



761003 Brookleigh Northern Arc EBLR WPS Land East of Issacs Lane S98 Foul Sewer

Flood Risk Assessment

March 2025



Issue and Revision Record

Revision	Date	Originator	Checker	Approver
1.0	25/03/2025	Charlotte Metcalfe	Rob Pickersgill	Kelvin Limbrick

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1 Introduction

This Flood Risk Assessment (FRA) is submitted in support of a planning application for a new S98 foul sewer from the proposed Eastern Bridge and Link Road (EBLR) pumping station via a new 150mm bore rising main to Fairplace Hill Wastewater Pumping Station (WPS).

The Proposed Development is located in West Sussex within the area of Burgess Hill and is owned and operated by Southern Water Services Ltd. The sewer will be located predominantly below ground, however, will be located above ground where it crosses the watercourse. Where the works are above ground, they will be attached to the existing bridge by Fairbridge Way. The area in which the pipeline attaches to the bridge, is located within Flood Zones 2 and 3 (medium and high probability of flooding respectively). As such, current planning regulations require that the planning application for the Proposed Development is accompanied by an appropriate FRA.

This FRA has been prepared in accordance with the National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance (PPG). The NPPF and PPG require that flood risk is considered at all stages of the planning process to ensure that new development is appropriate for its location, will remain safe, and will not increase flood risk elsewhere.

The objectives of this assessment are to a) quantify the flood risk to the site; b) demonstrate that the Proposed Development will remain operational during flood conditions over its intended lifetime taking climate change into consideration; and c) demonstrate that the Proposed Development will not increase flood risk elsewhere.

2 Site Description

The Proposed Development is to be located where the pipeline route crosses the River Adur East Branch, and will attach onto the side of an existing bridge by Fairbridge Way. Surrounding the site is Fairbridge Way to the south, Platinum Way to the east and green space to the north and west.

3 Description of the Proposed Development

The developer, Homes England, is proposing to connect pumped foul flows from the phased development east of Issacs Lane Burgess Hill to the existing Fairplace Hill Burgess Hill WPS under

a S98 application. The foul flows from the development will be pumped from the proposed EBLR pumping station via a new 150mm bore rising main to Fairplace Hill WPS.

The Developer will build the EBLR Pumping Station and Southern Water will design and build the S98 rising main. The S98 rising main will run from grid reference 530785, 120378 to 531086, 120434 along the existing Fairbridge Way road.

As the majority of the proposed works are minor in nature and will be below ground upon completion, the majority of the proposed works fall under Southern Water's permitted development rights under Class B (A), Part 13, Schedule 2 of The Town and Country Planning (General Permitted Development (England) Order 2015. However, the section that crosses over the River Adur is not on operational land and in the view of Mid Sussex District Council is not de-minimus works and therefore planning permission is required for this section.

4 Planning Context

The National Planning Policy Framework, revised 2019 (NPPF) sets out government policy on development and flood risk. The aim of the 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 of highest risk. Where new development is deemed necessary in areas of flood risk, the NPPF aims to make it safe, without increasing flood risk elsewhere and where possible, reduce flood risk overall.

The NPPF requires that, for all development proposals of 1 hectare or greater in Flood Zone 1 and all proposals for development located in Flood Zones 2 and 3, an FRA must be submitted to the Local Planning Authority. The FRA *"should identify and assess the risks of all forms of flooding to and from the development and demonstrate how these risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account"*.

5 Potential Sources of Flooding and Flood Zones

Flooding can occur from a number of sources as shown in Table 5.1.

Table 5.1 Possible Sources of Flooding Identified in the PPG

Source	Description
Flooding from rivers	River flows which exceed the flow capacity of the river channel (or culverts) can cause flooding from rivers.
Flooding from the sea	High tides and/or storm surges can cause flooding from the sea.
Flooding from land	Intense rainfall that cannot soak into the ground or enter drainage systems can quickly run off the land and result in local flooding.
Flooding from groundwater	Groundwater flooding occurs when water levels in the ground rise above surface elevations.
Flooding from sewers	Sewer flooding can occur when piped systems are overwhelmed by heavy rainfall, when sewers become blocked or when sewers are of inadequate capacity.
Flooding from reservoirs, canals and other artificial sources	Non-natural or artificial sources of flooding can include reservoirs, canals and lakes where water is retained above natural ground level.

The PPG defines three flood zones as shown in Table 5.2:

Table 5.2 PPG Flood Zones

Flood Zone	Return Period (Annual Exceedance Probability)
1	Low probability - less than 1 in 1,000 year (<0.1%) for river or sea flooding.
2	Medium probability - between 1 in 1,000 year (0.1%) and 1 in 100 year (1%) for river flooding or

	between 1 in 1,000 year (0.1%) and 1 in 200 year (0.5%) for sea flooding.
3a	High probability - 1 in 100 year (1%) or greater for river flooding or 1 in 200 year (0.5%) or greater for sea flooding.
3b	The Functional Floodplain - land where water has to flow or be stored in times of flood. Land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

The flood mapping shown below (source: GOV.UK Flood Map for Planning) indicates that the proposed above ground pipeline (i.e. where it crosses the River Adur) is in a location within Flood Zones 2 and 3 of the River Adur East Branch. Environment Agency mapping also indicates that the proposed above ground pipeline is not at risk of flooding from reservoirs.

Due to the required pipeline crossing of the River Adur East Branch, which is an Environment Agency classified Main River, the environmental permitting regulations for a potential flood risk activity permit (FRAP) may also need to be complied with. As the Proposed Development includes the mechanical installation of the new sewer on the side of an existing bridge-deck the potential for use of the permitting exemption FRA4 “*service crossings attached to the outside of existing structures over a main river*” should be considered during design to see if required conditions can be met. It is possible, therefore, that the proposed pipeline crossing on an existing bridge deck could be exempt from requiring a FRAP.

Figure 1: Proposed Development and Flood Zones 2 and 3



6 Sequential and Exception Tests

The sequential test gives preference to locating new developments wherever possible in Flood Zone 1 and development should not be allocated or permitted if there are reasonably available sites appropriate for the Proposed Development in areas with a lower probability of flooding. If there are no reasonably available sites in Flood Zone 1, the vulnerability of the Proposed Development to flooding should be taken into account when considering locations in Flood Zone 2 and then Flood Zone 3.

The Proposed Development would be classified as '*Water Compatible*' under the PPG (i.e., *Sewage transmission infrastructure and pumping stations*). According to the PPG 'compatibility' guidance, presented in Figure 2 below, the Proposed Development would be considered appropriate for location within Flood Zones 2 and 3, and the Exception Test is not required.

Figure 2: Extract from National Planning Practice Guidance: Flood Risk Vulnerability and Flood Zone Capability

Flood Zone	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
1	✓	✓	✓	✓	✓
2	✓	Exception Test required	✓	✓	✓
3a	Exception Test required+	✗	Exception Test required	✓	✓
3b	Exception Test required*	✗	✗	✗	✓*

+ In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water compatible uses, should be designed and constructed to:

- Remain operational and safe for users in times of flood;
- Result in no net loss of floodplain storage;
- Not impede water flows and not increase flood risk elsewhere.

7 Flood Risk and Mitigation

The above ground pipeline will be placed between the soffit and bridge deck of the existing bridge. Therefore it will not change the conveyance of the bridge and thus there are no flood risk implications as a result of locating the pipeline in this location. The invert level of the pipeline will not hang below the soffit level of the bridge, and therefore, the construction of the pipeline will have no impact on the flow conveyance in the River Adur East Branch beneath the bridge.

As the Proposed Development is classified as water compatible infrastructure, the Proposed Development would remain safe and operational, whilst considering the impacts of climate change.

The development does not increase existing flood risk and will therefore not increase future flood risk.

The risk of a flood event occurring during construction of the pipeline in the floodplain, and details of any mitigation measures to be put in place, will be outlined in the Construction Environmental Management Plan (CEMP).

8 Conclusions

The land use type is considered suitable for location within Flood Zones 2 and 3 and the development proposals will not increase flood risk elsewhere over its lifetime.

The conclusions of this FRA are, therefore, that the Proposed Development:

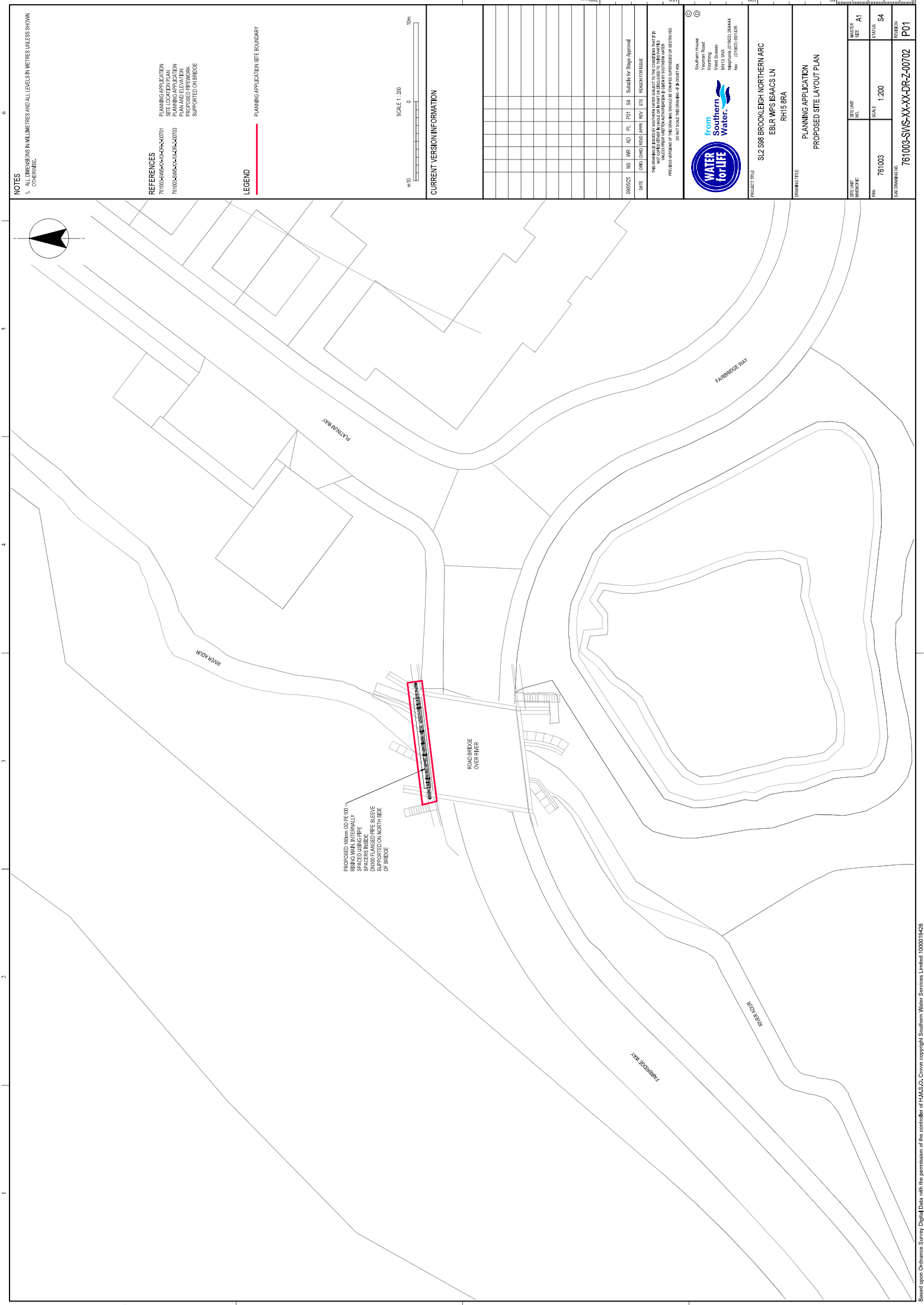
- Is appropriate for its location from a flood risk perspective.
- Will not result in an increase in flood risk to people.
- Will not impede the flow of flood water.
- Will not increase flood risk elsewhere.

Appendices



Appendix A

Site Layout Plans



NOTES

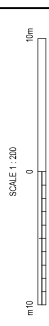
1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES UNLESS SHOWN OTHERWISE.

REFERENCES

PLANNING APPLICATION
761003-SWS-XX-XX-DR-Z-00702
PLANNING APPLICATION
761003-SWS-XX-XX-DR-Z-00702
PLANNING APPLICATION
761003-SWS-XX-XX-DR-Z-00702
PROPOSED BRIDGE
SUPPORTED ON BRIDGE

LEGEND

PLANNING APPLICATION SITE BOUNDARY



CURRENT VERSION INFORMATION

DATE	USER	DESCRIPTION	APPV	REV	DATE	REASON FOR ISSUE	
08/05/2021	NS	NR	AD	PL	P01	S4	Available for Stage-Approval
							</

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PROJECT TITLE

SL2 S98 BROOKLEIGH NORTHERN ARC
EBL R WPS ISAACS IN
RH15 8RA

DRAWING TITLE

PLANNING APPLICATION
PROPOSED SITE LAYOUT PLAN

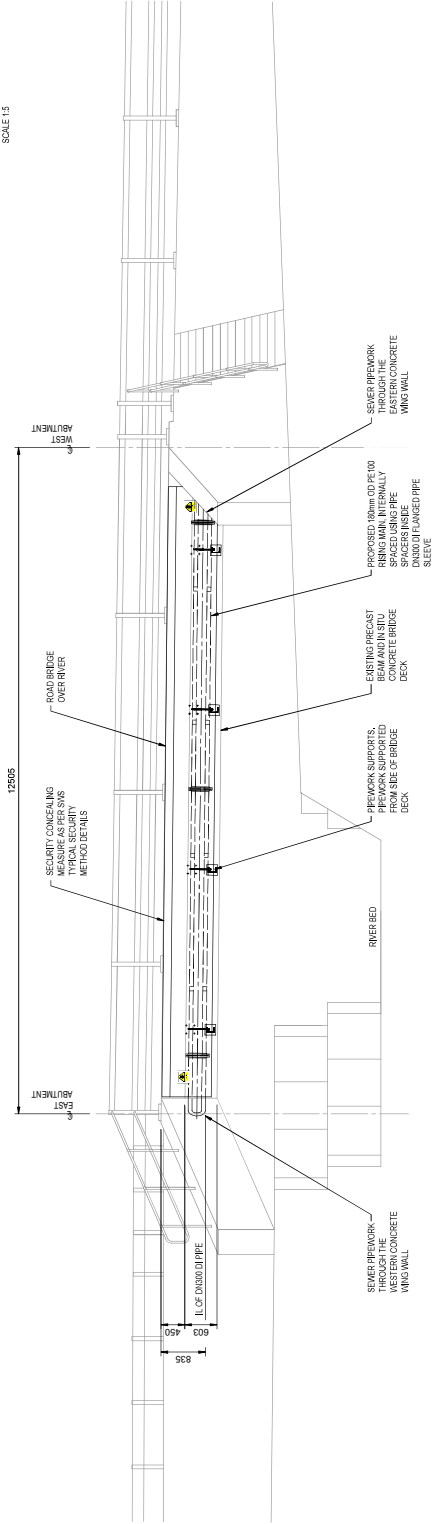
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DRAWING NAME	761003-SWS-XX-XX-DR-Z-00702							P01

1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES UNLESS SHOWN OTHERWISE.



SECTION 'B'-'B'

SCALE 1:5



VIEW A
SCALE 1:50

[illegible]

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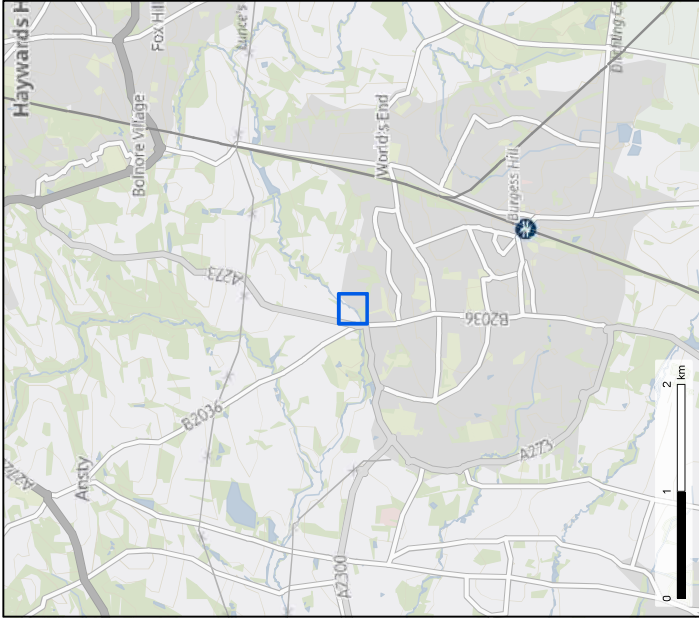
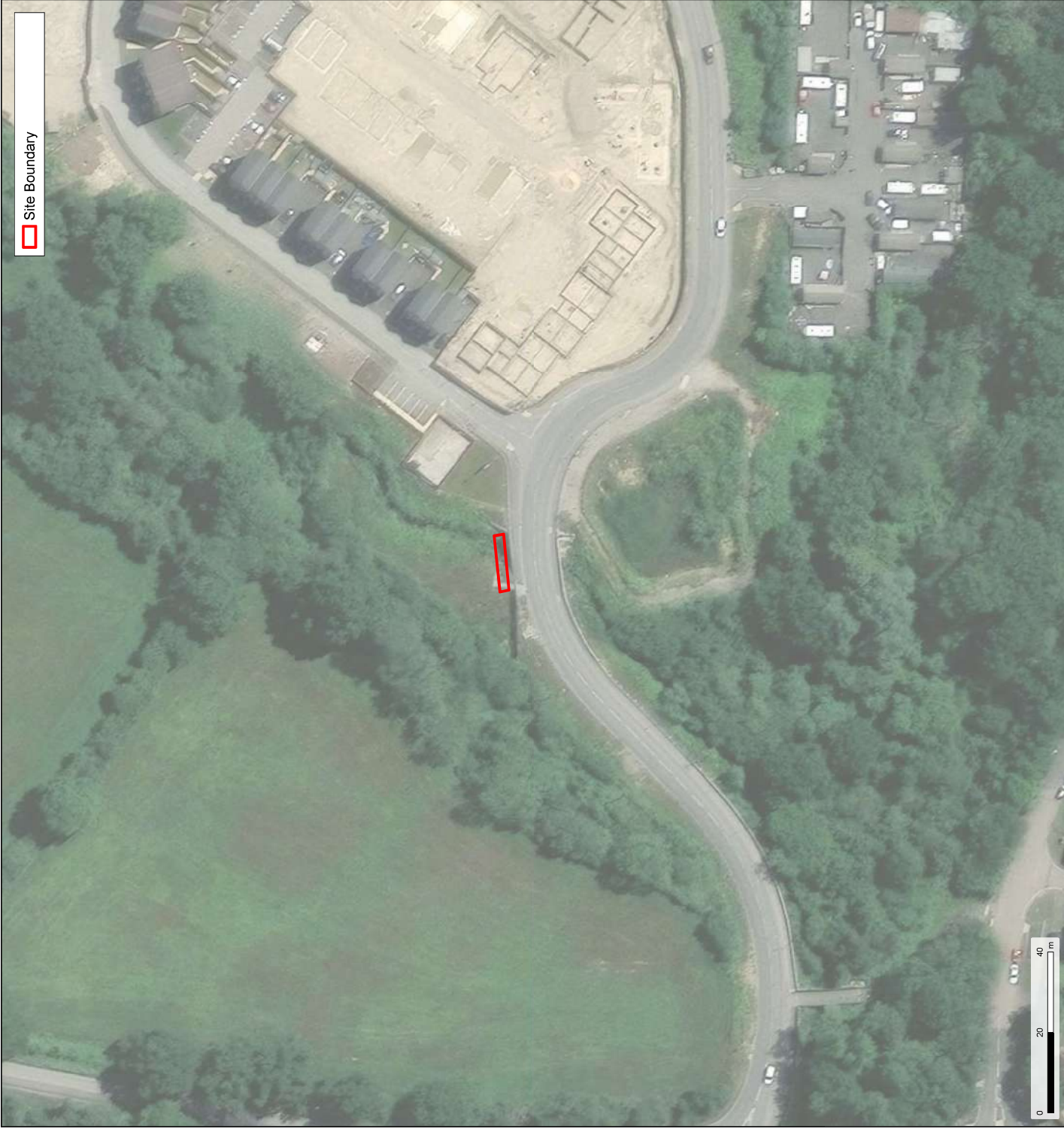


PROJECT TITLE	SL2 S98 BROOKLEIGH NORTHERN ARC EBLR WPS ISAACS LN RH15.8RA
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PLANING APPLICATION
PLAN AND ELEVATION
PROPOSED PIPEWORK
SUPPORTED ON BRIDGE

SITE UNIT LANDSLIDE	SITE UNIT NO.	MASTER SIZE
761003	AS SHOWN	A1
SPIN	SCALE	STATUS
		S4
DRAWING NO.		REVISION
761003-SWS-XX-XX-DR-Z-00703		P01

Appendix B Flood Map Pack





Client

BROOKLEIGH ISAACS LANE
Site Location

Date: 19/02/2025

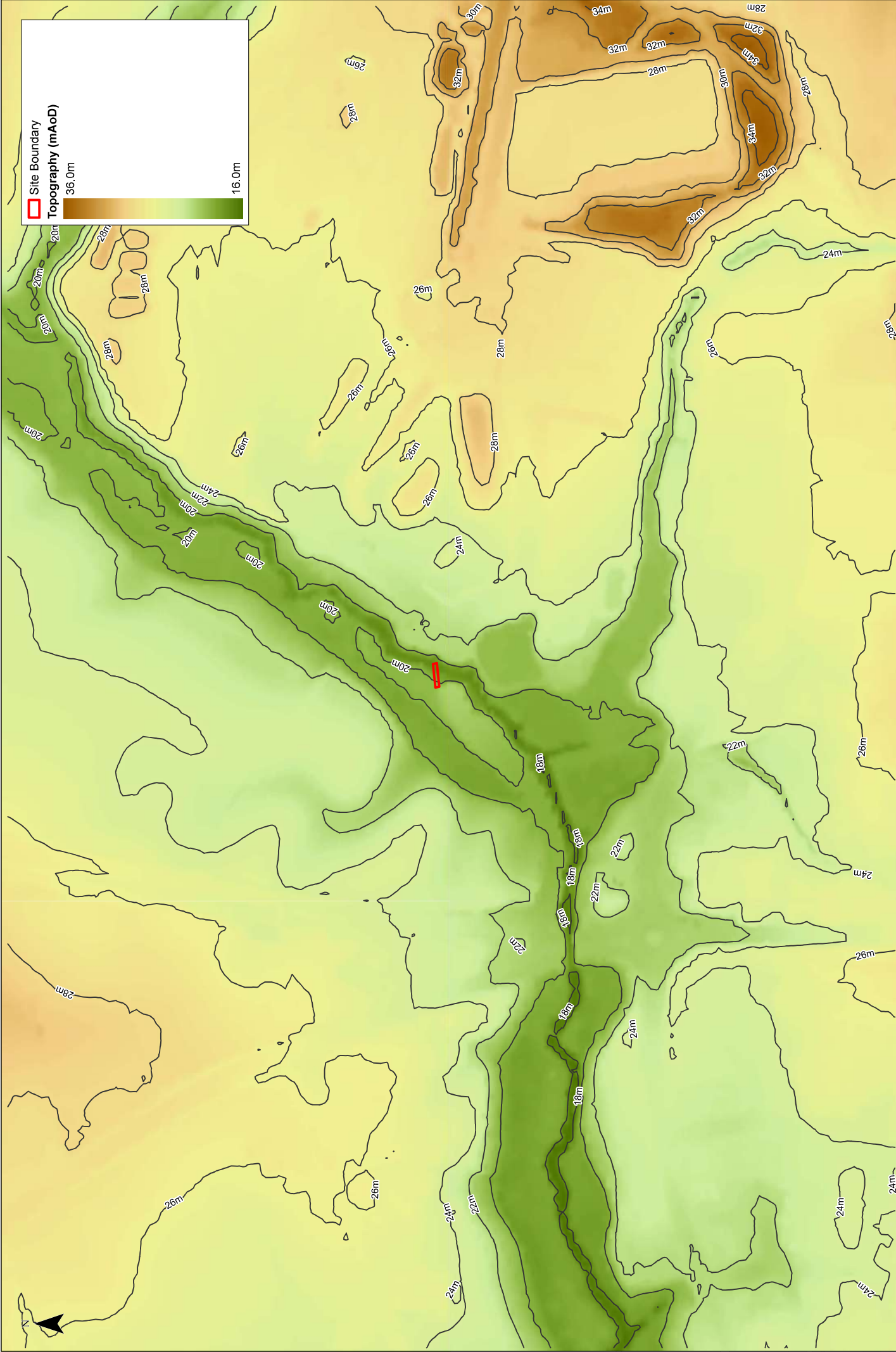
Drawn: RSP

Figure: 01

Checked: KJL

Rev: A

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Site Boundary

Topography (mAod)

36.0m

16.0m

Stantec

Client

BROOKLEIGH ISAACS LANE
Topography

0100200

0100

200

m

1:2,000 @ A3

Date: 19/02/2025

Drawn: RSP

Checked: K.L

Figure: 03

Rev: A

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