

General notes

All dimensions are in metres unless otherwise stated.

All levels are in metres.

This drawing is to be read in conjunction with all relevant Engineers and Architect's drawings, Specifications, Reports and Engineering Details.

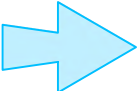
Do not scale from this drawing.

Based on Topographical Land Survey by SurveyEng Ltd, drawing number BH.TS.12 Rev C dated 26.03.2021.

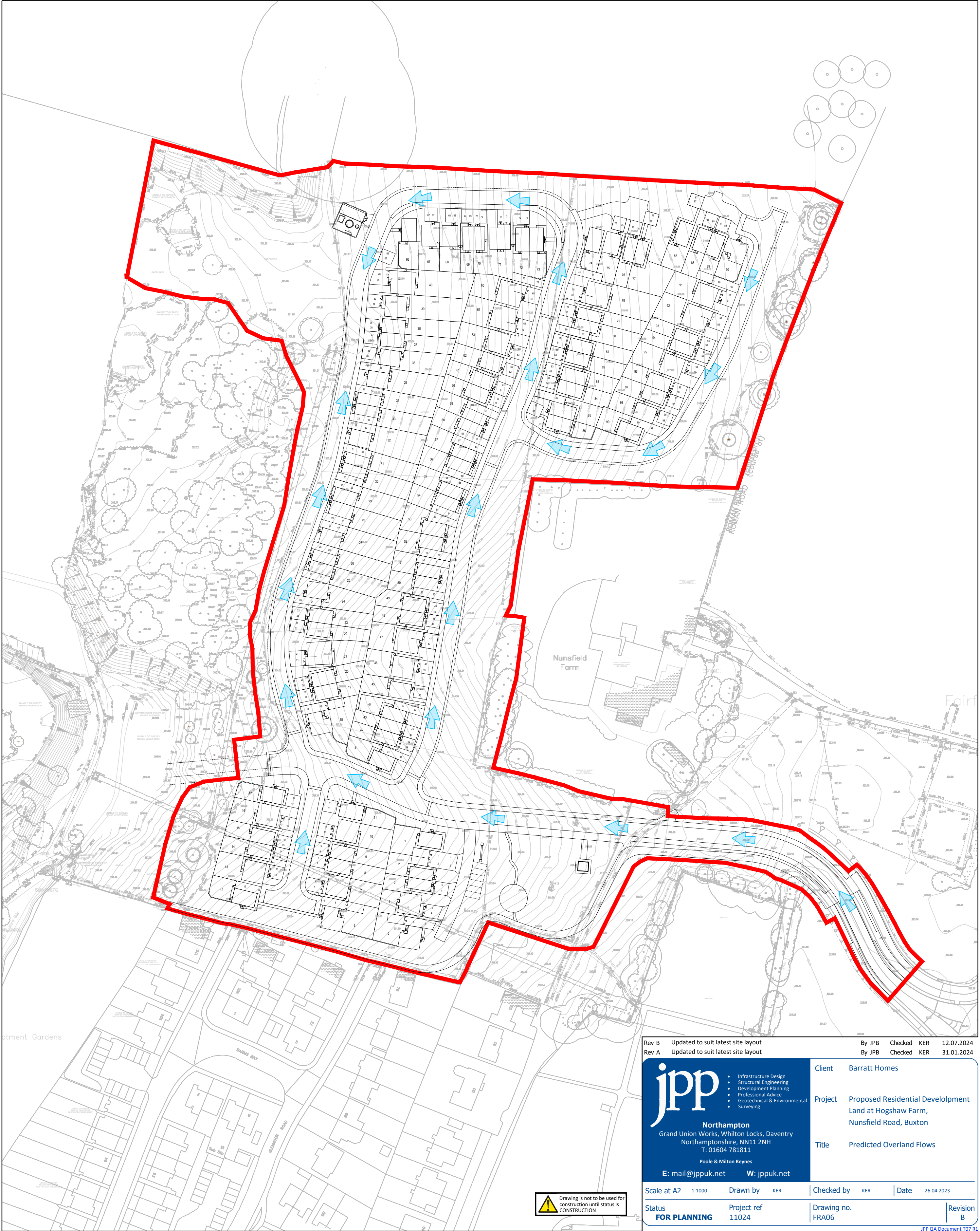
Based on Planning Layout by Barratt Homes, drawing number H8797-BAH-XX-XX-DR-UD-203001-P03 dated 28.06.2024.

Based on Drainage Layout by Barratt Homes, drawing number H8797-BAH-XX-XX-DR-CE-300001-P07 dated 01.07.2024.

Drawing Key

 Predicted Overland Flows

 Site Boundary



Rev B

Updated to suit latest site layout

By JPB

Checked KER

12.07.2024

Rev A

Updated to suit latest site layout

By JPB

Checked KER

31.01.2024

jpp

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• Infrastructure Design

• Structural Engineering

• Development Planning

• Professional Advice

• Geotechnical & Environmental

• Surveying

Client

Barratt Homes

Project

Proposed Residential Development
Land at Hogshaw Farm,
Nunsfield Road, Buxton

Title

Predicted Overland Flows

Scale at A2

1:1000

Drawn by

KER

Checked by

KER

Date

26.04.2023

Status

FOR PLANNING

Project ref

11024

Drawing no.

FRA06

Revision

B

JPP QA Document T07 R1



Appendix M

Severn Trent Water Pre-Development Enquiry

WONDERFUL ON TAP



Severn Trent Water Ltd
Leicester Water Centre
Gorse Hill
Anstey
Leicester
LE7 7GU

Contact: Emma Nowak
Mob: 07970361864

Email:
Network.Solutions@SevernTrent.co.uk

Our ref: 1080322

JPP Consulting Ltd,
4 Ironstone Way,
Brixworth,
Northampton,
NN6 9UD.

FAO: Katherine Rose

20th April 2023

Dear Katherine,

Proposed Residential Development (116 Residential Dwellings) at: Land at Hogshaw Farm, Nunsfield Road, Buxton

X: 406585 / Y: 374410

I refer to your Development Enquiry Request submitted in respect of the above site. Please find enclosed the sewer records that are included in the fee together with the Supplementary Guidance Notes (SGN) referred to below.

Public Sewers in Site – Required Protection

There are no public sewers crossing the site.

Please Note: On 1st October 2011 many private sewers were transferred into the ownership of Severn Trent Water as public sewers, where two or more properties in separate ownership are served by those sewers. Most of these former private sewers will not be shown on the public sewer records, therefore a full site survey should be carried out prior to any layout design or construction works to identify where these sewers may be and to avoid later delays and possible added costs.

Foul Water Drainage

The most convenient point of connection for gravity foul flows from the site is at the 150mm public foul sewer southwest of the site at the junction of Barms Way & Nunsfield Road. A gravity connection for an additional 116 dwellings (1.8 l/s 2DWF) would be acceptable at this sewer at a new or existing manhole (5203) subject to formal 106 approval.

Please note that a gravity connection should be viable for the whole site, however should after investigations, a pumped

connection be required for any part of the site, please notify us as soon as possible further modelling may be required to understand the impact of increased flows in the foul network.

Surface Water Drainage

Under the terms of Section H of the Building Regulations 2000, the disposal of surface water by means of soakaways should be considered as the primary method. If this is not practical a connection to the watercourse southeast of the site would be acceptable subject to LLFA approval. In addition, other sustainable drainage methods should also be explored before a discharge to the public sewerage system is considered.

If these are found to be unsuitable, satisfactory evidence will need to be submitted. The evidence should be either percolation test results or by the submission of a statement from the SI consultant (extract or a supplementary letter).

The site drainage should be discussed with the Local Lead Flood Authority with a view to implement suitable SuDS techniques to land soakaways or other land drainage systems prior to any consideration of discharges to public sewers being accepted. Any discharge rate to a watercourse or drainage ditch will be determined by the LLFA.

Should soakaways / SuDs prove not to be viable, the Nun Brook runs west of the proposed development. A connection to the watercourse should be pursued but may require the crossing of third-party land. Please note, that if you cannot gain consent from the landowner, a S98 Sewer Requisition may be required. For your information, STW have the right to lay sewers through 3rd party land even unregistered land, however, STW do not have the right to discharge to a watercourse/ditch. In order to discharge to a watercourse we require a Deed Of Grant Of Easement (DOGOE) from the watercourse owner. Please liaise with the LLFA as statutory consultee in the planning process to agree flow rates at this location.

No impact on the public network.

New Connections

For any new connections including the use, reuse and indirect to the public sewerage system, the developer will need to submit Section 106 application. Our Developer Services department are responsible for handling all such enquiries and applications. To contact them for an application form and associated guidance notes, please call 0800 707 6600, email new.connections@severntrent.co.uk or download from www.stwater.co.uk

Please quote the above reference number in any future correspondence (including e-mails) with STW Limited. Please send **all correspondence** to the network.solutions@severntrent.co.uk email inbox address, a response will be made within 15 days.

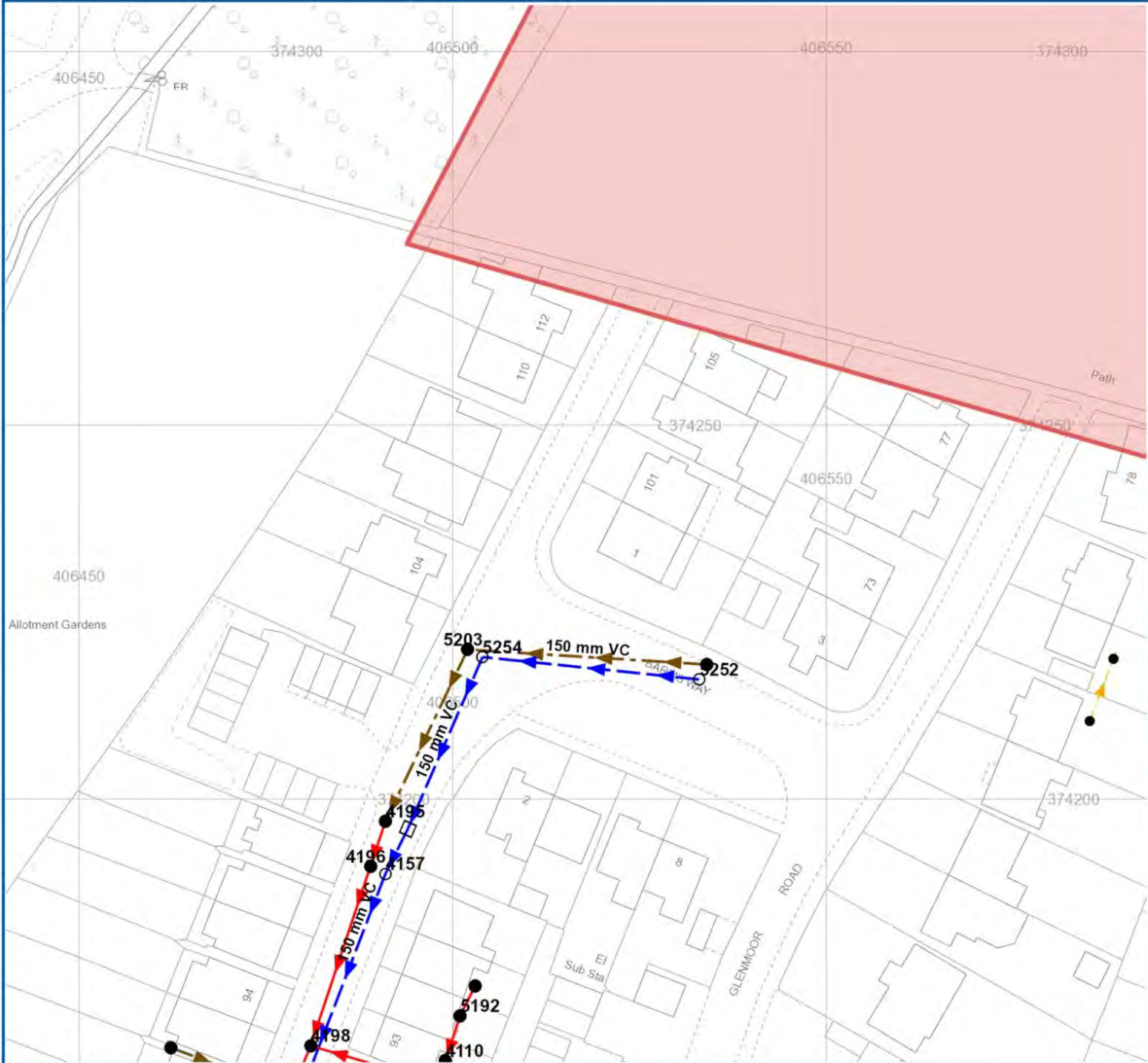
If you require a VAT receipt for the application fee please email MISCINCOME.NC@SEVERNTRENT.CO.UK quoting the above Reference Number.

Please note that Developer Enquiry responses are only valid for 6 months from the date of this letter.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Emma Nowak".

Emma Nowak.
Senior Evaluation Technician
Network Solutions
Developer Services



Reference	Cover Level	Invert Level Upstream	Invert Level Downstream	Purpose	Material	Pipe Shape	Max Size	Min Size	Gradient	Year Laid
SK06745203	306.1759	304.78	303.4	F	VC	C	150	<UNK>	18.48	31/12/1899 00:00:00
SK06745254	306.242	304.93	303.91	S	VC	C	150	<UNK>	24.59	31/12/1899 00:00:00
SK06744196	304.957	<UNK>	300.86	C	VC	C	<UNK>	<UNK>	0	31/12/1899 00:00:00
SK06745201	309.9079	308.58	304.79	F	VC	C	150	<UNK>	8.46	31/12/1899 00:00:00
SK06744195	305.1549	303.4	<UNK>	C	VC	C	150	<UNK>	0	31/12/1899 00:00:00
SK06745191	306.591	305.981	305.746	C	VC	C	100	<UNK>	18.63	31/12/1899 00:00:00
SK06744110	306.3659	305.206	<UNK>	C	VC	C	100	<UNK>	0	31/12/1899 00:00:00
SK06745252	309.9419	308.572	304.94	S	VC	C	150	<UNK>	8.03	31/12/1899 00:00:00
SK06745192	306.436	305.726	305.226	C	VC	C	100	<UNK>	12.64	31/12/1899 00:00:00
SK06744198	304.035	300.84	299.375	C	VC	C	225	<UNK>	33.86	31/12/1899 00:00:00
SK06744157	304.967	303.537	<UNK>	S	VC	C	150	<UNK>	0	31/12/1899 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	VC	<UNK>	<UNK>	<UNK>	<UNK>	05/07/2020 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	VC	<UNK>	<UNK>	<UNK>	<UNK>	14/04/2021 00:00:00

LEGEND

Ancillary

- Balancing Lagoon
- Grease Trap
- Interceptor
- Screen
- Chamber
- Flushing Chamber
- Scalway
- Overflow
- Connector
- Sewer Junctions
- Sewer Line Connection Node
- Fitting
- Blind Shaft
- Facility Connector
- Head Node
- Lamp Hole
- Sewerage Air Valve
- Sewerage Chemical Injection Point
- Sewerage Hatch Box
- Sewerage Pressure Washout
- Vent Column
- Waste Water Outfall

Control Valve

- Hydroblock
- Penstock
- Sewerage Isolation Valve
- Sewerage Non Return Valve
- Manhole
- Foul Bifurcation Manhole
- Combined Bifurcation Manhole
- Surface Water Bifurcation Manhole
- Dual Manhole
- Foul Single Manhole
- Combined Single Manhole
- Surface Water Single Manhole
- Twin Manhole
- Foul Adopted Manhole
- Combined Adopted Manhole
- Surface Adopted Manhole
- Transfered Manhole
- Unsurveyed Manhole
- Operational Site
- Waste Water Pump
- Transfered Asset
- S24

Storage

- DS
- Off-Line Waste Water Storage
- On-Line Waste Water Storage
- Wet Well
- Waste Water Process Structure
- STP
- STP
- Sludge Treatment Point
- Sl11
- Sludge Treatment Structure
- Gravity Sewer Pipe
- Foul Gravity Sewer
- Combined Gravity Sewer
- Surface Water Gravity Sewer
- S104 Surface Water Gravity Sewer
- S104 Combined Gravity Sewer
- S104 Foul Gravity Sewer
- Private Surface Water Gravity Sewer
- Private Combined Gravity Sewer
- Private Foul Gravity Sewer
- Surface Water Unsurveyed Pipe
- Combined Unsurveyed Pipe
- Foul Unsurveyed Pipe
- Transfered Surface Water Sewer
- Transfered Combined Sewer
- Transfered Foul Sewer
- Disposal Pipe
- Overflow Pipe
- Culverted Water Course
- Waste Internal Site Pipe
- Gravity Sewer Others
- Pressure Sewer Pipe
- Surface Water Pressure Sewer
- Combined Pressure Sewer
- Foul Pressure Sewer
- S104 Surface Water Pressure Sewer
- S104 Combined Pressure Sewer
- S104 Foul Pressure Sewer
- Private Surface Water Pressure Sewer
- Private Combined Pressure Sewer
- Private Foul Pressure Sewer
- Surface Water Vacuum Sewer
- Foul Vacuum Sewer
- Combined Vacuum Sewer
- S104 Surface Water Vacuum Sewer
- S104 Combined Vacuum Sewer
- S104 Foul Vacuum Sewer
- Private Surface Water Vacuum Sewer
- Private Combined Vacuum Sewer
- Private Foul Vacuum Sewer
- Surface Water Siphon
- Combined Siphon
- Foul Siphon
- Private Surface Water Siphon
- Private Combined Siphon
- Private Foul Siphon
- S104 Surface Water Siphon
- S104 Combined Siphon
- S104 Foul Siphon
- Surface Water Unsurveyed Pipe
- Combined Unsurveyed Pipe

Print 50m Line

MATERIALS

- NONE
- AC - ASBESTOS CEME
- BR - BRICK
- CC - CONCRETE BOX CULVERT
- CI - CAST IRON
- CO - CONCRETE
- CSB - CONCRETE SEGMENTS (BOLTED)
- CSU - CONCRETE SEGMENTS (UNBOLTED)
- DI - DUCTILE IRON
- GRP - GLASS REINFORCED PLASTIC
- MAC - MASONRY IN REGULAR COURSES
- MAR - MASONRY RANDOMLY COURSED
- PE - POLYETHYLENE
- PF - PITCH
- PP - POLYPROPYLENE
- PSC - PLASTIC STEEL COMPOSITE
- PVC - POLYVINYL CHLORIDE
- RPM - REINFORCED PLASTIC MATRIX
- SI - SPUN (GREY) IRON
- ST - STEEL
- U - UNKNOWN
- VC - VITRIFIED CLAY
- XXX - OTHER

CATEGORIES

- W - WEIR
- C - CASCADE
- DB - DAMBOARD
- SE - SIDE ENTRY
- FV - FLAP VALVE
- BD - BACK DROP
- S - SIPHON
- D - HIGHWAY DRAIN
- S104 - SECTION 104

SHAPE

- C - CIRCULAR
- E - EGG SHAPED
- O - OTHER
- R - RECTANGLE
- S - SQUARE
- T - TRAPEZOIDAL
- U - UNKNOWN

PURPOSE

- C - COMBINED
- E - FINAL EFFLUENT
- F - FOUL
- L - SLUDGE
- S - SURFACE WATER



Severn Trent Water Limited
Asset Data Management
PO Box 5344
Coventry
CV3 9FT
Telephone: 0345 601 6616

SEWER RECORD (Tabular)

O/S Map Scale: 1:750
Date of Issue: 20-04-23
This map is centred upon:
X: 406516.49 Y: 374235.53

Disclaimer Statement

1 Do not scale off this Map.

2 This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.

3 On 1 October 2011 most private sewers and private lateral drains in Severn Trent Water's sewerage area, which were connected to a public sewer as at 1 July 2011, transferred to the ownership of Severn Trent Water and became public sewers and public lateral drains. A further transfer takes place on 1 October 2012. Private pumping stations, which form part of these sewers or lateral drains, will transfer to ownership of Severn Trent Water on or before 1 October 2016. Severn Trent Water does not possess complete records of these assets. These assets may not be displayed on the map.

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**Appendix N
Hydraulic Modelling Report
JBA Technical Note 2023s1142**

TECHNICAL NOTE

JBA Project Code
Contract
Client
Date
Author
Reviewer / Sign-off
Subject

2023s1142
Hydraulic Modelling at Hogshaw Farm
Barratt Homes Manchester
January 2024
Ella Albrighton BSc
Amy Evans BSc MCIWEM C.WEM
Hydraulic Modelling at Hogshaw Farm, Buxton

JBA
consulting

1 Introduction

1.1 Terms of reference

JBA Consulting were commissioned by JPP Consulting Ltd on behalf of Barratt Homes Manchester to undertake a fluvial hydraulic modelling study in order to support their planning application for a proposed development at their site at Hogshaw Farm, Buxton.

The Nun Brook, which becomes an Environment Agency Main River downstream of the site, flows in a southerly direction through the north-western part of the site. The watercourse is culverted during this reach. The culvert has a diameter of 1.22m. The location of the site and the Nun Brook are included within Figure 1-1 below.

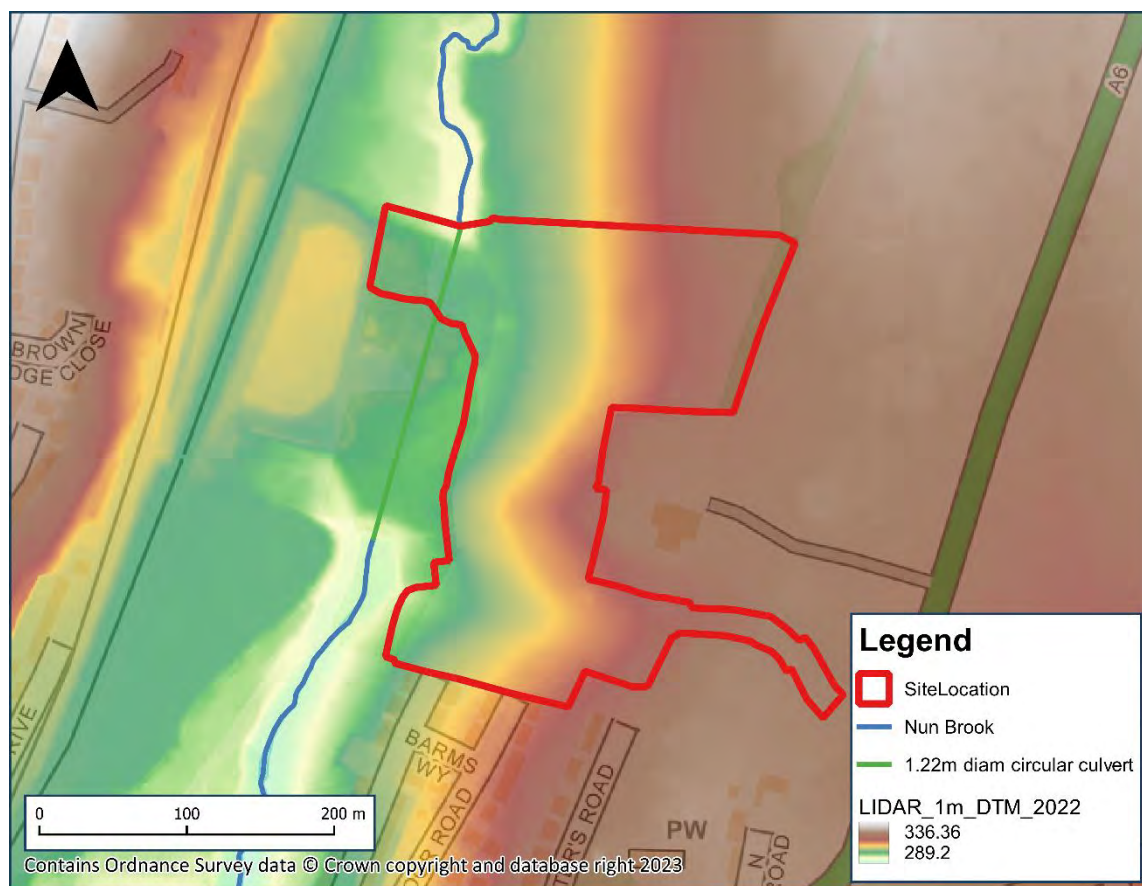


Figure 1-1 - Site Location

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Hydraulic Modelling at Hogshaw Farm, Buxton

JBA
consulting

2 Baseline Hydraulic modelling

2.1 Modelling Approach

A license to re-use the 1D-2D ESTRY-TUFLOW 2022 Hogshaw and Nun Brook hydraulic model was obtained from the Environment Agency for use in this study. The hydrology inflows, calculated in 2022 as part of the original modelling, were retained as these still reflect best practises.

The extent of the existing model in relation to the site is shown within Figure 2-1 below.

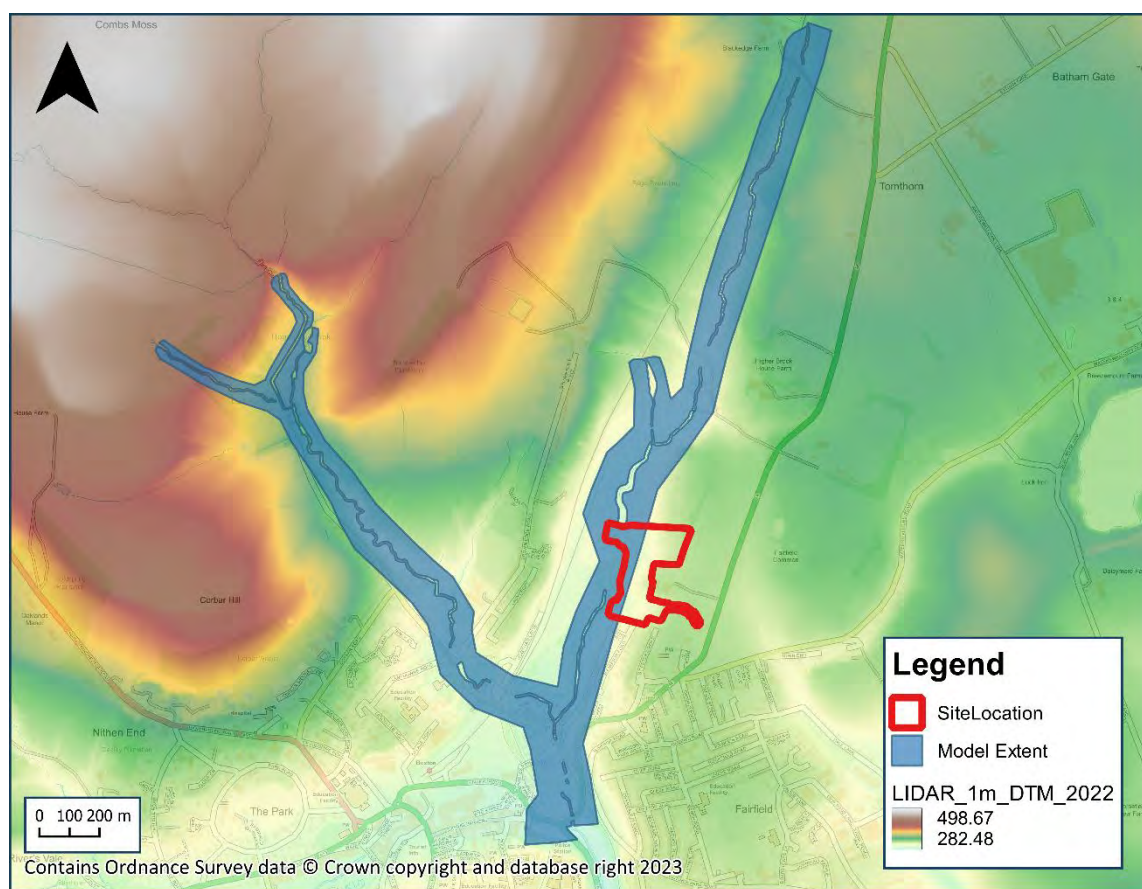


Figure 2-1: Existing model extent

New topographic survey data (included within Appendix A) representing the current ground levels within the site was integrated within the model.

The updated and refined baseline model was run with TUFLOW version 2023-03-AA-IDP-w64 for the 30-year, 100-year, 100-year with climate change (29%) and 1000-year fluvial flood events.

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JBA
consulting

2.2 Baseline model results

2.2.1 Baseline flood extents

The baseline flood extents during the 30-year, 100-year and 1000-year events are shown in Figure 2-2 below. Figure 2-3 shows the impact of climate change on the 100-year flood extents.

This shows that only the north-western area of the site is included with the maximum flood extent during all of the modelled flood extents.

Figure 2-3 shows that, when 29% climate change is applied to the 100-year event, there is no impact on flood extents within the site. Upstream of the site, there is a slight increase in flood extent.

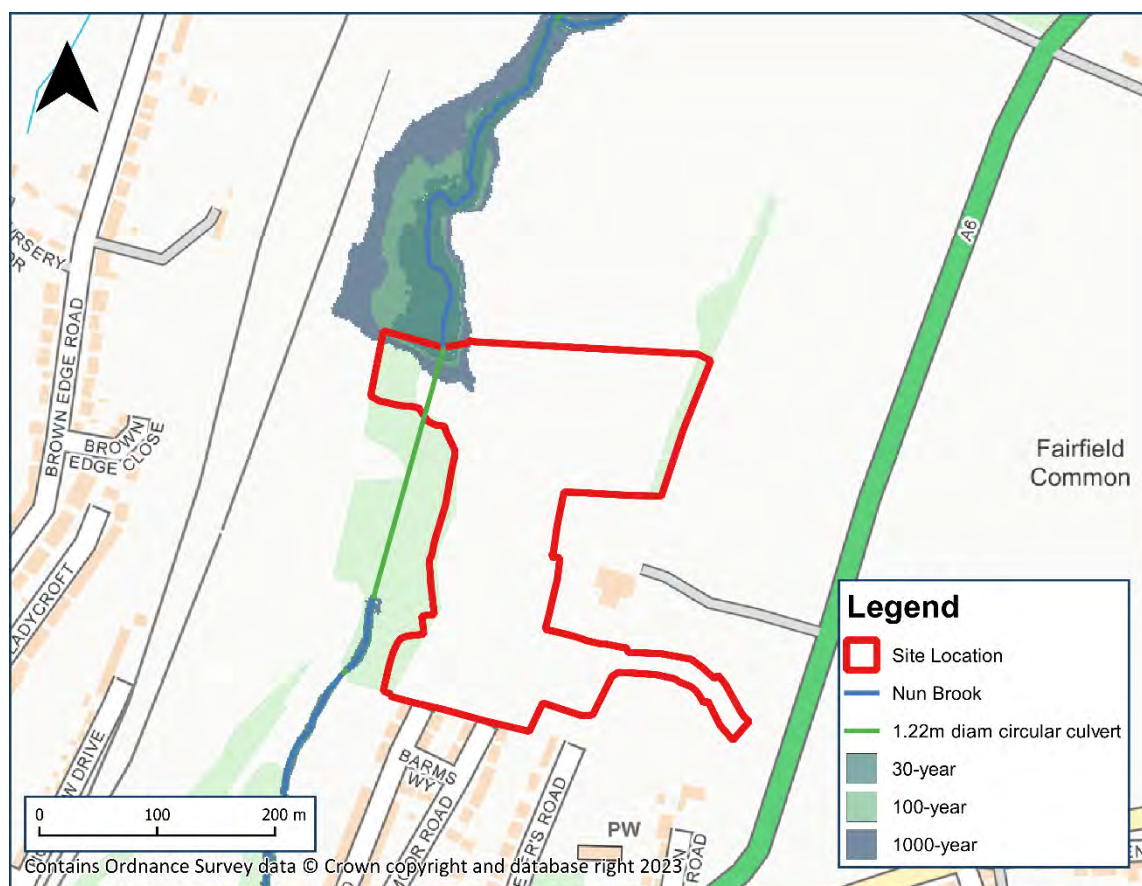


Figure 2-2: Baseline flood extents