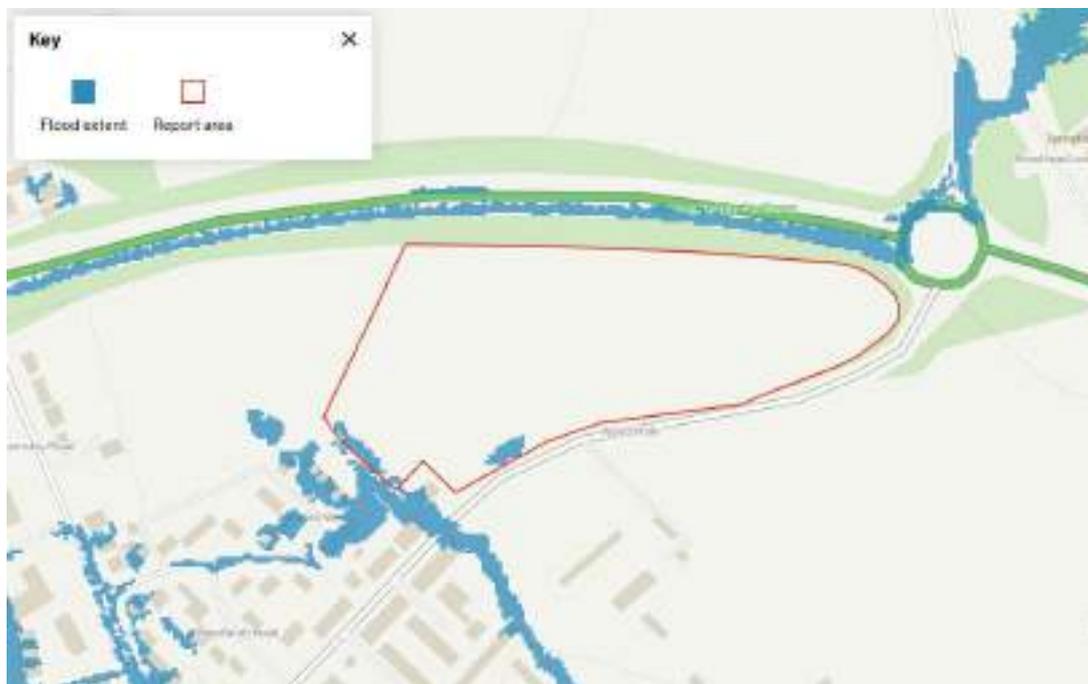


Figure 3.2 – Extent of 1 in 30 year annual likelihood (high risk) surface water flooding



**Figure 3.3 – Extent of 1 in 100 year annual likelihood (medium risk) surface water flooding**



**Figure 3.4 – Extent of 1 in 1000 year annual likelihood (low risk) surface water flooding**

### 3.4 Groundwater Flood Risk

Flooding due to ground water occurs when the levels of water below the ground rise and emanate above finished ground level. This occurs more frequently when the site is underlain by permeable strata.

The Geoenvironmental Appraisal report by Lithos Consulting states that “*no significant groundwater has been encountered*”. In addition, Groundsure reports consider the risk of groundwater flooding to be ‘negligible’. Based upon the information outlined above, the risk of flooding due to groundwater rise can be considered as **low** throughout the site.

### 3.5 Sewer Flood Risk

Sewer records show there are no public sewers located within the site boundary. Existing sewers in the B6096 Wombwell Road have cover levels considerably lower than the proposed development and local topography dictates that any flood flow paths would be away from the development. No flood risk has been identified therefore, the risk of sewer flooding can be deemed **low**.

### 3.6 Reservoir Flood Risk

Artificial sources of flood risk such as man-made ponds or reservoirs can cause a potential risk of flooding. The flood map below shows that there is no potential flooding of the site from reservoirs, therefore the risk of flooding due to this source can be deemed **low**.



**Figure 3.5 – Extent of reservoir flooding**

The proposed development is considered appropriate within a Flood Zone 1 in line with the guidance contained within the National Planning Policy Framework for flooding.

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## 4. Surface and Foul Water Disposal

Part H of the Building Regulations 2010 provides a recommended hierarchy for surface water disposal:

1. By infiltration
2. To watercourse
3. To sewer

### 4.1 Infiltration

The Geoenvironmental Appraisal by Lithos Consulting states that *“due to the presence of deep made ground, soakaways will not provide a suitable drainage solution for surface water run-off at the site”*.

### 4.2 Watercourse

The Environment Agency’s Statutory Main River Map shows that there are no Main Rivers within 1km of the site. The closest watercourse is an unnamed watercourse approximately 90m from the site boundary located behind existing residential properties on Pepper Street to the south of the B6096 Wood Walk. A new direct connection to the watercourse would require crossing third-party land and the B6096 Wood Walk and is therefore not considered to be practical.

### 4.3 Sewer

A 375mm diameter public surface water sewer is present in Wombwell Road to the south-west of the site and has been identified as a suitable point of discharge subject to Yorkshire Water approval. Yorkshire Water sewer plans suggest that the identified network in Wombwell Road discharges to the unnamed watercourse behind Pepper Street.

### 4.4 SUDS Techniques

In line with National Planning Policy, SUDS techniques are to be utilised as part of the design of the surface water network. The applicable techniques and the benefits that they bring to the development are outlined below.

- Detention basin or ponds: An **online detention basin** will be installed to contain flows up to and including the 100 year event with a 40% allowance for climate change. Detention basins are effective in peak flow reduction, water quality treatment in the settlement of solids and have good amenity and ecological potential.
- Peak flow control: A **vortex flow control** will be utilised to restrict flows to no greater than pre-development greenfield runoff rates.

#### 4.5 Post Development Discharge Rate

In accordance with Lead Local Flood Authority (LLFA) policy, post-development surface water peak discharge should be restricted to the equivalent greenfield runoff rate of discharge for the 1 in 1 year and 1 in 100-year rainfall events. The allowable rate of discharge for the development has been calculated using HR Wallingford ‘Greenfield runoff estimation for site’s’. The design of the drainage system should include a 40% allowance for climate change and an allowance for urban creep through a 10% increase in the impermeable area.

The minimum orifice size for a flow control should be no less than 75mm to prevent possible blockages to the system and this factor overrides the allowable discharge rate.

Please refer below to the table below and Appendix E from HR Wallingford’s ‘Greenfield runoff estimation for site’s’.

	Default	Edited
Q <sub>ave</sub> (l/s):	6.11	6.11
1 in 1 year (l/s):	5.26	5.26
1 in 30 years (l/s):	10.7	10.7
1 in 100 year (l/s):	12.72	12.72
1 in 200 years (l/s):	14.49	14.49

The LLFA have confirmed that a rate of 1.7l/s/Ha (6.12 l/s for 3.6Ha) is acceptable. However it is understood that Yorkshire Water have agreed to a lower rate of 3.5l/s due to available capacity in the existing surface water sewer network therefore, the lower discharge rate will apply. By restricting the peak rate of discharge from the site to 3.5l/s for all rainfall events up to the 1 in 100 year return period with a 40% allowance for climate change, **the proposed development will provide betterment from the existing regime in line with the table below:**

Return Period	Existing	Proposed	Betterment
Q <sub>bar</sub>	6.11 l/s	3.5 l/s	43%
1	5.26 l/s	3.5 l/s	33%
30	10.7 l/s	3.5 l/s	67%
100	12.72 l/s	3.5 l/s	72%

#### 4.6 Surface Water Attenuation

The proposed surface water drainage network will utilise an online detention basin to provide temporary storage for run-off from the proposed impermeable areas up to the 1

in 100 year rainfall event with an allowance of 40% for climate change and 10% increase in impermeable areas.

The required volume of surface water attenuation in the basin has been calculated to be 1,123m<sup>3</sup> based on a discharge rate of 3.5/s.

A detailed drainage strategy with associated calculations can be found in Appendix F.

#### **4.7 Maintenance**

The new foul and surface water sewers will be put forward for adoption by Yorkshire Water under a Section 104 agreement.

The developer will appoint a management company for the maintenance of the detention basin with rights for Yorkshire Water to discharge into the basin for perpetuity. Maintenance of the SuDS features should be carried out in accordance with CIRIA C753 The SuDS Manual.

#### **4.8 Foul Water**

Yorkshire Water has provided a Pre-Planning Sewerage Enquiry response which states that foul water domestic waste can discharge to the 225mm diameter public combined sewer recorded in Woodwalk, at a point to the south-west of the site.

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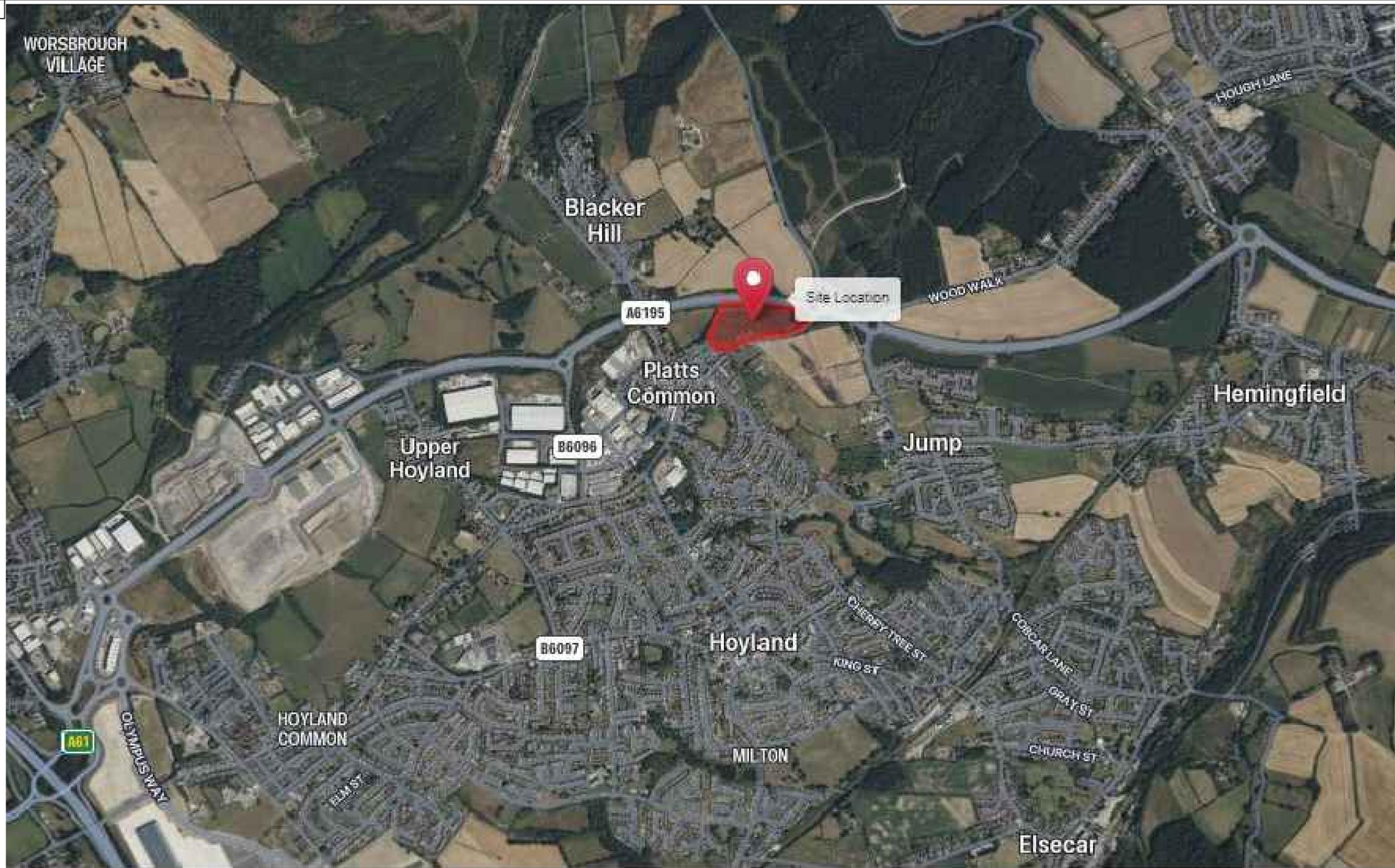
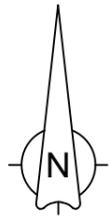
## 5. References

The following reference documents have been used in the preparation of this report.

- National Planning Policy Framework (2024)
- Technical Guidance to the National Planning Policy Framework
- Environment Agency online flood maps
- Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code
- South Yorkshire Interim Local Guidance for Sustainable Drainage Systems (2015)
- Building Regulations Document H (2010)
- Improving the Flood Performance of New Buildings – Defra
- Rainfall runoff management for developments SC030219 – Defra
- Susdrain.org
- The Suds Manual CIRIA C753
- Non-statutory technical standards for sustainable drainage – LASOO
- British Geological Survey online maps
- LandIS by Cranfield University

## Appendix A – Location Plan

YW Ref: x-x-xxx-xxx



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P1	30.06.25	Preliminary Issue	PB	PB	PL
Issue	Date	Description	By	Chkd	Appd

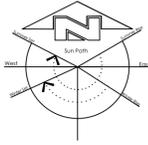


7 Silvertown Court, Northumberland Business Park, NE23 7RY  
0191 5977879

Client	BELLWAY HOMES
Job Title	HOYLAND BARNSELY

Drawing Title	SITE LOCATION PLAN		
Scale at A3	NTS		
Drawing Status	PRELIMINARY		
Job No	25035	Drawing No	Issue
			P1

## Appendix B – Topographic Survey



Original Survey by:

**TricAD Solutions Ltd.**  
BUILDING & LAND SURVEYING  
2 Berkshire Close | Wilpshire | Blackburn | Lancashire | BB1 9NG  
tel 01254 614055 fax 01254 209754 e-mail sales@tricadsolutions.co.uk  
Site Address

Notes:

Post Remediation levels carried out by Holden Surveys Ltd



**Site Survey Control & Datum Information**

Grid Orientation:  
Survey related to Ordnance Survey "OSGB36" at control point GP501 and the survey data was processed on a plane grid. (No Scale Factor)  
Level Datum:  
OS Orthometric H/s

**Control & Datum Information**

Co-ordinates and levels are based upon OSGB 1936 National Grid (OSGB36) and Ordnance Survey Datum Newlyn (ODN). They are derived using real-time site GPS survey, that utilises the National Grid Transformation OSNI15GB and the National Geoid Model OSGM15GB.  
The data obtained for use in this drawing involved the use of real-time GPS survey and total station survey.  
Contours are shown at 0.1m intervals.

Rev	Description	By	Date

Surv.	Drawn	Date	Chkd	Date
NH	NH	20.11.23		

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**Scotfield Homes Lt**



3 The Gateway North Marsh Lane Leeds LS9 8AX

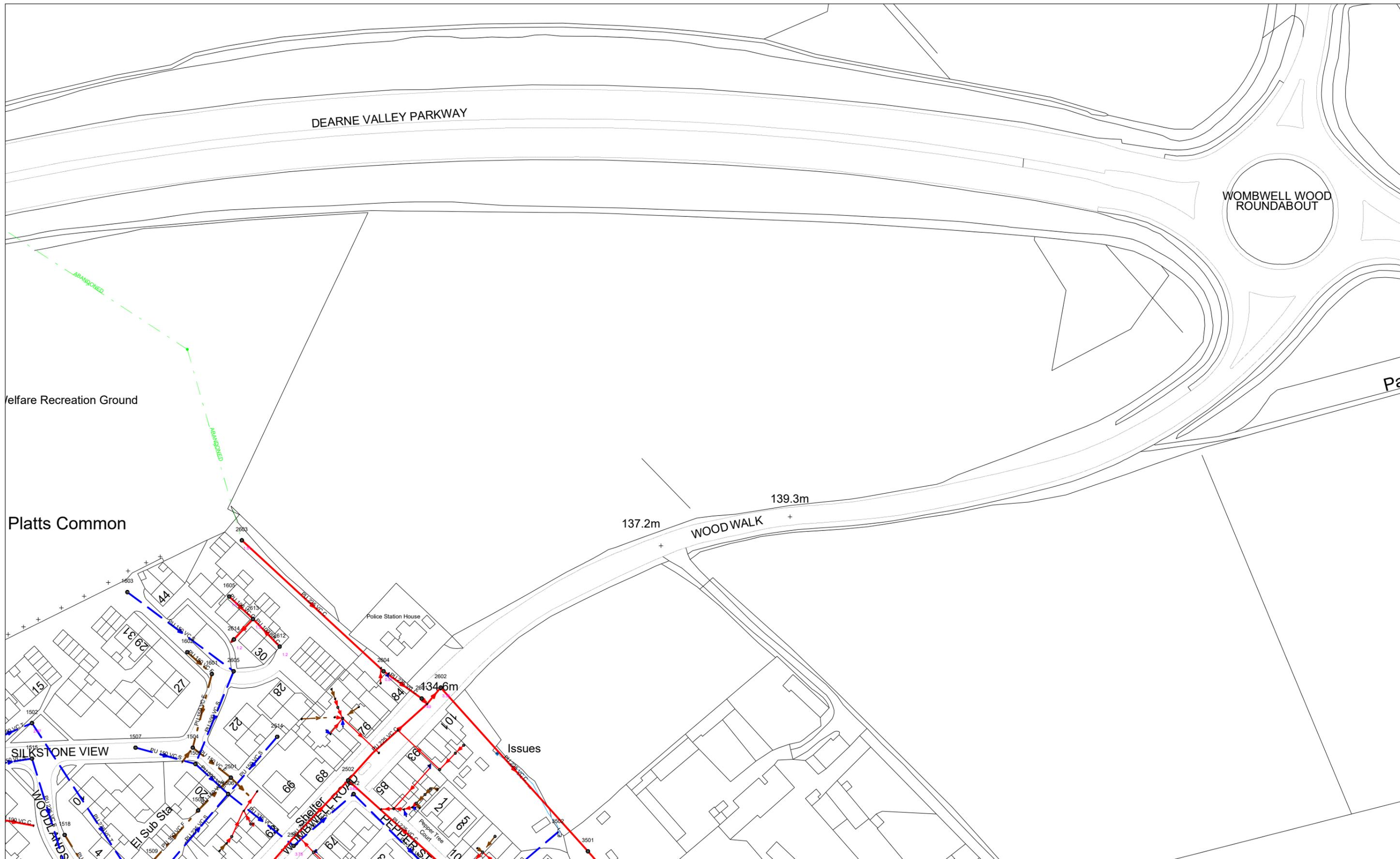
**Holden Surveys Ltd**  
Topographical Building & Site Surveys - CAD Services  
T: 0773 4936469 E: holdensurveys@msn.com

Title. Post Remediation Levels  
Site. Woodwalk  
Platts Common  
Hayland  
Barnsley  
S74 9 SH

COMPUTER GENERATED DRAWING - DO NOT ALTER

Dwg No.	SHL_01_Woodwalk
Sheet No.	1
SCALE	1/500
REV.	

## Appendix C – Sewer Records



437276 : 401638

Map Name : SE3701NW

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

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Foul Sewer = F  
 Combined Sewer = C  
 Surface Water Sewer = SW  
 Trade Sewer = TD  
 Partially Separate = PS

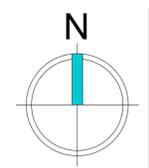
Date Req : 31/03/2020, 12:27:40

Date Gen : 31/03/2020, 12:29:09

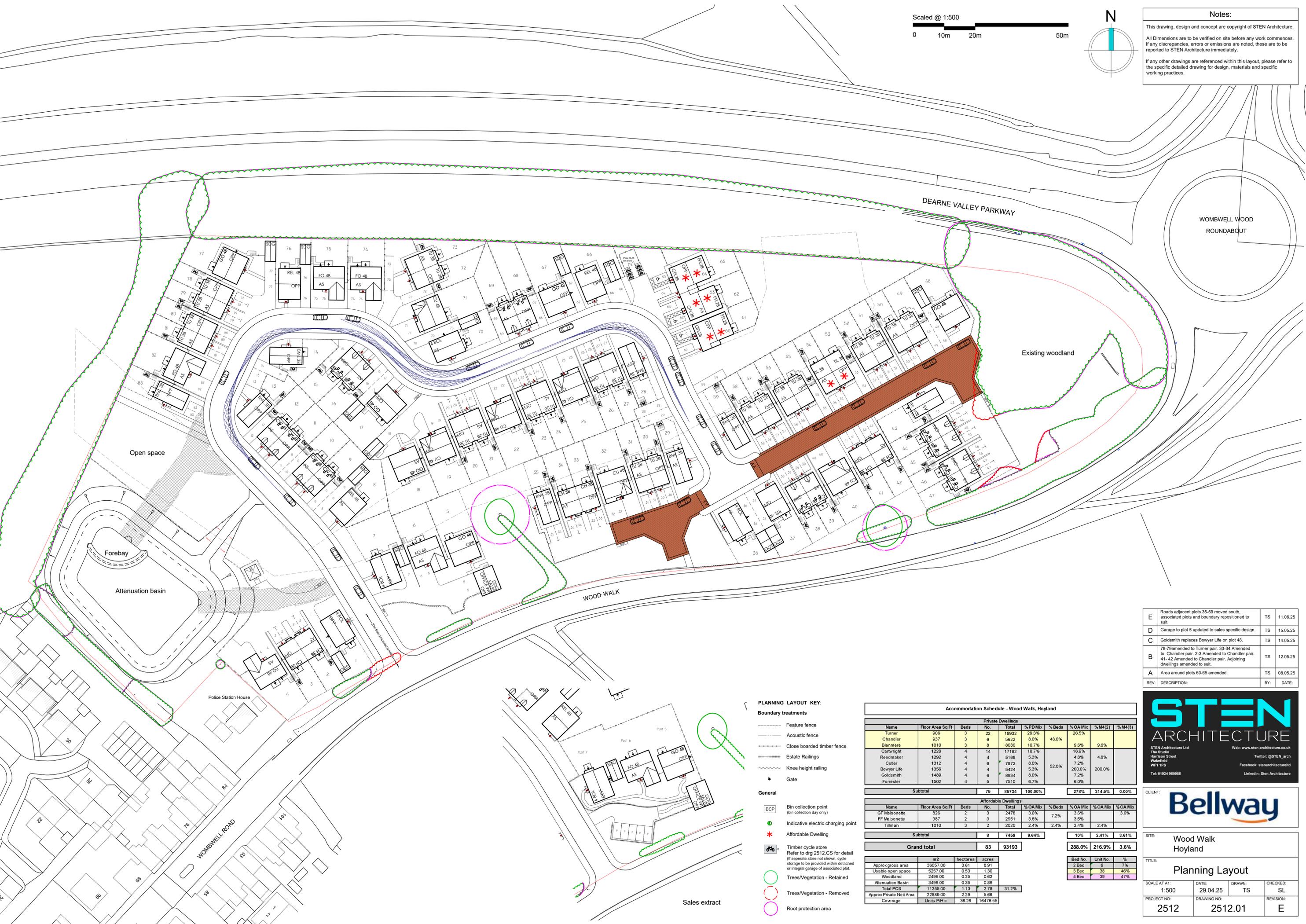
Source : Sewer Network Enquiry

## Appendix D – Development Proposals

Scaled @ 1:500  
0 10m 20m 50m



**Notes:**  
This drawing, design and concept are copyright of STEN Architecture.  
All Dimensions are to be verified on site before any work commences. If any discrepancies, errors or omissions are noted, these are to be reported to STEN Architecture immediately.  
If any other drawings are referenced within this layout, please refer to the specific detailed drawing for design, materials and specific working practices.



WOMBWELL WOOD  
ROUNDBOUT

DEARNE VALLEY PARKWAY

Existing woodland

Open space

Forebay

Attenuation basin

WOOD WALK

Police Station House

WOMBWELL ROAD

**PLANNING LAYOUT KEY:**

- Boundary treatments**
- Feature fence
  - Acoustic fence
  - Close boarded timber fence
  - Estate Railings
  - Knee height railing
  - Gate
- General**
- BCP Bin collection point (bin collection day only)
  - ⦿ Indicative electric charging point
  - ★ Affordable Dwelling
  - 🚲 Timber cycle store (Refer to drg 2512.CS for detail (if separate store not shown, cycle storage to be provided within detached or integral garage of associated plot))
  - Trees/Vegetation - Retained
  - Trees/Vegetation - Removed
  - Root protection area

Sales extract

Accommodation Schedule - Wood Walk, Hoyland									
Name	Floor Area Sq Ft	Beds	Private Dwellings			% OA Mix	% M4(2)	% M4(3)	
			No.	Total	% PD Mix				
Turner	906	3	22	19932	29.3%	26.5%			
Chandler	937	3	6	5622	8.0%	48.0%			
Blenmere	1010	3	8	8080	10.7%	9.6%	9.6%		
Cartwright	1228	4	14	17192	18.7%	16.9%			
Reedmaker	1292	4	4	5168	5.3%	4.8%	4.8%		
Cutler	1312	4	6	7672	8.0%	7.2%			
Bowyer Life	1356	4	4	5424	5.3%	200.0%	200.0%		
Goldsmith	1488	4	6	8934	8.0%	7.2%			
Forrester	1502	4	5	7510	6.7%	6.0%			
<b>Subtotal</b>		<b>75</b>	<b>85734</b>	<b>100.00%</b>		<b>27.8%</b>	<b>214.5%</b>	<b>0.00%</b>	

Affordable Dwellings									
Name	Floor Area Sq Ft	Beds	No.	Total	% OA Mix	% Beds	% OA Mix	% OA Mix	% OA Mix
GF Maisonette	826	2	3	2478	3.6%	7.2%	3.6%		3.6%
FF Maisonette	987	2	3	2861	3.6%	2.4%	2.4%		2.4%
Tillman	1010	3	2	2020	2.4%	2.4%			2.4%
<b>Subtotal</b>		<b>8</b>	<b>7459</b>	<b>9.64%</b>		<b>10%</b>	<b>2.41%</b>	<b>3.61%</b>	

Grand total		288.0%		216.9%		3.6%	
Approx gross area	36057.00	3.61	8.91				
Usable open space	5257.00	0.53	1.30				
Woodland	2499.00	0.25	0.62				
Attenuation Basin	3469.00	0.35	0.86				
Total POB	11255.00	1.13	2.78	31.2%			
Approx Private Nett Area	22889.00	2.29	5.68				
Coverage	Units P/H =	36.26	16476.55				

E	Roads adjacent plots 35-59 moved south, associated plots and boundary repositioned to suit.	TS	11.06.25
D	Garage to plot 5 updated to sales specific design.	TS	15.05.25
C	Goldsmith replaces Bowyer Life on plot 48.	TS	14.05.25
B	78-79 amended to Turner pair. 33-34 Amended to Chandler pair. 2-3 Amended to Chandler pair. 41-42 Amended to Chandler pair. Adjoining dwellings amended to suit.	TS	12.05.25
A	Area around plots 60-65 amended.	TS	08.05.25
REV:	DESCRIPTION:	BY:	DATE:

**STEN ARCHITECTURE**  
STEN Architecture Ltd  
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CLIENT: **Bellway**

SITE: **Wood Walk Hoyland**

TITLE: **Planning Layout**

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:500	29.04.25	TS	SL
PROJECT NO:	DRAWING NO:	REVISION:	
2512	2512.01	E	

## Appendix E – Greenfield Runoff Rates

Calculated by:	Paul Bye
Site name:	Hoyland
Site location:	Barnsley

## Site Details

Latitude:	53.51083° N
Longitude:	1.43821° W
Reference:	3767813344
Date:	Nov 28 2023 09:31

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.

Runoff estimation approach IH124

## Site characteristics

Total site area (ha): 3.6

## Methodology

Q <sub>BAR</sub> estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

## Notes

(1) Is  $Q_{BAR} < 2.0$  l/s/ha?

When  $Q_{BAR}$  is  $< 2.0$  l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

## Soil characteristics

	Default	Edited
SOIL type:	2	2
HOST class:	N/A	N/A
SPR/SPRHOST:	0.3	0.3

(2) Are flow rates  $< 5.0$  l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

## Hydrological characteristics

	Default	Edited
SAAR (mm):	659	659
Hydrological region:	3	3
Growth curve factor 1 year:	0.86	0.86
Growth curve factor 30 years:	1.75	1.75
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

(3) Is  $SPR/SPRHOST \leq 0.3$ ?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

## Greenfield runoff rates

	Default	Edited
Q <sub>BAR</sub> (l/s):	6.11	6.11
1 in 1 year (l/s):	5.26	5.26
1 in 30 years (l/s):	10.7	10.7
1 in 100 year (l/s):	12.72	12.72
1 in 200 years (l/s):	14.49	14.49

## Appendix F – Drainage Strategy