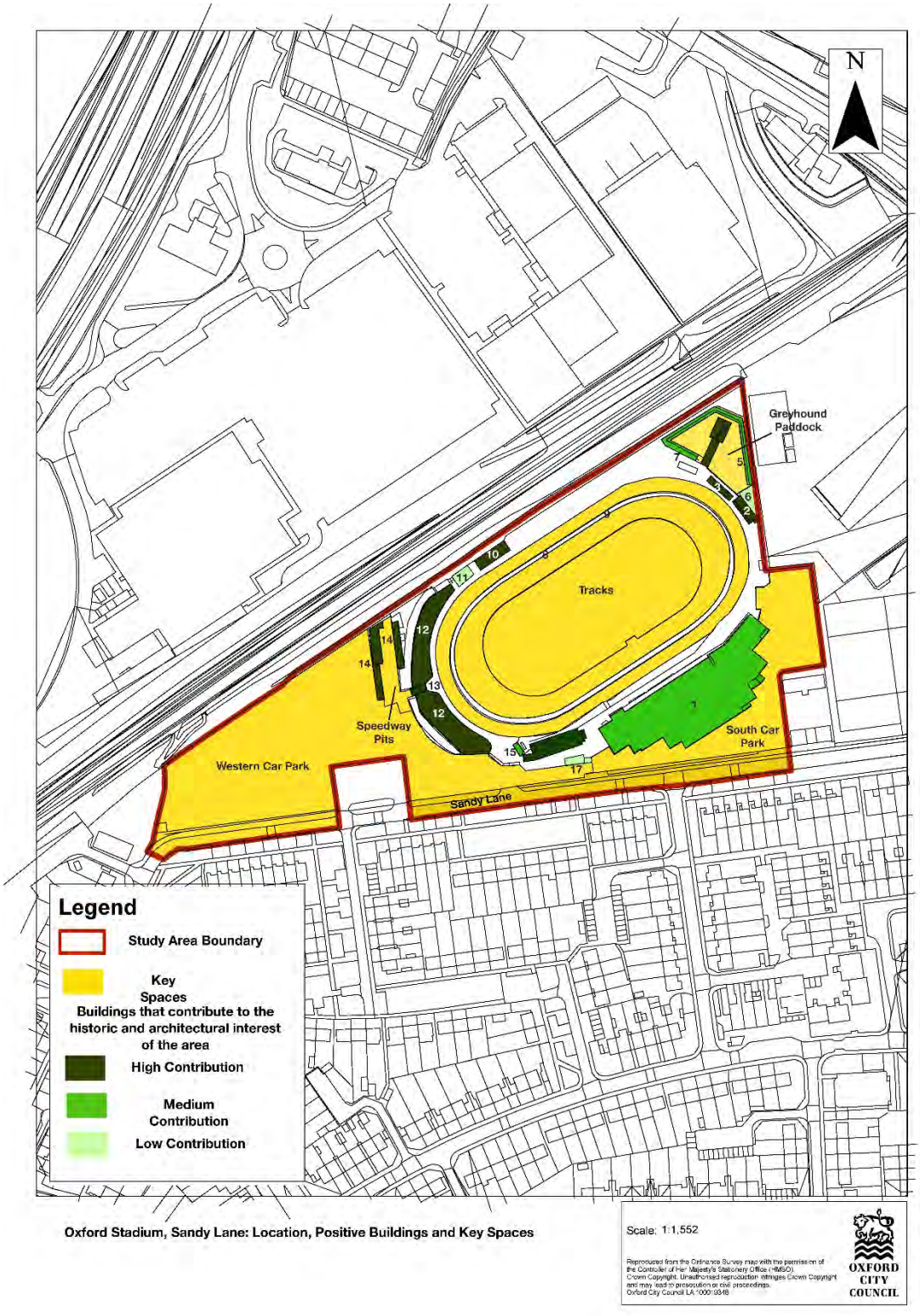

Oxford Stadium, Sandy Lane: Location, Positive Buildings and Key Spaces

Fig. 4. The Oxford Stadium Conservation Area, encompassing Site 25 (OCC, n.d.)

Site 26: Oxford City Football Club, Marsh Lane

Designated heritage assets

3.23. The Site is adjacent to Old Marston Conservation Area (see Fig. 1). Whilst there are 'significant view lines' extending towards the Site from Conservation Area, the Appraisal highlights that tall trees along Marsh Lane limit views from the area to the existing sports use (OCC 2012, 5). However, the Appraisal also identifies a view of interest as comprising the 'view from Headington Cemetery down to and over the village' (OCC 2012, 12), within which development in the Site would feature prominently. Proposed development within this Site therefore has the potential to harm the significance of this Conservation Area.

Non-designated heritage assets

3.24. The Oxford City and Oxfordshire Historic Environment Record (HER) Heritage Gateway databases have no entries within the Site.

Site 31: Land near to the Science Centre, Culham

Designated heritage assets

3.25. The Site forms part of the setting of the Grade II Listed Fullamoor Farmhouse (NHLE: 1449039) which is located c.40m east of the Site. The Site is also c.150m north of the Scheduled Monument of Round barrow cemetery at Fullamoor Plantation. Proposed development within this Site has the potential to harm the significance of these designated heritage assets through changes to their setting.

Non-designated heritage assets

3.26. The Oxford City and Oxfordshire Historic Environment Record (HER) Heritage Gateway databases have no entries within the Site.

Site 33: Frieze Farm, near to Oxford parkway

Designated heritage assets

3.27. The Site includes the Grade II Listed Frieze Farmhouse (NHLE: 1045789), which the designation description notes is 'a typical example of a modest Oxfordshire vernacular building of the late C17'. The western Site boundary is formed by the Oxford Canal Conservation Area. The Council's Appraisal identifies the Site as an 'important open space' with a 'positive vista' extending across it (CDC 2012, 98; see Fig. 5). Development within the Site would likely result in considerable change to the

setting of both of these designated heritage assets (or physical harm to the Listed Building), potentially resulting in a high level of harm to their heritage significance.

Non-designated heritage assets

3.28. The Oxford City and Oxfordshire Historic Environment Record (HER) Heritage Gateway databases have no entries within the Site.

Site 34: South Hinksey

Designated heritage assets

3.29. The Site sits immediately to the south-east of the North Hinksey Conservation Area. There is no Appraisal document for the Conservation Area, but the Site appears to form an area of green space within its setting. The Site is also located c.180m north-east of the Grade II* Listed Well House (NHLE: 1048315) and Scheduled Monument of North Hinksey Conduit House (NHLE: 1015158). Proposed development within this Site has the potential to harm the significance of these designated heritage assets through changes to their setting.

Non-designated heritage assets

3.30. The Oxford City and Oxfordshire Historic Environment Record (HER) Heritage Gateway databases record entries within the Site. A possible Bronze Age Ring Ditch (ID: MOX10933) and a medieval site of Elsfield Park and fishponds (ID: MOX8511/ MOX8513), whilst multiple findspots have also been recorded within the Site. These entries suggest there is a high potential for significant archaeological remains to occur within the Site.

Site 40: Stratfield Brake

Designated heritage assets

3.31. The Site is located immediately to the east of Oxford Canal Conservation Area, and forms part of the setting of the Grade II Listed Stratfield Farmhouse (NHLE: 1220260), located c.70m to the north of the Site. The Council's Appraisal identifies the Site as including an 'important area of trees' with a 'positive vista' extending across it (CDC 2012, 98; see Fig. 5). Proposed development within this Site has the potential to harm the significance of these designated heritage assets through changes to their setting.

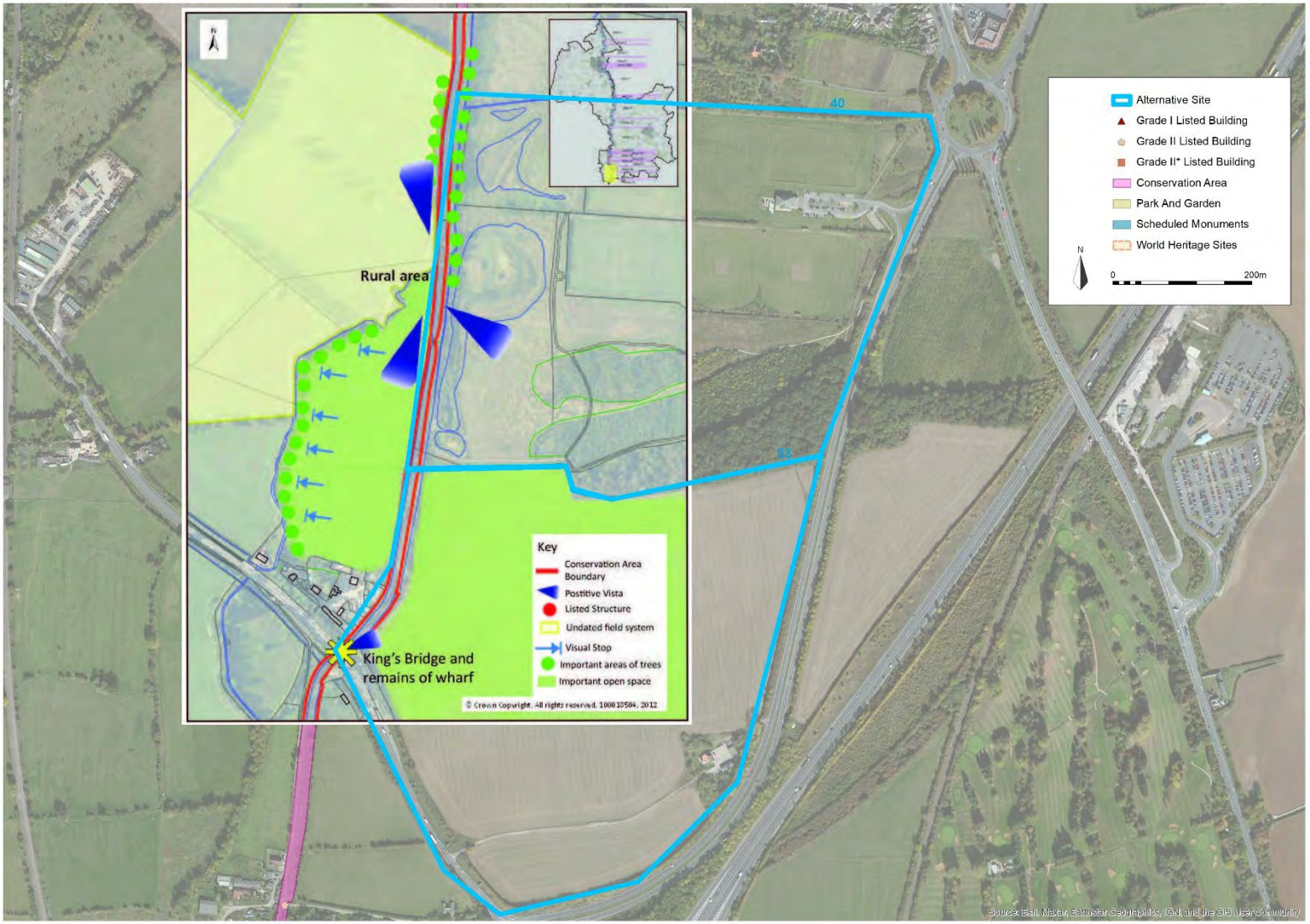

Fig. 5. Oxford Canal Conservation Area and Sites 33 and 40 (after CDC 2012)

Non-designated heritage assets

3.32. The Oxford City and Oxfordshire Historic Environment Record (HER) Heritage Gateway databases have no entries within the Site.

Site 41: Red Barn Farm, Woodstock Road

Designated heritage assets

3.33. The western Site boundary is formed by the Oxford Canal Conservation Area. The Council's Appraisal identifies the Site as an 'important open space' with a 'positive vista' extending across it from the south (CDC 2012, 100; see Fig. 6). A 'Visual Stop' extends along the northern Site boundary and a 'Positive Landmark' (Duke's Lock) exists on the western boundary of the Site. Development within the Site would likely result in considerable change to the setting of these designated heritage assets (i.e. the Canal and its associated Listed Buildings), potentially resulting in a level of harm to their heritage significance.

Non-designated heritage assets

3.34. The Oxfordshire Historic Environment Record (HER) Heritage Gateway database records entries within the Site. The HER identifies the archaeological remains of a settlement in the southern part of the Site (ID: 28426). The remains suggest a long-lived settlement spanning the Iron Age/early Roman period to the 4th century AD. Features attest to the presence of a Roman settlement, albeit of a non-intensive, low-status, rural nature (Foundations Archaeology 2011, *A34 Wolvercote Viaduct Replacement, Oxford, Oxfordshire: Post Excavation Assessment for Archaeological Evaluation, Watching Brief and Excavation*). This entry suggests there is potential for further archaeological remains to occur within the Site.

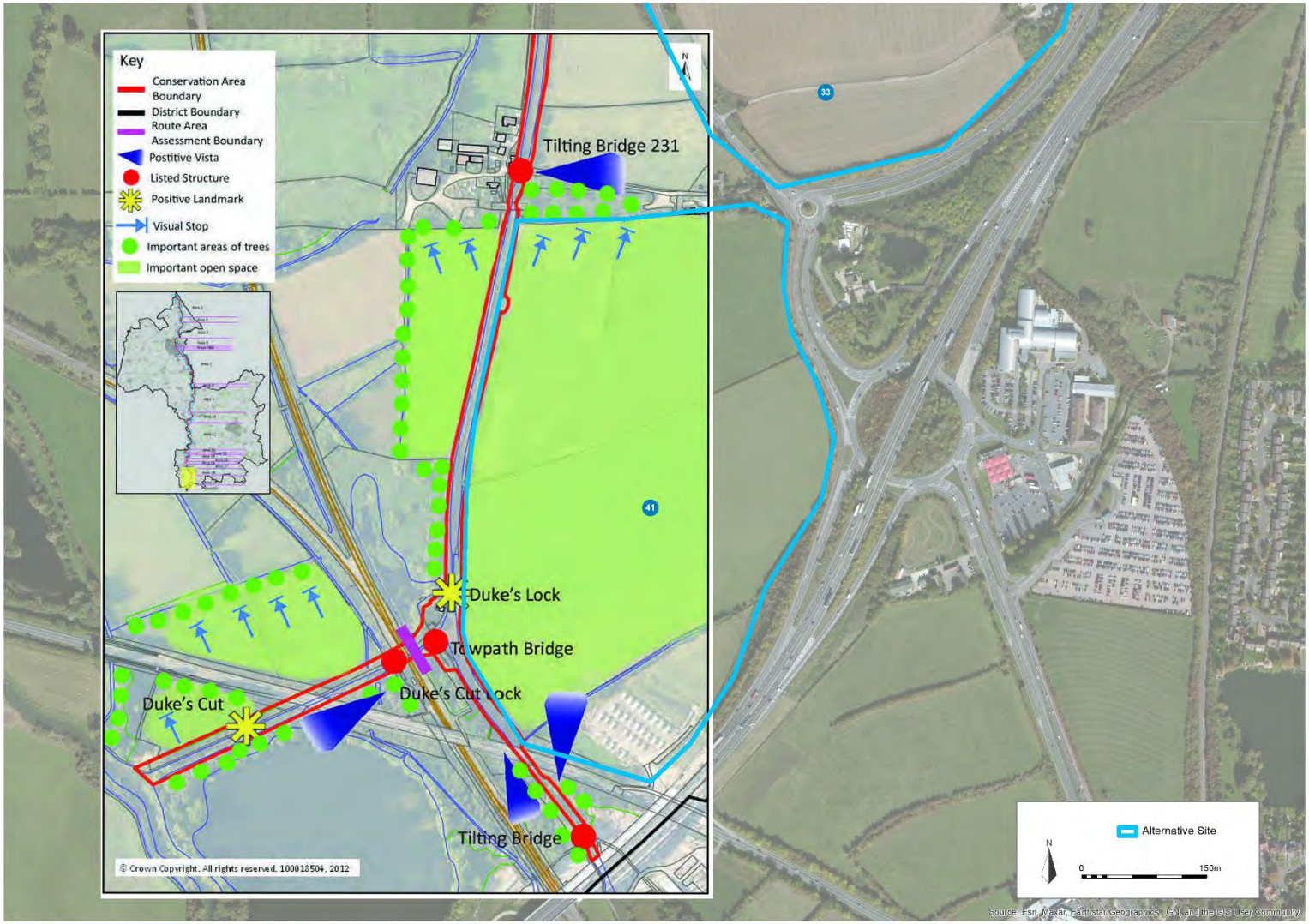

Fig. 6. Oxford Canal Conservation Area and 41 (after CDC 2012)

Site 42: Medley Manor Farm, Botley

Designated heritage assets

3.35. There are no designated heritage assets within this Site. It is located c.175m to the west of the Jericho Conservation Area and the Central Oxford (University and City) Conservation Area, and likely forms part of their setting. It is also located in the vicinity of the 'Swing bridge, LNWR Station' Scheduled Monument (NHLE: 1003651) and the Grade II Listed Medley Manor Farmhouse (NHLE: 1047336). Proposed development within this Site has the potential to harm the significance of these designated heritage assets through changes to their setting.

Non-designated heritage assets

3.36. The Oxford City Historic Environment Record (HER) Heritage Gateway database records an entry within the Site, comprising the Tumbling Bay Bathing Place (ID: MOC27069). This was a Victorian and early 20th century bathing place located on the southern boundary of the Site, comprising a series of artificial bathing pools and associated facilities.

4. CONCLUSIONS

4.1. The seventeen Sites have been subject to initial Heritage Appraisal. Five of the Sites (Site 6, 19, 24, 25, and 33) are considered to face major known constraints. Ten of the Sites (Sites 5, 8, 17, 18, 26, 31, 34, 40, 41 and 42) face known heritage constraints. Two of the Sites (Sites 11 and 23) face no known heritage constraints. The results of the Heritage Appraisal are summarised in Table 4.1 below.

Site	Nature of heritage constraint	Assessment outcome
5	Site is within 'significant views' associated with Old Marston Conservation Area	Known constraints
6	Site comprises an important area of green space within Old Headington Conservation Area	Major known constraints
8	Site forms part of the setting of Shotover Grade I Registered Park and Garden	Known constraints
11	No evidence to suggest that development would result in heritage harm	No known constraints
17	Site is within 'significant views' associated with Old Marston Conservation Area	Known constraints
18	Site is within 'significant views' associated with Old Marston Conservation Area	Known constraints
19	Site contains a Scheduled Monument and there is evidence of non-designated archaeological remains of high significance	Major known constraints
23	No evidence to suggest that development would result in heritage harm	No known constraints
24	Site is within the setting of a Grade I Registered Park and Garden (Blenheim Palace, also a World Heritage Site) and is also located within important views from Begbroke and Bladon Conservation Areas	Major known constraints
25	The Site comprises the stadium and its associated grounds, designated as part of Oxford Stadium Conservation Area.	Major known constraints
26	Site forms part of the setting of Old Marston Conservation Area	Known constraints
31	Site forms part of the setting of a Grade II Listed Building and Scheduled Monument	Known constraints
33	Site includes a Grade II Listed Building and forms part of the setting of the Oxford Canal Conservation Area	Major known constraints

Site	Nature of heritage constraint	Assessment outcome
34	Site forms part of the setting of North Hinksey Conservation Area	Known constraints
40	Site forms part of the setting of the Oxford Canal Conservation Area and a Grade II Listed Building	Known constraints
41	Site forms part of the setting of the Oxford Canal Conservation Area and Grade II Listed Buildings	Known constraints
42	Site forms part of the setting of the Jericho Conservation Area and the Central Oxford (University and City) Conservation Area.	Known constraints

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Appendix 8:
Alternative Sites – Flood Risk Review

RIDGE

OXFORD UNITED FC – NEW STADIUM DEVELOPMENT

OXFORD UNITED FOOTBALL CLUB

ALTERNATIVE SITES FLOOD RISK REVIEW

10th November 2023

OXFORD UNITED FC – NEW STADIUM DEVELOPMENT

OXFORD UNITED FOOTBALL CLUB

ALTERNATIVE SITES FLOOD RISK REVIEW

5018932-RDG-XX-XX-DOC-C-0501

10th November 2023

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VERSION CONTROL

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
P01	07/06/2023	Draft - For Discussion Only	TK	SC
P02	10/11/2023	Updated with additional site	SMcA	TC

CONTENTS

1. INTRODUCTION

Ridge and Partners LLP have been commissioned by Oxford United Football Club (OUFC) to undertake a flood risk review of some alternative potential sites for the new Oxford United new stadium development. The purpose of this report is to provide a high-level overview of the flood risk sources associated with each alternative site, to provide some greater context and clarity around the flood risk issues affecting each site. The sites included in this review exercise are summarised in Section 2 of this report.

A summary of the key flood risk constraints pertaining to the sites, and an initial assessment of site feasibility for the new stadium development based on the findings from this flood risk review is provided in Section 4 of this report.

This flood risk review exercise has been carried out using publicly available information, including the following data sources:

- Environment Agency (EA) Flood Map for Planning (Environment Agency, 2023)[1]
- Environment Agency (EA) Long-Term Flood Risk Mapping (Environment Agency, 2023)[2]
- British Geological Survey (BGS) Online Mapping (British Geological Survey, 2023)[3]
- Soilscapes (Cranfield University, 2023)[4]
- Oxford City Council Strategic Flood Risk Assessment (SFRA) (Oxford City Council, 2011)[5]

It should be noted this review is a desk-based exercise, and wider reference to other relevant site information has not been discussed, such as site topography, existing utilities, access/ spatial requirements, etc.

2. SITES TO BE REVIEWED

The following sites identified in the Ridge Alternative Site Assessment are included within this flood risk review:

- **SITE 1** – Land east of Grenoble Road.
- **SITE 5** – Land west of Marston.
- **SITE 7** – Land north of Thornhill Park & Ride.
- **SITE 9** – Land between the A40 and M40.
- **SITE 13** – Pembroke College Sports Ground and land adjoining.
- **SITE 16** – Burgess Field.
- **SITE 31**- Land near to the Science Centre, Culham.

[1] https://flood-map-for-planning.service.gov.uk/
[2] https://www.gov.uk/check-long-term-flood-risk
[3] https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/
[4] https://www.landis.org.uk/soilscapes/
[5] https://www.oxford.gov.uk/downloads/download/435/strategic_flood_risk_assessment

- **SITE 39** – Land between River Cherwell and Northern Bypass.
- **SITE 14** – Grandpont Recreational Outdoor Basketball Court.
- **SITE 29** – Land near to Marston.
- **SITE 35** – Seacourt Park and Ride.
- **SITE 36** – Oxpens.
- **SITE 37** – Fastwyke Farm.
- **SITE 38** – Land adjacent to Binsey Lane.
- **SITE 42**- Medley Manor Farm, Botley.

3. FLOOD RISK REVIEW

3.1. SITE 1 – LAND EAST OF GRENOBLE ROAD

Description

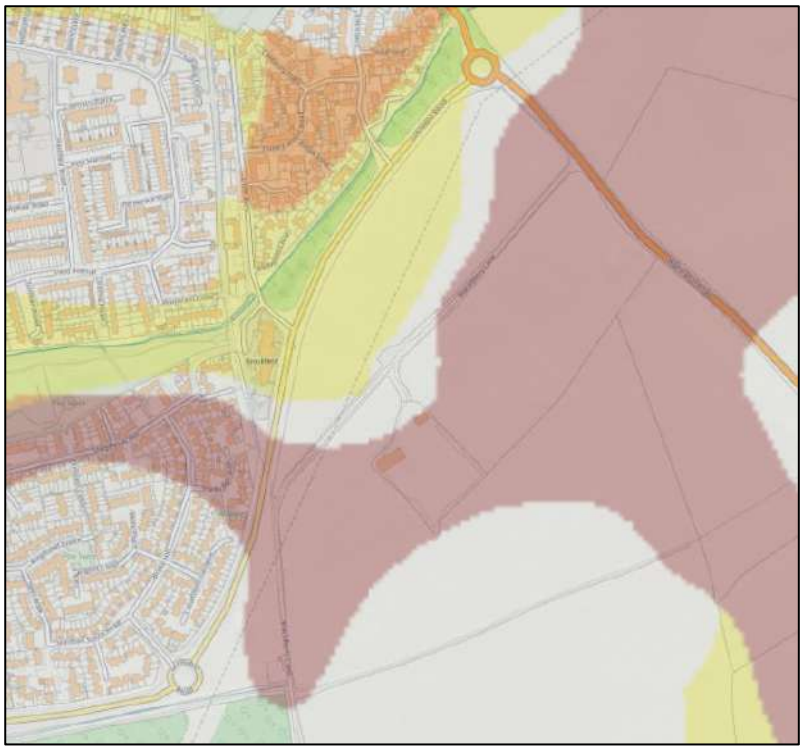
Site Location: Easting: 456341, Northing: 202623
National Grid Reference: SP 56385
Site Area: 20ha

The existing site is bounded to the west by Grenoble Road and residential properties, with fields to the south and east.. Northfield Brook watercourse (designated Main River) is located to the north-west of the site. The aerial view of the existing site is shown below in Figure 1a:

Figure 1a: Aerial view of Land East of Grenoble Road with Approximate Site Boundary (Google Maps, 2023)

Geology

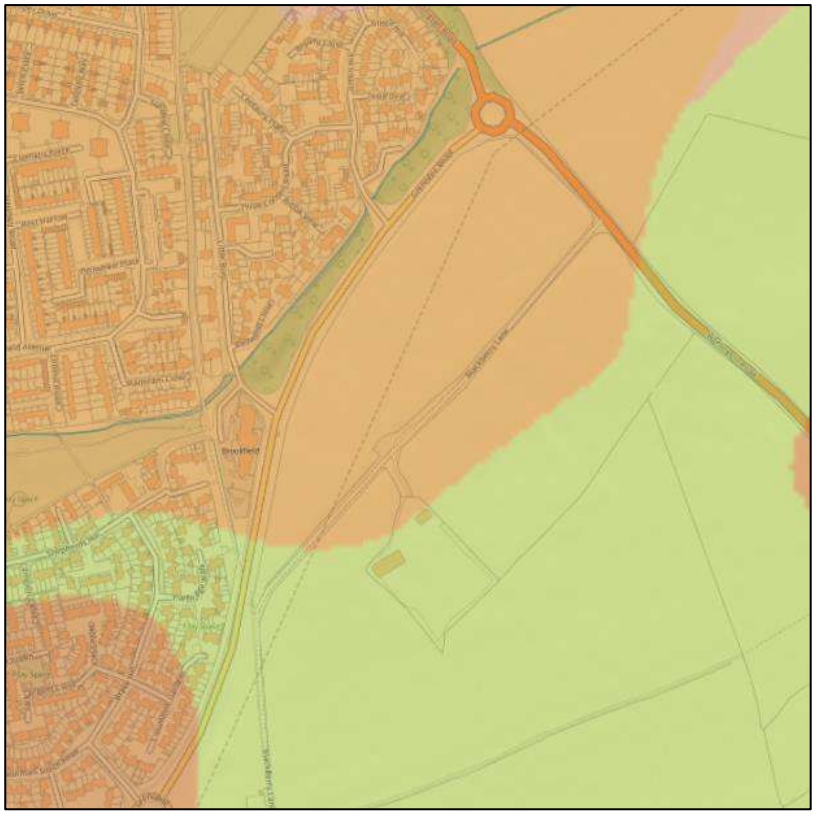
British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Littlemore Member - limestone and mudstone and Ampthill Clay Formation – mudstone, which are both sedimentary bedrocks. There are also superficial deposits of Head and Alluvium both comprising clay, silt, sand, and gravel. The BGS record pertaining to the site is illustrated in Figure 1b below: Borehole logs SP50SE107 and SP50SE63 are the closest accessible boreholes located to the southwest of the site which appear to be consistent with BGS mapping of the anticipated geology for the area.



Legend

- Alluvium - Clay, silt, sand and gravel
- Head - Clay, silt, sand and gravel
- River Terrace Deposits, 1 - Sand and gravel

Figure 1b – Superficial geology at the site (British Geological Survey, 2023)



Legend

TBC

TBC

TBC

Figure 1c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA's Flood Map for Planning (extract provided below in Figure 1d) indicates that the majority of the site is located within Flood Zone 3, with a greater than 3.3% annual probability (1 in 30 year) of fluvial flooding (High risk of fluvial flooding). Fluvial flooding relates to flooding from river and the sea.

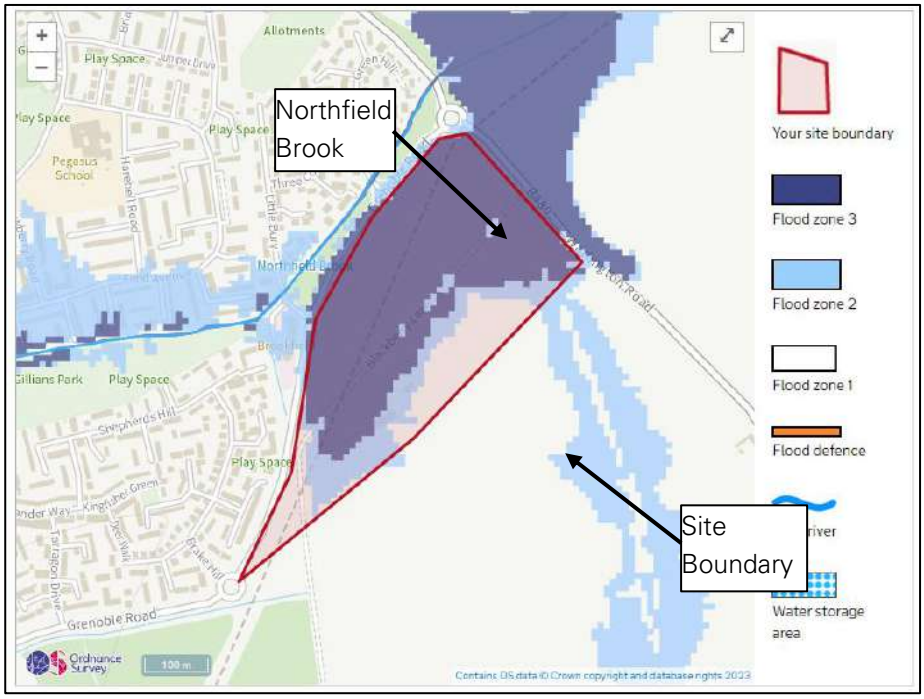


Figure 1d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

An extracts from the EA's Flood Mapping for Surface Water is shown in Figure 1e below. Large areas of the site are at High risk of surface water flooding, which is defined as greater than 3.3% annual probability in 30-year) of surface water flooding. There are areas of Low surface water flood risk to the southern and northern boundary.

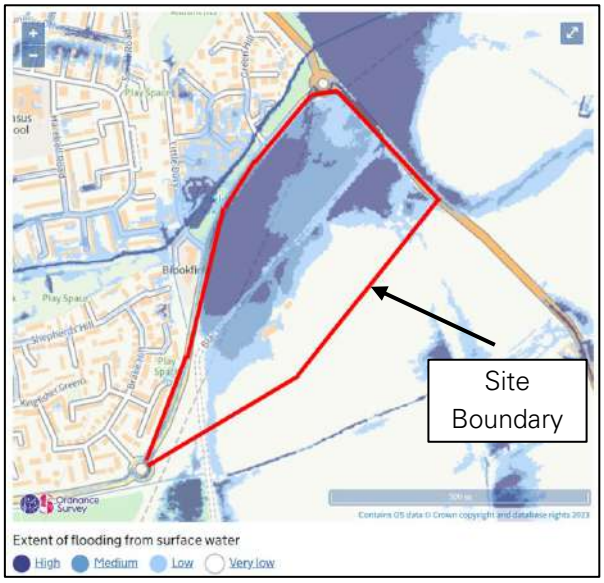


Figure 1e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is not located within an area of predicted reservoir flooding.

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site. However, Soilscapes[6] suggest that the groundwater table has the potential to be high, and therefore the site may be susceptible to this type of flooding.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C shows an historic flood event occurring in Autumn 1993 and is noted as a smaller flood event however, no further information was provided in the SFRA report.

[6] https://www.landis.org.uk/soilscapes/

3.2. SITE 5 – LAND WEST OF MARSTON

Description

Site Location: Easting: 452224, Northing: 209254
National Grid Reference: SP52224
Site Area: 15.1ha

The existing site is bounded to the north by A40, to the west by the River Cherwell (designated Main River) and fields, and to the east by residential and commercial properties The aerial view of the existing site is shown below in Figure 2a:

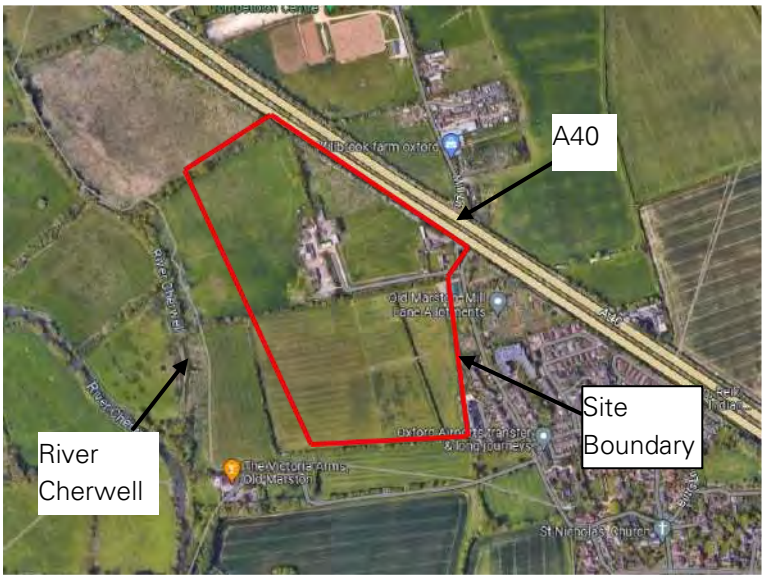


Figure 2a: Aerial view of Land West of Marston with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation – Mudstone which are sedimentary bedrocks. There are also superficial deposits of Summertown-Radley Sand and Gravel Member - Sand and gravel. The BGS record pertaining to the site is illustrated in Figure 2b below: Borehole log SP50NW295 is the closest borehole located to the east of the site which confirm BGS records.

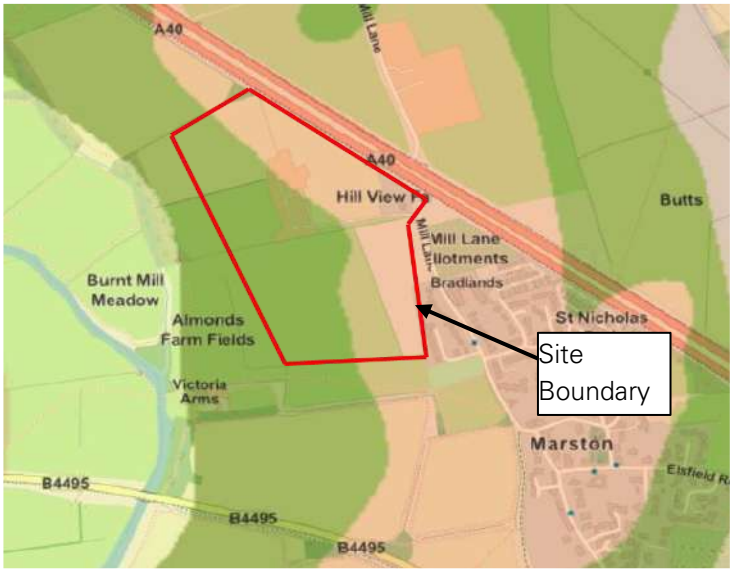


Figure 2b- Geology at the site with approximate site boundary Green = Oxford Clay Formation and West Walton Formation Pink = Oxford Clay Formation and West Walton Formation & Summertown-radley Sand and Gravel Member (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 2c) indicates that the majority of the site is located within the less than 1% annual probability (1 in 100 year) extents for fluvial flooding, and therefore in Flood Zone 1 (Low risk of fluvial flooding).

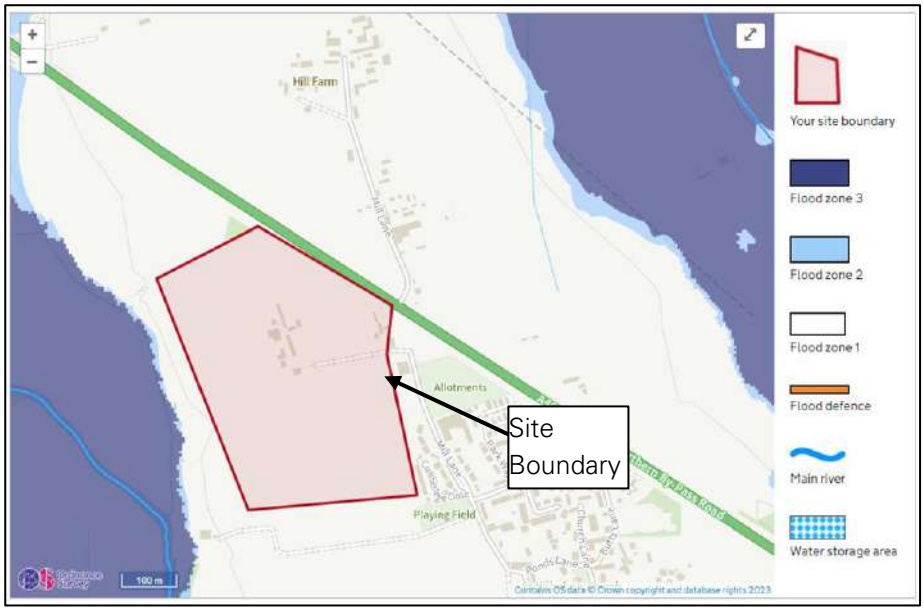


Figure 2c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 2e below. Small central areas of the site are at High risk of surface water flooding (more than 1 in 100-year probability of the site flooding). There are areas of Low surface water flood risk surrounding these. Surface water flood risk mapping indicates a westerly overland surface water flow route (towards the River Cherwell), which suggests the possible presence of a watercourse/s on site.

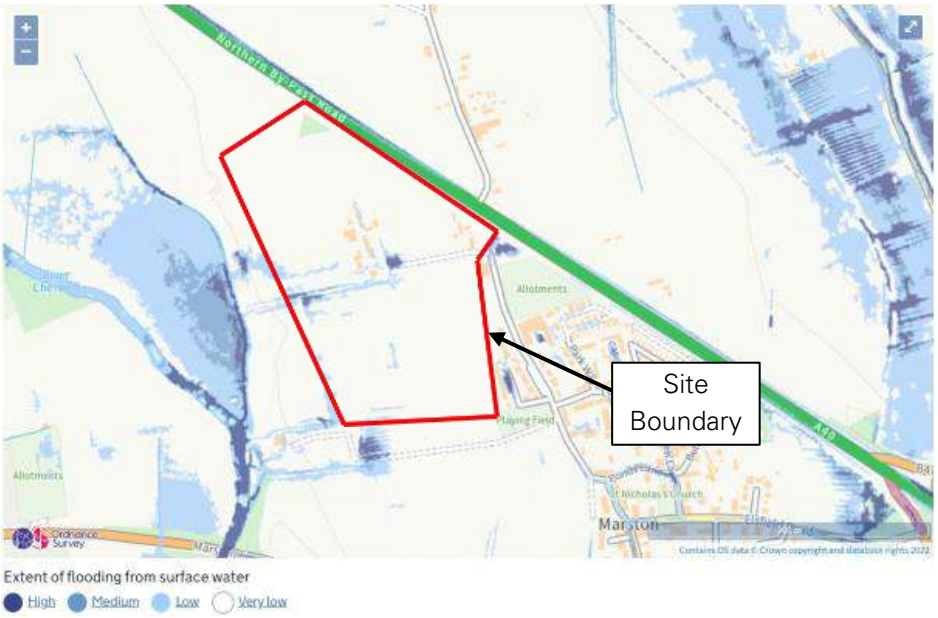


Figure 2e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site itself is not located within an area of predicted reservoir flooding, however the site is located close to an area at risk of flooding from reservoirs around the River Cherwell.

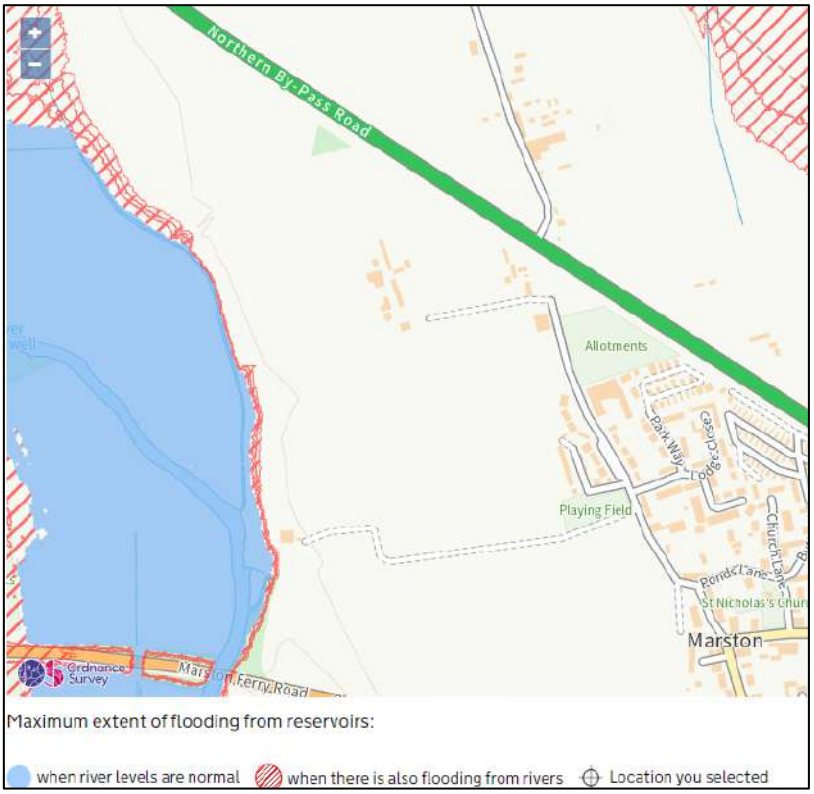


Figure 2f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site. However, Soilscapes[7] suggest that the soil has low permeability, and therefore may be susceptible to this type of flooding.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C shows no historic flood events occurring.

[7] https://www.landis.org.uk/soilscapes/

3.3. SITE 7 – LAND NORTH OF THORNHILL PARK AND RIDE

Description

Site Location: Easting: 457021, Northing: 207763
National Grid Reference: SP57021
Site Area: 23.6 ha

The existing site is bounded to the south by A40, to the east by Bayswater Brook and the continuation of fields, and west by Sandhills Community Primary School and residential properties. Two tributaries of the watercourse enter the site as shown below. The aerial view of the existing site is shown below in Figure 3a:

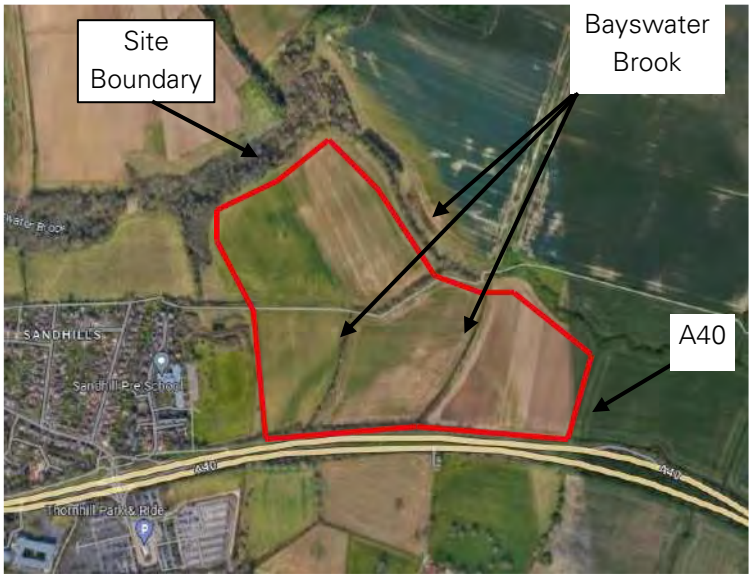


Figure 3a: Aerial view of Land North of Thornhill Park and Ride with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Kimmeridge Clay Formation – Mudstone, Ampthill Clay Formation - Mudstone and Wheatley Limestone Member – Limestone, which are sedimentary bedrocks. There are also superficial deposits of Head - Clay, silt, sand and gravel. The BGS record pertaining to the site is illustrated in Figure 3b below: Borehole logs SP50NE80 and SP50NE81 are boreholes located to the centre and southeast of the site which confirm BGS records.

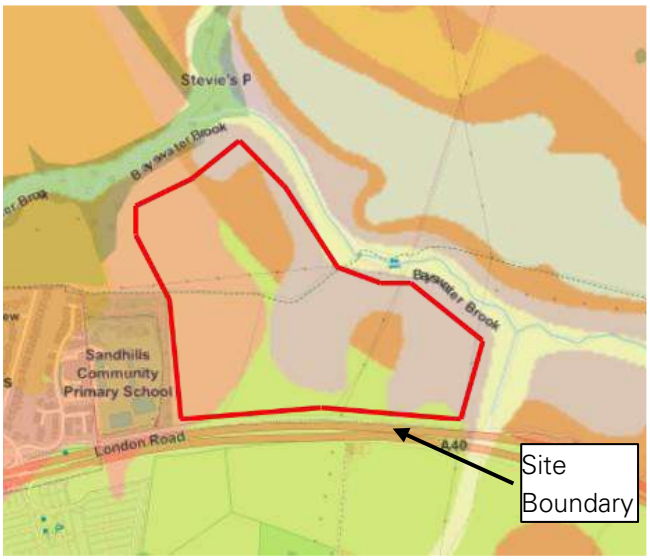


Figure 3b- Geology at the site with approximate site boundary Purple = Kimmeridge Clay Formation and Head, Pink = Wheatley Limestone Formation, Yellow = Ampthill Clay Formation, Orange = Kimmeridge Clay Formation (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 3c) indicates that the majority of the site is located within the less than 1% annual probability (1 in 100 year) extents for fluvial flooding, and therefore in Flood Zone 1 (Low risk of fluvial flooding). However, once climate change allowances are considered a greater proportion of the northern boundary of the site may be within Flood Zones 2 or 3.

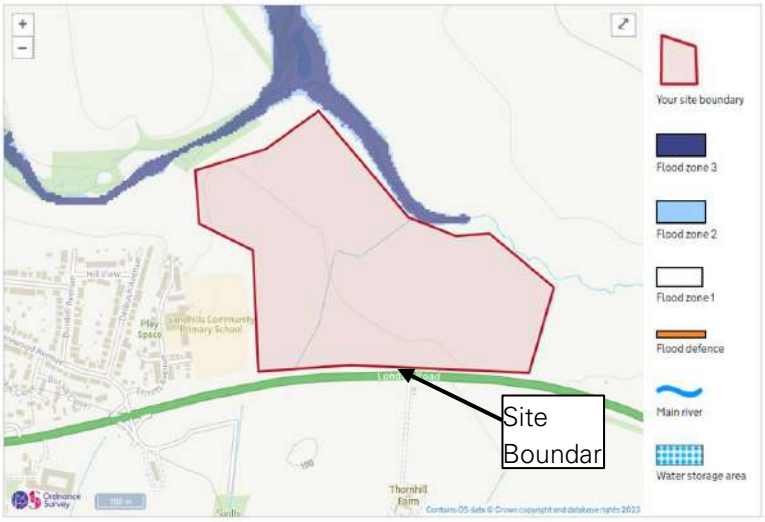


Figure 3c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

An extract from the EA Flood Mapping for Surface Water is shown in Figure 3d below. Central and eastern areas of the site are at Low risk of surface water flooding (between 1 in 100-year and 1 in 1000-year probability of flooding). The areas of surface water flood risk follow the watercourses running through the site, with overland flows draining in a northerly direction through the site. Areas of Medium and High surface water flood risk are located along the eastern boundary of the site, and to the north of the site boundary.

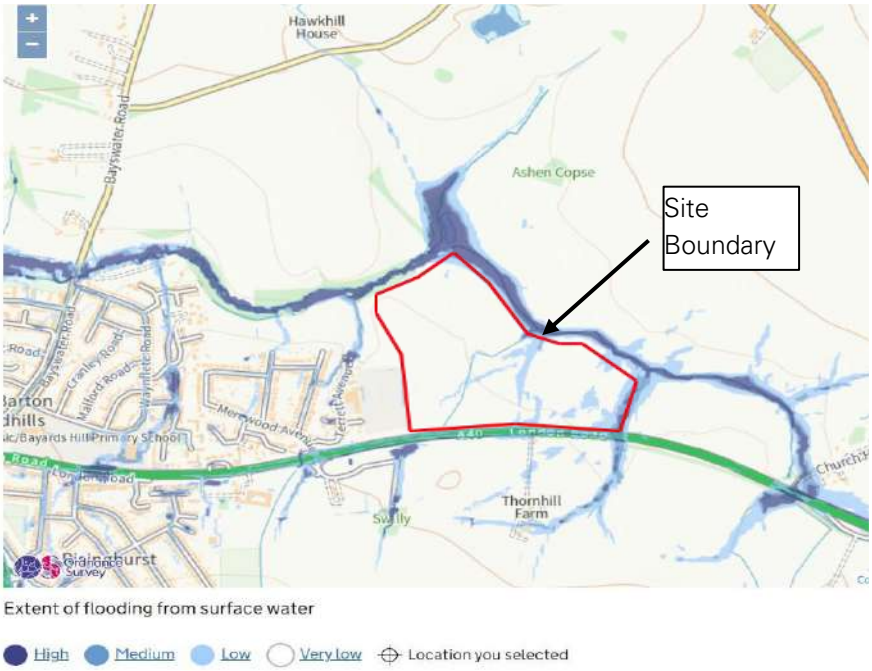


Figure 3d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is not located within an area of predicted reservoir flooding.

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site. The Soilscapes[8] online mapping also suggests that the majority of the site is freely draining and has good permeability, whilst some eastern areas of the site may have impeded drainage. Parts of the site may therefore be susceptible to groundwater flooding.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C indicates historic flood events occurring in Autumn 1993 and Easter 1998, however no further information was given.

[8] https://www.landis.org.uk/soilscapes/

3.4. SITE 9 – LAND BETWEEN A40 AND M40

Description

Site Location: Easting: 461964, Northing: 205260
National Grid Reference: SP61964
Site Area: 18.2 ha

The existing site is bounded to the South and West by A40, to the East by M40 and to the North by the continuation of fields and the River Thames. The aerial view of the existing site is shown below in Figure 4a:

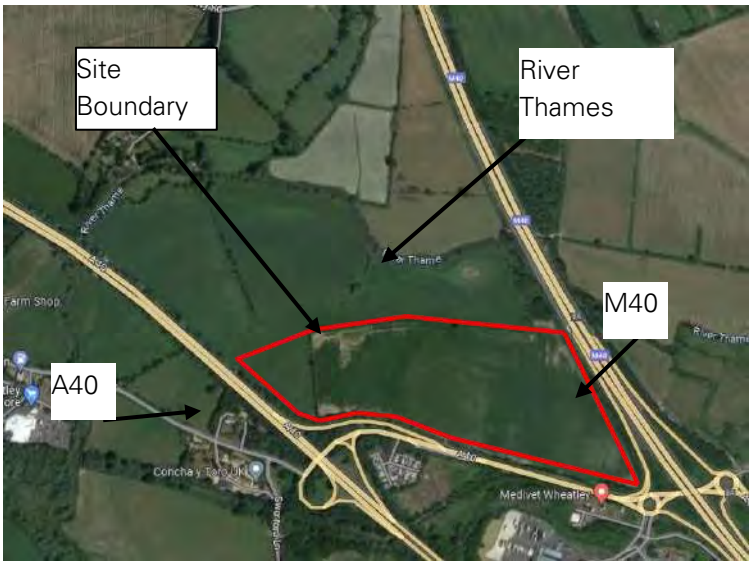
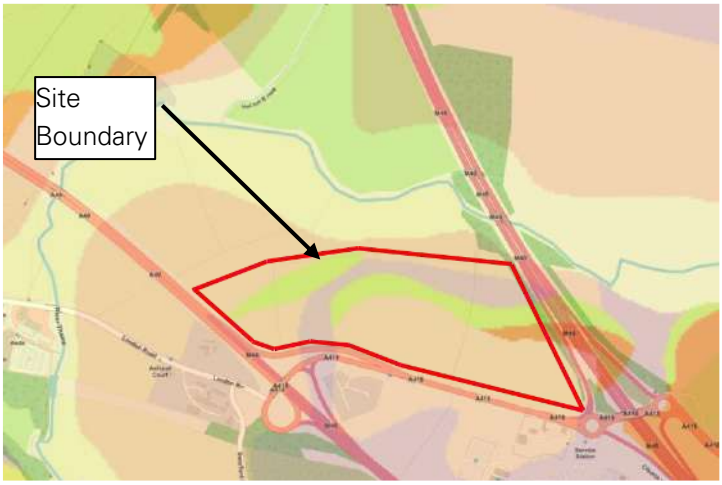


Figure 4a: Aerial view of Land between A40 and M40 with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Kimmeridge Clay Formation – Mudstone and Ampthill Clay Formation - Mudstone, which are sedimentary bedrocks. There are also superficial deposits of Head - Clay, silt, sand and gravel and River Terrace Deposits, 2 - Sand and gravel. The BGS record pertaining to the site is illustrated in Figure 4b below: Borehole log SP60NW9 is located to the southeast of the site which confirm BGS records.

Figure 4b- Geology at the site with approximate site boundary Purple = Ampthill Clay Formation and Head, Pink =



Kimmeridge Clay Formation and River Terrace Deposits, Yellow = Ampthill Clay Formation, Orange = Kimmeridge Clay Formation (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 4c) indicates that the majority of the site is located within the less than 1% annual probability (1 in 100 year) extents for fluvial flooding. To the Northeast, the site is within the greater than 1% annual probability (1 in 100 year) extents for fluvial flooding and to the Northwest, the site is within the greater than 3.3% annual probability (1 in 30 year) extents for fluvial flooding. Therefore, the site is in Flood Zone 3 (High risk of fluvial flooding).

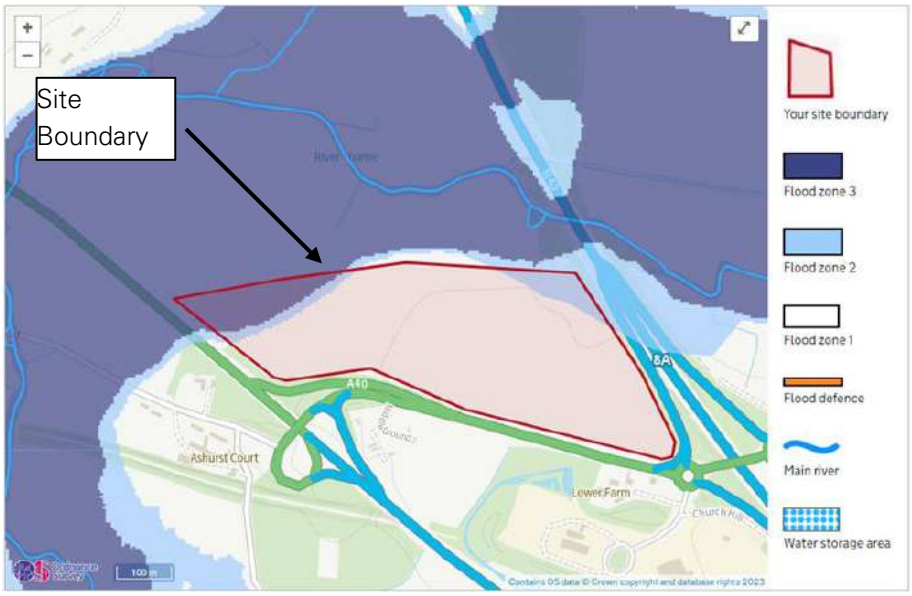


Figure 4c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 4d below. Small areas of the site are at Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding).

Figure 4d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding as shown below in Figure 4e. The site is only in reservoir flood extents where there is also predicted fluvial flooding.

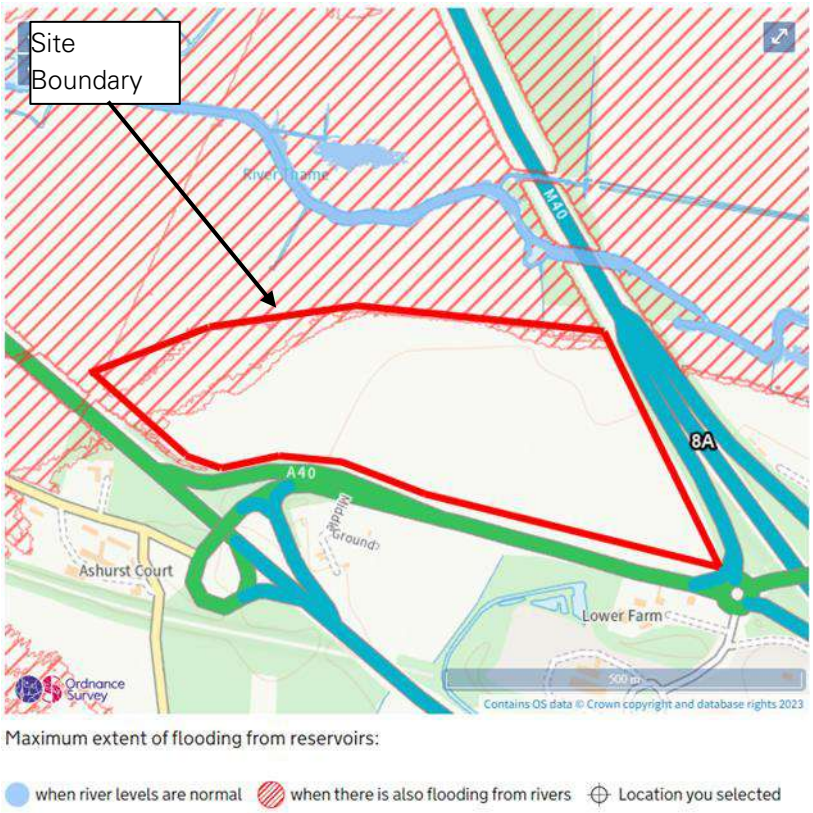


Figure 4e - EA Reservoir Flood mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

Soilscapes[9] suggests that the soil has impeded drainage and may be very wet, particularly in winter. No other records were available.

[9] https://www.landis.org.uk/soilscapes/

Other Sources of Flood Risk

Environment Agency data has records of an historic flood event occurring to the Northeastern extent of the site however, no further information was given.

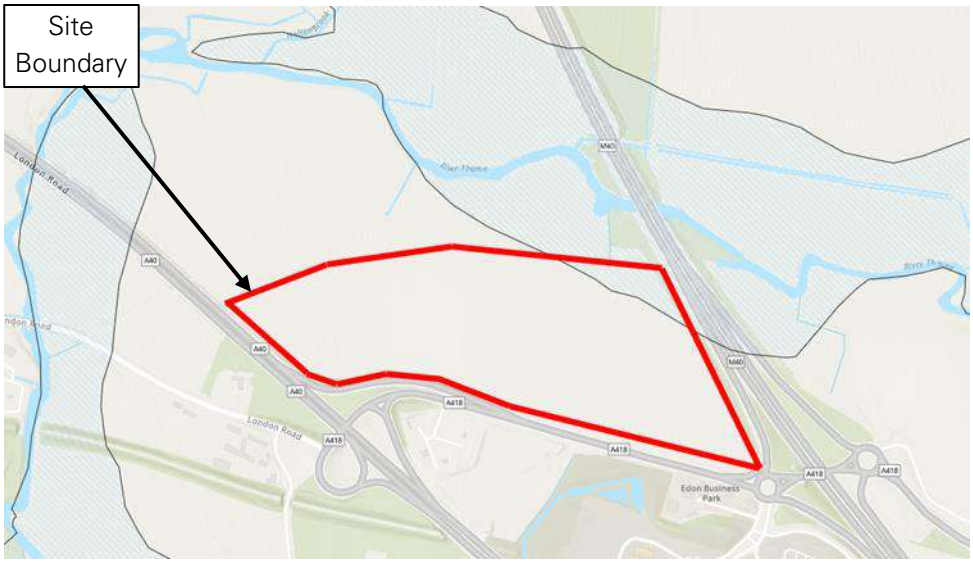


Figure 4f – EA Historic Flood mapping with approximate site boundary (Environment Agency, 2023)

3.5. SITE 13 – PEMBROKE COLLEGE SPORTS GROUND AND LAND ADJOINING

Description

Site Location: Easting: 450803, Northing: 205221
National Grid Reference: SP50803
Site Area: 19.7 ha

The existing site is bounded to the East by a railway line, to the West and South by Hinksey Stream and the continuation of fields and to the North by Bulstroke Stream. Hogacre Ditch flows through the site. All watercourses are designated Main Rivers. The aerial view of the existing site is shown below in Figure 5a:

Figure 5a: Aerial view of Pembroke College Sports Ground and Land Adjoining with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation - Mudstone, which is a sedimentary bedrock. There are also superficial deposits of Alluvium - Clay, silt, sand and gravel. The BGS record pertaining to the site is illustrated in Figure 5b below: Borehole log SP50NW57 is located to the southeast of the site which confirm BGS records.

Figure 5b- Geology at the site with approximate site boundary Green = Oxford Clay Formation and West Walton Formation and Alluvium. (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 5c) indicates that the site is located within the greater than 3.3% annual probability (1 in 30 year) extents for fluvial flooding. Therefore, the site is in Flood Zone 3 (High risk of fluvial flooding).

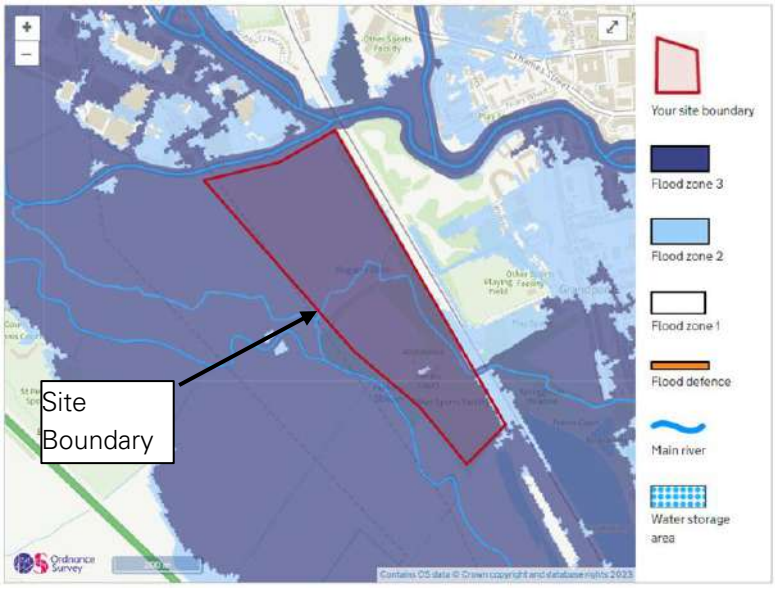


Figure 5c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 5d below. Small areas of the site near to Hogacre Ditch are at Low risk of surface water flooding (less than 1 in 100-year probability of the site flooding).

Figure 5d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding as shown below in Figure 5e. The site may flood even without fluvial flooding occurring.

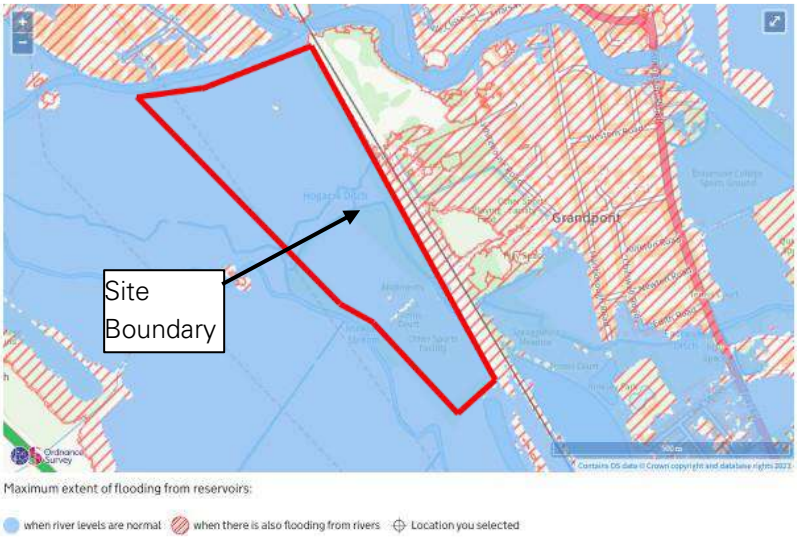


Figure 5e - EA Reservoir Flood mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B indicates no previous recorded incidents of groundwater flooding occurring on the site. However, Soilscapes[10] suggests that there is a high-water table.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C has records of historic flood events occurring across the site in Spring 1947, Summer 1977, Winter 1979, Autumn 1992, Autumn 1993, Easter 1998, Winter 2000 and New Year 2003 with the largest flood events occurring in 1947, 1977, 1979 and 2003. These instances all occurred due to the proximity to the River Thames and River Cherwell causing fluvial flooding.

[10] https://www.landis.org.uk/soilscapes/

3.6. SITE 14 – GRANDPONT RECREATIONAL OUTDOOR BASKETBALL COURT

Description

Site Location: Easting: 451035, Northing: 205267, Nearest Postcode: OX1 4QH

National Grid Reference: SP 510052

Site Area: 4.7ha

The site is bounded by Whitehouse Road on its East, community facilities such as the South Oxford Adventure Playground and family room to the South, a railway to the West and Grandpont nature reserve at the North. The aerial view of the existing site is shown below in Figure 6a:

Figure 6a: Aerial view of Grandpont Recreational Outdoor Basketball Court (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise of Oxford Clay Formation and West Walton Formation which are mudstone and silty mudstone. There are also superficial deposits of Northmoor Sand and Gravel Member and Alluvium both comprising clay, silt, sand, and gravel. The BGS record for the site is illustrated in Figure 6b below.

Figure 6b – Superficial geology at the site (British Geological Survey, 2023)

Oxford Clay Formation and West Walton Formation

Figure 6c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA's Flood Map (extract provided below in Figure 6d) indicates that some of the site is located within Flood Zone 2. This means it is at a medium probability of flooding, with between a 1% and 0.1% chance of flooding from rivers and between 0.5% and 0.1% chance from the sea.

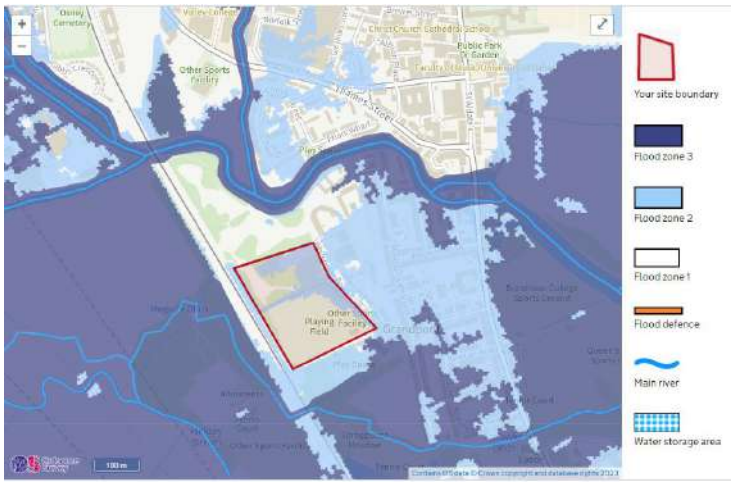


Figure 6d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

The EAs flood mapping in Figure 6e shows that there is a low risk of flooding down the centre of the site along Hogacre Ditch. Towards the eastern end of the ditch the risk becomes high. On the eastern edge of the site, bordering Whitehouse Road, there is another line of low to medium flood risk. Other than these distinct water paths the site shows very low risk for flooding due to surface water

Figure 6e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding but only when there is also predicted fluvial flooding. The area bounding the west and south of the site are however at risk of reservoir flooding without fluvial. EA mapping in Figure 6f below shows the affected areas.

Figure 6f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

Appendix B of The Oxford City Council Strategic Flood Risk Assessment (SFRA) shows that there have been 2 incidents of groundwater flooding in Grandpont, east of the site, both occurring in January 2003 (Call no. 102 and 90). The SFRA states that the locations of these two flood incidents "have underlying gravels,

associated with the Thames floodplain, and therefore, the groundwater incidents reported are partially associated with fluvial flooding'.

Other Sources of Flood Risk

The SFRAs historic flood events map shows that the site has been affected by flooding in the 1947, 1993 and 1998 across the entire site and the 2000 and 2003 event but only within proximity to the Hogacre Ditch.

3.7. SITE 16 – BURGESS FIELD

Description

Site Location: Easting: 449886, Northing: 208536
National Grid Reference: SP49886
Site Area: 16.1 ha

The existing site is bounded by watercourses around the entire site. Additionally, to the East by a railway line, and to the West and South by the continuation of fields. The aerial view of the existing site is shown below in Figure 7a:

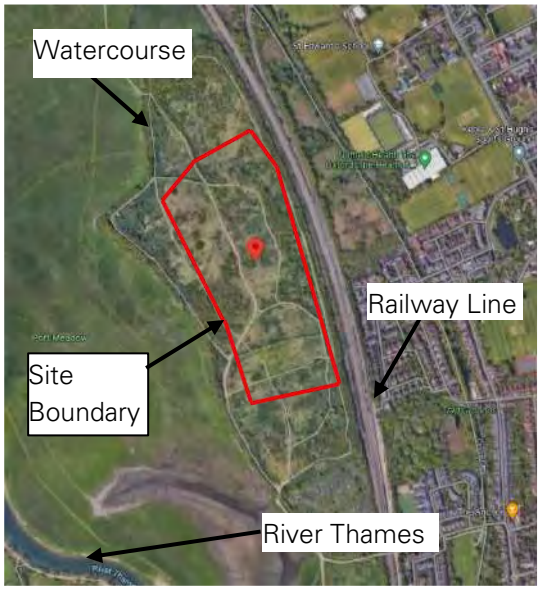
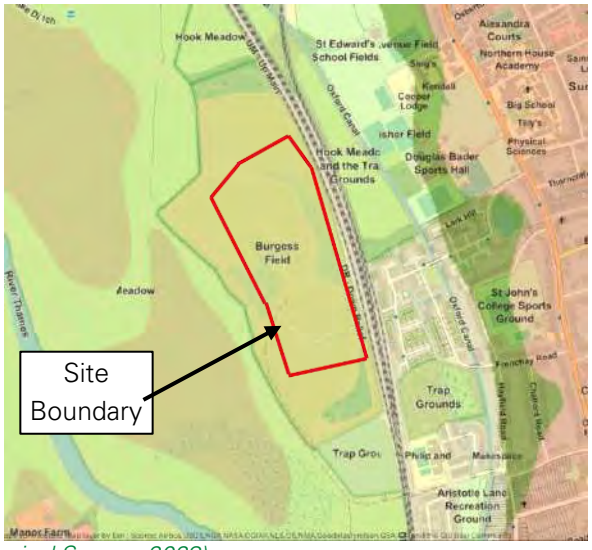


Figure 7a: Aerial view of Burgess Field with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation - Mudstone, which is a sedimentary bedrock. There are also superficial deposits of Alluvium - Clay, silt, sand and gravel. The BGS record pertaining to the site is illustrated in Figure 7b below. Only confidential borehole log data has been recorded at several locations around the sites border. Therefore, borehole logs have not confirmed site geology.

Figure 7b- Geology at the site with approximate site boundary Green = Oxford Clay Formation and West Walton Formation and Alluvium. (British Geological Survey, 2023)



Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 7c) indicates that the site is located within the less than 1% annual probability (1 in 100 year) extents for fluvial flooding. Therefore, the site is in Flood Zone 1 (Low risk of fluvial flooding). However, it should be noted the site is surrounded by Flood Zone 3 (High risk of fluvial flooding).

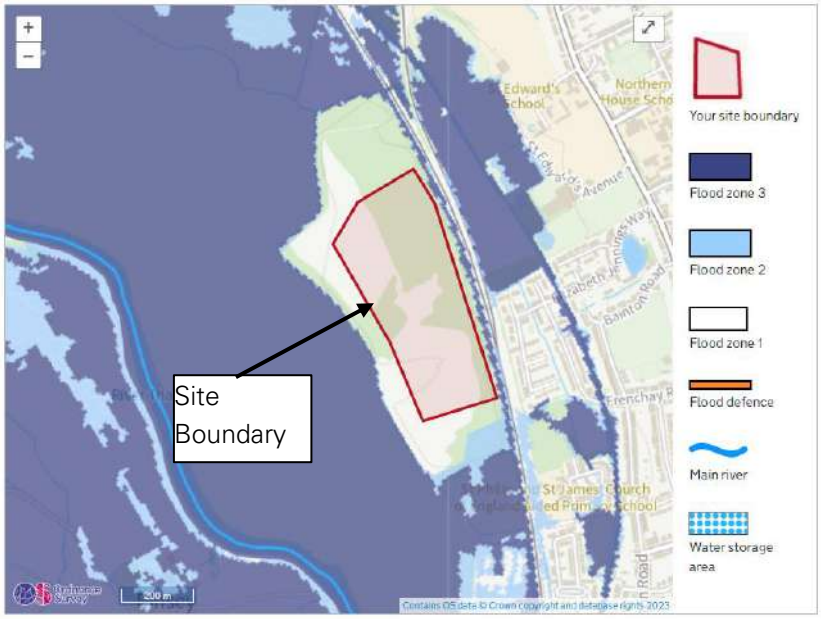


Figure 7c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 7d below. The entire site is at Very Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding).

Figure 7d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is not located within an area of predicted reservoir flooding.

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site. However, Soilscapes[11] suggests that there is a high water table.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C has records of a major historic flood event occurring across the site in Spring 1947. This occurred due to the proximity to the River Thames and River Cherwell causing fluvial flooding whilst there was also surface water flooding.

3.8. SITE 29 – LAND NEAR TO MARSTON

[11] https://www.landis.org.uk/soilscapes/

Description

Site Location: Easting: 452811, Northing: 209263, Nearest Postcode: OX3 0QD

National Grid Reference: SP528092

Site Area: 73.4ha

The North-East of the site is bounded by fields and in the South-East by the A40. The junction for the B4150 from the A40 also lies within the site boundaries. The aerial view of the existing site can be seen below in Figure 8a.

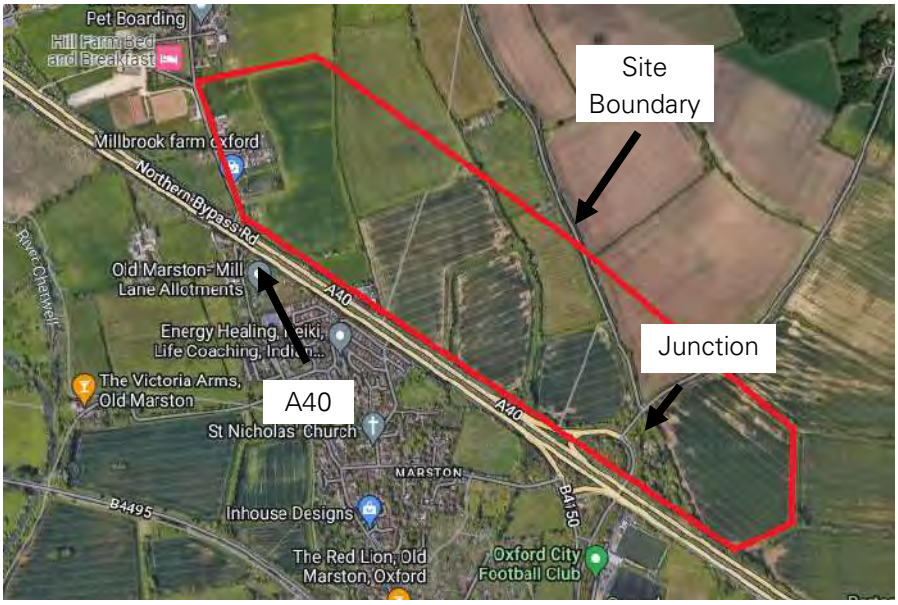


Figure 8a: Aerial view of Land Near to Marston with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site superficial geology to comprise of Summertown-Radley sand and gravel member, Head and Northmoor sand and gravel member. As seen in the figure below, head covers a central patch of the site and is known for being poorly sorted and poorly stratified. All of the above are sedimentary superficial deposits. The bedrock geology of the site is all Oxford Clay Formation and West Walton Formation (mudstone).

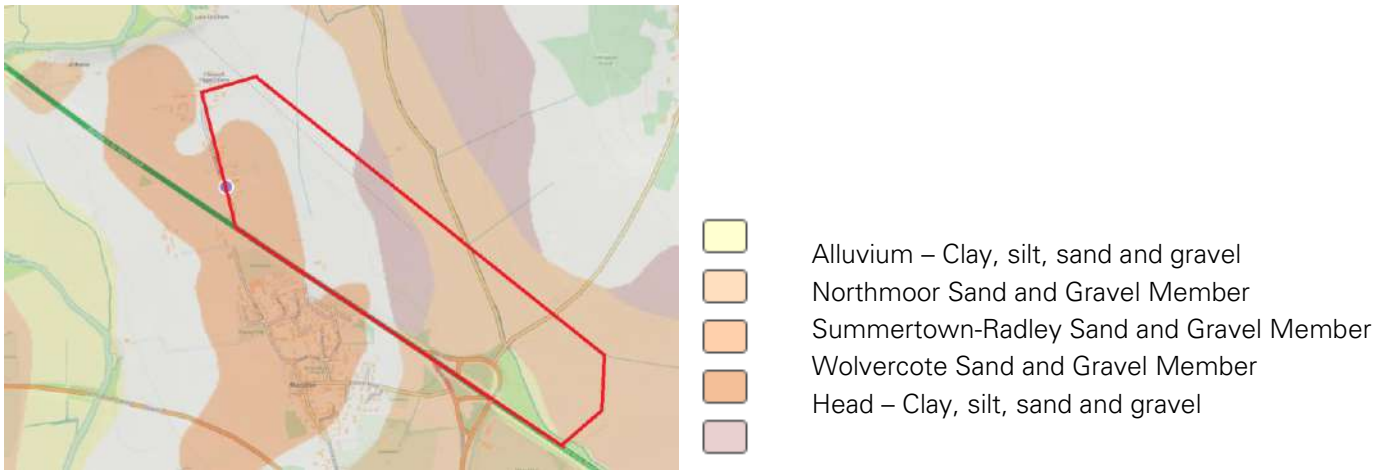


Figure 8b – Superficial geology at the site (British Geological Survey, 2023)

Figure 8c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA fluvial flood risk mapping, shown in Figure 8d, indicates that a lot of the site is located within flood zone 3. This means it has a high probability of flooding from rivers and sea. There is a chance of 1% or greater for flooding from rivers within a year and 0.5% or greater from flooding from the sea.

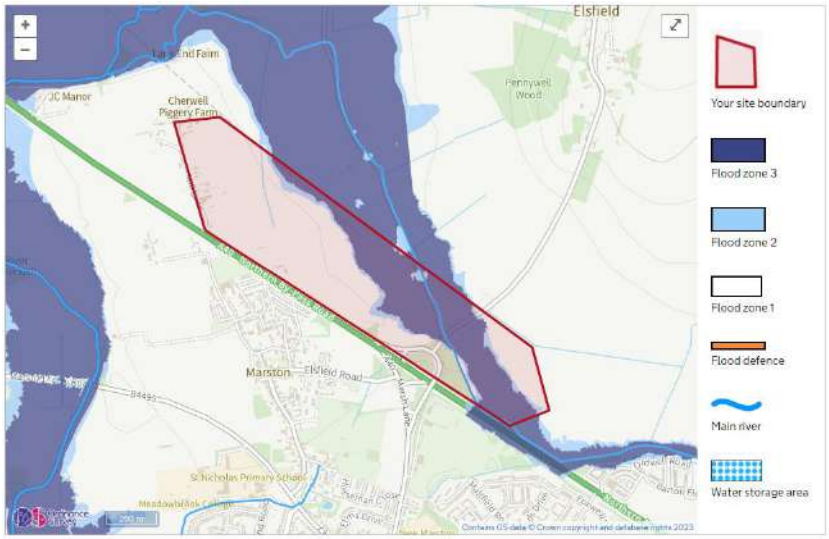


Figure 8d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

The EAs flood mapping for surface water is shown in Figure 8e below. It shows that parts of south-east of the site are at medium-high risk of flooding due to surface water. Most of the site is at very low risk.

Figure 8e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

There is an area in the north-east of the site which is subject to flooding due to reservoirs when there is also flooding from rivers. The rest of the site is not an area of predicted reservoir flooding. Figure 8f below shows the area of the site at risk.

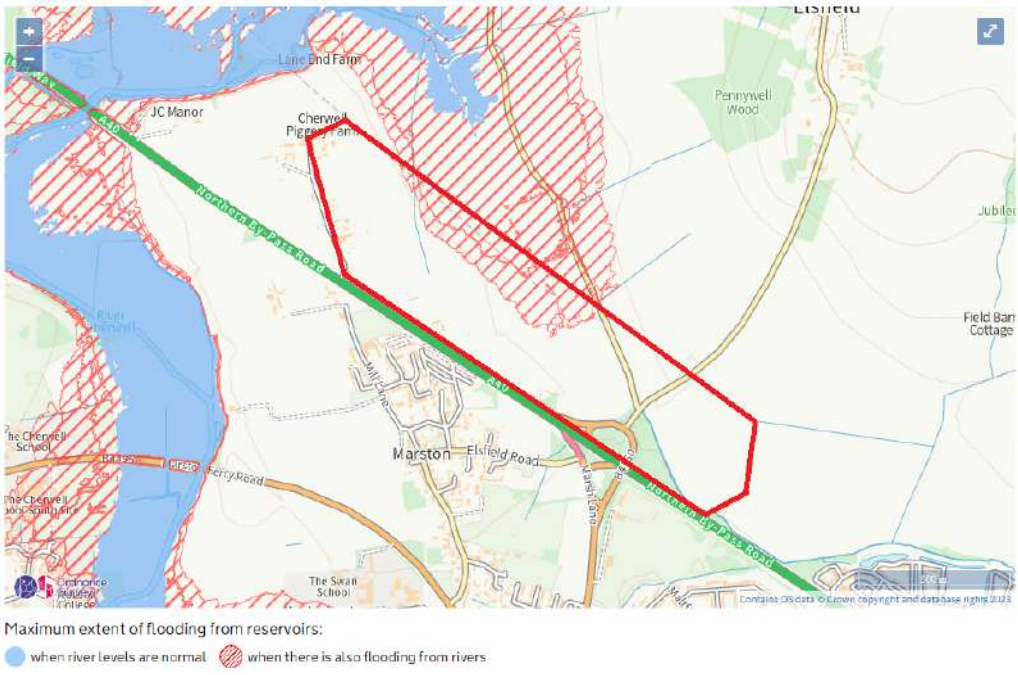


Figure 8f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C shows that the site had some impact from the 1992,1998 and 2003 historic flood events. These all impacted the area of the site close to the river but have not been reported to have spread across the rest of the site. The 1947 event however did spread across the north-eastern corner of the site.

3.9. SITE 31 – LAND NEAR TO SCIENCE CENTRE, CULHAM

Description

Site Location: Easting: 453041, Northing: 195073
National Grid Reference: SU53041
Site Area: 11.1 ha

The existing site is bounded by watercourses and continuation of fields to the South, to the West by a railway line, to the North by Abingdon Road and Culham Science Park and to the East by the continuation of fields. The aerial view of the existing site is shown below in Figure 9a:

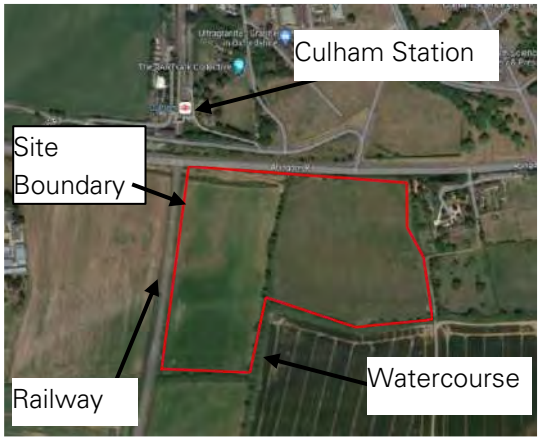


Figure 9a: Aerial view of Land Near to Science Centre, Culham with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Gault Formation – Mudstone and Lower Greensand Group - Sandstone, which are sedimentary bedrocks. There are also superficial deposits of Northmoor Sand and Gravel Member, Lower Facet - Sand and gravel and Summertown-radley Sand and Gravel Member - Sand and gravel. The BGS record pertaining to the site is illustrated in Figure 9b below. Borehole log SU59NW72 is located to the Northwest of the site which confirms BGS records.

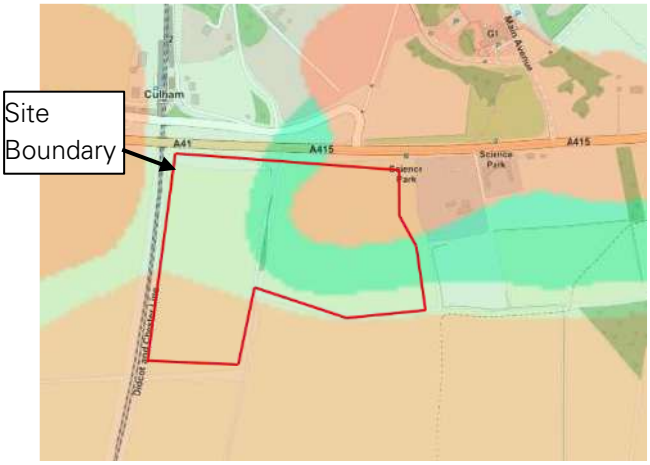


Figure 9b- Geology at the site with approximate site boundary Orange = Gault Formation and Summertown-radley Sand and Gravel Member, Green = Gault Formation, Pale Green = Lower Greensand Group and Yellow = Lower Greensand Group and Northmoor Sand and Gravel Member, Lower Facet. (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 9c) indicates that the majority of the site is located within the less than 1% annual probability (1 in 100 year) extents for fluvial flooding and some of the site is located within the more than 1% annual probability (1 in 100 year) extents for fluvial flooding. Therefore, the site is in Flood Zone 2 (Medium risk of fluvial flooding).

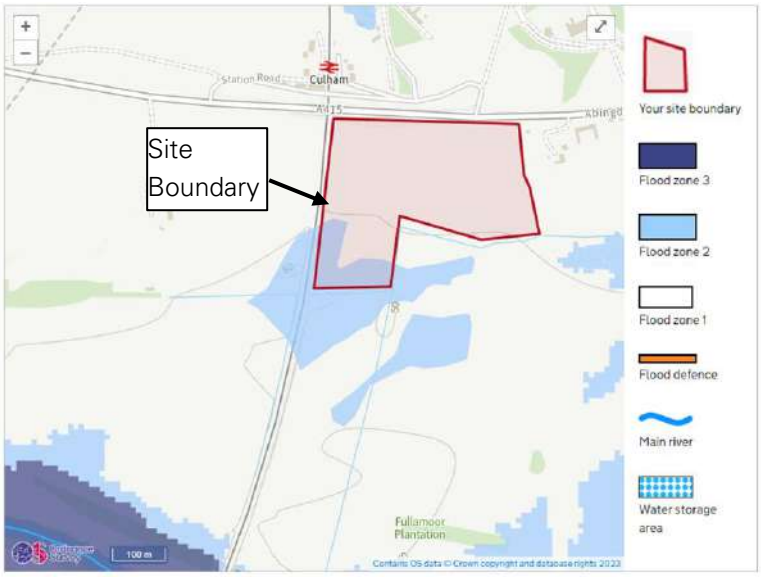


Figure 9c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 9d below. The majority of the site is at Very Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding). A small area of Low Risk surface water flooding (less than 1 in 100-year probability of the site flooding) is to the south.

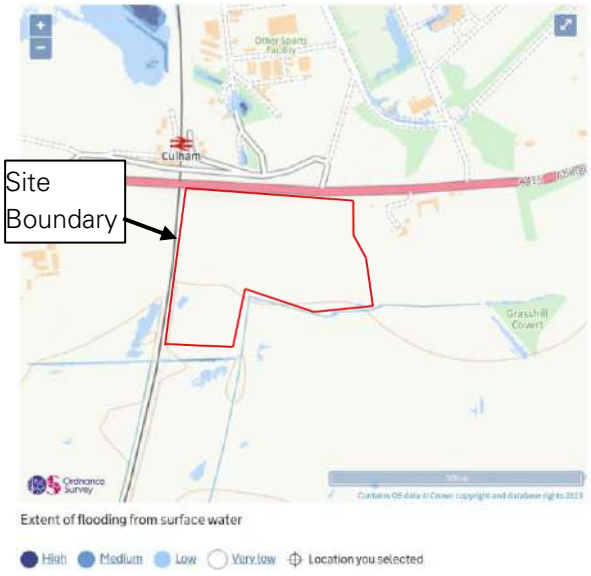


Figure 9d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is not located within an area of predicted reservoir flooding.

Risk of Flooding from Groundwater

Soilscapes[12] suggests that the soil is free draining. No other records were available.

Other Sources of Flood Risk

Environment Agency data states that an historic flood event occurred to the South of the site as shown in figure 9e however, no more data is available.

Figure 9e - EA Historic Flood Mapping with approximate site boundary (Environment Agency, 2023)

[12] https://www.landis.org.uk/soilscapes/

3.10. SITE 35 – SEACOURT PARK AND RIDE

Description

Site Location: Easting: 449171, Northing: 206466, Nearest Postcode: OX2 0HP

National Grid Reference: SP491064

Site Area: 2.2ha

The site is in the location of the existing Seacourt Park and Ride. South of the site is Botley Road and the other boundaries are surrounded by fields. The aerial view of the existing site can be seen in Figure 10a below:

Figure 10a: Aerial view of Seacourt Park and Ride with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site superficial geology to comprise of Alluvium – Clay, silt, sand and gravel. The bedrock geology is the sedimentary Oxford Clay Formation and West Walton Formation – mudstone.

Figure 10b – Superficial geology at the site (British Geological Survey, 2023)

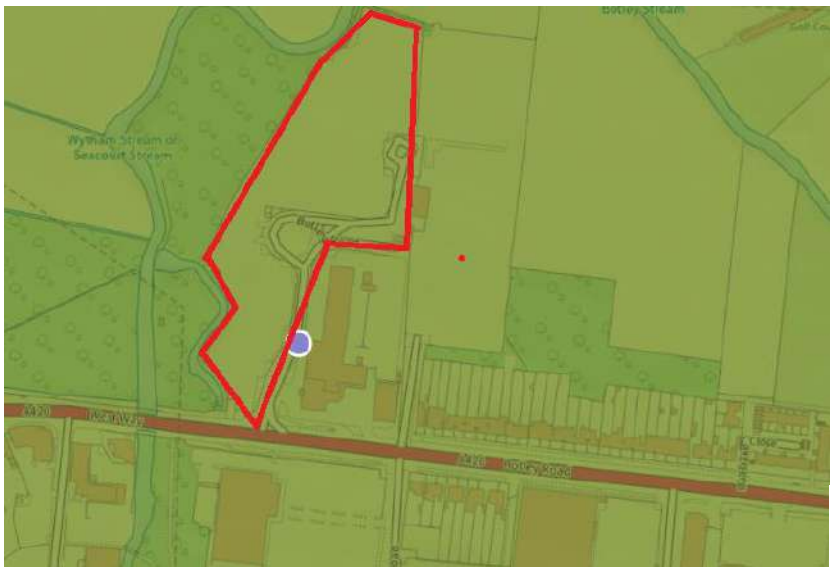


Figure 10c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 10d) indicates that the majority of the site is located within flood zone 3. This means it is at a high probability of flooding. The figure below shows the EA mapping of flood zones at this site.

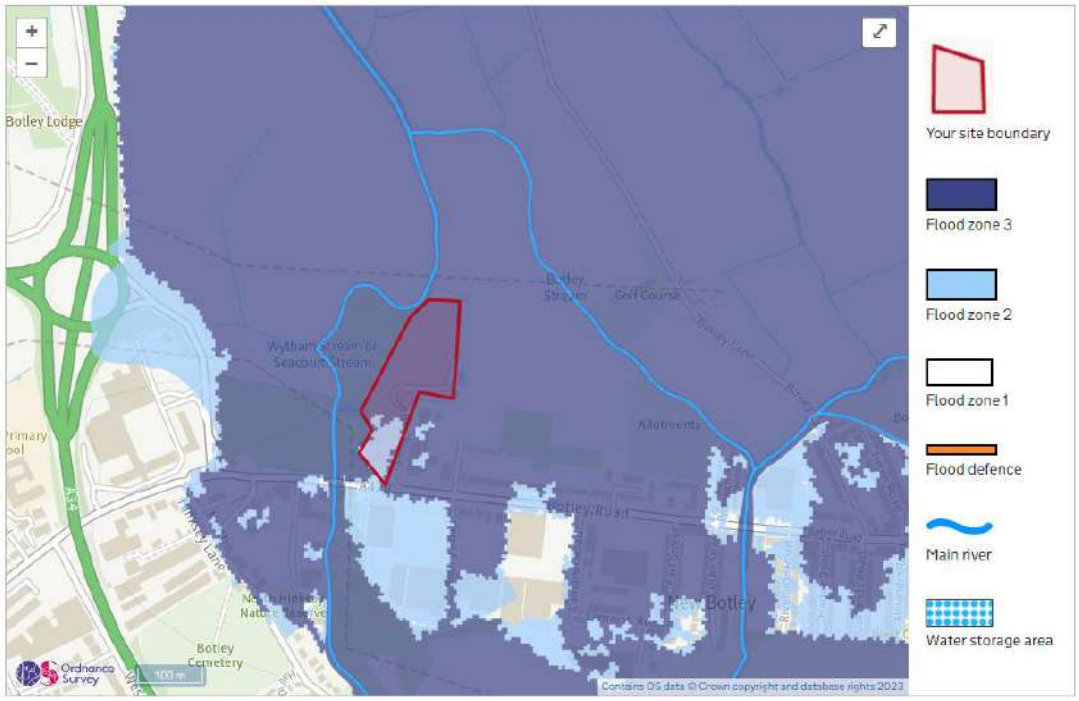


Figure 10d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

An extract from the EA Flood Mapping for Surface Water is shown in Figure 10e below. Area of the road currently within the site are at Low risk of surface water flooding (between 1 in 100-year and 1 in 1000-year probability of flooding).

Figure 10e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is at risk to flooding from reservoirs across most of the site. A small patch is predicted to only be at risk if there is also flooding from rivers. Figure 10f is EA mapping showing the areas predicted to be affected by reservoir flooding.

Figure 10f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C indicates historic flood events affecting the site in 1977, 1992, 1993 and 2000. Botley Road which connects to the entrance of the existing park and ride site has been more frequently affected by additional historical flooding events too.

3.11. SITE 36 – OXPENS

Description

Site Location: Easting: 450681, Northing: 205900, Nearest Postcode: OX1 1RX

National Grid Reference: SP506059

Site Area: 6.1ha

The site is bounded by Osney Lane at the North and student accommodation on the West. The south-east of the site wraps around an existing ice rink and is then bounded by the River Thames. The aerial view of the existing site is shown below in Figure 11a:

Figure 11a: Aerial view of Oxpens with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site superficial geology to comprise of Alluvium – Clay, silt, sand and gravel and Northmoor Sand and Gravel Member, which are sedimentary deposits. The bedrock geology comprises of Oxford Clay Formation and West Walton Formation – Mudstone, a sedimentary bedrock.

Figure 11b – Superficial geology at the site (British Geological Survey, 2023)

Oxford Clay Formation and West Walton Formation - Mudstone

Figure 11c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 11d) indicates that a lot of the site is located within flood zone 3. This means there is a high probability of flooding from rivers and the sea. The area in zone 3 is at the south of the site, very close to the River Thames.

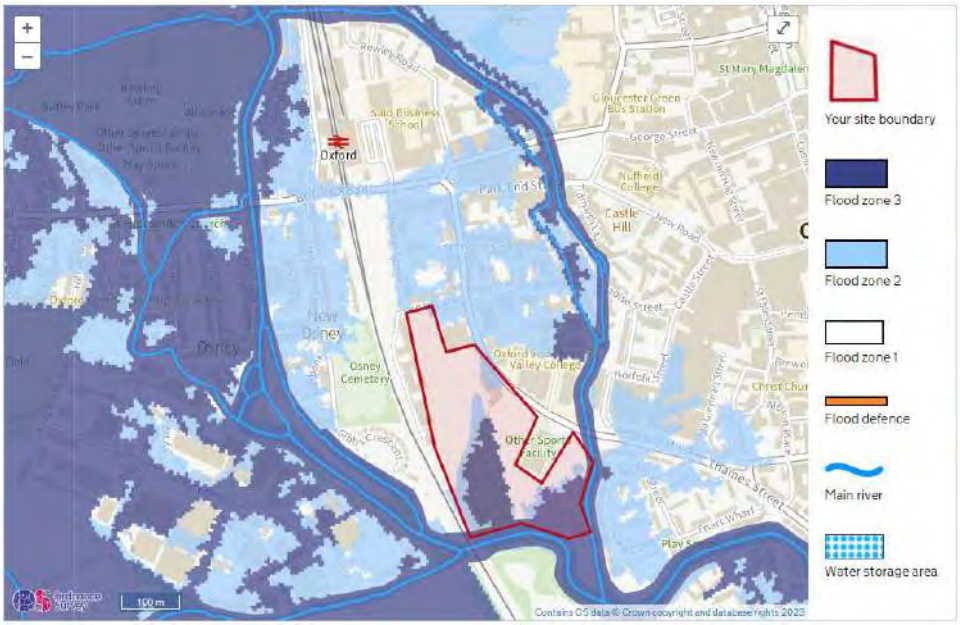


Figure 11d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 11e below. A few small areas of the site are at Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding). Figure 11e below shows the areas at a low risk of flooding due to surface water.

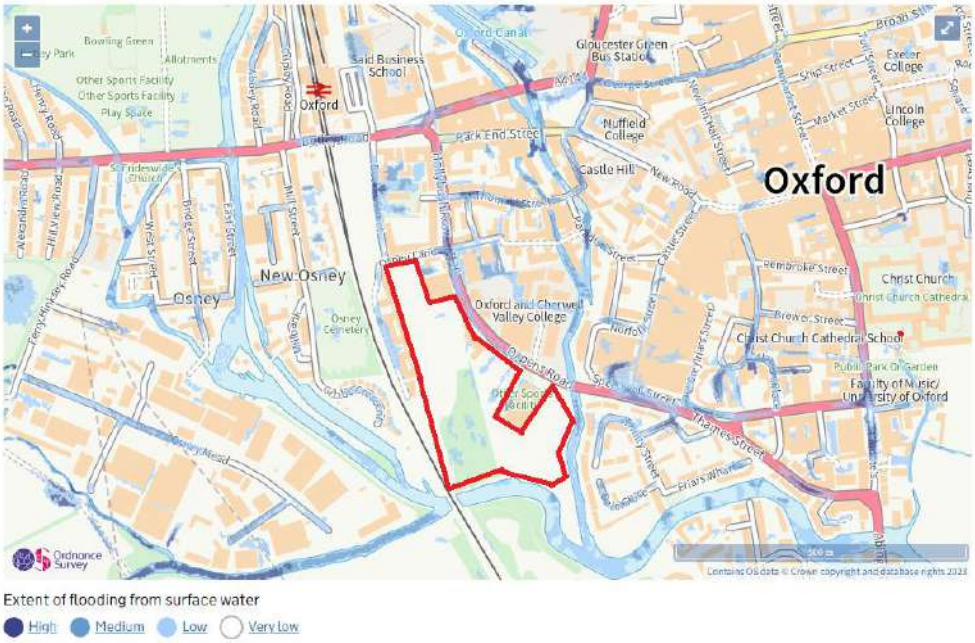


Figure 11e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding as shown below in Figure 11f. The majority of the site is only at risk when there is also flooding from rivers however the area of the site close to the River Thames is at risk when river levels are normal.

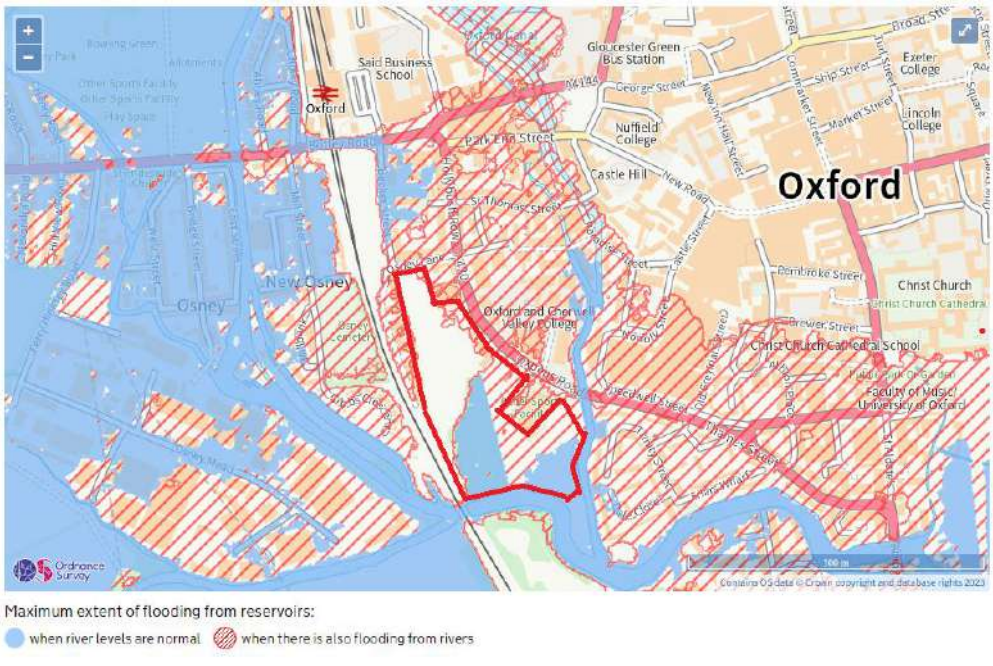


Figure 11f - EA Reservoir Flood mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

Appendix B of the SFRA does not show any incidents of flooding due to groundwater in the location of the site.

Other Sources of Flood Risk

Environment Agency data has records of historic flood events occurring in 1947, 1977, 1979, 1993, and 1998 in the site location. No further comments were made about how this affected this area.

3.12. SITE 37 – FASTWYKE FARM

Description

Site Location: Easting: 451849, Northing: 204872, Nearest Postcode: OX1 4PS

National Grid Reference: SP518048

Site Area: 10.0 ha

The site is located between the boundaries of the A4144 and the River Thames. To the north of the site are fields used as recreation ground by Brasenose and Queen's colleges. The University College and Longbridges boat houses both sit on the site boundary alongside the River Thames. The aerial view of the existing site is shown below in Figure 12a:

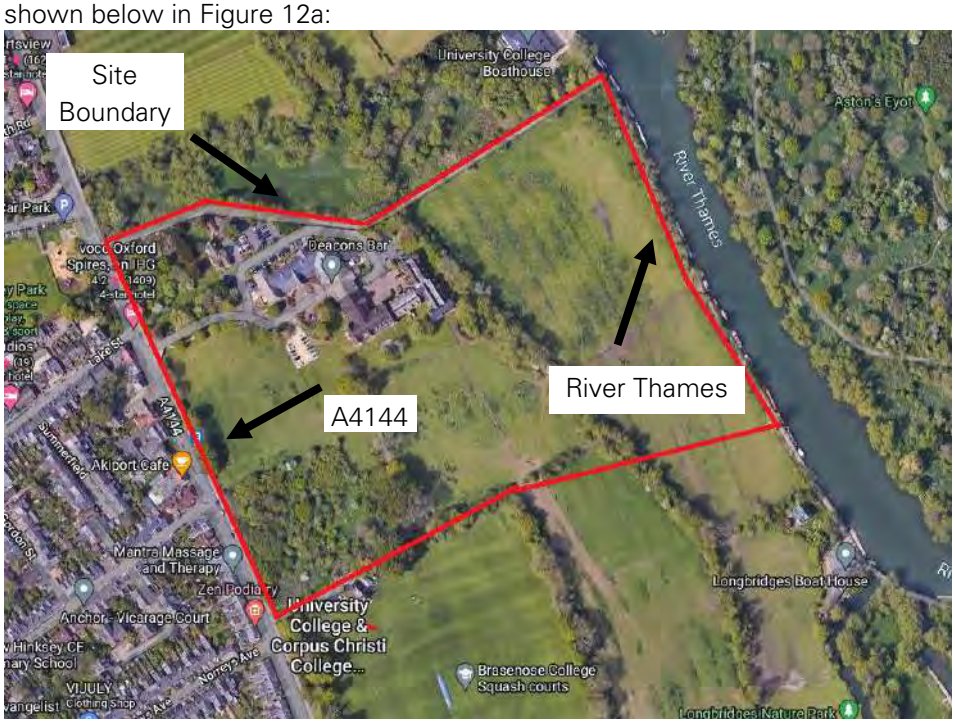


Figure 12a: Aerial view of Fastwyke Farm with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation - Mudstone, which is a sedimentary bedrock. There are also superficial deposits of Alluvium - Clay, silt, sand and gravel and Northmoor Sand and Gravel Member, lower Facet.

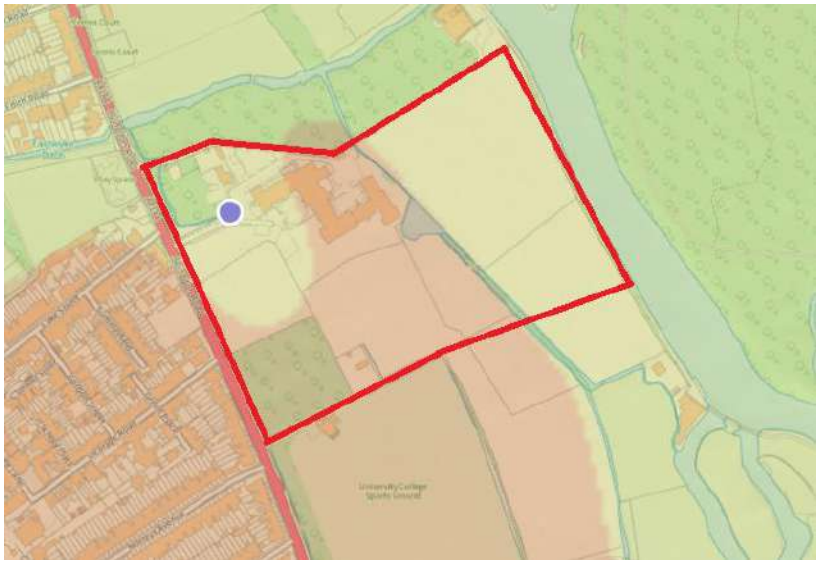


Figure 12b – Superficial geology at the site (British Geological Survey, 2023)

Figure 12c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 12d) indicates that the site is located within the greater than 3.3% annual probability (1 in 30 year) extents for fluvial flooding. Therefore, the site is in Flood Zone 3 (High risk of fluvial flooding).

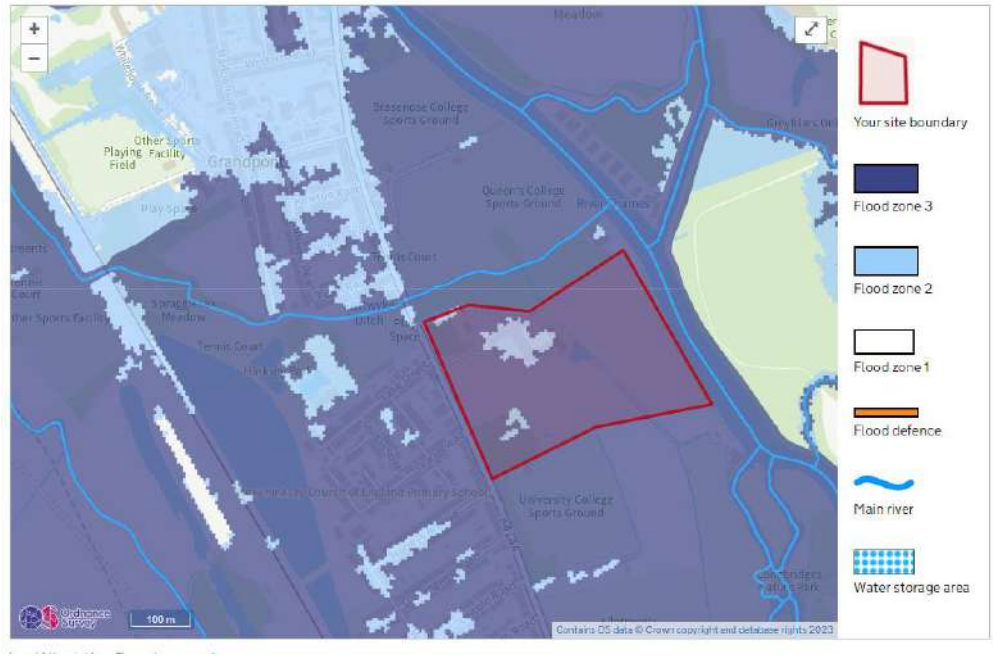


Figure 12d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 12e below. Small areas of the site are at Low risk of surface water flooding (less than 1 in 100-year probability of the site flooding).

Figure 12e - EA Flood mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding as shown below in Figure 12f. The flooding is predicted to occur even with the rivers at their normal level.

Figure 12f - EA Reservoir Flood mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B indicates no records of groundwater flooding incidences within the site area however there have been two recorded close by (Call no. 89 and 117). 117 was reported to be due to groundwater flooding under floorboards in the 2000/1 and 2003 floods.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C has records of historic flood events occurring at the site in 7 different events. The 1947 and 2003 events have been recorded to have affected the entire site area where the other events in 1977, 1979, 1993, 1998 and 2000 mainly affected the north-east of the site where it borders the River Thames.

3.13. SITE 38 – LAND ADJACENT TO BINSEY LANE

Description

Site Location: Easting: 449816, Northing: 206515, Nearest Postcode: OX2 0QJ

National Grid Reference: SP498065

Site Area: 16.3ha

The south of the site is bounded by housing and allotments and the north-east by Binsey Lane. To the west of the site is the Seacourt Park and Ride carpark. Important features to note are Botley Stream runs through the east of the site and Binsey Lane which cuts through the centre. The aerial view of the existing site is shown below in Figure 13a:

Figure 13a: Aerial view of Land Adjacent to Binsey Lane with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation - Mudstone, which is a sedimentary bedrock. There are also superficial deposits of Alluvium - Clay, silt, sand and gravel.

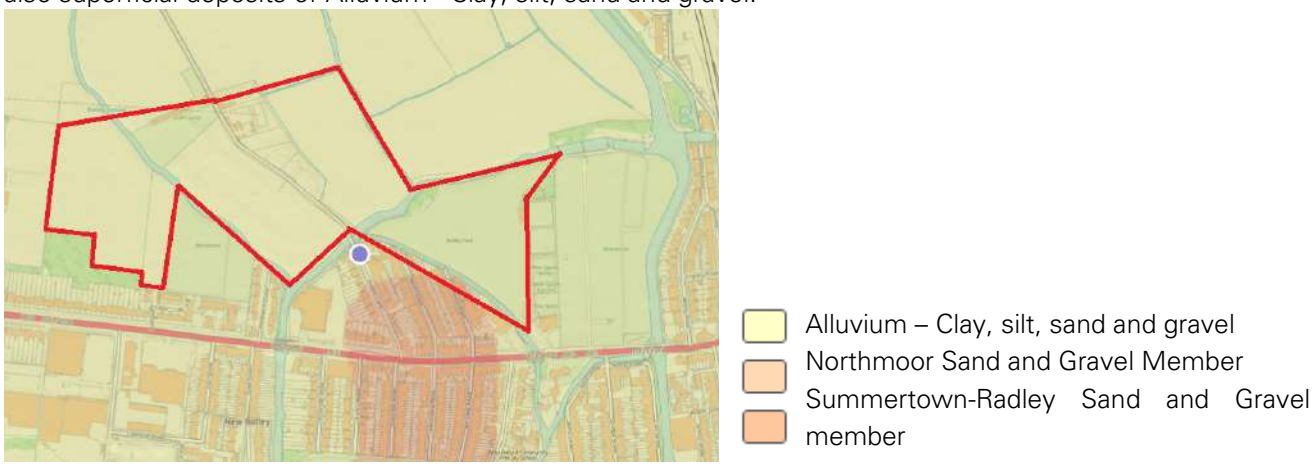


Figure 13b – Superficial geology at the site (British Geological Survey, 2023)

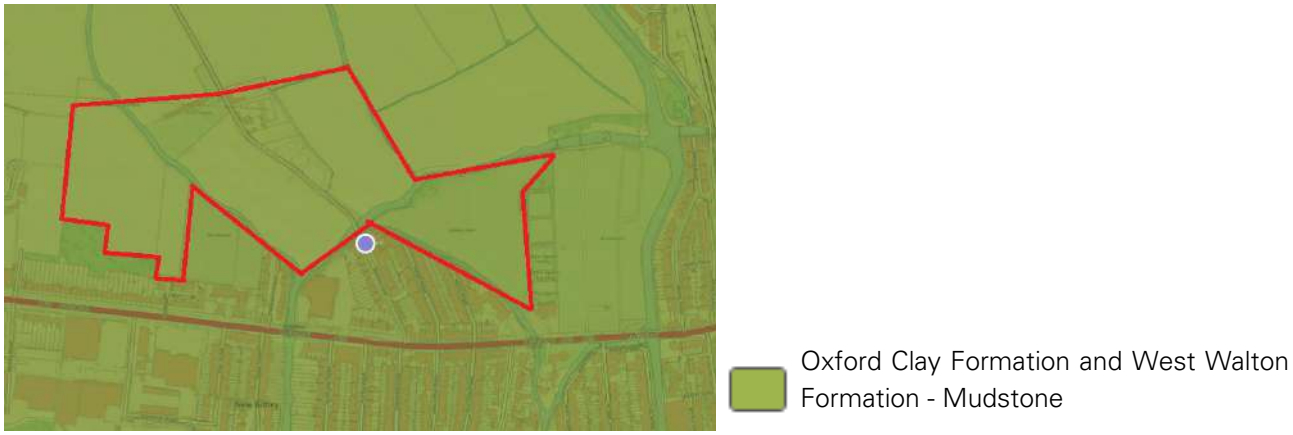


Figure 13c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 13d) indicates that the site is located within flood zone 3. This means that there is a high probability of flooding due to rivers and the sea.

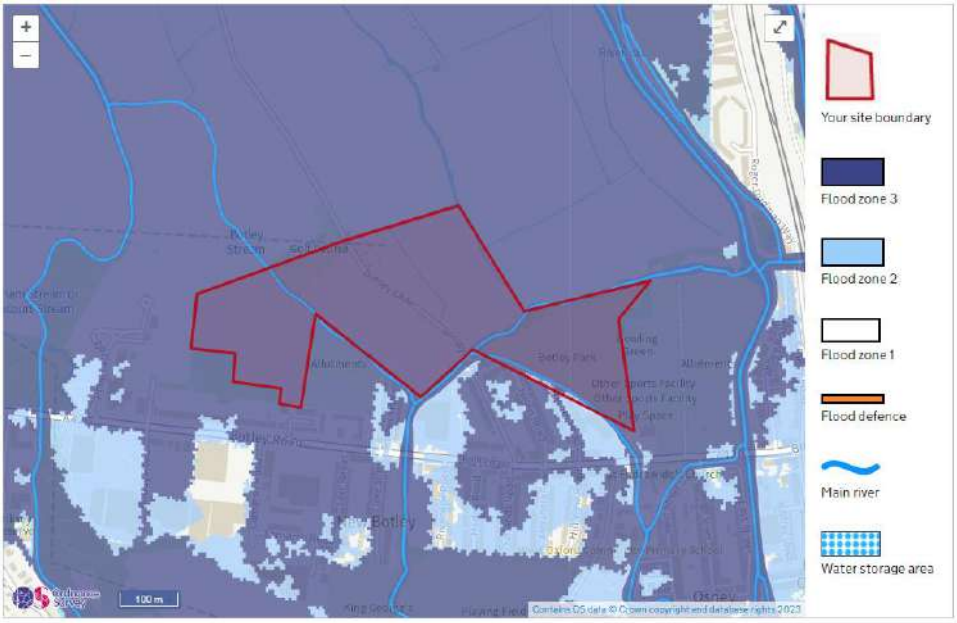


Figure 13d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 13e below. Most of the site is at Very Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding). Some areas of the site, particularly those close to watercourses are at a low risk and areas very close to the Botley Stream are at medium risk.

Figure 13e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding, even when river levels are normal. EA flood mapping in Figure 13f below shows in more detail the area of the site affected.

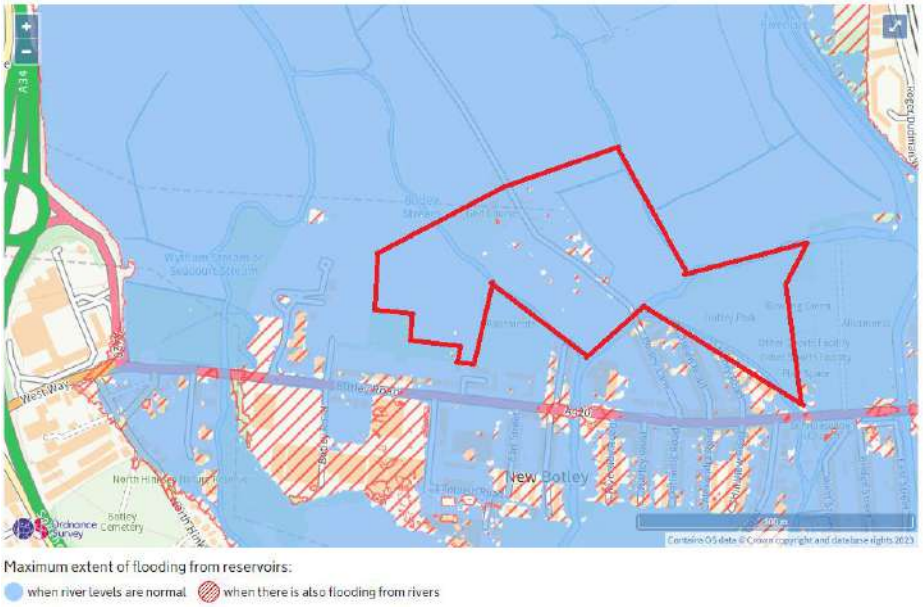


Figure 13f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C has records of a major historic flood event occurring in 1947, 1977, 1979, 1993, 2000 and 2003. The records show that both Botley Road which runs close to the border of the site and Binsey Lane which runs through the centre were affected by these incidents.

3.14. SITE 39 – LAND BETWEEN RIVER CHERWELL AND NORTHERN BYPASS

Description

Site Location: Easting: 451233, Northing: 210044
National Grid Reference: SP51233
Site Area: 7.9 ha

The existing site is bounded by residential properties to the South and West, to the North by A40 and to the East by the continuation of fields and the River Cherwell. The aerial view of the existing site is shown below in Figure 14a:

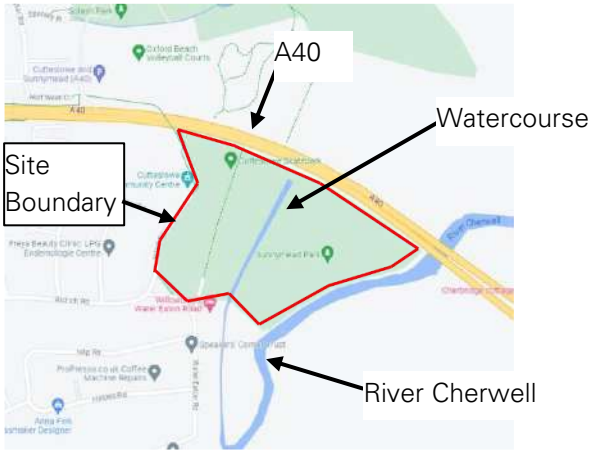
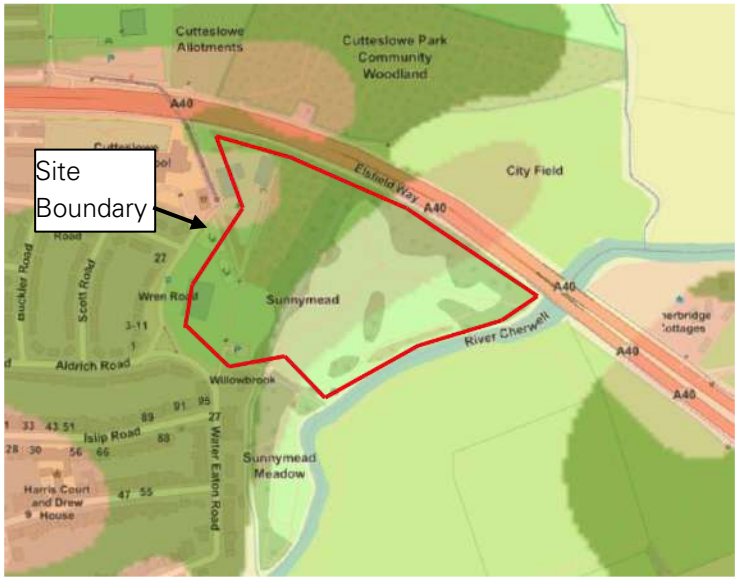


Figure 14a: Aerial view of Land Between River Cherwell and Northern Bypass with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise Oxford Clay Formation and West Walton Formation – Mudstone which is a sedimentary bedrock. There are also superficial deposits of Alluvium - Clay, silt, sand and gravel and Northmoor Sand and Gravel Member - Sand and gravel. The BGS record pertaining to the site is illustrated in Figure 14b below. Borehole log SP50NW260 is located to the Southwest of the site which confirms BGS records.

Figure 14b Geology at the site with approximate site boundary Dark Green = Oxford Clay Formation and West Walton



Formation, Grey = Oxford Clay Formation and West Walton Formation and Northmoor Sand and Gravel Member, Pale Green = Oxford Clay Formation and West Walton Formation and alluvium. (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 14c) indicates that central areas of the site are located in Flood Zone 2 (between 1 in 100 and 1 in 1000 annual probability) at Medium risk of fluvial flooding. Parts of the site adjacent to the River Cherwell are located within Flood Zone 3 (greater than 1 in 100 annual probability) which is defined as a High risk of fluvial flooding.

Figure 14c - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 14d below. The majority of the site is at Very Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding). A small area of High-Risk surface water flooding (more than 1 in 30-year probability of the site flooding) runs along the centre.

Figure 14d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding with cover half of the site area to the East. This largely happens when fluvial flooding also occurs except along the central watercourse. Figure 14e shows the site's reservoir flood extents.

Figure 14e - EA Reservoir Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site. However, Soilscapes[13] suggests that there is a high water table and impeded drainage.

Other Sources of Flood Risk

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix C has records of a major historic flood event occurring across the site in Spring 1947 and a minor event occurring in Easter 1998. This occurred due to the proximity to the River Cherwell causing fluvial flooding and a high water table.

3.15. SITE 42 – Medley Manor Farm, Botley

Description

Site Location: Easting: 449971, Northing: 206762., Nearest Postcode: OX2 0DG
National Grid Reference: SP499067

[13] https://www.landis.org.uk/soilscapes/

Site Area: 17.3 ha

The site is bounded by the River Thames on its East and fields to the North and West with allotments at the South. The aerial view of the existing site is shown below in Figure 15a:

Figure 15a: Aerial view of Medley Manor Farm, Botley with Approximate Site Boundary (Google Maps, 2023)

Geology

British Geological Survey (BGS) online mapping for the area anticipates the site bedrock geology to comprise of Oxford Clay Formation and West Walton Formation - Mudstone, which are sedimentary bedrocks. There are also superficial deposits of Alluvium- Clay, silt, sand and gravel.

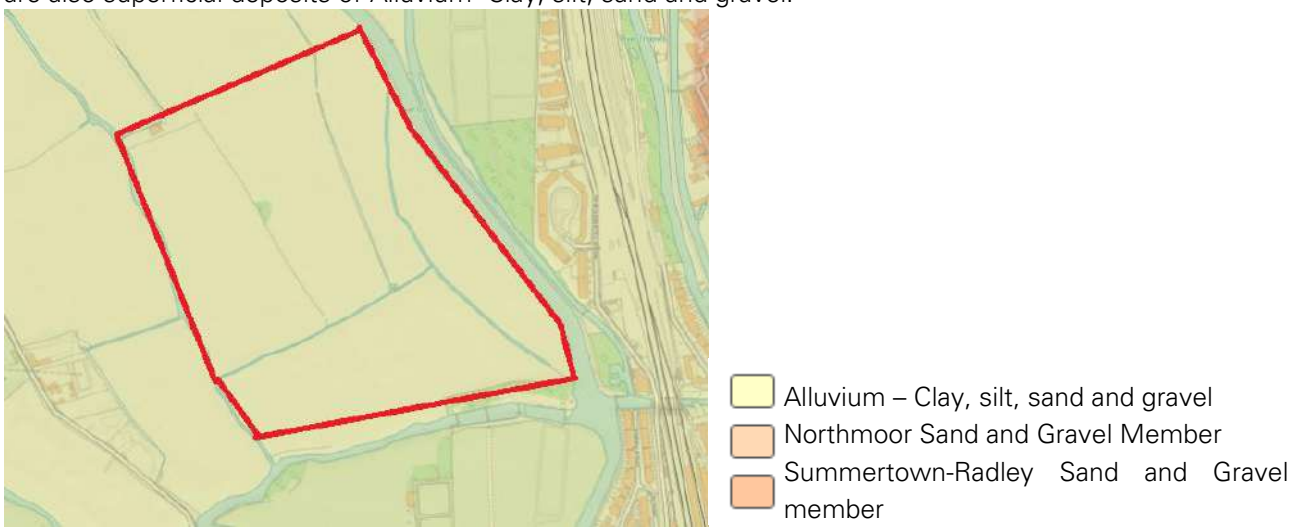


Figure 15b – Superficial geology at the site (British Geological Survey, 2023)

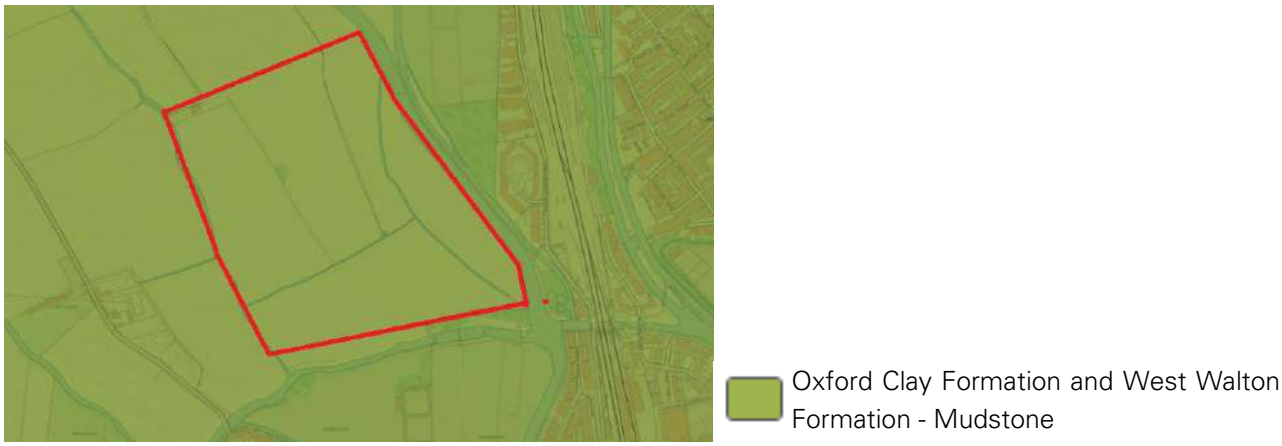


Figure 15c – Bedrock geology at the site (British Geological Survey, 2023)

Fluvial Flood Risk

The EA long term fluvial flood risk mapping (extract provided below in Figure 15d) indicates that the majority of the site is located within flood zone 3. This means there is a high probability of the site flooding from rivers and the sea.

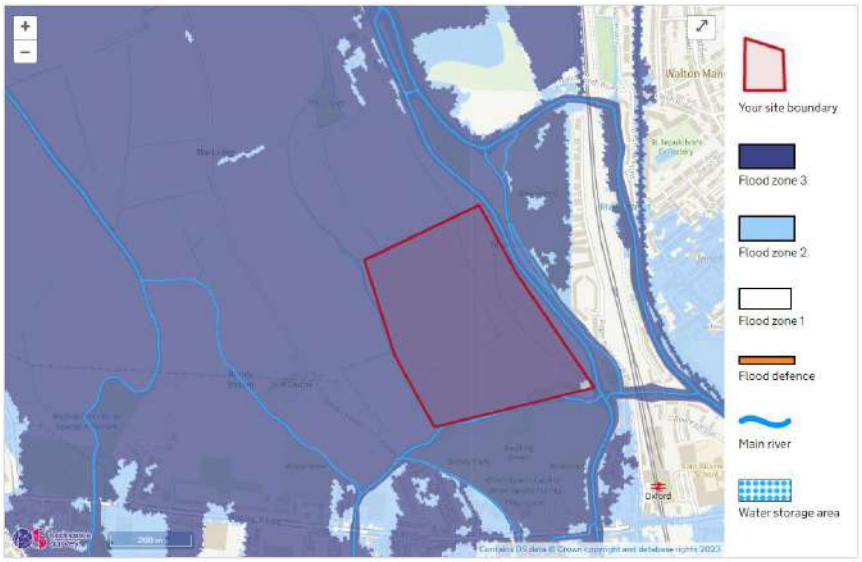


Figure 15d - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Surface Water Flood Risk

Extracts from the EA's Flood Mapping for Surface Water are shown in Figure 15e below. The majority of the site is at Very Low risk of surface water flooding (less than 1 in 1000-year probability of the site flooding). A small area of Low Risk surface water flooding (less than 1 in 100-year probability of the site flooding) where watercourses run through the site.

Figure 15e - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Reservoirs

The site is located within an area of predicted reservoir flooding even when rivers are at their normal level. The EA flooding mapping in Figure 15f below shows how the site is affected.

Figure 15f - EA Flood Mapping with approximate site boundary (Environment Agency, 2023)

Risk of Flooding from Groundwater

The Oxford City Council Strategic Flood Risk Assessment (SFRA) Appendix B shows no previous incidents of groundwater flooding occurring on the site.

Other Sources of Flood Risk

Appendix C of the SFRA shows that historic flood events occurred in 1947, 1977, 1979, 1993, 1998, 2000 and 2003 across the site. In the SFRA it states that "the area between Wolvercote and the city centre shows regular inundation through all of the events". The site lies in this area.

4. SUMMARY

This section summarises the various flood risk constraints across the sites which have been reviewed in this report. A high-level conclusion is provided in Table 1 below using a traffic-light system, to provide an indication of how feasible the sites are considered (from a flood risk perspective) for the new Oxford United Football Club stadium development.

The traffic light system has been defined as follows:

Red – Based on this high-level flood risk review, these sites are considered to have significant flood risk constraints and are considered unsuitable for development.

Amber – Based on this high-level flood risk review, these sites have some flood risk constraints, however it is considered these could potentially be overcome should development be progressed at the site.

Green – Based on this high-level flood risk review, these sites have limited/ no flood risk constraints and are considered suitable for further development.

Site Reference No.	Site Name	Flood Risk Constraints Summary	Comments on Feasibility for Built Development
1	Land East of Grenoble Road	• Northfield Brook (Main River) is located to the north-west of the site. • Significant proportion of the site area is located in Flood Zone 3. • Significant proportion of site area is at High/ Medium surface water flood risk. • No risk of reservoir flooding • Potential risk of groundwater flooding, however seasonal monitoring required to assess further. • Recorded flood event in 1993.	Significant flood risk constraints identified. Considered unsuitable for development from a flood risk perspective.
5	Land West of Marston	• Site located in Flood Zone 1. • Limited areas of High surface water flood risk and overland surface water flow route at the site. • Site is not located within predicted reservoir flooding extents. • Potential risk of groundwater flooding, however seasonal monitoring required to assess further. • No history of site flooding	Potentially feasible for development from a flood risk perspective, however likely challenges with management of surface water flood risk/ overland flow routing and existing watercourse/s at the site.
7	Land North of Thornhill Park & Ride	• Site located in Flood Zone 1. • Areas of Low surface water flood risk, and areas of Medium/ High surface water flood risk along eastern boundary.	Potentially feasible for development from a flood risk perspective, however likely challenges with management of surface water flood risk/ overland flow routing and

		• Site is not located within predicted reservoir flooding extents. • Potential risk of groundwater flooding, however seasonal monitoring required to assess further. • History of site flooding in 1993 & 1998.	existing watercourse/s at the site. Historic flood events have been noted in the SFRA.
9	Land Between the A40 & M40	• River Thame (Main River) is located to the north of the site. • North-western and north-eastern areas of the site are located in Flood Zones 3 and 2 respectively. • Very low surface water flood risk except along northern boundary, and limited area of Low flood risk in the eastern part of the site. • North-western and north-eastern areas of the site are located within predicted reservoir flooding extents. • Potential risk of groundwater flooding and ground conditions shown to be naturally wet with impeded drainage, however seasonal monitoring required to assess further. • Recorded flood event in north-eastern area of the site.	Potentially feasible for development from a flood risk perspective, however northern areas of the site are at risk of fluvial and reservoir flooding (historic flood event also recorded). The fluvial flooding extents would also increase into the site once climate change flood levels are taken into account. Furthermore, ground conditions suggest groundwater flooding/ waterlogging is potentially an issue at the site – likely due to close proximity to River Thame.
13	Pembroke College Sorts Ground and Land Adjoining	• Hogacre Ditch flows through the site, and the site is bounded by Hinksey Stream. Both are Main Rivers. • The full site is located in Flood Zone 3. • Areas of Low and Medium surface water flood risk within the site. • Site located within predicted reservoir flooding extents. • Groundwater flooding is possible as data suggests a high-water table in the area. Seasonal monitoring required to assess further. • There is a history of the site flooding in recorded major local flood events.	Significant flood risk constraints identified and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.
16	Burgess Hill	• Several watercourses located in close proximity to the site, including the River Thames (Main River).	Potentially feasible for development from a flood risk perspective, however given the site is predicted to be

		• The site itself is located in Flood Zone 1, although is surrounded by Flood Zone 3. • The site is at Very Low risk of surface water flooding. • The site itself is not located within predicted reservoir flooding extents, however flood mapping indicates predicted flood extents could surround and isolate the site. • Groundwater flooding is possible as data suggests a high-water table in the area. Seasonal monitoring required to assess further. • History of site flooding in 1947.	isolated by fluvial and reservoir flood extents, this introduces challenges for safe access/ egress of users in times of flood. Groundwater flooding is also possible based on the anticipated water table level and proximity to the River Thames.
31	Land near to the Science Centre, Culham	• Watercourse located along southern boundary of the site. • Southern extents of the site are located in Flood Zone 2. • Site at Very low surface water flood risk, with the exception of a limited area of Low surface water flood risk in southern area of site. • Site is not located within predicted reservoir flooding extents, although reservoir flood extents are located on the western side of the railway embankment which borders the western side of the site. • Potential risk of groundwater flooding, however seasonal monitoring required to assess further. • History of fluvial flooding having affected the site in the south-western corner of the site boundary.	Potentially feasible for development from a flood risk perspective, however south-western area of the site is at risk of fluvial flooding (historic flood event also recorded).
39	Land between the River Cherwell and Northern Bypass	• An existing watercourse passes through centre of site. • Central and eastern areas of the site are located in Flood Zone 2, and the eastern boundary of the site is located in Flood Zone 3. • Areas of High surface water flood risk through the central and northern areas of the site. • Site located within predicted reservoir flooding extents. • Groundwater flooding is possible as data suggests a	Significant flood risk constraints identified, including central areas of the site located within floodplain and predicted reservoir flooding extents. High surface water flood risk and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.

		high-water table in the area. Seasonal monitoring required to assess further. • Records of historic flood events at the site.	
14	Grandpont Recreational Outdoor Basketball Court	• Railway line located at the west boundary of site. • Located in Flood Zone 2. • Very low risk of surface water flooding. • Site is located within predicted reservoir flooding extents when there is also flooding from rivers. • Recorded incidents of groundwater flooding on the site. • Affected by historic flood events across the whole site area in 2000 and 2003. •	Significant flood risk constraints identified. Considered unsuitable for development from a flood risk perspective.
29	Land near to Marston	• B4150 junction from the A40 lies within site boundary. • Areas of the site located in Flood Zone 3 • Parts of the site at medium risk to surface water flooding. • Parts of the site predicted to flood due to reservoirs when there is flooding from rivers. • No recorded incidents of groundwater flooding. • Area of site close to river recorded to have been affected by floods in 1992, 1998 and 2003 and the entire site affected in 1947.	Potentially feasible for development from a flood risk perspective, however likely challenges with management of surface water flood risk.
35	Seacourt Park and Ride	• Site located in Flood Zone 3. • Site is at low risk of surface water flooding. • Site is in an area at risk of flooding from reservoirs. • No recorded incidents of groundwater flooding. • Historic flood events affected the site in 1977, 1992, 1993 and 2000.	Significant flood risk constraints identified. Considered unsuitable for development from a flood risk perspective.
36	Oxpens	• River Thames bounds the south of site. • Part of the site located in Flood Zone 3. • Low risk of flooding from surface water. • Some areas of the site are predicted to flood due to reservoirs.	Significant flood risk constraints identified and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.

		• No recorded incidents of flooding due to groundwater. • Historic flood events recorded to have affected the site in 1947, 1977, 1979 and 1993.	
37	Fastwyke Farm	• River Thames bounds the East of the site. • Site located within Flood Zone 3. • At low risk of surface water flooding. • Located in an area predicted to flood from reservoirs. • Two recorded incidents of groundwater flooding close to site. • Site affected by 7 historic flood events.	Significant flood risk constraints identified and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.
38	Land adjacent to Binsey Lane	• Botley Stream runs through the site. • Located in Flood Zone 3. • Areas of the site at low risk of surface water flooding. • Located in an area predicted to flood from reservoirs. • No recorded incidents of groundwater flooding. • Site affected by 6 historic flooding events.	Significant flood risk constraints identified and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.
42	Medley Manor Farm, Botley	• River Thames bounds the East of the site. • Located in Flood Zone 3. • At a very low risk of flooding due to surface water • Located in an area at risk of flooding due to reservoirs. • No recorded incidents of groundwater flooding. • Site affected by 7 historic flood events and located in an area that shows 'regular inundation' to flood events	Significant flood risk constraints identified and likely challenges with management of existing watercourse/s at the site. Considered unsuitable for development from a flood risk perspective.

RIDGE

www.ridge.co.uk

Appendix 9:
OUFC Letter

Ridge and Partners
The Cowyards,
Blenheim Park,
Oxford Rd,
Woodstock OX20 1QR

Dear Mr Brockbank

Re: Land at Horspath Road as a potential location for a new stadium:
I write to confirm the current ownership and status of the land at Horspath Road, Oxford. This land is not owned by Oxford United Football Club. The site is owned by and was developed on behalf of Oxford City Council by Fusion Lifestyle. Fusion entered into an agreement with the City Council to facilitate the development and operation of a Sports Park with community use, under the terms of a 25-year lease, development and operation agreement to ensure the site was used for this purpose until at least 2043.

The lease and operation obligations of the agreement were novated to the club. The site ownership remains with Oxford City Council and the Club is a tenant. Under the terms of the agreements, the permitted use for the site continues to be for the use and operation of a Sports Park including for community uses. The site is comprised of over 8 grass pitches, 8 synthetic pitches, 2 cricket pitches a training centre including gym and education facilities and a sports pavilion. It is used for training facilities for Oxford United's men's and women's first teams together with our youth academy and development squads and community sports. Oxford United is responsible for the operation of the Sports Park and has rights as a tenant only for the remainder of the agreements until 2043. The agreements do not allow nor permit the site to be used for the development of a professional sports stadium.

Kind regards,

Tim Williams
Chief Executive Officer
Oxford United Football Club

Appendix 10:
Oxford Quins Letter

Marsh Lane
Marston
Oxford
OX3 0NQ
Tel: 01865 744493
club@oxcityfc.co.uk

Giles Brockbank,
Ridge & Partners,
The Cowyards, Blenheim Park,
Oxford Rd, Bladon,
Woodstock
OX20 1QR

22nd August 2023.

Good Morning Giles,

Further to our conversation, I am listing below the reasons why it would be impossible for Oxford City FC & Oxford United FC to share the facilities at Court Place Farm.

This was discussed by our Board and Daryl Eales about 6 years ago before we installed the 3G playing surface. But it was agreed that it wasn't an option.

1. Our stadium currently holds a maximum of 3500 supporters and that is not comfortable for anybody. Oxford United would need a stadium for 14000 people which is a big jump in numbers.
2. The capacity could be extended with larger stands but we have a height covenant in place with Elsfield village. When we wanted to install a 2-storey building a few years ago, we were refused on the grounds of the height of the building. We were informed that only a single storey building would be permitted.
3. The playing surface is currently a 3G pitch and this will need to be replaced with grass to meet the Football League regulations, if Oxford United were to play their games on it. The cost of replacing the surface is about £500k.
4. If a new grass pitch was laid, it would be very difficult to manage it to the standard required for the Football league. The reason we laid a 3G pitch was because the surface was very boggy in the winter and a hard dust bowl in the summer. The stadium is laid on a marsh and isnt ideal for a professional grass pitch.
5. Parking is very difficult in the Marston area. We have a car park for about 100 cars. The school allows us to use their car park which gives us another 100 spaces. The Showmans field opposite our stadium is owned by the Town Council but this is out of action for many months of year due to the boggy land. This would only give another 200 spaces unless a multi storey car park was built on it. The Marston area is residents parking only, and the JR hospital has big parking problems in the area already.
6. Road access to Court Place Farm is good as it is on the ring road. But the flyover junction would be problematic on matchday. There would be a stream of vehicles on the A40 waiting to access the slip roads and would cause congestion for through traffic.
7. Buses do run to Marsh Lane but could they cope with the numbers? If the stadium was near a railway line it would be easier to get supporters in and out of the town.
8. There are not many bars or food outlets in the Marston area to cope with the number of people arriving on matchdays.
9. Court Place Farm is used by the Oxford City Youth and also Disabled teams for their matches and training. We have 39 teams this year. We also have a netball facility which is a central venue for Oxfordshire. If City & United were to groundshare this would affect the existing usage of the site and could mean that the youth teams and disabled teams would lose playing time. We have to remember that this is currently a community facility providing sport for over 1000 local residents every week.

In conclusion, the Marsh Lane site is not an option for a groundshare arrangement with Oxford United. We are very happy to work with United for their Academy and Ladies team just as we have done for the last 6 years. It is a great relationship and hopefully it will continue in the future.

Yours sincerely,

Paul Lyon,
Director.
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Appendix 11:
Oxford City Football Club Letter

Affiliated to:
The Rugby Union and Oxfordshire Rugby Union

OXFORD QUINS RFC

Ground:
Horspath Sports Ground, Oxford Road
Horspath, Oxford. OX4 2RR

16 August 2023

Mr Niall McWilliams
Oxford United FC
Kassam Stadium
Grenoble Road
Oxford
OX4 4XP

Dear Mr McWillliams,

Thank you for your time today, it was appreciated.

In relation to your enquiry about the possibility of Oxford United Football Club building a stadium on this land, I would like to make the following points:

- Public transport links into our site are virtually non-existent, therefore everyone has to travel by car. Consequently this site would not be able to cope with the traffic associated with a professional football match;
- The site is heavily used by multiple sports not just the rugby club, other sports include Softball and Gaelic. It would be virtually impossible to find an alternative site for all sports clubs or share the site were the football stadium to be built at our ground;
- There is one access road into and from our site, leading to a small village, consequently this is another inhibiting factor;
- It is also worth noting that the site sits within the remit of the Oxford Preservation Trust who as a stakeholder would have an interest in any development of this nature on the site.

Finally, for the avoidance of doubt, it is clearly not possible to even contemplate building a stadium on our site.

Yours sincerely,

Jack Pooler
Chair
Oxford Quins RFC

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