

TESTWOOD WATER SUPPLY WORKS - PROPOSED NEW LVA KIOSK

Flood Risk Assessment

March 2024

On behalf of: **Southern Water Services Ltd.**

Version	Date	Description	Author	Check	Reviewer
1	20 March, 2024	1 st Draft	W. Beaver	K. Dey	K. Limbrick
2		Final Version	W. Beaver	K. Dey	K. Limbrick

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Executive Summary

This document presents the findings of a Flood Risk Assessment (FRA) undertaken to accompany a planning application for a proposed new Low Voltage Assembly (LVA) Kiosk at Testwood Water Supply Works (WSW). The Testwood WSW is located on Brunel Road, Testwood, Hampshire, SO40 3QU, and is owned and operated by Southern Water Services Limited (SWS).

On the basis of the Environment Agency's Flood Map for Planning, parts of the Testwood WSW and associated red line planning application boundary for the proposed new LVA Kiosk are shown to be located within Flood Zones 2 and 3 (Medium and High Probability, respectively). The source of this flood risk is the River Test located to the north and east of the WSW. As the planning application boundary therefore contains land within Flood Zones 2 and 3, 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 proposed development comprises the construction of a new LVA Kiosk at the Testwood WSW. The planning proposal, therefore, represents an 'Essential Infrastructure' development required within the water supply treatment process.

The Environment Agency holds 'improved' JFLOW data for the River Test. As such, flood risk assessment data (Product 4) has been obtained with which to quantify both the flood risk from the River Test and the impacts of the construction of the proposed development on flood risk elsewhere, and to ensure that the new infrastructure will remain safe and operational over its intended lifetime. This flood risk assessment data has been used to identify flood depths and levels at the location of the proposed LVA Kiosk for both the 1 in 100-year and 1 in 1000-year flood event. The proposed LVA Kiosk will be constructed on a slab at an elevation higher than the 1 in 1000-year flood level and will, therefore, be considered to be located within Flood Zone 1 (Low Probability).

This FRA confirms that the proposed development will meet the requirements of NPPF and PPG. Specifically, this FRA has demonstrated that:

- The proposed new LVA Kiosk will be elevated above the modelled 1 in 1000-year flood level, and the development proposals will not involve an increase in the number of staff working within a flood risk area;
- The proposed development will comprise '*Essential Infrastructure*' land use, suitable for location within Flood Zone 1;
- The proposed development will remain operational in times of flooding over the duration of its intended lifetime, and will not result in a significant loss of floodplain storage capacity or reduce floodplain conveyance; and
- The new infrastructure will not result in a significant increase in the volume and rate of surface runoff leaving the site.

In summary, this FRA has demonstrated that the proposed development is appropriate for its location, will remain operational in times of flooding, and will not result in an increase in off-site flood risk.

1.0 INTRODUCTION

1.1 PURPOSE

This document presents the findings of a Flood Risk Assessment (FRA) undertaken to accompany a planning application for a proposed new Low Voltage Assembly (LVA) Kiosk at Testwood Water Supply Works (WSW). The WSW is located on Brunel Road, Testwood, Hampshire, SO40 3QU, and is owned and operated by Southern Water Services Limited (SWS).

Testwood WSW is a critical SWS operational site that provides water supply services to Hampshire and the Isle of Wight. Investment is being made with the aim of increasing the works' capacity to treat water for public supply.

The proposed new operational infrastructure in the planning application includes a new Low Voltage Assembly (LVA) Kiosk. All other elements of the proposed development at Testwood WSW associated with this planning application will benefit from SWS's permitted development rights.

This FRA seeks to demonstrate that flood risk from all sources has been considered as part of the proposed development and that the requirements of the PPG are met. As set out in the PPG, the objectives of an FRA are to ensure that:

- Flood risk is taken into account at all stages of the planning process to ensure that new development is appropriate for its location;
- The proposed development will remain safe and operational throughout the duration of its intended design lifetime; and
- The proposed development will not increase flood risk elsewhere.

Stantec has many years of experience in, amongst other areas, the assessment of flood risk, hydrology, flood defence and river engineering. The authors and reviewers of this document are experienced hydrologists, and document approval has been undertaken by a Fellow of the Chartered Institution of Water and Environmental Management (CIWEM).

1.2 REPORT OBJECTIVES AND STRUCTURE

This FRA concentrates on the flood risk issues over the operational lifetime of the proposed development. This report has been prepared in accordance with the requirements of the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG). The objectives of this report are to a) quantify the flood risk to the site; b) demonstrate that the proposed development will remain safe and operational over its intended design lifetime taking climate change into consideration; and c) demonstrate that the proposed development will not increase flood risk elsewhere.

1.3 AVAILABLE INFORMATION

This FRA is based on the following available information:

- Open-source LiDAR Digital Terrain Model (DTM) data (LiDAR Composite, DTM at 1m resolution);
- Flood Risk Data for the Testwood WSW provided by the Environment Agency; and
- A site layout plan, topographical survey and outline design drawings of the proposed development, all provided by SWS.

1.4 PLANNING POLICY

This FRA has been prepared in accordance with the relevant national, regional and local planning policy and statutory authority guidance as follows:

- National policy in relation to flood risk is contained within the National Planning Policy Framework (NPPF), updated December 2023, issued by the Ministry of Housing, Communities and Local Government, with reference to Section 14 'Meeting the challenge of climate change, flooding and coastal change';
- The associated Planning Practice Guidance (PPG) was released in March 2014 and (with reference to the 'Flood Risk and Coastal Change' section), and was last updated February 2024;
- The Environment Agency's 'Flood Risk Assessments: Climate Change Allowances' guidance, released in February 2016 and last updated in May 2022;
- The Cabinet Office 'Keeping the Country Running: Natural Hazards and Infrastructure – A Guide to improving the resilience of critical infrastructure and essential services' (October 2011); and
- Local Planning Policy and Lead Local Flood Authority Guidance (where applicable).

1.5 CAVEATS AND EXCLUSIONS

This FRA has been prepared in accordance with the NPPF, the associated PPG, and Local Planning Policy. The proposed flood management and surface water management strategies are based on the relevant British Standards (BS8533); standing advice provided by the Environment Agency; Lead Local Flood Authority guidance; or on common industry practice. The following caveats and exclusions apply to this FRA:

- Activities during the construction phase may have an impact on the existing and future flood risk. Thus, an assessment of the risks and appropriate mitigation measures should be identified and managed by the contractor;
- The Construction (Design and Management) Regulations 2015 (CDM Regulations) will apply to any future development of this site which involves 'construction' work, as defined by the CDM Regulations. As such it is the responsibility of the proposed developer (ultimate client) to fulfil its duties under the CDM Regulations; and
- The approach for this FRA and proposals for the surface water management strategy are based on the requirements of the Environment Agency, and the Hampshire County Council in its role as Lead

Local Flood Authority (LLFA). The conclusions of this FRA are based on data and guidance available at the time of the study and on the subsequent assessment that has been undertaken in relation to the development proposals as outlined in this report. As such, it is recommended that the end user of this FRA undertakes periodic checks to determine whether future changes in the development proposals or statutory guidance could affect the validity of this document.

2.0 DESCRIPTION OF THE EXISTING SITE AND PROPOSED DEVELOPMENT

2.1 EXISTING SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Testwood WSW is located at grid reference SU 35515 15034, to the north of Totton, Hampshire. Testwood WSW is a critical surface water supply works within the Southern Water region, supplying customers in both Hampshire and the Isle of Wight. The existing WSW covers an area of approximately 10 hectares and is accessed from the west off Brunel Road. The WSW is occupied by existing tanks, plant and equipment used in the water treatment processes. A site location plan is included in Appendix A.

The Solent & Southampton Water Ramsar site and Lower Test Valley SSSI are located approximately 250m to the east of the Site. The River Test runs adjacent to the WSW to the north and the east and is also classified as a SSSI. The River Blackwater is also located to the north of the Site where it joins the River Test. There is an industrial estate and residential housing located towards the south of the WSW.

Investment is being made at Testwood WSW with the aim of increasing the works' capacity to treat water for public supply.

In order to provide the increased treatment capacity, new plant and equipment will be required. There is sufficient space to accommodate the new plant and equipment within the existing WSW ownership boundary, and there will also be some associated modifications to existing infrastructure already present on site.

The proposed new operational infrastructure that will require specific planning permission is a proposed new LVA Kiosk, as the other elements of the proposed development at Testwood WSW will benefit from SWS's permitted development rights.

Further details of the proposed development can be found in the accompanying planning statement. The proposed development plans are included in Appendix B.

3.0 FLOOD RISKS TO THE PROPOSED DEVELOPMENT

3.1 POTENTIAL SOURCES OF FLOODING

Flooding can occur from a number of sources as presented in Table 1. Maps showing the potential sources of flooding that could impact the proposed development are shown in Appendix A.

Table 1 - Possible sources of flooding identified in the Planning Practice Guidance (PPG)

Source	Description
Flooding from rivers (or fluvial flooding)	River flows which exceed the flow capacity of the river channel (or culverts) can cause flooding from rivers. It can happen for example, when heavy rain falls on an already waterlogged catchment. A blockage caused by natural material or manmade objects/litter can also cause rivers to overtop their banks.
Flooding from the sea (or coastal/tidal flooding)	High tides and/or storm surges which lead to overtopping of existing defences (if any) can cause flooding from the sea.
Flooding from surface water (or pluvial flooding)	Intense rainfall that cannot soak into the ground or enter drainage systems can quickly run off the land and result in local flooding. This type of flooding is typically localised and happens very quickly after the rain has fallen.
Flooding from groundwater	Groundwater flooding occurs when water levels in the ground rise above surface elevations. It is most likely to occur in areas underlain by permeable rocks or granular layers called aquifers.
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.

3.2 FLOOD MAP FOR PLANNING

The Planning Practice Guidance (PPG) defines three Flood Zones as shown in Table 2. The following section presents the PPG Flood Zone classification for the proposed development based on the Environment Agency’s Flood Map for Planning.

Table 2 - PPG Flood Zones

Flood Zone	Description
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 (0.1%) and 1 in 200 year 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	<p>The Functional Floodplain – land where water has to flow or be stored in times of flood. There is not a strict definition of the annual probability of flooding in this zone, but the following definitions should provide a starting point for consideration:</p> <ul style="list-style-type: none"> • 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).

According to the Flood Map for Planning provided by the Environment Agency (EA), the existing site is located within Flood Zones 2 and 3, as shown in Appendix A. Flood Zone 2 has a Medium Probability of flooding and Flood Zone 3 has a High Probability, as described in Table 2 above. The source of this flooding is fluvial, from the River Test. In order to provide greater certainty on the flood risk to the site, flood risk assessment data for the Testwood WSW has been obtained from the Environment Agency to support this FRA and to provide design flood levels for the proposed development. This data has been used to quantify both the flood risk from the River Test and the impacts of the construction of the proposed development on flood risk elsewhere, and to ensure that the new infrastructure will remain safe and operational over its intended lifetime, whilst taking climate change into account. This is described in Section 3.7 below.

3.3 FLOODING FROM SURFACE WATER

The Environment Agency's Surface Water Flood Map is presented in Appendix A. The site is shown to include areas of High, Medium, Low and Very Low surface water flood risk. The location of the proposed kiosk is not shown to be at risk of surface water flooding.

3.4 FLOODING FROM RESERVOIRS

The Environment Agency's Risk of Flooding from Reservoirs map is also included in Appendix A. The site is not shown to be at risk of flooding from reservoir failure, and so this source of flood risk is not considered further.

3.5 FLOODING FROM GROUNDWATER

The Testwood WSW site is located adjacent to the River Test. Any groundwater present beneath the site is likely to be in hydraulic continuity with water levels on this watercourse due to this close proximity. The flood mapping presented in Appendix A can, therefore, also be considered representative of any potential groundwater flood risk areas.

3.6 FLOODING FROM SEWERS

The Testwood WSW site is located on a site flanked by existing watercourses and will not, therefore, be served by – or exposed to flood risk from – a significant sewer catchment area (either surface or foul). The risk of flooding from sewers is, therefore, not considered further.

3.7 PRIMARY SOURCE OF FLOODING – RIVER TEST

The Environment Agency's Flood Map for Planning (Appendix A) indicates that areas of the site have a high potential risk of flooding. The source of this flood risk is the River Test.

This Environment Agency flood mapping is, however, only intended to be indicative and should be used to trigger a more detailed assessment of risk where appropriate. For the purposes of an FRA, any further assessment of risk needs to be commensurate with the scale and nature of the proposed development and the implied (i.e. indicative) risk based on this high-level mapping.

To quantify the flood risk to the site in detail, the Environment Agency's flood risk data from the 2009 JFLOW model of the River Test has been obtained¹. This data has been used to quantify both the flood risk from the River Test and the impacts of the construction of the proposed development on flood risk elsewhere, and to ensure that the new infrastructure will remain safe and operational over its intended lifetime, whilst taking climate change into account.

The flood risk data (Product 4) for the site can be found in Appendix C. The flood levels and depths for the 1 in 100-year and 1 in 1000-year flood events are provided within this flood risk data; these are required for the safe and sustainable design of the proposed development. Appendix C shows that for the node closest to the

¹ Environment Agency 'Product 4' request response reference SSD/346027, 07/02/24.

proposed LVA Kiosk location (Node Ref 8), flood levels for the 1 in 100-year and 1 in 1000-year event are 4.87 mAOD and 5.03 mAOD respectively. Given that the proposed LVA Kiosk will be constructed on a slab raised to an elevation of 5.05 mAOD (see Appendix B), the Kiosk will be considered to be located within Flood Zone 1 (Low Probability).

4.0 PPG REQUIREMENTS

4.1 SEQUENTIAL TEST

The Sequential Test aims to steer new development to areas that have the lowest probability of flooding. Given that the proposed development would be located within existing business premises, the PPG (2021) suggests a pragmatic approach to the Sequential Test in such circumstances: *“in considering planning applications for extensions to existing business premises it might be impractical to suggest that there are more suitable alternative locations for that development elsewhere.”* As such, the requirement to pass the Sequential Test is not considered further.

4.2 FLOOD RISK VULNERABILITY CLASSIFICATION

The proposed development would be classified as ‘Essential Infrastructure’ under the PPG (i.e. *“water treatment works that need to remain operational in times of flood”*). According to the PPG ‘compatibility’ guidance presented in Table 3 below, this means that the proposed development would, therefore, be considered appropriate for location within Flood Zone 1, without first having to pass the PPG Exception Test. Given its location at an elevation higher than the 1 in 1000-year flood level, the proposed LVA Kiosk is considered to be located within Flood Zone 1 (Low Probability) and as such would not have to pass the PPG Exception Test.

Table 3 Flood risk vulnerability and flood zone ‘compatibility’

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	X	Exception Test required	✓	✓
3b	Exception Test required	X	X	X	✓

✓ Development is appropriate for flood zone

X Development should not be permitted

4.3 REMAINING PPG REQUIREMENTS

To address the remainder of the PPG requirements, the proposed development will be designed and constructed to:

- Remain operational and safe for its users in times of flood over the duration of its intended lifetime taking climate change into account;

- Result in no significant loss of floodplain storage;
- Not impede flood water flows; and
- Not increase flood risk elsewhere.

Given the scale and nature of the proposed development, the key considerations listed above form the focus of the remainder of this FRA and are presented in Section 5 below.

5.0 FLOOD RISK CONSIDERATIONS

5.1 BE SAFE AND REMAIN OPERATIONAL FOR ITS LIFETIME

5.1.1 Remain Safe and Operational

The proposed LVA Kiosk will be constructed on a slab at an elevation higher than the 1 in 1000-year flood level and will, therefore, be considered to be located within Flood Zone 1 (Low Probability). As such, it would be expected to remain safe and operational for its lifetime without further mitigation measures.

5.1.2 Climate Change

Flood risk data (Product 4) provided by the Environment Agency provided flood depths and levels for the 1 in 100-year and 1 in 1000-year flood event. This data has been used to quantify both the flood risk from the River Test and the impacts of the construction of the proposed development on flood risk elsewhere. The flood risk data provided by the Environment Agency did not include the climate change uplift, however, the 1 in 1000-year event data has been used for this FRA which is considered more conservative than considering the 100-year plus climate change uplift event. Using the 1 in 1000-year event data over the 1 in 100-year plus climate change event data is deemed more conservative and therefore appropriate for assessing the flood risk to the proposed development.

5.2 NOT INCREASE FLOOD RISK ELSEWHERE

5.2.1 No net loss of floodplain storage

The proposed LVA Kiosk will be constructed on a slab at an elevation higher than the 1 in 1000-year flood level and will, therefore, be considered to be located within Flood Zone 1 (Low Probability). As such, it would not result in any significant net loss of floodplain storage.

5.2.2 No impediment to flood water flows

The proposed LVA Kiosk will be constructed on a slab at an elevation higher than the 1 in 1000-year flood level and will, therefore, be considered to be located within Flood Zone 1 (Low Probability). As such, it would not result in an impediment to flood water flows.

5.2.3 Surface water runoff

The construction of the LVA Kiosk will comprise a minor increase in impermeable area throughout the site, the roof of the proposed kiosk will shed water to the surrounding land where it will be drained into the existing surface water drainage arrangement at Testwood WSW. The proposed LVA Kiosk will not, therefore, result in a significant increase in runoff generation.

6.0 CONCLUSIONS

This document presents the findings of a Flood Risk Assessment (FRA) undertaken to accompany a planning application for a proposed new Low Voltage Assembly (LVA) Kiosk at Testwood Water Supply Works (WSW). The WSW is located on Brunel Road, Testwood, Hampshire, SO40 3QU, and is owned and operated by Southern Water Services Limited (SWS).

On the basis of the Environment Agency's Flood Map for Planning, parts of the Testwood WSW and associated red line planning application boundary for the proposed new LVA Kiosk are shown to be located within Flood Zones 2 and 3 (Medium and High Probability, respectively). The source of this flood risk is the River Test, located to the north and east of the WSW. As the planning application boundary therefore contains land within Flood Zones 2 and 3, 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 proposed development comprises the construction of a new LVA Kiosk at the Testwood WSW. The planning proposal, therefore, represents an 'Essential Infrastructure' development required within the water supply treatment process.

The Environment Agency holds 'improved' JFLOW data for the River Test. As such, flood risk assessment data (Product 4) has been obtained with which to quantify both the flood risk from the River Test and the impacts of the construction of the proposed development on flood risk elsewhere, and to ensure that the new infrastructure will remain safe and operational over its intended lifetime. This flood risk assessment data has been used to identify flood depths and levels at the location of the proposed LVA Kiosk for both the 1 in 100-year and 1 in 1000-year flood event. The proposed LVA Kiosk will be constructed on a slab at an elevation higher than the 1 in 1000-year flood level and will, therefore, be considered to be located within Flood Zone 1 (Low Probability).

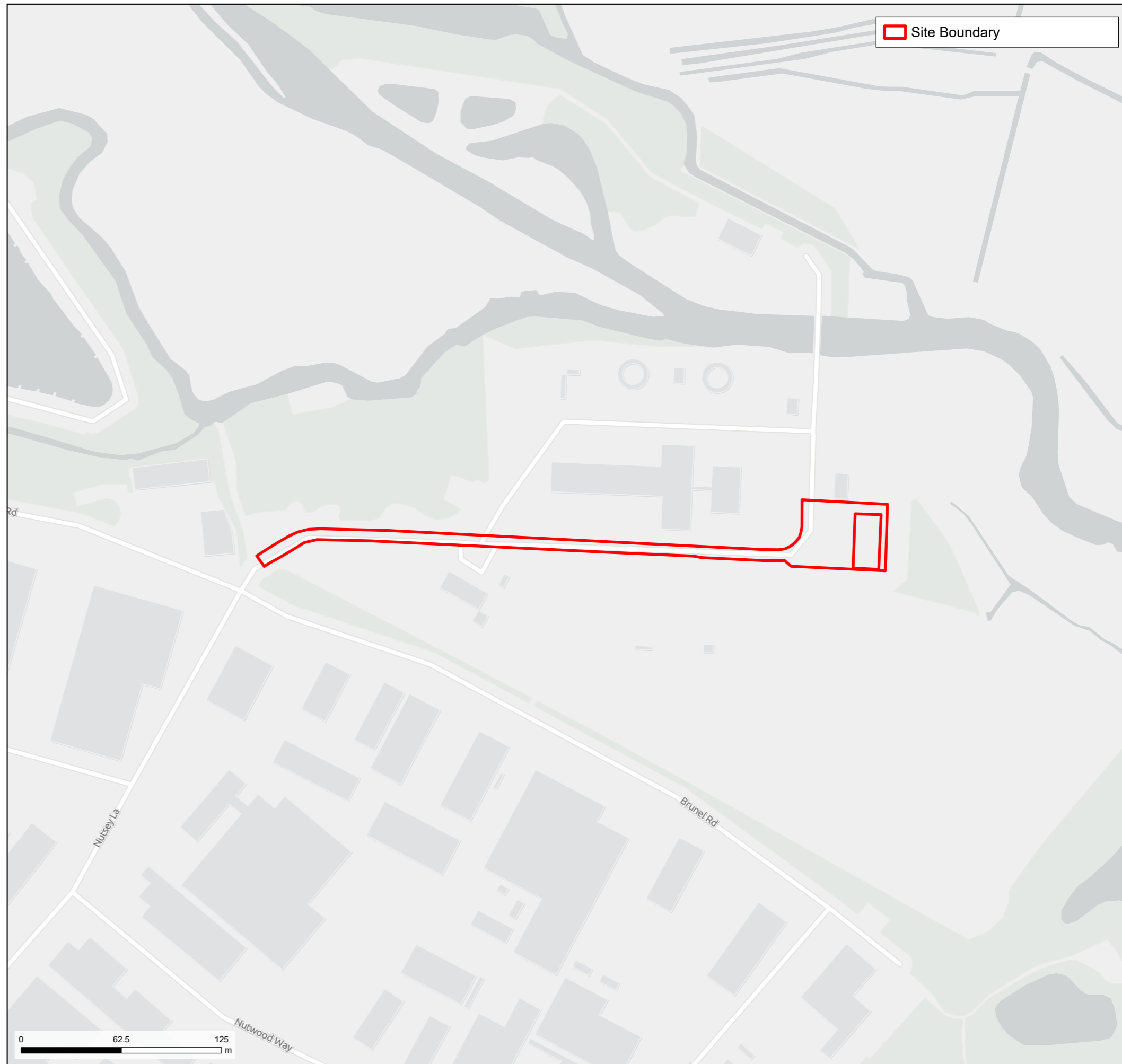
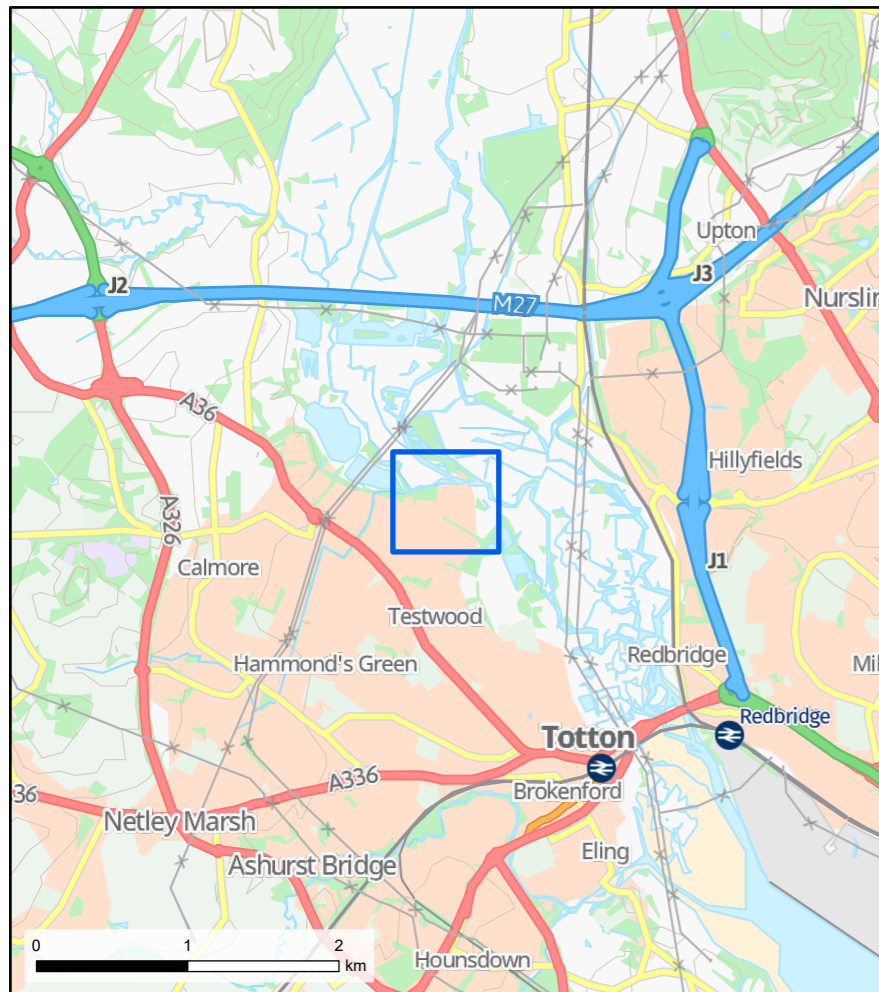
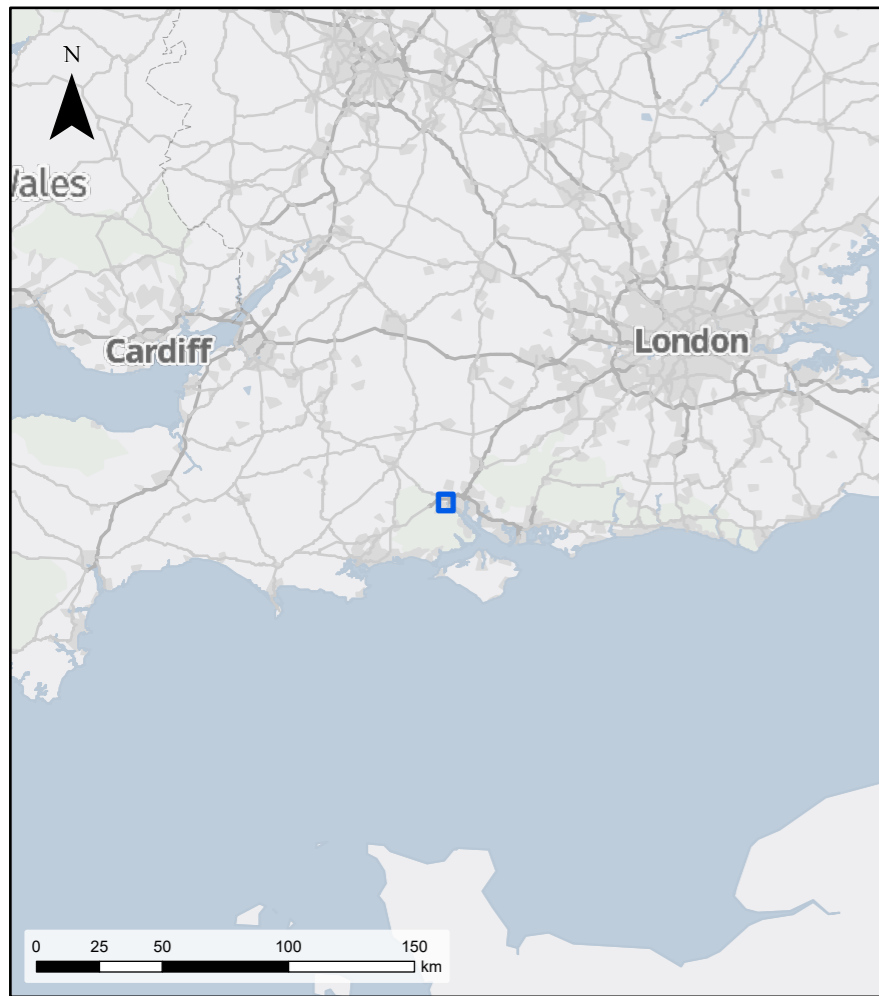
This FRA confirms that the proposed development will meet the requirements of NPPF and PPG. Specifically, this FRA has demonstrated that:

- The proposed new development will be elevated above the modelled 1 in 1000-year flood level, and the development proposals will not involve an increase in the number of staff working within a flood risk area;
- The proposed development will comprise '*Essential Infrastructure*' land use, suitable for location within Flood Zone 1;
- The proposed development will remain operational in times of flooding over the duration of its intended lifetime, will not result in a significant loss of floodplain storage capacity or reduce floodplain conveyance, and will not result in a significant increase in the volume and rate of surface runoff leaving the site.

In summary, this FRA has demonstrated that the proposed development is appropriate for its location, will remain operational in times of flooding, and will not result in an increase in off-site flood risk.

APPENDICES

APPENDIX A – SITE LOCATION, TOPOGRAPHY AND FLOOD RISK MAPS



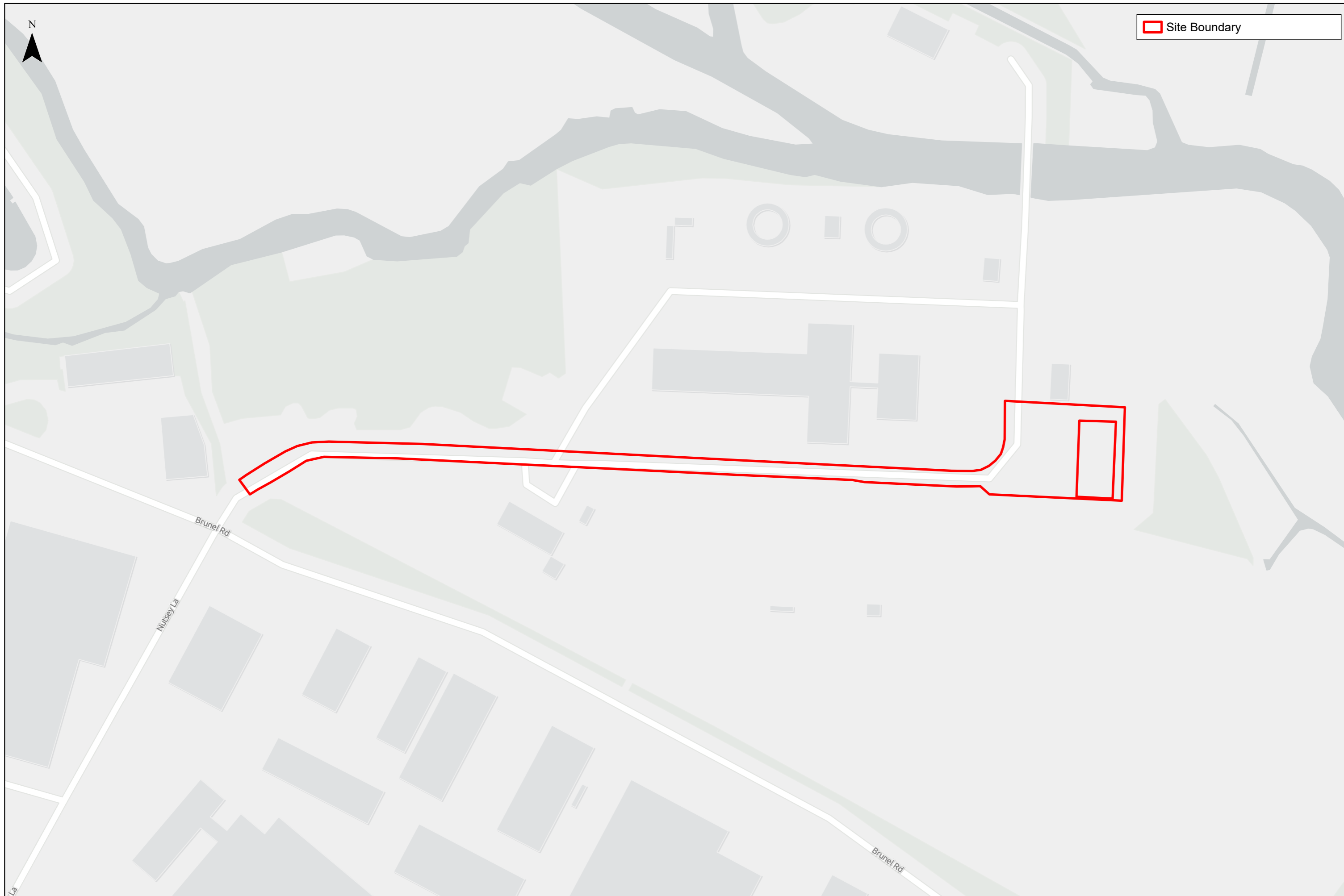
Site Boundary



TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
Site Location

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Contains data from OS Zoomstack

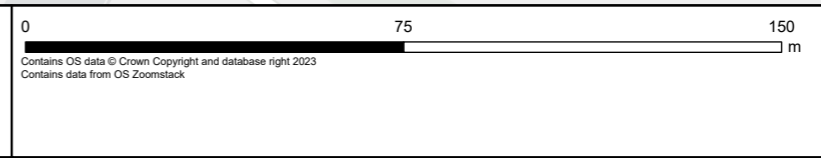
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Figure: 01	Rev: A



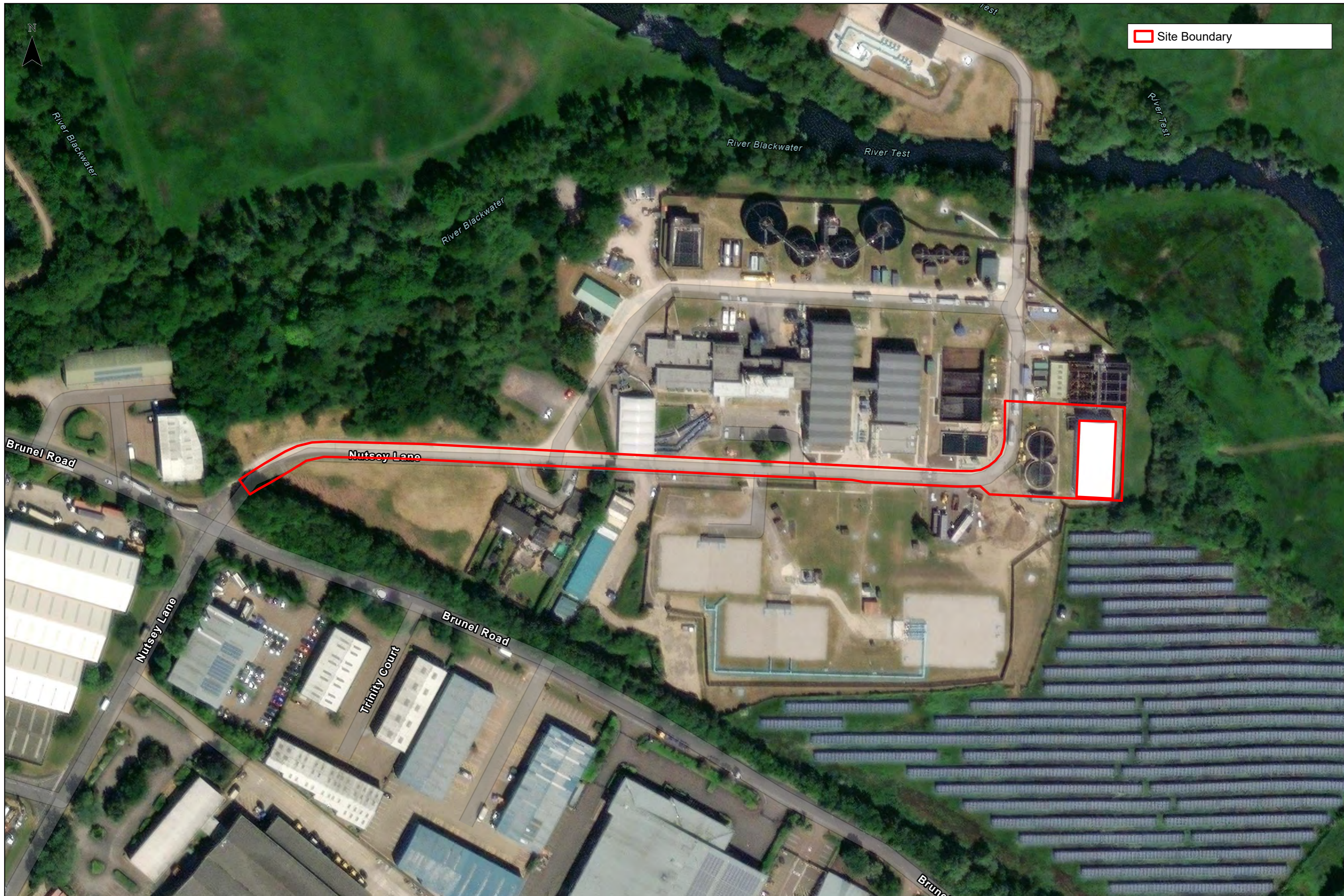
Site Boundary



TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Site Location (Detailed)



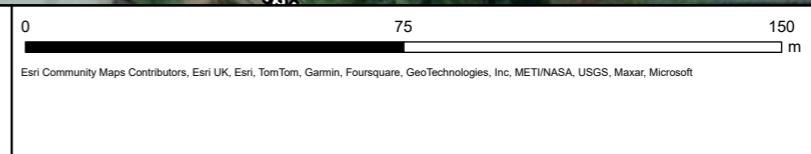
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Drawn: WB	Checked: KL
Figure: 01.1	Rev: A



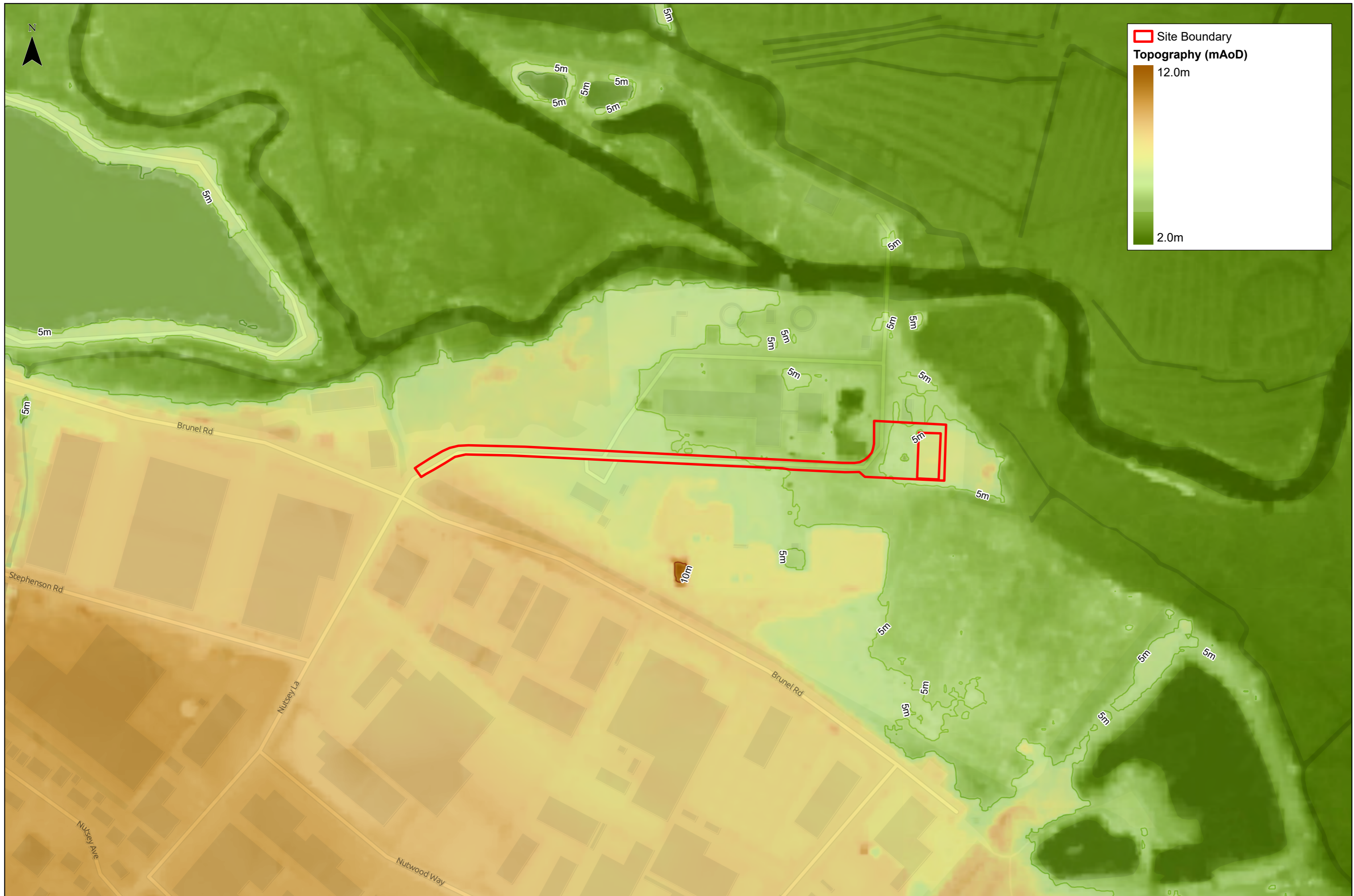
Site Boundary



Client
TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Site Location - Aerial



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Figure: 02	Rev: A



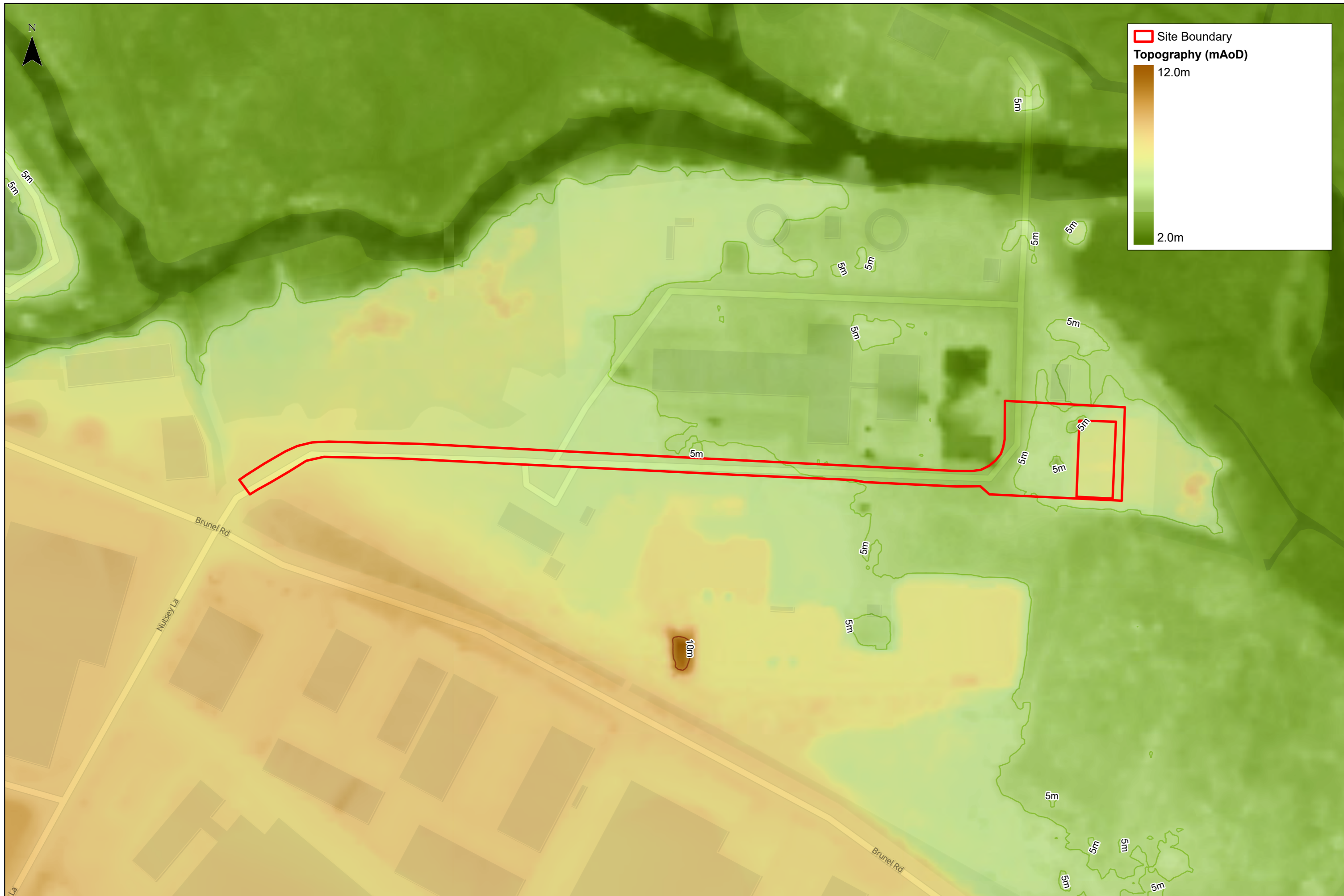
Site Boundary
Topography (mAOD)
 12.0m
 2.0m



TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Topography

0 125 250 m
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Figure: 03	Rev: A



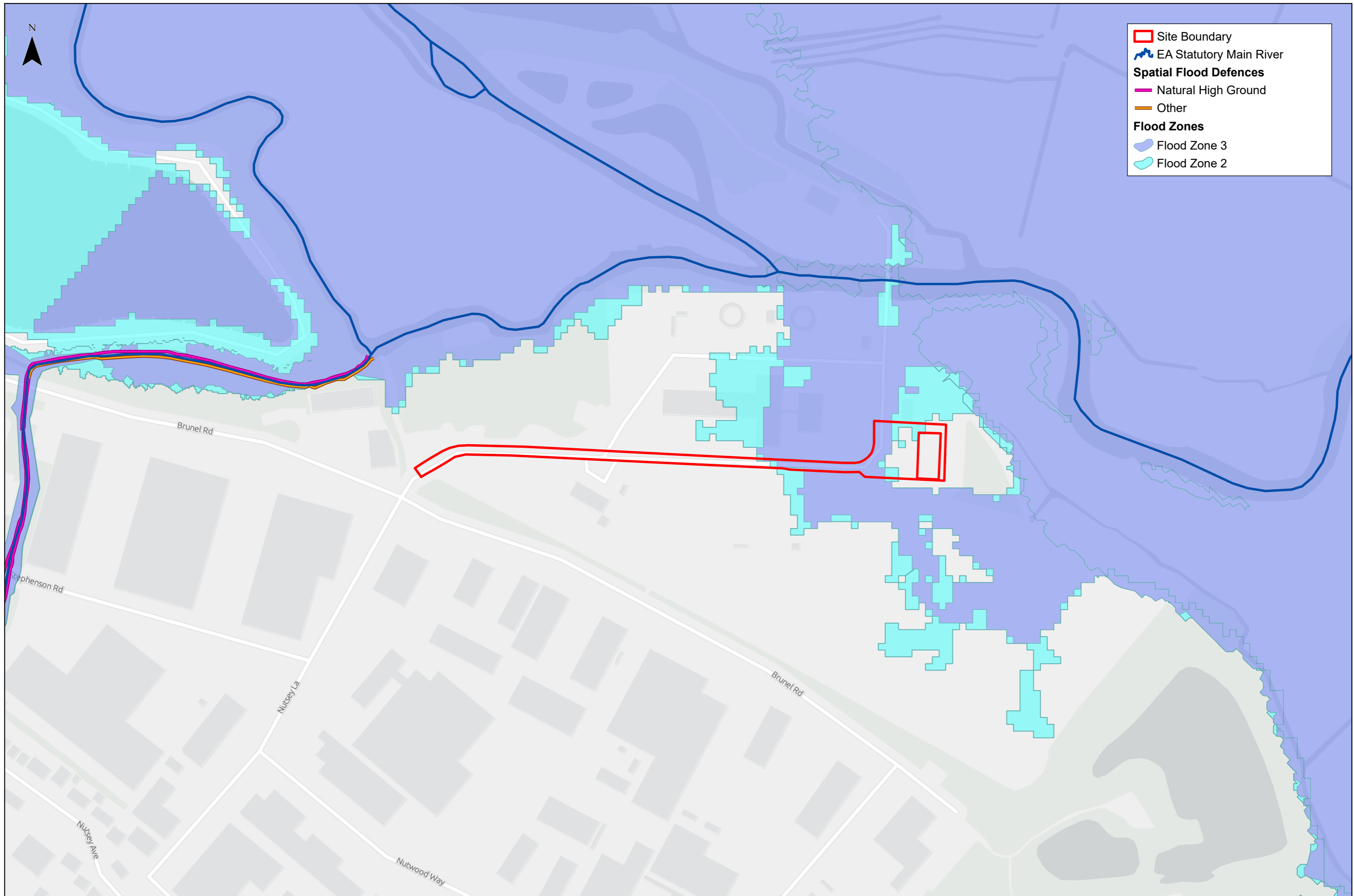
Site Boundary
Topography (mAoD)
 12.0m
 2.0m



Client
TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Topography - Detailed

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Figure: 03.1	Rev: A



Site Boundary
 Site Boundary

EA Statutory Main River
 EA Statutory Main River

Spatial Flood Defences

- Natural High Ground
- Other

Flood Zones

- Flood Zone 3
- Flood Zone 2

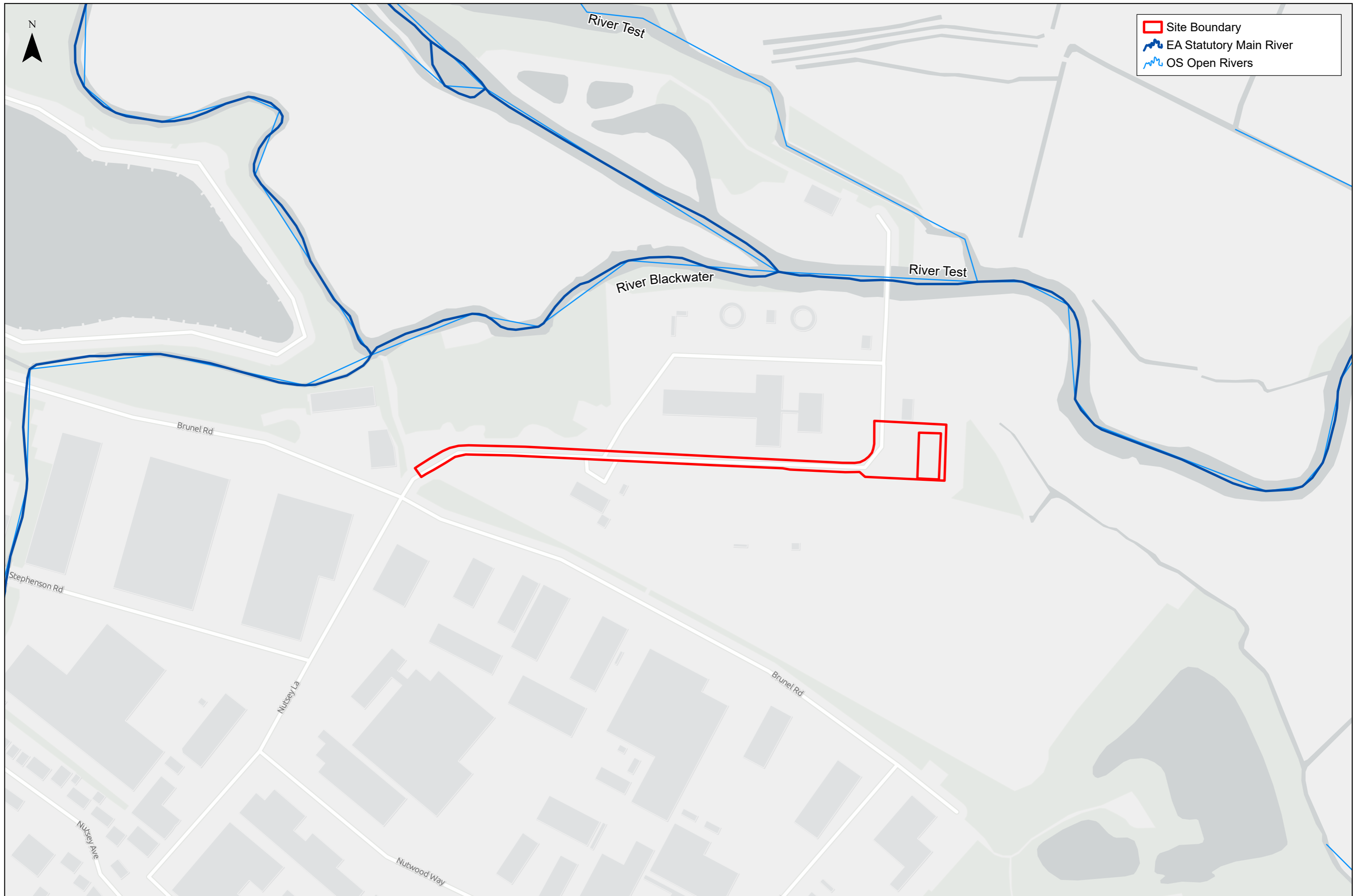


TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Environment Agency Flood Map for Planning

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 m

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 Flood Zones refer to the probability of river and/or sea flooding, ignoring the presence of defences.

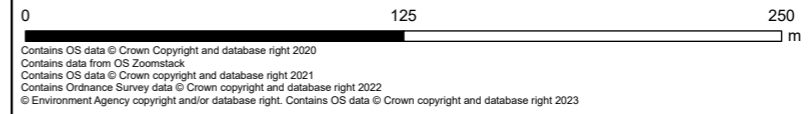
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Figure: 04	Rev: A



Site Boundary
~ EA Statutory Main River
~ OS Open Rivers



TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Watercourse Location



1:2,500 @ A3	Date: 12/03/2024
Drawn: WB	Checked: KL
Figure: 04.1	Rev: A



Site Boundary

Risk of Flooding from Surface Water

- High (3.3%) - 1 in 30 Annual Probability
- Medium (1%) - 1 in 100 Annual Probability
- Low (0.1%) - 1 in 1000 Annual Probability
- Very Low (<0.1%) - Less than 1 in 1000 Annual Probability



Client

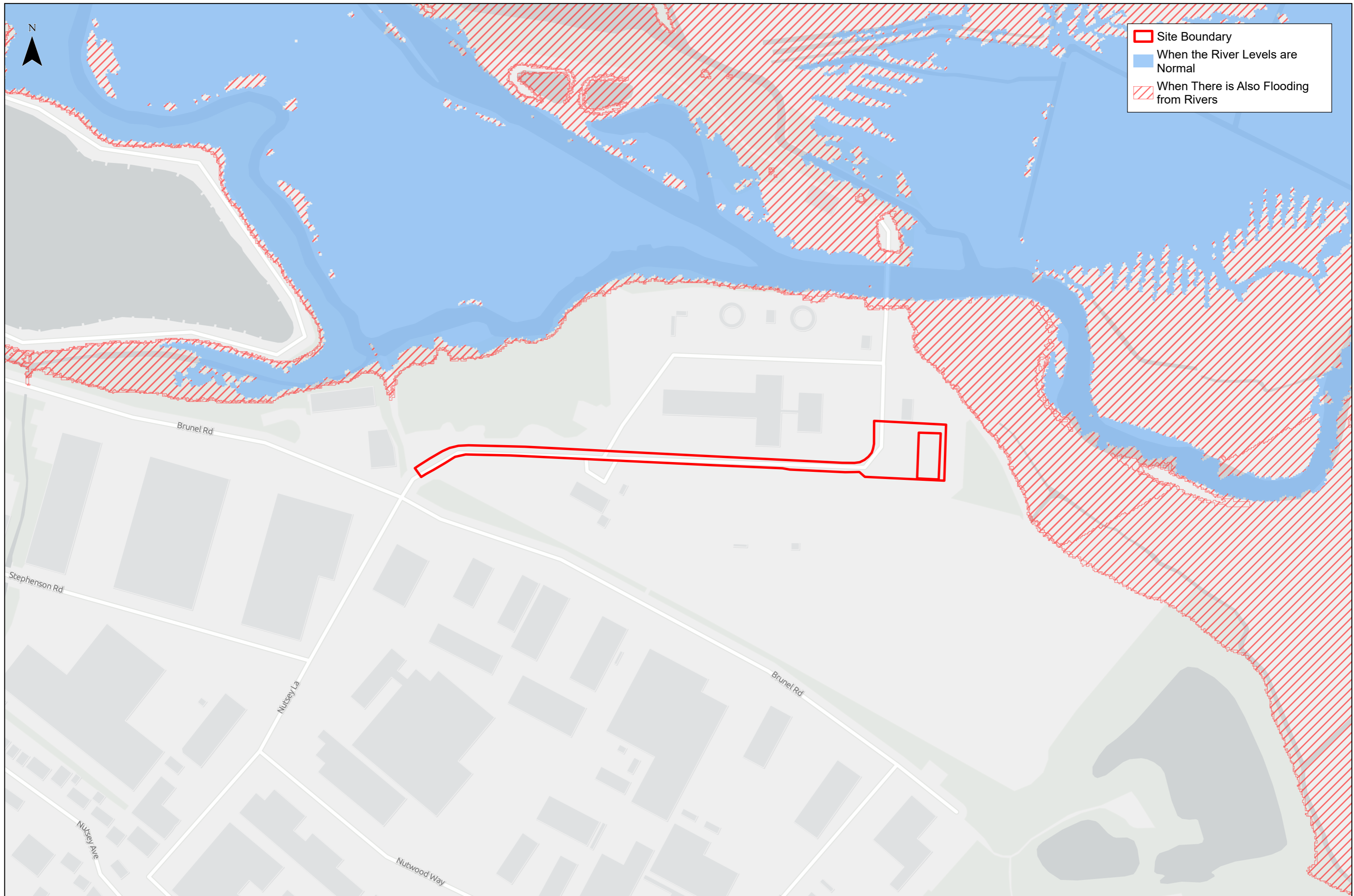
TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK




EA Surface Water Flood Risk

0 125 250
m

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Contains data from OS Zoomstack
Contains Environment Agency information © Environment Agency and database right.
Maple based on EA updated 'Flood Map for Surface Water' (uFMSW) released in 2013 as the latest iteration of a national scale surface water modelling exercise.

1:2,500 @ A3	Date: 12/03/2024
Drawn: WB	Checked: KL
Figure: 05	Rev: A



	Site Boundary
	When the River Levels are Normal
	When There is Also Flooding from Rivers

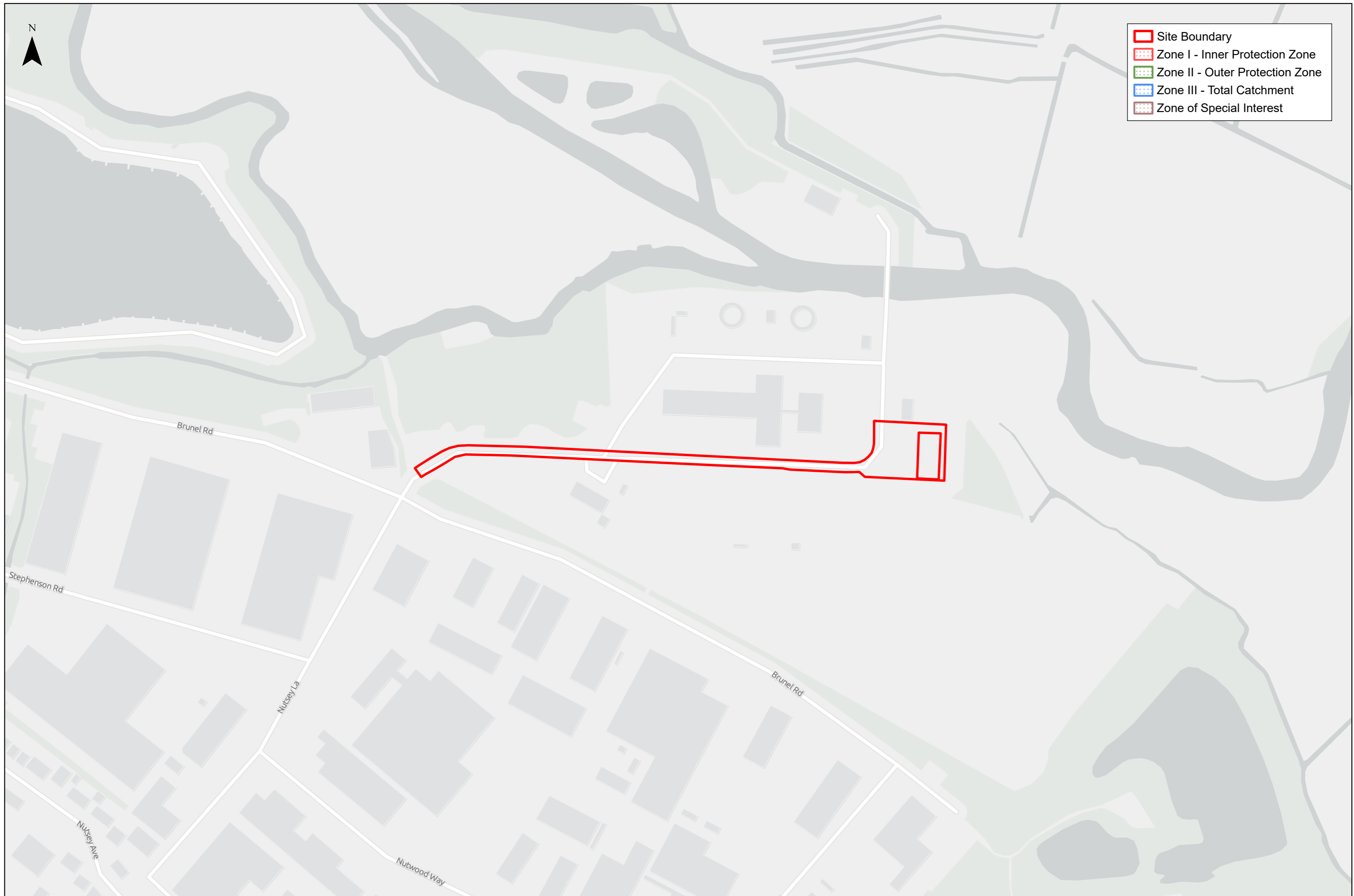


TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 Risk of Flooding from Reservoirs - Maximum Flood Extent

0 125 250
 J m

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 Contains data from OS Zoomstack
 Contains Environment Agency information © Environment Agency and database right.

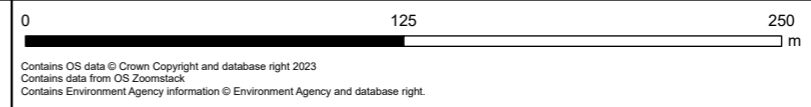
1:2,500 @ A3	Date: 12/03/2024
Drawn: WB	Checked: KL
Figure: 06	Rev: A



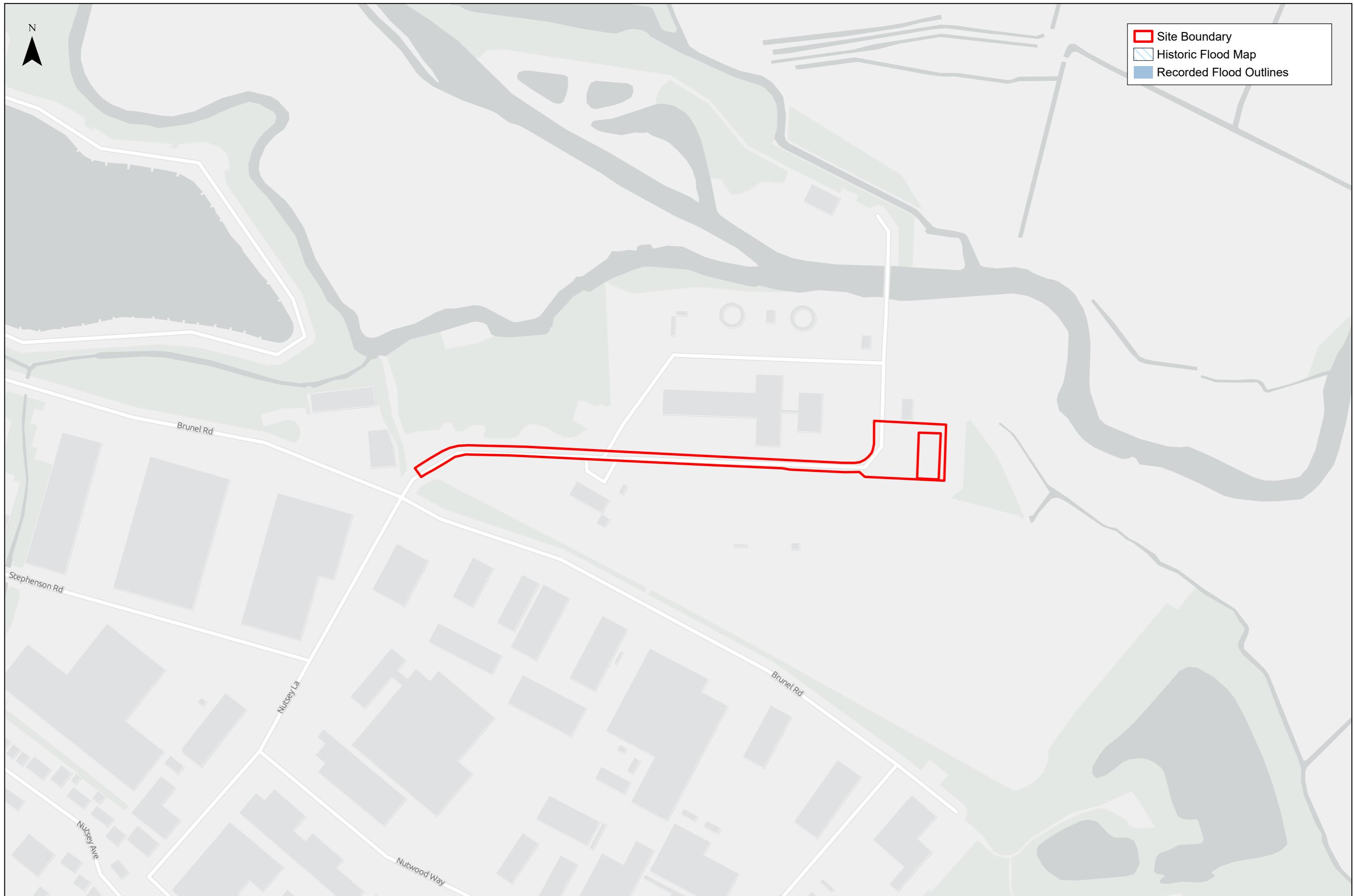
- Site Boundary
- Zone I - Inner Protection Zone
- Zone II - Outer Protection Zone
- Zone III - Total Catchment
- Zone of Special Interest



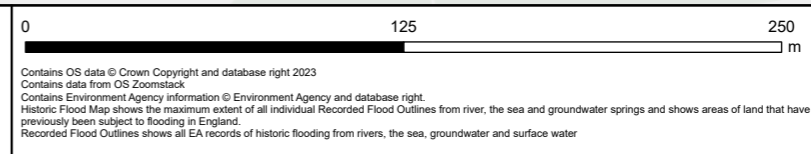
TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
 EA Ground Water Source Protection Zones



1:2,500 @ A3	Date: 12/03/2024
Drawn: WB	Checked: KL
Figure: 07	Rev: A

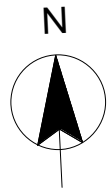


TESTWOOD WSW RGF 13/14 TRANSFER PS LVA KIOSK
EA Recorded Historic Flood Extents

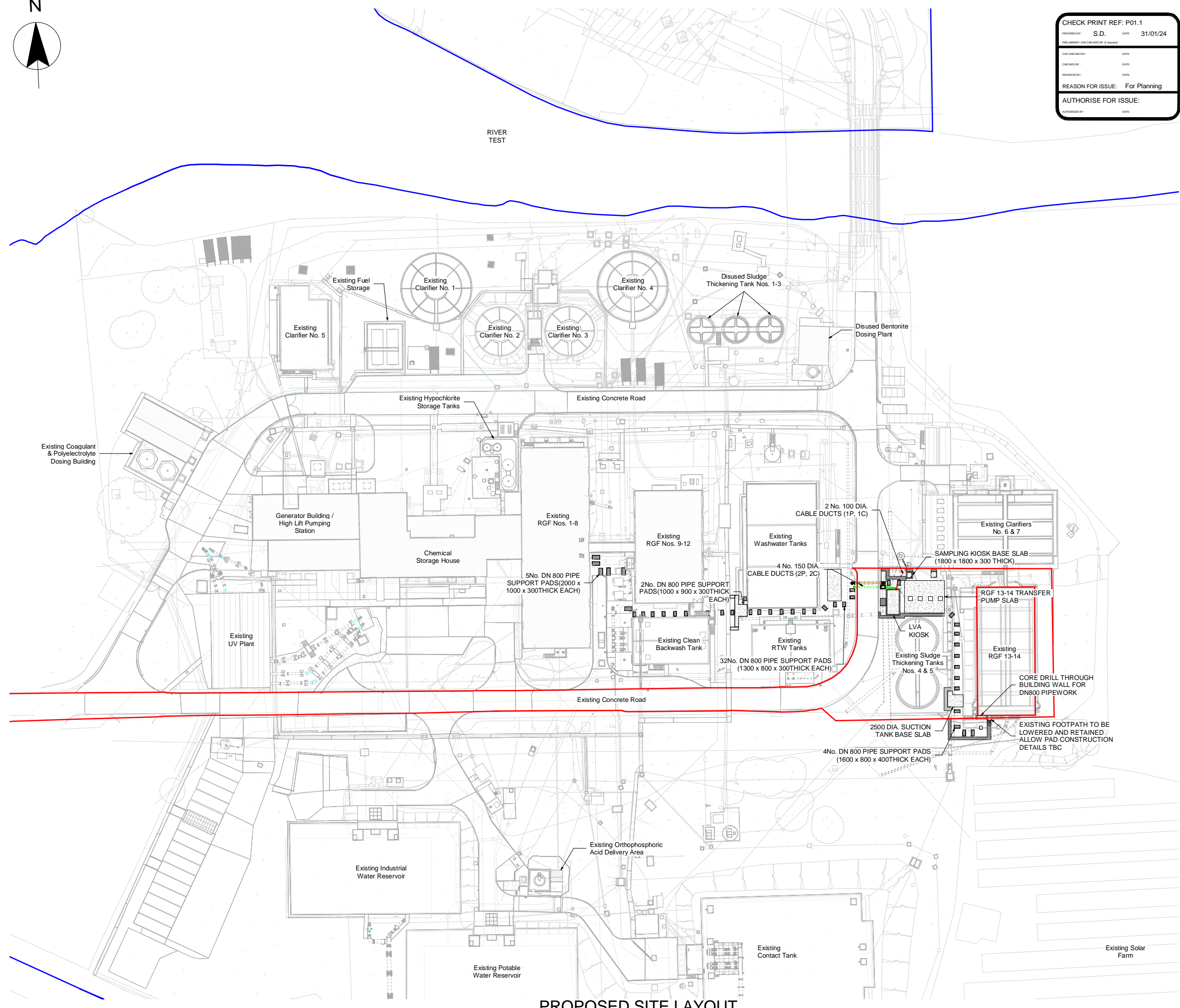


1:2,500 @ A3	Date: 12/03/2024
Drawn: WB	Checked: KL
Figure: 08	Rev: A

APPENDIX B – PROPOSED DEVELOPMENT DRAWINGS



CHECK PRINT REF: P01.1	
PREPARED BY: S.D.	DATE: 31/01/24
PRELIMINARY (C/D CHECKED BY: P/ISSUES)	
C/D CHECKED BY:	DATE:
CHECKED BY:	DATE:
REVISION BY:	DATE:
REASON FOR ISSUE: For Planning	
AUTHORISE FOR ISSUE:	
AUTHORISED BY:	DATE:



NOTES
 1. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS IN METERS ABOVE ORDNANCE DATUM (NEWLYN) UNLESS SHOWN OTHERWISE.

REFERENCES
 795023-JTX-XX-XX-DR-T-00001 AREA LOCATION PLAN
 795023-JTX-XX-XX-DR-T-00002 SITE LOCATION PLAN
 795023-JTX-XX-XX-DR-T-00003 EXISTING SITE LAYOUT
 795023-JTX-XX-XX-DR-T-00005 MCC KIOSK - PLAN & ELEVATIONS

- LEGEND**
- POWER CABLE DUCT
 - CONTROL CABLE DUCT
 - REINFORCED HOLLOW CELL PAVING
 - RC PAD FOUNDATION
 - CONCRETE FOOTPATH
 - CONCRETE BASE SLAB
 - SOUTHERN WATER LAND OWNERSHIP BOUNDARY
 - PLANNING APPLICATION SITE BOUNDARY

SCALE 1:500 AT A1
 0 5 10 20 30 40 50m

Current Issue Information

DATE	ORIG	CHKD	REVD	APPR	REV	STS	REASON FOR ISSUE

THIS DRAWING IS ISSUED BY SOUTHERN WATER SUBJECT TO THE CONDITIONS THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN BY SOUTHERN WATER. PREVIOUS VERSIONS OF THIS DRAWING SHOULD BE STAMPED SUPERSEDED OR DESTROYED. DO NOT SCALE THIS DRAWING - IF IN DOUBT ASK.



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 Worthing
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 BN13 3NX
 telephone (01903) 264444
 fax (01903) 691435



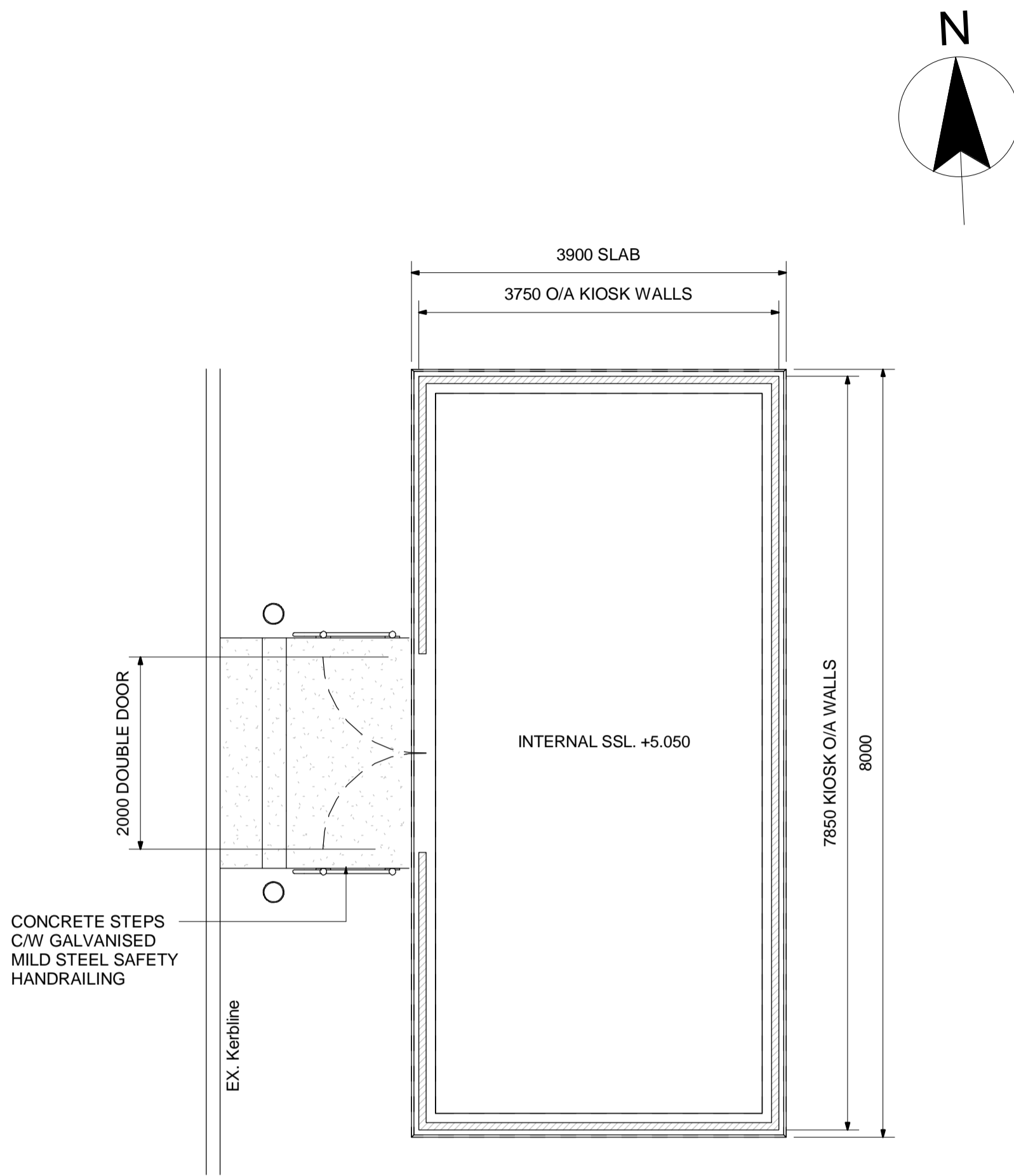
DP Address
 DP Contact Number
 4 Lines Max
 Line 4

PROJECT TITLE
 TESTWOOD WSW
 PHASE 2

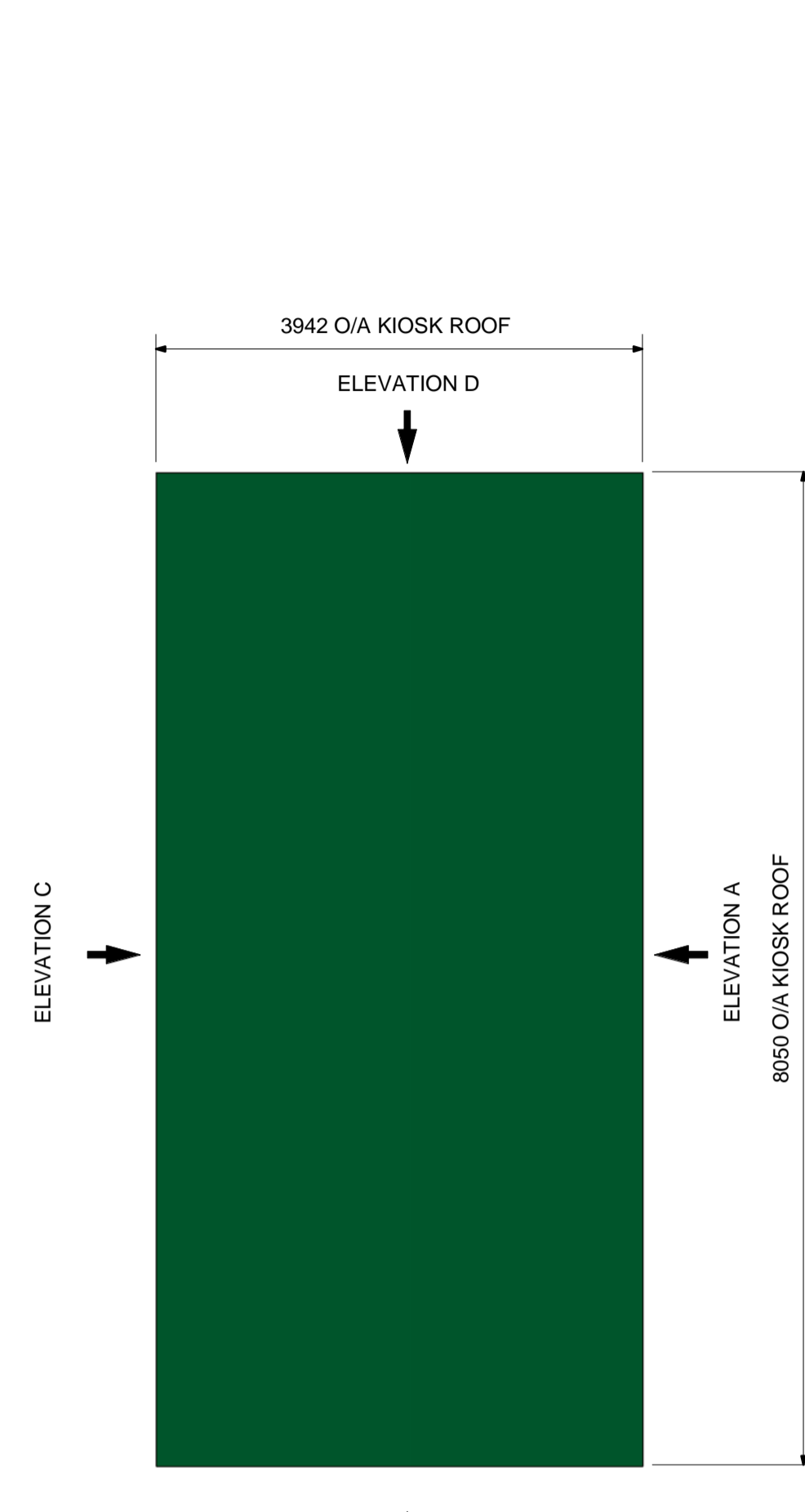
DRAWING TITLE
 PLANNING APPLICATION
 PROPOSED SITE LAYOUT

SITE UNIT MEMORIC	SITE UNIT NO.	MASTER SIZE
TESTWOOD	101879	A1
PRN	SCALE	STATUS
795023	1 : 500	S0
DRAWING NUMBER	REVISION	
795023-JTX-XX-XX-DR-T-00004	P01.1	

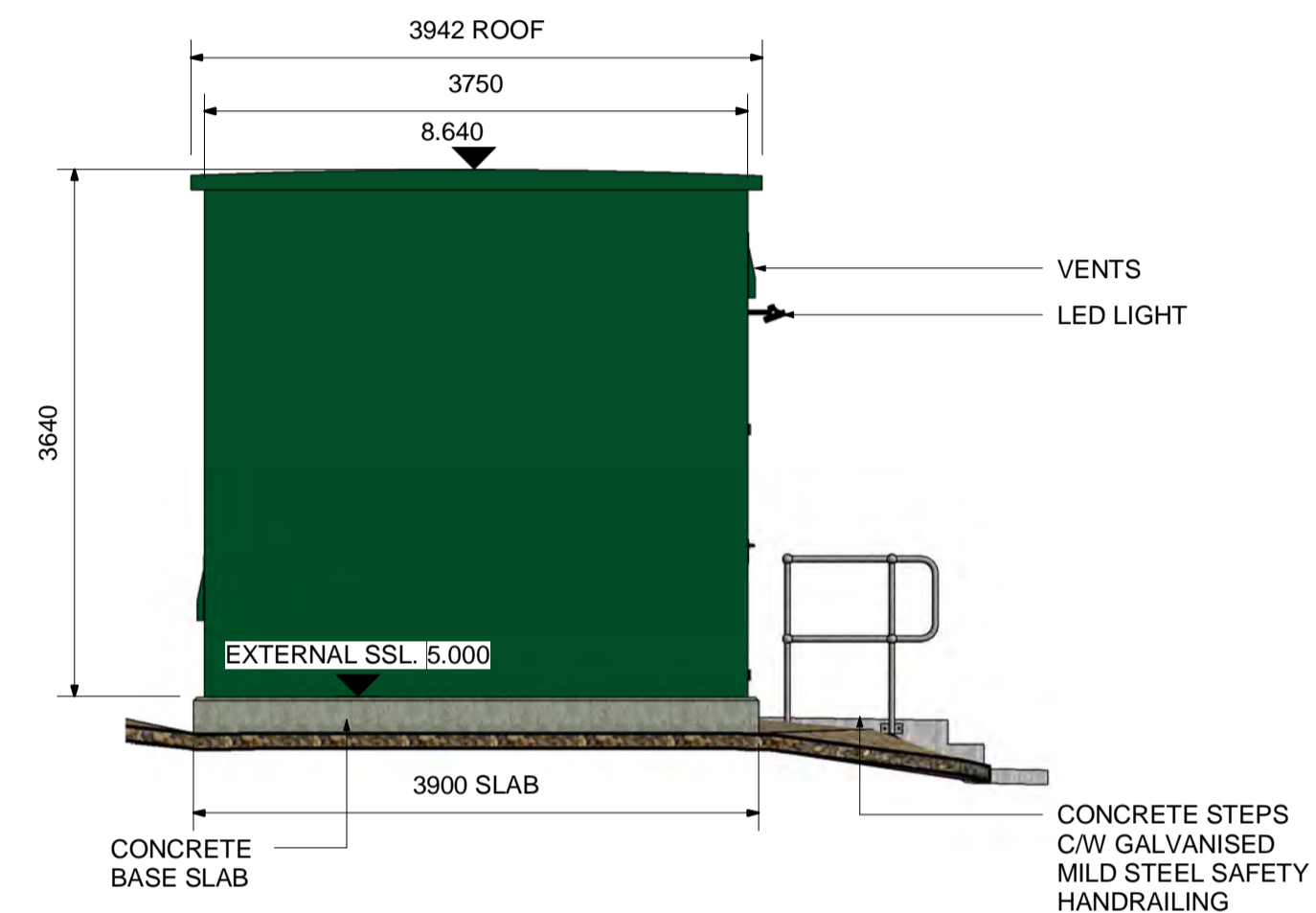
PROPOSED SITE LAYOUT
 1 : 500



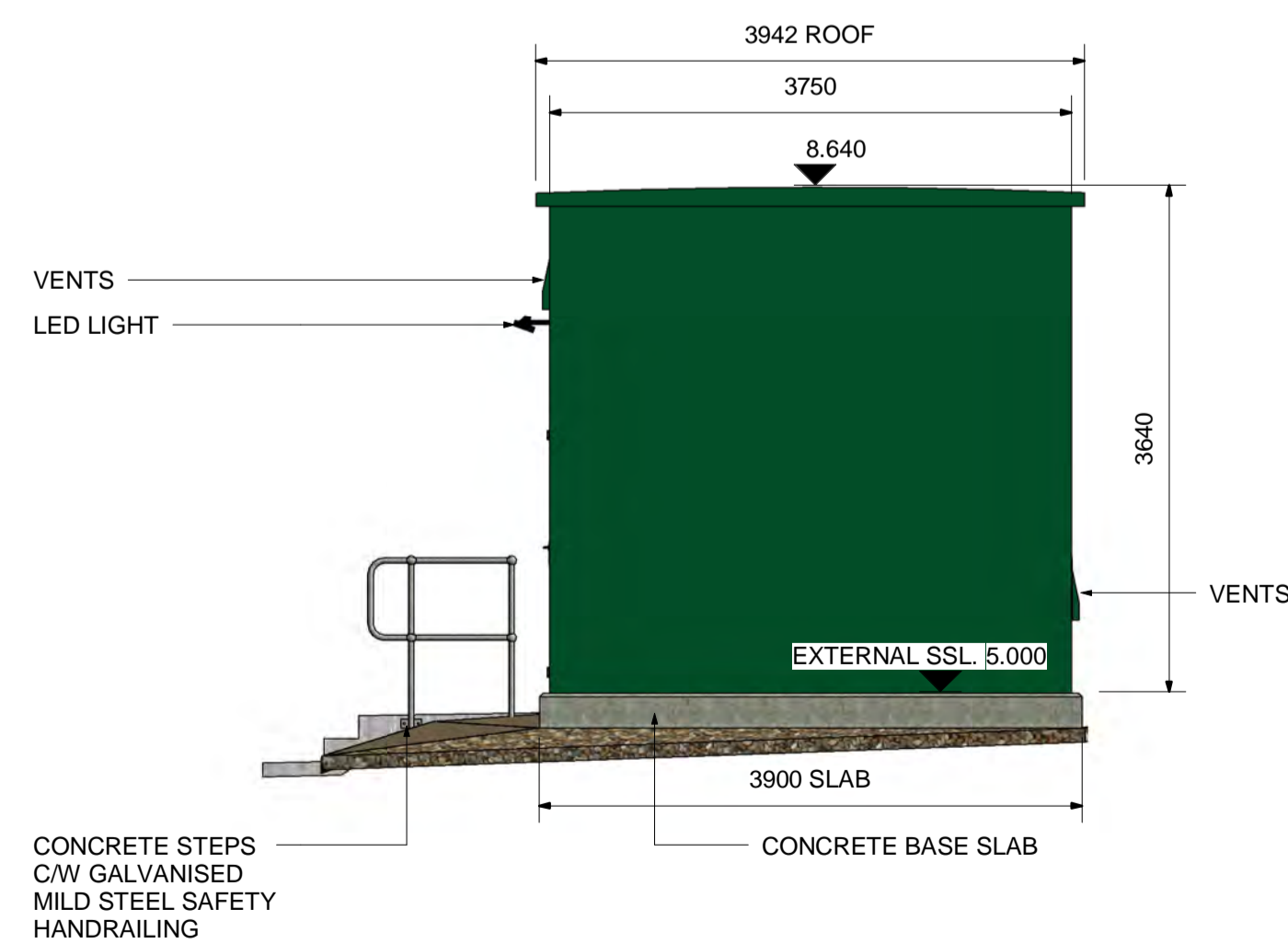
LVA KIOSK - FLOOR PLAN
1 : 50



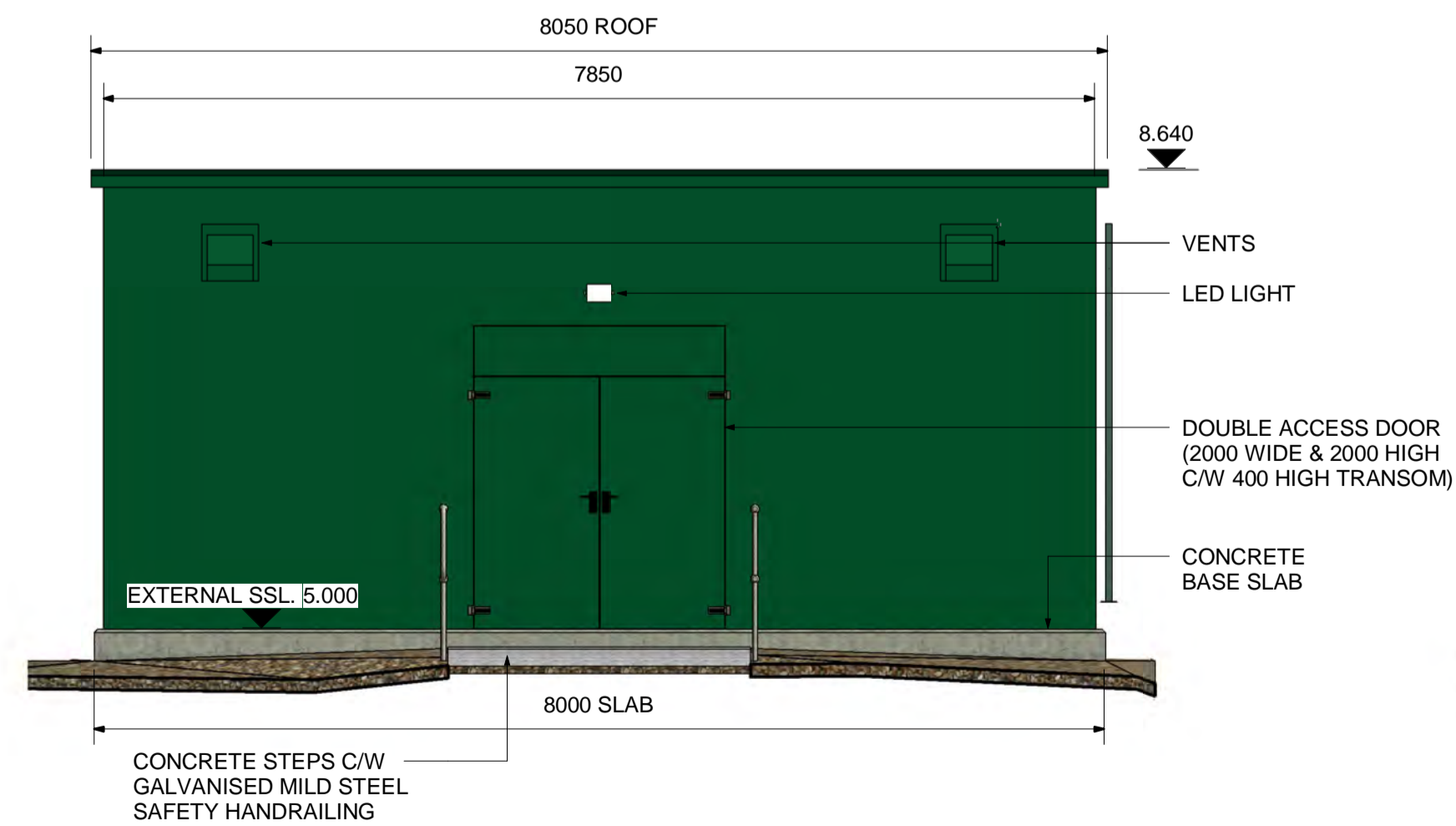
LVA KIOSK - ROOF PLAN
1 : 50



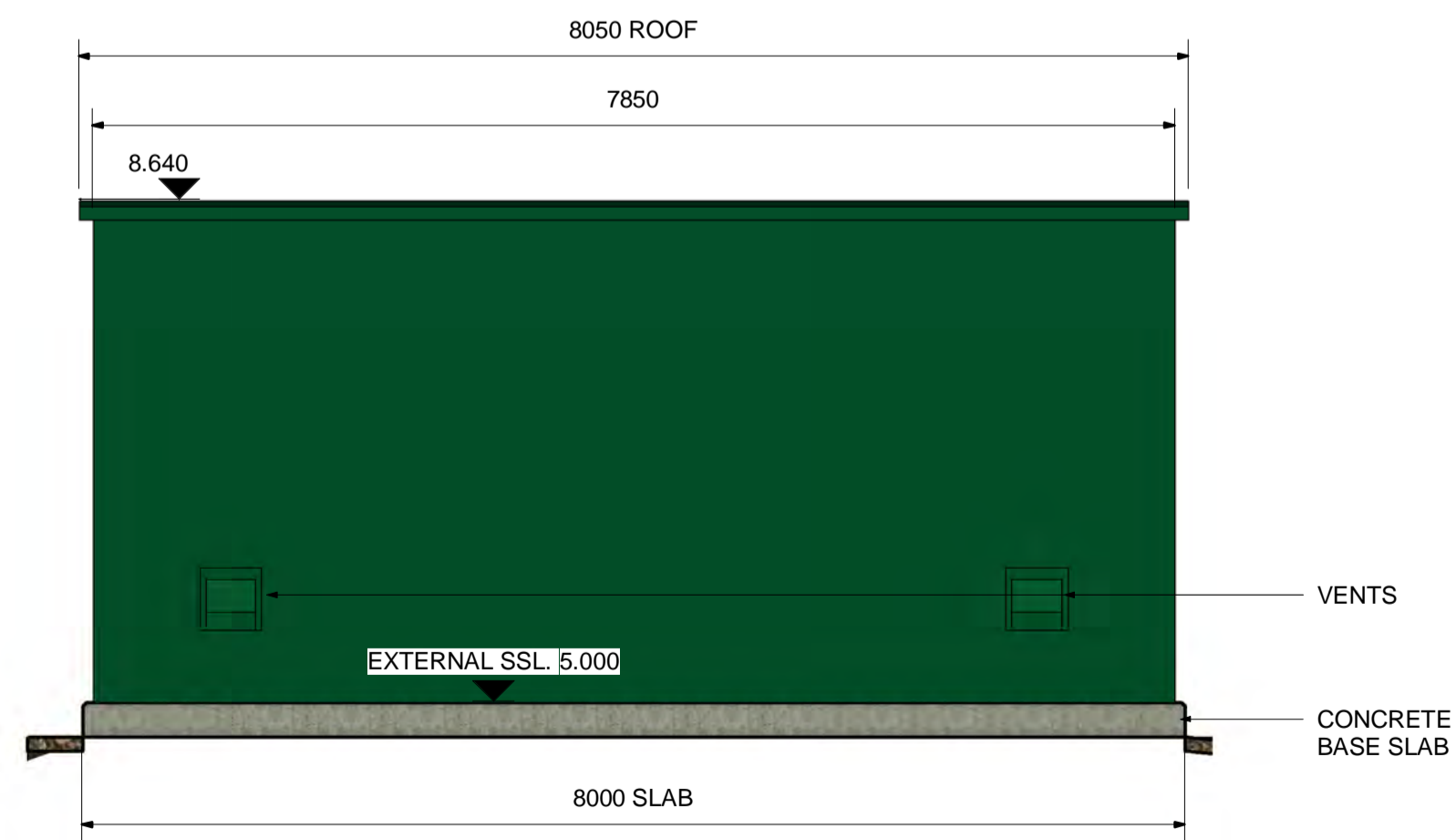
LVA KIOSK - ELEVATION D
1 : 50



LVA KIOSK - ELEVATION B
1 : 50



LVA KIOSK - ELEVATION C
1 : 50

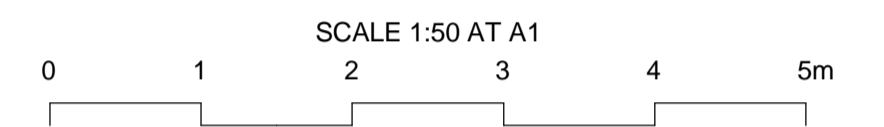


LVA KIOSK - ELEVATION A
1 : 50

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS IN METERS ABOVE ORDINANCE DATUM (NEWLYN) UNLESS SHOWN OTHERWISE.

REFERENCES:
795023-JTX-XX-XX-DR-T-00001 AREA LOCATION PLAN
795023-JTX-XX-XX-DR-T-00002 SITE LOCATION PLAN
795023-JTX-XX-XX-DR-T-00003 EXISTING SITE LAYOUT
795023-JTX-XX-XX-DR-T-00004 PROPOSED SITE LAYOUT

CHECK PRINT REF: P01.4	
PREPARED BY: WOM	DATE: 21.03.2024
PRELIMINARY (NOT CHECKED BY ENGINEER)	
CAD CHECKED BY:	DATE:
CHECKED BY:	DATE:
REMOVED BY:	DATE:
REASON FOR ISSUE: For Planning	
AUTHORISE FOR ISSUE:	
AUTHORISED BY:	DATE:



Current Issue Information

DATE	ORIG	CHKD	REVD	APPR	REV	STS	REASON FOR ISSUE
21.04.24	WO	DL	AB	CD	EF	GH	Issued For Planning

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Driving Efficiency - Improving Performance

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Line 4

PROJECT TITLE
**TESTWOOD WSW
PHASE 2**

DRAWING TITLE
**PLANNING APPLICATION
RGF 13/14 TRANSFER PS LVA KIOSK
PLAN & ELEVATIONS**

SITE UNIT MEMORIC TESTWOOD	SITE UNIT NO. 101879	MASTER SIZE A1
PRN 795023	SCALE 1 : 50	STATUS S0
DRAWING NUMBER 795023-JTX-XX-XX-DR-T-00005		REVISION P01.1

R:\dms\795023-JTX-XX-XX-DR-T-00001.dwg

APPENDIX C – FLOOD RISK DATA FOR TESTWOOD WSW FROM THE ENVIRONMENT AGENCY

Flood risk assessment data



Location of site: 435546 / 114998 (shown as easting and northing coordinates)
Document created on: 7 February 2024
This information was previously known as a product 4.
Customer reference number: SSD/346027

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits help and advice

Information that's unavailable

This document **does not** contain:

- historic flooding
- climate change modelled data

We do not have historic flooding data for this location.

Please note that:

- flooding may have occurred that we do not have records for
- flooding can come from a range of different sources
- we can only supply flood risk data relating to flooding from rivers or the sea

You can contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

There is not any modelled climate change data for this location. This is because detailed modelling hasn't been carried out in this area. You will need to consider the [latest flood risk assessment climate change allowances](#) and factor in the new allowances to demonstrate the development will be safe from flooding.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.








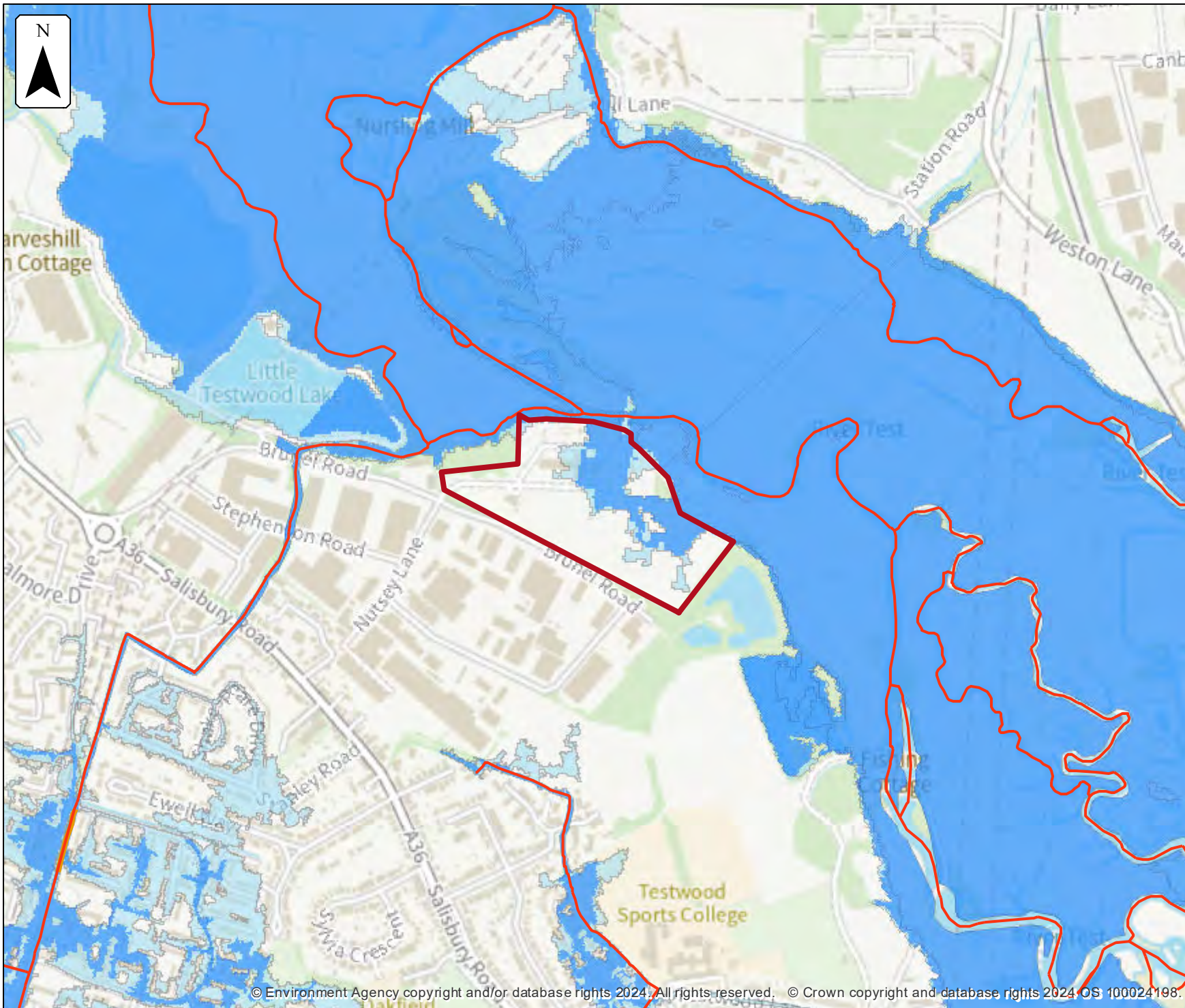
Flood map for planning

Location (easting/northing)
435546/114998

Scale
1:10,000

Created
7 Feb 2024

-  Selected area
-  Main river
-  Flood defence
-  Flood zone 3
-  Flood zone 2



Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk






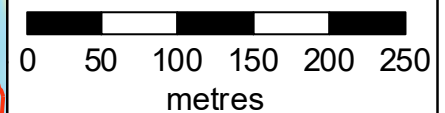
Flood defences

Location (easting/northing)
435546/114998

Scale
1:5,000

Created
7 Feb 2024

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	9323	Embankment	25		3.66	7.18	
2	541142	Engineered High Ground					

Any blank cells show where a particular value has not been recorded for an asset.

2009 JFLOW - Flood Levels Centred on: SU3546215100



Flood Levels Map

Location (easting/northing)
435461/115100

Scale

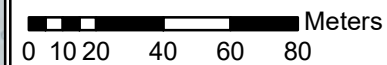
1:2,250

Created

7th Feb 2024

Legend

- Location Points
- flood_zone_3
- flood_zone_2



Water Depths & Levels for SU3546215100

Point	Water Depth (Metres)		Water Surface Level (mAOD*)		Ground Level
	1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	
1	NoData	0.26	NoData	4.07	3.81
2	NoData	0.08	NoData	4.52	4.44
3	0.22	0.31	4.11	4.20	3.89
4	0.13	0.21	3.61	3.69	3.48
5	0.31	0.43	4.22	4.34	3.91
6	0.32	0.49	4.76	4.93	4.44
7	NoData	0.12	NoData	4.65	4.53
8	0.57	0.73	4.87	5.03	4.30
9	NoData	0.03	NoData	4.04	4.01
10	0.41	0.59	4.84	5.02	4.43
11	0.12	0.25	3.77	3.90	3.65
12	0.64	0.85	5.01	5.22	4.37

* Levels in metres above Ordnance Datum Newlyn

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Solent and South Downs Environment Agency team at ssdenquiries@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for