



TEMPORARY (FOR A PERIOD OF 5 YEARS) FILM STUDIO BACKLOT
FLOOD RISK ASSESSMENT

SHINFIELD STUDIOS LIMITED

12 May 2026





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Date:	12 May 2026
Document Reference:	A282 – R060 REV A

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1.0 Introduction

1.1 Context

- 1.1.1 This Flood Risk Assessment (FRA) has been prepared by Abley Letchford, on behalf of Shinfield Studios Limited to support a planning application for a temporary (for 5 years) backlot for external filming and set creation. The site is located on land to the south of Oldhouse Farm in Shinfield, Berkshire.

1.2 Development Proposals

- 1.2.1 The proposed site is currently being used a film backlot under a Prior Notice approval granted by Wokingham Borough council in March 2025 (Wokingham Borough Council Application Reference: 243097). This expired at the end of April 2026, a further prior approval application has been submitted covering a further three months.

- 1.2.2 The proposals are for a temporary backlot as depicted on the Layout Plan within **Appendix A**.

1.3 Requirement for a Flood Risk Assessment

- 1.3.1 The requirement for a FRA is set out in Section 14 of the revised National Planning Policy Framework (NPPF) as revised in December 2024 and last updated in February 2025.

- 1.3.2 The footnote accompanying Paragraph 181 states:

'A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.'

- 1.3.3 The land is located to the south of Oldhouse Farm, which is currently in use as a film backlot. The land to the west of the track access is currently used as car parking and storage by Oldhouse Farm. The land to the east of the track access is predominantly greenfield. The area of the site is 1.04 hectares. As the site area exceeds 1 hectare, a site-specific flood risk assessment is required. To comply with the requirements of the NPPF, matters related to flood risk and drainage are addressed within this report.

1.4 Report Aim and Format

- 1.4.1 The principal aims of this report are to demonstrate that the proposed development complies with national and local planning policy with respect to flood risk.
- 1.4.2 This report will also summarise the impacts the development could have on flood risk to the surrounding area and outlines the mitigation strategies, where required, that will be implemented to address this risk.

1.5 Report Structure

- 1.5.1 This report addresses the requirements of NPPF and is set out as follows:



- **Section 2: Policy and Sources of Information** – a review of policy relevant to the assessment and summary of the sources of information used to inform the assessment.
- **Section 3: Site Setting** – a description of the site location, topography, geology and hydrology.
- **Section 4: Overview of Flood Risk** – a review of data for flooding from all sources to determine the baseline flood risk to the site and an assessment of the impacts of the development on flood risk.
- **Section 5: Sequential Test and Exception Test** – a description of the proposed development and a classification of the vulnerability in the context of the Sequential Test and Exception Test.
- **Section 6: Flood Risk Mitigation** – a summary of the mitigation measures, where required, to suitably manage the potential flood risk to or arising from the development.
- **Section 7: Surface Water Drainage Strategy** – a summary of an appropriate strategy to manage the surface water from the site.
- **Section 8: Conclusion** – a summary of the flood risk considerations for the proposed development, drainage strategies and conclusion on how the proposed scheme meets the requirements of the NPPF, local policy and site-specific requirements.



2.0 Policy and Sources of Information

2.1 Introduction

- 2.1.1 This chapter provides an overview of policy relevant to the assessment and the available information on all sources of flood risk.

2.2 National Planning Policy

- 2.2.1 National Policy in relation to flood risk is set out in Section 14 of the National Planning Policy Framework (NPPF), December 2024 (last updated February 2025) and Planning Practice Guidance (PPG) ID: 7 for Flood Risk and Coastal Change, September 2025.
- 2.2.2 Flood Risk is discussed at Paragraphs 170 to 182 of the NPPF. Paragraphs 172 to 177 discuss the sequential approach with respect to individual applications. Paragraph 174 refers to the Strategic Flood Risk Assessment (SFRA) that would form the basis of applying the Sequential Test for local authorities to allocate developments, whilst Paragraphs 178 to 179 relate to Exception Tests.
- 2.2.3 Paragraph 181 discusses the determination of planning applications stating:
- ‘When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*
- a) Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.*
 - b) The development is appropriately flood resistant and resilient, such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment.*
 - c) It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate.*
 - d) Any residual risk can be safely managed; and*
 - e) Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.’*
- 2.2.4 The proposed development is a commercial development of a temporary backlot at the site which covers 1.04 hectares and would, therefore, be classed as a Major development because *‘the development is to be carried out on a site having an area of 0.5 hectares or more’*.
- 2.2.5 Paragraph 182 states:
- ‘Sustainable drainage systems provided as part of proposals for major development should:*
- Take account of advice from the Lead Local Flood Authority.*
 - Have appropriate proposed minimum operational standards; and*
 - Have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.’*



- 2.2.6 The PPG sets out more specific guidance on how to apply and implement the NPPF policies. This includes guidance on when a Sequential Test is required and considerations on how to apply the test. In Paragraph 023 of the PPG the aim of the sequential approach is clarified and includes the following:

'The approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk.'

- 2.2.7 In applying the Sequential Test to planning applications, NPPF Paragraph 175 confirms specific development cases when the test is not applicable:

'The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk).'

- 2.2.8 The PPG goes on to state when and how to apply the Sequential Test to planning applications and in Paragraph 027 states:

'...In applying paragraph 175 a proportionate approach should be taken. Where a site-specific flood risk assessment demonstrates clearly that the proposed layout, design and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the Sequential Test need not be applied...'

2.3 Environment Agency

- 2.3.1 The Flood and Water Management Act (2010) provides the Environment Agency (EA) a strategic overview role for all forms of flooding and coastal erosion. They also have direct responsibility for the prevention, mitigation and remediation of flood damage for main rivers and coastal areas. The EA is a statutory consultee in relation to flood risk and planning.

- 2.3.2 Data has been obtained from the EA Flood Map for Planning, EA Long Term Flood Risk Mapping and the Catchment Data Explorer websites as appropriate to inform this FRA.

2.4 Local Authorities

- 2.4.1 The site lies within the administrative area of Wokingham Borough Council (WBC). WBC is the Local Planning Authority (LPA) and Lead Local Flood Authority (LLFA).

- 2.4.2 Planning guidance published by WBC regarding the flood risk was referred to in order to assess the methodology best suited to the local area. The following key documents were reviewed:

- WBC Core Strategy, Core Policy CP1 'Sustainable Development' and CP9 'Scale and Location of Development Proposals' (adopted January 2010);
- WBC Local Flood Risk Management Strategy (dated April 2015);
- WBC Preliminary Flood Risk Assessment (PFRA) (dated June 2011);



- WBC PFRA addendum (dated 2017);
- WBC Level 1 Strategic Flood Risk Assessment (SFRA) (dated May 2023); and
- WBC Level 2 SFRA (dated August 2023).

2.4.3 WBC has permissive rights over any Ordinary Watercourses including land drainage ditches. If any work is required within an Ordinary Watercourse (improvements or crossings) then approval from the LLFA is required under the Flood and Water Management Act 1991.

2.5 Local Water Authority

2.5.1 Thames Water is responsible for the supply of clean water and disposal of wastewater in the Shinfield and Wokingham area.

2.6 Other Sources of Information

2.6.1 A desktop study of the site was carried out using the following websites to ascertain local features, hydrology and soil characteristics:

- DEFRA's Magic Map portal;
- British Geological Survey (BGS) 'Geology of Britain' online viewer and;
- Cranfield University 'Soilscapes' portal.

2.6.2 Guidance with respect to Sustainable Drainage Systems (SuDS) is contained within DEFRA document Sustainable Drainage Systems, Non-statutory technical standards for sustainable drainage systems March 2015, Construction Industry Research and Information Association (CIRIA) C753 The SuDS Manual and within the NPPF PPG – 'Flood Risk and Coastal Change'.

2.6.3 Additional guidance on development and flood risk is contained within CIRIA C624 Development and Flood Risk – Guidance for the Construction Industry which identifies several key aims for a development to ensure it is sustainable in flood risk terms.

3.0 Site Setting

3.1 Introduction

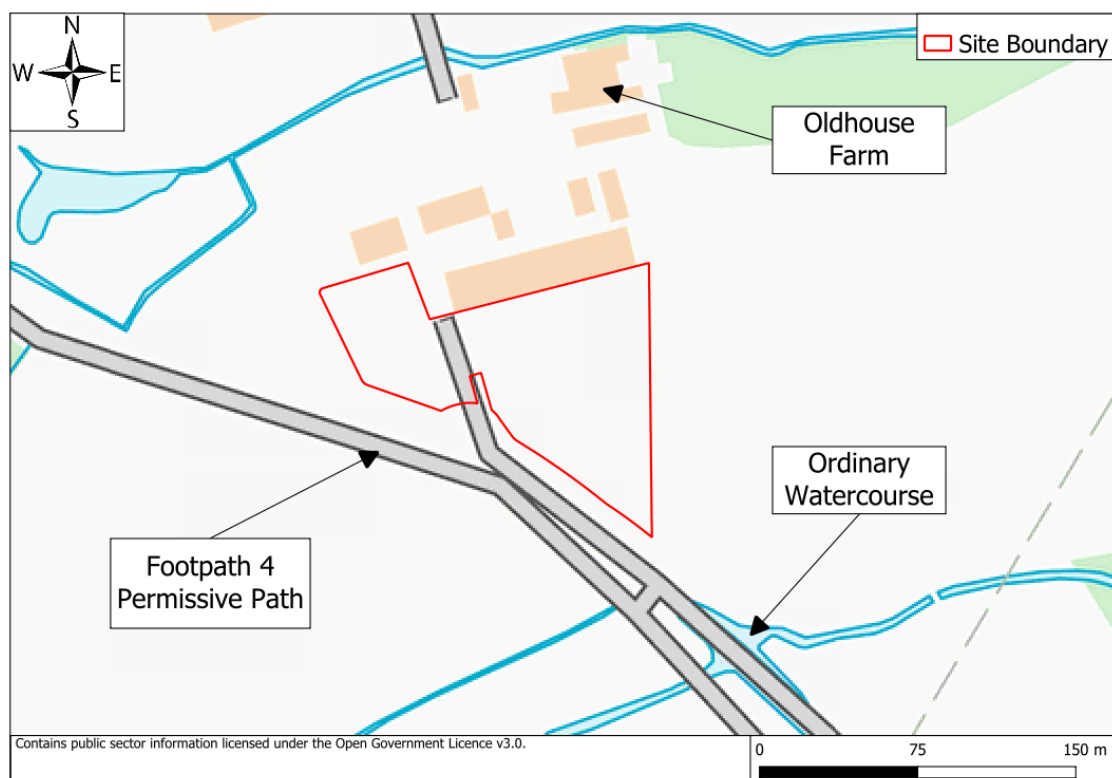
3.1.1 This chapter provides a description of the site location, and its setting with respect to topography, hydrology and geology/hydrogeology.

3.2 Site Location

3.2.1 The site is located at land to the south of Oldhouse Farm. The land lies within a land parcel bounded by the M4 and the Eastern Relief Road. The nearest named road is Cutbush Lane East, located approximately 400m to the northwest of the site. This backlot would be an extension of the wider Shinfield Studios development and the existing film backlot (Reference: 222906, which covers the eastern backlot as a temporary 5-year permission). This already developed land was approved through the planning consents (WBC References: 210387 and 211841).

3.2.2 The nearest postcode is RG2 9AE. The site centre grid reference is SU 74438 68585.

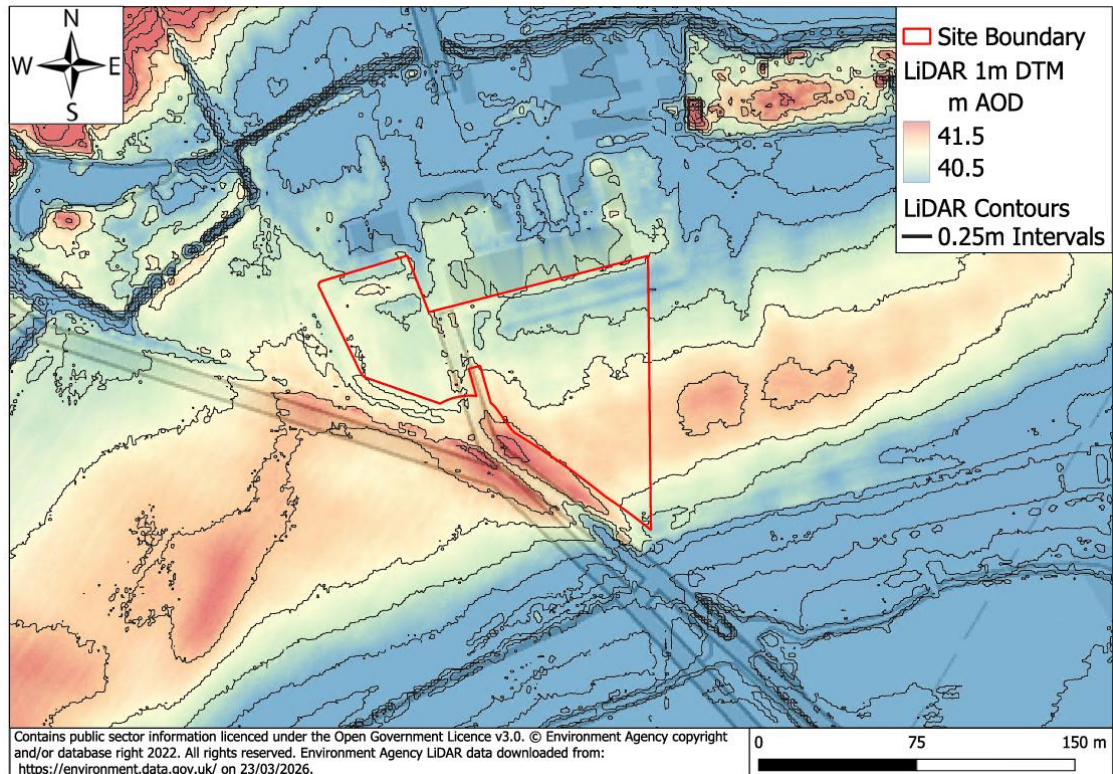
Figure 3.1: Site Location



3.3 Topography

3.3.1 The ground levels across the site are shown by LiDAR in **Figure 3.2**.

Figure 3.2: Site Topography



3.3.2 The LiDAR data presented in **Figure 3.2** shows the site's ground elevations to be relatively level across the site. The higher elevations appear in the central area of the site, with elevations of up to 41.2m AOD. The lower elevations appear in the north and south of the site, with the lowest being approximately 40.5m AOD, in the north of the site.

3.4 Hydrology: Watercourses and Sewers

Watercourses

- 3.4.1 There are no Main Rivers or Ordinary Watercourses within the site.
- 3.4.2 The nearest watercourse to the site is located to the north of the site and Oldhouse Farm. A watercourse that originates from a pond located approximately 200m west of the site.
- 3.4.3 The Main River of the River Loddon is located approximately 650m to the southeast of the site.



Surface and Foul Water Sewers

- 3.4.4 Sewer asset records obtained from Thames Water show there to be no assets within the site boundary.
- 3.4.5 A copy of Thames Water asset record is included within **Appendix A**.

3.5 Geology and Hydrogeology

- 3.5.1 The British Geological Survey (BGS) 'Geology of Britain' online viewer indicates that the bedrock geology underlying the site is London Clay Formation, silt and sand. The superficial deposits are made up of Fluvio-aeolian deposits – clay, silt and sand.
- 3.5.2 The Cranfield University 'Soilscapes' online viewer indicates that the soil is 'loamy and clayey floodplain soils with naturally high groundwater'.
- 3.5.3 The DEFRA Magic Map online viewer indicates that the site lies within an area that is designated as a Secondary B Aquifer (superficial drift).
- 3.5.4 A Secondary B aquifer is described by the BGS as '*predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers*'.

4.0 Overview of Flood Risk

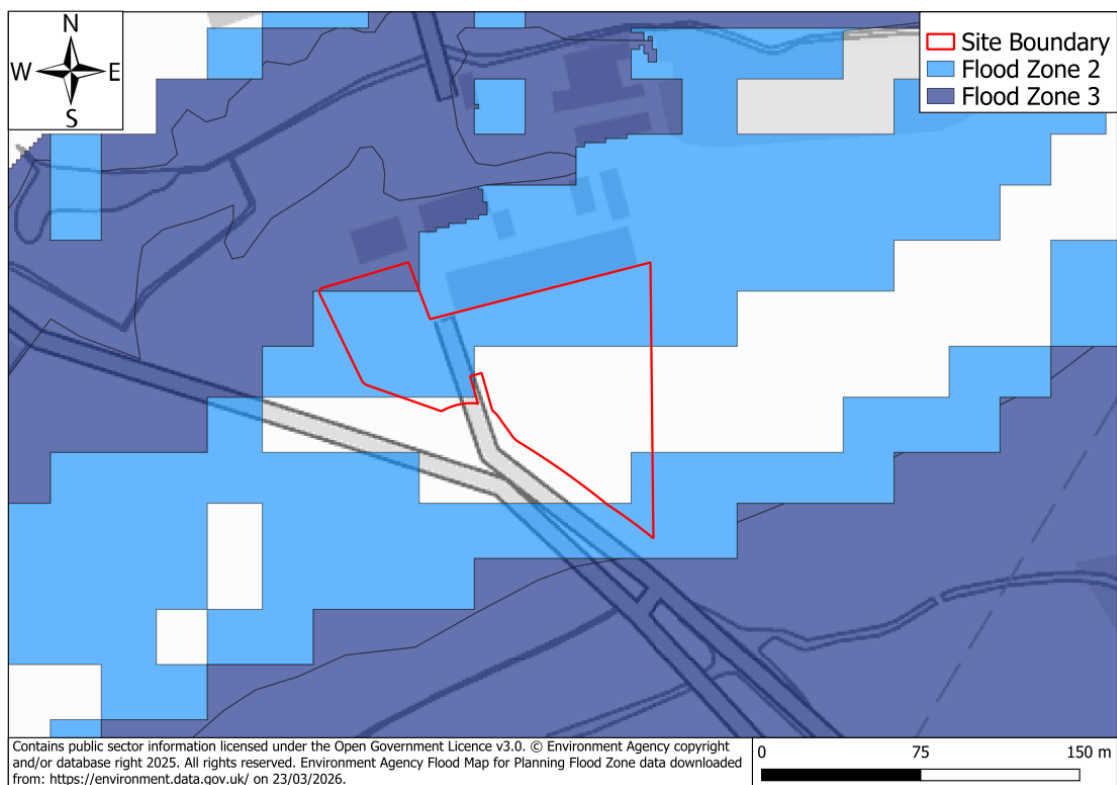
4.1 EA Flood Zone Map

4.1.1 The EA Flood Map for Planning provides an initial indication of the extent of Flood Zones. In the PPG Table 1, Flood Zones are defined as follows:

- Flood Zone 1 'Low Probability' – Land having less than 0.1% annual probability of river or sea flooding.
- Flood Zone 2 'Medium Probability' – Land having between a 1% and 0.1% annual probability of river flooding, or between a 0.5% and 0.1% annual probability of sea flooding.
- Flood Zone 3a 'High Probability' – Land having a 1% or greater annual probability of river flooding, or land having a 0.5% or greater annual probability of sea flooding.

4.1.2 **Figure 4.1** shows the EA Flood Zone mapping.

Figure 4.1: EA Flood Map for Planning



4.1.3 **Figure 4.1** shows the site lies within Flood Zone 1, Flood Zone 2 and partly within Flood Zone 3.

4.1.4 The central area of the site lies within Flood Zone 1 and therefore the flood risk from fluvial sources is considered low.

4.1.5 The northern area of the site lies within Flood Zone 2, with the very northern tip of the site within Flood Zone 3.

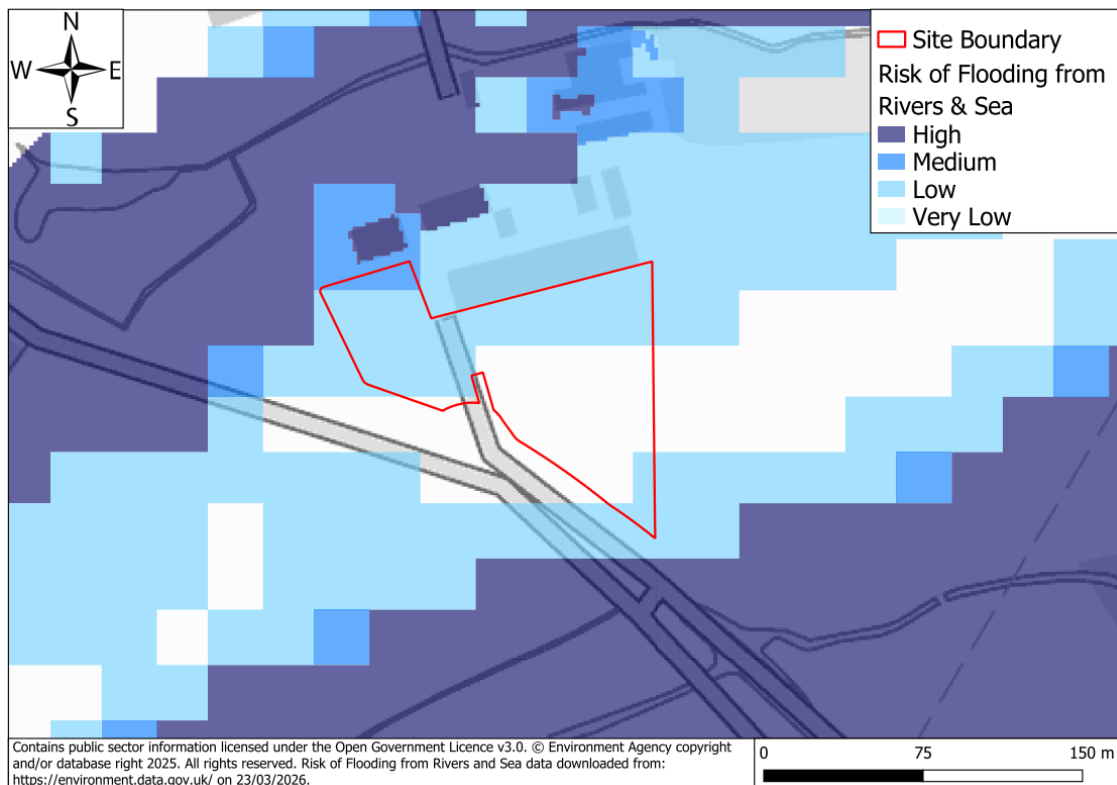
4.1.6 The southern tip of the site lies within an area of Flood Zone 2.

4.2 Flood Risk from Fluvial Sources

EA Mapping of Risk of Flooding from Rivers and Sea

4.2.1 The EA produces mapping of flooding from river and sea as part of the NaFRA project, as shown in **Figure 4.2**.

Figure 4.2: EA Risk of Flooding from Rivers and Sea



4.2.2 The EA NaFRA Risk of Flooding from Rivers and Sea mapping shown in **Figure 4.2** indicates that the central area of the site is at no risk of flooding from rivers and sea. The risk of flooding from rivers and sea in the central area of the site is deemed to be 'Low'.

4.2.3 The northern area of the site is categorised as being at 'Low' risk of flooding from rivers and sea. In the very northwestern area corner site, there is an area that is categorised as 'Medium' risk of flooding.

4.2.4 The southern tip of the site lies within an area of 'Low' risk of flooding from rivers and sea.

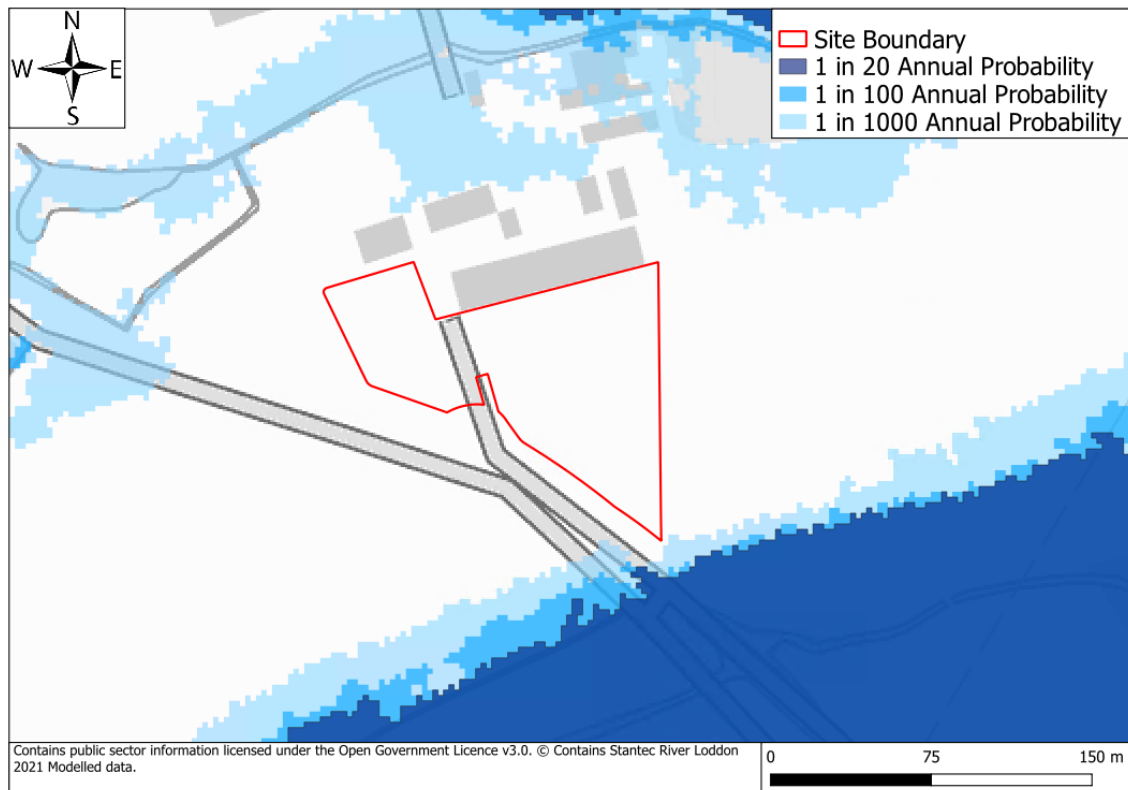
4.2.5 Overall, from a review of the EA strategic mapping, the risk of flooding from Rivers and Sea to the site is considered to be 'Low'. However, further detailed modelling has been completed to assess fluvial flood risk in this area and is detailed in the next section.



Detailed Flood Modelling

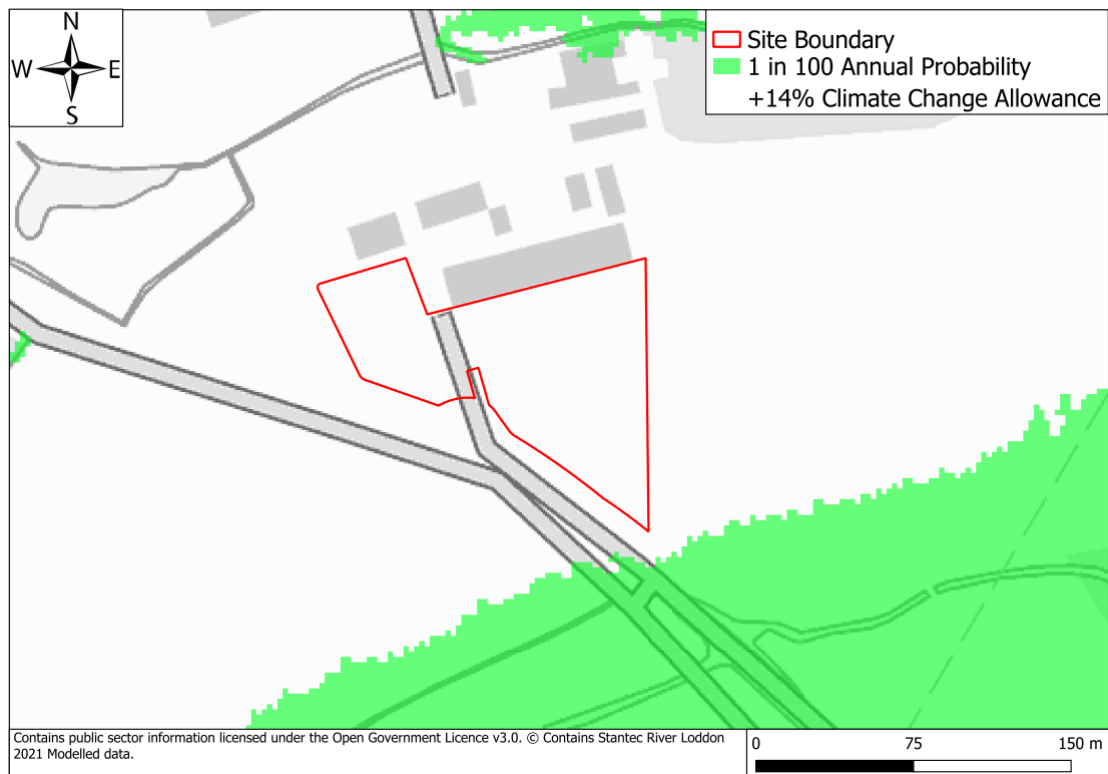
- 4.2.6 The EA Risk of Flooding from Rivers and Sea mapping and the EA NaFRA Risk of Flooding from Rivers and Sea mapping are strategic scale flood outlines. Detailed modelling is available for this site which refines the modelled flood levels and outlines for the River Loddon area.
- 4.2.7 The EA originally developed a model of the River Loddon in 2008 (made available in January 2009), which serves as the foundation for the published flood zone maps for planning and the rivers and sea mapping. This is understood to be the basis for WBC's 2023 SFRA model.
- 4.2.8 Since 2008 more data has become available and modelling methods and practices have improved. There have also been changes in the local infrastructure, such as the wider road and highway infrastructure. These changes have been accounted for into a more detailed model produced by WBC as part of their 2021 SFRA to inform strategic development.
- 4.2.9 WBC's 2023 SFRA model and 2021 SFRA model have both informed the recent Local Plan Update (LPU). The EA has accepted these models for the purpose of the informing LPU. It is accepted that more detailed modelling may be used to inform site specific FRAs subject to EA review. This leads to a degree of uncertainty about which data should be used and for what purpose. On balance, the 2021 SFRA model is deemed to be most representative of the local hydrology, topography, including the presence of the Eastern Relief Road, and floodplain regime. This was the approach adopted for the 5-year Backlot Scheme (Reference: 222906) where the initial flood zoning was based on the EA flood maps but the more detailed 2021 SFRA model was used as a basis for design. Therefore, the 2021 SFRA model, Stantec Model is deemed to be most appropriate to inform this FRA.
- 4.2.10 **Figure 4.3** shows the Stantec River Loddon modelled flood extents. 1 in 20, 1 in 100 and 1 in 1,000 annual probability. **Figure 4.4** shows the 1 in 100 annual probability with 14% climate change allowance.

Figure 4.3: EA River Loddon Modelled Flood Extents



- 4.2.11 The modelled flood extents shown in **Figure 4.3** shows the site boundary lies outside of any modelled flood extents.
- 4.2.12 The Stantec 2021 River Loddon modelling is more detailed than the EA fluvial mapping. It will therefore be used to inform the fluvial flood risk to the site.
- 4.2.13 The risk of flooding from rivers and sea is therefore considered to be 'Low'.
- 4.2.14 At this location the site is within the Loddon and Tributaries Management Catchment. The relevant climate change allowance for a temporary land use is the Central for the 2020's epoch taken from the EA's website. The design event for fluvial flooding is the 1 in 100 annual probability with 2020s Central allowance, this is 7%. However, there is only modelling data available for the 14% climate change allowance (which is for the Central 2080's epoch). Therefore the 14% climate change allowance has been used as a precautionary approach.

Figure 4.4: EA River Loddon Modelled Flood Extents



4.2.16 The modelled flood extents shown in **Figure 4.4** shows the site boundary lies outside of the modelled 1 in 100 annual probability +14% climate change allowance.

4.2.17 The Stantec 2021 River Loddon modelling is more detailed than the EA fluvial mapping. It will therefore be used to inform the fluvial flood risk to the site.

4.2.18 The risk of flooding from rivers and sea is therefore considered to be 'Low'.

4.3 Flood Risk from Surface Water

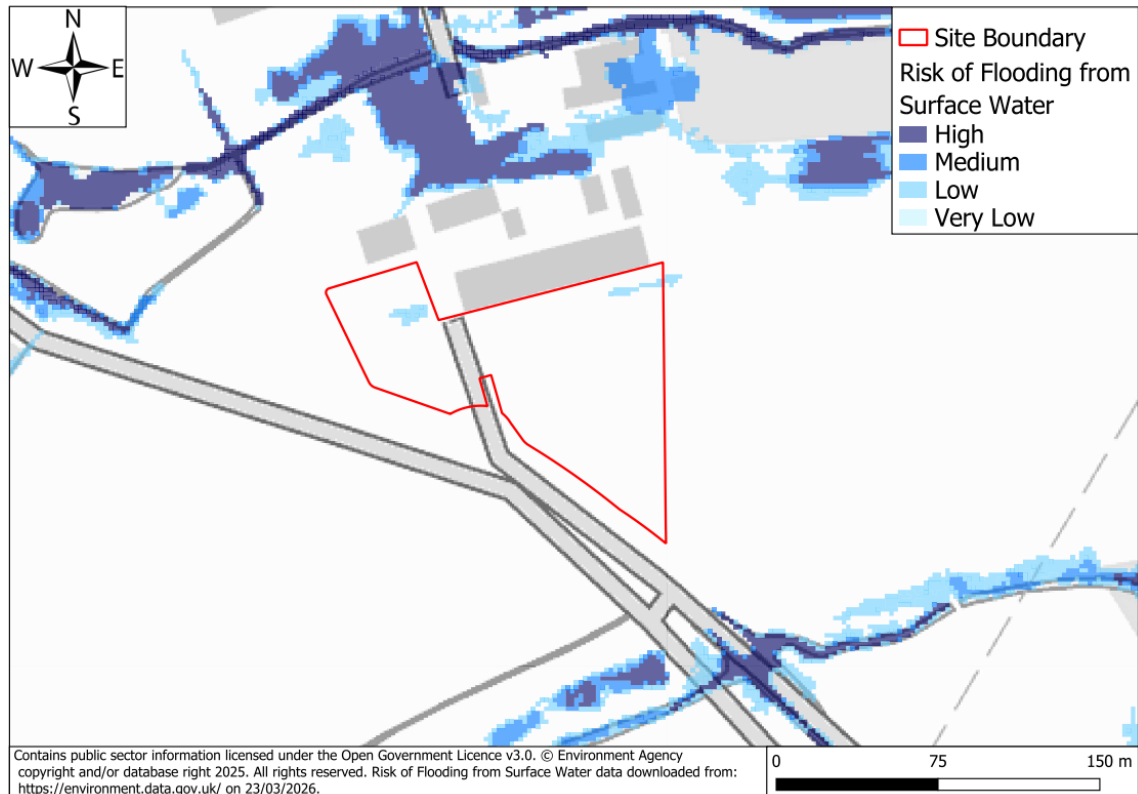
4.3.1 The EA's Risk of Flooding from Surface Water mapping indicates areas that could be susceptible to surface water flooding during extreme rainfall events. The EA surface water mapping defines rainfall events based on the following:

- 1 in 30 (3.3%) annual probability 'High Risk'
- 1 in 100 (1%) annual probability 'Medium Risk'
- 1 in 1,000 (0.1%) annual probability 'Low Risk'.

4.3.2 The NPPF PPG – 'Flood Risk and Coastal Change' includes the 1 in 100 annual probability of surface water flood (including climate change) within the definition of the design flood event to be used to inform a FRA.

4.3.3 **Figure 4.5** shows the potential flood risk from surface water.

Figure 4.5: EA Risk of Flooding from Surface Water



4.3.4 The EA NaFRA Risk of Flooding from Surface Water mapping shown in **Figure 4.5** indicates almost the entirety of the site is located outside of the areas shown to be at risk of flooding from surface water.

4.3.5 There are areas of the site categorised as at 'Low' risk of flooding from surface water. There are areas within the northeastern corner of the site and also with the northwestern area of the site. These areas of surface water flood risk are likely isolated areas of surface water ponding, correlating with local ground elevation low spots.

4.4 Flood Risk from Groundwater

4.4.1 In general, groundwater flooding may occur after prolonged periods of unusually high rainfall. During such periods, more water than usual infiltrates through the ground, raising the water table above its normal depth below the surface. Where the water table is at a shallow depth in any case, the water table can reach the surface. This can cause groundwater to merge with rainfall and cause localised flooding.

4.4.2 The WBC Level 1 SFRA assesses the areas at risk of groundwater emergence and the areas susceptible to groundwater flooding. A copy of the WBC Level 1 SFRA groundwater mapping is included with **Appendix B**.

4.4.3 The groundwater emergence mapping shows that the site lies within an area that is not mapped.



4.4.4 The groundwater susceptibility mapping shows the site lies within an 1km grid cell area that is $\geq 50\% < 75\%$ susceptible to groundwater flooding. This can be categorised as being at a 'Medium' risk of flooding from groundwater. This category of groundwater flooding is most likely due to the River Loddon located within the southern corner of this grid cell. The grid cells to the west and north are both categorised as being 'Low' risk ($< 25\%$ of the grid square susceptible to groundwater flooding).

4.4.5 This mapping is coarse and categorised by 1km grid cells. It is unlikely that the whole 1km grid cell will have the same level of groundwater risk. For this FRA, as the site appears within a grid cell that is $\geq 50\% < 75\%$ susceptible to groundwater, it has been categorised as 'Medium' risk of flooding from groundwater sources.

4.5 Flood Risk from Sewers

4.5.1 In general, when exceeded, surcharged sewer networks can lead to flooding from backed up manholes and gully connections.

4.5.2 Thames Water Asset Location Plans show there to be no assets located within the site boundary. A copy of the Thames Water Asset Plans is included within **Appendix A**.

4.5.3 The risk of sewer flooding is therefore considered to be 'Low'.

4.6 Flood Risk from Reservoirs

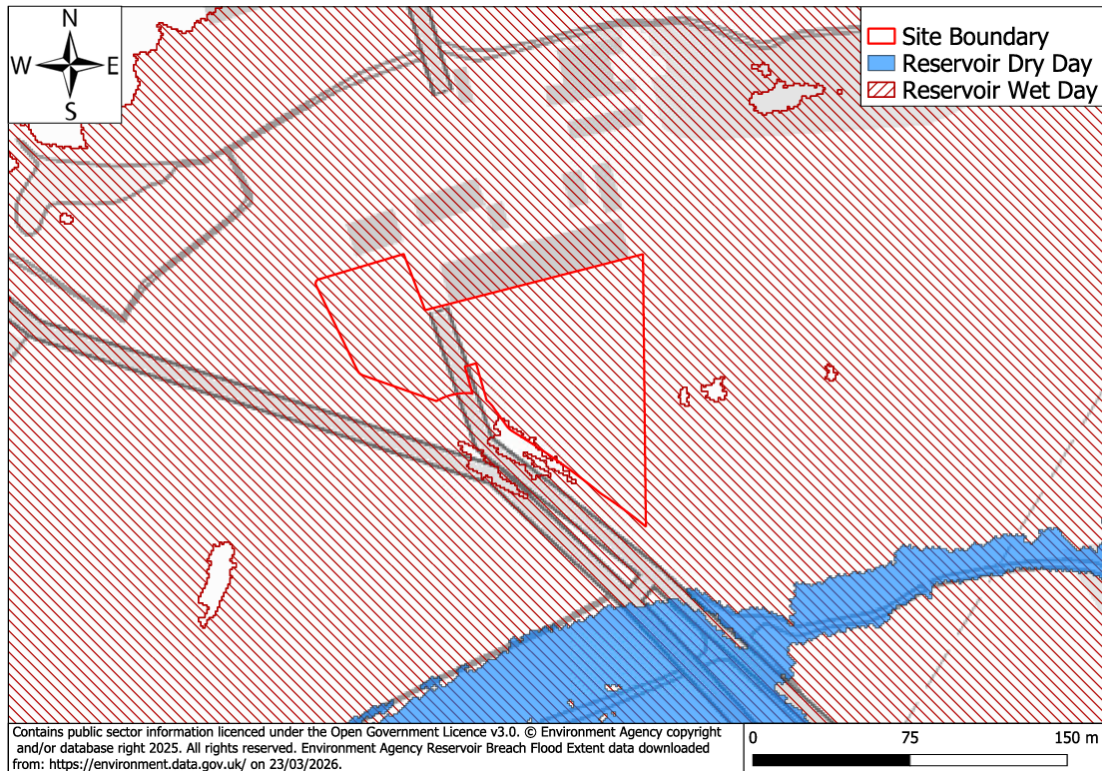
4.6.1 The EA Risk of Flooding from Reservoirs mapping indicates areas that would be at risk of flooding in the event of a reservoir breach. The flood extents are shown for both the 'dry day' scenario and the 'wet day' scenario.

4.6.2 'Dry day' is defined by the EA as *'...the individual flood extent for all large, raised reservoirs in the event that they were to fail and release the water on a 'dry day' when local rivers are at normal levels. It represents a prediction of a credible worst case scenario, however it's unlikely that any actual flood would be this large'*.

4.6.3 'Wet day' is defined by the EA as *'...the individual flood extents for all large, raised reservoirs in the event that they were to fail and release the water held on a 'wet day' when local rivers had already overflowed their banks. It represents a prediction of a credible worst case scenario, however it's unlikely that any actual flood would be this large'*.

4.6.4 **Figure 4.6** shows the flood risk from reservoirs.

Figure 4.6: EA Risk of Flooding from Reservoirs



4.6.5 **Figure 4.5** shows that the site is located outside of areas shown to be a risk of flooding from reservoirs within in a dry day scenario.

4.6.6 **Figure 4.6** indicates the entirety of the site lies within an area of risk of reservoir breach during a wet day. Bearwood Lake, which is a reservoir, is located approximately 2.5km to the east of the site. In a wet day reservoir flooding scenario, the entire site is shown to be inundated.

4.6.7 Whist the entire site is shown to be at risk of flooding in a wet day reservoir breach scenario, Reservoirs are heavily regulated and monitored therefore the likelihood of a reservoir breach occurring is very low and the risk of reservoir flooding at the site is therefore considered to be 'Low'.

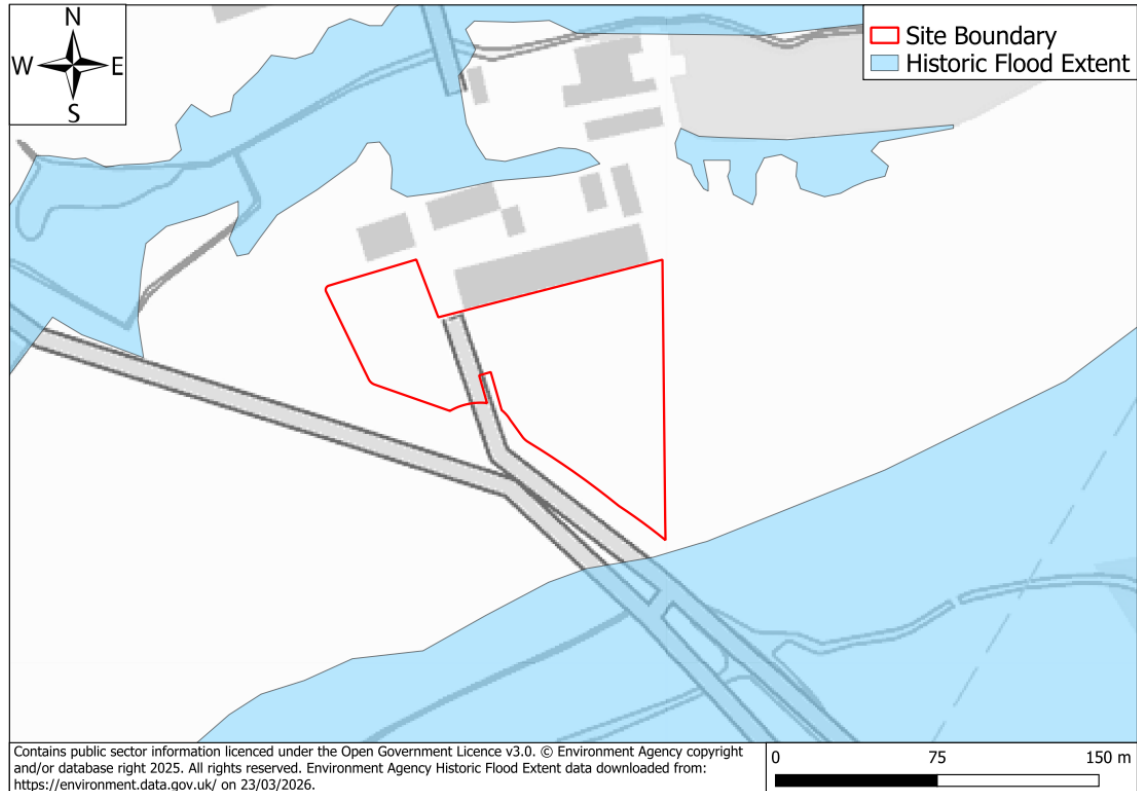
4.7 Flood Risk from Other Sources

4.7.1 The EA flood risk maps and Level 1 and Level 2 SFRA show that the site is not at risk of flooding from canals or other artificial sources.

4.8 Historic Flooding

4.8.1 **Figure 4.7** shows the historic flood extent records held by the EA. The EA Historic Flood Map shows the maximum extent of recorded flood events.

Figure 4.7: EA Historic Flood Extents



- 4.8.2 The EA Historic Flood mapping shown in **Figure 4.7** indicates that the site has not been subject to any recorded historical flooding incidents.
- 4.8.3 To the south and north of the site, there are areas recorded as having had historical flooding incidents. These correspond to flooding events in February 1990, February 1991 and July 2007. The flood cause is stated as 'channel capacity exceedance'.



4.9 Flood Risk Summary

4.9.1 A summary of flooding from all sources is provided in **Table 4.1**.

Table 4.1 : Summary of Flood Risk

Source of Flooding	High	Medium	Low	Comments
Fluvial			✓	The EA Flood Map for Planning shows that the site lies within areas of Flood Zones 1, 2 and 3. The central area and the majority of the site is within Flood Zone 1. With areas in the north and south within Flood Zones 2 and 3. However, detailed modelling shows the entirety of the site lies outside of the modelled 1 in 100, 1 in 1,000 year annual probability and 1 in 100 year annual probability + 14% climate change allowance. Flood risk from fluvial sources is therefore considered 'Low.'
Pluvial			✓	The EA mapping shows that the majority of the site lies outside the areas shown to be at risk of flooding from surface water. There are two areas within the northeastern and northwestern corners of the site that have a 'Low' risk of flooding from surface water. Overall, the flood risk from surface water is deemed to be 'Low'.
Groundwater		✓		The groundwater emergence mapping shows that the site lies within an area that is not mapped. The groundwater susceptibility mapping shows the site lies within an 1km grid cell area that is $\geq 50\%$ $< 75\%$ susceptible to groundwater. This can be categorised as being at a 'Medium' risk of flooding from groundwater.
Sewers			✓	There are no Thames Water assets located within the site. Therefore, the risk of flooding from sewers is deemed to be 'Low'.
Reservoirs, canals and other artificial sources			✓	The EA mapping shows the flood risk from reservoirs, specifically in a wet day scenario is high. The entirety of the site is at risk of flooding during a reservoir breach. Reservoir flooding is very unlikely to occur due to the high level of monitoring at reservoir sites. Therefore, the flood risk from reservoirs is deemed to be 'Low'.



5.0 Sequential Test and Exception Test

5.1 NPPF Sequential Test and Exception Test

- 5.1.1 The NPPF states that Local Planning Authorities allocating land for development should apply the Sequential Test to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development or land use proposed.
- 5.1.2 Based on the detailed modelling, the entire site is located within Flood Zone 1 and is at low risk of flooding from the River Loddon.
- 5.1.3 The EA surface water mapping shows that almost of the entirety of the site lies outside of areas shown to be at risk from surface water flooding. There are two small, localised areas of surface water flooding, categorised as 'Low' risk. Therefore, the risk from surface water flooding is 'Low'.
- 5.1.4 Based on the criteria set out within the WBC Level 1 SFRA, the Sequential Test is not required. Additionally, there are no plans for there to be any permanent buildings within the site. This means there is no risk to properties from flooding.
- 5.1.5 Furthermore, the nature of the development is an extension of existing uses in the adjacent area, so alternative sites are not applicable in this case.
- 5.1.6 Overall, the proposed layout, design and mitigation measures will ensure that occupiers and users of the site will remain safe from flooding without increasing flood risk elsewhere and, given the nature of the proposed development there is no further requirement with regards to the Sequential Test and Exception Test for this proposed development.



6.0 Flood Mitigation Strategy

6.1 Sequential Approach

- 6.1.1 The NPPF encourages a 'sequential approach' in master planning for new development: locating the more vulnerable uses of the development in the areas of lowest flood risk from all sources.
- 6.1.2 There is to be no permanent built development within the site boundary and thus it inherently reflects the sequential approach.

6.2 Floodplain Storage and Flow Routing

- 6.2.1 The proposed development areas are located outside of the fluvial flood extents for the design Stantec 1 in 100 year + 14% Climate Change Allowance scenario. The majority of the site lies outside of areas of risk from surface water flooding. There are two small areas of surface water ponding. There is therefore no impact on fluvial floodplain storage or conveyance as a result of the proposed development.

6.3 Safe Access

- 6.3.1 The development areas are located outside of the fluvial flood extent in the 100 annual probability +14% climate change allowance flood outline. Continuous safe access for the development is available via the track that runs through and to the north of the site. This is located outside of the fluvial and surface water extent.

6.4 Groundwater Flooding

- 6.4.1 The proposed use of the site does not include any works below ground. If any groundwater flooding does occur this would be dealt with in the same way as overland flow. No further mitigation measures are required in this regard.

6.5 Residual Risk

- 6.5.1 The NPPF PPG – 'Flood Risk and Coastal Change' defines residual risk as coming from '*flood risk management infrastructure*' and the '*residual risk to a development once any site-specific flood mitigation measures are taken into account*'.
- 6.5.2 Residual risk to the site includes a breach in the raised flood defences, the failure of a reservoir and a flood event greater than the designed standards.
- 6.5.3 The EA AIMS dataset which contains information of flood defences indicates that the site does not benefit from raised flood defences.
- 6.5.4 The EA mapping for reservoir breaches indicates that the site is at risk of a reservoir breach of Bearwood Lake within a wet day scenario.
- 6.5.5 The 'Less Vulnerable' development is located outside of the 1 in 1,000 annual probability flood extent.



7.0 Surface Water Drainage Strategy

7.1 Surface Water Strategy

- 7.1.1 The underlying soils are mainly clay and therefore have a poor infiltrating capacity in their natural state.
- 7.1.2 The proposals involve removing a layer of topsoil and replacing with a layer of gravel/scalping. Since this is considered to be less impermeable than the existing soils, there would be no need to attenuate the surface water runoff.
- 7.1.3 Therefore, no formal drainage strategy is required. The site will continue to drain as it currently does.



8.0 Conclusion

8.1 Flood Risk

8.1.1 The Environment Agency (EA) Flood Risk mapping has been reviewed alongside the Wokingham Borough Council (WBC) Preliminary Flood Risk Assessment (PFRA) and Wokingham Borough Council (WBC) Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA).

8.1.2 This Flood Risk Assessment (FRA) concludes that:

- The EA mapping shows that the site lies within areas of Flood Zone 1, 2 and 3. The central area and the majority of the site is at a 'Low' risk of flooding from fluvial sources. NaFRA mapping shows the majority of the site lies within Flood Zone 1. Stantec modelling shows the entirety of the site to lie within Flood Zone 1. Therefore, the site is considered to be entirely Flood Zone 1 and at 'Low' risk.
- The EA mapping shows the majority of the site lies within an area of no risk of flooding from pluvial sources. There are two areas within the northeastern and northwestern corners of the site that have a 'Low' risk of flooding from surface water. Overall, the flood risk from the surface water is deemed to be 'Low'.
- The WBC groundwater emergence map has no data for the site area. The groundwater susceptibility mapping shows the site lies within an 1km grid cell area that is $\geq 50\%$ $< 75\%$ susceptible to groundwater. This can be categorised as being at a 'Medium' risk of flooding from groundwater.
- There are no Thames Water assets located within the site boundary. Therefore, the risk of flooding from sewers is deemed to be 'Low'.
- The EA mapping showing flood risk to the site from reservoirs, specifically in a wet day scenario is high. The entirety of the site is at high risk of flooding during a reservoir breach. However, due to reservoirs being highly monitored the potential of flooding from reservoirs is considered to be 'Low'.

8.1.3 Flood mitigation measures are not needed due to the temporary nature and use of the site.

8.2 Sequential Test and Exception Test

8.2.1 The site is Flood Zone 1, as defined by the Stantec 2021 River Loddon modelling. The EA surface water mapping shows that almost of the entirety of the site lies outside of areas shown to be at risk from surface water flooding. There are two small, localised areas of surface water flooding, categorised as 'Low' risk. Therefore, the risk from surface water flooding is 'Low'. Based on criteria set out by WBC, the Sequential Test and Exception Test are not required for this site.

8.3 Summary

8.3.1 This FRA demonstrates that the proposed development complies with national and local planning policy with respect to flood risk and drainage. The risk of flooding is adequately managed and the offsite flood risk is not increased.



APPENDICES



Appendix A – Plans

Layout Plan

Thames Water Sewer Asset Plans



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Key Plan

Notes

- Site Boundary
- Existing Buildings
- Approved Ecological mitigation zone/
Landscape screening (Ref.222906)
- Approved Temporary Backlot (Ref.222906)
- Proposed Backlot Area;
Max.20m Height Parameter, Crushed aggregate,
compacted in layers over a Geotex membrane

P3	30/04/2026	For Planning
P2	23/04/2026	For Planning
P1	23/04/2026	For Planning

Revisions

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Client

Shinfield Studios Ltd.

Project

Shinfield Studios
Phase 3

Project No.

0983

Drawing Title

Proposed Land Use Site Plan
Shinfield Studios - Backlot 3

Status

PLANNING

Drawn

JH

Checked

GO

Scale

1:1250 @A1

Date

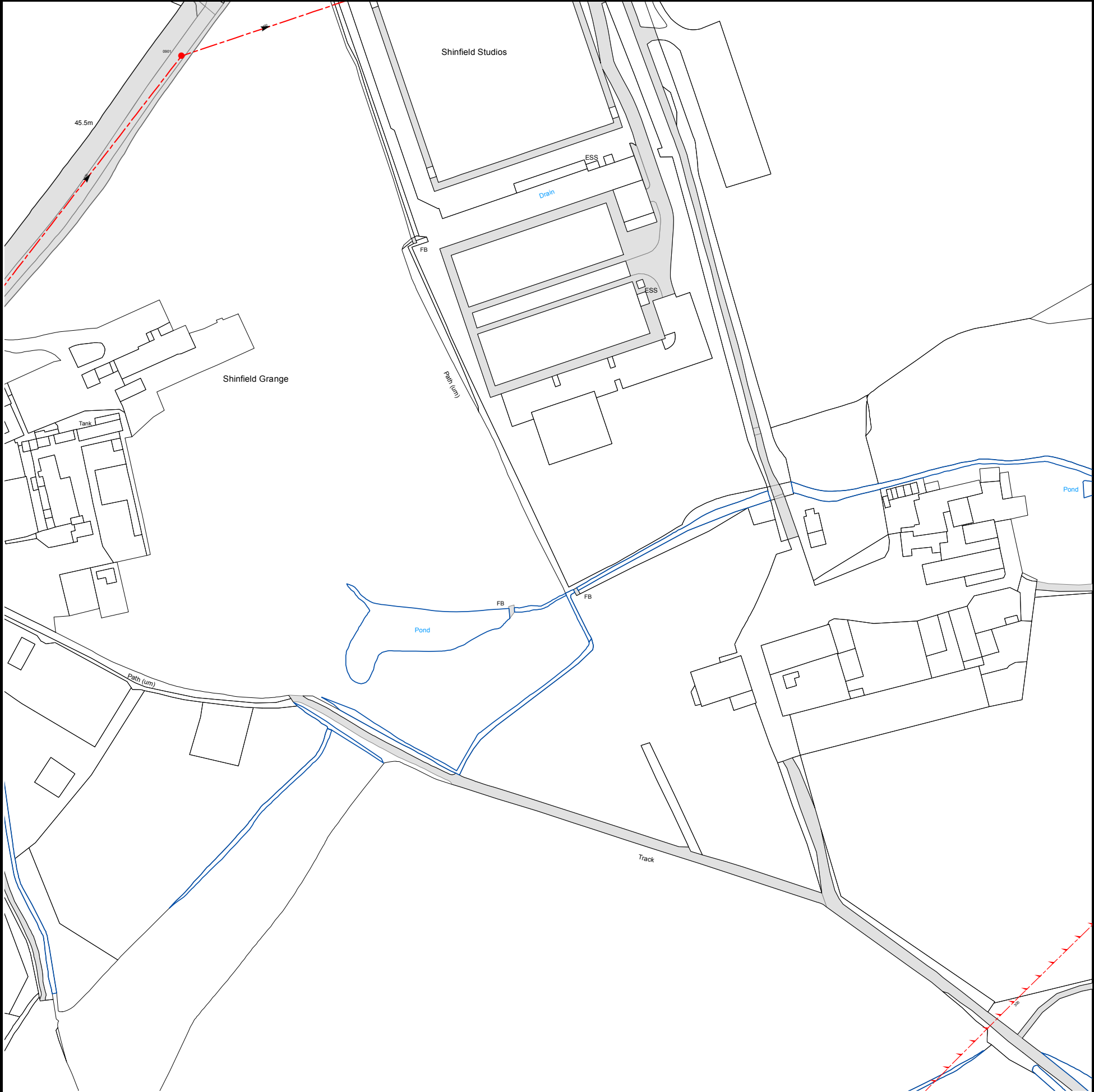
MAR 2026

Drawing Number

0983-S-BL3-11

Revision

P3



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 474250,168750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map (2020) with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
0901	45.017	43.757
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.		



Appendix B – Groundwater Mapping Extract

Wokingham Borough Council Groundwater Emergence Mapping
Wokingham Borough Council Susceptibility to Groundwater Mapping