



## PRELIMINARY RISK ASSESSMENT REPORT UNIT 1, OXFORD NORTH, SYMMETRY PARK, OXFORDSHIRE

**TE1585-TE-00-XX-RP-GE-001-V02**

**VERSION 3.0**

**26 NOVEMBER 2021**

**FINAL**

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## EXECUTIVE SUMMARY

<b>Introduction</b>	Tier Environmental Ltd was commissioned by Tritax Symmetry Ltd to undertake a Preliminary Risk Assessment of the proposed erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure at land between M40 Junction 9 and A41, Little Chesterton, Bicester, Oxfordshire, OX25 3PD. The purpose of this investigation was to establish land use history and review the available information to determine the geo-environmental setting of the Site and develop a preliminary conceptual site model with due consideration of potential soil and groundwater contamination, hazardous ground gases and mining.
<b>Proposed land use</b>	The proposed development will comprise the erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: security gate house; a building for use as an energy centre; loading bays; service yard; waste management area; external plant; vehicle parking; landscaping (including permanent landscaped mounds); and sustainable drainage. The existing agricultural buildings within the red line boundary will be demolished and the existing watercourse (Wendlebury Brook) will be realigned.
<b>Site location and surrounding land uses</b>	Land between M40 Junction 9 and A41, Grange Farm, Little Chesterton, Bicester, Oxfordshire, OX25 3PD. The boundary of the Site fronts the A41 road and extends across several open fields that are currently in agricultural use. There are a number of buildings in agricultural or commercial use located in the north-east part of the Site. There is an area of localised hardstanding extending from an access gate along the southern boundary with the A41. The eastern extent of the Site is defined by field boundaries and hedgerows, the Grange Farm Industrial Estate, and Lower Grange Farm. The Wendlebury Brook defines the western edge of the Site, flowing from north to south towards a small area of woodland, where its course then changes to flow east across the Site, before passing under the A41. Generally, ground levels fall from north to southeast, from approximately 77.50m AOD to approximately 64.00m AOD. Fields within the Site are enclosed by hedgerows having few associated mature trees. The arable use offers negligible ecological value. A site survey has found the agricultural land to be of moderate quality (Grade 3b), which is not categorised as the best and most versatile.
<b>Site history</b>	The site has been agricultural land for well over 120 years. There has been little change on site except for recent outbuildings to the north of the site adjacent to Grange Farm circa 2009. An area of Made Ground/Access Road to the south off the A41.
<b>Geology, Hydrogeology and Hydrology</b>	The geology of the site is as follows: <u>Superficial Deposits and Aquifer Designation</u> <ul style="list-style-type: none"> <li>River Terrace Deposit – Sand and Gravel (Northern part of the main centre) (Secondary A Aquifer)</li> <li>Alluvium – Sandy Gravelly Clay (Either side of brook and eastern part of site) (Secondary A Aquifer)</li> </ul> <u>Bedrock Deposits</u> <ul style="list-style-type: none"> <li>Peterborough Mudstone Member (Unproductive Aquifer)</li> <li>Kellaways Sand Member (Sandstone and Siltstone) (can be interbedded) (Secondary A Aquifer)</li> <li>Kellaways Clay Member (Mudstone) (Unproductive Aquifer)</li> <li>Extreme North Only Cornbrash Formation Limestone (Secondary A Aquifer)</li> </ul> The site is not located within a Source Protection Zone and there are no licenced groundwater abstractions within 500m of site. The site has an unnamed brook which originates to the NW offsite beyond the M40 motorway and travels parallel to the M40 to the Ancient Woodland adjacent west. The brook then flows eastwards across the southern half of the site and exits beneath the A41 to the extreme east of the site. Groundwater flow is limited by geology and the topography indicates that the surface water flow will be towards the brook. On this basis the controlled waters sensitivity is regarded as being moderate.
<b>Ground Gases</b>	Confirmatory ground gas monitoring to be undertaken.
<b>Radon Requirements</b>	Basic radon protection measures are not currently required for the proposed development on this Site.
<b>Potential contaminative features</b>	There is only the potential for Made Ground and potential contaminants of concern around the access road to the south of the site off the A41 and the outbuildings to the north of the site adjacent to Grange Farm.
<b>Mining and quarrying</b>	The Site is not located within a mining area or an area subject to historic quarrying.
<b>Unexploded Ordnance</b>	Low risk.



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<b>Other issues</b>	Potential ecological and archaeological risks to consider in the vicinity of the Site include the watercourses, Ancient Woodland and a Roman settlement. Consideration of these should be undertaken before a ground investigation or works are undertaken.
<b>Waste Soils Classification</b>	Based on the history of the Site and the anticipated potential contaminants of concern it is considered unlikely that hazardous waste soil materials may be present beneath most of the Site; however, this will be subject to confirmatory investigation, sampling, laboratory analysis and waste classification in accordance with the Guidance on the Classification and Assessment of Waste (WM3).
<b>Materials re-use</b>	Subject to volumetric fill requirements and a future assessment of suitability of re-use (both chemically and geotechnically), some materials <i>may</i> be considered for potential re-use in line with an appropriate end-of-waste protocol such as WRAP Quality Protocol for Aggregates from Inert Waste, U1 Exemption or a Materials Management Plan in accordance with the CL:AIRE Definition of Waste Code of Practice (DoWCoP).
<b>Further works</b>	Undertake a baseline ground investigation to determine geo-environmental and geotechnical parameters within potential ecological and archaeological constraints.



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## 1 INTRODUCTION

Tier Environmental Ltd was commissioned by Tritax Symmetry Ltd to undertake a Land Contamination Risk Management (LCRM) Preliminary Risk Assessment for an area of land referred to as Unit 1, Oxford North Symmetry Park, located at land between M40 Junction 9 and the A41, Little Chesterton, Bicester, Oxfordshire, OX25 3PD (the "Site").

The full title of this report, a '*Stage 1 - LCRM Tier 1 Preliminary Risk Assessment Report*', is in accordance with that described in the Land Contamination Risk Management guidance (available at <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>) which has superseded CLR 11.

### 1.1 Proposed Development

The proposed development will comprise the erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: security gate house; a building for use as an energy centre; loading bays; service yard; waste management area; external plant; vehicle parking; landscaping (including permanent landscaped mounds); and sustainable drainage. The existing agricultural buildings within the red line boundary will be demolished and the existing watercourse (Wendlebury Brook) will be realigned.

As such, in accordance with the '*Updated technical background to the CLEA model*' (Environment Agency, 2009) and '*Suitable 4 Use Levels*' (LQM / CIEH 2015) the proposed generic land use for this development is a commercial/industrial site end use.

**Figure 1.1 Proposed Development Layout Plan**







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## 1.2 Previous Reports

There are no previous pertinent reports pertaining to this Site that have been made available.

## 1.3 Objectives

Taking into account the proposed development of the Site, the objectives of this appraisal were:

- To determine the historical and current land use.
- To establish the environmental setting of the Site.
- To evaluate whether past mining or other extractive industries could have an influence on the Site.
- To determine likely ground and groundwater conditions.
- To determine the potential risks to human health and the wider environment.
- To determine potential risks posed to the Site from hazardous ground gases and / or vapours.
- To derive a Preliminary Conceptual Site Model.

## 1.4 Assumptions

The following assumptions are made in this report:

- It is assumed that ground levels will not change significantly from those described in this report or as shown on proposed development drawings. If this is not the case, then amendments to the recommendations made in this report may be required.
- Any references to observations of suspected asbestos-containing materials are for information only and should be verified by a suitably qualified asbestos specialist and/or confirmed by laboratory analysis.
- The use of the term 'Topsoil' within this report is based on a visual identification only and that these materials have not been classified in accordance with BS3882:2015.
- The use of the terms 'shallow' and 'deep' within this report assume *typically* between ground level to circa 5.00m below ground level (bgl) for 'shallow' and greater than 5.00m bgl regarded as 'deep';
- The comments and opinions presented in this report are based on the findings of the desk study performed by Tier Environmental. There may be other conditions prevailing on the Site which have not been revealed by this assessment and which have not been taken into account by this report at this stage.
- Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of the findings is conjectural and given for guidance only. Confirmation of ground conditions should be undertaken if deemed necessary.

This report has been prepared for the sole use of Tritax Symmetry Ltd. No other third party may rely upon or reproduce the contents of this report without the written approval of Tier Environmental. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk and the authors do not owe them any Duty of Care or Skill.



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## 2 SITE DETAILS AND DESCRIPTION

**Table 2.1 Current Site Overview.**

<b>Site name</b>	Oxford North, Symmetry Park
<b>Site address</b>	Land between M40 Junction 9 and A41, Grange Farm, Little Chesterton, Bicester, Oxfordshire, OX25 3PD. A site location plan is included as Drawing No. TE1585-TE-00-XX-DR-GE-001-V01 within Appendix A.
<b>National Grid Reference (NGR)</b>	455415, 219774
<b>Approximate Site area</b>	19.353Ha
<b>Site shape</b>	The site is rectangular in shape centrally with corridors of land extending to the north, west and east.
<b>Current land use on the Site</b>	<p>Land between M40 Junction 9 and A41, Grange Farm, Little Chesterton, Bicester, Oxfordshire, OX25 3PD.</p> <p>The boundary of the Site fronts the A41 road and extends across several open fields that are currently in agricultural use. There are a number of buildings in agricultural or commercial use located in the north-east part of the Site. There is an area of localised hardstanding extending from an access gate along the southern boundary with the A41.</p> <p>The eastern extent of the Site is defined by field boundaries and hedgerows, the Grange Farm Industrial Estate, and Lower Grange Farm. The Wendlebury Brook defines the western edge of the Site, flowing from north to south towards a small area of woodland, where its course then changes to flow east across the Site, before passing under the A41.</p> <p>Generally, ground levels fall from north to southeast, from approximately 77.50m AOD to approximately 64.00m AOD.</p> <p>Fields within the Site are enclosed by hedgerows having few associated mature trees. The arable use offers negligible ecological value. A site survey has found the agricultural land to be of moderate quality (Grade 3b), which is not categorised as the best and most versatile.</p>
<b>Surrounding land uses</b>	<p>The site is primarily agricultural land with Grange Farm along the northern/northeast border with associated farm buildings.</p> <p>The western boundary is defined by agricultural land, a brook, woods with a pond and the M40 motorway beyond.</p> <p>The southern boundary is defined by the A41 road with agricultural land and the village of Wendlebury beyond. A graveyard is approximately 60-80 metres beyond the southern (eastern end) boundary.</p> <p>The eastern boundary is defined by hedgerows, Grange Farm, agricultural fields and the hamlet of Little Chesterton.</p> <p>The northern boundary is defined by agricultural fields.</p>
<b>General topography and ground levels</b>	<p>Generally, ground levels fall from north to southeast, from approximately 77.50m AOD to approximately 64.00m AOD.</p> <p>The site is lower than the A41 to the south.</p> <p>Access to the Site is via the A41 to the south or Grange Farm to the northeast.</p>

An aerial photograph (from the Groundsure report) of the Site and site boundary is shown below.



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**Figure 2.1 Recent Aerial Photograph from Groundsure**





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### **3 SITE HISTORY**

#### **3.1 Site History Review**

Extracts of Ordnance Survey (OS) plans dated from 1875 to 2021 were reviewed. These were obtained as part of the Groundsure report for the Site, which is presented in Appendix B.

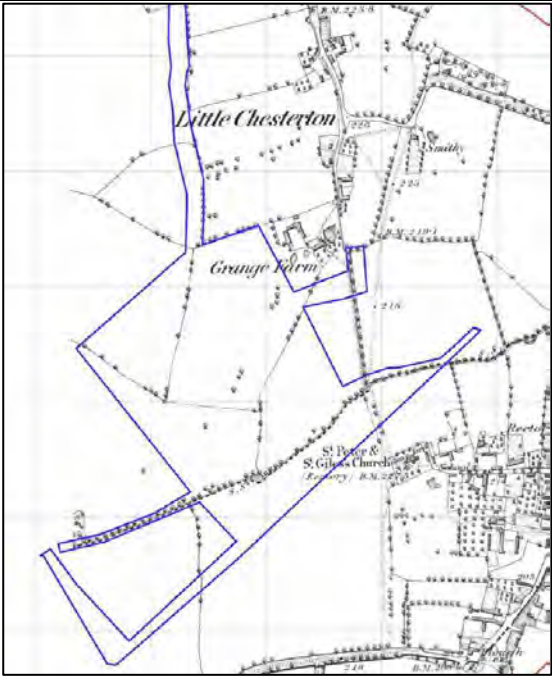
Table 3.1 below presents a summary of the main aspects of the Site relevant to the current and proposed future end uses. It is not the intention of this report to describe in detail all of the changes that have occurred on or adjacent to the Site, where these are not relevant to the land use.



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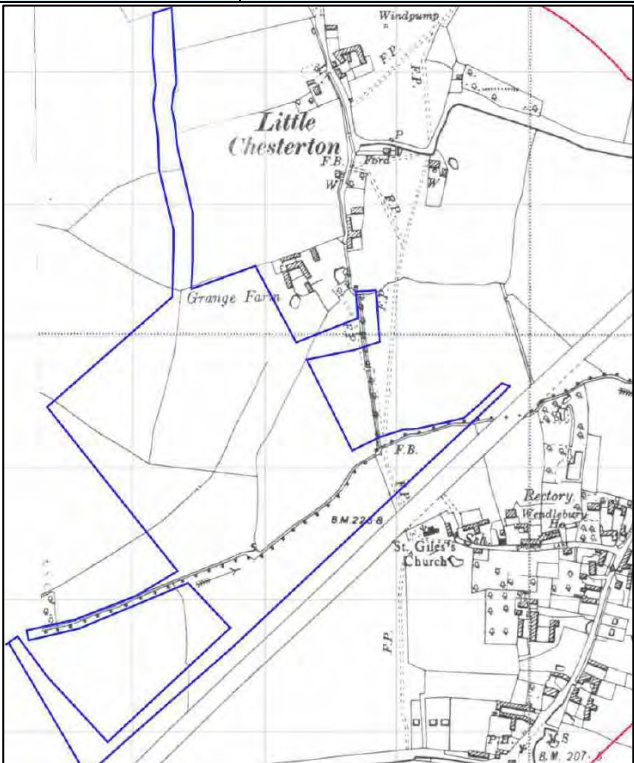
**Table 3.1 Site History.**

Time Period	On-Site features	Off-Site features
1875-1949	 <p style="text-align: center;"><b>1880</b></p>	
	<ul style="list-style-type: none"> <li>Field boundaries with trees and agricultural land with no significant changes from earliest map until 1955</li> </ul>	<ul style="list-style-type: none"> <li>Grange Farm adjacent to the northeast, still present</li> <li>Pond and wood adjacent to the southwest, still present</li> <li>65m south is St Giles Church and the village of Wendlebury, still present</li> </ul>



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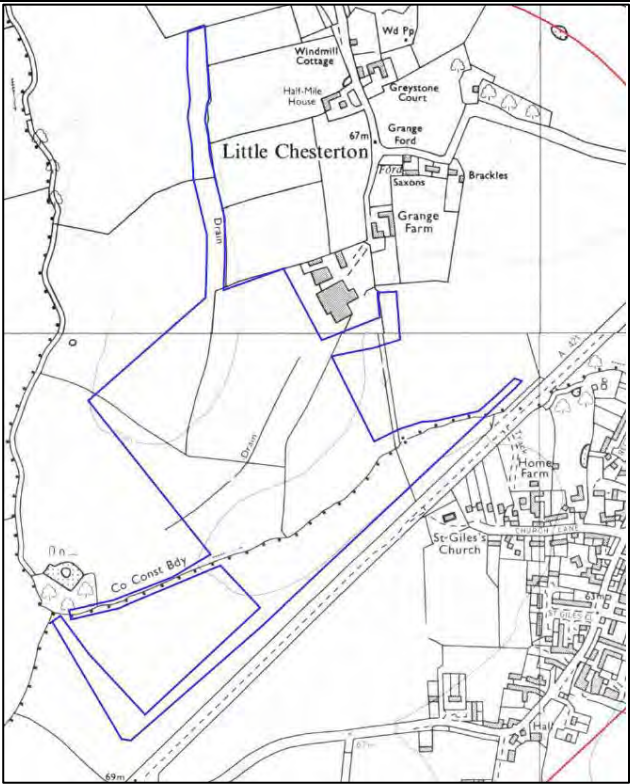
Time Period	On-Site features	Off-Site features
1950-1984		
	<ul style="list-style-type: none"> <li>No significant changes identified</li> </ul>	<ul style="list-style-type: none"> <li>The A421 bypass has appeared along the boundary (assumed single lanes)</li> </ul>





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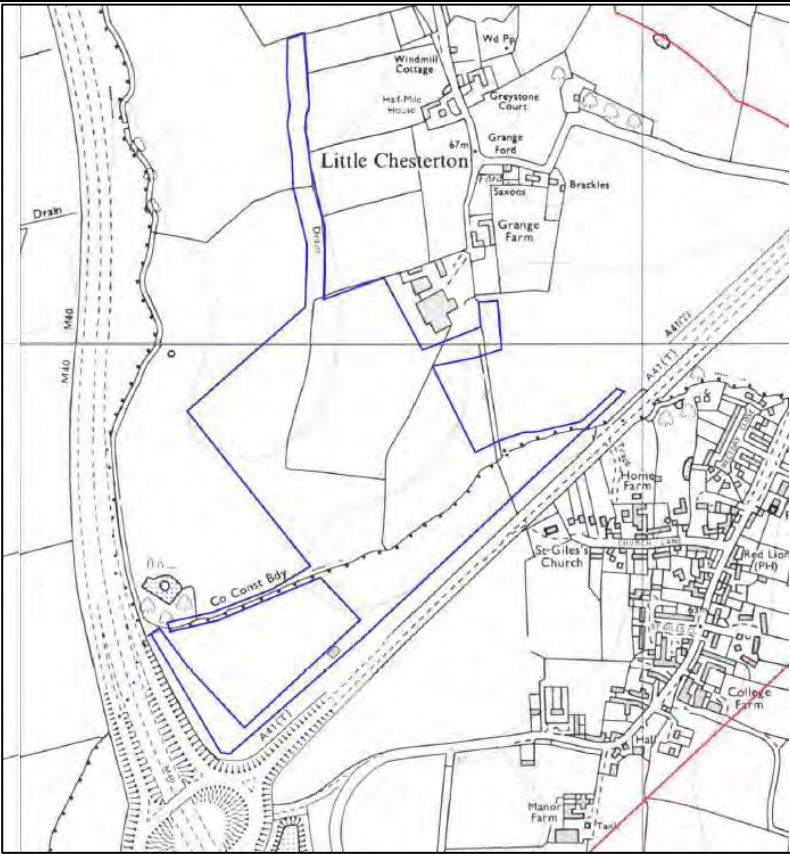
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Time Period	On-Site features	Off-Site features
1985-1992	 <p style="text-align: center;"><b>1985</b></p> <ul style="list-style-type: none"> <li>Two features identified as drains, centrally (no longer shown in 1992-95) and along the field boundary to the north (no longer shown by 2001).</li> </ul>	
		<ul style="list-style-type: none"> <li>No significant changes identified</li> </ul>



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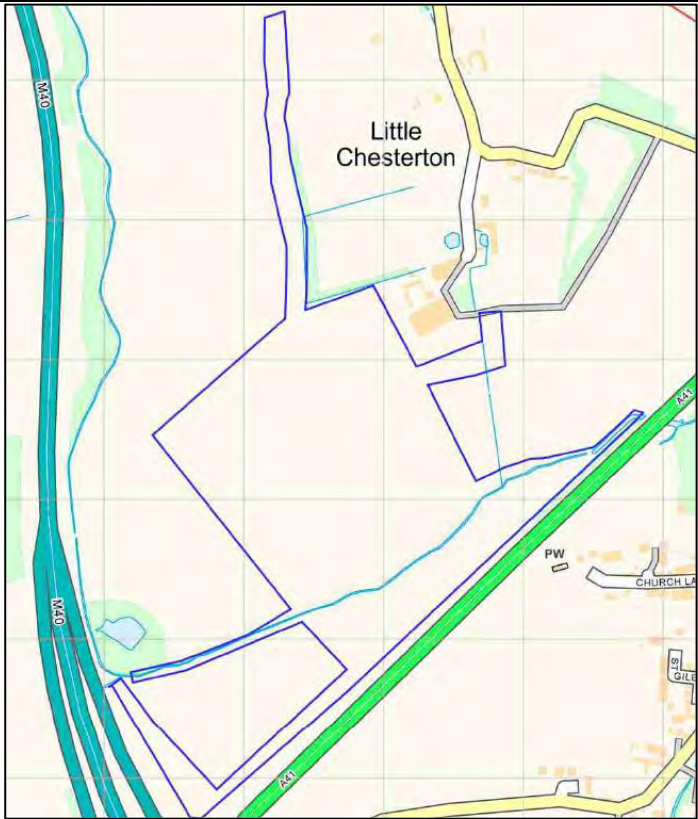
Time Period	On-Site features	Off-Site features
1992-2001	 <p style="text-align: center;"><b>1992-1995</b></p>	
	<ul style="list-style-type: none"> <li>Unidentified building on the southern boundary (no longer shown by 2004).</li> <li>The brook course has been altered on the eastern boundary with the A41 by 2001.</li> </ul>	<ul style="list-style-type: none"> <li>The M40 and Junction 9 has been constructed (1992-1993) and the A421 has been converted to two lanes and now known as the A41.</li> </ul>





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Time Period	On-Site features	Off-Site features
2001-2021	 <p style="text-align: center;"><b>2021</b></p>	
	<ul style="list-style-type: none"> <li>• Circa 2006 an access road is constructed into the site from the A41 and is still present, uncertain usage.</li> <li>• A number of outbuildings are constructed in the northwest corner adjacent to Grange Farm circa 2009-2013 (Google Earth), still present.</li> </ul>	<ul style="list-style-type: none"> <li>• No significant changes.</li> </ul>



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### 3.2 Preliminary Unexploded Ordnance Risk Assessment

A review of available literature shows that there was one air-raid in August 1940 between Chesterton and Weston-on-Green. A review of the area shows there was an airfield to the northwest of the site. It is concluded that this was the target for the air raid.

**Table 3.2 Preliminary UXO Risk Assessment.**

	Yes/no	Comments
Is the Site indicated to have been directly bombed?	No	The likely target was the RAF airbase 965m northwest of the site.
Is the site within an area recorded to have been bombed?	No	
Could the site have been a high-risk target?	No	
Any development cycles since 1945?	No	
Mitigating Factors	Yes	Shallow bedrock and that it is likely a farmer would have noticed an impact crater.
Preliminary assessment of UXO Risk	Very Low	No direct evidence that the site was hit or suspected of having Allied munitions stored on site.
Further works?	No	

### 3.3 Archaeological Constraints

A review of the historical maps indicates that to the east and northeast of Wendlebury (approx. 800m) is a Roman Archaeological site and consideration to the possibility of potential archaeological interest in this area is a possibility. An independent preliminary archaeological risk assessment may be required to mitigate any potential risk or planning requirement.



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## 4 ENVIRONMENTAL SETTING

### 4.1 Geology

Table 4.1 Geological Summary.

<b>Maps and publications referenced</b>	Groundsure, BGS Portal and Google Earth
<b>Made ground / artificial ground</b>	The Site is not shown to be located within an area of artificial ground according to the Groundsure report. Given the history of development on the Site, the presence of Made Ground is anticipated to be located in entrances to farm fields and small access road from the A41 to the south.
<b>Drift geology</b>	<p>The superficial deposits are limited to two areas on site, along the brook and to the northern end of the rectangle as follows:</p> <ul style="list-style-type: none"><li>• River Terrace Deposit – Sand and Gravel (Northern part of the main centre)</li><li>• Alluvium – Sandy Gravelly Clay (Either side of brook and eastern part of site)</li></ul> <p>There are no recorded superficial deposits between these deposits.</p>
<b>Solid geology</b>	<p>The bedrock geology comprises the following:</p> <ul style="list-style-type: none"><li>• Peterborough Mudstone Member</li><li>• Kellaways Sand Member (Sandstone and Siltstone) (can be interbedded)</li><li>• Kellaways Clay Member (Mudstone)</li><li>• Extreme North Only Cornbrash Formation Limestone</li></ul>
<b>Dip of solid strata</b>	The BGS maps indicate the bedding to be dipping to the north east north with no discernible dip reading locally.
<b>Faults</b>	There is a Faultline transecting west to east approximately in line with the brook.
<b>Coal seams</b>	The area is not within a geological area with a coal mining risk or coal seams.

### 4.2 Mining and Quarrying

Table 4.2 Coal Mining Activities.

	Yes/No	Comments
Is the Site in an area of potential shallow coal workings?	No	
Is the Site in a high risk development area?	No	
Are there any known shafts, adits, tips, lagoons, or opencast workings likely to affect the Site?	No	None identified other than cuttings for the M40 in the early 1990s.
Is exploratory work required to investigate the potential risk from shallow mining or quarrying?	No	



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**Table 4.3 Other Extractive Industries.**

	Yes/No	Comments
<b>Superficial drift deposits</b>		
Evidence of extraction on or within 250 m of the Site?	Yes	Gravel pit 149m SE.
Action required?	No	
<b>Solid Strata</b>		
Any evidence of mineral extraction on or within 250 m of the Site?	No	
Action required?	No	

Other, undocumented mineral workings on or close to the Site cannot be completely dismissed.

## 4.3 Hydrogeology

**Table 4.4 Groundwater Occurrence and Abstraction.**

	Presence/location	Comments
Environment Agency aquifer designation – Superficial Deposits	Yes	Both the Alluvium and River Terrace Deposits on site have Secondary A Aquifer status.
Environment Agency aquifer designation – Bedrock	Across the site	The Kellaway Sand Member is classed as a Secondary A Aquifer. The Cornbrash Member (Limestone) is classed as a Secondary A Aquifer. All other formations are classed as unproductive.
Groundwater vulnerability	Yes	Superficial Vulnerability is classed as secondary superficial aquifer with medium vulnerability. Bedrock Vulnerability is classed as a secondary bedrock aquifer with high vulnerability
Groundwater vulnerability – soluble rock risk	Yes, limited to the north	Cornbrash Limestone is identified as a possible soluble rock which are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally but may be possible in adverse conditions such as high surface or subsurface waterflow.
Anticipated groundwater depth(s)	Centrally only – Alluvial Deposits and shallow bedrock	Shallow within the subsoil/weathered layer and shallow groundwater expected in the Kellaway Sand Member at circa 1.00 to 2.00m bgl.
Direction of flow	Towards the brook and then west to east	The topography indicates the flow to the brook and then the flow direction is from west to east.
Current licensed abstractions – potable	No	No potable abstractions within 1000m of site or surface water abstractions within 500m of site.
Current licensed abstractions – non-potable	Three 113m SE, 478m SE and 570m NE	All stated as historical and for farming, no end dates recorded.
Private wells	NR	
Source Protection Zones	NR	
Springs	Yes	The nearest spring is approximately 215m northeast of the northern boundary.

NR - none recorded.

For definition of Source Protection Zones, see Appendix D.



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## 4.4 Hydrology

Table 4.5 Surface Water Features.

	Presence/location	Comments
Nearest surface water feature	On site	Unnamed watercourse all year round in normal circumstances, less than 5m wider.
Other surface water features	Adjacent west	Continuation of the unnamed watercourse to the north.
Canals, ponds, lakes, etc.	10m northwest 138m south 238m east	Large pond in the woods A large pond beyond the A41 at similar AOD level. Small farm ponds near the road beyond some cottages.
Water Framework Directive (WFD) Surface water body catchments	On site	Part of River Wide Basin – Cherwell and Ray Langford Brook – Bicester to Ray
Water Framework Directive (WFD) Groundwater Bodies	On site	Bicester-Otmoor Cornbrash (ID GB40602G600800) ratings from 2015 Overall Rating – Good Chemical Rating – Good Quantitative – Good
Licensed surface water abstractions		
Surface run-off and Site drainage	Yes	There are recorded drains from the 1980s on site centrally, it is assumed that all surface and groundwater drainage flows towards the unnamed brook that is located on site.

NR - none recorded. Environment Agency GQA assessments: A = very good to E = poor

## 4.5 Flood Risk Summary

Table 4.6 below represents a summary of the flood risk data contained within the Groundsure report obtained for the Site. A separate flood risk assessment report has been produced to support the planning application.

Table 4.6 Flood Risk Summary

	Presence/location	Comments
Risk of Flooding from Rivers and Sea (RoFRaS)	On site	High risk along the course of Wendlebury Brook (greater than or equal to 1 in 30 chance).
Historical Flood Events	222m SE	Channel capacity exceeded (no raised defences) in June 2008
Flood Defences	NR	
Areas Benefiting from Flood Defences	NR	
Flood Storage Areas	NR	
Records of Flood Zone 2	On site along Wendlebury Brook	The fields to the north of the brook, predominantly centrally and on the eastern part of the site
Records of Flood Zone 3	On site	Along Wendlebury Brook
Surface water flooding	On site adjacent to the brook	Surrounding the brook, varying degrees of flooding modelled – see Section 8 of Groundsure report for full map and details.



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	Presence/location	Comments
<b>Groundwater flooding</b>	On site limited to superficial deposits	Groundwater flooding maps corresponds with the superficial Alluvial and River Terrace Deposits.

NR - none recorded

## 4.6 Environmental Designations

Table 4.7 Summary of Environmental Designations.

	Presence/location	Comments
<b>Sites of Special Scientific Interest (SSSI)</b>	NR	Within 250m.
<b>Conserved wetland sites (Ramsar sites)</b>	NR	
<b>Special Areas of Conservation (SAC)</b>	NR	
<b>Special Protection Areas (SPA)</b>	NR	
<b>National Nature Reserves (NNR)</b>	NR	
<b>Local Nature Reserves (LNR)</b>	NR	
<b>Designated Ancient Woodland</b>	On site/adjacent west	The woods around the pond on the west are designated as Ancient Woodland and Semi-Natural Woodland
<b>Biosphere Reserves</b>	NR	
<b>Forest Parks</b>	NR	
<b>Marine Conservation Zones</b>	NR	
<b>Green Belt</b>	NR	Within 250m.
<b>Proposed Ramsar sites</b>	NR	
<b>Possible Special Areas of Conservation (pSAC)</b>	NR	
<b>Potential Special Protection Areas (pSPA)</b>	NR	
<b>Nitrate Sensitive Areas</b>	NR	
<b>Nitrate Vulnerable Zones</b>	On site	Unnamed brook on site

NR - none recorded

## 4.7 Landfill and Waste Management Activity

Table 4.8 Waste Management Activities.

	Presence/location	Comments
<b>Active or recent landfill</b>	NR	Within 500m.
<b>Historical landfill (BGS records)</b>	NR	Within 500m.
<b>Historical landfill (LA/mapping records)</b>	NR	Within 500m.
<b>Historical landfill (EA/NRW records)</b>	NR	Within 500m.
<b>Historical waste sites</b>	NR	Within 500m.



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	Presence/location	Comments
<b>Licensed waste sites</b>	192m southwest  320m southeast	Licensed to Premier Site Landfill & Restoration for Weston Park Farm Annual Tonnage 1010, expired 2001.  Licensed to Premier Site Landfill & Restoration for Manor Farm Annual Tonnage 2015 expired 2001
<b>Waste exemptions</b>	62m northeast and 125m north	Associated with the Old Piggery Grange Farm for spreading waste on agricultural land to confer benefit, dredging of inland waters, construction waste and storage of waste in a secure place.
<b>Evidence of other landfilling or potential infilling on or within 250m of Site</b>	On site to the south and northeast corner of main rectangle	There is no evidence of infilling on site, however the access point and hard-standing area from the A41 to the south has the possibility of being infilled to level the ground to create access. There is also possibility of additional Made Ground to the west of this access ground based on aerial photography from the late 2000s.  Additionally, the farm buildings in the northeast corner of the site could potentially have waste produced on site used to construct the outbuildings.
<b>Walkover evidence of fly-tipping on Site?</b>	No	
<b>Is a landfill/ground gas risk assessment required?</b>	No	There are no significant sources of ground gas on site. It is likely that due to the anticipated levels, that any alluvial deposits and/or Made Ground is to be reuse on site to facilitate the finished levels and drainage. To be confirmed.

NR - none recorded

## 4.8 Local Industrial Land Uses

Other potentially contaminative activities are shown in Table 4.9 below with those features considered pertinent to the conceptual site model highlighted in **bold**. The entries relate to activities within *circa* 250 m of the Site, with the exception of COMAH facilities where the assessment is extended to a distance of *circa* 500m from the Site.

**Table 4.9 Other Potentially Contaminative Processes in the Locality**

	Location	Comments
<b>Recent industrial land uses</b>	38m at Grange Farm 41m at Grange Farm 52m SE Electrical sub-station	Vehicle repair, testing and servicing. Haynes Vehicle repair, testing and servicing. West Oxford Other side of A41
<b>Current or recent petrol stations</b>	NR	
<b>Electricity cables</b>	NR	
<b>Gas pipelines</b>	NR	
<b>Sites determined as Contaminated Land</b>	NR	
<b>Control of Major Accident Hazards (COMAH)</b>	NR	
<b>Regulated explosive sites</b>	NR	
<b>Hazardous substance storage/usage</b>	NR	
<b>Historical licensed industrial activities (IPC)</b>	NR	



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	Location	Comments
Licensed industrial activities (Part A(1))	NR	
Licensed pollutant release (Part A(2)/B)	NR	
Radioactive Substance Authorisations	NR	
Licensed Discharges to controlled waters	On site	Historical effluent sewer discharges, revoked 1997
Pollutant release to surface waters (Red List)	NR	
Pollutant release to public sewer	NR	
List 1 Dangerous Substances	NR	
List 2 Dangerous Substances	NR	
Pollution Incidents (EA/NRW)	On site	2 incidents with oils and fuels 27/07/2002 and 13/08/2002. No impacts, except minor impact
Pollution inventory substances	NR	
Pollution inventory waste transfers	NR	
Pollution inventory radioactive waste	NR	

NR - none recorded

COMAH – Control of Major Accident Hazards (regulations); NIHHS – Notification of Installations Handling Hazardous Substances (regulations)

## 4.9 Radon Risk

Table 4.10 Radon Risk Status.

	Comments
Estimated properties affected	Less than 1%
Radon Protection Measures required?	No radon ground gas protection measures required.

## 4.10 Waste Classification and Materials Re-Use

If the Site is to be redeveloped and materials are disposed off Site, the material exported from the Site to landfill should be hauled by a register waste character in accordance with Duty of Care Regulations 1991 and the Hazardous Waste Regulations 2005.

Based on the history of the Site and the anticipated potential contaminants of concern, it is considered unlikely that hazardous waste soil materials would be present beneath of the Site; however, this will be subject to confirmatory investigation, sampling, laboratory analysis and waste classification in accordance with the Guidance on the Classification and Assessment of Waste (WM3).

It will be necessary to register the Site in advance of the intended reclamation works with the Environment Agency before disposal to landfill can take place. There will be a requirement for the waste producer to provide appropriate Waste Acceptance Criteria (WAC) testing of the Soils for disposal to ensure that the soils are appropriately classified and that the landfill is licensed to receive such soils. A consignment note shall be completed, signed





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and retained by all parties involved. The consignment note shall state the volume of waste, a physical description of the material and statement of its chemical composition. The waste consignment notes shall be kept by the contractor for a period of at least two years.

Subject to volumetric fill requirements and a future assessment of suitability of re-use (both chemically and geotechnically), some materials *may* be considered for potential re-use in line with an appropriate end-of-waste protocol such as WRAP Quality Protocol for Aggregates from Inert Waste, U1 Exemption or a Materials Management Plan in accordance with the CL:AIRE Definition of Waste Code of Practice (DoWCoP).



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## **5 PRELIMINARY CONCEPTUAL SITE MODEL**

Based on the information provided in the previous sections of this report a combined preliminary conceptual site model and conceptual exposure model has been developed for the proposed future land use. This summarises the understanding of surface and sub-surface features, the potential contaminant sources, transport pathways and receptors. In assessing the likely contaminants of concern present at the Site, reference has also been made to Defra and Environment Agency supporting documentation. A preliminary qualitative risk assessment has also been made of the likelihood of the linkage operating and its potential significance in accordance with CIRIA C552.

The preliminary conceptual model is presented in schematic form in Appendix A Drawing No. TE1585-TE-00-XX-DR-GE-002-V01. The potential pollutant linkages identified and the qualitative risk assessment for these are presented in Table 5.1 below. The terms used in the preliminary qualitative risk assessment are defined in Appendix C.

### **5.1 Uncertainties**

The following uncertainties exist in the preliminary conceptual model:

- The presence of any features unrecorded by the historic maps.
- Any unrecorded geological features.
- Any unrecorded pollution events during the Site's history.
- Any possible recorded farm waste that has been deposited on site at gate way entrances or other areas of land within the redline boundary.
- Any unrecorded animal burials.



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**Table 5.1 Preliminary Assessment of Potential Pollutant Linkages.**

For definition of the terms used in the qualitative risk assessment, please see Appendix C.

Justification / Comments	Source	Potential Contaminants of Concern	Pathway	Receptor	Consequence	Probability	Qualitative Risk Assessment	
<ul style="list-style-type: none"><li>• The site is currently agricultural land for grazing and crops.</li><li>• The site has been agricultural land for over 120 years. There is some evidence of potential Made Ground in the southern field with an access road being constructed circa 2009 from the A41 into the centre of the site for some unknown reason.</li><li>•The site is situated between the M40 Junction 9 (west) and the A41 (south). The northern boundary is Green Lane and to the east agricultural land.</li><li>• There is limited Alluvial Deposits within the central southern half of the site, according to the BGS borehole records these are primarily clay, silt, sand and gravel. The BGS logs show these deposits to be around 1.00 to 1.50m thick. This follows the direction of the existing brook. Additionally, in the centre of the northern part of the site there is a deposit of sand and gravel River Terrace Deposits. Everywhere else the site comprises of bedrock deposits, anticipated to be weathering towards a soil of sand or clay. The extreme northern end of the site there is possible dissolution features are depth due to the Cornbrash Limestone (1-4m thick).</li><li>• The majority of the site is an unproductive aquifer with the Kellaway Sand Member, the River Terrace Deposits and Alluvial Deposits classified as Secondary A Aquifer. There are no SPZ or potable/non potable water abstractions within 500m of site.</li><li>• No recorded landfills within 500m of site and the radon risk is less than 1%. There are no other potential sources of ground gas identified within the site walkover or within the site’s boundaries.</li><li>• There is a small brook that runs parallel to the M40 and then cuts west to east through the southern end of the site. There is a wooded area with a large pond along the southern edge of the site adjacent to the M40 Junction 9 southbound slip road. At this stage there is no ecology report signifying any risks to protected species.</li></ul>	Potential localised Made Ground in southern field from access road construction and in the northern part of site where barns/outbuildings were constructed in circa 2009-2015. Everywhere else on site is considered low risk.	Asbestos, Heavy Metals, PAHs, TPHs	Dust migration and inhalation	Future Site Users/Construction Workers	Medium	Low Likelihood	Moderate / low risk	
	Vapour inhalation		Medium		Low Likelihood	Moderate / low risk		
	Lateral and vertical migration of mobile contaminants		Secondary A Aquifers and Unnamed Brook onsite	Medium	Unlikely	Low risk		
	Leaching and migration via groundwater			Medium	Unlikely	Low risk		
	No significant ground gas sources identified	Ground Gases	Lateral / vertical migration via preferential pathway	Future Site Users/Construction Workers	Severe	Unlikely	Moderate / low risk	
			Vapour inhalation		Severe	Unlikely	Moderate / low risk	



## 6 PROPOSED FURTHER WORKS

### 6.1 Further Works

The Phase 1 Preliminary Risk Assessment has determined a Low (localised Moderate/Low) risk to human health and a Low risk to controlled waters at the Site with respect to potential contamination and hazardous ground gases.

It is recommended that a ground investigation is undertaken in order to further assess the potential risks associated with the pollutant linkages identified in the Preliminary Conceptual Site Model (presented in Section A).

The objectives of the Phase II Ground Investigation will be:

- To determine shallow soil and groundwater (if encountered) conditions, including whether significant contamination has resulted from past or current land uses.
- To determine the risks posed by any ground contamination and provide recommendations on remedial measures to manage such risks.
- To determine the risks posed to the Site from hazardous ground gases.
- To determine the potential of the soils on site for reuse under CL:AIRE DoWCoP Materials Management Plan.
- To determine the existence, and if applicable, the extent of contamination within local groundwater beneath the Site.
- To provide advice and design information relating to geotechnical issues associated with the Site.
- Consideration to potential ecological and archaeological constraints within the site boundary.

### 6.2 Proposed Scope of Works

The following scope of works are proposed:

- 1 No. Day trial pitting (approximately 10-12 trial pits) to determine the nature and extent of any potential Made Ground and natural deposits across the Site, facilitate soil sampling for environmental and geotechnical testing.
- 3 No. Day soakaway infiltration testing for potential SuDS design.
- 1 No. Day window sample drilling (approximately 4-6 No. locations) and installation of 3 No. monitoring wells for groundwater (if encountered) monitoring purposes and to facilitate soil sampling for environmental and geotechnical testing. This will target known Secondary A Aquifers and Unproductive Aquifers to concern the groundwater regime.
- 4 No. cable percussive holes and installation of 4 No. monitoring wells for groundwater (if encountered) monitoring purposes and to facilitate soil sampling for environmental and geotechnical testing. This will target known Secondary A Aquifers and Unproductive Aquifers to concern the groundwater regime.
- 2 No. rotary cored holes and installation of 2 No. monitoring wells for groundwater (if encountered) monitoring purposes and to facilitate soil sampling for environmental and geotechnical testing. This will target known Secondary A Aquifers and Unproductive Aquifers to concern the groundwater regime.
- 4 No visits for groundwater and ground gas monitoring.
- 2 No days of plate bearing tests with minimum 450mm plate for preliminary design parameters.
- In situ geotechnical testing to assist with foundation design and recommendations.
- Potentially dependent on the loads from the proposed structure cable percussive and/or rotary rock cores may be required to confirm the ground conditions bearing capacity parameters.



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- Geo-environmental chemical testing on selected soil samples for metals, pH, speciated PAH, speciated TPH, phenol, sulphate, TOC and asbestos screens in order to assess potential risks to human health based on historical land uses on and within close proximity to the Site and to assist with basic waste characterisation.
- If asbestos is encountered on site during the ground investigation, then The Control of Asbestos Regulations 2012 should be adhered to. A summary of complying with CAR: risk assessments, licensing and training is provided in Appendix E.



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## **7 REGULATORY APPROVALS**

The conclusions and recommendations presented above are considered reasonable based on the findings of the site investigation. However, these cannot be guaranteed to gain regulatory approval and, therefore, the report should be passed to the appropriate regulatory authorities and/or other organisations for their comment and approval prior to undertaking any works on site.

It is recommended that conditions placed on any planning permission are discharged prior to commencement of site works.



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Health and Safety Executive (2015) Construction (Design and Management) Regulations.

Coal Authority Interactive Map Viewer, <http://mapapps2.bgs.ac.uk/coalauthority/home.html>

BGS Geology of Britain Viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>



**PRELIMINARY RISK ASSESSMENT REPORT UNIT**  
**1, OXFORD NORTH, SYMMETRY PARK,**  
**OXFORDSHIRE**

Report No : TE1585-TE-00-XX-RP-GE-001-V02  
Page No : 27 of 28  
Engineer: S Millar  
Date: 11/11/2021

## 9 GLOSSARY OF TERMS

ACEC	Aggressive Chemical Environment for Concrete (classification)
aOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
Designated location	Site (and the ecosystem on that site) protected under national or international legislation. A potential ecological receptor to be considered as part of the assessment of land contamination. Example designated locations include SSSIs (q.v.), SACs (q.v.), national nature reserves, Ramsar sites and bird special protection areas.
DQA	Data Quality Assessment
DQO	Data Quality Objective
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
K <sub>ow</sub>	Octanol-water partition coefficient
LEL	Lower Explosive Limit
LL	Liquid Limit
LoD	Limit of Detection (analytical)
LoQ	Limit of Quantification (analytical)
Mean Value Test	Statistical test (described in the CIEH Guidance) to estimate the mean value of a normally distributed population of data at a given level of confidence. Normally for contaminated land assessment, the 95th percentile (referred to as the 95%UCL or US95) is applied as a reasonable but conservative estimate of the mean concentration for comparison with the relevant assessment criteria.
Maximum Value Test	Statistical test (described in the CIEH Guidance) to identify whether an elevated concentration within a normally distributed data set forms part of the underlying population from which it has been sampled or whether it is an outlier (such as a localised area of contamination) that merits further consideration.
MC	Moisture Content
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
PI	Plasticity Index
PID	Photoionisation Detector
PL	Plastic Limit
ppm	Parts per million
ppmv	Parts per million by volume
QA	Quality Assurance
QC	Quality Control
SAC	Special Area of Conservation
SOM	Soil Organic Matter

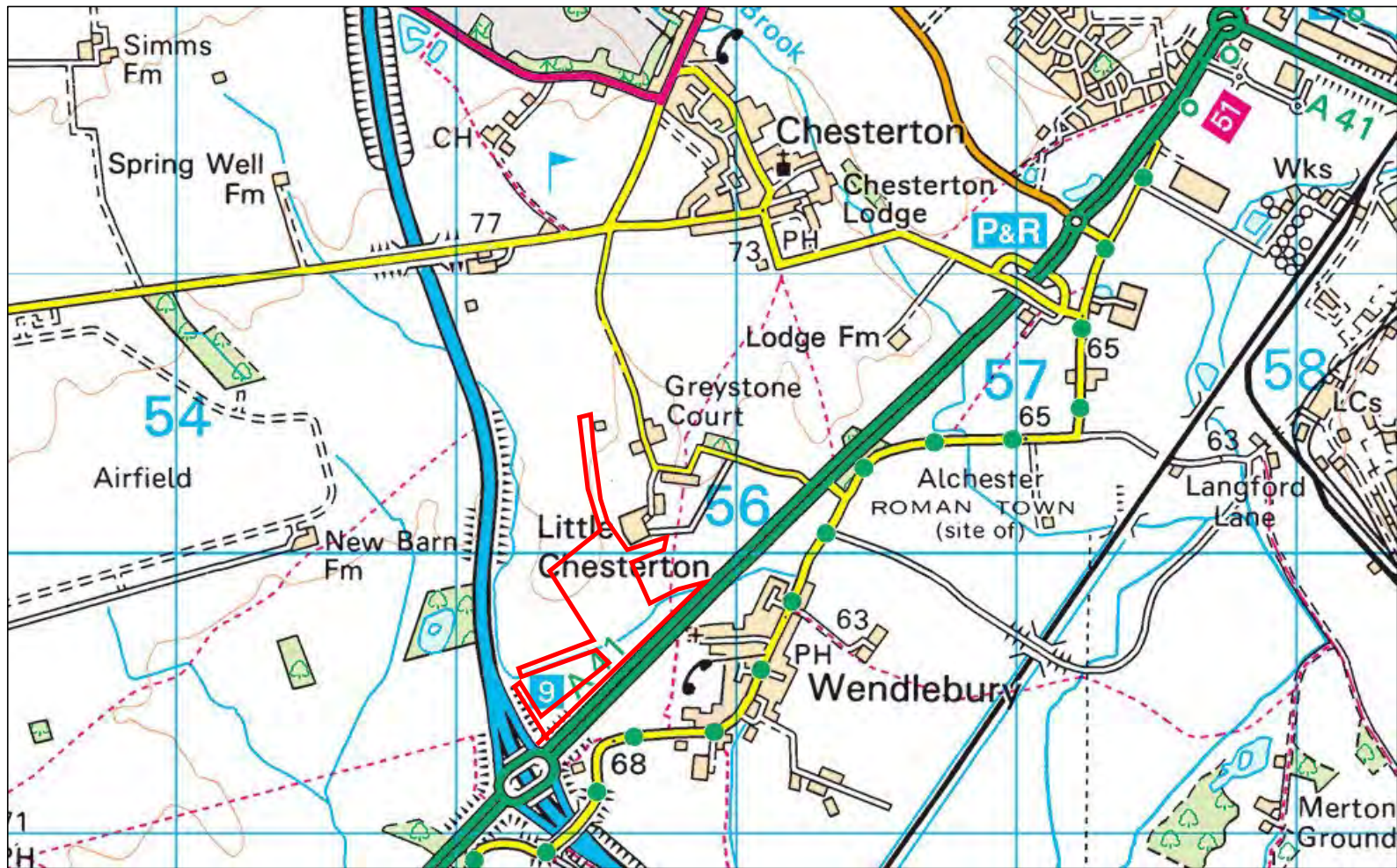


**PRELIMINARY RISK ASSESSMENT REPORT UNIT  
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SPT	Standard Penetration Test
SPZ	Source Protection Zone (see Appendix D)
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compound
TEF	Toxicity Equivalent Factor
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
US95	95 <sup>th</sup> percentile estimate of the true mean value of a data population (also known as 95%UCL).
VOC	Volatile Organic Compound

## **APPENDIX A - DRAWINGS**



#### Legend:

— Site Boundary



Tier Environmental Ltd,  
Suite 513, Chadwick House,  
Warrington Road,  
Birchwood, WA3 6AE

**CLIENT:** Tritax Symmetry Ltd

**PROJECT TITLE:**  
Oxford North, Symmetry Park, Oxfordshire

**DRAWING TITLE:**  
Site Location Plan

**DRAWING REF:** TE1585-TE-00-XX-DR-GE-001-V01

**AUTHOR:** SDM

**REVIEWER:** SDM

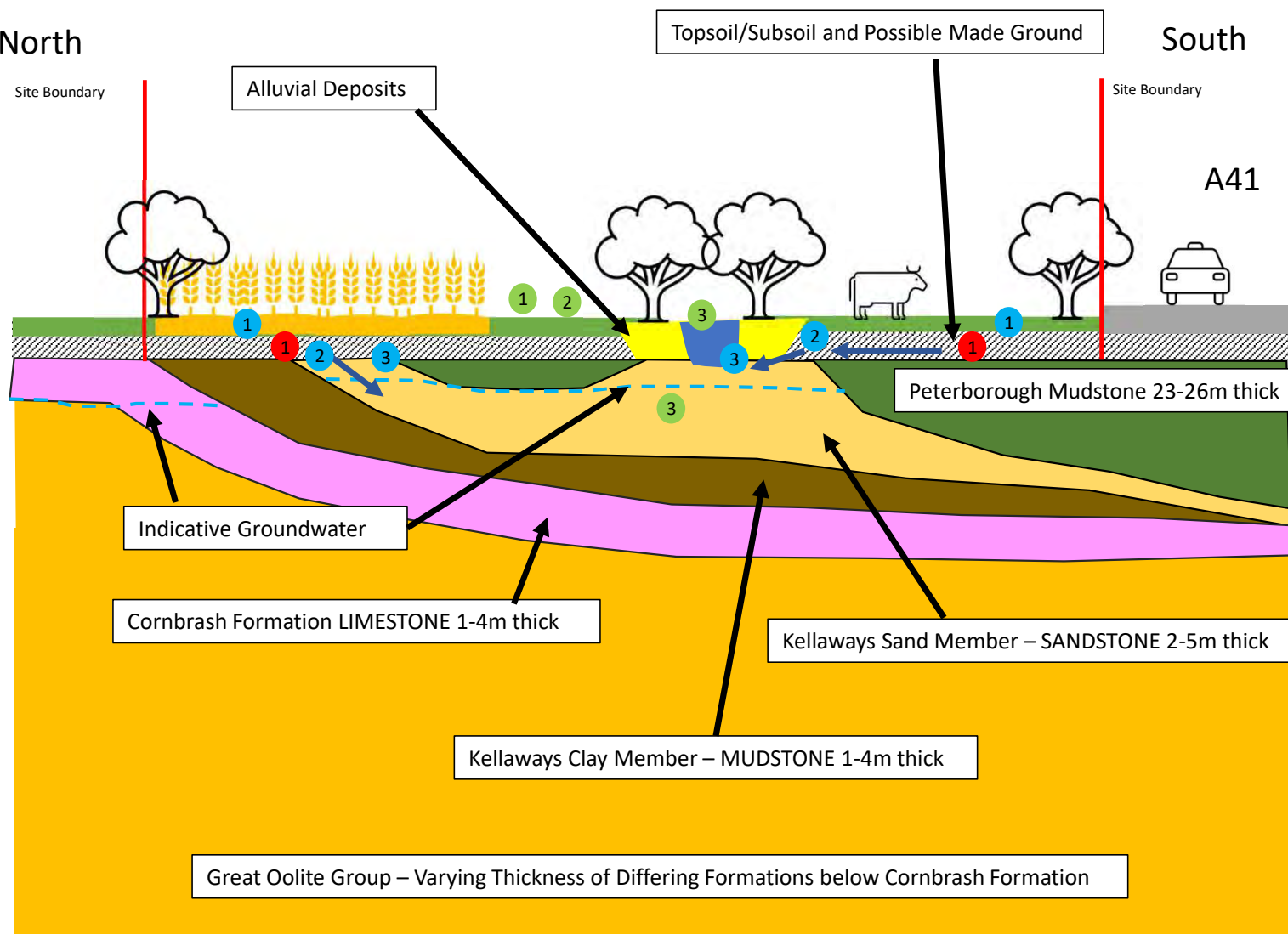
**SCALE:** NTS

**DRAWING DATE:**  
June 2021

**DRAWING STATUS:**  
FINAL

North

South



## Sources

- 1 Unrecorded Made Ground
- 2 EXAMPLE 2
- 3 EXAMPLE 3

## Pathways

- 1 Direct Contact, ingestion or inhalation
- 2 Leaching and Migration Via Groundwater
- 3 Lateral and/or Vertical Migration of Mobile Contaminants

## Receptors

- 1 Future Site Users
- 2 Construction Workers
- 3 Surface Water and/or Groundwater



Tier Environmental Ltd,  
Suite 513, Chadwick House,  
Warrington Road,  
Birchwood, WA3 6AE

CLIENT: Tritax Symmetry Ltd

PROJECT TITLE:  
Oxford North, Symmetry Park, Oxfordshire

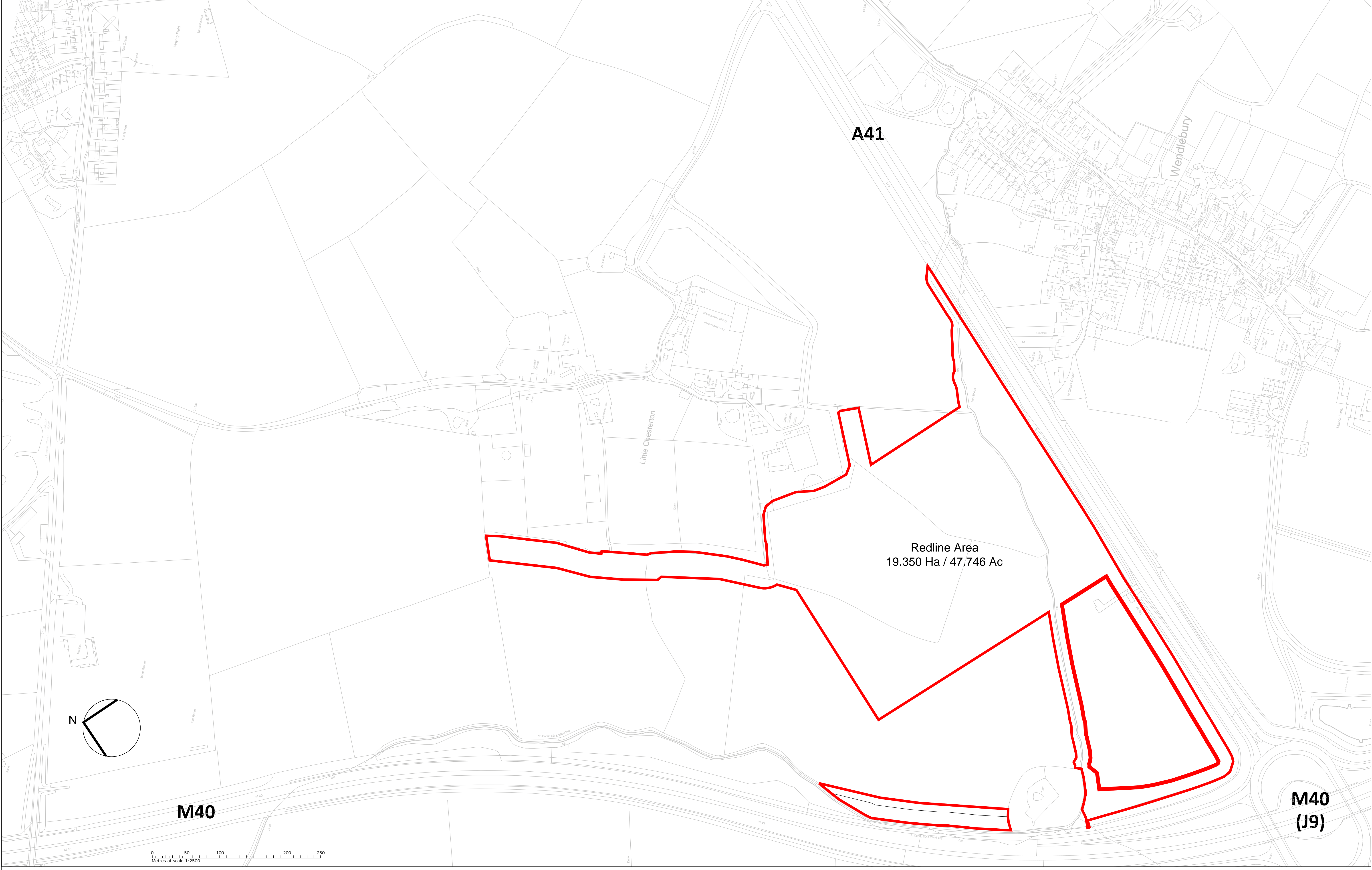
DRAWING TITLE:  
Preliminary Conceptual Site Model

DRAWING REF: TE1585-TE-00-XX-DR-GE-002-V01

AUTHOR: SDM REVIEWER: AR SCALE: NTS

DRAWING DATE: June 2021 DRAWING STATUS: FINAL





## **APPENDIX B - GROUNDSURE REPORT**



SIEMENS , WESTON ON THE GREEN, OX25 3PD

**Order Details**

**Date:** 17/06/2021  
**Your ref:** 1533\_TE1585  
**Our Ref:** GS-7960095  
**Client:** Tier Environmental

**Site Details**

**Location:** 455415 219774  
**Area:** 20.08 ha  
**Authority:** [Cherwell District Council](#)



**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

N/A: >10ha

[groundsure.com/insightuserguide](https://groundsure.com/insightuserguide)

Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>13</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	0	2	4	2	-
<b>14</b>	<b>1.2</b>	<b><u>Historical tanks</u></b>	0	0	1	1	-
<b>14</b>	<b>1.3</b>	<b><u>Historical energy features</u></b>	0	1	0	3	-
15	1.4	Historical petrol stations	0	0	0	0	-
<b>15</b>	<b>1.5</b>	<b><u>Historical garages</u></b>	0	0	0	1	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<b>17</b>	<b>2.1</b>	<b><u>Historical industrial land uses</u></b>	0	2	6	3	-
<b>18</b>	<b>2.2</b>	<b><u>Historical tanks</u></b>	0	0	1	2	-
<b>18</b>	<b>2.3</b>	<b><u>Historical energy features</u></b>	0	1	1	3	-
19	2.4	Historical petrol stations	0	0	0	0	-
<b>19</b>	<b>2.5</b>	<b><u>Historical garages</u></b>	0	0	0	1	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
<b>21</b>	<b>3.6</b>	<b><u>Licensed waste sites</u></b>	0	0	2	2	-
<b>23</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	0	12	19	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>27</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	0	2	3	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>30</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>-</b>
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
<b>32</b>	<b>4.18</b>	<b><u>Pollution Incidents (EA/NRW)</u></b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>-</b>
32	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
<b>34</b>	<b>5.1</b>	<b><u>Superficial aquifer</u></b>	Identified (within 500m)				
<b>36</b>	<b>5.2</b>	<b><u>Bedrock aquifer</u></b>	Identified (within 500m)				
<b>38</b>	<b>5.3</b>	<b><u>Groundwater vulnerability</u></b>	Identified (within 50m)				
<b>42</b>	<b>5.4</b>	<b><u>Groundwater vulnerability- soluble rock risk</u></b>	Identified (within 0m)				
43	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>44</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	1	1	4
<b>46</b>	<b>5.7</b>	<b><u>Surface water abstractions</u></b>	0	0	0	0	1
<b>46</b>	<b>5.8</b>	<b><u>Potable abstractions</u></b>	0	0	0	0	1
47	5.9	Source Protection Zones	0	0	0	0	-
47	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
<b>48</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	6	8	16	-	-



<b>51</b>	<b><u>6.2</u></b>	<b><u>Surface water features</u></b>	1	3	15	-	-
<b>51</b>	<b><u>6.3</u></b>	<b><u>WFD Surface water body catchments</u></b>	1	-	-	-	-
<b>52</b>	<b><u>6.4</u></b>	<b><u>WFD Surface water bodies</u></b>	0	0	0	-	-
<b>52</b>	<b><u>6.5</u></b>	<b><u>WFD Groundwater bodies</u></b>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
<b>53</b>	<b><u>7.1</u></b>	<b><u>Risk of Flooding from Rivers and Sea (RoFRaS)</u></b>	High (within 50m)				
<b>54</b>	<b><u>7.2</u></b>	<b><u>Historical Flood Events</u></b>	0	0	1	-	-
54	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
<b>56</b>	<b><u>7.6</u></b>	<b><u>Flood Zone 2</u></b>	Identified (within 50m)				
<b>57</b>	<b><u>7.7</u></b>	<b><u>Flood Zone 3</u></b>	Identified (within 50m)				
Page	Section	Surface water flooding					
<b>58</b>	<b><u>8.1</u></b>	<b><u>Surface water flooding</u></b>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
<b>60</b>	<b><u>9.1</u></b>	<b><u>Groundwater flooding</u></b>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>61</b>	<b><u>10.1</u></b>	<b><u>Sites of Special Scientific Interest (SSSI)</u></b>	0	0	0	0	2
62	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
62	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
62	10.4	Special Protection Areas (SPA)	0	0	0	0	0
62	10.5	National Nature Reserves (NNR)	0	0	0	0	0
63	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
<b>63</b>	<b><u>10.7</u></b>	<b><u>Designated Ancient Woodland</u></b>	1	0	0	0	6
63	10.8	Biosphere Reserves	0	0	0	0	0
64	10.9	Forest Parks	0	0	0	0	0
64	10.10	Marine Conservation Zones	0	0	0	0	0
<b>64</b>	<b><u>10.11</u></b>	<b><u>Green Belt</u></b>	0	0	0	0	1
64	10.12	Proposed Ramsar sites	0	0	0	0	0



65	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
65	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
65	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<b>65</b>	<b>10.16</b>	<b><u>Nitrate Vulnerable Zones</u></b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>67</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>68</b>	<b>10.18</b>	<b><u>SSSI Units</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
71	11.1	World Heritage Sites	0	0	0	-	-
72	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
72	11.3	National Parks	0	0	0	-	-
<b>72</b>	<b>11.4</b>	<b><u>Listed Buildings</u></b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>-</b>	<b>-</b>
73	11.5	Conservation Areas	0	0	0	-	-
73	11.6	Scheduled Ancient Monuments	0	0	0	-	-
73	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>74</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	Grade 3 (within 250m)				
75	12.2	Open Access Land	0	0	0	-	-
75	12.3	Tree Felling Licences	0	0	0	-	-
<b>75</b>	<b>12.4</b>	<b><u>Environmental Stewardship Schemes</u></b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>-</b>	<b>-</b>
<b>76</b>	<b>12.5</b>	<b><u>Countryside Stewardship Schemes</u></b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>-</b>
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>77</b>	<b>13.1</b>	<b><u>Priority Habitat Inventory</u></b>	<b>1</b>	<b>1</b>	<b>7</b>	<b>-</b>	<b>-</b>
78	13.2	Habitat Networks	0	0	0	-	-
78	13.3	Open Mosaic Habitat	0	0	0	-	-
78	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>79</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	Identified (within 500m)				
<b>81</b>	<b>14.2</b>	<b><u>Artificial and made ground (10k)</u></b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>-</b>
<b>82</b>	<b>14.3</b>	<b><u>Superficial geology (10k)</u></b>	<b>5</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>-</b>

83	14.4	Landslip (10k)	0	0	0	0	-
<b>84</b>	<b>14.5</b>	<b><u>Bedrock geology (10k)</u></b>	8	1	6	6	-
<b>85</b>	<b>14.6</b>	<b><u>Bedrock faults and other linear features (10k)</u></b>	1	0	1	2	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>87</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
88	15.2	Artificial and made ground (50k)	0	0	0	0	-
88	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<b>89</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	3	1	2	2	-
<b>90</b>	<b>15.5</b>	<b><u>Superficial permeability (50k)</u></b>	Identified (within 50m)				
90	15.6	Landslip (50k)	0	0	0	0	-
91	15.7	Landslip permeability (50k)	None (within 50m)				
<b>92</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	7	2	2	1	-
<b>93</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
<b>94</b>	<b>15.10</b>	<b><u>Bedrock faults and other linear features (50k)</u></b>	1	0	2	2	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
<b>95</b>	<b>16.1</b>	<b><u>BGS Boreholes</u></b>	4	15	38	-	-
Page	Section	Natural ground subsidence					
<b>99</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Moderate (within 50m)				
<b>101</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Low (within 50m)				
<b>103</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Moderate (within 50m)				
<b>105</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Very low (within 50m)				
<b>106</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Low (within 50m)				
<b>108</b>	<b>17.6</b>	<b><u>Ground dissolution of soluble rocks</u></b>	Very low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
110	18.1	Natural cavities	0	0	0	0	-
<b>111</b>	<b>18.2</b>	<b><u>BritPits</u></b>	0	0	1	0	-
<b>111</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	0	4	11	-	-
112	18.4	Underground workings	0	0	0	0	0
112	18.5	Historical Mineral Planning Areas	0	0	0	0	-



112	18.6	Non-coal mining	0	0	0	0	0
113	18.7	Mining cavities	0	0	0	0	0
113	18.8	JPB mining areas	None (within 0m)				
113	18.9	Coal mining	None (within 0m)				
113	18.10	Brine areas	None (within 0m)				
113	18.11	Gypsum areas	None (within 0m)				
114	18.12	Tin mining	None (within 0m)				
114	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<b>115</b>	<b>19.1</b>	<b>Radon</b>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<b>116</b>	<b>20.1</b>	<b>BGS Estimated Background Soil Chemistry</b>	44	11	-	-	-
119	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
119	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
120	21.1	Underground railways (London)	0	0	0	-	-
120	21.2	Underground railways (Non-London)	0	0	0	-	-
120	21.3	Railway tunnels	0	0	0	-	-
120	21.4	Historical railway and tunnel features	0	0	0	-	-
120	21.5	Royal Mail tunnels	0	0	0	-	-
121	21.6	Historical railways	0	0	0	-	-
121	21.7	Railways	0	0	0	-	-
121	21.8	Crossrail 1	0	0	0	0	-
121	21.9	Crossrail 2	0	0	0	0	-
121	21.10	HS2	0	0	0	0	-





## Recent aerial photograph



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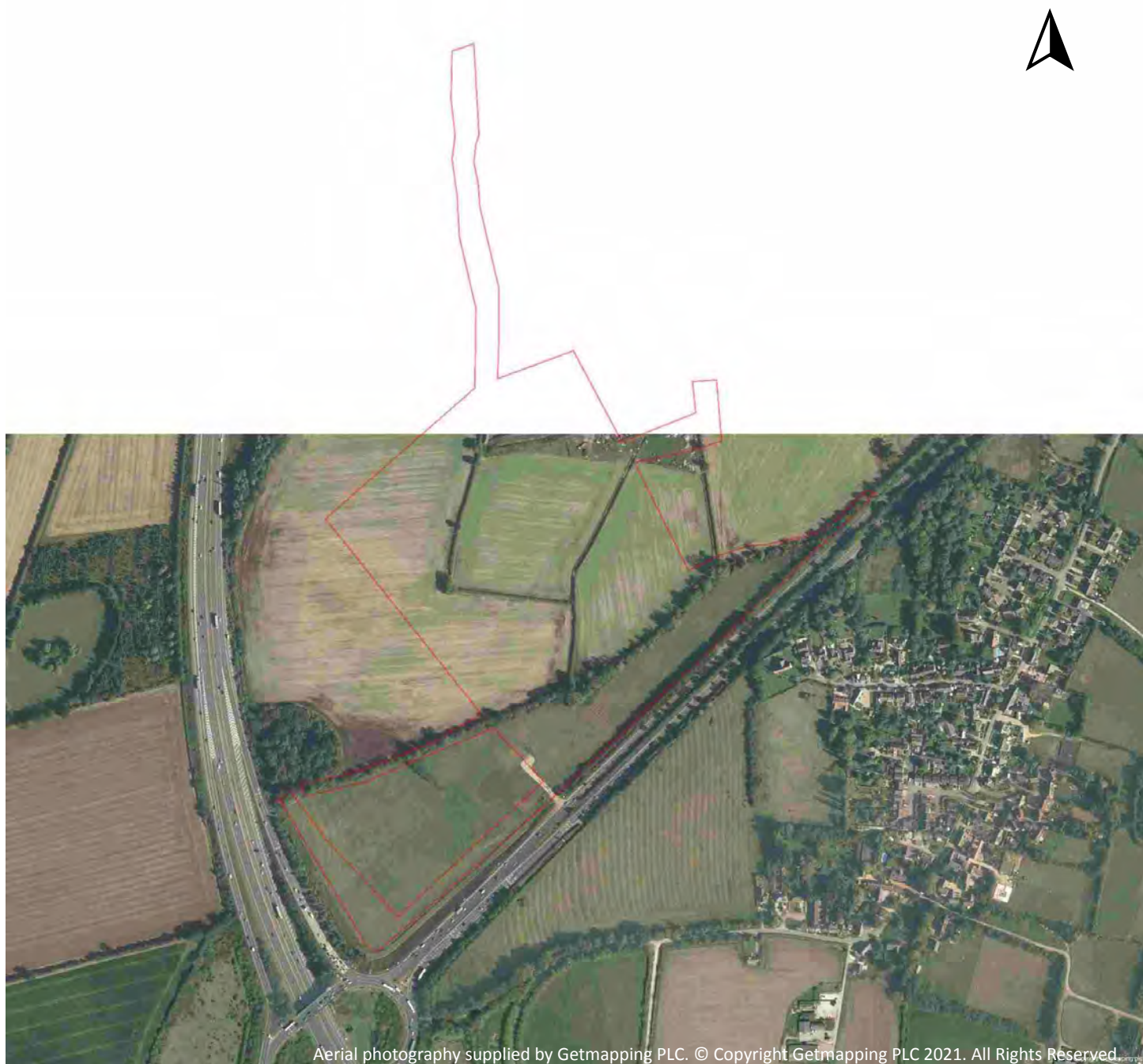
Capture Date: 05/07/2019

Site Area: 20.08ha





## Recent site history - 2016 aerial photograph



Capture Date: 20/04/2016

Site Area: 20.08ha





## Recent site history - 2009 aerial photograph



Capture Date: 19/08/2009

Site Area: 20.08ha





## Recent site history - 2006 aerial photograph



Capture Date: 12/10/2006

Site Area: 20.08ha





## Recent site history - 1999 aerial photograph



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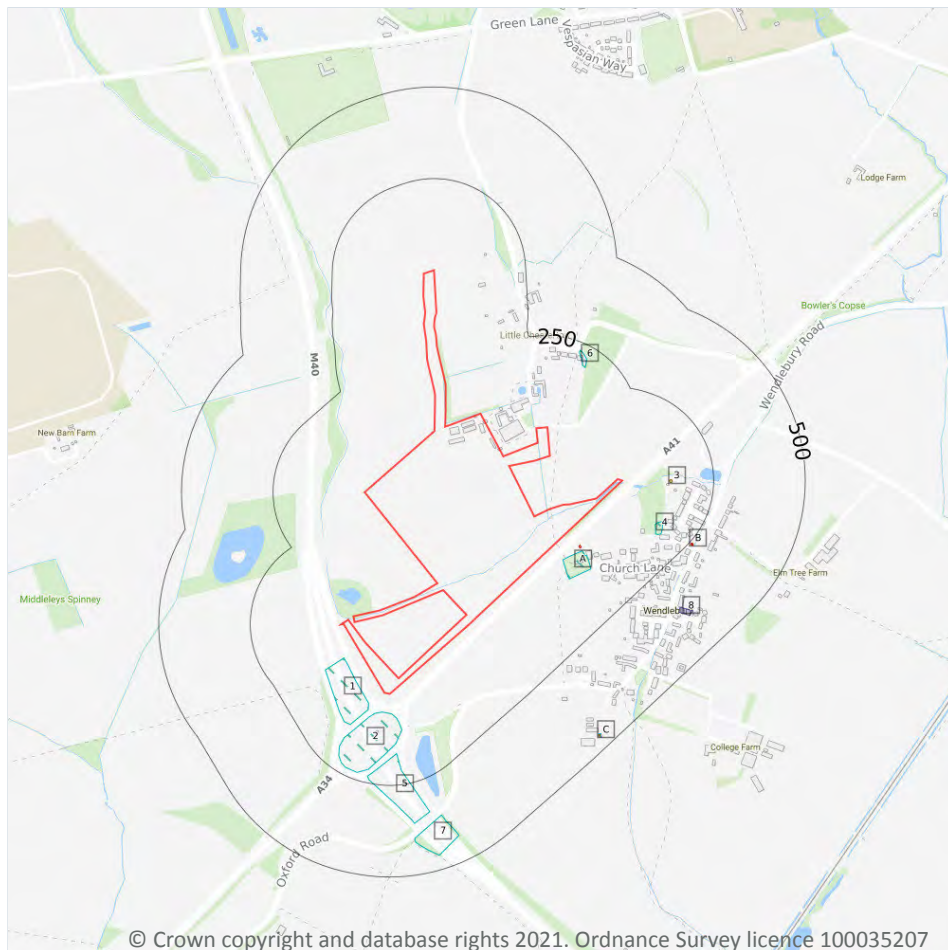
Capture Date: 05/10/1999

Site Area: 20.08ha





## 1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

### 1.1 Historical industrial land uses

#### Records within 500m

8

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
1	47m SW	Cuttings	1992	1752537



ID	Location	Land use	Dates present	Group ID
A	47m SE	Grave Yard	1880 - 1882	1788491
2	53m S	Cuttings	1992	1752538
4	149m SE	Gravel Pit	1898	1758058
5	164m S	Cuttings	1992	1752534
6	193m NE	Smithy	1880 - 1882	1813463
7	359m SE	Cuttings	1992	1752539
C	460m SE	Unspecified Tank	1980 - 1992	1824801

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

### Records within 500m

2

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
3	130m E	Unspecified Tank	1977	284836
C	461m SE	Unspecified Tank	1977 - 1992	291057

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

### Records within 500m

4

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 13**



ID	Location	Land use	Dates present	Group ID
A	49m SE	Electricity Substation	1977 - 1992	184458
B	255m SE	Electricity Substation	1994	173481
B	256m SE	Electricity Substation	1977	172884
B	258m SE	Electricity Substation	1989	173358

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

<b>Records within 500m</b>	<b>1</b>
----------------------------	----------

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
8	361m SE	Garage	1977	54843

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

Records within 500m

0

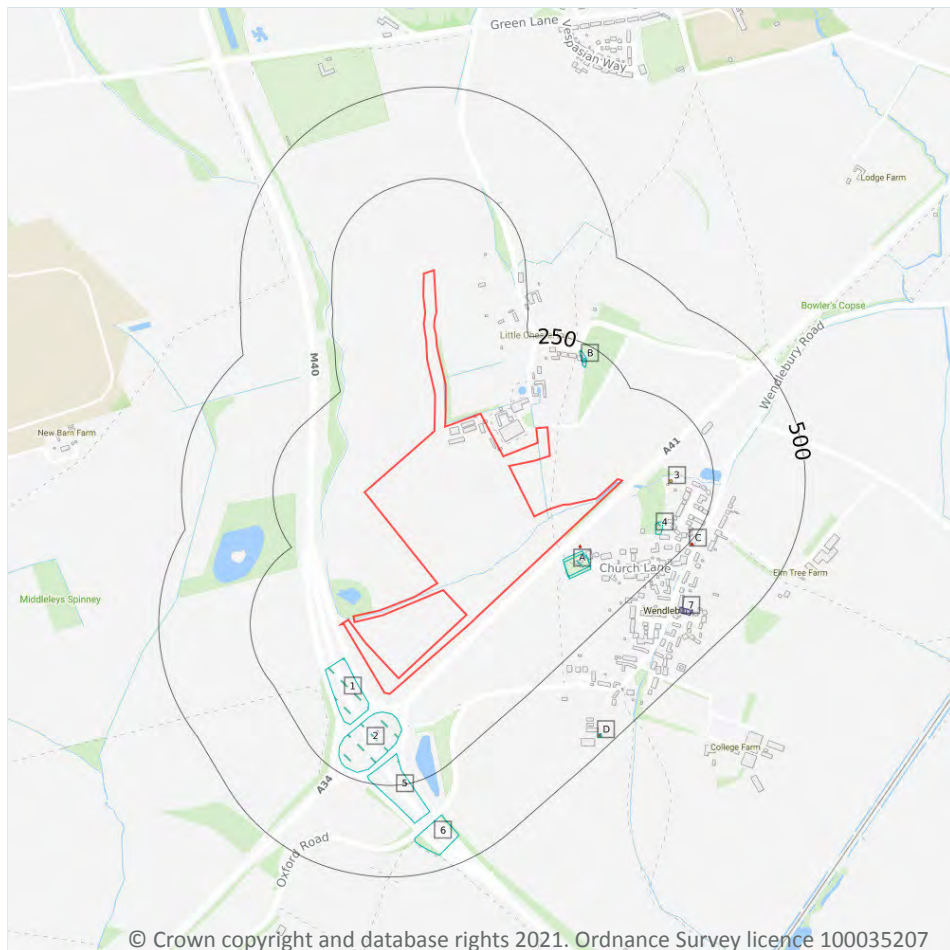
Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

*This data is sourced from Ordnance Survey / Groundsure / other sources.*





## 2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

### 2.1 Historical industrial land uses

Records within 500m

11

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
1	47m SW	Cuttings	1992	1752537
A	47m SE	Grave Yard	1882	1788491
2	53m S	Cuttings	1992	1752538

ID	Location	Land Use	Date	Group ID
A	54m SE	Grave Yard	1880	1788491
4	149m SE	Gravel Pit	1898	1758058
5	164m S	Cuttings	1992	1752534
B	193m NE	Smithy	1880	1813463
B	202m NE	Smithy	1882	1813463
6	359m SE	Cuttings	1992	1752539
D	460m SE	Unspecified Tank	1980	1824801
D	460m SE	Unspecified Tank	1992	1824801

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

### Records within 500m

3

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
3	130m E	Unspecified Tank	1977	284836
D	461m SE	Unspecified Tank	1992	291057
D	462m SE	Unspecified Tank	1977	291057

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

### Records within 500m

5

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**



ID	Location	Land Use	Date	Group ID
A	49m SE	Electricity Substation	1977	184458
A	51m SE	Electricity Substation	1992	184458
C	255m SE	Electricity Substation	1994	173481
C	256m SE	Electricity Substation	1977	172884
C	258m SE	Electricity Substation	1989	173358

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

**Records within 500m**

**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

**Records within 500m**

**1**

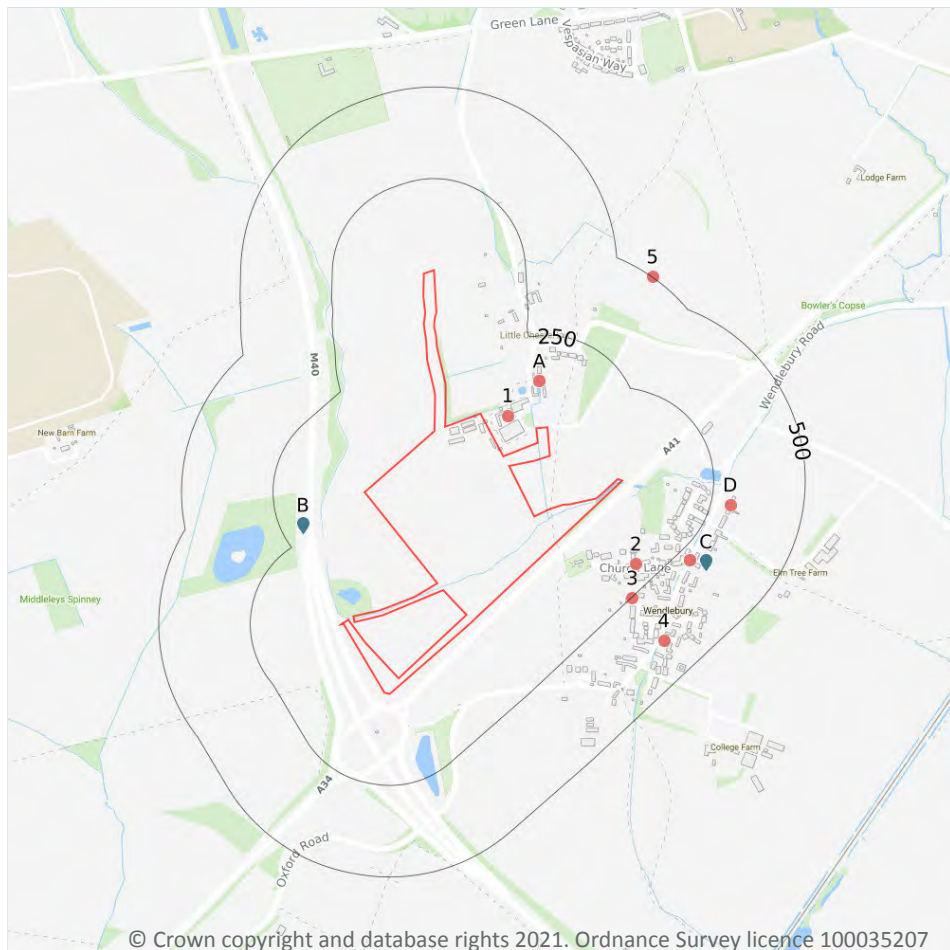
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
7	361m SE	Garage	1977	54843

*This data is sourced from Ordnance Survey / Groundsure.*

## 3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Licensed waste sites
- Waste exemptions

### 3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

*This data is sourced from the British Geological Survey.*



### 3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

*This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.*

### 3.4 Historical landfill (EA/NRW records)

Records within 500m

0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.5 Historical waste sites

Records within 500m

0

Waste site records derived from Local Authority planning records and high detail historical mapping.

*This data is sourced from Ordnance Survey/Groundsure and Local Authority records.*

### 3.6 Licensed waste sites

Records within 500m

4

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 20**

ID	Location	Details		
B	192m SW	Site Name: Weston Park Farm Site Address: Premier Site Landfill & Restoration Ltd, Borrow Pit, Weston Park Farm, Wendlebury, Bicester, Oxon, OX6 Correspondence Address: Premier Site Landfill & Restoration Ltd, 139, Watling Street, Gillingham, Kent, ME7 2YY	Type of Site: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PRE001 EPR reference: - Operator: Watford Management Ltd Waste Management licence No: 86141 Annual Tonnage: 1010	Issue Date: 28/07/1989 Effective Date: - Modified:: 23/03/1993 Surrendered Date: - Expiry Date: 09/10/2001 Cancelled Date: - Status: Expired

ID	Location	Details		
B	192m SW	Site Name: Weston Park Farm Site Address: Premier Site Landfill & Restoration Ltd, Borrow Pit, Weston Park Farm, Wendlebury, Bicester, Oxfordshire, OX6 Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste Landfill Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PRE001 EPR reference: EA/EPR/VP3399EE/V002 Operator: Watford Management Ltd Waste Management licence No: 86141 Annual Tonnage: 1010	Issue Date: 28/07/1989 Effective Date: - Modified:: 23/03/1993 Surrendered Date: - Expiry Date: 09/10/2001 Cancelled Date: - Status: Expired
C	320m SE	Site Name: Manor Farm Site Address: Premier Site Landfill & Restoration Ltd, Manor Farm, Wendlebury, Bicester, Oxfordshire, OX6 8PW Correspondence Address: Premier Site Landfill & Restoration Ltd, 139, Watling Street, Gillingham, Kent, ME7 2YY	Type of Site: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PRE002 EPR reference: - Operator: Watford Management Ltd Waste Management licence No: 86155 Annual Tonnage: 1025	Issue Date: 28/04/1993 Effective Date: - Modified:: 20/04/1994 Surrendered Date: - Expiry Date: 09/10/2001 Cancelled Date: - Status: Expired
C	320m SE	Site Name: Manor Farm Site Address: Premier Site Landfill & Restoration Ltd, Manor Farm, Wendlebury, Bicester, Oxfordshire, OX6 8PW Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste Landfill Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PRE002 EPR reference: EA/EPR/WP3999EM/V002 Operator: Watford Management Ltd Waste Management licence No: 86155 Annual Tonnage: 1025	Issue Date: 28/04/1993 Effective Date: - Modified:: 20/04/1994 Surrendered Date: - Expiry Date: 09/10/2001 Cancelled Date: - Status: Expired

*This data is sourced from the Environment Agency and Natural Resources Wales.*



### 3.7 Waste exemptions

#### Records within 500m

**31**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	62m NE	-	WEX216944	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/QF0209G S/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Screening and blending of waste
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/SH0173T N/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/SH0173T N/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/SH0173T N/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/SH0173T N/A001	Treating waste exemption	Agricultural Waste Only	Recovery of scrap metal
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/SH0173T N/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/BF0536V U/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on non-agricultural land to confer benefit
A	125m N	The Old Piggery Grange Farm BICESTER Oxfordshire OX25 3PD	EPR/BF0736VT /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	125m N	Bignell Lodge BICESTER Oxfordshire OX26 1UE	EPR/BF0836VF /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit





ID	Location	Site	Reference	Category	Sub-Category	Description
A	125m N	Bignell Lodge BICESTER Oxfordshire OX26 1UE	EPR/BF0836VF /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on non- agricultural land to confer benefit
2	193m SE	Home Farm Cottage Church Lane BICESTER Oxfordshire OX25 2PN	EPR/GF0134SR /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
3	254m SE	PARK FARM HOUSE, WENDLEBURY, BICESTER, OX25 2PW	WEX118461	Using waste exemption	On a farm	Use of waste in construction
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Cleaning, washing, spraying or coating relevant waste
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Preparatory treatments (baling, sorting, shredding etc)
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Screening and blending of waste
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit





ID	Location	Site	Reference	Category	Sub-Category	Description
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Burning of waste as a fuel in a small appliance
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from dredging of inland waters
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from a portable sanitary convenience
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Disposal by incineration
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Storing waste exemption	Both agricultural and non- agricultural waste	Storage of waste in secure containers
C	286m SE	wendlebury Park Farm Wendlebury Oxfordshire OX662pn	EPR/FF0331KK /A001	Storing waste exemption	Both agricultural and non- agricultural waste	Storage of waste in a secure place
D	303m E	WENDLEBURY PARK FARM, WENDLEBURY ROAD, WENDLEBURY, OX25 2PE	WEX101330	Using waste exemption	On a farm	Use of waste in construction

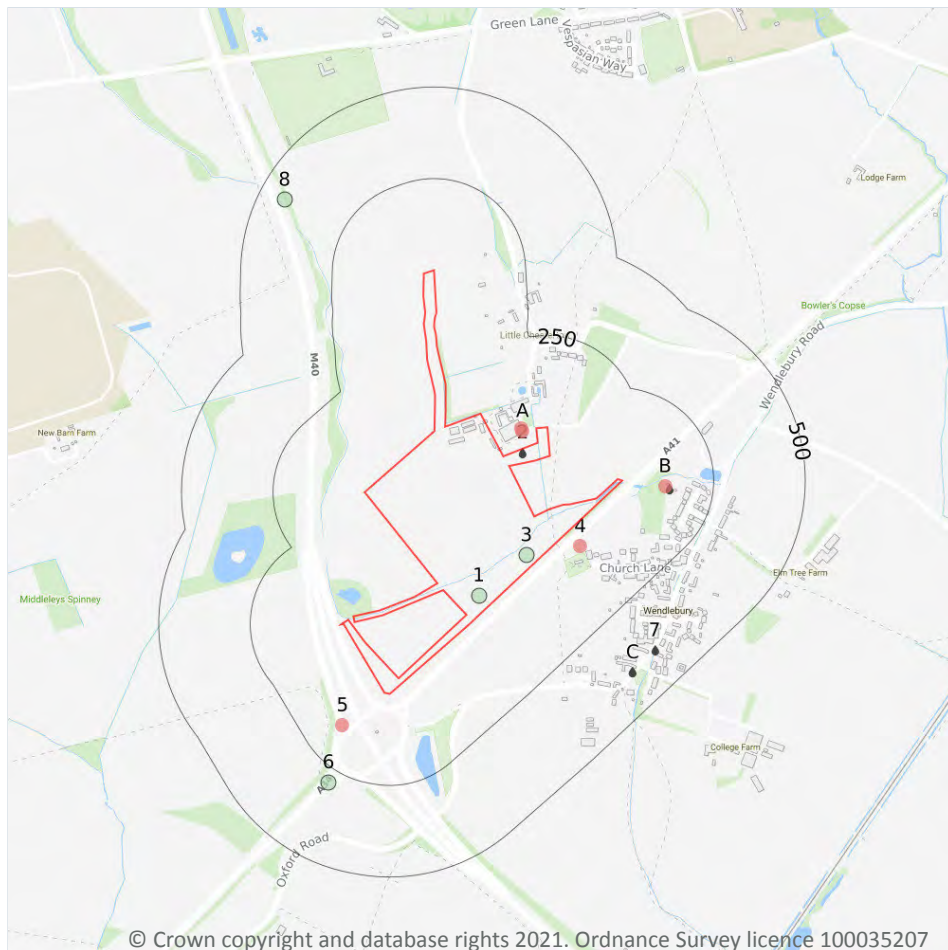


ID	Location	Site	Reference	Category	Sub-Category	Description
D	303m E	Wendlebury Park Farm, Wendlebury Road, Wendlebury, BICESTER, OX25 2PE	WEX148269	Using waste exemption	On a Farm	Use of waste in construction
4	397m SE	COLLEGE FARM HOUSE, WENDLEBURY, BICESTER, OX25 2PR	WEX118548	Using waste exemption	On a farm	Use of waste in construction
5	499m NE	Bignell Lodge BICESTER Oxfordshire OX26 1UE	EPR/QF0039N K/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

### 4.1 Recent industrial land uses

Records within 250m

5

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
A	38m W	Haynes Vehicle Body Repair	Unit 1 Lower Grange Farm, Little Chesterton, Bicester, Oxfordshire, OX25 3PD	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	41m W	West Oxford Bodyshop	Unit 2 Lower Grange Farm, Little Chesterton, Bicester, Oxfordshire, OX25 3PD	Vehicle Repair, Testing and Servicing	Repair and Servicing



ID	Location	Company	Address	Activity	Category
4	52m SE	Electricity Sub Station	Oxfordshire, OX25	Electrical Features	Infrastructure and Facilities
B	118m E	Pump House	Oxfordshire, OX25	Water Pumping Stations	Industrial Features
5	145m SW	Mast	Oxfordshire, OX25	Telecommunications Features	Infrastructure and Facilities

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

**Records within 500m****0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

**Records within 500m****0**

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

**Records within 500m****0**

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

**Records within 500m****0**

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.10 Licensed industrial activities (Part A(1))

**Records within 500m****0**

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.13 Licensed Discharges to controlled waters

Records within 500m

6

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
2	On site	Little Chesterton	<b>Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY</b> <b>Permit Number: TEMP.1350</b> <b>Permit Version: 1</b> <b>Receiving Water: GAGLE BROOK</b>	<b>Status: REVOKED - UNSPECIFIED</b> <b>Issue date: 02/11/1989</b> <b>Effective Date: 02/11/1989</b> <b>Revocation Date: 25/11/1997</b>
B	130m E	Rectory Close	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1782 Permit Version: 1 Receiving Water: LANGFORD BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 02/09/2010
B	130m E	Rectory Close	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1782 Permit Version: 2 Receiving Water: Langford Brook	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 13/10/2015



ID	Location	Address	Details	
7	398m SE	COLLEGE FARM, WENDLEBURY, OXFORDSHI, COLLEGE FARM WENDLEBURY OXFORD, SHIRE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CTWC.3365 Permit Version: 1 Receiving Water: WENDLEBURY BROOK	Status: REVOKED - UNSPECIFIED Issue date: 16/06/1989 Effective Date: 16/06/1989 Revocation Date: 08/04/1991
C	401m SE	College Farm	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.0721 Permit Version: 1 Receiving Water: LANGFORD BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02/11/1989 Revocation Date: 02/09/2010
C	401m SE	College Farm	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.0721 Permit Version: 2 Receiving Water: Langford Brook	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 13/10/2015

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

#### 4.16 List 1 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*





## 4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.18 Pollution Incidents (EA/NRW)

Records within 500m

4

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Details	
1	On site	Incident Date: 27/07/2002 Incident Identification: 94826 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
3	On site	Incident Date: 13/08/2002 Incident Identification: 99975 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	288m SW	Incident Date: 17/09/2002 Incident Identification: 108300 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
8	430m NW	Incident Date: 07/08/2002 Incident Identification: 98167 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.



*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 4.21 Pollution inventory radioactive waste

Records within 500m

0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
  - Secondary A
  - Secondary B
  - Secondary Undifferentiated
  - Unproductive
  - Unknown

### 5.1 Superficial aquifer

Records within 500m

11

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 34**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

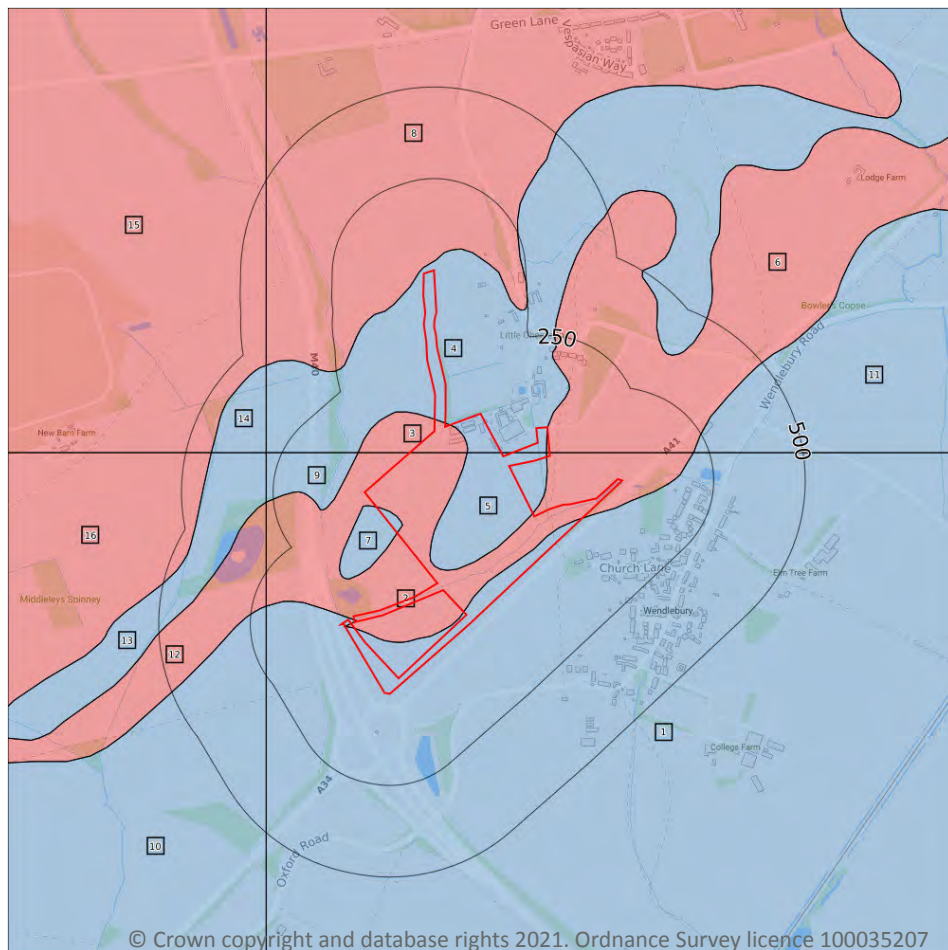


ID	Location	Designation	Description
3	On site	Secondary A	<b>Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers</b>
4	On site	Secondary A	<b>Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers</b>
5	72m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
6	105m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
A	151m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
A	207m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
7	305m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
8	349m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
9	364m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*



## Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
  - Secondary A
  - Secondary B
  - Secondary Undifferentiated
  - Unproductive

### 5.2 Bedrock aquifer

Records within 500m

16

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 36**

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers



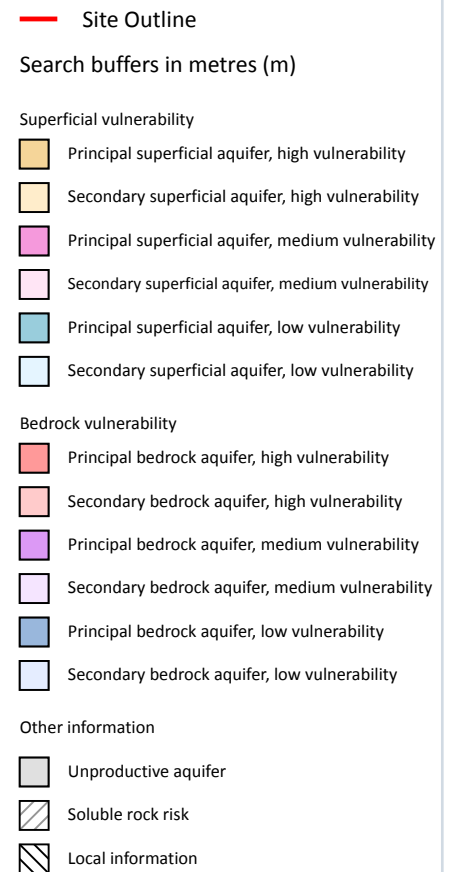
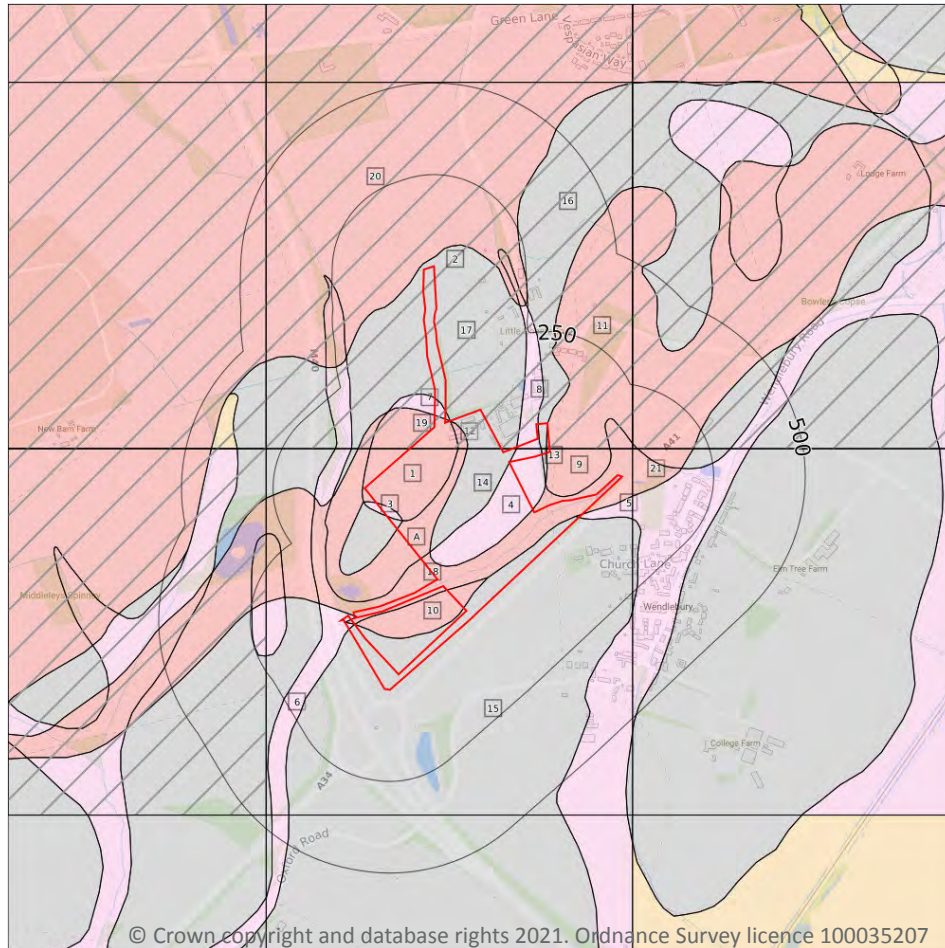
ID	Location	Designation	Description
3	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
5	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
7	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	12m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
9	64m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
10	207m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
11	209m E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
12	212m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
13	269m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
14	290m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
15	429m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
16	432m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*





## Groundwater vulnerability



### 5.3 Groundwater vulnerability

Records within 50m

22

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 38**





ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
6	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
7	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
8	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
9	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
10	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
11	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
12	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
13	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
14	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
15	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
16	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
17	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
18	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
19	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	On site	<b>Summary Classification:</b> Secondary bedrock aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> Well connected fractures
A	On site	<b>Summary Classification:</b> Unproductive aquifer (may have productive aquifer beneath) <b>Combined classification:</b> Unproductive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Well connected fractures
20	11m NW	<b>Summary Classification:</b> Secondary bedrock aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, No Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> - <b>Aquifer type:</b> - <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> Well connected fractures
21	28m E	<b>Summary Classification:</b> Secondary bedrock aquifer - High Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> Medium <b>Aquifer type:</b> Secondary <b>Thickness:</b> <3m <b>Patchiness value:</b> <90% <b>Recharge potential:</b> No Data	<b>Vulnerability:</b> High <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> Well connected fractures

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*

## 5.4 Groundwater vulnerability- soluble rock risk

Records on site			1
This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.			
ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk	
2	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	1.0%	

*This data is sourced from the British Geological Survey and the Environment Agency.*



## 5.5 Groundwater vulnerability- local information

### Records on site

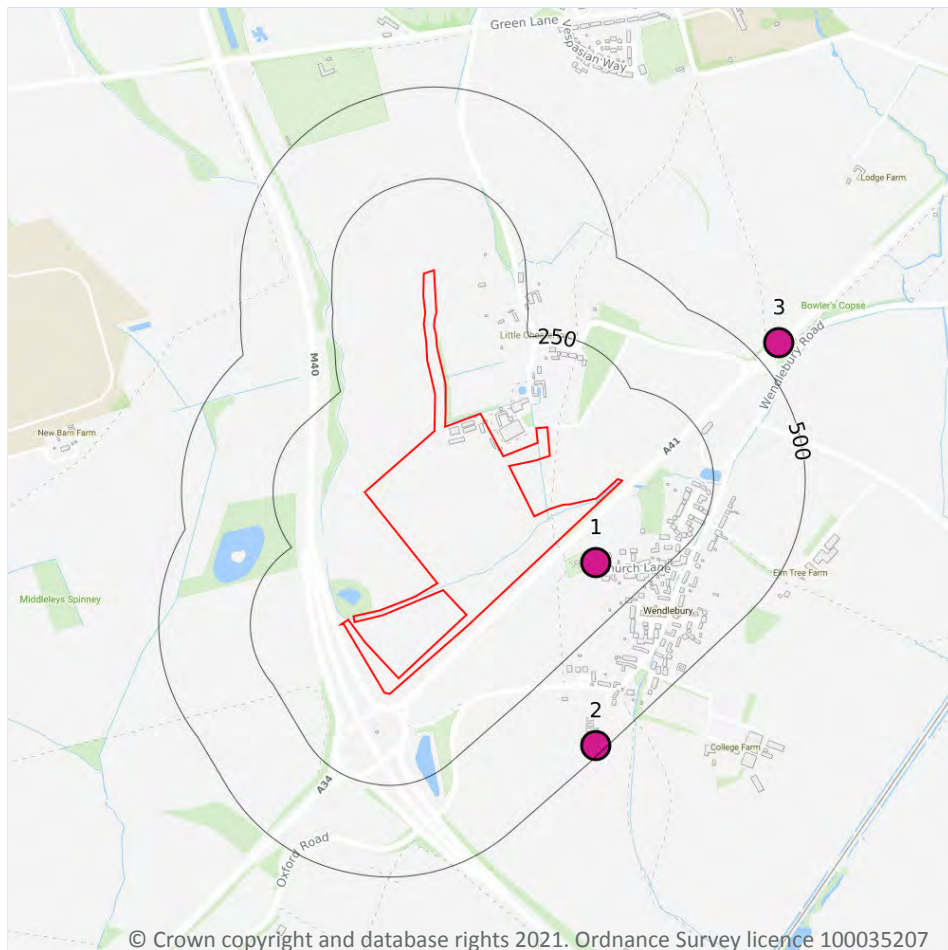
**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk).

*This data is sourced from the British Geological Survey and the Environment Agency.*



## Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1  
Inner catchment
- Source Protection Zone 2  
Outer catchment
- Source Protection Zone 3  
Total catchment
- Source Protection Zone 4  
Zone of Special Interest
- Source Protection Zone 1c  
Inner catchment - confined aquifer
- Source Protection Zone 2c  
Outer catchment - confined aquifer
- Source Protection Zone 3c  
Total catchment - confined aquifer
- Drinking water abstraction licences  
Polygon features
- Drinking water abstraction licences  
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

### 5.6 Groundwater abstractions

Records within 2000m

6

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 44**



ID	Location	Details	
1	113m SE	Status: Historical Licence No: 28/39/14/0064 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: HOME FARM, WENDLEBURY (A) Data Type: Point Name: MILLER Easting: 455900 Northing: 219700	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 10/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1985 Version End Date: -
2	478m SE	Status: Historical Licence No: 28/39/14/0267 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: MANOR FARM, WENDLEBURY (A) Data Type: Point Name: J W BONNER & SONS Easting: 455900 Northing: 219200	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 09/04/1973 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1980 Version End Date: -
3	570m NE	Status: Historical Licence No: 28/39/14/0326 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOWLERS COPSE, WENDLEBURY (A) Data Type: Point Name: PAIN Easting: 456400 Northing: 220300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 29/12/1993 Expiry Date: - Issue No: 100 Version Start Date: 29/12/1993 Version End Date: -
-	1402m NE	Status: Historical Licence No: 28/39/14/0329 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: PROMISED LAND FARM, BICESTER (A) Data Type: Point Name: PROMISED LAND FARM Easting: 457200 Northing: 220600	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 16/11/1994 Expiry Date: - Issue No: 100 Version Start Date: 16/11/1994 Version End Date: -
-	1428m NE	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY Data Type: Point Name: M & L ROSSITER Easting: 457100 Northing: 220800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 19/03/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/03/1987 Version End Date: -





ID	Location	Details	
-	1675m NE	Status: Active Licence No: 28/39/14/0295 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WENDLEBURY LANE, BICESTER (A) Data Type: Point Name: FACCENDA CHICKEN LTD Easting: 457400 Northing: 220800	Annual Volume (m <sup>3</sup> ): 16,593 Max Daily Volume (m <sup>3</sup> ): 68.20 Original Application No: - Original Start Date: 08/07/1983 Expiry Date: - Issue No: 100 Version Start Date: 08/07/1983 Version End Date: -

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.7 Surface water abstractions

<b>Records within 2000m</b>	<b>1</b>
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Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 44**

ID	Location	Details	
-	1771m SE	Status: Historical Licence No: 28/39/14/0350 Details: Make-Up Or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: LANGFORD BROOK AT MERTON GROUNDS FARM, MERTON Data Type: Line Name: Emma Keeble and Francois Rodrigues-Pereire Easting: 457560 Northing: 219140	Annual Volume (m <sup>3</sup> ): 16256 Max Daily Volume (m <sup>3</sup> ): 145.47 Original Application No: - Original Start Date: 06/05/2005 Expiry Date: 31/03/2018 Issue No: 3 Version Start Date: 09/06/2017 Version End Date: -

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.8 Potable abstractions

<b>Records within 2000m</b>	<b>1</b>
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Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 44**



ID	Location	Details	
-	1428m NE	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BICESTER TRAILER PARK, OXFORD ROAD, WENDLEBURY Data Type: Point Name: M & L ROSSITER Easting: 457100 Northing: 220800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 19/03/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/03/1987 Version End Date: -

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.9 Source Protection Zones

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

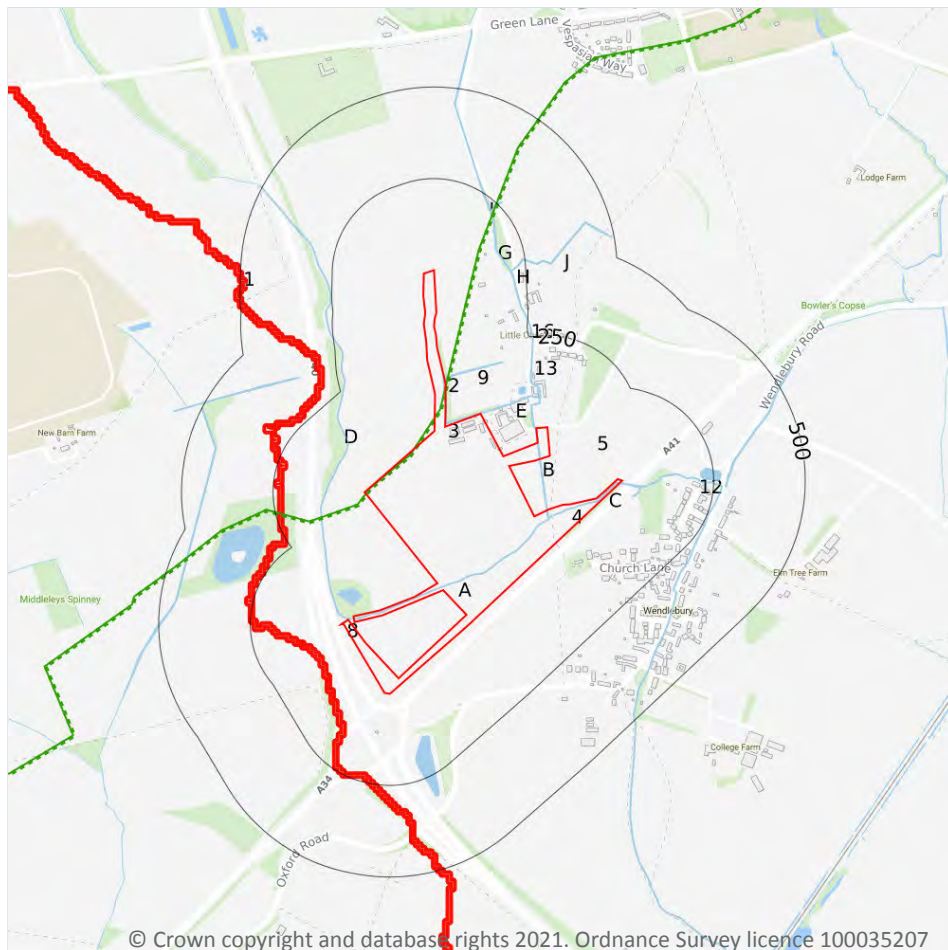
## 5.10 Source Protection Zones (confined aquifer)

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

### 6.1 Water Network (OS MasterMap)

Records within 250m

30

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 48**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	3m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	4m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	12m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	18m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	28m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
C	43m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
C	50m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	53m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	64m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	64m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	81m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	90m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	111m N	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
E	114m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	135m N	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
G	178m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	208m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
H	208m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	220m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
I	220m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	228m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
16	231m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

### Records within 250m

19

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 48**

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

### Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 48**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
5	On site	River WB catchment	Langford Brook (Bicester to Ray inc Gagle Brook)	GB106039030140	Oxon Ray	Cherwell and Ray

*This data is sourced from the Environment Agency and Natural Resources Wales.*





## 6.4 WFD Surface water bodies

### Records identified

**1**

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 48**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1664m SE	River	Langford Brook (Bicester to Ray inc Gagle Brook)	<a href="#">GB106039030140</a>	Poor	Good	Poor	2016

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 6.5 WFD Groundwater bodies

### Records on site

**1**

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 48**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Bicester-Otmoor Cornbrash	<a href="#">GB40602G600800</a>	Good	Good	Good	2015

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- Environment Agency river and coastal flooding:
  - High
  - Medium
  - Low
  - Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

### 7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

#### Records within 50m

23

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 53**

Distance	RoFRaS flood risk
<b>On site</b>	<b>High</b>
0 - 50m	High



*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.2 Historical Flood Events

### Records within 250m

**1**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on **page 53**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
18	222m SE	Wendlebury_Fluvial	2008-06-03 2008-06-10	Main river	Channel capacity exceeded (no raised defences)	Fluvial

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.3 Flood Defences

### Records within 250m

**0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.4 Areas Benefiting from Flood Defences

### Records within 250m

**0**

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.5 Flood Storage Areas

Records within 250m

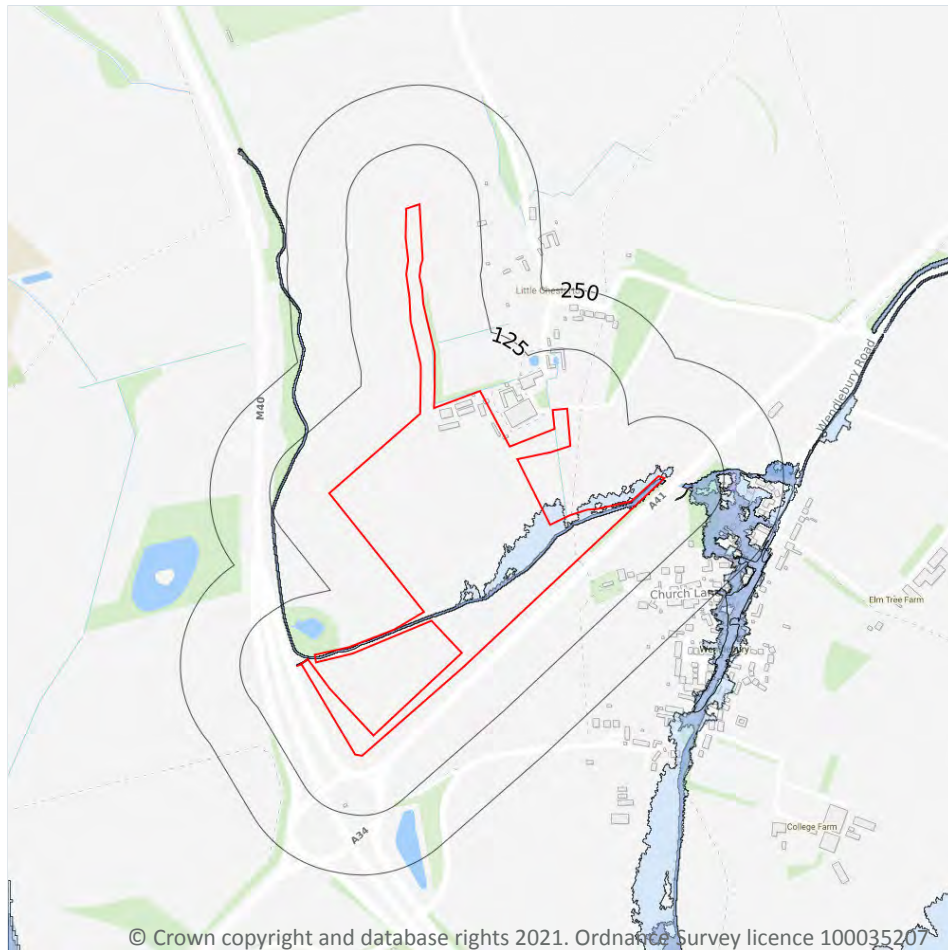
0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

*This data is sourced from the Environment Agency and Natural Resources Wales.*



## River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

### 7.6 Flood Zone 2

#### Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 53**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.7 Flood Zone 3

### Records within 50m

**1**

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 53**

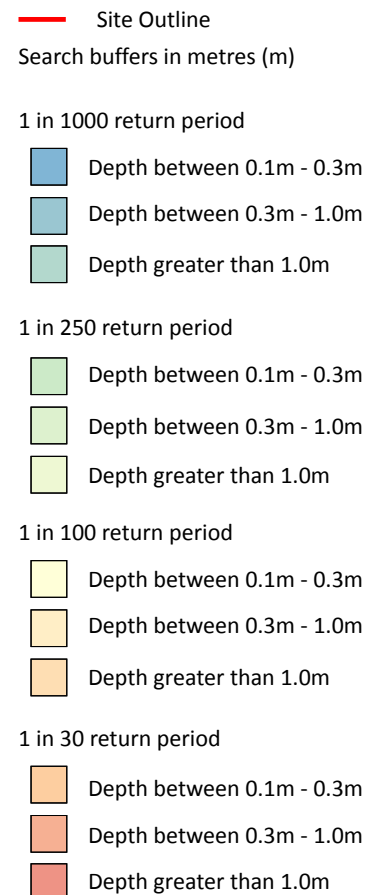
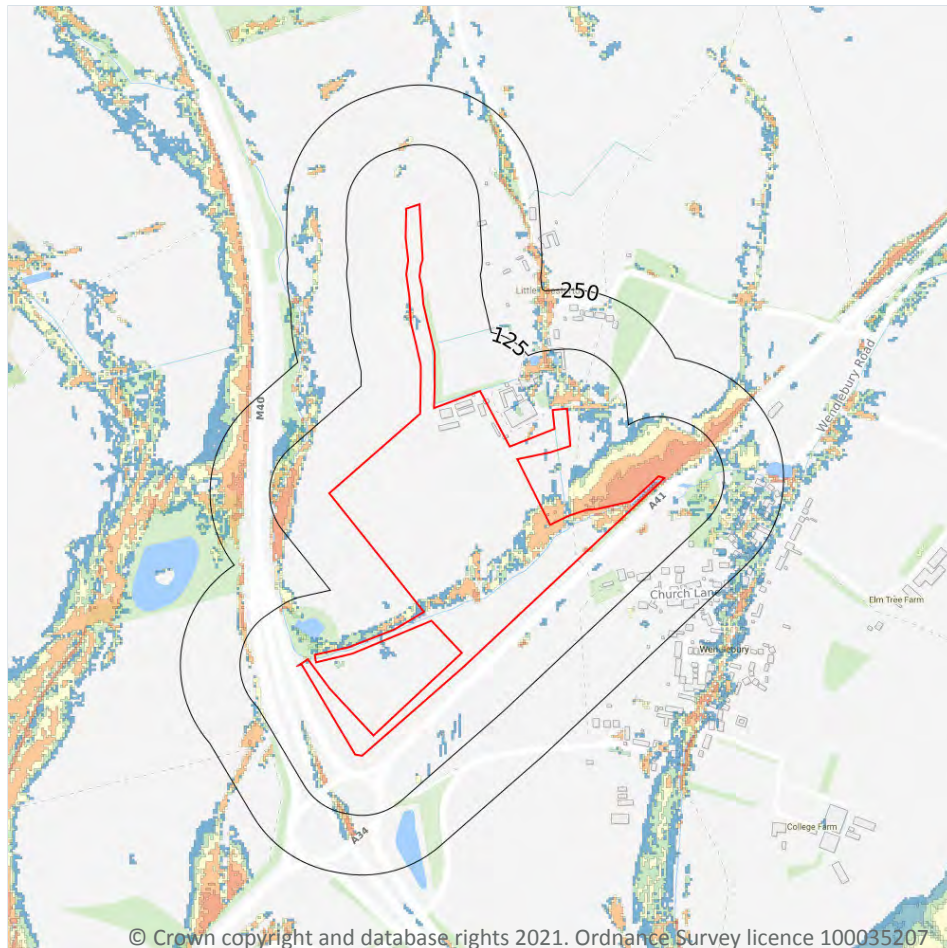
Location	Type
On site	Zone 3 - (Fluvial Models)

*This data is sourced from the Environment Agency and Natural Resources Wales.*





## 8 Surface water flooding



### 8.1 Surface water flooding

**Highest risk on site**

**1 in 30 year, Greater than 1.0m**

**Highest risk within 50m**

**1 in 30 year, Greater than 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 58**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

*This data is sourced from Ambiantal Risk Analytics.*



## 9 Groundwater flooding



— Site Outline  
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

### 9.1 Groundwater flooding

**Highest risk on site**

**Low**

**Highest risk within 50m**

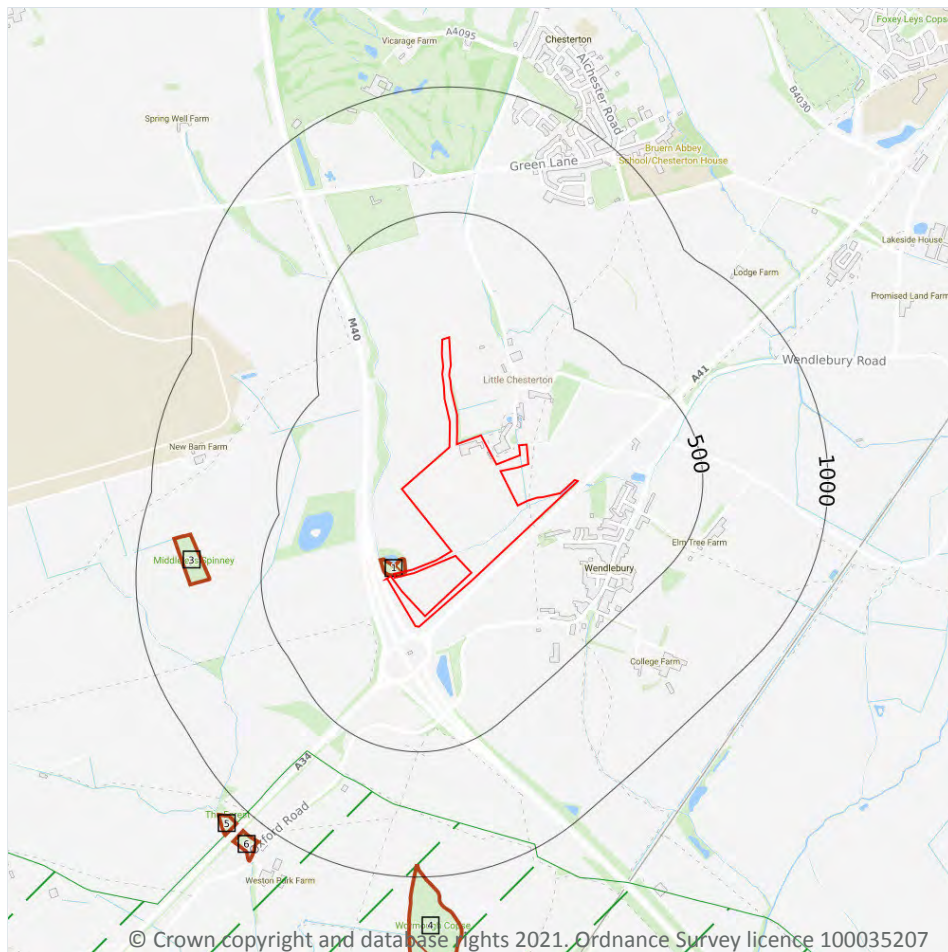
**Low**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 60**

*This data is sourced from Ambiantal Risk Analytics.*

## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- Designated Ancient Woodland
- Green Belt

### 10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 61**

ID	Location	Name	Data source
7	1380m S	Wendlebury Meads and Mansmoor Closes	Natural England





ID	Location	Name	Data source
-	1518m SE	Wendlebury Meads and Mansmoor Closes	Natural England

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.2 Conserved wetland sites (Ramsar sites)

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.3 Special Areas of Conservation (SAC)

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.4 Special Protection Areas (SPA)

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.5 National Nature Reserves (NNR)

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.7 Designated Ancient Woodland

Records within 2000m

7

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 61**

ID	Location	Name	Woodland Type
1	On site	Unknown	Ancient & Semi-Natural Woodland
3	706m W	Middleleys Spinney	Ancient & Semi-Natural Woodland
4	956m S	Wormough Copse	Ancient & Semi-Natural Woodland
5	1063m SW	Meizen Copse	Ancient & Semi-Natural Woodland
6	1066m SW	Meizen Copse	Ancient & Semi-Natural Woodland
-	1573m SW	Weston Wood	Ancient & Semi-Natural Woodland
-	1672m W	Unknown	Ancient & Semi-Natural Woodland

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*





## 10.9 Forest Parks

**Records within 2000m****0**

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

**Records within 2000m****0**

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.11 Green Belt

**Records within 2000m****1**

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 61**

ID	Location	Name	Local Authority name
2	656m SW	Oxford	Cherwell

*This data is sourced from the Ministry of Housing, Communities and Local Government.*

## 10.12 Proposed Ramsar sites

**Records within 2000m****0**

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

### 10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

*This data is sourced from Natural England and Natural Resources Wales.*

### 10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

### 10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

*This data is sourced from Natural England.*

### 10.16 Nitrate Vulnerable Zones

Records within 2000m

2

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	S472	Existing

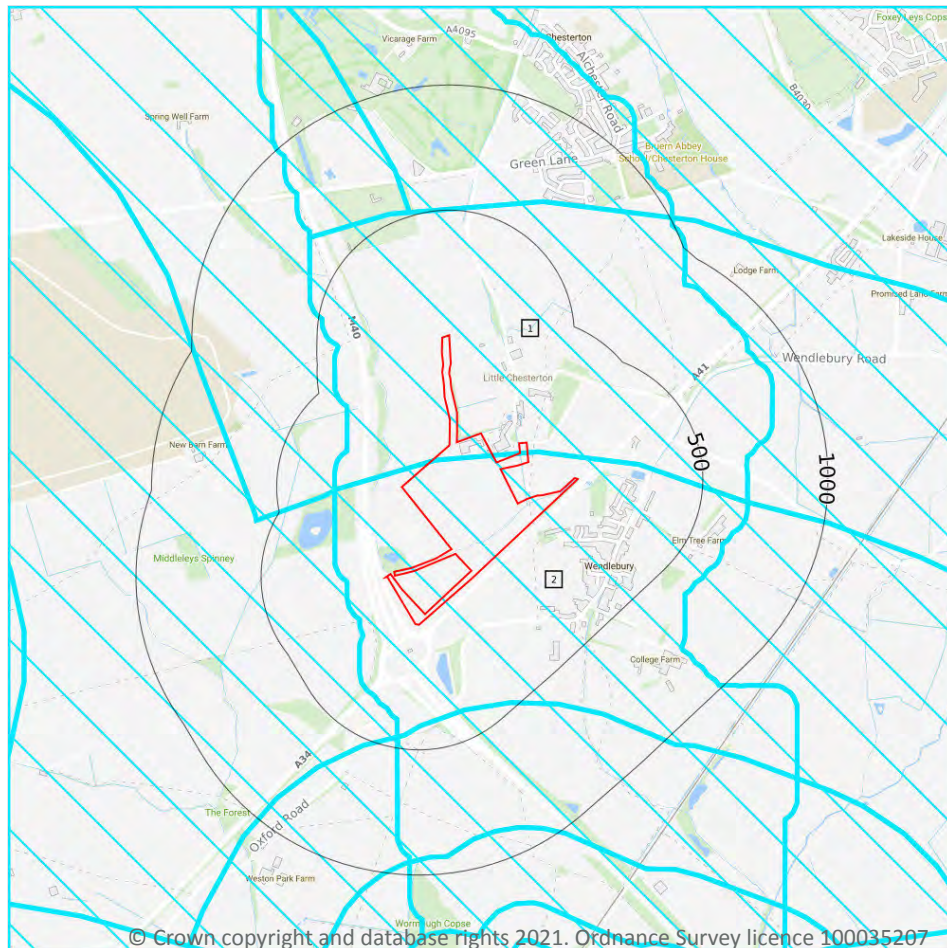


Location	Name	Type	NVZ ID	Status
1115m W	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	S472	Existing

*This data is sourced from Natural England and Natural Resources Wales.*



## SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

### 10.17 SSSI Impact Risk Zones

#### Records on site

2

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 67**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil &amp; gas exploration/extraction.</p> <p>Air pollution - Livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &gt; 750m<sup>2</sup> &amp; manure stores &gt; 3500t.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).</p>
2	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil &amp; gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &gt; 200m<sup>2</sup> &amp; manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p>

*This data is sourced from Natural England.*

## 10.18 SSSI Units

### Records within 2000m

4

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 67**



ID: 14  
 Location: 1380m S  
 SSSI name: Wendlebury Meads and Mansmoor Closes  
 Unit name: Miller  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Favourable	05/07/2010

ID: -  
 Location: 1430m S  
 SSSI name: Wendlebury Meads and Mansmoor Closes  
 Unit name: Bbont  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Favourable	01/10/2010

ID: -  
 Location: 1518m SE  
 SSSI name: Wendlebury Meads and Mansmoor Closes  
 Unit name: Miller  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Favourable	05/07/2010

ID: -  
 Location: 1543m S  
 SSSI name: Wendlebury Meads and Mansmoor Closes  
 Unit name: Holts Farm  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

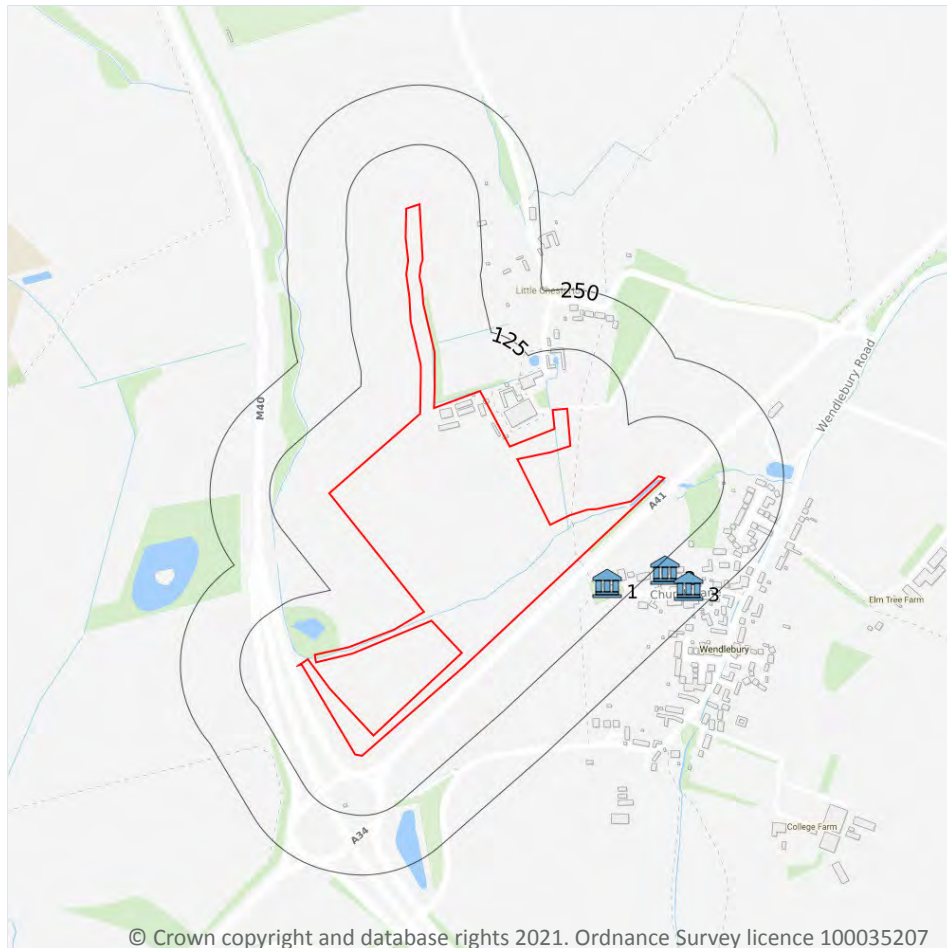


Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Favourable	01/10/2010

*This data is sourced from Natural England and Natural Resources Wales.*



## 11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

### 11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

*This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.*

## 11.4 Listed Buildings

Records within 250m

3

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 71**

ID	Location	Name	Grade	Reference Number	Listed date
1	79m SE	Church Of St Giles, Wendlebury, Cherwell, Oxfordshire, OX25	II	1046559	07/12/1966
2	142m SE	Home Farmhouse, Wendlebury, Cherwell, Oxfordshire, OX25	II	1193641	10/04/1987
3	200m SE	Wendlebury House Wendlebury Lodge, Wendlebury, Cherwell, Oxfordshire,WENDLEBURY HOUSE	II	1369719	26/11/1951

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*



## 11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.7 Registered Parks and Gardens

Records within 250m

0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

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### 12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 74**

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.



ID	Location	Classification	Description
2	203m NW	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

*This data is sourced from Natural England.*

## 12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

*This data is sourced from Natural England and Natural Resources Wales.*

## 12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

Records within 250m

3

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

Location	Reference	Scheme	Start Date	End date
50m SE	AG00600972	Entry Level plus Higher Level Stewardship	01/10/2014	30/09/2024
94m W	AG00491933	Entry Level plus Higher Level Stewardship	01/12/2013	30/11/2023
186m NW	AG00304431	Entry Level plus Higher Level Stewardship	01/02/2010	31/01/2021

*This data is sourced from Natural England.*





## 12.5 Countryside Stewardship Schemes

**Records within 250m****1**

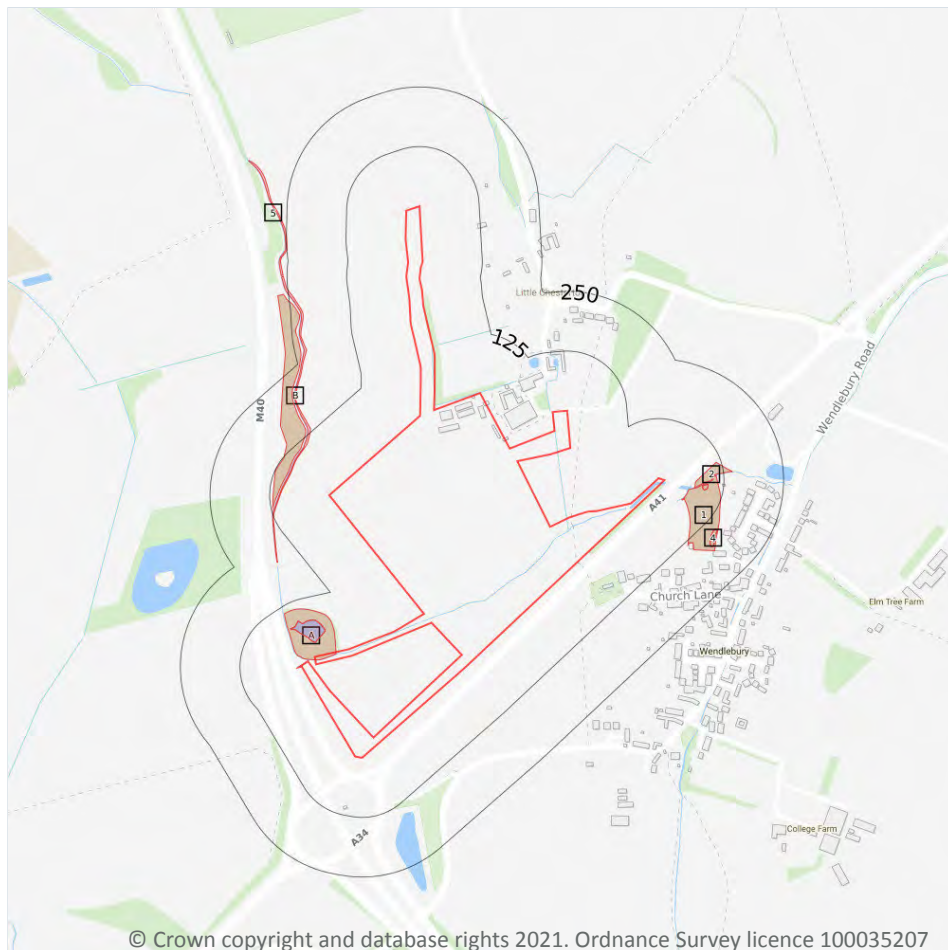
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	826610	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

*This data is sourced from Natural England.*



## 13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

### 13.1 Priority Habitat Inventory

Records within 250m

9

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 77**

ID	Location	Main Habitat	Other habitats
<b>A</b>	<b>On site</b>	<b>Deciduous woodland</b>	<b>Main habitat: DWOOD (INV &gt; 50%)</b>
A	29m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
1	55m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	65m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
3	81m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	93m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	99m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	148m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	249m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

**Records within 250m**

**0**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

**Records within 250m**

**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

*This data is sourced from Natural England.*

## 13.4 Limestone Pavement Orders

**Records within 250m**

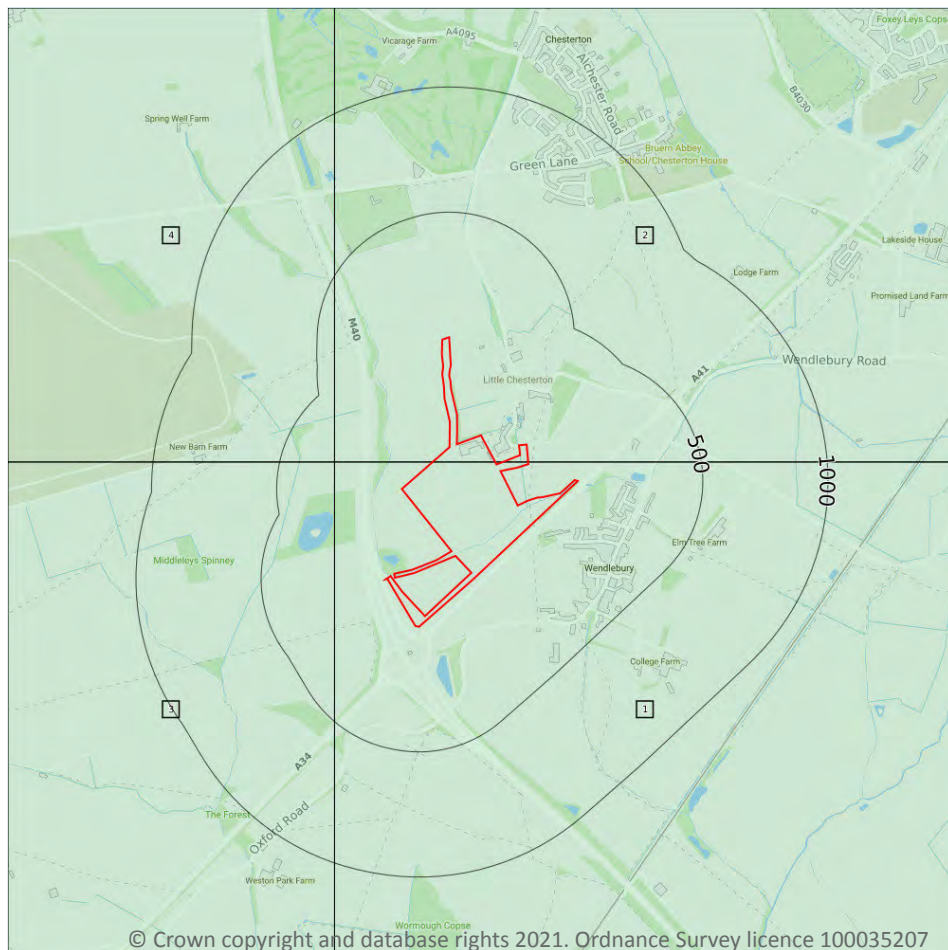
**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

*This data is sourced from Natural England.*



## 14 Geology 1:10,000 scale - Availability



— Site Outline  
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

### 14.1 10k Availability

#### Records within 500m

4

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 79**

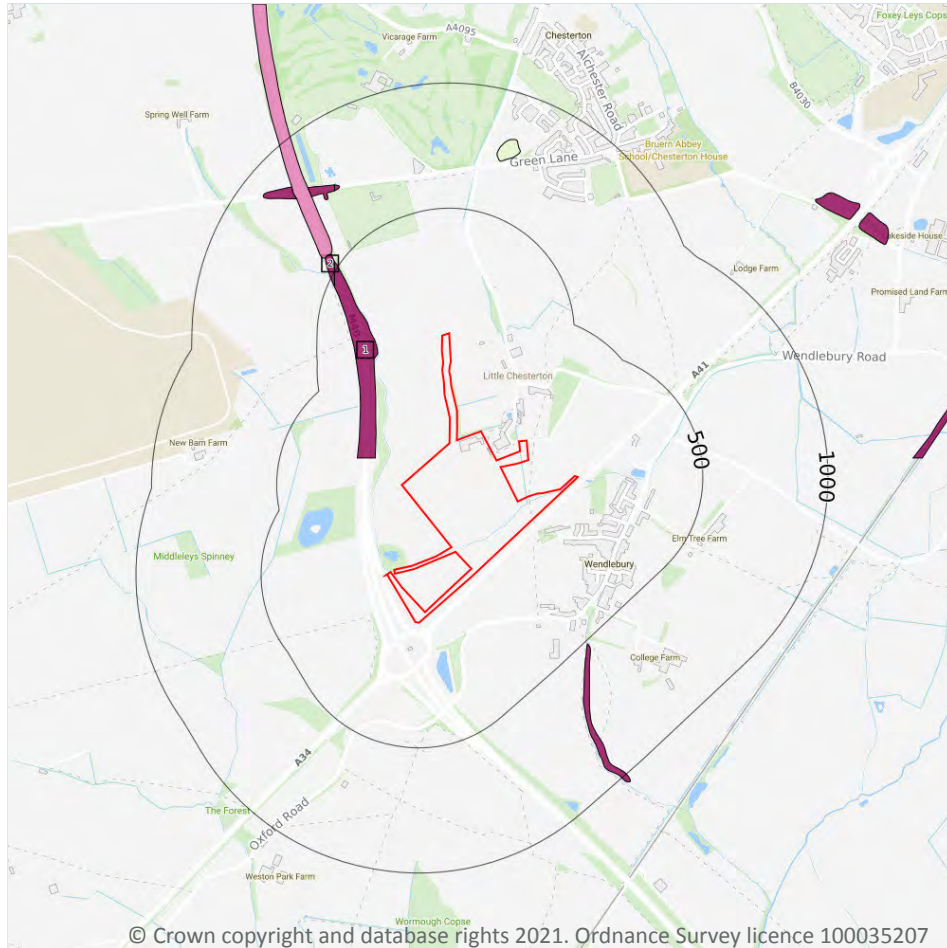
ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SP51NE
2	On site	Full	Full	Full	No coverage	SP52SE
3	207m W	No coverage	Full	Full	No coverage	SP51NW
4	290m W	Full	Full	Full	No coverage	SP52SW



*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Artificial and made ground



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
  - Made ground
  - Worked ground
  - Infilled ground
  - Disturbed ground
  - Landscaped ground

### 14.2 Artificial and made ground (10k)

Records within 500m

2

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 81**

ID	Location	LEX Code	Description	Rock description
1	151m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	472m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Superficial



**Site Outline**

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)  
Please see table for more details.

### 14.3 Superficial geology (10k)

Records within 500m

12

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 82**

ID	Location	LEX Code	Description	Rock description
1	On site	RTD1-XSV	River Terrace Deposits, 1 - Sand And Gravel	Sand And Gravel
2	On site	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
3	On site	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
4	On site	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly

ID	Location	LEX Code	Description	Rock description
5	On site	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly
6	72m N	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly
7	105m NW	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly
8	149m W	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
9	207m W	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
10	310m E	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly
11	350m W	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly
12	368m W	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly

*This data is sourced from the British Geological Survey.*

## 14.4 Landslip (10k)

Records within 500m

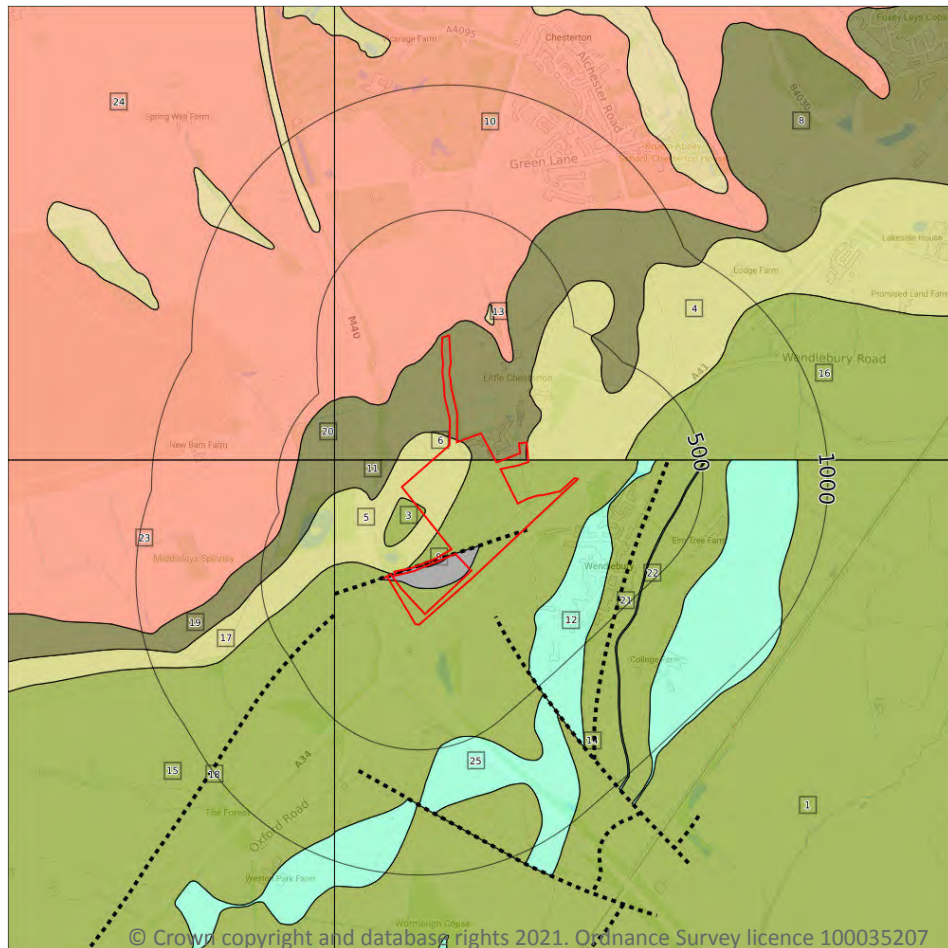
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Bedrock



**— Site Outline**

**Search buffers in metres (m)**

**.... Bedrock faults and other linear features (10k)**

**Bedrock geology (10k)**  
Please see table for more details.

### 14.5 Bedrock geology (10k)

Records within 500m

21

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 84**

ID	Location	LEX Code	Description	Rock age
1	On site	PET-MDST	Peterborough Member - Mudstone	Callovian Age
3	On site	PET-MDST	Peterborough Member - Mudstone	Callovian Age
4	On site	KLS-SDSL	Kellaways Sand Member - Sandstone And Siltstone, Interbedded	Callovian Age

ID	Location	LEX Code	Description	Rock age
5	On site	KLS-SDSL	Kellaways Sand Member - Sandstone And Siltstone, Interbedded	Callovian Age
6	On site	KLS-SDSL	Kellaways Sand Member - Sandstone And Siltstone, Interbedded	Callovian Age
7	On site	KLS-SISD	Kellaways Sand Member - Siltstone And Sandstone	Callovian Age
8	On site	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age
9	On site	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age
10	14m NW	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age
11	66m NW	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age
12	141m SE	PET-LMST	Peterborough Member - Limestone	Callovian Age
13	158m NE	FMB-LSMD	Forest Marble Formation - Interbedded Limestone And Mudstone	Bathonian Age
15	207m W	PET-MDST	Peterborough Member - Mudstone	Callovian Age
16	207m E	PET-MDST	Peterborough Member - Mudstone	Callovian Age
17	212m W	KLS-SDSL	Kellaways Sand Member - Sandstone And Siltstone, Interbedded	Callovian Age
19	269m W	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age
20	290m W	KLC-MDST	Kellaways Clay Member - Mudstone	Callovian Age
22	398m SE	PET-LMST	Peterborough Member - Limestone	Callovian Age
23	428m W	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age
24	428m W	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age
25	476m S	PET-LMST	Peterborough Member - Limestone	Callovian Age

*This data is sourced from the British Geological Survey.*

## 14.6 Bedrock faults and other linear features (10k)

### Records within 500m

4

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 84**



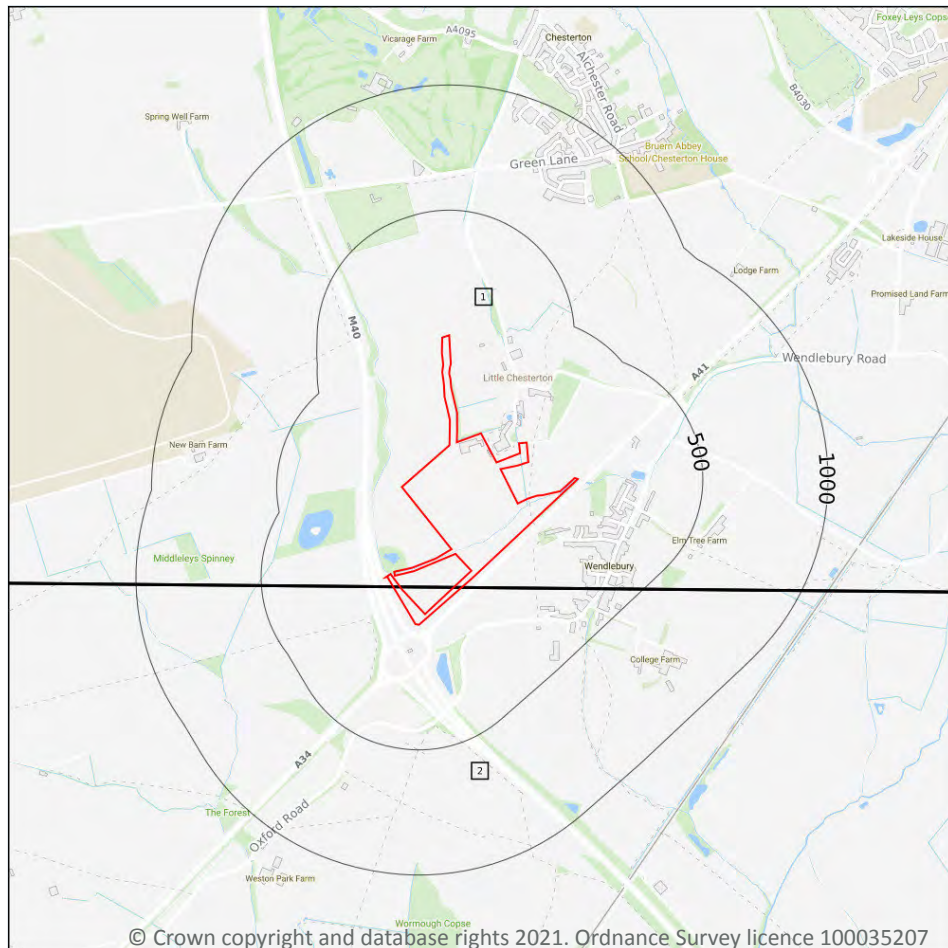
ID	Location	Category	Description
2	On site	FAULT	Normal fault, inferred; crossmarks on downthrow side
14	177m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
18	256m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
21	310m E	FAULT	Normal fault, inferred; crossmarks on downthrow side

*This data is sourced from the British Geological Survey.*





## 15 Geology 1:50,000 scale - Availability



— Site Outline  
Search buffers in metres (m)

☐ Geological map tile

### 15.1 50k Availability

Records within 500m

2

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 87**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW219_buckingham_v4
2	On site	Full	Full	Full	Full	EW237_thame_v4

*This data is sourced from the British Geological Survey.*





## Geology 1:50,000 scale - Artificial and made ground

### 15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

*This data is sourced from the British Geological Survey.*

### 15.3 Artificial ground permeability (50k)

Records within 50m

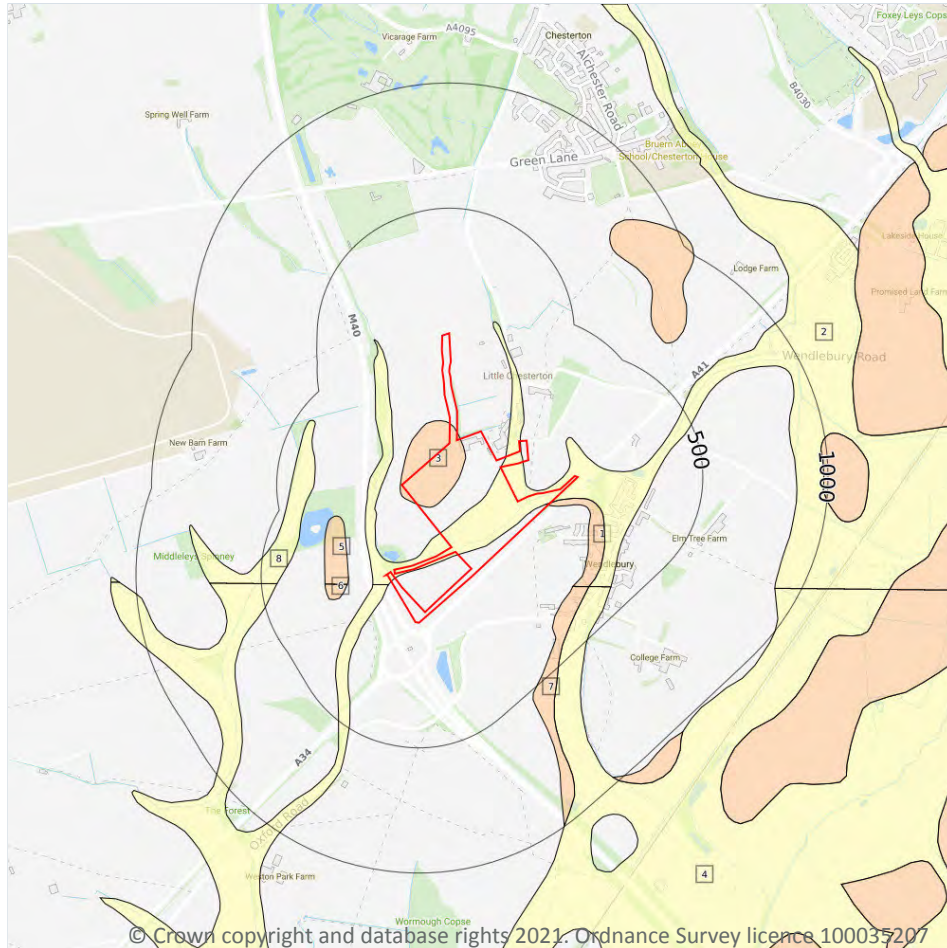
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Superficial



**Site Outline**

Search buffers in metres (m)

**Landslip (50k)**

**Superficial geology (50k)**  
Please see table for more details.

### 15.4 Superficial geology (50k)

#### Records within 500m

8

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 89**

ID	Location	LEX Code	Description	Rock description
1	On site	RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
2	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	On site	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL
4	17m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	151m W	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL
6	160m W	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL
7	305m SE	RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
8	349m W	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

<b>Records within 50m</b>	<b>5</b>
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High
On site	Intergranular	Very High	High
On site	Intergranular	High	Very Low
On site	Intergranular	Very High	High
On site	Intergranular	High	Very Low

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*

## 15.7 Landslip permeability (50k)

Records within 50m

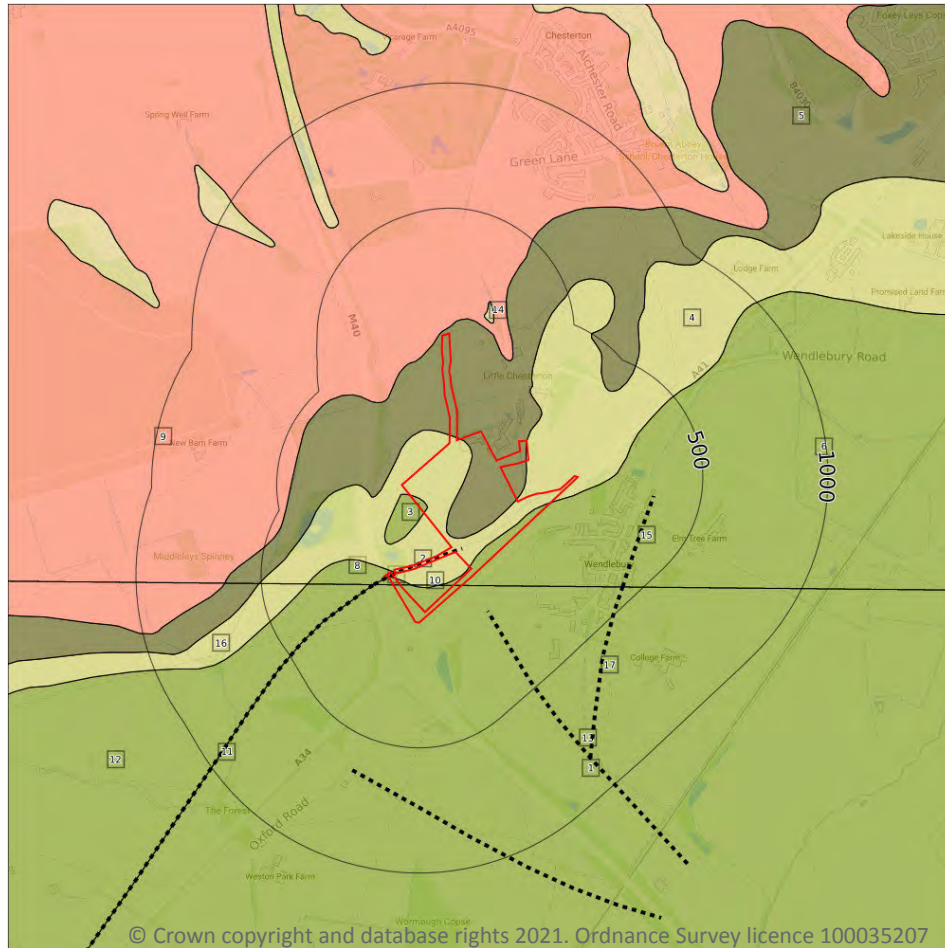
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Bedrock



**— Site Outline**

**Search buffers in metres (m)**

**.... Bedrock faults and other linear features (50k)**

**Bedrock geology (50k)**  
Please see table for more details.

### 15.8 Bedrock geology (50k)

Records within 500m

12

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 92**

ID	Location	LEX Code	Description	Rock age
1	On site	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
3	On site	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
4	On site	KLS-SDSL	KELLAWAYS SAND MEMBER - SANDSTONE AND SILTSTONE, INTERBEDDED	CALLOVIAN



ID	Location	LEX Code	Description	Rock age
5	On site	KLC-MDST	KELLAWAYS CLAY MEMBER - MUDSTONE	CALLOVIAN
6	On site	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
7	On site	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
8	On site	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
9	12m NW	CB-LMST	CORNBRAH FORMATION - LIMESTONE	BATHONIAN
10	34m NE	KLS-SDSL	KELLAWAYS SAND MEMBER - SANDSTONE AND SILTSTONE, INTERBEDDED	CALLOVIAN
12	63m SW	PET-MDST	PETERBOROUGH MEMBER - MUDSTONE	CALLOVIAN
14	156m NE	FMB-LSMD	FOREST MARBLE FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED	BATHONIAN
16	318m W	KLS-SDSL	KELLAWAYS SAND MEMBER - SANDSTONE AND SILTSTONE, INTERBEDDED	CALLOVIAN

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

### Records within 50m

8

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Moderate	Moderate
On site	Fracture	Low	Very Low
On site	Mixed	Moderate	Moderate
On site	Fracture	Low	Very Low
On site	Mixed	Moderate	Moderate
On site	Fracture	Low	Very Low
On site	Fracture	Low	Very Low
12m NE	Fracture	Very High	High

*This data is sourced from the British Geological Survey.*





## 15.10 Bedrock faults and other linear features (50k)

### Records within 500m

**5**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

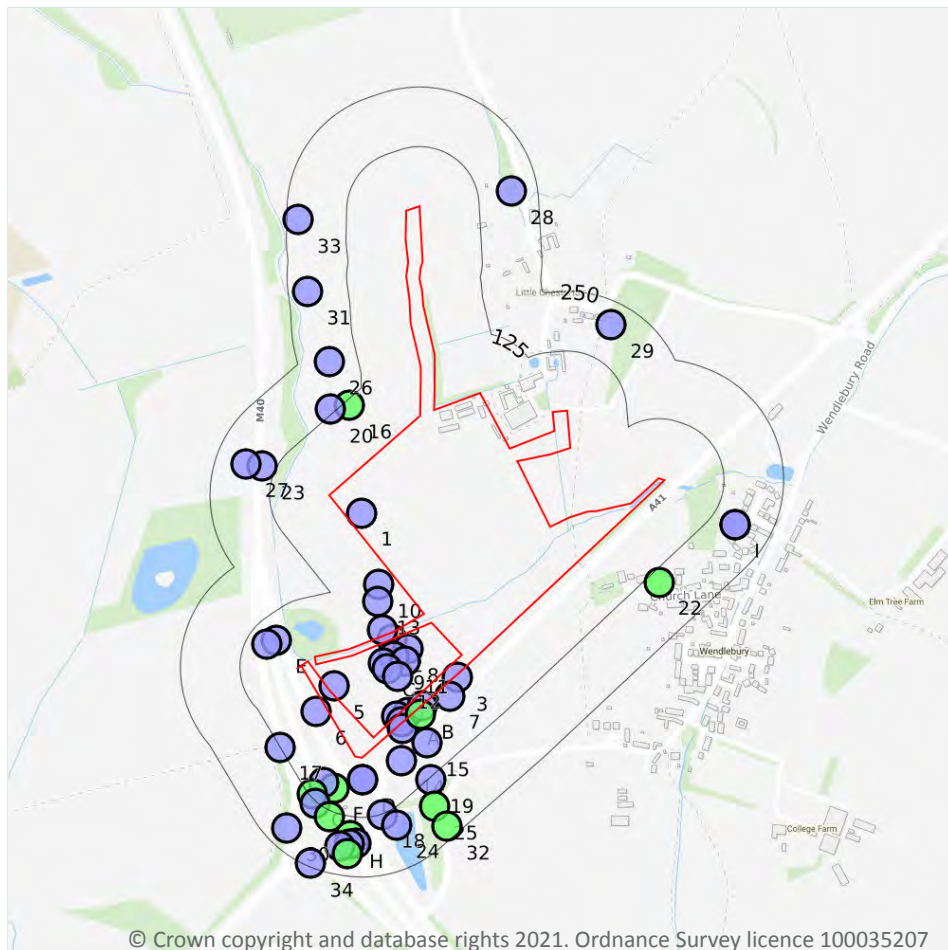
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 92**

ID	Location	Category	Description
<b>2</b>	<b>On site</b>	<b>FAULT</b>	<b>Fault, inferred</b>
11	63m SW	FAULT	Fault, inferred
13	146m SE	FAULT	Fault, inferred
15	312m E	FAULT	Fault, inferred
17	443m SE	FAULT	Fault, inferred

*This data is sourced from the British Geological Survey.*



## 16 Boreholes



— Site Outline  
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

### 16.1 BGS Boreholes

Records within 250m

57

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 95**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	455337 219855	M40 WENDLEBURY TO SOULDERN SECTION 474A	4.5	N	<a href="#">335888</a>
A	On site	455434 219437	M40 WENDLEBURY TO SOULDERN SECTION 466	4.7	N	<a href="#">335877</a>



ID	Location	Grid reference	Name	Length	Confidential	Web link
<b>A</b>	<b>On site</b>	<b>455411 219429</b>	<b>OXFORD-BIRMINGHAM M40 BH0545</b>	<b>7.85</b>	<b>N</b>	<a href="#"><b>335941</b></a>
<b>A</b>	<b>On site</b>	<b>455421 219417</b>	<b>M40 WENDLEBURY TO SOULDERN SECTION 054</b>	<b>8.0</b>	<b>N</b>	<a href="#"><b>335875</b></a>
2	1m SE	455401 219590	M40 WENDLEBURY TO SOULDERN SECTION 473B	44.15	N	<a href="#">335886</a>
B	2m SE	455464 219450	OXFORD-BIRMINGHAM M40 BH0555	7.8	N	<a href="#">335942</a>
3	5m SE	455537 219510	M40 WENDLEBURY TO SOULDERN SECTION 469	4.2	N	<a href="#">335879</a>
A	10m SE	455423 219403	M40 WENDLEBURY TO SOULDERN SECTION 465	5.0	N	<a href="#">335874</a>
B	11m SE	455459 219433	M40 WENDLEBURY TO SOULDERN SECTION 055	24.9	N	<a href="#">335876</a>
4	13m N	455380 219610	OXFORD-BIRMINGHAM OXFORD-BANBURY	1.1	N	<a href="#">335866</a>
5	14m NE	455279 219493	M40 WENDLEBURY TO SOULDERN SECTION 472	4.7	N	<a href="#">335882</a>
6	22m SW	455241 219439	M40 WENDLEBURY TO SOULDERN SECTION 468	4.5	N	<a href="#">335880</a>
7	24m SE	455521 219471	M40 WENDLEBURY TO SOULDERN SECTION 467	4.8	N	<a href="#">335878</a>
8	32m SE	455434 219570	OXFORD-BIRMINGHAM M40 TP4695	4.2	N	<a href="#">335952</a>
9	35m SE	455405 219555	M40 WENDLEBURY TO SOULDERN SECTION 471	4.0	N	<a href="#">335885</a>
10	36m SW	455372 219705	M40 WENDLEBURY TO SOULDERN SECTION 474	4.5	N	<a href="#">335887</a>
C	40m SE	455382 219540	OXFORD-BIRMINGHAM M40 TP4705	4.8	N	<a href="#">335953</a>
D	46m S	455338 219296	M40 BANBURY BYPASS TP813T	3.0	N	<a href="#">336040</a>
D	46m S	455338 219296	M40 BANBURY BYPASS TP813AT	1.0	N	<a href="#">336041</a>
11	53m SE	455429 219545	M40 WENDLEBURY TO SOULDERN SECTION 057	5.2	N	<a href="#">335884</a>
C	54m SE	455391 219528	M40 WENDLEBURY TO SOULDERN SECTION 056	5.75	N	<a href="#">335883</a>
12	59m NW	455413 219513	M40 WENDLEBURY TO SOULDERN SECTION 470	4.4	N	<a href="#">335881</a>
13	60m SW	455370 219670	OXFORD-BIRMINGHAM OXFORD-BANBURY	-2.0	N	<a href="#">335867</a>
14	60m SE	455421 219335	M40 BANBURY BYPASS TP809T	3.0	N	<a href="#">336037</a>
15	66m SE	455473 219373	M40 WENDLEBURY TO SOULDERN SECTION 465A	4.6	N	<a href="#">335873</a>
E	74m NW	455158 219588	M40 BANBURY BYPASS BH230G	6.0	N	<a href="#">336024</a>
F	80m SW	455278 219278	M40 BANBURY BYPASS BH207AT	20.0	N	<a href="#">336022</a>
E	84m NW	455138 219580	M40 BANBURY BYPASS BH231G	6.0	N	<a href="#">336025</a>
F	86m SW	455257 219290	M40 BANBURY BYPASS TP812T	3.0	N	<a href="#">336039</a>
16	115m NW	455310 220081	CHESTERTON CUTTING C7 BH059	17.0	N	<a href="#">336708</a>



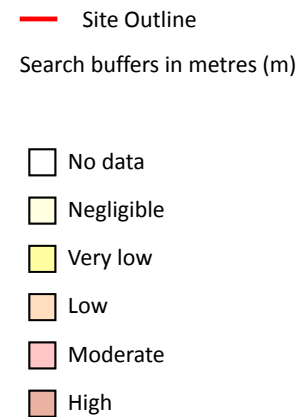
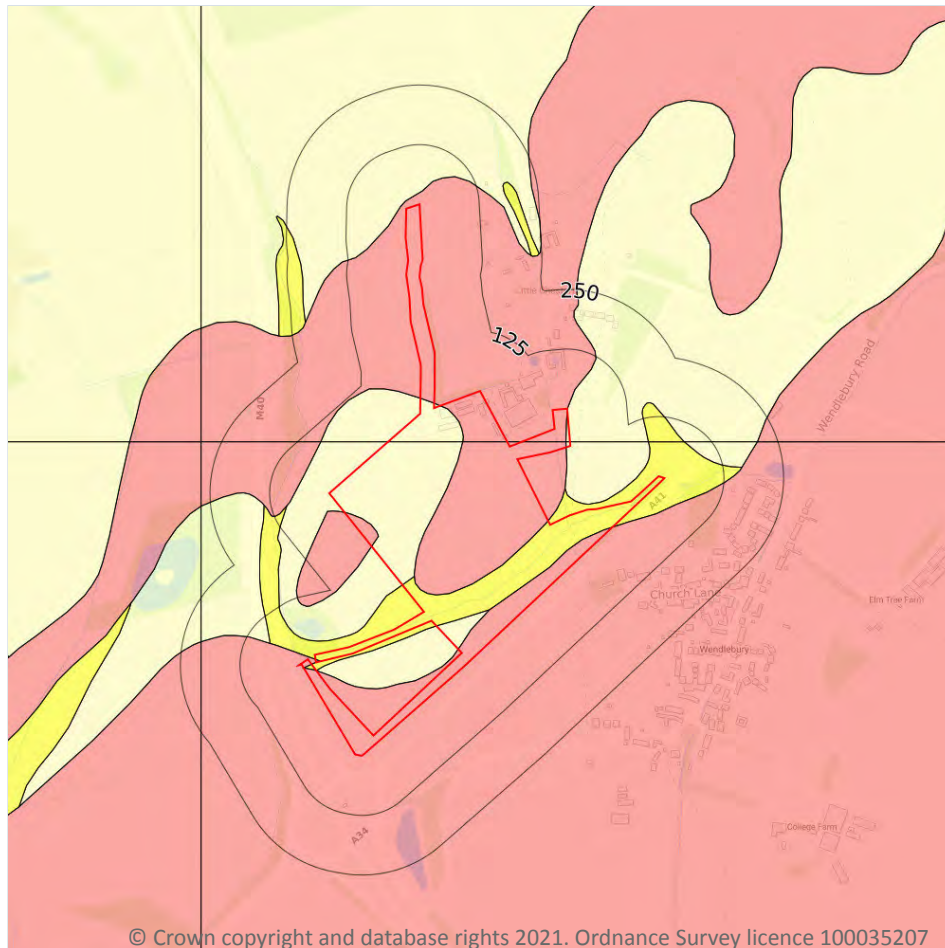
ID	Location	Grid reference	Name	Length	Confidential	Web link
G	119m SW	455233 219267	M40 BANBURY BYPASS BH208T	20.0	N	<a href="#">336023</a>
17	126m SW	455165 219364	M40 BANBURY BYPASS TP814T	3.0	N	<a href="#">336042</a>
18	126m S	455380 219223	M40 BANBURY BYPASS TP806T	3.0	N	<a href="#">336034</a>
G	129m SW	455240 219246	M40 BANBURY BYPASS TP810T	3.0	N	<a href="#">336038</a>
19	130m SE	455482 219296	M40 WENDLEBURY TO SOULDERN SECTION 464	3.6	N	<a href="#">335872</a>
20	134m NW	455271 220072	CHESTERTON CUTTING C7 BH058	10.0	N	<a href="#">336709</a>
21	137m SW	455270 219218	M40 BANBURY BYPASS BH207T	16.0	N	<a href="#">336021</a>
22	148m SE	455960 219710	HOME FARM WENDLEBURY	12.19	N	<a href="#">336078</a>
23	153m NW	455128 219953	M40 BANBURY BYPASS BH232G	3.0	N	<a href="#">336026</a>
24	159m SE	455410 219200	ST.HELIER WENDLEBURY	2.74	N	<a href="#">336100</a>
H	165m S	455313 219179	M40 BANBURY BYPASS BH206T	18.0	N	<a href="#">336020</a>
I	176m SE	456120 219830	15 RECTORY CLOSE WENDLEBURY OXFORDSHIRE 1	1.5	N	<a href="#">15949150</a>
I	176m SE	456120 219830	15 RECTORY CLOSE WENDLEBURY OXFORDSHIRE TP 1	1.15	N	<a href="#">15949152</a>
25	177m SE	455490 219240	ST.HELIER WENDLEBURY	13.71	N	<a href="#">336101</a>
H	180m S	455325 219162	M40 BANBURY BYPASS TP802T	5.0	N	<a href="#">336030</a>
26	183m W	455270 220173	CHESTERTON CUTTING C7 TP475A	2.0	N	<a href="#">336710</a>
H	184m S	455310 219160	M40 BANBURY BYPASS TP803T	5.0	N	<a href="#">336031</a>
27	187m W	455094 219957	M40 BANBURY BYPASS BH233G	3.0	N	<a href="#">336027</a>
H	191m S	455291 219156	M40 BANBURY BYPASS TP804T	5.0	N	<a href="#">336032</a>
28	195m E	455650 220530	LITTLE CHESTERTON	-2.0	N	<a href="#">336873</a>
29	203m NE	455860 220250	LITTLE CHESTERTON	-2.0	N	<a href="#">336885</a>
H	204m S	455307 219140	M40 BANBURY BYPASS BH205T	18.0	N	<a href="#">336019</a>
30	207m SW	455180 219195	M40 BANBURY BYPASS TP808T	3.0	N	<a href="#">336036</a>
31	209m W	455224 220320	CHESTERTON CUTTING C7 TP475	1.0	N	<a href="#">336711</a>
32	226m SE	455516 219198	M40 WENDLEBURY TO SOULDERN SECTION 053	15.3	N	<a href="#">335871</a>
33	226m W	455204 220470	CHESTERTON CUTTING C7 TP476A	1.0	N	<a href="#">336712</a>
34	243m S	455230 219120	M40 BANBURY BYPASS TP805T	3.0	N	<a href="#">336033</a>



*This data is sourced from the British Geological Survey.*



## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

#### Records within 50m

4

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 99**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
On site	Moderate	Ground conditions predominantly high plasticity.

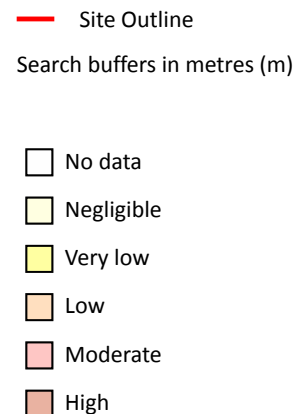
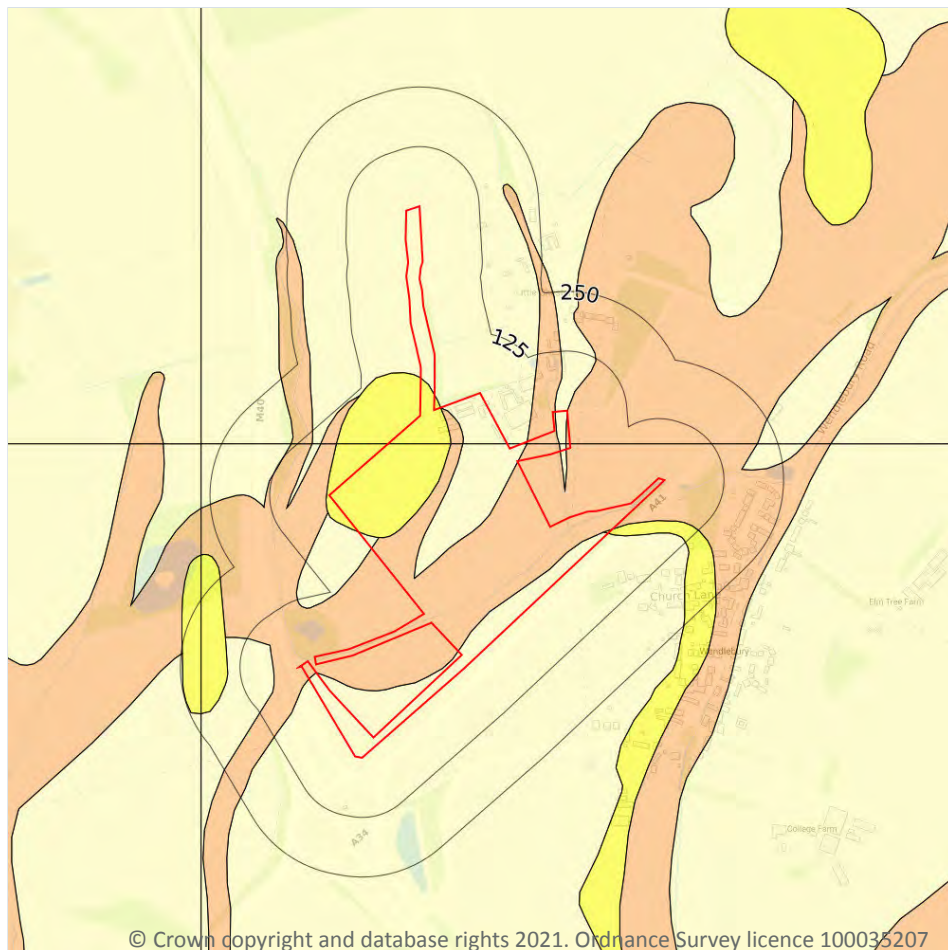


Location	Hazard rating	Details
12m NW	Negligible	Ground conditions predominantly non-plastic.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Running sands



### 17.2 Running sands

#### Records within 50m

3

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 101**

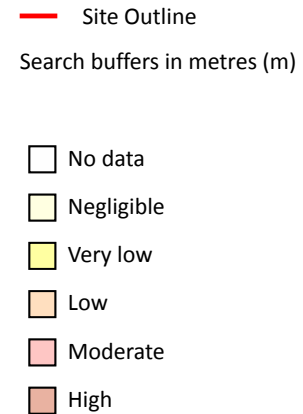
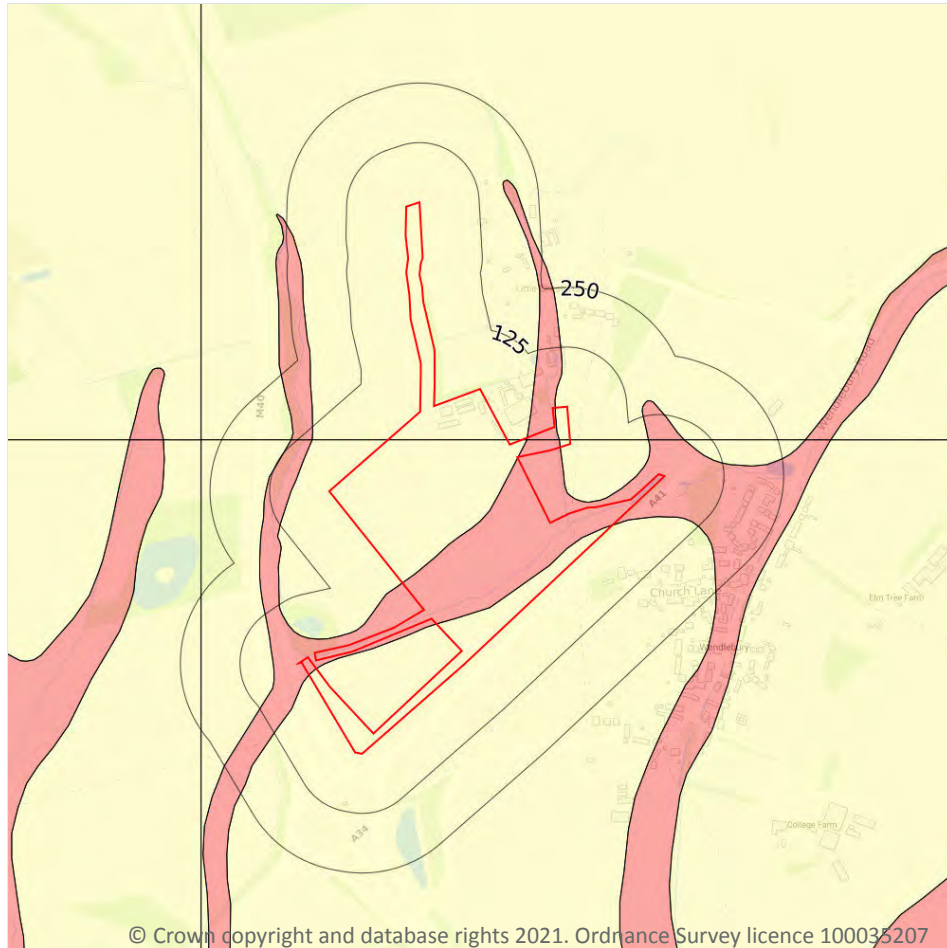
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



### 17.3 Compressible deposits

#### Records within 50m

2

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

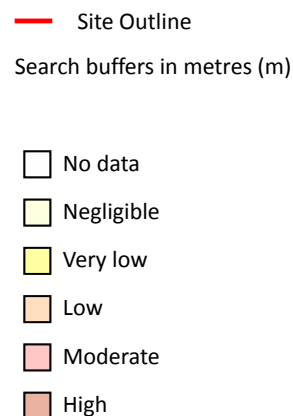
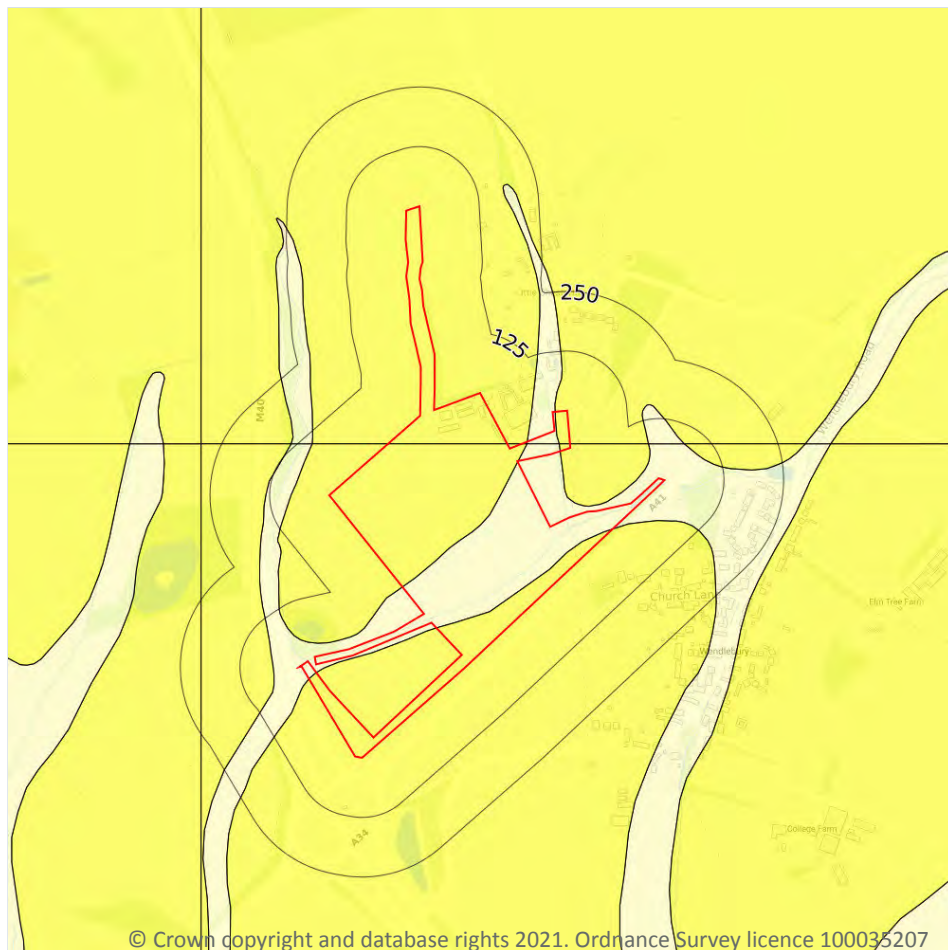
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 103**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Collapsible deposits



### 17.4 Collapsible deposits

#### Records within 50m

2

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 105**

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

*This data is sourced from the British Geological Survey.*





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☐ No data  
☐ Negligible  
☐ Very low  
☐ Low  
☐ Moderate  
☐ High

Records within 50m	3
--------------------	---

Features are displayed on the Natural ground subsidence - Landslides map on **page 106**

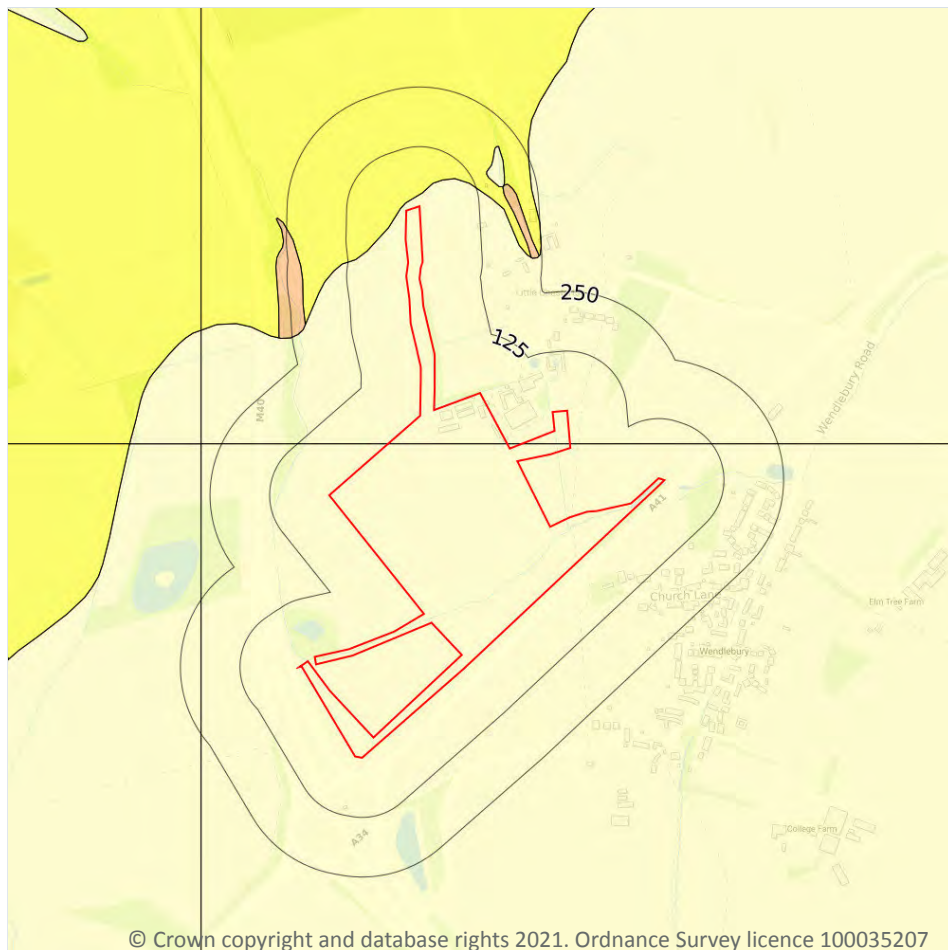
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
23m SW	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.6 Ground dissolution of soluble rocks

#### Records within 50m

2

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 108**

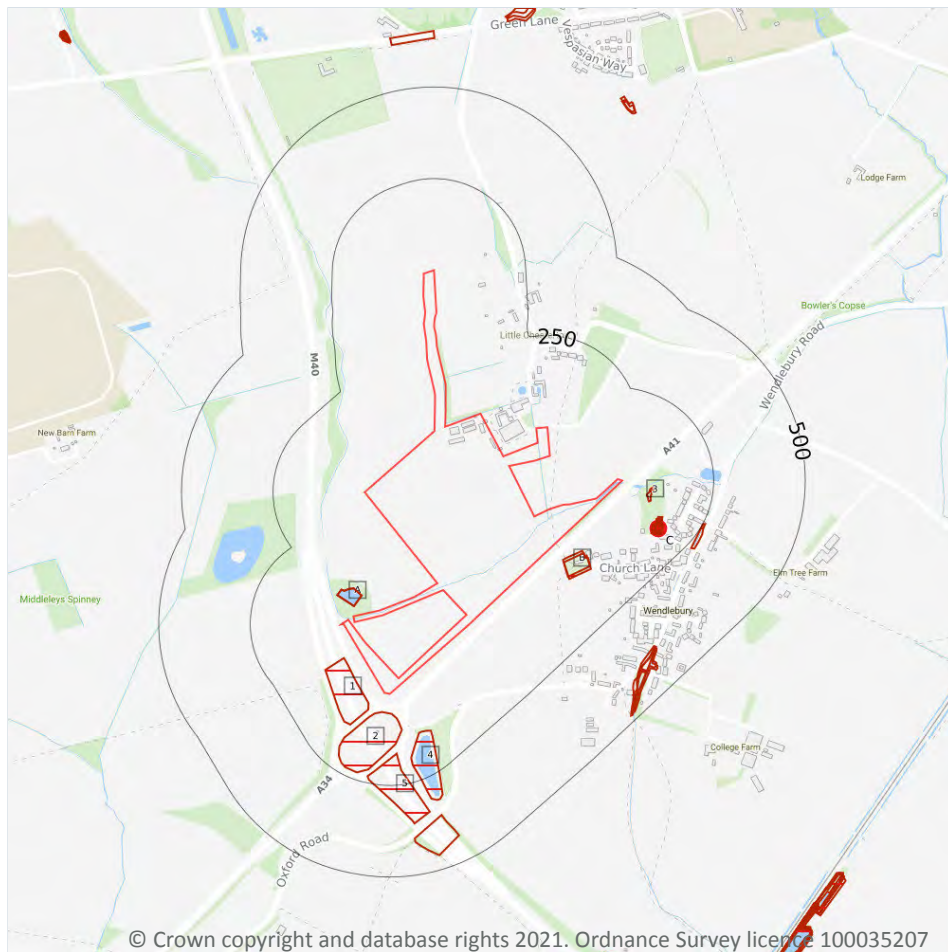
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

Location	Hazard rating	Details
12m NW	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

*This data is sourced from the British Geological Survey.*



## 18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

### 18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

*This data is sourced from Stantec UK Ltd.*

## 18.2 BritPits

### Records within 500m

**1**

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Details	Description
C	161m SE	Name: Red Lion Inn Address: Wendlebury, OXFORD, Oxfordshire Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

*This data is sourced from the British Geological Survey.*

## 18.3 Surface ground workings

### Records within 250m

**15**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Land Use	Year of mapping	Mapping scale
A	27m N	Pond	1980	1:10000
A	27m N	Pond	1992	1:10000
1	47m SW	Cuttings	1992	1:10000
B	47m SE	Grave Yard	1882	1:10560
2	53m S	Cuttings	1992	1:10000
B	54m SE	Grave Yard	1880	1:10560
3	78m SE	Ponds	1954	1:10560
4	133m SE	Pond	1992	1:10000
C	140m SE	Pond	1950	1:10560
C	140m SE	Pond	1919	1:10560





ID	Location	Land Use	Year of mapping	Mapping scale
C	141m SE	Pond	1954	1:10560
C	145m SE	Pond	1980	1:10000
C	145m SE	Pond	1992	1:10000
C	149m SE	Gravel Pit	1898	1:10560
5	164m S	Cuttings	1992	1:10000

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground workings

**Records within 1000m**

**0**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

**Records within 500m**

**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

**Records within 1000m**

**0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

*This data is sourced from the British Geological Survey.*



## 18.7 Mining cavities

Records within 1000m	0
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Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

*This data is sourced from Stantec UK Ltd.*

## 18.8 JPB mining areas

Records on site	0
-----------------	---

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

Records on site	0
-----------------	---

Areas which could be affected by past, current or future coal mining.

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

Records on site	0
-----------------	---

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

*This data is sourced from the Cheshire Brine Subsidence Compensation Board.*

## 18.11 Gypsum areas

Records on site	0
-----------------	---

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Mining Searches UK.*

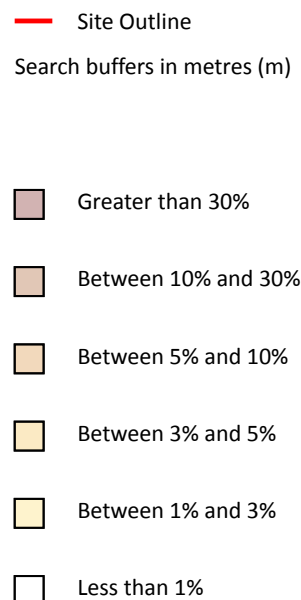
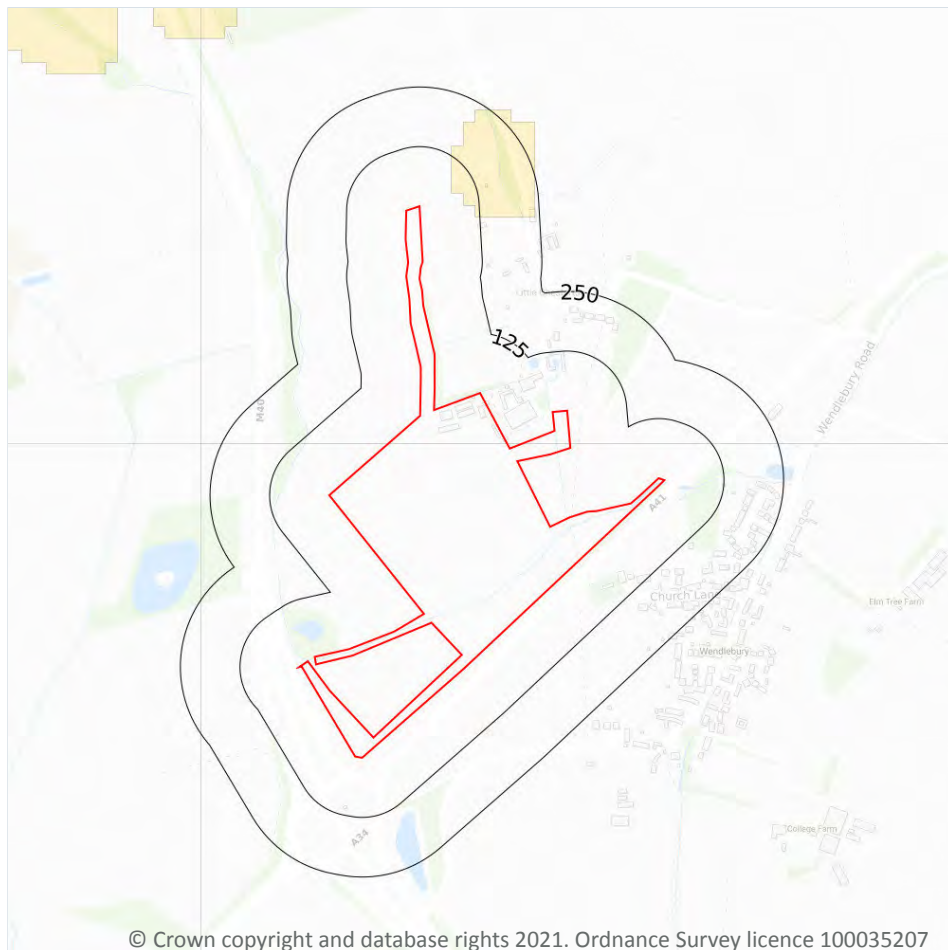
## 18.13 Clay mining

Records on site	0
-----------------	---

Generalised areas that may be affected by kaolin and ball clay extraction.

*This data is sourced from the Kaolin and Ball Clay Association (UK).*

## 19 Radon



### 19.1 Radon

#### Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 115**

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None**

*This data is sourced from the British Geological Survey and Public Health England.*



## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

Records within 50m

55

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km<sup>2</sup>. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km<sup>2</sup>; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.


Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg




Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg






 Contact us with any questions at:  
[info@groundsurre.com](mailto:info@groundsurre.com)  
 08444 159 000

**Date:** 17 June 2021



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
15m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
17m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
23m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
34m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

*This data is sourced from the British Geological Survey.*

## 20.2 BGS Estimated Urban Soil Chemistry

**Records within 50m**

**0**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km<sup>2</sup>).

*This data is sourced from the British Geological Survey.*

## 20.3 BGS Measured Urban Soil Chemistry

**Records within 50m**

**0**

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*This data is sourced from the British Geological Survey.*



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

Records within 250m	0
---------------------	---

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

*This data is sourced from publicly available information by Groundsure.*

### 21.2 Underground railways (Non-London)

Records within 250m	0
---------------------	---

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

*This data is sourced from publicly available information by Groundsure.*

### 21.3 Railway tunnels

Records within 250m	0
---------------------	---

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

Records within 250m	0
---------------------	---

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

Records within 250m	0
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The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

*This data is sourced from HS2 Ltd.*



## Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

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