



EARTH ENVIRONMENTAL
& GEOTECHNICAL

PHASE I GEOENVIRONMENTAL
ASSESSMENT

DUVAL HOUSE

HIGH STREET

HARMONDSWORTH

UB7 0BT

REPORT REF: R0428/20

SEPTEMBER 2020

Earth Environmental & Geotechnical
(Southern) Ltd
200 Brook Drive,
Green Park,
Reading
RG2 6UB

Tel : 01189253229

Email info@earthenvironmental.co.uk
www.earthenvironmental.co.uk



**DUVAL HOUSE
HIGH STREET
HARMONDSWORTH
WEST DRAYTON
UB7 0BT**

**PHASE I GEO-ENVIRONMENTAL
ASSESSMENT
FOR
TEJ PROPERTIES LIMITED**

Earth Environmental & Geotechnical (Southern) Ltd.
200 Brook Drive
Reading
Berkshire
RG2 6UB
Tel: 01189 253229

Report Title:	Duval House, Harmondsworth Phase I GeoEnvironmental Assessment	
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Drafted By:	Lily Cherry Geo-environmental Consultant	
Authorised By:	John Grace Regional Director	

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1.0 EXECUTIVE SUMMARY

Appointment	A Phase 1 Geo-environmental Desk Study was commissioned by TEJ PROPERTIES LIMITED following correspondence on the 11 th August 2020
Site Name	Duval House, Harmondsworth
Site Description	National Grid Reference 505881, 177816 The site is generally level and is approximately 0.19ha in size. The site is bound to the north by fields, the east and west by residential properties associated with Acacia Mews and Meadowlea Close and Harmondsworth Baptist Church to the south. The site is currently occupied by a three-story office building with a carpark to the rear.
Proposed Development	Convert office space into residential flats and erection of extension for additional residential units.
Site Geology	BGS records indicate superficial geology present beneath the site, consisting of the Langley Silt Member and directly underlying this bedrock geology consisting of the London Clay Member.
Site History	Site has seen development since the 1860's with buildings occupying the majority of site. In 1963 towards the south end of site a Garage was present until approx. 1999, where Duval House consisting of office space and a hard standing car park was developed.
Identified Sources	On site sources including the potential for Made Ground deposits due to historical development on site, a former garage, unspecified tank and a smithy.
Preliminary Risk Assessment	From consideration of the current and proposed development (including the covering of hard standing present across site) it suggested that the primary risk of exposure to contamination would be via inhalation of soil gases within the current and proposed development (with the exception of direct contact for ground workers during construction). A Moderate Risk has therefore been assigned to the assessment site.
Conclusions and Recommendations	The PRA and CSM have highlighted potential contamination sources associated with the site and surrounding area. A moderate risk has therefore been assigned as there is a potential for current and proposed receptors to come into contact with contamination present on site. Limited further works have therefore been recommended in this instant to allow assessment of the contaminative status of the site.
<i>This sheet is intended to provide a summary only. It does not provide a definitive analysis and should not be relied upon without full review of the following report and associated appendices.</i>	

2.0 INTRODUCTION

Appointment

- 2.1 Earth Environmental & Geotechnical were commissioned by TEJ PROPERTIES LIMITED (the Client) to undertake a Phase 1 Geo-Environmental Desk Study at Duval House, Harmondsworth located in West Drayton.
- 2.2 It is understood that the site will undergo development with a residential end use.

Terms of Reference

- 2.3 EEGSL was commissioned by the Client to undertake a Phase I Geo-Environmental Desk Study at the site in accordance with email correspondence reference R0428 dated 11th August 2020.
- 2.4 The objectives of this investigation are:
- *Undertake a desk-based review of the underlying geology and hydrology, current and historical site uses, potential contamination sources, radon potential, natural cavities and mining risks. And*
 - *Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use and in relation to off-site receptors.*

Sources of Information

- 2.5 The Phase 1 Desk Study comprises of a review of the following information sources:
- British Geological Survey online maps.
 - Google Earth imagery.
 - Environment Agency online data.
 - Historical Ordnance Survey maps.
 - The site and surrounding areas environmental, geological and mining data presented in the site-specific Groundsure Enviro & Geo Insight Report (Appendix 1).

Limitations of the Study

- 2.6 The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices or changes in legislation may require a reinterpretation of the report in whole or in part. EEGSL reserve the right to amend either conclusions or recommendations in light of any further information that may become available. This report is provided for the sole use by the client and is confidential to them.
- 2.7 Recommendations within this report are also based on records produced by others. It is assumed this information is accurate and no liability can be accepted for the accuracy of this information.

3.0 THE SITE

Site Location and Description

- 3.1 The site is located at Duval House at the corner of the High Street, Harmondsworth. The site is bounded to the north by fields, the east and west by residential properties associated with Acacia Mews and Meadowlea Close and Harmondsworth Baptist Church to the south. The site is centred on National Grid Reference 505881, 177816 with a postcode of UB7 0BT.
- 3.2 The site location is shown in Figure 1 below.

Figure 1: Aerial Photograph Showing Site Location



- 3.3 The site covers an area of 0.19 hectares and is generally flat with a slight fall towards to the south. The site is currently occupied by Duval House, a three-storey former office building with hardstanding areas and a carpark to the rear.
- 3.4 Photographs taken during a site visit by EEGSL on the 21st August 2020 showing the general layout of the assessment site are provided within Figures 2 - 5.

Figure 2: Photograph Showing Duval House Towards The South End Of Site



Figure 3: Photograph Showing The Rear Of The Building And Vehicular Parking Area



Figure 4: Photograph Showing The Carpark Entrance Along Meadowlea Close



Figure 5: Photograph Showing Bin Store Area Close to the Carpark Entrance



Site Utility Services

- 3.5 A site utility plan has not been provided by the client. The status of all services should be checked with the statutory providers prior to any development commencing.

Proposed Development

- 3.6 It is understood that the current building will be converted into residential flats and a separate new building will be constructed within the current car park providing additional flats and under-croft parking. Figures 6 & 7 show the proposed site layout and mock up.

Figure 6: Proposed Site Layout Plan



Figure 7: Proposed New Building and Under-Croft Parking



4.0 ENVIRONMENTAL SETTING

- 4.1 The geology of the site is covered by British Geological Survey (BGS) online data and the site-specific Groundsure Report (Appendix 1).
- 4.2 Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site-specific Groundsure Report (Appendix 1).

Geology

- 4.3 The BGS states that the site is not underlain by any artificial ground (Made Ground)
- 4.4 The BGS states that the site is underlain by superficial geology of the Langley Silt Member, comprising of clay and silt commonly described as yellow-brown and massively bedded.
- 4.5 The bedrock geology consists of the London Clay Formation, comprising of clay, silt and sand.
- 4.6 There are no records of linear geological features within 500m of the site.
- 4.7 There are no records of any landslip activity within 500m of the site boundary.
- 4.8 There are 11 BGS public borehole record available within 250m of the site. The closest borehole with data available is located 111m north east of the site (Borehole Ref: TQ07NE121). It identifies brown silty sandy clay down to 3.1m, brown gravels down to 8.8m and brown grey silty clay down to 10.8m.
- 4.9 The site is in an area where the hazard rating is negligible in regards to running sands, ground dissolution and compressible deposits, very low in regards to shrink-swell clays and landslides and low in regards to collapsible deposits.
- 4.10 There is one estimated background soil chemistry record on site. This indicates anticipated levels of Cadmium = 1.8mg/kg and Lead = 100mg/kg.
- 4.11 There are three estimated urban soil chemistry records on site. This indicates anticipated levels of Arsenic = 13-14mg/kg, Lead = 211-236mg/kg, Cadmium = 1.6-2.1mg/kg, Chromium = 75-91mg/kg, Nickel = 26mg/kg and Tin = 26-28mg/kg.

Ground Workings

- 4.12 There are 6 records of historical surface ground working features located with 250m of the assessment site. The closest record refers to Saw Pits located 51m east present in 1865. Other features recorded include Ponds (95m east, present in 1895 and 1912); Graveyards (109m and 144m west, present in 1882 and 1865) and another Saw Pit (136m north east, present in 1882).
- 4.13 There are no historical underground working features within 1000m of the site.
- 4.14 There are no current ground working records within 250m of the site.
- 4.15 There are no historical or current railways or tunnel features within 250m of the site.

Mining and Other Underground Workings

- 4.16 There are no historical or current coal mining or non-coal mining records within 500m of the site.
- 4.17 There are no records of natural cavities within 250m of the site.
- 4.18 There are no areas of brine extraction, gypsum extraction, tin mining or clay mining within 1km of the site.

Radon Potential

- 4.19 According to the Health Protection Agency the site is in an area where less than 1% of properties are above the Action Level. Radon protection measures are therefore not expected to be required as part of any new development on site.

Hydrogeology and Hydrology

- 4.20 The underlying superficial deposits and bedrock geology are classified by the Environment Agency (EA) as an Unproductive Aquifer. The EA definition of an Unproductive Aquifer is given below:

'These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.'

- 4.21 There are 4 recorded groundwater abstractions, or potable water abstraction licence records within 250m of the site. The closest licence is located 77m south from site
- 4.22 The assessment site does not reside within an EA defined Source Protection Zone (SPZ).

Landfill and Waste Management Activity

- 4.23 There are no recorded Landfills or Waste Treatment Facilities located within 250m of the assessment site.
- 4.24 There are 37 records of Waste Exemptions located within 250m of the site. The closest record refers to Home Farm located 81m south east.

Environmental Permits, Incidents and Registers

- 4.25 The Groundsure report includes records of environmental permits, incidents and registers within 250m of the site, which are summarised in Table 1.

Table 1: Environmental Permits, Incidents and Registers

Historic IPC Authorisations	None	
Part A (1) and IPPC Authorised Activities	None	
Red List Discharge Consents	None	
List 1 Dangerous Substances Inventory Sites	None	
List 2 Dangerous Substances Inventory Sites	None	

Part A (2) and Part B Activities and Enforcements	None	
Category 3 or 4 Radioactive Substance Authorisations	None	
Licensed Discharge Consents	None	
Water Industry Referrals	None	
Planning Hazardous Substance Consents and Enforcements	None	
Dangerous or Hazardous (COMAH and NIHHS) Sites	None	
National Incidents Recording System (Pollution Incidents), List 2	4	All refer to an incident occurring in December 2006, located 224m north east. Category 3 (minor) impact to water and air and category 2 (significant) impact to land.
National Incidents Recording System (Pollution Incidents), List 1	None	
Sites Determined as Contaminated Land under Part 2A EPA1990	None	

Industrial Land Use Information

- 4.26 There are 10 historical potentially contaminative land uses identified within 250m of the assessment site. The closest record refers to a Smithy located on site present in 1865.
- 4.27 There are 2 records of historical tanks within 250m of the site. The closest record refers to an Unspecified Tank located on site present in 1866.
- 4.28 There are 7 records of historical energy features identified within 250m of the site. The closest record refers to an electricity substation located 38m West, present in 1987 to 1994.
- 4.29 There are 3 records of historical garages and motor vehicle repair sites within 250m of the site. All refer to a Garage located on site, present in 1964 to 1971 and 1987.
- 4.30 There are no historical petrol or fuel sites, or military sites within 500m of the site.
- 4.31 There are no records of historical potentially infilled land within 250m of the site.
- 4.32 There are 9 records of current potentially contaminative land uses identified within 250m of the assessment site. The closest record refers to Bailly Products located 38m west. Other records include electricity substations (48m east, 116m west, 168m east, 199m west, 212m south and 223m south west); Heathrow Carpet Services (125m west) and a Depot (139m south west).
- 4.33 There are no records of current petrol or fuel sites located within 250m of the assessment site.
- 4.34 There are no National Grid high voltage underground electricity transmission cables, or high-pressure gas transmission pipelines within 500m of the site.

Environmentally Sensitive Sites

- 4.35 There are no significant environmentally sensitive sites within 500m of the site.

Archaeology

- 4.36 An archaeological assessment falls outside the brief of this report. However, it is noted that an archaeological desk-based assessment was undertaken by David Bowsher in 1998 (Bowsher, D. (1998). Former Radley's Garage Site, Harmondsworth, London Borough of Hillingdon. An Archaeological Assessment. MOLA (Museum of London Archaeology)) prior to the development of the Duval House. The report concluded with a recommendation of further evaluation, with monitoring of any ground investigation trial pits and a second stage of trial trenching. No further data was available on the council's website with regards to ground investigation or the further works recommended above.

Potential Flood Risks

- 4.37 Detailed assessment of flood risk is outside the scope of this report.

Previous Site Investigations

- 4.38 At the time of writing, EEGSL are not aware of any previous site investigation works undertaken at the assessment site. As detailed above within Section 4.36, it is understood that some ground investigation works may have been undertaken in 1998, however no record of these works is currently available.

5.0 SITE HISTORY

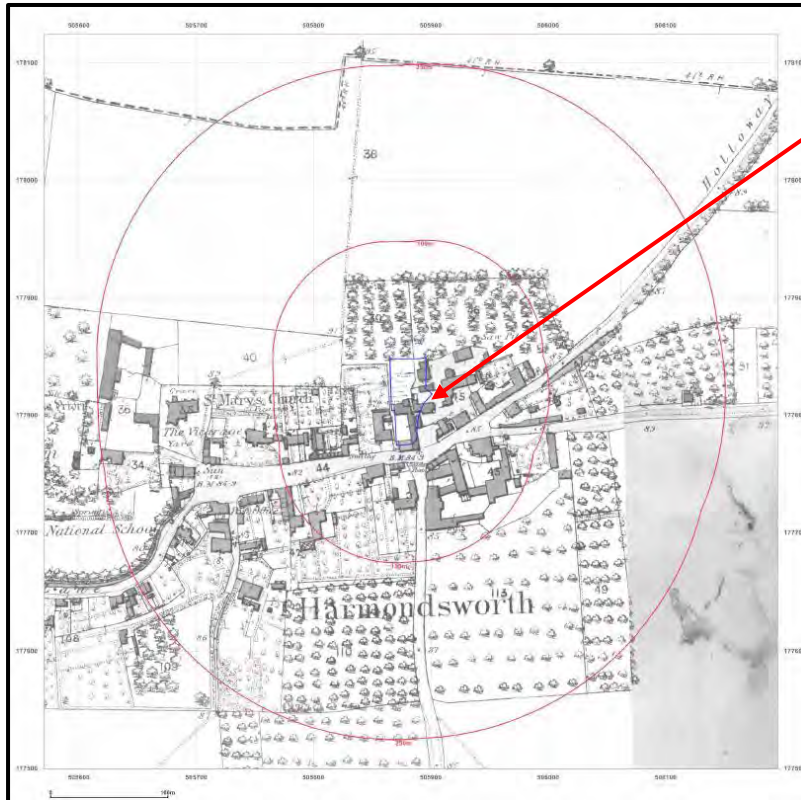
5.1 The historical development of the site has been determined by reference to historical plans and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1866. The site history is summarised in the Table 2.

Table 2: Summary of Site History

Date	Site	Surrounding Land Use
1866-1868	Unnamed buildings (thought to be commercial in nature due to their size and shape) occupy the majority of site with an area of open fields covering the north western corner.	The area to the north surrounding site consists of a woodland area, whilst buildings surround the rest of site. A Smithy is located approx. 40m south west and a Saw Pit is located approx. 51m east
1881	No significant change.	No significant change.
1896-1897	Unnamed buildings now also occupy the north western half of site.	No significant change.
1900	No significant change.	No significant change.
1914	No significant change.	No significant change.
1935	Buildings in the north have been demolished and only the southern half of site is now developed.	Small development of residential dwellings make up Harmondsworth approx. 150m south from site.
1963-1966	A Garage is shown present within the southern half of the assessment site.	A Factory is located west adjacent to site. Works is located approx. 40m west. Small development of residential dwellings approx. 90 east along Holloway Lane and Harmondsworth Lane. Factories and engineering works are located approx. 150m north east from site.
1966-1971	No significant change.	Factory adjacent to site now labelled Acacia Works. Works located approx. 40m west now labelled as a Metal Works. Home Farm is located approx. 40m south Electricity substation and Depot is located approx. 120m south west from site. Additional development of residential dwellings approx. 150m south west.
1987	No significant change.	Development of Acacia Mews west adjacent to site consisting of residential dwellings. Electricity substation is located approx. 40m south east.
1994	Garage no longer labelled and only a building remains in the centre of site.	Development of residential street and dwellings east adjacent to site associated with Meadowlea Close.
1999	Office block now present (Duval House) situated in the southern end of site and car park towards the northern end of site	No significant change.
2003	No significant change.	No significant change.
2010	No significant change.	No significant change.
2020	No significant change.	The surrounding area is predominated residential housing.

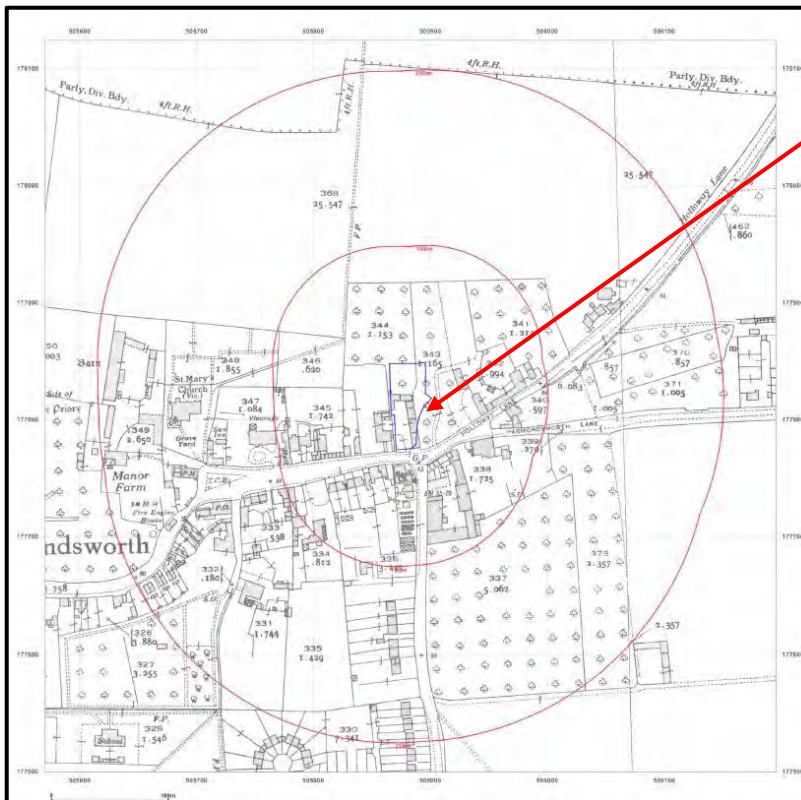
5.2 Selected extracts from historical maps are presented in Figures 8 - 12.

Figure 8: OS Map Extract 1866



Site

Figure 9: OS Map Extract 1935



Site

Figure 10: OS Map Extract 1963-1966



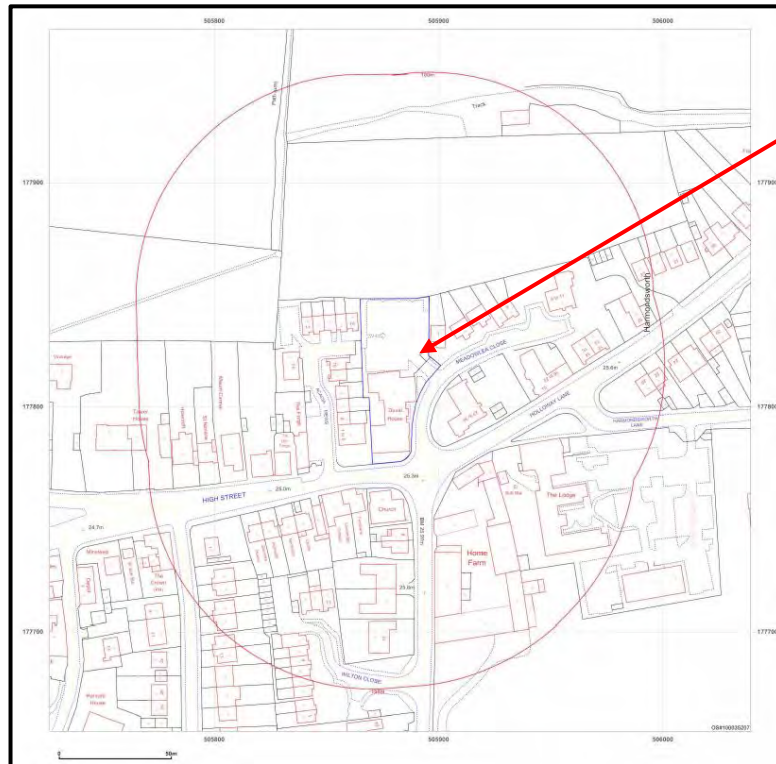
Site

Figure 11: OS Map Extract 1987-1992



Site

Figure 12: OS Map Extract 2003



6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

Introduction

- 6.1 The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11(2004).
- 6.2 Table 5 provides a Preliminary Conceptual Model (PCM) which considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 3 and Table 4 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and CLR11.
- 6.3 Table 5 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.
- 6.4 The PCM/PRA is based on a proposed residential end use.

Table 3: Consequence, Probability and Risk

Probability	Consequence,	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage and all the elements are present, which means that it is probable an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage and circumstances are possible for an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term	Moderate – Long term or short term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such are would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that they would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 4: Estimation of Level of Risk by Comparison of Consequence and Probability

		Consequence			
		High	Moderate	Low	Very low
Probability	High Likelihood	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

Potential Sources

6.5 The following potential sources have been considered for the assessment site.

Onsite

- Potential for Made Ground Deposits and presence of asbestos due to historical development
- According to the Groundsure report a historical smithy was recorded to be present on site in 1865. Potential contamination associated with the smithy will include toxic metals, the presence of PAHs and potentially asbestos.
- According to the Groundsure report an unspecified tank was recorded to be present on site in 1866.
- The sites historical use as a garage from 1963-1998.

Offsite

- Historical development of commercial and industrial sites within the vicinity of the site including a factory, works and a farm.

Potential Receptors

6.6 The following receptors have been considered as part of this assessment.

- Current site users.
- Adjacent land users.
- Future land users.
- Construction workers during site development works; and

Potential Pathways

6.7 The following pathways have been considered as part of this assessment.

- Direct / dermal contact, ingestion, inhalation pathways of potentially contaminated soils.
- Vertical or horizontal migration of ground gas (including vapours).
- Vertical or horizontal migration of contamination via leaching into the underlying shallow groundwater.

Table 5: Preliminary Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Potential contamination associated with the sites historical use as a smithy and the presence of an unspecified tank	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	Likely	Moderate	Moderate Risk	Given the identification of historical sources on site and their potential to have caused contamination, the risk to current site users has be calculated as Moderate. However, due to the fact the majority of site is currently covered in permanent hardstanding, there is currently no direct pathway for any potential receptors to be exposed to contamination present beneath site (no direct source / pathway / receptor linkage), and therefore the risk to current site users is considered LOW in this instance.
		Adjacent Land Users	Likely	Moderate	Moderate Risk	Given the identification of sources on site and their potential to have caused contamination, the risk has be calculated as Moderate. However, due to the fact that the majority of site is currently covered in hard standing, and the underlying geology is predominantly cohesive, the likelihood of contamination present beneath site migrating off site is considered to be low. Therefore, the risk to adjacent site users from migrating contamination is considered LOW in this instance.
		Construction Workers	Likely	Moderate	Moderate Risk	The potential for construction workers to be exposed to contaminated materials present beneath site is considered MODERATE . There is a potential for contaminated materials to be present beneath site, which constriction workers may be exposed to during groundworks / foundation excavations. Investigation of the materials present beneath site is therefore recommended prior to any ground works being completed.
		Future Site Users	Likely	Moderate	Moderate Risk	Given the identification of sources on site and their potential to have caused contamination, the risk has be calculated as Moderate. However, due to the fact the majority of site is currently covered in permanent hardstanding, and will remain so once development has been completed, there is currently no direct pathway for

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
						any potential receptors to be exposed to contamination present beneath site (no direct source / pathway / receptor linkage), and therefore the risk to future site users is considered LOW in this instance. (it should be noted that this analysis may require revision if development plans are amended, especially if soft landscaping areas are introduced to the proposed development).
	Vertical or horizontal migration of ground gas and vapours	Current Site Users	Likely	Moderate	Moderate Risk	Given the identification of sources that could produce ground gas (historical development giving rise to the presence of made ground), the risk to current site users from the migration of ground gas is considered to be MODERATE .
		Adjacent Land Users	Likely	Moderate	Moderate Risk	Given the identification of sources that could produce ground gas and potential vapours and the potential for these gases and vapours to migrate offsite, the risk to adjacent site users from the migration of ground gas is considered to be MODERATE .
		Construction Workers	Likely	Moderate	Moderate Risk	The risk to construction workers from exposure to ground gases and VOC vapours present within the shallow soils beneath the assessment site is considered MODERATE . The risk of ground gasses accumulating within excavations and enclosed spaces should be assessed as part of any construction works on site. This will require the motioning of ground gasses prior to earth works being undertaken.
		Future Site Users	Likely	Moderate	Moderate Risk	Given the identification of sources that could produce ground gas (historical development giving rise to the presence of made ground), the risk to future site users from the migration of ground gas is considered to be MODERATE .
Potential contamination present associated with	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	Likely	Moderate	Moderate Risk	Given the identification of former commercial activities within the vicinity of the assessment site, the risk to current site users from contamination

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
the former off site sources of contamination (former Works and Factory)						migrating towards site has been calculated as Moderate. However, considering the majority of site is currently covered in permanent hardstanding, there is currently no direct pathway for any potential receptors to be exposed to contamination present beneath site (no direct source / pathway / receptor linkage), and therefore the risk to current site users from contamination migrating from off site sources is considered LOW in this instance.
		Construction Workers	Likely	Moderate	Moderate Risk	The potential for construction workers to be exposed to contaminated materials present beneath site is considered MODERATE . There is a potential for contaminated materials to be present beneath site, which construction workers may be exposed to during groundworks / foundation excavations. Investigation of the materials present beneath site is therefore recommended prior to any ground works being completed.
		Future Site Users	Likely	Moderate	Moderate Risk	Given the identification of former commercial activities within the vicinity of the assessment site, the risk to current site users from contamination migrating towards site has been calculated as Moderate. However, due to the fact the majority of site is currently covered in permanent hardstanding, and will remain so once development has been completed, there is currently no direct pathway for any potential receptors to be exposed to contamination present beneath site (no direct source / pathway / receptor linkage), and therefore the risk to future site users is considered LOW in this instance. (it should be noted that this analysis may require revision if development plans are amended, especially if soft landscaping areas are introduced to the proposed development).

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
	Vertical or horizontal migration of ground gas and vapours	Current Site Users	Likely	Moderate	Moderate Risk	There is the potential for offsite historical sources to produce ground gas and potential vapours which could migrate towards the assessment site. The risk to current site users from the migration of ground gas is therefore considered to be MODERATE without ground investigation data.
		Construction Workers	Likely	Moderate	Moderate Risk	The risk to construction workers from exposure to ground gases and VOC vapours present from offsite sources is considered MODERATE . The risk of ground gases accumulating within excavations and enclosed spaces should be assessed as part of any construction works on site. This may require the monitoring of gases prior to entering excavations and or enclosed spaces.
		Future Site Users	Likely	Moderate	Moderate Risk	Given the identification of offsite sources that could produce ground gas and potential vapours, the risk to future site users from the migration of ground gas is considered to be MODERATE without additional ground investigation data.

Preliminary Risk Assessment

- 6.8 From review of historical and current day information it has been identified that the assessment site has seen historical development since the 1860's with the majority of site having seen some development since this time. Records suggest that a smithy was once present on site, alongside a garage which was present from 1963 until 1998 when the site was redeveloped into Duval House in 1998. Since 1998 the site has been used as commercial offices, although local knowledge would suggest that Duval House has been vacant for the last several years.
- 6.9 Off site sources of contamination have also been identified during this study, and include a former factory, a works and a farm, all within the vicinity of the assessment site.
- 6.10 Considering the proposed residential nature of the assessment site, a moderate risk rating has been concluded. It should be noted that the predominant risk that has been highlighted is associated with the potential presence of made ground and ground gas generation. Direct exposure pathways have been largely discounted due to the current and future presence of permanent hard standing proposed across the assessment site.

7.0 CONCLUSIONS AND RECOMMENDATIONS

- 7.1 The PRA and CSM have highlighted potential contamination sources associated with the site and surrounding area alongside a sensitive residential end use. A moderate risk has therefore been assigned.
- 7.2 Given the above conclusions, it is recommended that an intrusive investigation is required to assess the potential risks present and to identify any remediation or mitigation measures required.
- 7.3 The investigation works should primarily focus on the potential presence of contamination within the shallow soils beneath site, however investigation works will also need to consider the potential for impact on groundwater and the assessment of ground gasses.
- 7.4 Based on the identified sources of contamination, it is recommended the following contaminants should be tested for in soils and groundwater (if shallow groundwater is found present):
- Toxic Metals, Asbestos (soils only), Total Petroleum Hydrocarbons (TPHs), Polyaromatic Hydrocarbons (PAHs), Volatile and Semi Volatile Hydrocarbons (VOCs and SVOCs).
- 7.5 Intrusive investigation should consider characterising the general nature of shallow soils across the site and be used to identify if significant thickness of made ground are present.
- 7.6 As part of the intrusive works, geotechnical design information, including potential drainage options, foundation design information and waste soil classification should also be determined.

APPENDIX 1

GROUNDSURE REPORT

DUVAL HOUSE, HIGH STREET, HARMONDSWORTH, WEST DRAYTON, UB7 0BT

Order Details

Date: 19/08/2020
Your ref: R0428
Our Ref: GS-6979878
Client: Earth Environmental & Geotechnical Ltd

Site Details

Location: 505881 177816
Area: 0.19 ha
Authority: [London Borough of Hillingdon](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	1	1	8	7	-
15	1.2	<u>Historical tanks</u>	1	1	0	1	-
16	1.3	<u>Historical energy features</u>	0	1	6	2	-
16	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	<u>Historical garages</u>	3	0	0	1	-
17	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
18	2.1	<u>Historical industrial land uses</u>	1	1	12	10	-
19	2.2	<u>Historical tanks</u>	1	1	0	1	-
20	2.3	<u>Historical energy features</u>	0	4	19	7	-
21	2.4	Historical petrol stations	0	0	0	0	-
21	2.5	<u>Historical garages</u>	6	0	0	1	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	<u>Historical landfill (EA/NRW records)</u>	0	0	0	1	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
25	3.7	<u>Waste exemptions</u>	0	0	37	22	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
31	4.1	<u>Recent industrial land uses</u>	0	2	7	-	-
32	4.2	Current or recent petrol stations	0	0	0	0	-
32	4.3	Electricity cables	0	0	0	0	-
32	4.4	Gas pipelines	0	0	0	0	-
33	4.5	Sites determined as Contaminated Land	0	0	0	0	-



33	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
33	4.7	Regulated explosive sites	0	0	0	0	-
33	4.8	Hazardous substance storage/usage	0	0	0	0	-
33	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
34	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
34	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
34	4.12	Radioactive Substance Authorisations	0	0	0	0	-
34	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
34	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
35	4.16	List 1 Dangerous Substances	0	0	0	0	-
35	4.17	List 2 Dangerous Substances	0	0	0	0	-
35	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	4	0	-
36	4.19	Pollution inventory substances	0	0	0	0	-
36	4.20	Pollution inventory waste transfers	0	0	0	0	-
36	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
37	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
39	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
40	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
41	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
41	5.5	<u>Groundwater vulnerability- local information</u>	Identified (within 0m)				
42	5.6	<u>Groundwater abstractions</u>	0	0	4	4	18
49	5.7	<u>Surface water abstractions</u>	0	0	0	0	4
50	5.8	<u>Potable abstractions</u>	0	0	0	0	2
51	5.9	Source Protection Zones	0	0	0	0	-
51	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
52	6.1	<u>Water Network (OS MasterMap)</u>	0	0	1	-	-



53	<u>6.2</u>	<u>Surface water features</u>	0	0	1	-	-
53	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
53	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	0	0	-	-
54	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
55	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
55	7.2	Historical Flood Events	0	0	0	-	-
55	7.3	Flood Defences	0	0	0	-	-
55	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
56	7.5	Flood Storage Areas	0	0	0	-	-
57	7.6	Flood Zone 2	None (within 50m)				
57	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
58	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
60	<u>9.1</u>	<u>Groundwater flooding</u>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
61	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
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
63	10.7	Designated Ancient Woodland	0	0	0	0	0
63	10.8	Biosphere Reserves	0	0	0	0	0
63	10.9	Forest Parks	0	0	0	0	0
64	10.10	Marine Conservation Zones	0	0	0	0	0
64	<u>10.11</u>	<u>Green Belt</u>	1	1	1	0	53
66	10.12	Proposed Ramsar sites	0	0	0	0	0



66	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
67	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
67	10.15	Nitrate Sensitive Areas	0	0	0	0	0
67	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
68	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
69	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
71	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
71	11.3	National Parks	0	0	0	-	-
71	<u>11.4</u>	<u>Listed Buildings</u>	0	1	18	-	-
72	<u>11.5</u>	<u>Conservation Areas</u>	1	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
74	<u>12.1</u>	<u>Agricultural Land Classification</u>	Non Agricultural (within 250m)				
75	12.2	Open Access Land	0	0	0	-	-
75	12.3	Tree Felling Licences	0	0	0	-	-
75	12.4	Environmental Stewardship Schemes	0	0	0	-	-
76	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
77	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	0	1	-	-
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
79	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
80	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	3	3	-
82	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	1	3	-

83	14.4	Landslip (10k)	0	0	0	0	-
84	14.5	<u>Bedrock geology (10k)</u>	1	0	0	0	-
85	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
86	15.1	<u>50k Availability</u>	Identified (within 500m)				
87	15.2	<u>Artificial and made ground (50k)</u>	0	0	1	3	-
88	15.3	Artificial ground permeability (50k)	0	0	-	-	-
89	15.4	<u>Superficial geology (50k)</u>	1	0	1	3	-
90	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
90	15.6	Landslip (50k)	0	0	0	0	-
90	15.7	Landslip permeability (50k)	None (within 50m)				
91	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
92	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
92	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
93	16.1	<u>BGS Boreholes</u>	0	0	11	-	-
Page	Section	Natural ground subsidence					
95	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
96	17.2	<u>Running sands</u>	Negligible (within 50m)				
97	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
98	17.4	<u>Collapsible deposits</u>	Low (within 50m)				
99	17.5	<u>Landslides</u>	Very low (within 50m)				
100	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
102	18.1	Natural cavities	0	0	0	0	-
103	18.2	<u>BritPits</u>	0	0	0	1	-
103	18.3	<u>Surface ground workings</u>	0	0	6	-	-
104	18.4	Underground workings	0	0	0	0	0
104	18.5	<u>Historical Mineral Planning Areas</u>	0	0	0	2	-



104	18.6	Non-coal mining	0	0	0	0	0
104	18.7	Mining cavities	0	0	0	0	0
105	18.8	JPB mining areas	None (within 0m)				
105	18.9	Coal mining	None (within 0m)				
105	18.10	Brine areas	None (within 0m)				
105	18.11	Gypsum areas	None (within 0m)				
105	18.12	Tin mining	None (within 0m)				
106	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
107	19.1	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
108	20.1	BGS Estimated Background Soil Chemistry	1	0	-	-	-
108	20.2	BGS Estimated Urban Soil Chemistry	3	1	-	-	-
109	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
110	21.1	Underground railways (London)	0	0	0	-	-
110	21.2	Underground railways (Non-London)	0	0	0	-	-
110	21.3	Railway tunnels	0	0	0	-	-
110	21.4	Historical railway and tunnel features	0	0	0	-	-
110	21.5	Royal Mail tunnels	0	0	0	-	-
111	21.6	Historical railways	0	0	0	-	-
111	21.7	Railways	0	0	0	-	-
111	21.8	Crossrail 1	0	0	0	0	-
111	21.9	Crossrail 2	0	0	0	0	-
111	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 29/06/2019

Site Area: 0.19ha



Recent site history - 2017 aerial photograph



Capture Date: 21/06/2017

Site Area: 0.19ha



Recent site history - 2013 aerial photograph

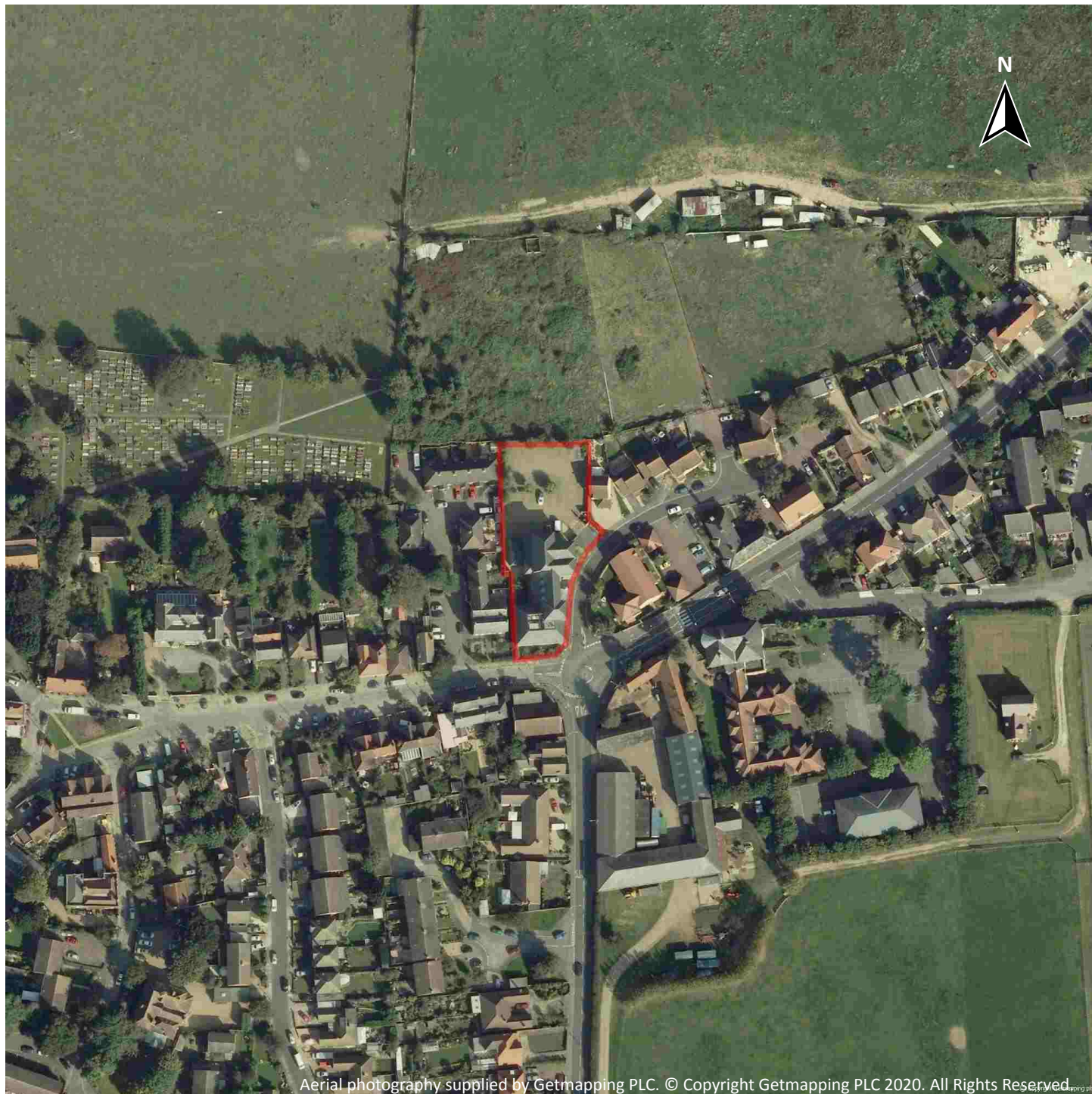


Capture Date: 20/04/2013

Site Area: 0.19ha



Recent site history - 2008 aerial photograph



Capture Date: 21/09/2008

Site Area: 0.19ha



Recent site history - 1999 aerial photograph



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Capture Date: 13/10/1999

Site Area: 0.19ha



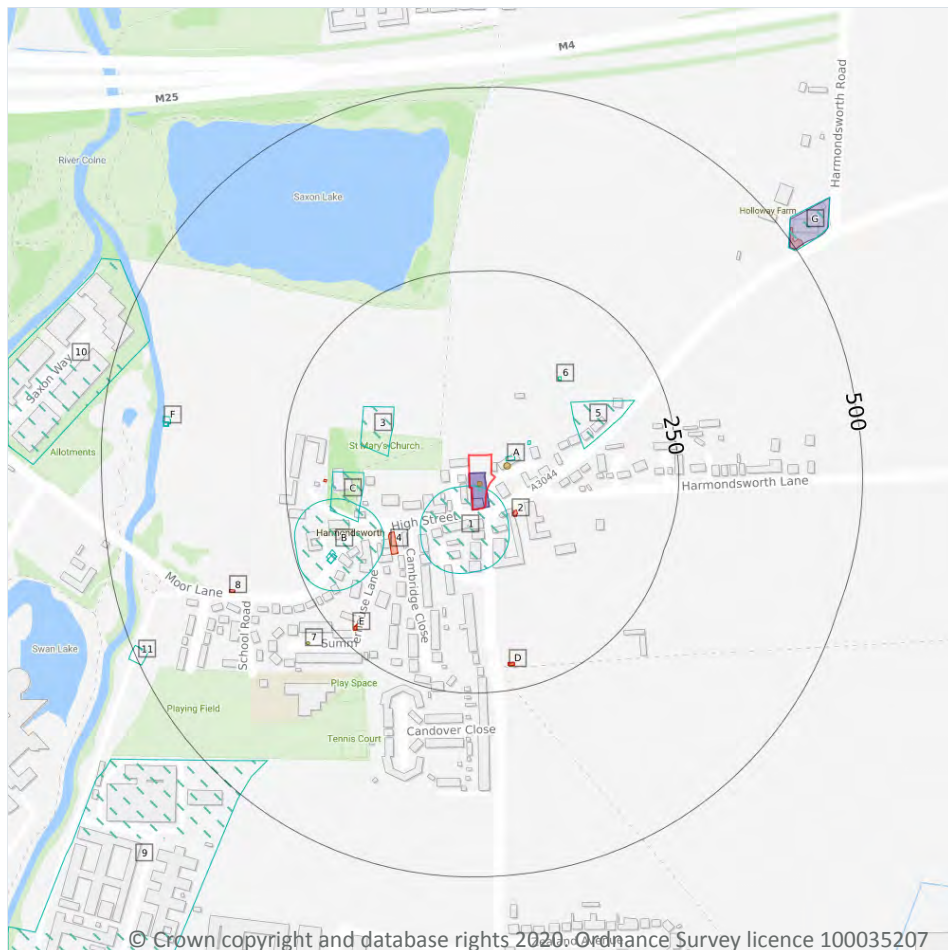
OS MasterMap site plan



Site Area: 0.19ha



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

17

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 14**

ID	Location	Land use	Dates present	Group ID
1	On site	Smithy	1865	2167322



ID	Location	Land use	Dates present	Group ID
A	20m E	Smithy	1882	2167323
A	51m E	Saw Pits	1865	2164708
3	109m W	Grave Yard	1882	2145682
5	121m E	Unspecified Factory	1970 - 1987	2292861
B	126m W	Fire Engine House	1898	2265079
6	136m NE	Saw Pits	1882	2164709
C	144m W	Grave Yard	1865	2145683
B	196m W	Fire Engine House	1934 - 1938	2201821
B	196m W	Fire Engine House	1938	2232185
F	408m W	Boat House	1912	2171142
F	410m W	Boat House	1932	2243609
F	410m W	Boat House	1898	2256062
9	441m SW	Unspecified Works	1970	2159607
10	461m W	Unspecified Commercial/Industrial	1987	2130806
11	482m SW	Old Filter Beds	1935	2132425
G	493m NE	Garage	1974 - 1987	2245368

This data is sourced from Ordnance Survey / Groundsure.

1.2 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, 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 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1866	363010
A	17m E	Unspecified Tank	1866	363009



ID	Location	Land use	Dates present	Group ID
7	287m SW	Unspecified Tank	1896	363014

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	9
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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 14**

ID	Location	Land use	Dates present	Group ID
2	38m E	Electricity Substation	1987 - 1994	287072
4	111m W	Electricity Substation	1971 - 1994	271882
C	194m W	Electricity Substation	1994	243630
D	212m S	Electricity Substation	1971 - 1994	289979
D	213m S	Electricity Substation	1971	291685
E	222m SW	Electricity Substation	1971 - 1994	275979
E	223m SW	Electricity Substation	1971 - 1987	269711
8	342m W	Electricity Substation	1971 - 1994	260603
G	495m NE	Electricity Substation	1994	243629

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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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

Records within 500m

4

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 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Garage	1971	76437
A	On site	Garage	1987	83962
A	On site	Garage	1964 - 1971	84761
G	494m NE	Garage	1987	73259

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

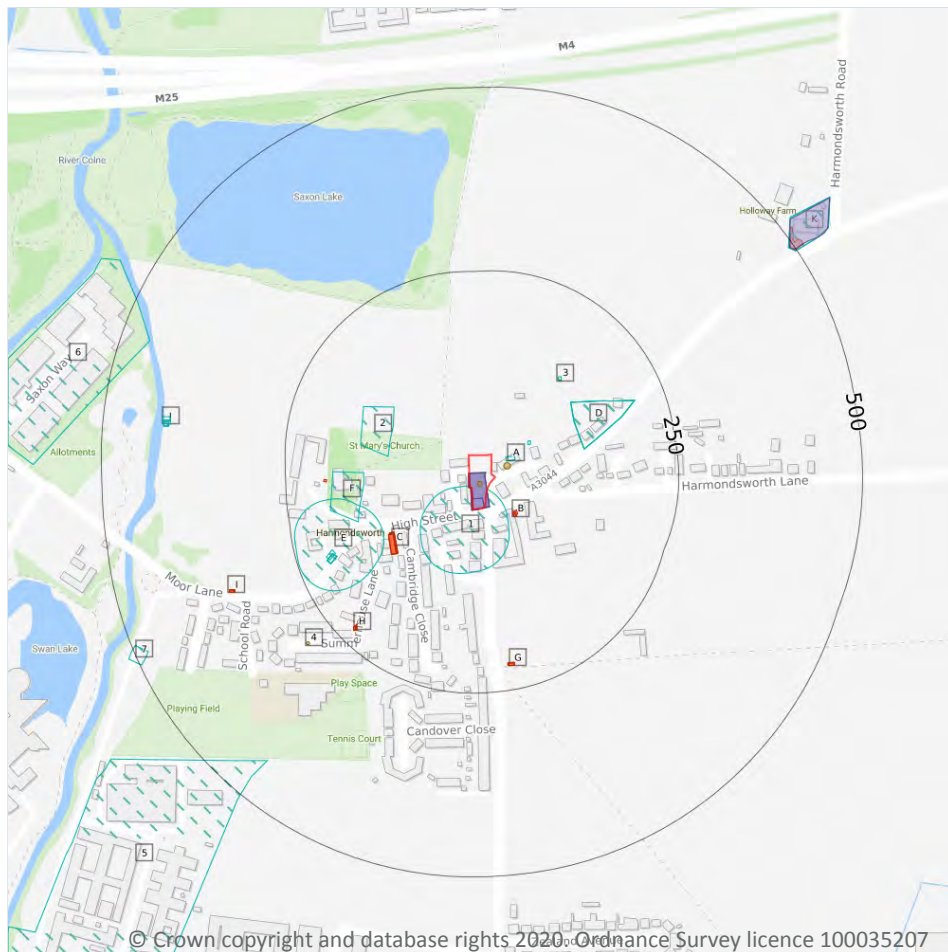
0

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

24

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 18**

ID	Location	Land Use	Date	Group ID
1	On site	Smithy	1865	2167322
A	20m E	Smithy	1882	2167323
A	51m E	Saw Pits	1865	2164708

ID	Location	Land Use	Date	Group ID
2	109m W	Grave Yard	1882	2145682
D	121m E	Unspecified Factory	1970	2292861
D	121m E	Unspecified Factory	1987	2292861
D	121m E	Unspecified Factory	1974	2292861
E	126m W	Fire Engine House	1898	2265079
3	136m NE	Saw Pits	1882	2164709
F	144m W	Grave Yard	1865	2145683
E	196m W	Fire Engine House	1938	2201821
E	196m W	Fire Engine House	1935	2201821
E	196m W	Fire Engine House	1934	2201821
E	196m W	Fire Engine House	1938	2232185
J	408m W	Boat House	1912	2171142
J	408m W	Boat House	1912	2171142
J	409m W	Boat House	1912	2171142
J	410m W	Boat House	1932	2243609
J	410m W	Boat House	1898	2256062
5	441m SW	Unspecified Works	1970	2159607
6	461m W	Unspecified Commercial/Industrial	1987	2130806
7	482m SW	Old Filter Beds	1935	2132425
K	493m NE	Garage	1987	2245368
K	493m NE	Garage	1974	2245368

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 18**



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Tank	1866	363010
A	17m E	Unspecified Tank	1866	363009
4	287m SW	Unspecified Tank	1896	363014

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

30

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 18**

ID	Location	Land Use	Date	Group ID
B	38m E	Electricity Substation	1987	287072
B	38m E	Electricity Substation	1987	287072
B	38m E	Electricity Substation	1987	287072
B	39m E	Electricity Substation	1994	287072
C	111m W	Electricity Substation	1994	271882
C	112m W	Electricity Substation	1971	271882
C	112m W	Electricity Substation	1971	271882
C	113m W	Electricity Substation	1987	271882
C	113m W	Electricity Substation	1987	271882
C	113m W	Electricity Substation	1987	271882
F	194m W	Electricity Substation	1994	243630
G	212m S	Electricity Substation	1994	289979
G	213m S	Electricity Substation	1987	289979
G	213m S	Electricity Substation	1987	289979
G	213m S	Electricity Substation	1987	289979
G	213m S	Electricity Substation	1971	291685
G	213m S	Electricity Substation	1971	289979



ID	Location	Land Use	Date	Group ID
H	222m SW	Electricity Substation	1994	275979
H	222m SW	Electricity Substation	1971	275979
H	223m SW	Electricity Substation	1971	269711
H	225m SW	Electricity Substation	1987	269711
H	225m SW	Electricity Substation	1987	269711
H	225m SW	Electricity Substation	1987	269711
I	342m W	Electricity Substation	1971	260603
I	342m W	Electricity Substation	1994	260603
I	343m W	Electricity Substation	1971	260603
I	343m W	Electricity Substation	1987	260603
I	343m W	Electricity Substation	1987	260603
I	343m W	Electricity Substation	1987	260603
K	495m NE	Electricity Substation	1994	243629

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

7

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 18**

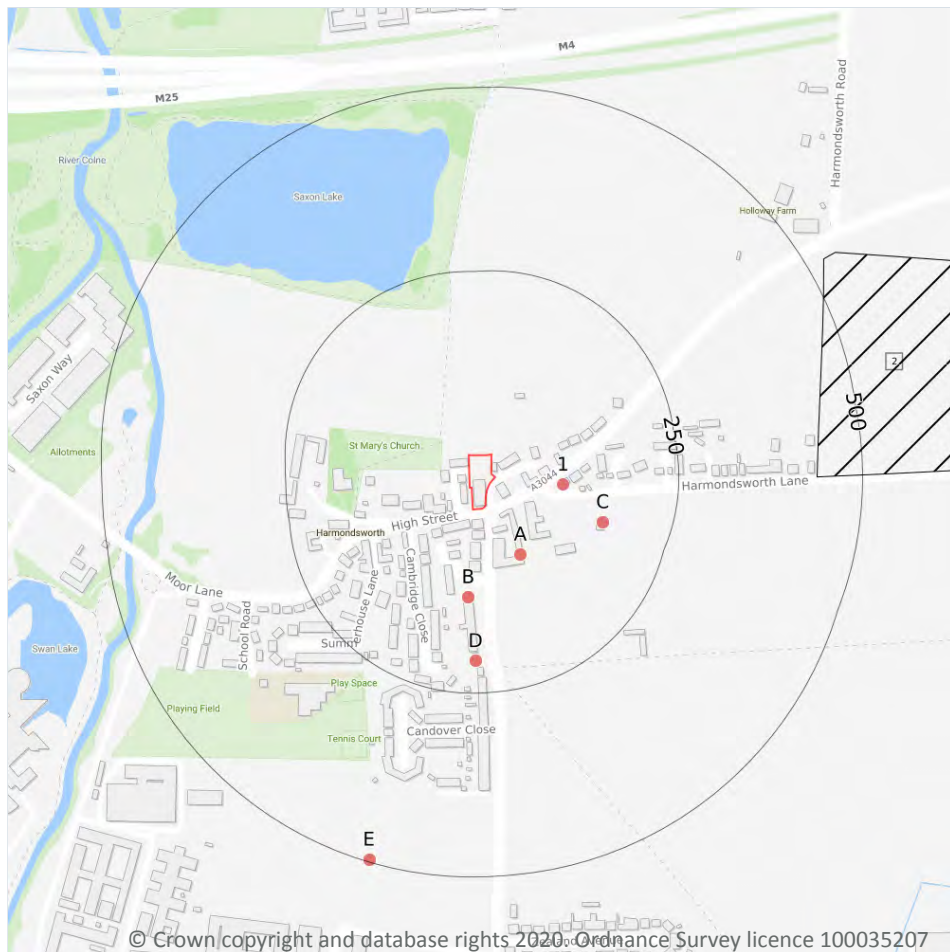


ID	Location	Land Use	Date	Group ID
A	On site	Garage	1987	83962
A	On site	Garage	1987	83962
A	On site	Garage	1987	83962
A	On site	Garage	1971	84761
A	On site	Garage	1971	76437
A	On site	Garage	1964	84761
K	494m NE	Garage	1987	73259

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- 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

1

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.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Details		
2	438m E	Site Address: Holloway Lane Quarry, Holloway Lane Licence Holder Address: Stockley Road, West Drayton, Middlesex	Waste Licence: Yes Site Reference: 8HI028, DL118, HIL033 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 17/05/1983 Licence Surrender: 28/04/1994	Operator: - Licence Holder: Drinkwater Sabey Limited First Recorded 31/12/1983 Last Recorded: 30/04/1994

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

0

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

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

3.7 Waste exemptions

Records within 500m

59

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 23**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Using waste exemption	On a farm	Use of waste for a specified purpose
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Disposing of waste exemption	On a farm	Disposal by incineration
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Disposing of waste exemption	On a farm	Burning waste in the open
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Using waste exemption	On a farm	Use of waste in construction
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	81m SE	HOME FARM, HATCH LANE, HARMONDSWORTH, WEST DRAYTON, UB7 0AY	WEX222791	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
1	93m E	Harmondsworth Quarry, Holloway Close, West Drayton, Harmondsworth, UB7 0AE	WEX234562	Using waste exemption	Not on a farm	Use of waste in construction
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX216469	Using waste exemption	On a Farm	Use of mulch
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Storing waste exemption	On a Farm	Storage of waste in secure containers
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Treating waste exemption	On a Farm	Preparatory treatments (baling, sorting, shredding etc)
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Using waste exemption	On a Farm	Use of waste in construction
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX216469	Using waste exemption	On a Farm	Incorporation of ash into soil
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX216469	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Disposing of waste exemption	On a Farm	Burning waste in the open
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Treating waste exemption	On a Farm	Recovery of scrap metal
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	120m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX208589	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Aerobic composting and associated prior treatment



ID	Location	Site	Reference	Category	Sub-Category	Description
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Incorporation of ash into soil
C	159m SE	Home Farm Hatch Lane WEST DRAYTON Middlesex UB7 0AY	EPR/GF0432L N/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Disposing of waste exemption	On a farm	Burning waste in the open
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Storing waste exemption	On a farm	Storage of waste in secure containers
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Treating waste exemption	On a farm	Recovery of scrap metal
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Using waste exemption	On a farm	Use of mulch
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
D	207m S	Longfield Farm, Hatch Lane, Harmondsworth, West Drayton, UB7 0AZ	WEX064851	Using waste exemption	On a farm	Incorporation of ash into soil
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from dredging of inland waters
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Deposit of waste from a portable sanitary convenience
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Disposal by incineration
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in secure containers
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Storing waste exemption	Both agricultural and non-agricultural waste	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Sorting mixed waste
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Aerobic composting and associated prior treatment
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Anaerobic digestion at premises not used for agriculture and burning of resultant biogas
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of non-hazardous pesticide washings by carbon filtration for disposal
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Preparatory treatments (baling, sorting, shredding etc)
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Screening and blending of waste
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit

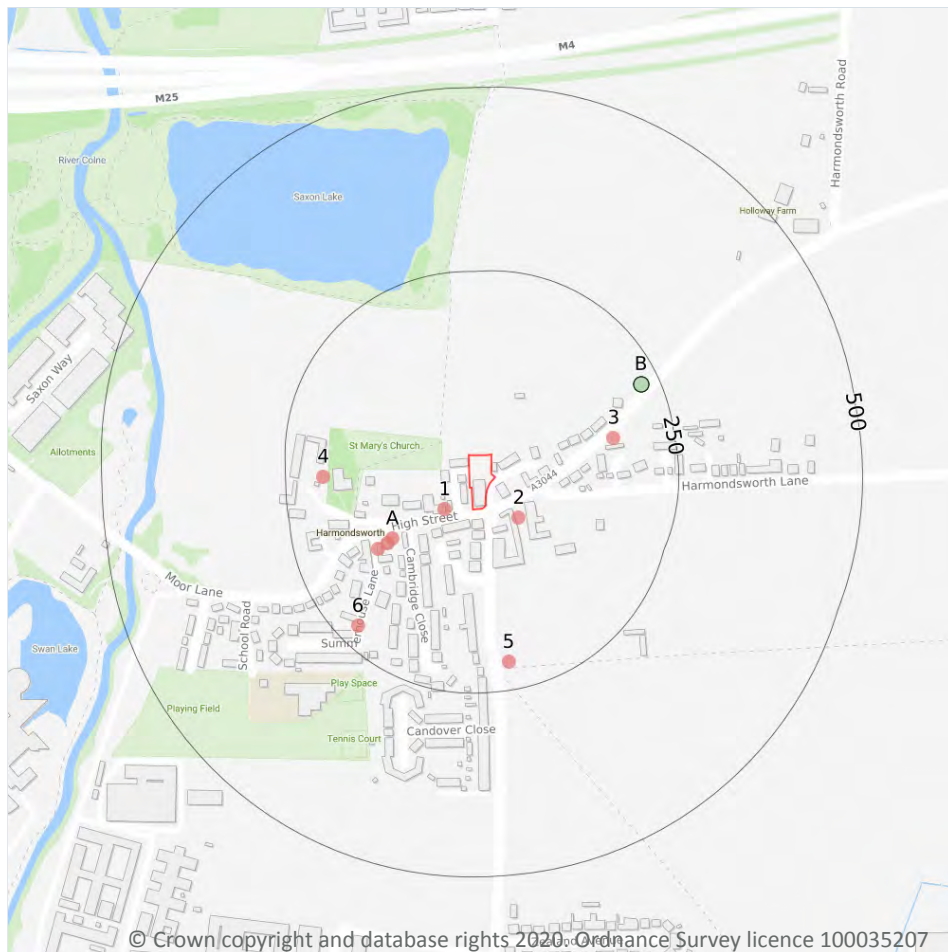


ID	Location	Site	Reference	Category	Sub-Category	Description
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on non- agricultural land to confer benefit
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of mulch
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Incorporation of ash into soil
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of baled end-of-life tyres in construction
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
E	497m S	Longfield Farm Hatch Lane UB7 0AZ	EPR/EH0776JK /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste to manufacture finished goods

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
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

9

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 31**

ID	Location	Company	Address	Activity	Category
1	38m W	Bailoy Products	The Old Forge, High Street, Harmondsworth, West Drayton, Greater London, UB7 0AQ	Horticultural Equipment	Industrial Products
2	48m E	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities
A	116m W	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
A	125m W	Heathrow Carpet Services	Minstead, High Street, Harmondsworth, West Drayton, Greater London, UB7 0AJ	Construction Completion Services	Construction Services
A	139m SW	Depot	Greater London, UB7	Container and Storage	Transport, Storage and Delivery
3	168m E	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities
4	199m W	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities
5	212m S	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities
6	223m SW	Electricity Sub Station	Greater London, UB7	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m**0**

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**0**

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

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 31**

ID	Location	Details	
B	224m NE	Incident Date: 18/12/2006 Incident Identification: 457314 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Vegetable Cuttings and Deposits	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
B	224m NE	Incident Date: 18/12/2006 Incident Identification: 457314 Pollutant: Specific Waste Materials Pollutant Description: Asbestos	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)

ID	Location	Details	
B	224m NE	Incident Date: 18/12/2006 Incident Identification: 457314 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
B	224m NE	Incident Date: 18/12/2006 Incident Identification: 457314 Pollutant: Specific Waste Materials Pollutant Description: Contaminated Construction & Demolition Mat & Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m	0
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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.

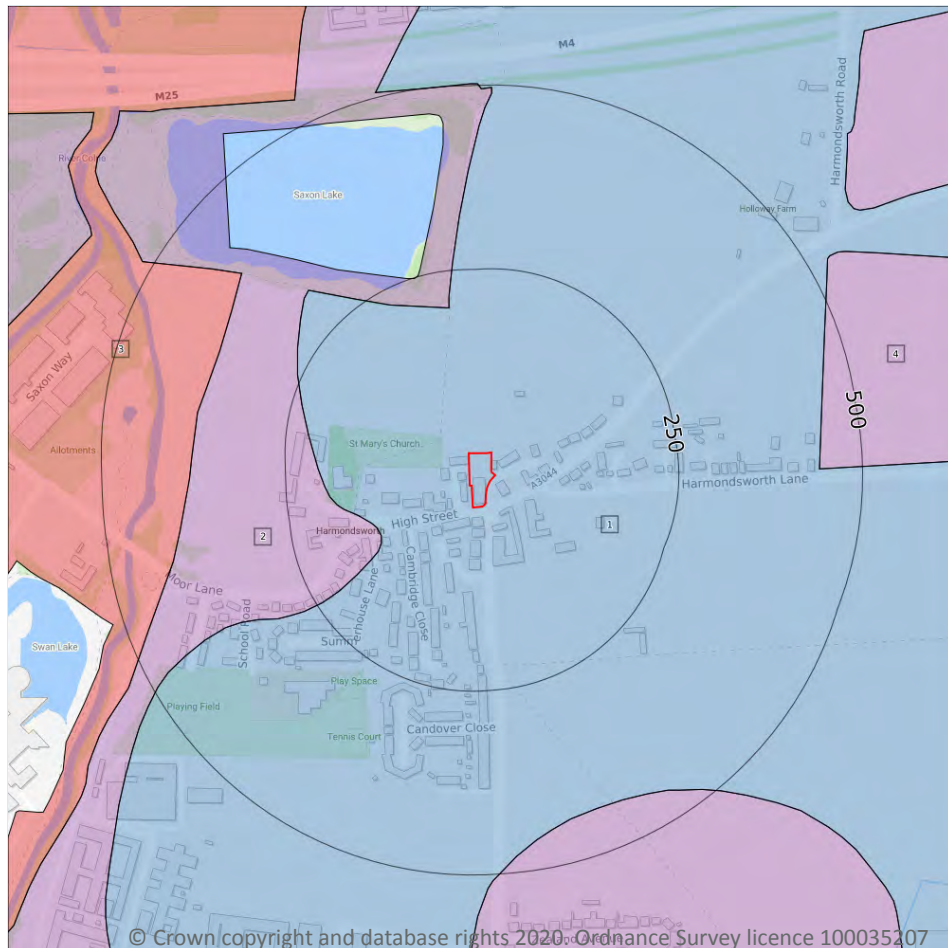
4.21 Pollution inventory radioactive waste

Records within 500m	0
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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

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 37**

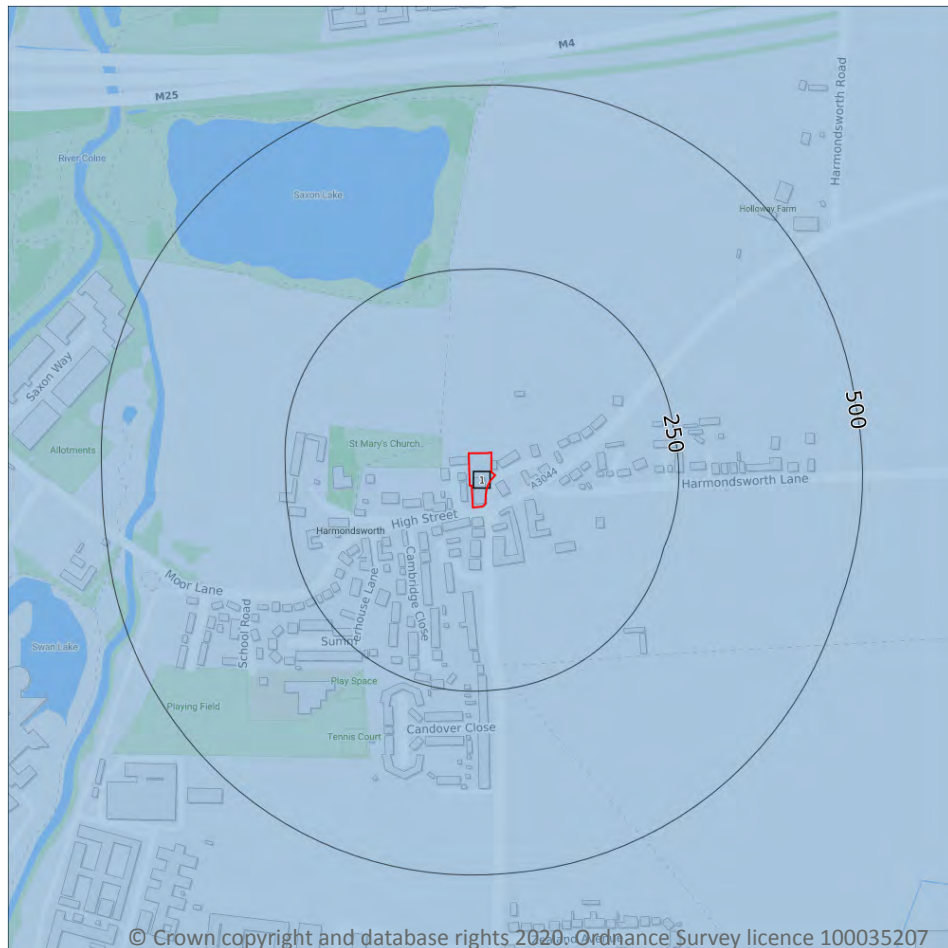
ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	130m W	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

ID	Location	Designation	Description
3	366m 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
4	441m E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major 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

1

Aquifer status of groundwater held within bedrock geology.

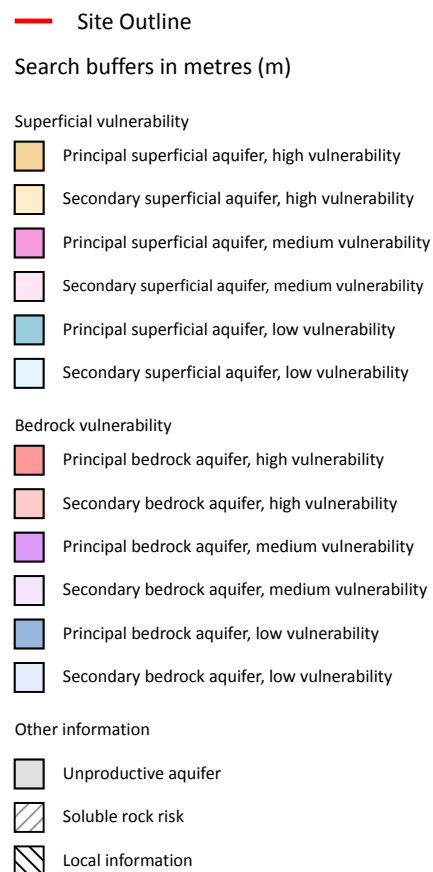
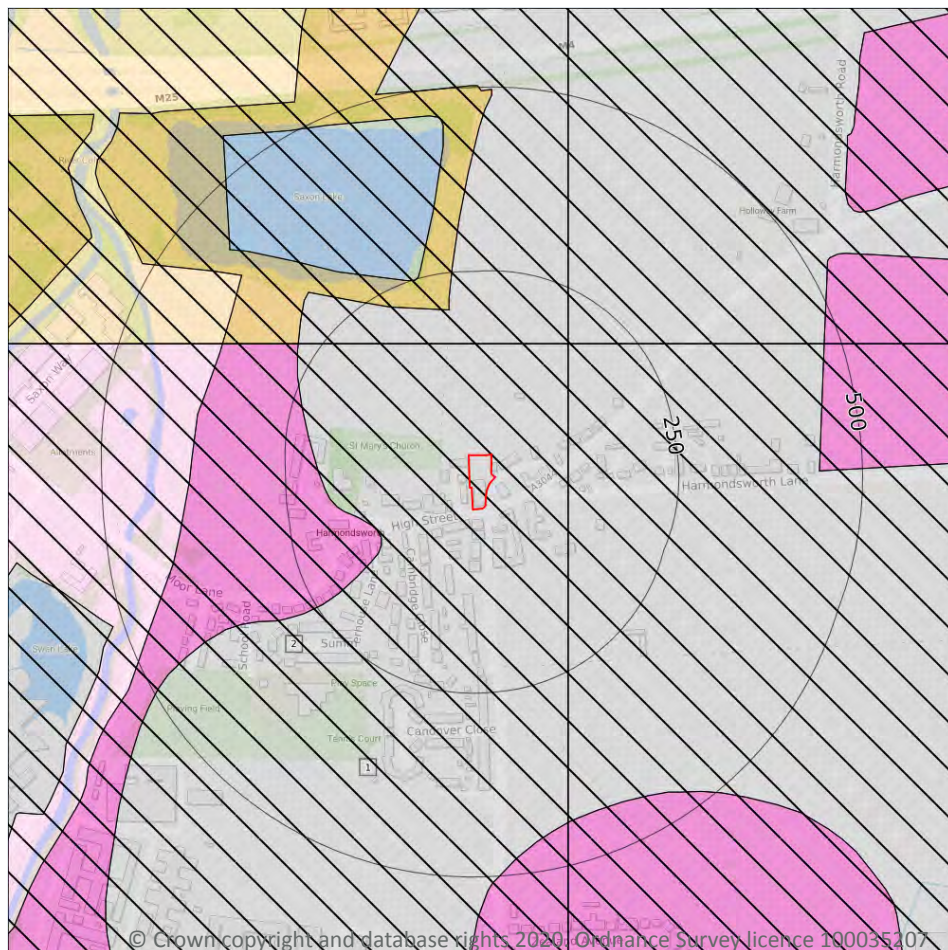
Features are displayed on the Bedrock aquifer map on **page 39**

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

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

1

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 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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	0
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This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

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

5.5 Groundwater vulnerability- local information

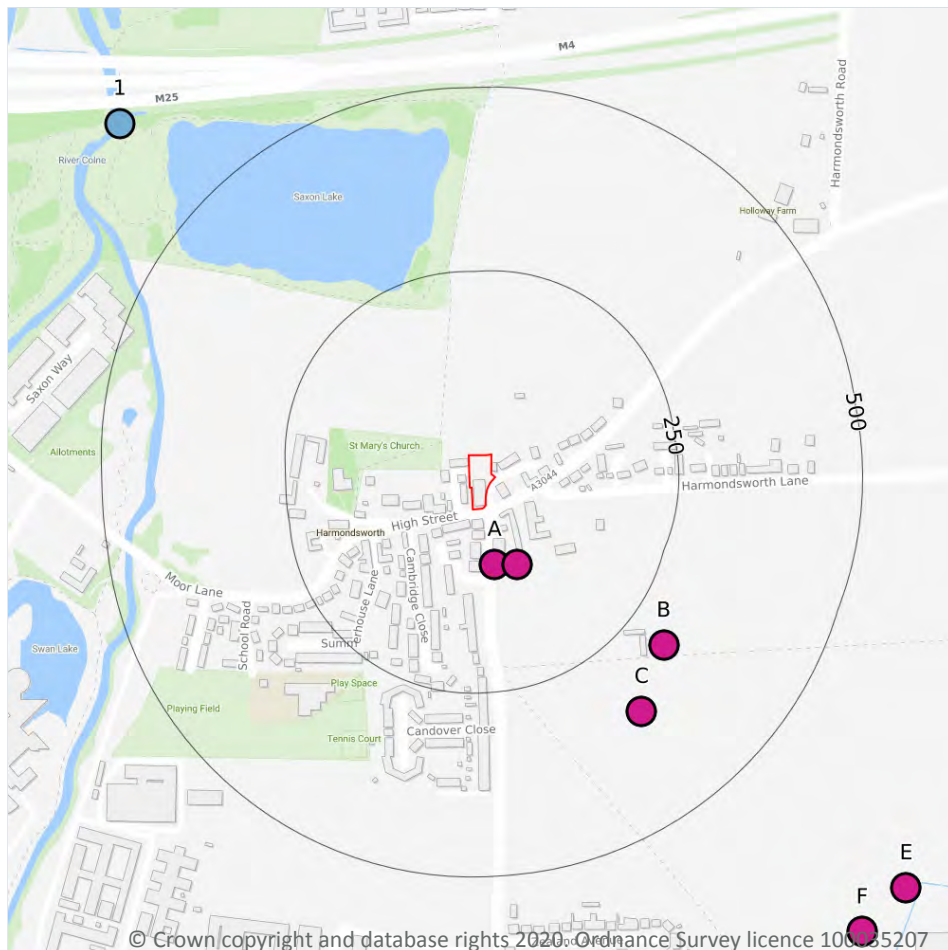
Records on site	1
------------------------	----------

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.

ID	Summary	Additional information
2	Highly vulnerable Principal superficial aquifer present in river terrace gravels	Principal superficial aquifer in river terrace gravels with only a thin cover of low permeability silts and/or alluvium (shown as unproductive)

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

26

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 42**

ID	Location	Details	
A	77m S	Status: Historical Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 505900 Northing: 177700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
A	77m S	Status: Historical Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 505900 Northing: 177700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
A	88m SE	Status: Active Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 505930 Northing: 177700	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -
A	88m SE	Status: Active Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'A' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 505930 Northing: 177700	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -

ID	Location	Details	
B	307m SE	Status: Active Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 506130 Northing: 177590	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -
B	307m SE	Status: Active Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 506130 Northing: 177590	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -
C	350m SE	Status: Historical Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 506100 Northing: 177500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
C	350m SE	Status: Historical Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'B' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 506100 Northing: 177500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -



ID	Location	Details	
-	757m E	Status: Historical Licence No: 28/39/36/0070 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HARMONDSWORTH QUARRY, WEST DRAYTON-BOREHOLE A Data Type: Point Name: SITA PRODUCTS AND SERVICES LTD Easting: 506640 Northing: 177990	Annual Volume (m ³): 617760 Max Daily Volume (m ³): 2160 Original Application No: - Original Start Date: 28/01/2003 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 28/01/2003 Version End Date: -
-	757m E	Status: Historical Licence No: 28/39/36/0070 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: HARMONDSWORTH QUARRY, WEST DRAYTON-LAGOON Data Type: Point Name: SITA ENVIRONMENT LIMITED Easting: 506640 Northing: 177990	Annual Volume (m ³): 617760 Max Daily Volume (m ³): 2160 Original Application No: - Original Start Date: 28/01/2003 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 26/01/2009 Version End Date: -
E	773m SE	Status: Active Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 506460 Northing: 177260	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -
E	773m SE	Status: Active Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HOME FARM, HARMONDSWORTH Data Type: Point Name: BARWICK Easting: 506460 Northing: 177260	Annual Volume (m ³): 28,108 Max Daily Volume (m ³): 1,309 Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/07/2001 Version End Date: -

ID	Location	Details	
F	773m SE	Status: Historical Licence No: 28/39/36/0023 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 506400 Northing: 177200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
F	773m SE	Status: Historical Licence No: 28/39/36/0023 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: BOREHOLE 'C' AT HOME FARM, HARMONSWORTH Data Type: Point Name: BARWICK Easting: 506400 Northing: 177200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 25/09/1996 Version End Date: -
-	1722m E	Status: Active Licence No: 28/39/36/0059 Details: Mineral Washing Direct Source: THAMES GROUNDWATER Point: WET PIT AT SIPSON LANE, HARMONDSWORTH Data Type: Point Name: Harleyford Aggregates Limited Easting: 507600 Northing: 178100	Annual Volume (m ³): 649,318 Max Daily Volume (m ³): 2,455 Original Application No: - Original Start Date: 06/12/1994 Expiry Date: - Issue No: 102 Version Start Date: 18/04/2016 Version End Date: -
-	1831m E	Status: Active Licence No: TH/039/0036/017 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: BOREHOLE AT PARK INN HOTEL, BATH ROAD Data Type: Point Name: Park Hotel Heathrow Limited Easting: 507590 Northing: 177105	Annual Volume (m ³): 43,800 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 29/09/2016 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 29/09/2016 Version End Date: -

ID	Location	Details	
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: General use relating to Secondary Category (High Loss) Direct Source: THAMES GROUNDWATER Point: A3044 BOREHOLE AT HEATHROW AIRPORT Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31-Dec-09 Issue No: 1 Version Start Date: 26/06/2001 Version End Date: -
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: General use relating to Secondary Category (High Loss) Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT- BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31/12/2009 Issue No: 2 Version Start Date: 24/09/2003 Version End Date: -
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT- BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31/12/2009 Issue No: 3 Version Start Date: 21/01/2005 Version End Date: -
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT- BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31/12/2009 Issue No: 3 Version Start Date: 21/01/2005 Version End Date: -

ID	Location	Details	
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: General Use Relating To Secondary Category (High Loss) Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT- BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31/12/2009 Issue No: 3 Version Start Date: 21/01/2005 Version End Date: -
-	1884m SW	Status: Historical Licence No: TH/039/0028/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 13/02/2010 Expiry Date: 31/12/2019 Issue No: 2 Version Start Date: 29/04/2014 Version End Date: -
-	1884m SW	Status: Historical Licence No: TH/039/0028/007 Details: Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 13/02/2010 Expiry Date: 31/12/2019 Issue No: 2 Version Start Date: 29/04/2014 Version End Date: -
-	1884m SW	Status: Historical Licence No: TH/039/0028/007 Details: General Use Relating To Secondary Category (High Loss) Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 13/02/2010 Expiry Date: 31/12/2019 Issue No: 2 Version Start Date: 29/04/2014 Version End Date: -
-	1884m SW	Status: Active Licence No: TH/039/0028/007/R01 Details: Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706,000 Max Daily Volume (m ³): 3,197 Original Application No: - Original Start Date: 01/01/2020 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 01/01/2020 Version End Date: -



ID	Location	Details	
-	1884m SW	Status: Active Licence No: TH/039/0028/007/R01 Details: General Use Relating To Secondary Category (High Loss) Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706,000 Max Daily Volume (m ³): 3,197 Original Application No: - Original Start Date: 01/01/2020 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 01/01/2020 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

4

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 42**

ID	Location	Details	
1	655m NW	Status: Historical Licence No: 28/39/28/0530 Details: Make-Up or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER COLNE AT PROSPECT PARK, WEST DRAYTON Data Type: Point Name: BRITISH AIRWAYS PLC Easting: 505390 Northing: 178300	Annual Volume (m ³): 7300 Max Daily Volume (m ³): 480 Original Application No: - Original Start Date: 09/05/1997 Expiry Date: 31/03/2007 Issue No: 100 Version Start Date: 24/03/1998 Version End Date: -
-	912m W	Status: Historical Licence No: 28/39/28/0530 Details: Make-Up or Top Up Water Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVE COLNE AT PROSPECT PARK, WEST DRAYTON Data Type: Point Name: BRITISH AIRWAYS PLC Easting: 505000 Northing: 177500	Annual Volume (m ³): 7300 Max Daily Volume (m ³): 480 Original Application No: - Original Start Date: 09/05/1997 Expiry Date: 31/03/2007 Issue No: 100 Version Start Date: 24/03/1998 Version End Date: -



ID	Location	Details	
-	1130m SW	Status: Historical Licence No: 28/39/28/0582 Details: Transfer between sources Direct Source: THAMES SURFACE WATER - NON TIDAL Point: HEADWORKS OF DNR, LONGFORD- POINT A Data Type: Point Name: BAA PLC Easting: 505220 Northing: 176850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/01/2004 Expiry Date: 31/12/2004 Issue No: 1 Version Start Date: 07/01/2004 Version End Date: -
-	1580m SW	Status: Historical Licence No: 28/39/28/0581 Details: Transfer between sources Direct Source: THAMES SURFACE WATER - NON TIDAL Point: HEADWORKS OF LONGFORD RIVER- POINT A Data Type: Point Name: BAA PLC Easting: 504760 Northing: 176650	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/12/2003 Expiry Date: 31/12/2004 Issue No: 1 Version Start Date: 24/12/2003 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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 42**

ID	Location	Details	
-	1884m SW	Status: Historical Licence No: 28/39/28/0564 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT- BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 26/06/2001 Expiry Date: 31/12/2009 Issue No: 3 Version Start Date: 21/01/2005 Version End Date: -



ID	Location	Details	
-	1884m SW	Status: Historical Licence No: TH/039/0028/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: HEATHROW AIRPORT - BOREHOLE A Data Type: Point Name: HEATHROW AIRPORT LIMITED Easting: 504660 Northing: 176330	Annual Volume (m ³): 706000 Max Daily Volume (m ³): 3197 Original Application No: - Original Start Date: 13/02/2010 Expiry Date: 31/12/2019 Issue No: 2 Version Start Date: 29/04/2014 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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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)

Records within 500m	0
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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

1

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 52**

ID	Location	Type of water feature	Ground level	Permanence	Name
3	191m 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

1

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 52**

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 52**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Crane	GB106039023030	Crane Rivers and Lakes	London

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 52**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	4182m E	River	Crane	GB106039023030	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 52**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Lower Thames Gravels	<u>GB40603G000300</u>	Good	Good	Good	2015

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

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).

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

7.2 Historical Flood Events

Records within 250m

0

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.

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

7.6 Flood Zone 2

Records within 50m

0

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.

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

7.7 Flood Zone 3

Records within 50m

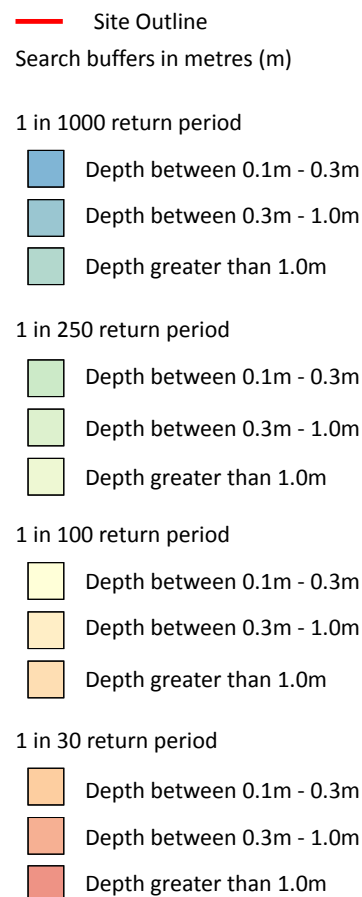
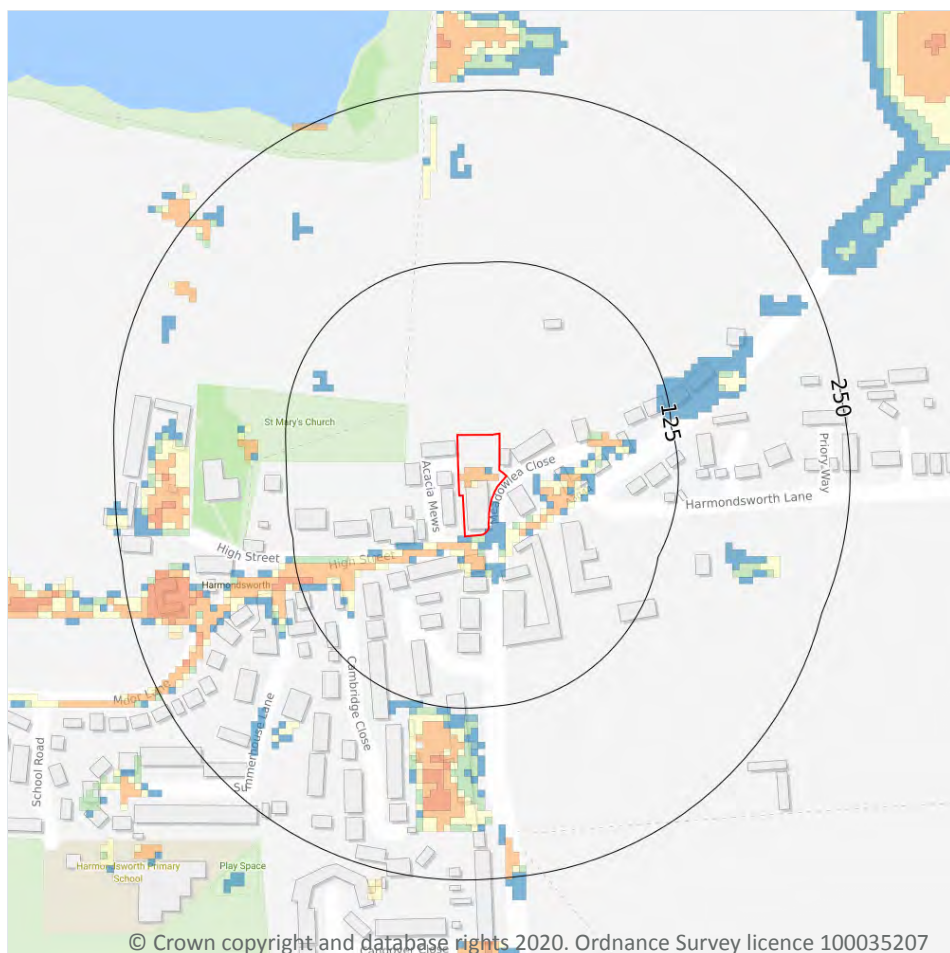
0

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.

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, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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.

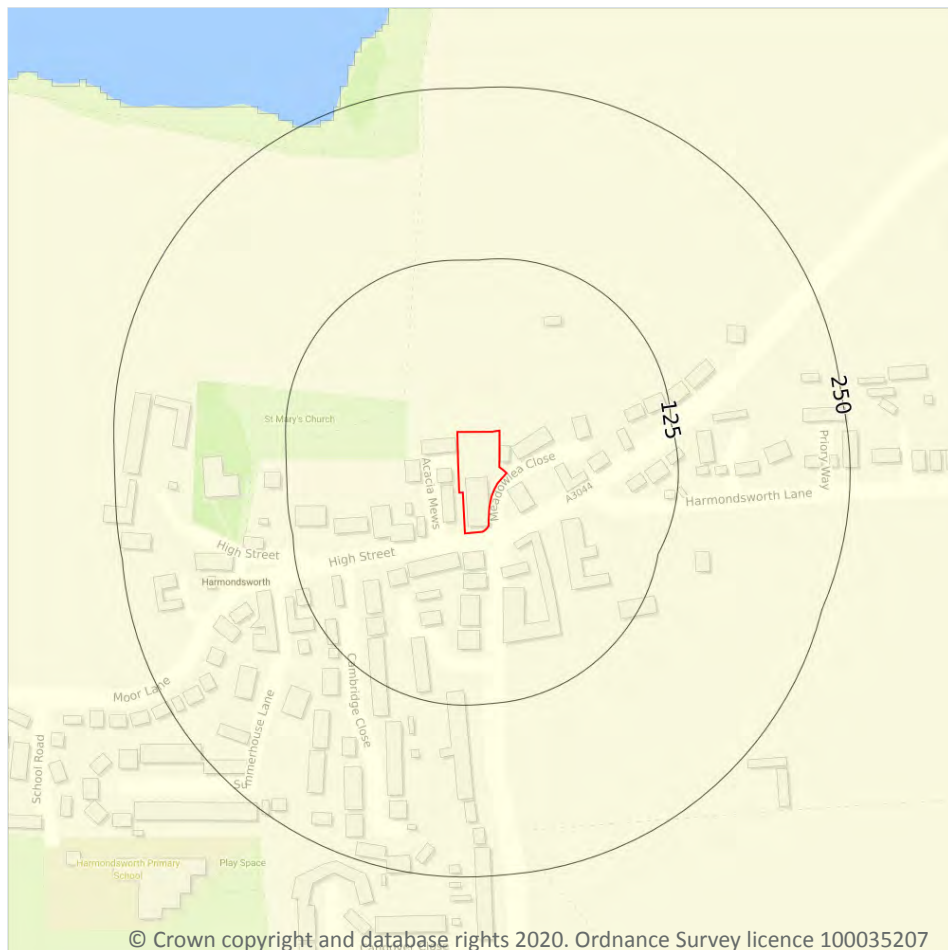
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental 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

Moderate

Highest risk within 50m

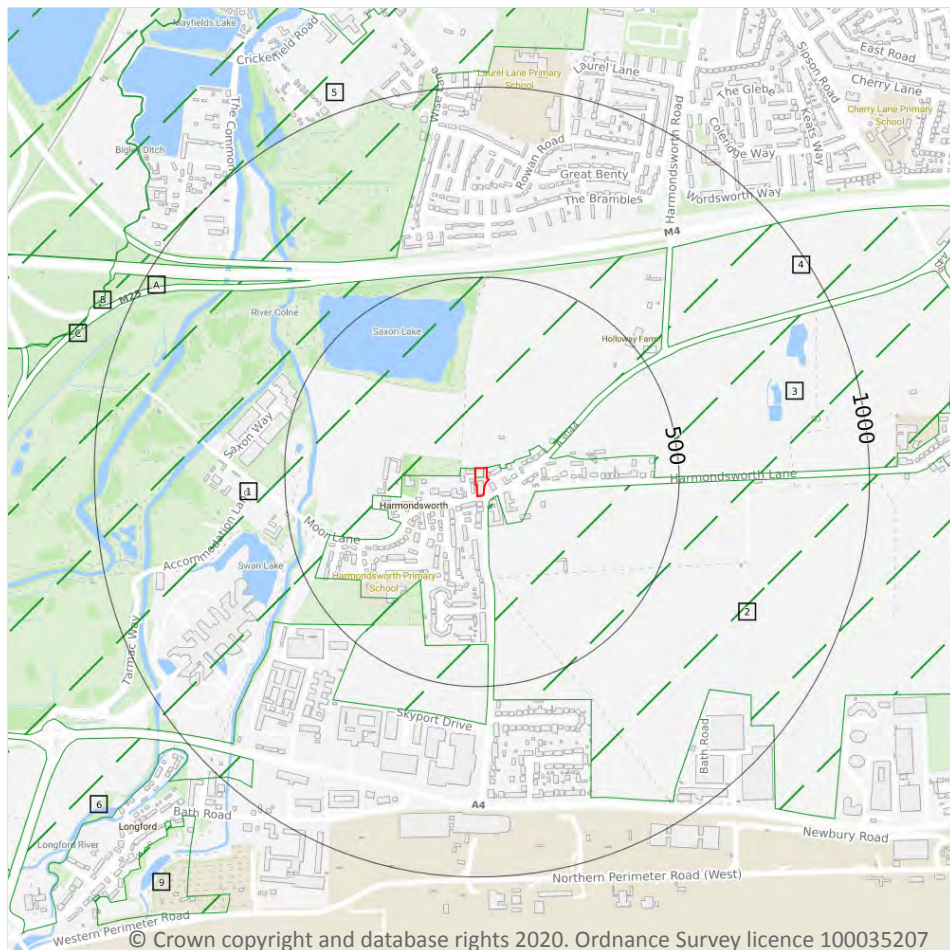
Moderate

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 Ambiental Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- - - Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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.

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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)

Records within 2000m**0**

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)

Records within 2000m**0**

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)

Records within 2000m**0**

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**0**

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.

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

56

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
1	On site	London area	Hillingdon
2	22m SE	London area	Hillingdon
3	168m E	London area	Hillingdon
4	573m NE	London area	Hillingdon
5	591m N	London area	Hillingdon
A	658m NW	London area	Hillingdon
A	716m NW	London area	Hillingdon
6	909m SW	London area	Hillingdon
B	1069m NW	London area	Slough
7	1073m NW	London area	Slough
B	1078m NW	London area	Slough
8	1086m NW	London area	South Bucks
C	1098m W	London area	Slough
9	1119m SW	London area	Hillingdon
C	1130m W	London area	Hillingdon
C	1130m W	London area	Slough
C	1151m W	London area	Slough
C	1167m W	London area	Slough



ID	Location	Name	Local Authority name
C	1214m W	London area	Hillingdon
C	1233m W	London area	Slough
C	1259m W	London area	Slough
-	1285m N	London area	Hillingdon
-	1303m W	London area	Hillingdon
-	1303m W	London area	Slough
11	1311m NE	London area	Hillingdon
12	1316m SW	London area	Hillingdon
-	1333m W	London area	Slough
13	1339m NW	London area	Slough
-	1354m W	London area	Hillingdon
-	1355m W	London area	Slough
-	1392m W	London area	Slough
-	1400m E	London area	Hillingdon
-	1409m W	London area	Slough
-	1460m W	London area	Slough
-	1484m W	London area	Slough
-	1493m W	London area	Slough
-	1496m W	London area	Slough
-	1511m NE	London area	Hillingdon
-	1512m W	London area	Slough
-	1526m NE	London area	Hillingdon
-	1545m W	London area	Slough
-	1568m W	London area	Slough
-	1569m E	London area	Hillingdon
-	1573m E	London area	Hillingdon
-	1574m W	London area	Slough
-	1580m W	London area	Slough

ID	Location	Name	Local Authority name
-	1590m W	London area	Slough
-	1640m NE	London area	Hillingdon
-	1788m W	London area	Slough
-	1790m W	London area	Slough
-	1796m NE	London area	Hillingdon
-	1807m W	London area	Slough
-	1841m W	London area	Slough
-	1891m NE	London area	Hillingdon
-	1945m SW	London area	Hillingdon
-	1953m W	London area	Slough

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

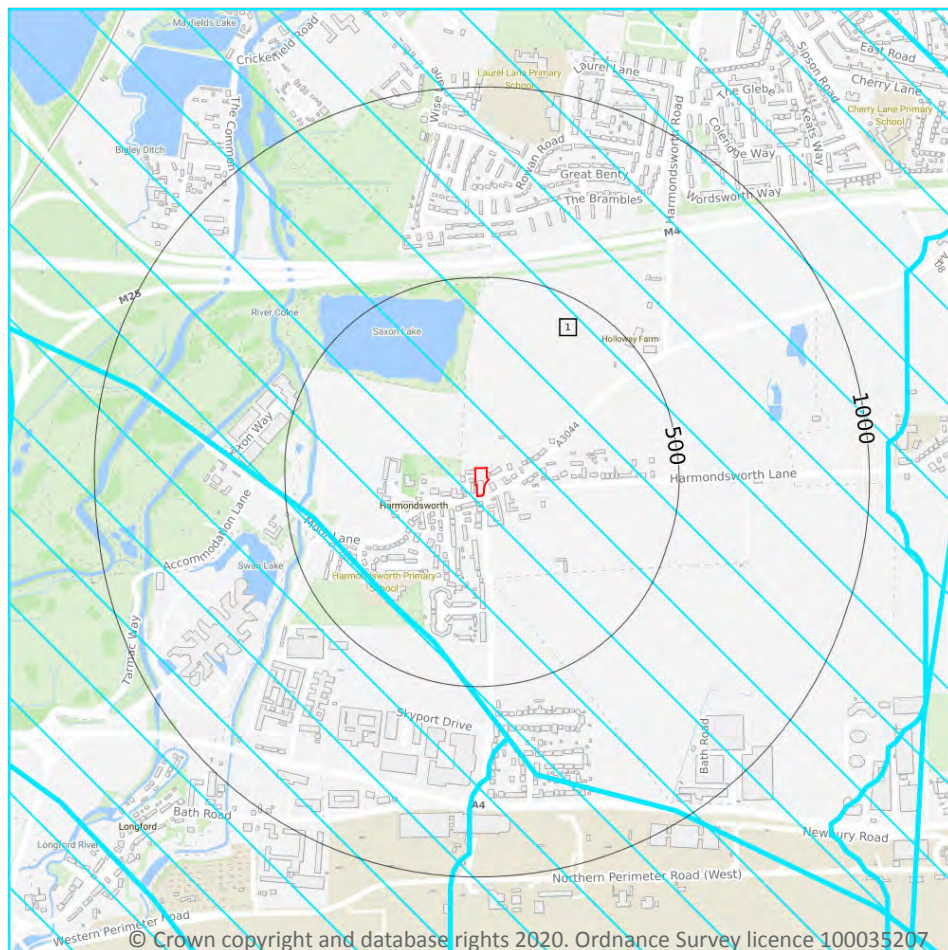
Records within 2000m

0

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.

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

1

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 68**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t). Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Discharges - Any discharge of water or liquid waste of more than 20m³/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).

This data is sourced from Natural England.

10.18 SSSI Units

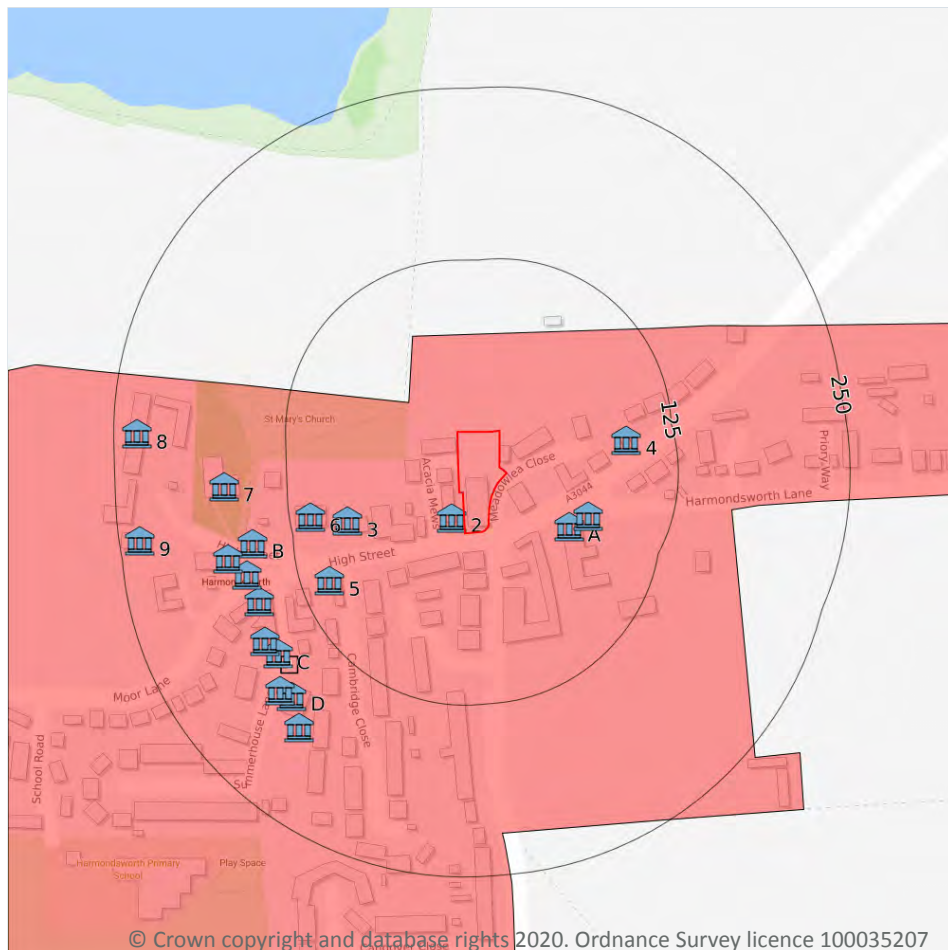
Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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

19

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 70**

ID	Location	Name	Grade	Reference Number	Listed date
2	9m W	Acacia House, Hillingdon, London, UB7	II	1080199	03/04/1973
A	58m E	The Lodge, Hillingdon, London, UB7	II	1080217	01/03/1950
A	67m SE	Wall To East Of The Lodge, Hillingdon, London, UB7	II	1080218	06/09/1974
3	84m W	Howcroft (Rear Part Only), Hillingdon, London, UB7	II	1080200	06/09/1974
4	91m E	25, Holloway Lane, Hillingdon, London, UB7	II	1358410	23/05/1988
5	104m W	The Crown Public House, Hillingdon, London, UB7	II	1080202	06/09/1974



ID	Location	Name	Grade	Reference Number	Listed date
6	110m W	The Vicarage Tower House, Hillingdon, London, THE VICARAGE	II	1194310	06/09/1974
B	155m W	The Sun House, Hillingdon, London, UB7	II	1358366	06/09/1974
B	157m W	The Gable Stores, Hillingdon, London, UB7	II	1358368	06/09/1974
B	162m W	K6 Telephone Kiosk In Front Of Five Bells Public House, Hillingdon, London, UB7	II	1080118	07/07/1987
C	162m SW	Wall And Gates To South Of Harmondsworth Hall, Hillingdon, London, UB7	II	1080124	06/09/1974
C	165m SW	Harmondsworth Hall, Hillingdon, London, UB7	II	1080123	01/03/1950
7	171m W	Church Of St Mary, Harmondsworth, Hillingdon, London, UB7	II*	1080201	01/03/1950
D	173m SW	The Grange, Hillingdon, London, UB7	II	1358413	01/03/1950
B	174m W	The Five Bells Inn, Hillingdon, London, UB7	II	1194343	06/09/1974
D	176m SW	Wall To West And North Of The Grange, Hillingdon, London, UB7	II	1080125	06/09/1974
D	186m SW	Wall To East Of The Grange, Hillingdon, London, UB7	II	1358414	06/09/1974
8	233m W	The Great Barn, Harmondsworth, Hillingdon, London, UB7	I	1194332	01/03/1950
9	235m W	Manor Farmhouse, Hillingdon, London, UB7	II	1358367	06/09/1974

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on **page 70**

ID	Location	Name	District	Date of designation
1	On site	Harmondsworth Village	Hillingdon	1970

This data is sourced from English Heritage, 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 English Heritage, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

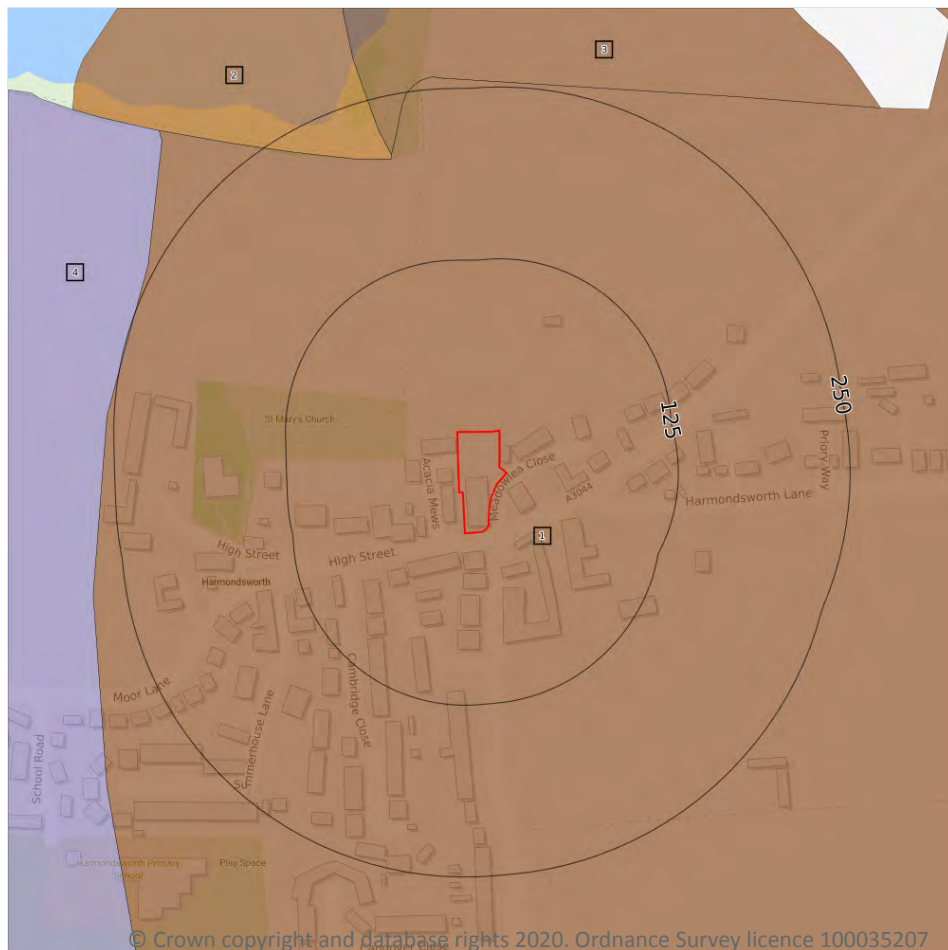
Records within 250m**0**

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 English Heritage, 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

12.1 Agricultural Land Classification

Records within 250m

4

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 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.



ID	Location	Classification	Description
2	204m N	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
3	207m N	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
4	249m W	Non Agricultural	-

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

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

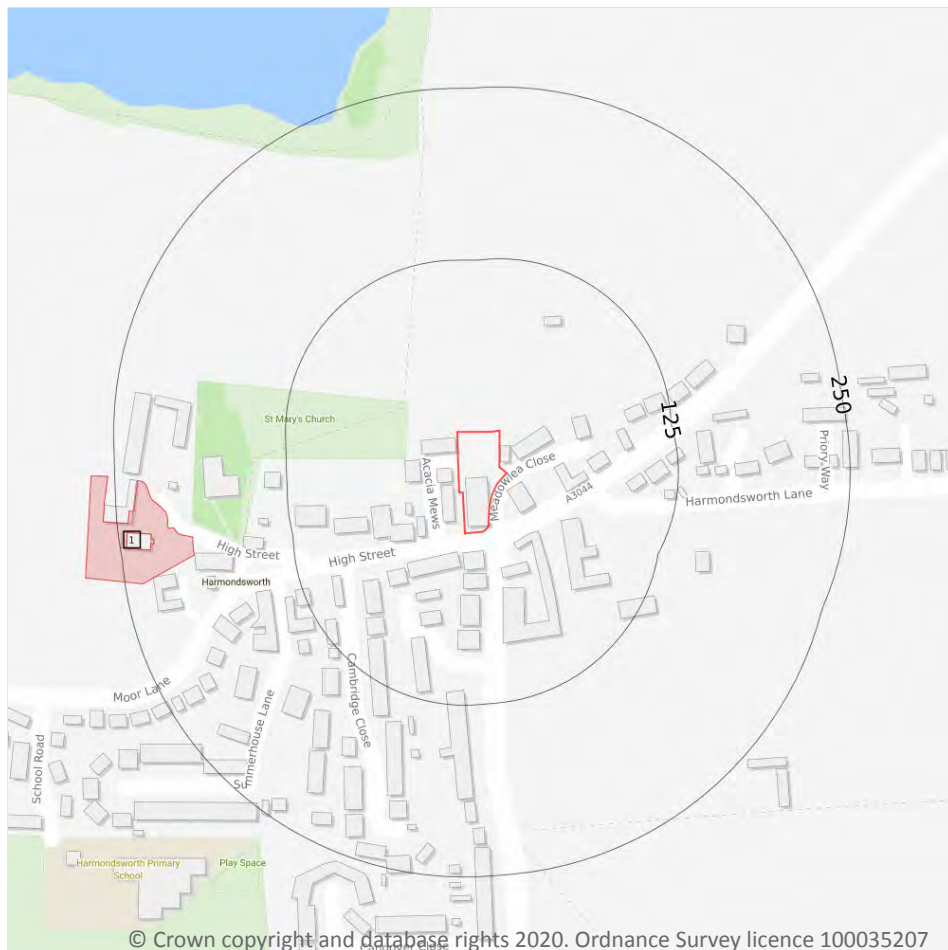
0

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.

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

1

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
1	197m W	No main habitat but additional habitats present	Additional: TORCH (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

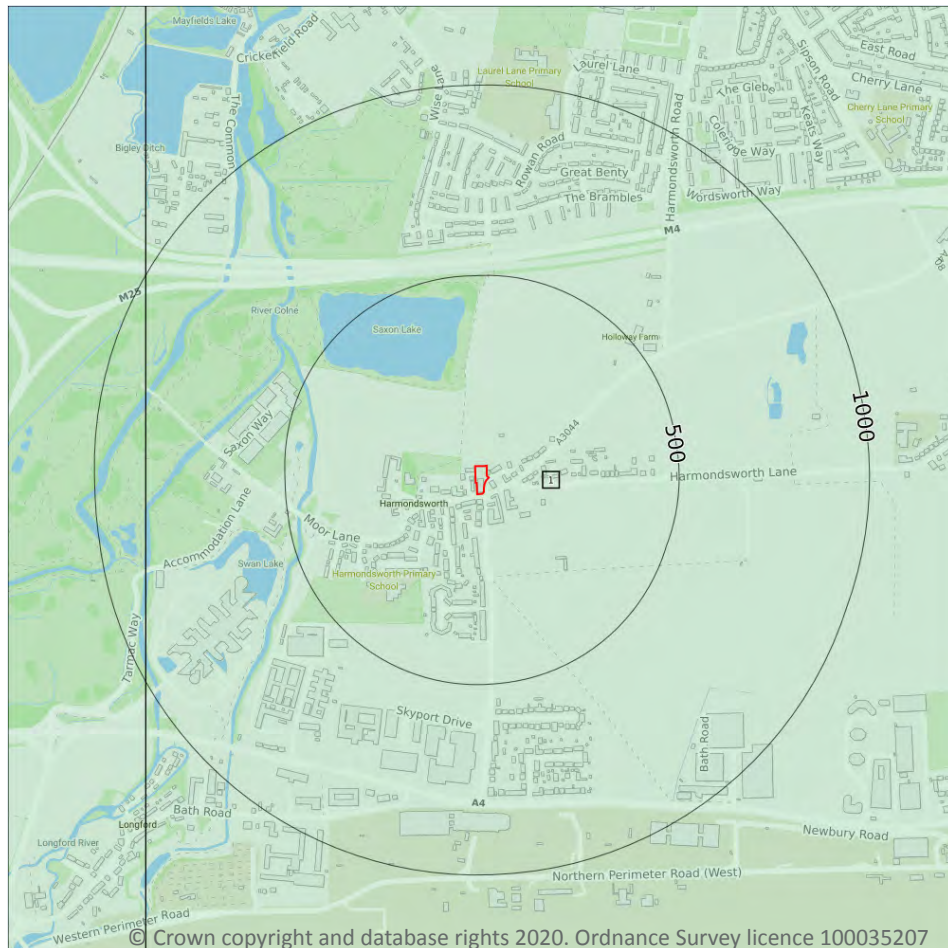
Records within 250m

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

1

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	TQ07NE

This data is sourced from the British Geological Survey.



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-  Reclaimed ground
-  Made ground
-  Worked ground
-  Infilled ground
-  Disturbed ground
-  Landscaped ground

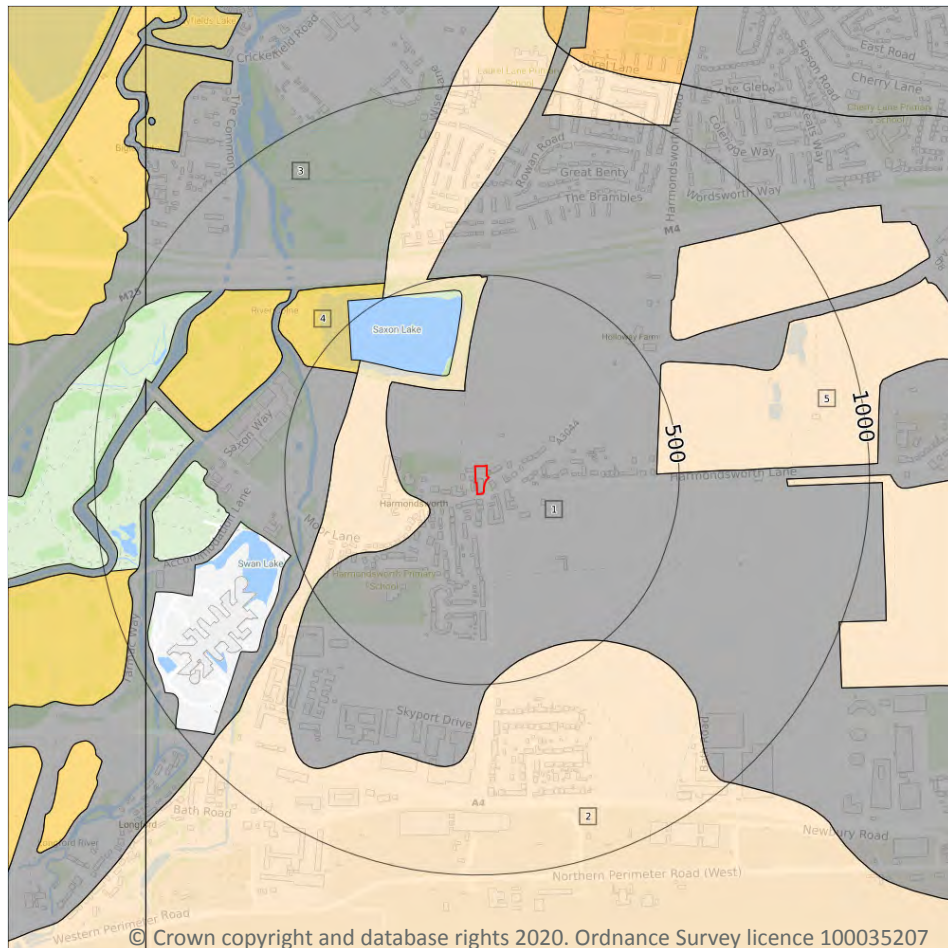
80

ID	Location	LEX Code	Description	Rock description
5	432m W	MGR-UNKNOWN	Made Ground (Undivided)	Unknown/unclassified Entry
A	441m E	WMGR-UNKNOWN	Infilled Ground	Unknown/unclassified Entry

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

5

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	LASI-Z	Langley Silt Member - Silt (unlithified Deposits Coding Scheme)	Silt
2	131m W	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel
3	366m W	ALV-Z	Alluvium - Silt (unlithified Deposits Coding Scheme)	Silt



ID	Location	LEX Code	Description	Rock description
4	394m NW	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
5	441m E	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

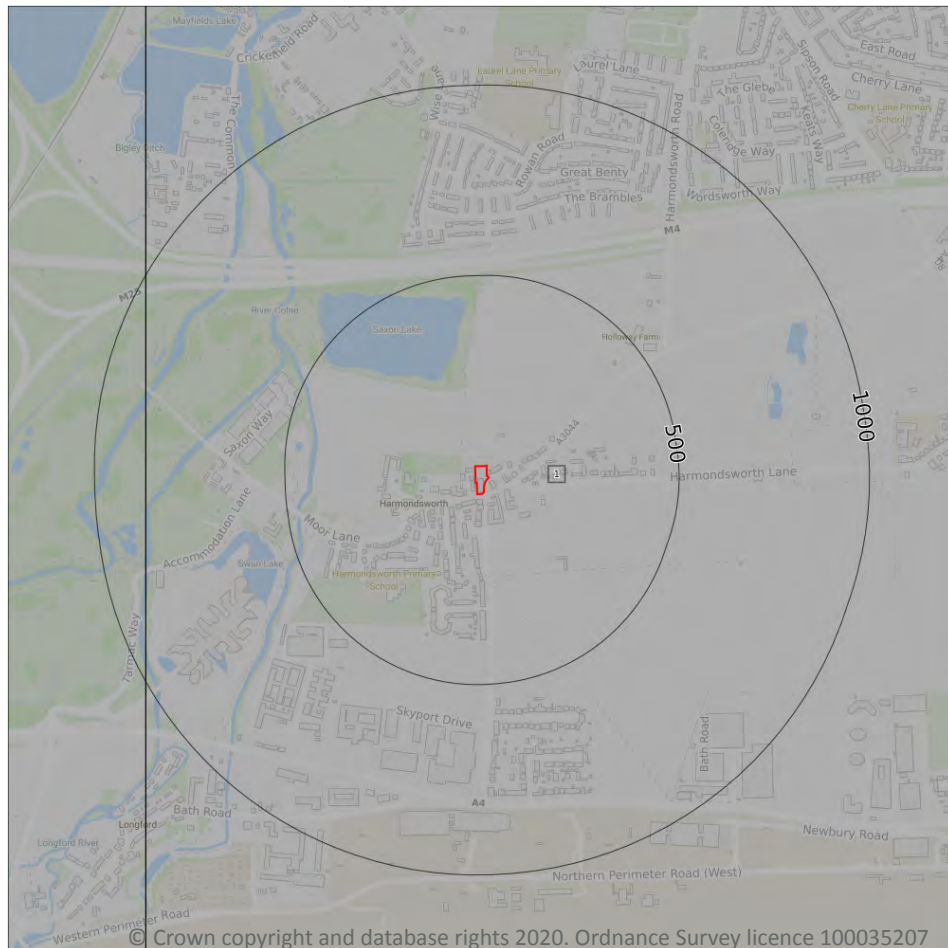
0

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

1

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	LC-CLAY	London Clay Formation - Clay	Eocene Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

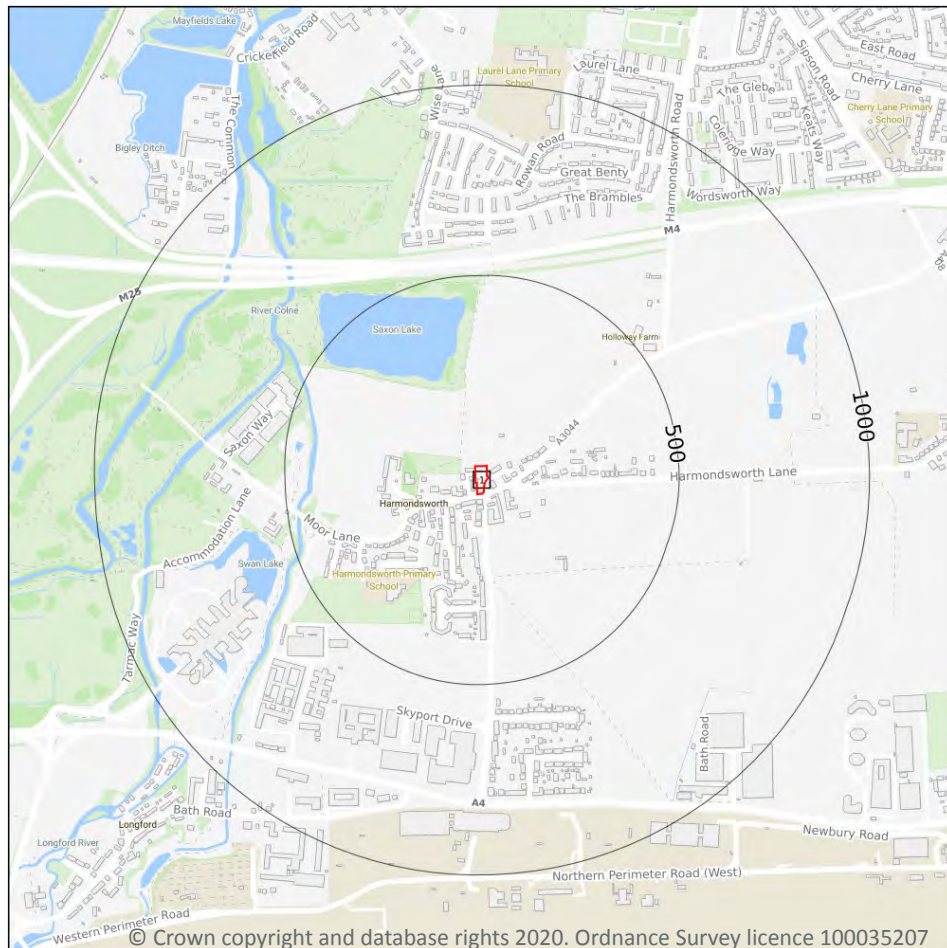
0

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.

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

1

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

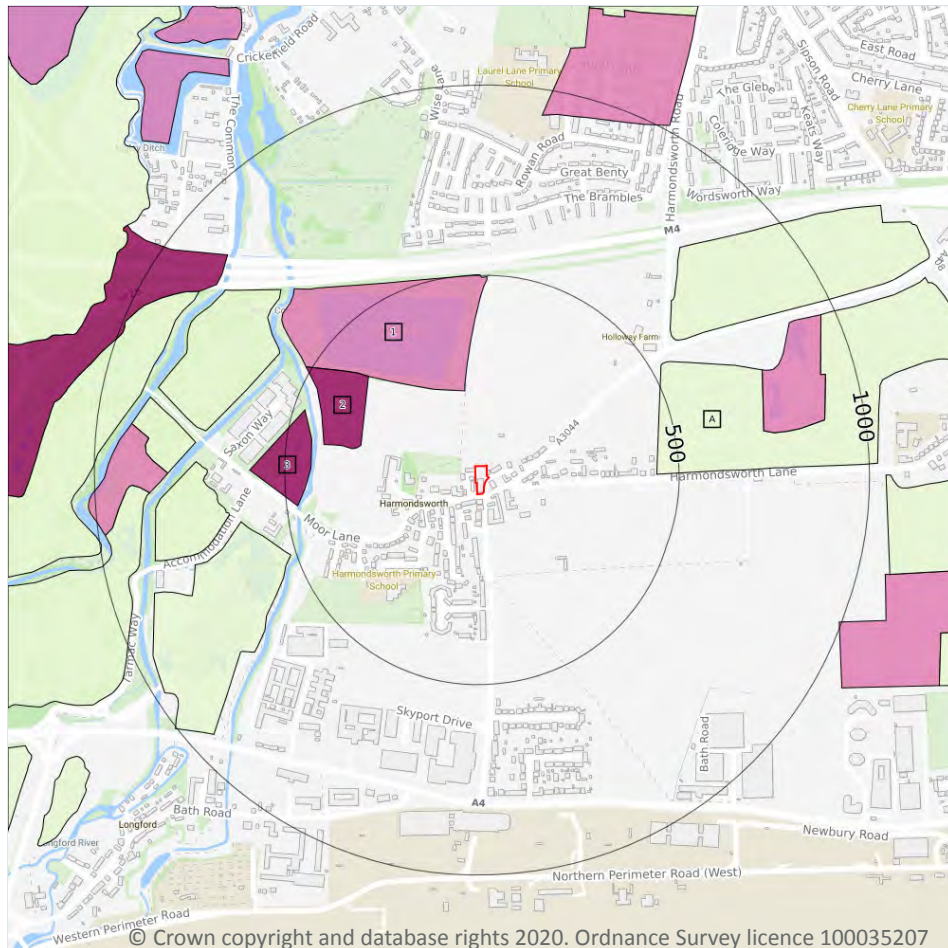
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 86**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW269_windsor_v4

This data is sourced from the British Geological Survey.



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



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

15.2 Artificial and made ground (50k)

Records within 500m

4

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 87**

ID	Location	LEX Code	Description	Rock description
1	200m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	305m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	431m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
A	441m E	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT



This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

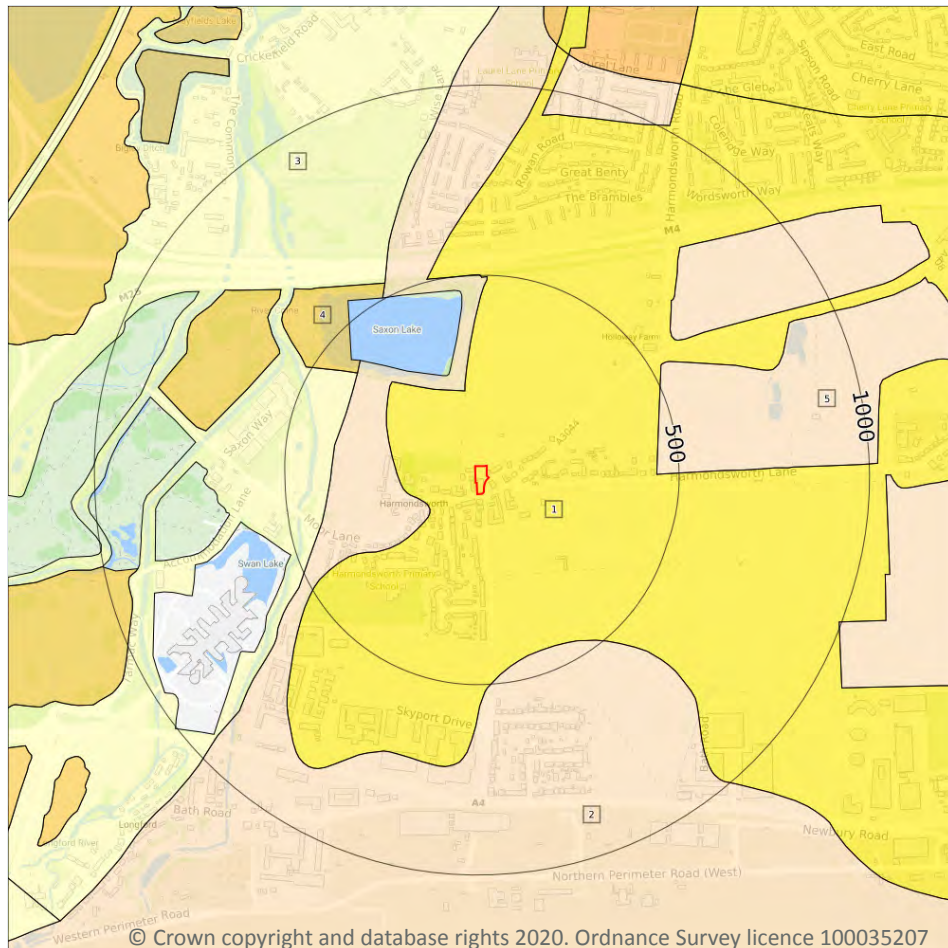
0

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

5

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	LASI-XCZ	LANGLEY SILT MEMBER	CLAY AND SILT
2	130m W	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL
3	366m W	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	394m NW	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	441m E	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

1

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	Mixed	Low	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

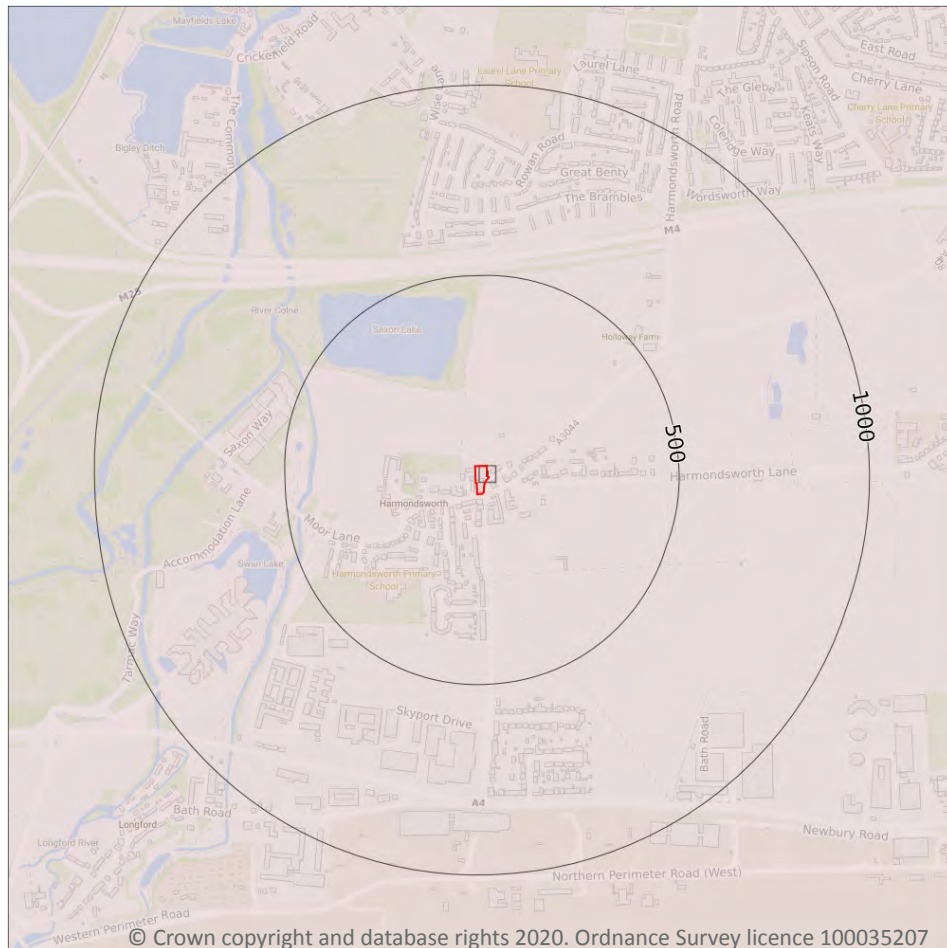
0

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

1

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 91**

ID	Location	LEX Code	Description	Rock age
1	On site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m**1**

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	Very Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

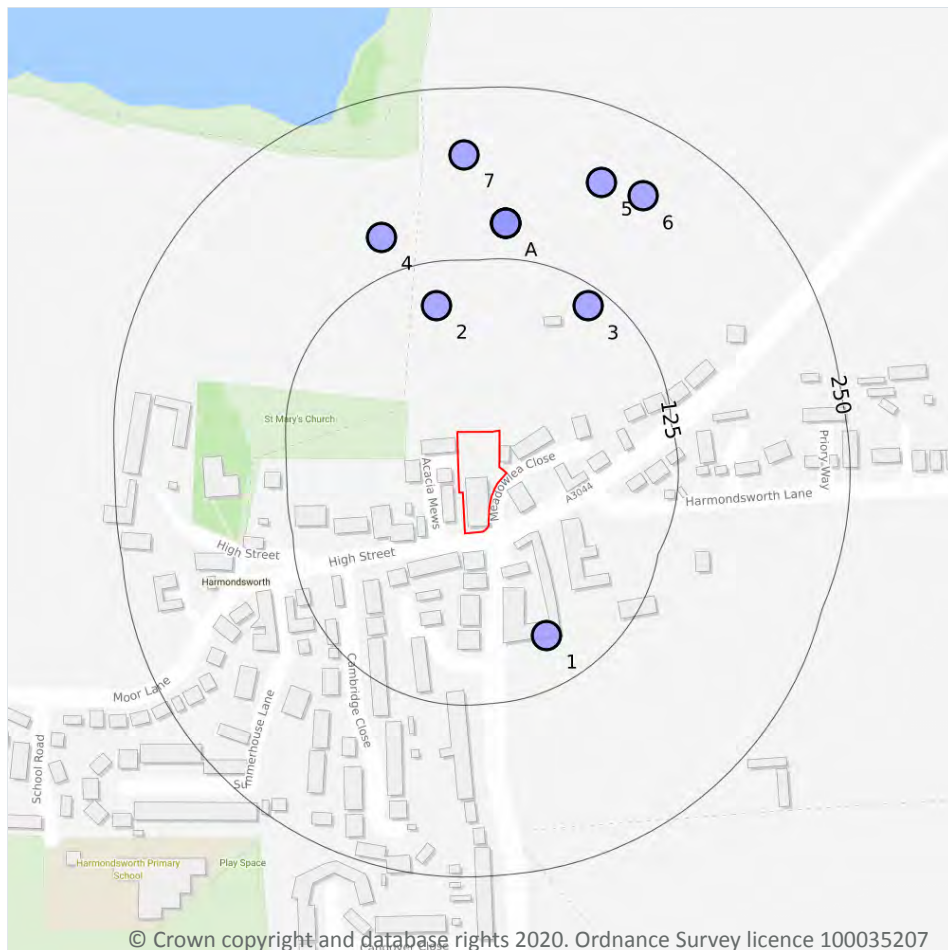
Records within 500m**0**

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.

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

11

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 93**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	89m SE	505930 177700	HOME FARM, HARMONDSWORTH	5.48	N	574266
2	93m N	505850 177940	ARC HARMONDSWORTH B5	6.3	N	574214
3	111m NE	505960 177940	ARC HARMONDSWORTH B4	5.1	N	574213

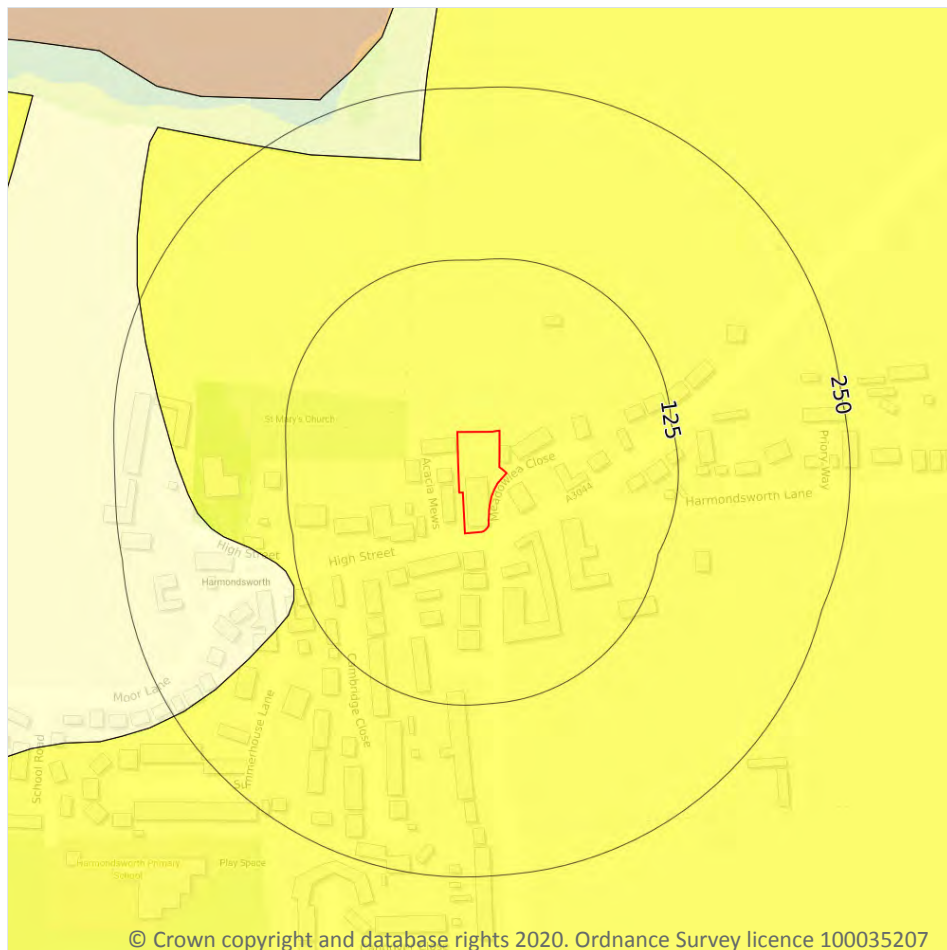


ID	Location	Grid reference	Name	Length	Confidential	Web link
A	151m N	505900 178000	HARMONDSWORTH 3	7.7	N	573949
A	151m N	505900 178000	HARMONDSWORTH 1	10.8	N	573947
A	151m N	505900 178000	HARMONDSWORTH 4	8.1	N	573950
A	151m N	505900 178000	HARMONDSWORTH 2	9.7	N	573948
4	152m N	505810 177990	ARC HARMONDSWORTH B3	7.3	N	574212
5	195m N	505970 178030	MANOR FARM, HARMONDSWORTH	7.92	N	574242
6	200m NE	506000 178020	ARC HARMONDSWORTH B2	6.3	N	574211
7	202m N	505870 178050	ARC HARMONDSWORTH B6	6.9	N	574215

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

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17.1 Shrink swell clays

Records within 50m

1

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).

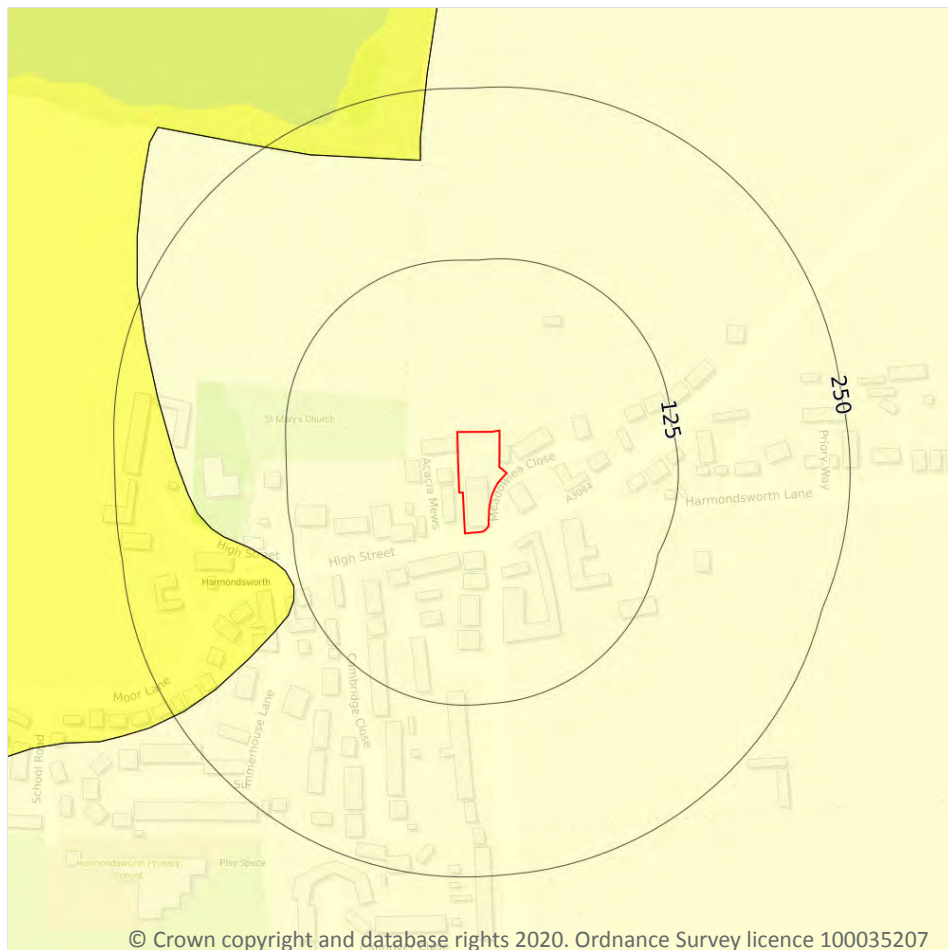
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 95**

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

17.2 Running sands

Records within 50m

1

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.

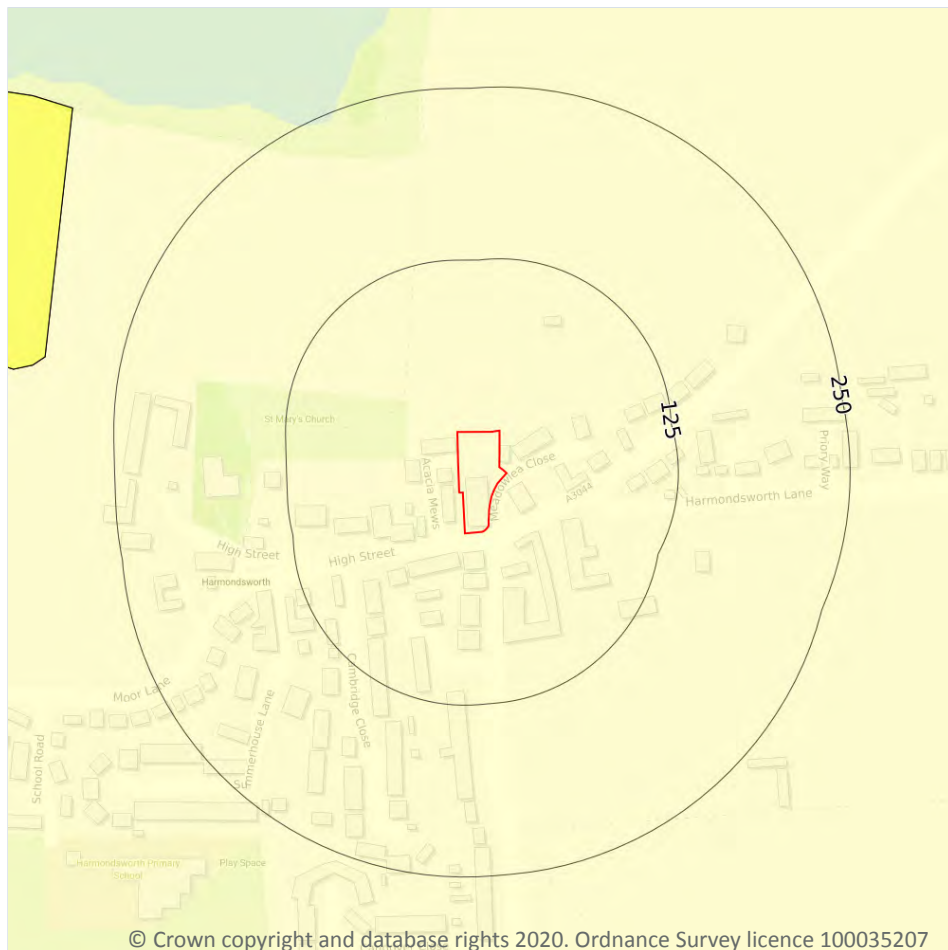
Features are displayed on the Natural ground subsidence - Running sands map on **page 96**

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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.

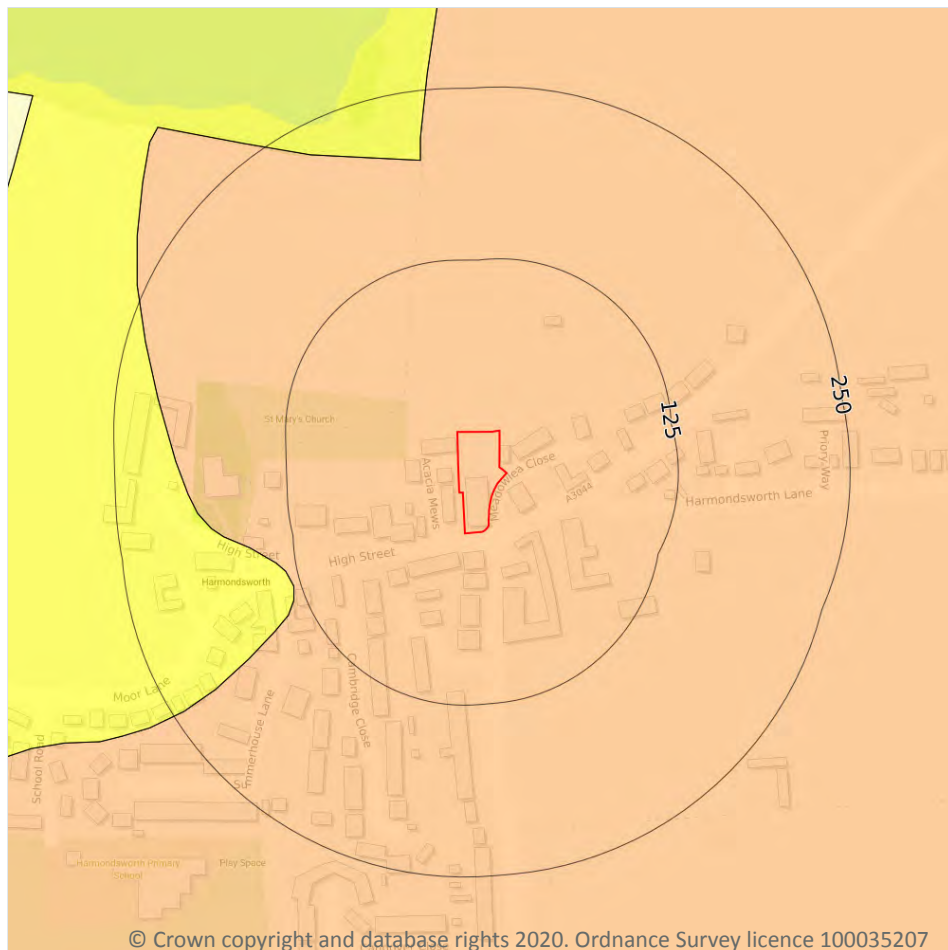
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 97**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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.

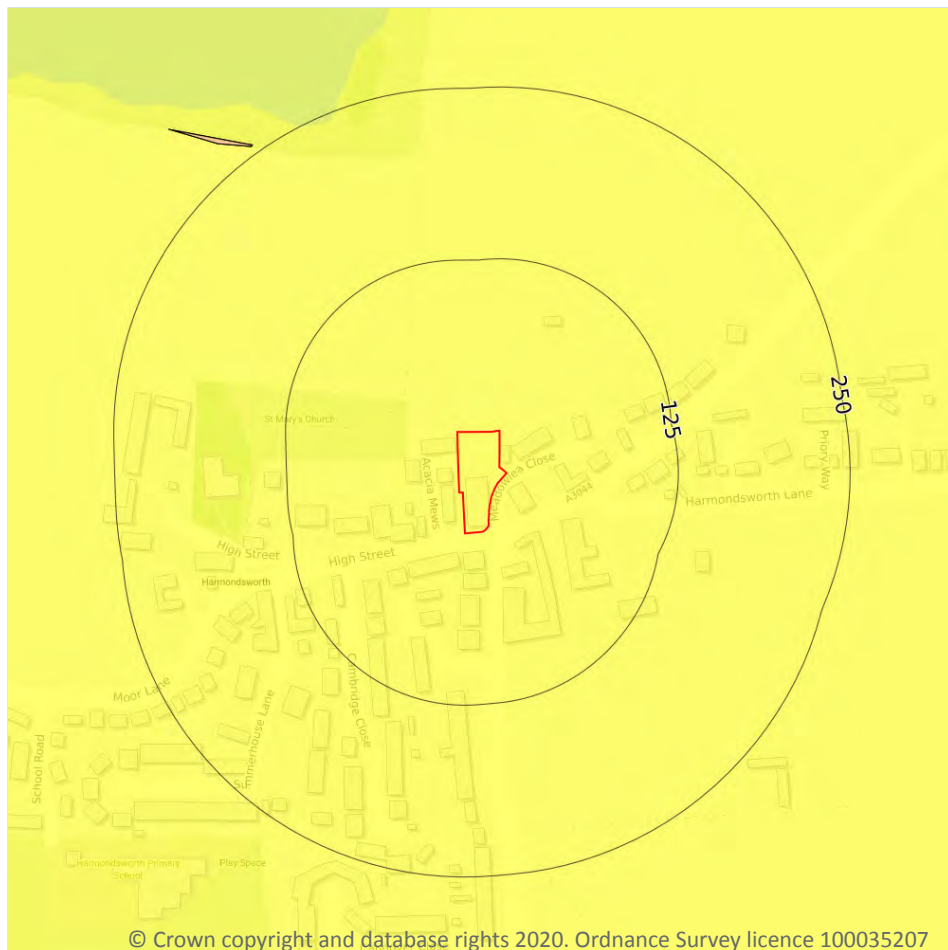
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 98**

Location	Hazard rating	Details
On site	Low	Deposits with potential to collapse when loaded and saturated are possibly present in places.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

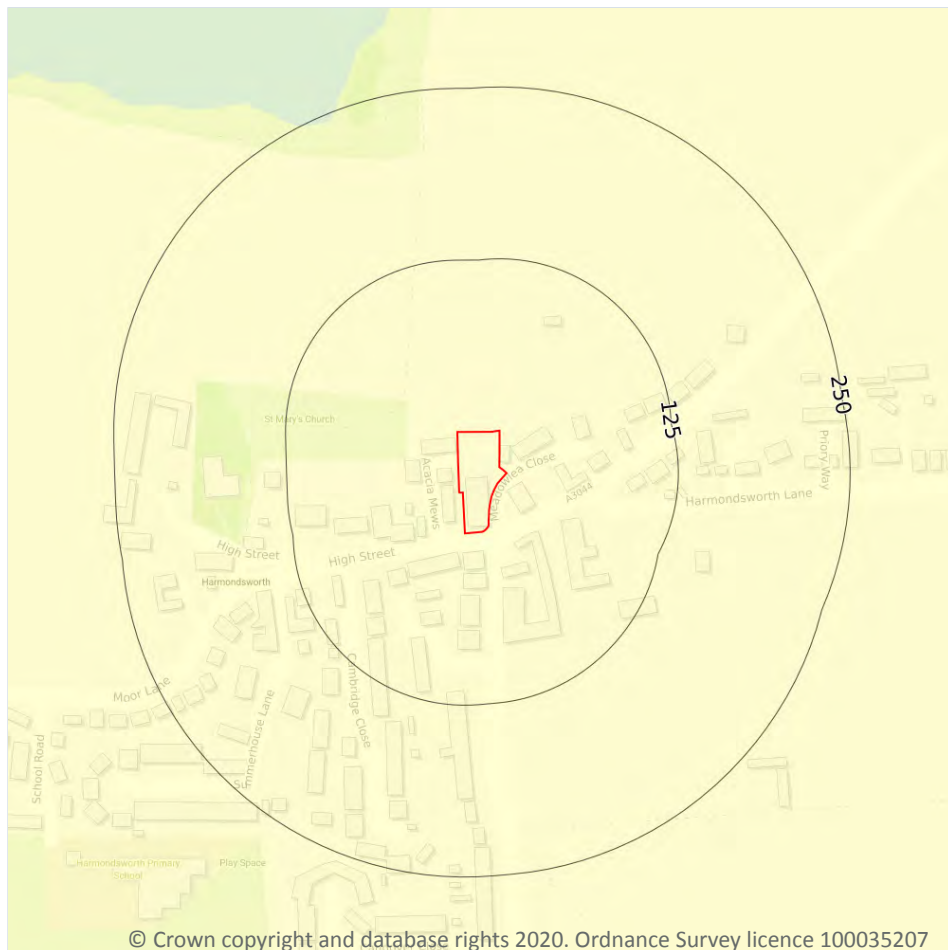
Features are displayed on the Natural ground subsidence - Landslides map on **page 99**

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.

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

1

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 100**

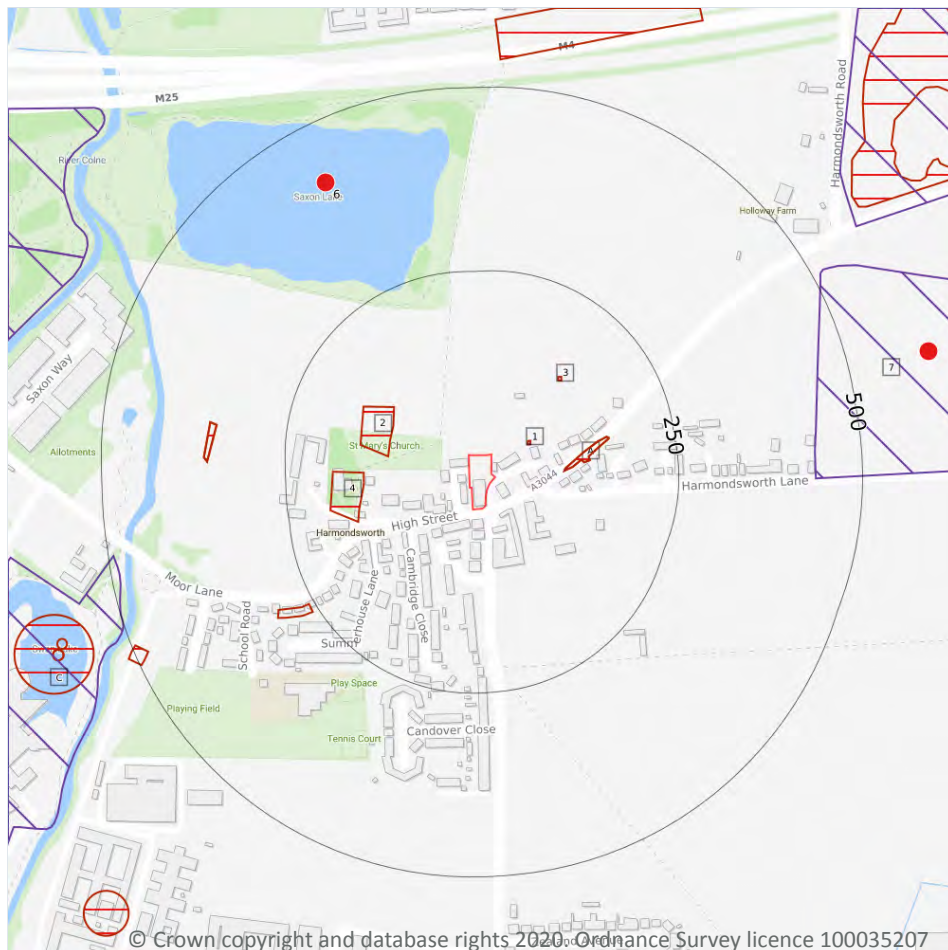
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



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 Peter Brett Associates (PBA).

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 102**

ID	Location	Details	Description
6	419m NW	Name: Saxon Lake Address: HARMONDSWORTH, Middlesex Commodity: Sand & Gravel Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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

6

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 102**

ID	Location	Land Use	Year of mapping	Mapping scale
1	51m E	Saw Pits	1865	1:10560
A	95m E	Pond	1912	1:10560
A	95m E	Pond	1895	1:10560
2	109m W	Grave Yard	1882	1:10560
3	136m NE	Saw Pits	1882	1:10560
4	144m W	Grave Yard	1865	1:10560

This 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 data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

2

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 102**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
7	436m E	Holloway Lane	Sand and gravel	Surface mineral working	Application	Not available
C	489m W	Harmondsworth Moor	Sand and gravel	Surface mineral working	Valid	10/7/62

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

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 Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	0
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Areas which could be affected by former coal 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
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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

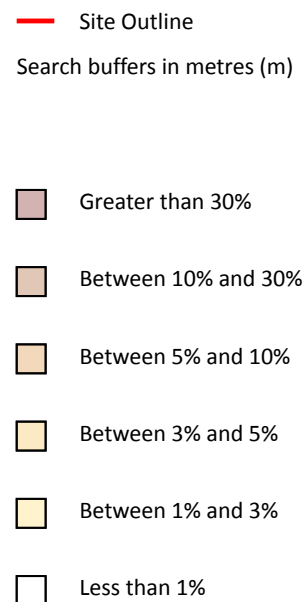
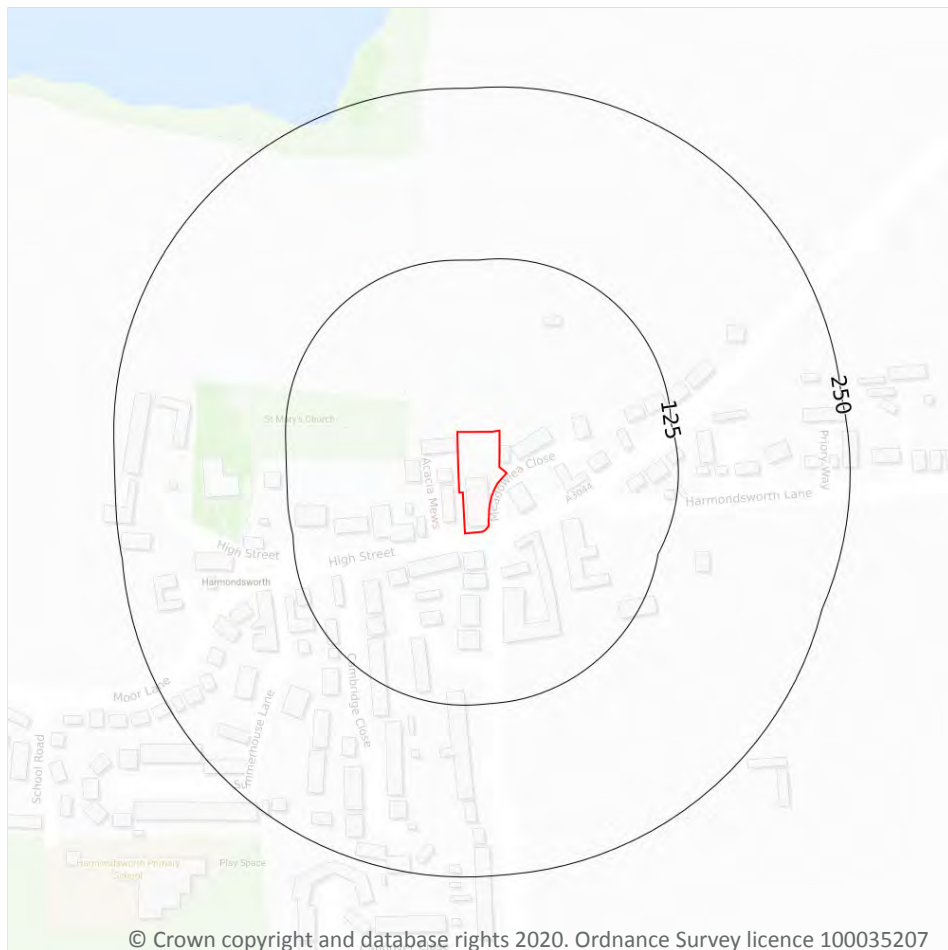
Records on site	0
-----------------	---

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 107**

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

1

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 km². 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 km²; 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	No data	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	No data	No data

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

4

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 km²).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	13	2.3	211	145	2.1	91	89	26	26
On site	14	2.5	224	154	1.6	80	91	26	27
On site	14	2.5	236	162	1.3	75	92	26	28
10m SE	13	2.3	186	128	2.7	99	96	26	27

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 km².

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**

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>.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.

