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# PHASE I LAND CONTAMINATION DESK STUDY ASSESSMENT

25 Sipson Lane
Hayes
Middlesex
UB3 5EH

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Consultant in Contaminated Land

Report Ref: 226114CLRNH

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## Executive Summary

Reports 4 Planning have been commissioned by Lakhvir S Arora of Kirat Singh Real Estate Ltd to undertake a Phase I Land Contamination Desk Study Assessment of a site adjacent to 25 Sipson Lane, Hayes, Middlesex, UB5 5EH. Following detailed review of geo-environmental data and photographs of the site, a Preliminary Risk Assessment has been undertaken to assess potential contaminative sources and applicable pollutant pathways which may give rise to adverse impact to environmental receptors and future site users.

The subject site itself formed part of an orchard/nursery associated with Manor Farm, prior to its development to support part of 25 Sipson Lane in the middle part of the twentieth century. The presence of residual agrochemicals associated with the former horticultural use is considered unlikely given the extensive residential development and intervening time period. No evidence of contamination associated with the current or historical residential use of the site has been identified.

Historical land use in the immediate site vicinity has been predominantly agricultural and residential in nature. Small-scale industrial activity to the south of the site is considered unlikely to have affected the subject site. The extraction of sand and gravel and subsequent inert landfilling activities to the west of the site have been recorded. Although the inert nature of the deposited materials, the buffer zone immediately to the west, low permeability of the underlying superficial geology and the absence of known ground gas issues in the area reduce the risk to the subject site, a precautionary approach is considered to be warranted to prevent low-level landfill gas migration into the development.

The superficial geology beneath the site comprises the Langley Silt Member, classified as unproductive. These superficial deposits overly the Taplow Gravel Formation, classified in this location as a Principal aquifer. There are no significant watercourses in the vicinity of the subject site. As such, the site setting is considered to be of moderate environmental sensitivity.

No significantly contaminative activities are associated with the current or former uses of the site and its immediate surroundings. The conceptual model of the site demonstrates that potential pollutant linkages are generally of low risk to human health and to the natural environment. With reference to the proposed residential development at the site, no significant pollutant pathways have been identified either at the site or in its vicinity which may give rise to unacceptable risk.

Notwithstanding this, mineral extraction and subsequent inert landfilling in the general area warrant a precautionary approach to prevent the migration of landfill gas (if present) into the new residential development. The installation of gas protection measures into the base of the building will be specified as a precautionary measure. These measures will include a dedicated gas membrane (to replace the damp proof membrane) and sealed service entry points.

No further investigation of the site is considered necessary at this stage.

The report is based on the assumption by the author that should instances of previously unreported contamination be found during the proposed works, then appropriate assessment of the risks and proposed remediation scheme will be required.

The report is supplied subject to our standard terms and conditions and these should be read alongside the report.

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# 1.0 INTRODUCTION

Reports 4 Planning have been commissioned by Lakhvir S Arora of Kirat Singh Real Estate Ltd to undertake a Phase I Land Contamination Desk Study Assessment of a site adjacent to 25 Sipson Lane, Hayes, Middlesex, UB5 5EH.

An Environmental Desk Study and Preliminary Risk Assessment is required to confirm the extent, scale and nature of any contamination that may be present beneath the site in connection with the proposed development of an end of terrace house.

In considering any future applications the Local Planning Authority has to determine 'whether, as a result of the proposed change of use, taking into account any proposed mitigation, the site will be contaminated land as described in Part 2A of the Environmental Protection Act 1990, and in doing so have regard to the Contaminated Land Statutory Guidance issued by the Secretary of State for the Environment, Food and Rural Affairs in April 2012. The client should also take note and abide by the requirements of the new LCRM regulations which is the latest guidelines issued by the Environment Agency in October 2020.

The purpose of this Environmental Desk study and Preliminary Risk Assessment report is to gather information on the site to develop an initial conceptual site model (CSM) and establish whether or not there are any potentially unacceptable risks posed by either current or historical use of the land or the surrounding area which may affect the proposed development. The consultant who has prepared this report is an environmental risk specialist, with over twenty-five years' experience in environmental liability appraisal, contaminated land assessment, brownfield development and risk assessment. The Preliminary Risk Assessment report was undertaken based on Desk Study findings utilising publicly available data, along with data sourced directly and indirectly from various providers including the Environment Agency, the Local Authority, the British Geological Survey, The Coal Authority and Ordnance Survey. This has allowed characterisation of the site with respect to its geology, hydrology, hydrogeology, history and environmental setting. The site characterisation has been undertaken in general accordance with the procedures of the new LCRM methods as released in October 2020.

Predominantly these procedures relate to 'past' contamination, and assume that legislative controls such as Pollution Prevention and Control authorisations control current potentially polluting activities. Emphasis is therefore upon historical site use and how this may affect potential future users of the site should the proposed development plans be realised. A Preliminary Environmental Risk Assessment contained in this report has considered all the relevant receptors, potential pathways, and sources of contamination and assessed these for the level of risk posed to the site and future site users.

In accordance with current guidance the information has been used to develop a Conceptual Site Model (CSM) for the site. Pollutant linkages must be present, and the consequent linkage must be established in order to determine the requirement and scope of any future geo-environmental investigation.

Reasonable skill and care have been exercised in preparation of this report in accordance with the technical requirements of the brief. Notwithstanding the efforts made by the professional team in undertaking this contamination assessment, it is possible that ground conditions other than that potentially indicated by this report may exist at the site.

# 2.0 SOURCES OF INFORMATION

This report draws upon many different information sources in order to gain a full understanding of the environmental setting of the site. These are summarized below:

## 2.1 Internet Sources

- British Geological Survey Digital Map of Great Britain;
- British Geological Survey Borehole Database;
- Environment Agency Pollution Inventory Database;
- Multi-Agency Geographic Information for the Countryside Database; and
- Publicly available information available through the LPA planning portal.

## 2.2 Reports

- Groundsure Dataset Report, GS-9242834;
- Groundsure Historical Maps, GS-9242833.

## 2.3 Site Observations

- Photographs of the site have been shared and a select number of these are reproduced in Appendix A.

# 3.0 SITE DETAILS

This Phase I Land Contamination Desk Study did not incorporate a site walkover. Relevant information pertaining to the site has been collated from readily accessible web sources and photographs provided to Reports 4 Planning. Planning permission is being sought for the demolition of the existing single-storey garage, site clearance and the erection of a 2-bedroom, 2-storey detached house

Figures 1 and 2 Site Location Plan Small and Large scale, Figure 3 – Site Aerial Photograph and Figure 4 – Proposed Site Plan show the location of the site in relation to its surrounding land uses. Photographs of the site are reproduced in Appendix A.

## 3.1 Site Location

The site forms an area of land adjacent to the west of 25 Sipson Lane, Hayes – a two-storey semi-detached property dating back to the mid-20th century.

The site is located at Grid Reference 508583, 177723 (TQ 086 777).

## 3.2 Site Access

Access to the site is off Sipson Lane, which runs in a west to east direction along the northern boundary of the property.

## 3.3 Site Description

The site extends to approximately 0.02 hectares and forms an irregular-shaped parcel of land to the side of the property. The existing garage which currently adjoins the existing property (25) is to be demolished. No obvious evidence of obvious contamination or potentially contaminative activity has been identified in the photographs provided.

### 3.3.1 Site Topography

The majority of the site is flat, with no obvious topographical variation noted.

### 3.3.2 Structures

The existing garage is brick-built with a wooden front and flat roof. This will be demolished as part of the proposals.

### 3.3.3 Surfacing

The surfacing across the site is a mixture of block paviours and gravel. Evidence of vegetation encroachment into these areas was noted.

### 3.3.4 Vegetation

Vegetation across the site is typical of similar domestic garden areas.

## 3.4 Recent Site Use

The site has exclusively been used in recent years for residential purposes

## 3.5 Surrounding Land Use

The site is situated within a residential area on the western fringes of Harlington. Land use to the west comprises open land used for leisure and amenity purposes.

# 4.0 CURRENT LAND USES

## 4.1 Current Site Use

The site supports a semi-detached property dating back to the early 1960's.

## 4.2 Potentially Contaminative Current Surrounding Land Use

The following records of potentially contaminative current site use are made within 500m of the site:

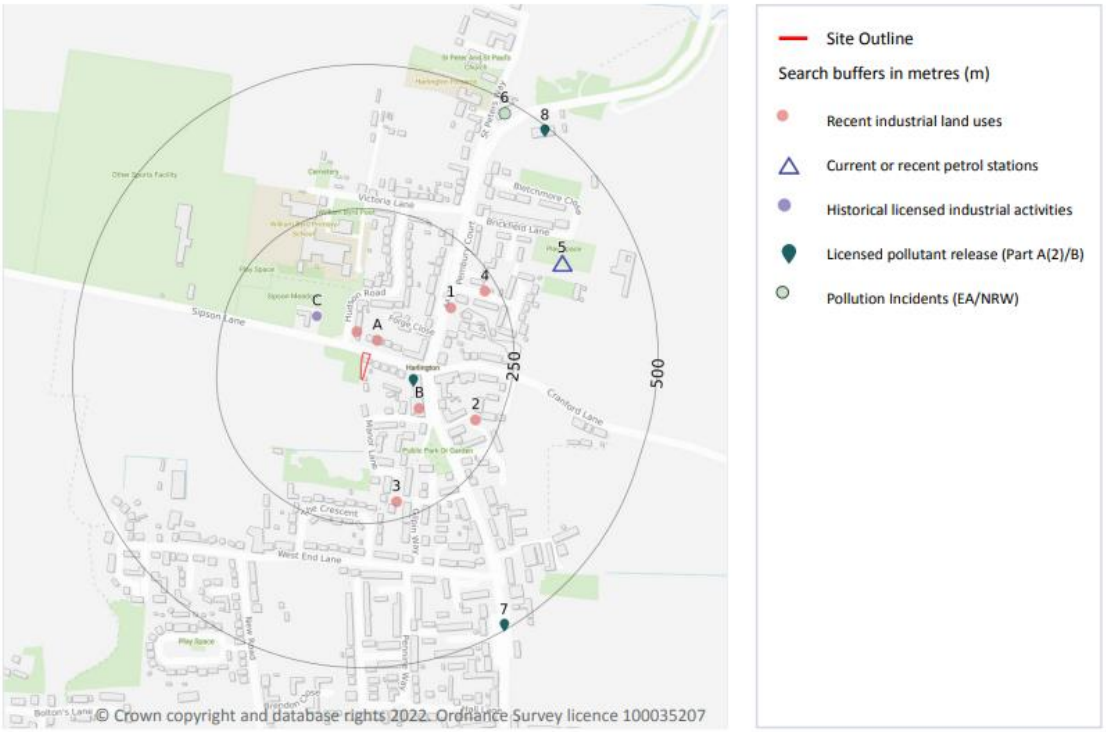



**Table 1: Potentially Contaminative Current Surrounding Land Use**

| Reference | Distance m | Company | Activity |
|---|---|---|---|
| A | 30m North East | PCD Contracts | Office & Shop Equipment |
| A | 40m North | Car to Scrap | Scrap Metal Merchants (office only) |
| B | 110m South East | Gearbox Solutions | Vehicle Components |
| 2 | 210m South East | SSE | Electricity Substation |

Both activities identified across Sipson Lane to the north of the site are believed to be administrative uses only.

## 4.3 Petrol and Fuel Sites

There are no recorded active petrol station in close proximity to the site. The closest operational stations are approximately 490m from the site.

## 4.4 Underground HV Electricity Cables & High Pressure Gas Transmission Pipelines

There are no records of any such features within 500m of the site.

## 4.5 Sites Determined as Contaminated Land

There are no records of any sites identified as potentially contaminated under Part IIA of the Environmental Protection Act 1990 within 500m of the site.

### 4.6 Control of Major Accident Hazards

There are no records of any Control of Major Accident Hazards (COMAH) sites at or within 500m of the site.

### 4.7 Regulated Explosive Sites

There are no records of any sites registered and licensed by the HSE under the Manufacture and Storage of Explosives Regulations 2005 within 500m of the site.

### 4.8 Hazardous Substance Storage/Usage Sites

There are no records of any sites with consents issued under the Planning (Hazardous Substances) Regulations 2015 at or within 500m of the subject site.

### 4.9 Historical Licensed Industrial Activities

There is 1no. record of an operator holding historical Integrated Pollution Control (IPC) permits within 500m of the site. This was Heathrow Airport Ltd at its Engineering Services Building 218, 100m north west of the site (ref C above), for a former combustion process. This regime has now been superseded.

### 4.10 Licensed Industrial Activities

There are no recorded Part A(1) installation site within 500m of the site.

### 4.11 Licensed Pollutant Release

There are 3no. recorded licensed releases of pollutants from processes authorised under Part A(2)/B within a 500m radius of the site. Two of these for petrol unloading activities are 490m to the north east and south east of the site (refs 7 and 8 above). Premier Dry Cleaners, 85m east of the site on High Street, Harlington, is the closest authorised site (ref B above).

### 4.12 Radioactive Substance Authorisations

There are no authorisations for the storage, use, accumulation and/or disposal of radioactive substances within 500m of the site.

# 5.0 HISTORICAL LAND USES

## 5.1. Site Observational Evidence

The on-site semi-detached property appears typical of properties constructed in the post-World War 2 era.

## 5.2 Historical Maps Assessment

A number of historical maps have been reviewed for evidence which may indicate potentially contaminative land uses for either the site or surrounding land within at least 500m of the site. Copies of the historical maps are provided in Appendix B and are discussed below:

**Table 2: Historical Land Use**

| Map Year (Scale) | Site Use | Surrounding Land Use |
|---|---|---|
| 1865 (1:2500) | The subject site forms the north west corner of a wooded area associated with Manor Farm. | The following notable features are observed:<br>**South East:** Manor Farm buildings are located at 60m from the site.<br>**North East:** A smithy is shown at 120m.<br>**West:** Open undeveloped land borders the site to the west. |
| 1895 (1:2500) | No significant changes shown. | No significant changes shown. |
| 1914 (1:2500) | No significant changes shown. | The following notable changes are observed:<br>**South East:** Expansion of the outbuildings associated with Manor Farm is evident. |
| 1932 (1:2500) | No significant changes shown. | The following notable changes are observed:<br>**West:** The land to the west of the site has been subdivided into smaller fields and orchards.<br>**North East:** The smithy is no longer shown. |
| 1960 (1:10560) | The subject site is still shown as undeveloped albeit residential development is evident immediately to the east. | The following notable changes are observed:<br>**East:** A linear row of properties along the southern side of Sipson Lane now extends to the boundary of the site.<br>**North:** Further residential development of land across Sipson Lane is evident.<br>**South East:** Manor Farm, 65m from the site, has been redeveloped to support a barn and a joinery works. |
| 1966 (1:2500) | The subject site has now been developed to support 25 Sipson Lane. | The following notable changes are observed:<br>**East:** Residential development evident.<br>**West:** A delineated area extending to approximately 0.5ha is shown, with some evidence of soil reprofiling to form two mounds evident. |
| 1972 (1:2500) | No significant changes shown. | The following notable changes are observed:<br>**South East:** A motor repair works has replaced the joinery works. |
| 1981 (1:2500) | No significant changes shown. | The following notable changes are observed: |

| Map Year (Scale) | Site Use | Surrounding Land Use |
|---|---|---|
| | | **West:** A sports ground has been established 50m from the site, beyond the delineated area. |
| 1990 (1:2500) | No significant changes shown. | No significant changes shown. |
| 2003 (1:10560) | No significant changes shown. | The following notable changes are observed: **South West:** A quarry is shown to extend to approximately 75m from the site property and occupies the entire former sports ground south of Sipson Lane. |

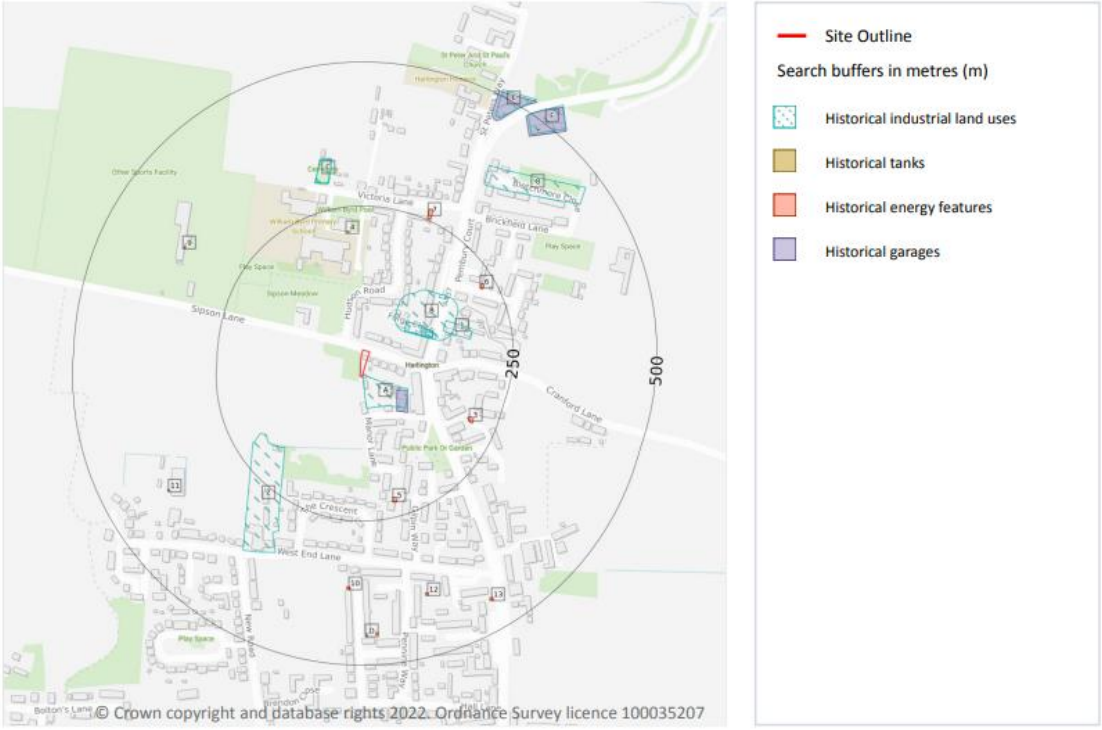
## 5.3 Historical Photographs

A selection of historical aerial photographs have been reviewed, which show the site from August 1999 to June 2019 (reproduced in Appendix B). The area immediately to the west of the subject site supported an increasingly dense assemblage of trees and scrub vegetation throughout this period. In 1999, a clear hedge line is evident 75m south west of the site property, corresponding to the quarry periphery identified in the 2003 historical map. By 2011, the area had reverted to a sportsground use, with a baseball diamond evident.

## 5.4 Historical Land Use Data

### 5.4.1 Potentially Contaminative Historical Uses

The following records potentially contaminative historical land uses within 500m of the subject site:



The following records are made of potentially contaminative historical industrial sites within 500m of the property.

**Table 3: Potentially Contaminative Historical Land Uses**

| Distance (m) | Direction | Activity | Date |
|---|---|---|---|
| 20m | South | Unspecified works site boundary (works buildings at 60m) | 1974 – 1987 |
| 120m | West | Smithy | 1865 – 1912 |
| 180m | South West | Nursery | 1970 – 1987 |
| 350m | North East | Brick Field | 1882 |
| 470m | North East | Garage | 1974 - 1987 |

### 5.4.2 Historical Tank Database

There is 1no. record of the presence of historical tanks within 250m of the site. This was an unspecified tank identified in 1966, 205m north of the site.

### 5.4.3 Historical Energy Features Database

There are 3no. historical records of electricity substations or other energy features within 250m of the subject site. The closest of these was 200m south east of the subject site and was evident from 1972 to the 1990's.

### 5.4.4 Historical Petrol and Fuel Sites

There are no records of historical petrol stations within 500m of the subject site.

### 5.4.5 Historical Garage and Motor Vehicle Sites

There is 1no. record of historical garage and motor vehicle sites within 250m of the site. This was the motor repair works identified in the 1972 map, 65m south east of the site.

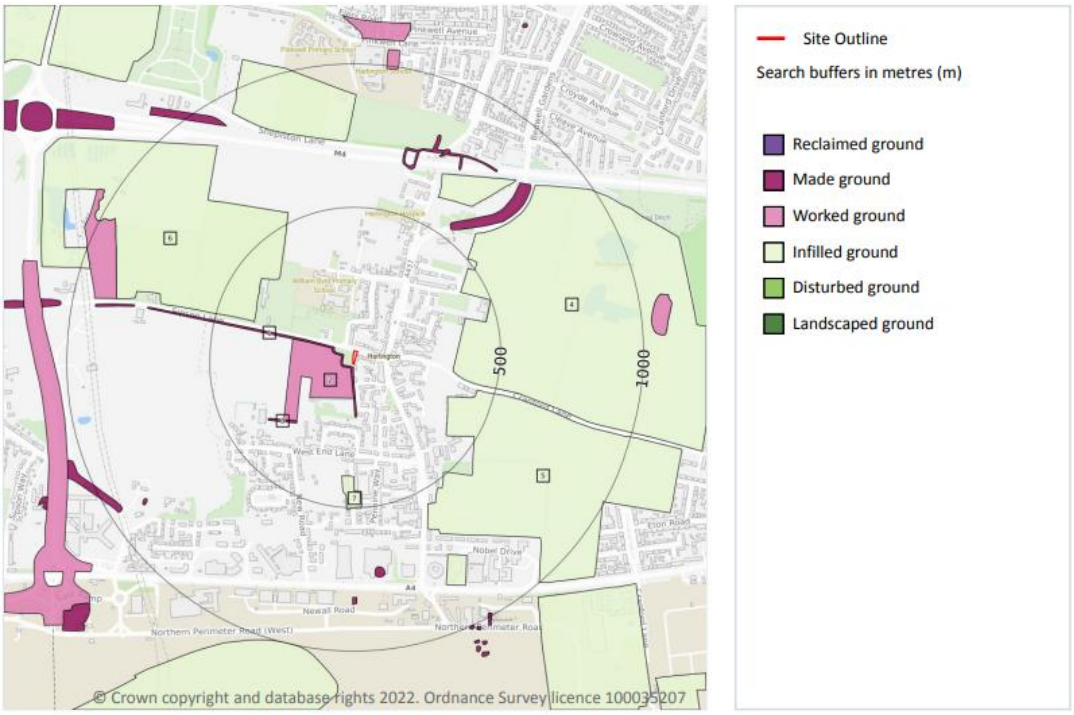
### 5.4.6 Historical Military Land

There are no records of historical military land within 500m of the subject site.

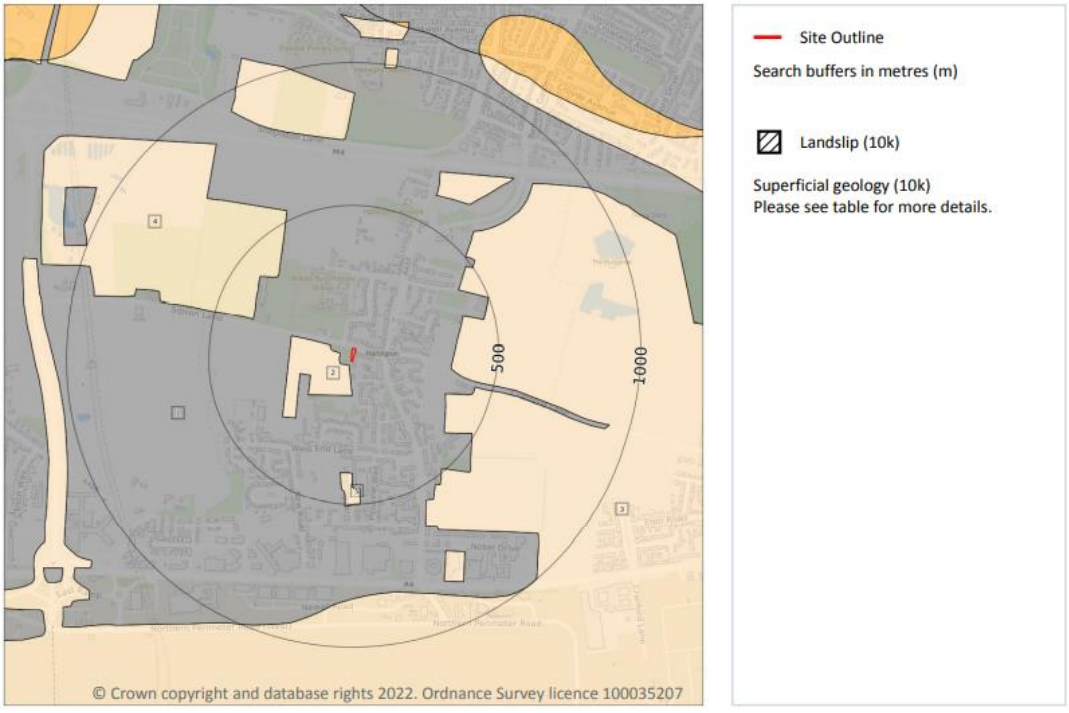
# 6.0 GEOLOGY

## 6.1 Artificial and Made Ground

There are multiple records of made, worked, infilled, disturbed and landscaped ground within 500m of the site. The closest are associated with the former quarrying activities to the south west of the subject site.




## 6.2 Superficial and Drift Geology




The British Geological Survey 1:10,000 Geological Map of Great Britain shows the presence of superficial drift deposits of the Langley Silt Member beneath the site. These deposits

(formerly known as brickearth) vary from silt to clay, and are commonly recovered as yellow-brown and massively bedded. The superficial permeability of these Langley Silt deposits is low.

Sand and gravel deposits of the Taplow Gravel Formation are evident 20m to the south west of the site, with their permeability high to very high.

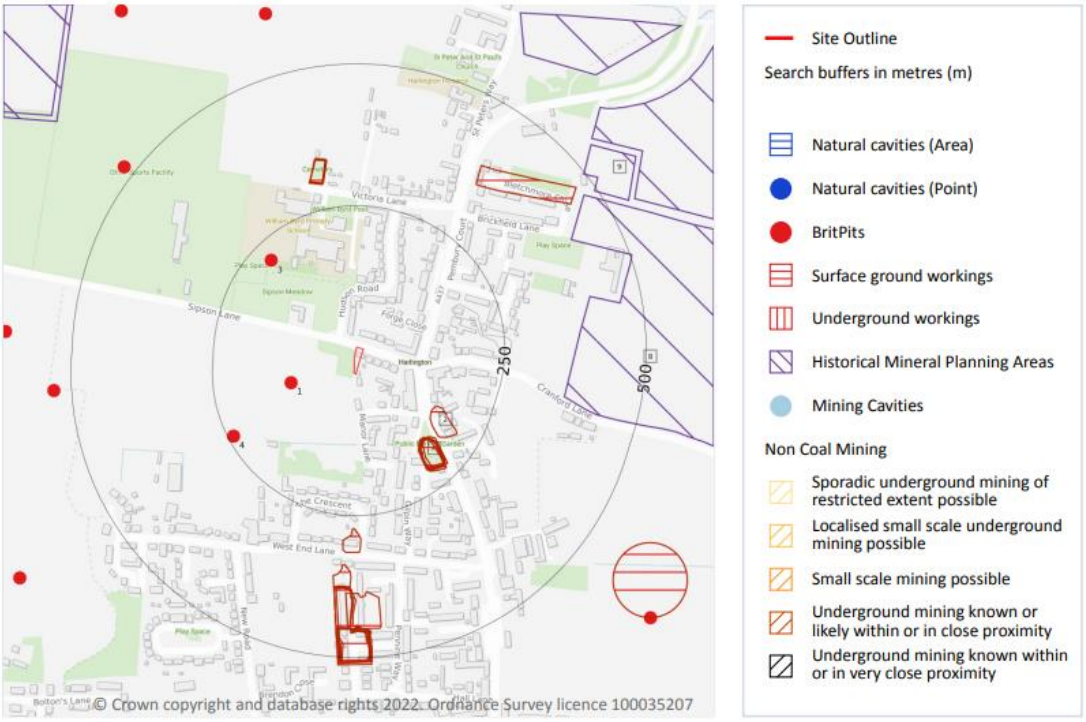
### 6.3 Solid Geology

The British Geological Survey 1:10,000 Geological Map of Great Britain shows that the solid geology beneath the site comprises the London Clay Formation. The permeability of these strata is reported to be mixed, from very low to moderate.

### 6.4 Mining

The site is not within a surface area that could be affected by current or historical underground or surface coal mining activities.

### 6.5 Non-coal Mining




BritPits (an abbreviation of British Pits) is a database maintained by BGS of currently active and closed surface and underground mineral workings. There are 3no. records of ceased surface and underground workings within 500m of the site. These all relate to sand and gravel extraction activities to the west of the subject site. The Manor Farm Gravel Pit was located south of Sipson Lane and the Imperial College Playing Fields was to the north.

The presence of a pond, approximately 160m south east of the site, is the only other record of historical surface ground workings in the wider vicinity of the site.

### 6.6 Brine Affected Areas

There are no brine affected areas within the vicinity of the site.

### 6.7 Shrink Swell

The shrink swell hazard for the site's vicinity has been rated by the BGS as very low, with superficial ground conditions predominantly of low plasticity.

### 6.8 Landslip/Slide

The potential for landsliding to be a hazard on site is considered to be very low, with slope instability problems not likely to occur.

### 6.9 Soluble Rocks

There is a negligible risk from soluble rocks beneath the subject site. Soluble rocks are not thought to be present within the ground or are not prone to dissolution.

### 6.10 Compressible Ground

The compressible ground hazard for the site and its vicinity has been rated by the BGS as negligible, with compressible strata not thought to occur.

### 6.11 Collapsible Rocks

The maximum collapsible rocks hazard for the site has been rated by the BGS as low. Deposits with the potential to collapse when loaded and saturated are possibly present in places.

### 6.12 Running Sand

There is a negligible risk associated with running sand issues in the area. Running sand conditions are not thought to occur whatever the position of the water table. There are no identified constraints on lands use due to running conditions.

### 6.13 Radon

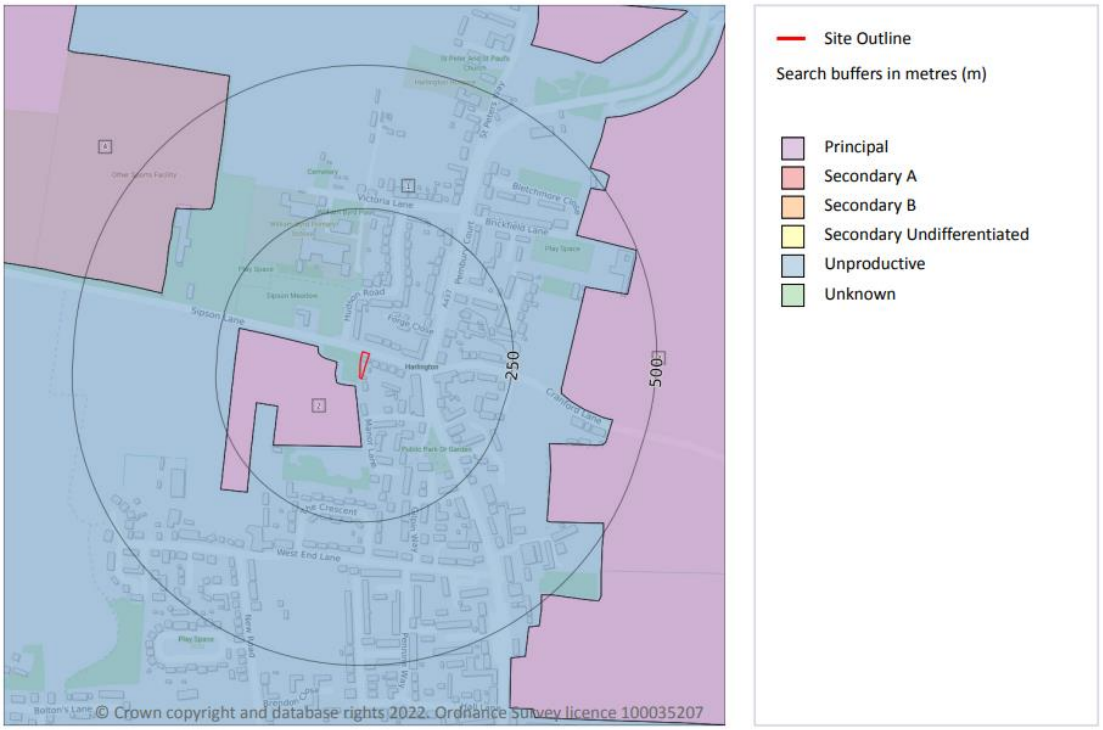
The Indicative Atlas of Radon in England and Wales as prepared by both the Health Protection Agency and the British Geological Survey shows that the site is located in a radon area where less than 1% of properties are above the Radon Action Level. No radon protection measures are required.

### 6.14 BGS Estimated Urban Soil Chemistry

It is estimated by the BGS that on site there is the potential for the following natural contaminants to be present: arsenic 15mg/kg, lead 246mg/kg, cadmium 1.2mg/kg, chromium 74mg/kg, copper 65mg/kg, nickel 25mg/kg, tin 20mg/kg.

# 7.0 HYDROGEOLOGY

## 7.1 Groundwater Vulnerability and Soil Classification




The superficial aquifer contained within the Langley Silt is unproductive. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. The nearby Taplow Gravel aquifer (in this location) is classified as 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. This aquifer is considered to have a medium vulnerability to pollution.

The underlying London Clay Formation aquifer is classified as unproductive.

## 7.2 Groundwater Abstraction Licences

There are reportedly 4no. active licensed groundwater abstractions within 2,000m of the site. The closest of these abstractions is located 850m east of the subject site and is licensed to Harleyford Aggregates Limited for mineral washing activities. The other more distant abstractions are used for process water, mineral washing and general activities. A number of other former abstractions in the vicinity of the site are no longer active.

## 7.3 Licensed Discharges to Controlled Waters

There are reportedly no licensed discharges to controlled waters within 500m of the site.

## 7.4 Pollutant Release to Surface Waters (Red List)

There are no records of any licenses issued to sites at or within 500m of the site for a pollutant release to a surface water (Red List).

## 7.5 Pollutant Release to a Public Sewer

There are no records of pollutant releases to a public sewer within 500m of the site.

### 7.6 List 1 and List 2 Dangerous Substances

There are no records of any discharges of substances as identified on Lists 1 and 2 of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015 within 500m of the site.

### 7.7 Pollution Incidents

There has reportedly been 1no. recorded pollution incident within 500m of the site. This occurred in March 2017 and involved the release of contaminated water from vehicle and plant washings at a site 480m north east of the subject site. Given the distance, it is not considered to have impacted the subject site.

### 7.8 Pollution Inventory Substances

There are no records of any pollution inventory (substances) including reporting on annual emission of certain regulated substances to air, controlled waters and land at or within 500m of the site.

### 7.9 Pollution Inventory Waste Transfers

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. There are no records of such transfers within 500m of the site.

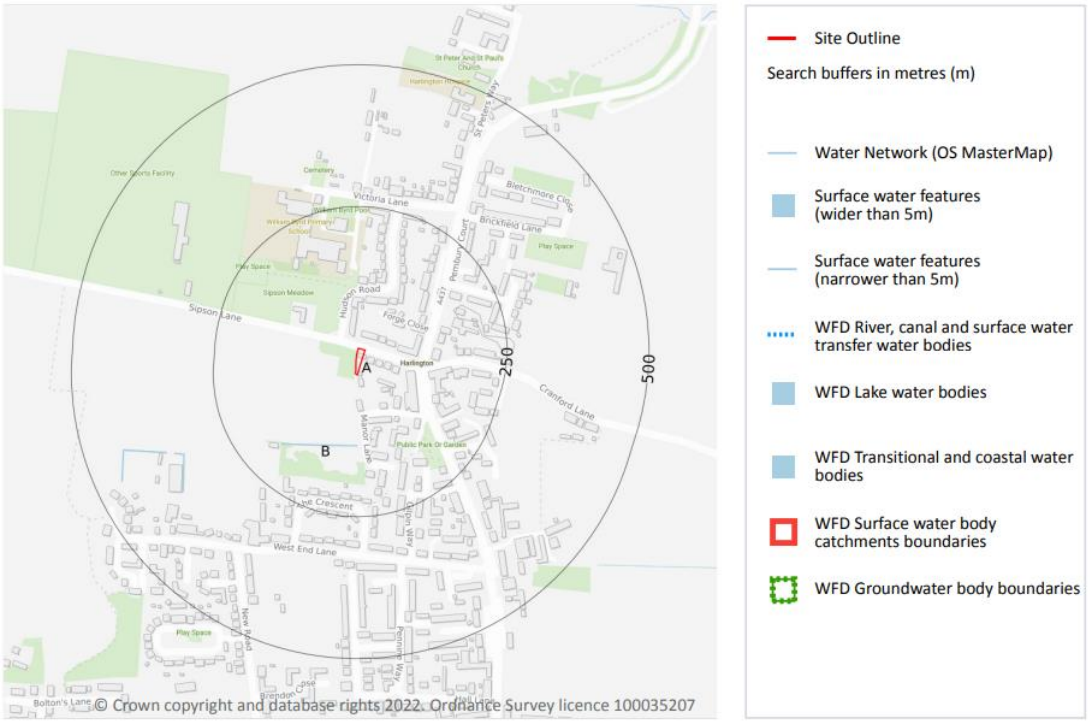
### 7.10 Pollution Inventory Radioactive Waste

There are no records of any pollution inventory (radioactive wastes) including reporting on annual releases of radioactive substances from a site within 500m of the site.

### 7.11 Source Protection Zones

The site is not located in a source protection zone for potable abstractions.

# 8.0 HYDROLOGY




## 8.1 Surface Waters

The closest surface water course to the site is an un-named drainage channel, which contains water year round (in normal circumstances) and flows 125m south of the site.

## 8.2 Surface Water Abstraction Licenses

There are no active licensed surface water abstractions within 2,000m of the site..

## 8.3 Flooding

### 8.3.1 Risk of Flooding from Rivers and Seas (RoFRaS)

The subject site itself is not located on ground which is affected by flooding.

### 8.3.2 Historical Flood Events

There are no records of historical flood events within 250m of the site.

### 8.3.3 River and Coastal Flooding (Flood Zones)

The Environment Agency Flood map (from rivers and the sea) shows that the site is not located within Zone 2 or Zone 3 flood risk zones.

### 8.3.4 Surface Water Flooding

The on-site risk associated with surface water flooding (1 in 100 years flood event) is reported to be negligible.

### 8.3.5 Groundwater Flooding

There is reported to be a moderate risk of groundwater flooding at the site and within 50m of the site.

# 9.0 WASTE


## 9.1 Landfill Sites

There are 3no. records of active or recent landfill sites subject to Environment Agency regulation within 500m of the site. These are all operated by Henry Streeter (Sand & Ballast) Ltd, with the sites to the north and west taking exclusively inert waste materials. The third site, 340m east of the subject site, is licensed to receive "other wastes".

The EA also records the presence of historical landfill sites 10m to the south west and 350m south east of the subject site. The landfill site to the south west (ref. 1 above) is part of the Henry Streeter (Sand & Ballast) Ltd Sipson Lane Combined Inert Landfill (see Environmental permit details in Appendix D).

Various planning applications were approved in the late 1980's and 1990's for land in the ownership of Imperial College south of Sipson Lane. This involved the extraction of sand and gravel and backfilling with inert material and restoration to sports field and agriculture. This activity appears to have taken place in the early 2000's, with the activity complete by 2011.

**Table 4: Known Historical Landfill Sites**

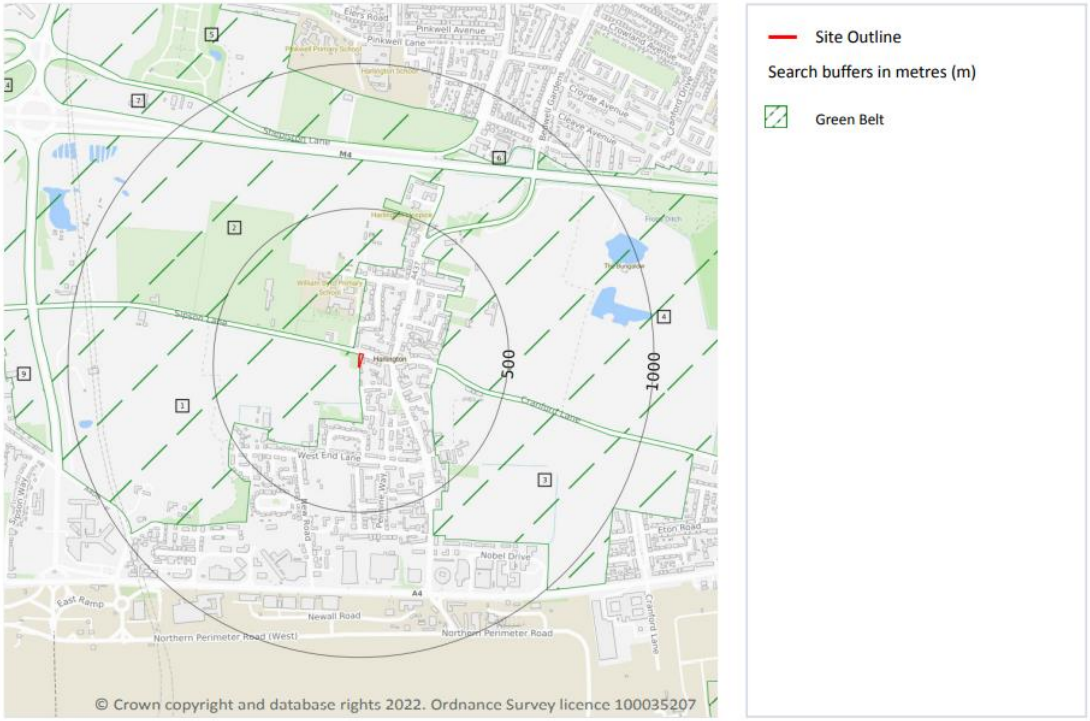
| Distance (m) | Direction | Name | Waste Type | Operational Dates |
|---|---|---|---|---|
| 10m | South West | Imperial College, south of Sipson Lane | Not shown, believed to be inert | 1997 - |
| 230m | West | Sipson Lane | Non-biodegradable | Active |
| 300m | North | Sipson Lane | Inert | Active |
| 340m | East | The Gravel Pit | Other wastes | Active |
| 350m | South East | South of Cranford Lane | Inert | 1986 - 1989 |

## 9.2 Waste Sites

There are no records of current or historical waste sites (Local Authority records and Environment Agency registered licensed waste sites) within 500m of the site.

There are reportedly 3no. licensed waste exemptions for the storage, treatment, use or disposal of waste within 500m of the site. The closest of these are held by the Village Pharmacy at 218-220 High Street, Harlington (100m south east of the site) for the sorting and denaturing of controlled drugs for disposal.

# 10.0 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES




## 10.1 Sites of Special Scientific Interest (SSSI)

There are no SSSI sites within 2,000 metres of the subject site. The subject site is, however, located within a SSSI Impact Risk Zone, whereby developments that involve infrastructure, air pollution, combustion and certain discharges require consultation to be held with Natural England.

## 10.2 Other Designated Sites

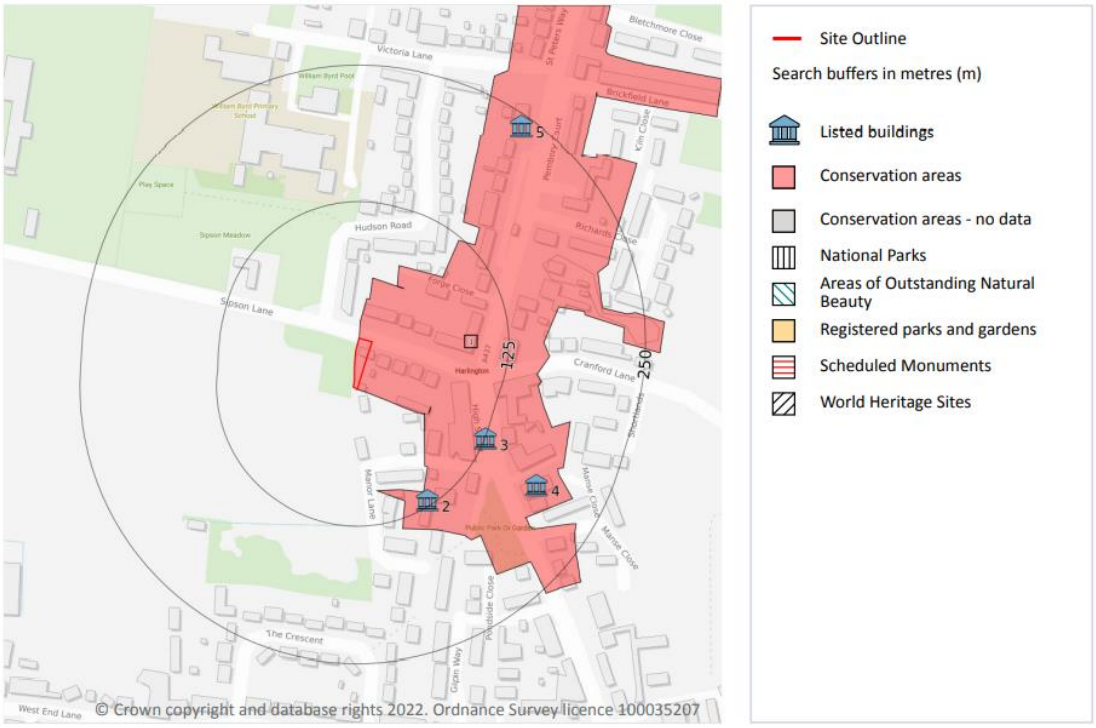
There are reportedly no other nationally designated sites within 2,000m of the subject site.

## 10.3 Locally Designated Sites

There are reportedly no locally designated nature conservation sites within 2,000m of the subject site. There is no designated ancient woodland. The site is however in the Green Belt.

The site immediately adjacent to the west has been identified under the NERC Act (2006) as priority habitat. It is referenced as traditional orchard in the HAP Inventory Dataset and supports the conclusion that this area has not been subjected to significant disturbance in the past.

## 10.4 Cultural Designations




The site lies on the western fringes of the Harlington Village Conservation Area, which was designated in 2005. There are 4no. Grade II listed sites within 250m of the subject sites.

There are no other sites designated for their visual, cultural or heritage value within the vicinity of the subject site.

## 11.0 CONCEPTUAL SITE MODEL

**The model assessment has been made on the understanding that the site is to be used for <u>Residential Purposes</u>.** Those potential pathways which may give rise to unacceptable contaminative risk under this scheme have been brought forward and form part of the Model as discussed below.

**Table 5: Conceptual Site Model**

| | |
|---|---|
| **Consideration of Potential Contaminants:** | |
| On-Site Contaminants | ▪ The original orchard/nursery use of the site may have involved the small-scale use of herbicides, pesticides etc. However, the development of the site in the 1960's and the subsequent time that has elapsed reduce the risk of residual organic/inorganic contaminants beneath the site.<br>▪ No significant on-site contamination sources associated with the site's current or historical residential use have been identified. |
| Off-Site Contaminants | ▪ Site use in the immediate vicinity of the site has been largely non-contaminative residential in nature.<br>▪ Industrial works at the former Manor Farm have included joinery and motor repair activities. Risk to the subject site reduced by low permeability superficial geology and distance to subject site.<br>▪ The subject site is in the zone of influence of historical mineral extraction and subsequent landfill activity that took place to the west of the site. The adjacent traditional orchard area provides a buffer zone to the site, with the deposited materials exclusively inert in nature. Notwithstanding this, a precautionary approach is warranted, with the specification of the proposed property such that landfill gas migration into the development is prevented. |
| **Consideration of Potential Receptors:** | |
| Controlled Waters | ▪ Groundwater within the nearby principal aquifer contained within the Taplow Gravel. |
| Human Health | ▪ Future site occupants<br>▪ Construction workers primarily those involved in groundworks excavation.<br>▪ Neighbouring residents subject to disturbed vapours and dusts arising from on-site development. |
| Other | ▪ Existing and new underground service infrastructure. |
| **Potential contaminant pathways and pollutant linkages:** | |
| On-Site Contaminants | ▪ No obvious pollutant linkages have been identified. |
| Off-Site Contaminants | ▪ The risk associated with on-site migration of landfill gas is considered low. However, given the mineral extraction and subsequent inert landfilling activities in the general area, specific measures to prevent its entry into the building are warranted. |
| **Risk Mitigation Measures** | |
| On-site ground gas migration | ▪ Enhanced DPM to incorporate gas membrane into ground floor fabric of the new building.<br>▪ Sealed service entry points. |

# 12.0 PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

## 12.1 Introduction

The current contaminated land regime is explained in Part IIA of the Environmental Protection Act 1990 and was introduced on the 1st April 2000 in England. Also, this assessment has been completed taking into account the advice and guidance contained in the NPPF and particularly paragraphs 109 (fourth and fifth bullet points) and the new LCRM regulations which is the latest guidelines issued by Government Environment Agency Published on 08/10/2020. In general, the purpose of these aspects of the legislation is to achieve the identification of contaminated land and the remediation of contaminated land to ensure the such land poses no significant risk to human health and/or the environment.

Contaminated Land is defined as:

'*any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason or substances in, on, or under the land, that: significant harm is being caused or there is a significant possibility of such harm being caused; or pollution of controlled water is being or is likely to be caused.'*

For land to be classified as contaminated land a significant pollutant linkage must be identified.

| **Statutory Definitions** | |
|---|---|
| **Contaminant Source (Hazard)** | A substance which is in, on or under the land and which has the potential to cause harm or cause pollution of controlled waters |
| **Receptor (Target)** | A living organism or group of organisms, an ecological system or property, controlled waters which are or could be polluted by a contaminant |
| **Pathway (Route)** | One or more routes or means which either allows the contaminant to cause significant harm to that receptor, or that there is a significant possibility of such harm being caused to the receptor, or that pollution of controlled waters is being or likely to be caused. |

A Preliminary Environmental Risk Assessment involves assessing the likely probability and consequence of a Pollutant Linkage and determining a consequent level of risk.

The term 'risk' is widely used in different contexts and situation but a prescriptive definition is provided by the Guidelines for Environmental Risk Assessment and Management (DEFRA et al, 2000):

*Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequence of the occurrence'.*

A hazard is defined as '*a property or situation that in particular circumstance could lead to harm'*.

The risk category for a particular scenario can be assessed in terms of the consequences and probability of an occurrence which can be defined as follows (Ref: CIRIA C552):

**Classification of a Consequence**

| Classification | Definition |
|---|---|
| Severe | 1 – short term (acute) risk to human health likely to result in significant harm<br>2 – short term risk to controlled waters<br>3 – catastrophic damage to buildings / structures<br>4 – short term risk to an ecosystem or organism within the particular ecosystem. |
| Medium | 1 – chromic damage to human health (long term risk)<br>2 – pollution of a sensitive water resource<br>3 – a significant change in an ecosystem or organism within the ecosystem |
| Mild | 1 – pollution of non-sensitive water resources<br>2 – significant damage to buildings / structures |
| Minor | 1 – harm (not necessarily significant) which may result in financial loss;<br>2 – non permanent health effects to humans (easily prevented by PPE for example)<br>3 – easily repairable effects of structural (building damage). |

**Classification of a Probability**

| Classification | Definition |
|---|---|
| High Likelihood | 1 – there is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term<br>2 – evidence of harm to the receptor |
| Likely | 1 – there is a complete pollution linkage which means that it is probable that an event will occur<br>2 – the event is not inevitable but possible in the short term and likely in the long term |
| Low Likelihood | 1 – there is a complete pollution linkage and circumstance are possible under which an event could occur<br>2 – it is not certain that an event will occur in the long term, and it is less likely to occur in the short term |
| Unlikely | 1 – there is a complete pollution linkage but circumstance are such that is improbable that an event would occur even in the long term. |

The consequences of a risk and the probability of an event taking place can be assessed and the likely risk category can be determined as follows:

| | | Consequence | | | |
|---|---|---|---|---|---|
| | | ***Severe*** | ***Medium*** | ***Mild*** | ***Minor*** |
| **Probability** | **High** | **Very High** | **High** | **Medium** | **Medium / Low** |
| | **Likely** | **High** | **Medium** | **Medium / Low** | **Low** |
| | **Low** | **Medium** | **Medium / Low** | **Low** | **Very Low** |
| | **Unlikely** | **Medium / Low** | **Low** | **Very Low** | **Very Low** |

- **High Risk** – there is a high probability that severe harm could risk a receptor, or there is evidence that a receptor is being harmed. The risk is realised is likely to result in liability and/or significant harm, and urgent investigation or remediation will be required.
- **Medium Risk -** it is probable that harm will arise to a receptor. However it is relatively unlikely that such harm would be severe, or if harm does occur then the harm is likely to

be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

- **Low Risk** – it is possible that harm may arise to a receptor, but it is likely that the harm would be mild.
- **Very Low Risk –** There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.

## 12.2 Potential Sources

The current and historical use of the site has been carefully assessed. Potential risks have been determined and assessed as part of this study.

The risk of contaminant source material located on site is low. The site was developed in the 1960's for residential purposes, with no current sources identified.

A number of potential off-site small-scale sources are also recorded in the vicinity of the site but these are considered unlikely to have impacted the subject site.

## 12.3 Potential Pathways

Exposure pathways link any contamination to the receptor. All or any of the following potential pathways may apply:

<u>Future Site Workers, including Construction Workers</u>

| | |
|---|---|
| *Oral Pathway (W-O)* | Indoor /outdoor ingestion of dust |
| | Indoor/outdoor ingestion of soil |
| | Ingestion of tainted mains water |
| *Inhalation Pathway (W-I)* | Indoor/outdoor inhalation of fugitive dust |
| | Indoor/outdoor inhalation of soil vapour |
| *Dermal Pathway (W-D)* | Indoor/outdoor exposure to soil through dermal contact |

<u>Future Site Users, Occasional Visitors and Neighbouring Residents including Children</u>

| | |
|---|---|
| *Oral Pathway (O-O)* | Indoor ingestion of dust (post construction) |
| | Outdoor ingestion of soil (post construction) |
| | Indoor/outdoor ingestion of Flora/Fauna |
| *Inhalation Pathway (O-I)* | Outdoor inhalation of fugitive dust |
| | Indoor inhalation of fugitive dust (post construction) |
| | Outdoor inhalation of soil vapour |
| | Indoor inhalation of soil vapour (post construction) |
| *Dermal Pathway (O-D)* | Outdoor exposure to soil through dermal contact |
| | Indoor exposure to soil dust through dermal contact |

<u>Flora (potential new on-site or off-site flora affected by potential contamination on the site, or migrating onto or from the site).</u>

| | |
|---|---|
| *Plant Uptake (Fl-PU)* | General uptake of contaminants by plants growing in the vicinity of, or on, the site |

<u>Fauna (on-site or off-site affected by potential contamination on the site, or migrating from the site)</u>

| | |
|---|---|
| *Oral Pathway (Fa-OP)* | Consumption of contaminated Flora located on site |

<u>Water Resources</u>

| | |
|---|---|
| *Surface Water Mobilisation (SWM)* | Surface water run-off from site, migrating off site<br>Also infiltration into the site from off-site. |

| | |
|---|---|
| *Groundwater Mobilisation (Leaching Potential) (GWM)* | Percolation and mobilisation of contaminants within the soil into waters held locally within pore space beneath the site. |

## 12.4 Potential Receptors

The following potential receptors have been identified and considered in the risk assessment:

| | |
|---|---|
| Human Receptors (H): | Site workers (W) |
| Water Resources (SW, GW): | Principal aquifer close to the site |
| Site Infrastructure (SI): | Existing and future foundations and drainage services |
| Buildings and Services (BS): | Site and neighbouring buildings |
| Flora and Fauna (FL, FA) | Future, on and off-site Fauna and Flora |
| Archaeological (A): | Designations in vicinity of the site |
| Cultural (C): | Designations in vicinity of the site |

Under the proposals, part of the site is to be developed for residential purposes. The Critical Human Receptor for this site will be a **young female child who may reside at the site.**

## 12.5 Qualitative Risk Assessment

A qualitative risk assessment has been undertaken to provide an initial assessment of the potential risks caused by contaminant sources identified during this assessment to construction workers, future users of the site, building structures and the aquatic environment. **The assessment has been made on the understanding that the site is to be used for residential purposes.**

**Table 6: Risk Assessment**

| Hazard Identification | | | Hazard Assessment | | Risk Estimation | | | Risk Evaluation |
|---|---|---|---|---|---|---|---|---|
| **Sources** | **Location** | **Potential Contaminants** | **Pathway** | **Receptor** | **Magnitude of Consequence** | **Probability Occurrence** | **Risk Appraisal** | **Rationale** |
| Historical use of the site<br><br>Orchard associated with Manor Farm | On-site | Inorganic and organic contaminants associated with pesticides, herbicides etc | W-O, W-I, W-D, O-O, O-I, O-D, FLPU, FaOP SWM, GWM | H, GW | Minor | Low | Very Low | - Residential development of the site in the 1960's.<br>- Intervening time period reduces the risk associated with residual organic/inorganic contaminants, if present.<br>- **No further assessment required.** |
| Historical and current use of the site<br><br>Residential garden | On site | Made Ground, | W-O, W-I, W-D, O-O, O-I, O-D, FLPU, FaOP SWM, GWM | H, GW, FL, FA | Minor | Low | Very Low | - No potential contaminative sources associated with current use.<br>- No obvious significantly contaminative historical uses of the site.<br>- Low risk previous site operations.<br>- **No further assessment required.** |
| Historical use of surrounding land<br><br>Gravel extraction and landfill | 50m South West | Ground gas; Inorganic and organic contaminants | W-I, O-I, SWM, GWM | H, GW, SW, SI, FL, FA | Mild | Low | Low | - Potential ground gas issues exist in the general area.<br>- Risk mitigated by inert nature of fill materials, low permeability of underlying superficial geology (Langley Silt), buffer zone to subject site and absence of known issues.<br>- Risk mitigation measures easily incorporated.<br>- **Precautionary measures to prevent landfill gas entry into the building to be incorporated into the final design.** |
| Historical use of surrounding land<br><br>Industrial works at former Manor Farm | 60m South | Inorganic and organic contaminants | SWM, GWM | H, GW, SW, SI, FL, FA | Minor | Low | Very low | - No evidence of historical issues associated with the works.<br>- Low permeability underlying ground conditions.<br>- Distance to the proposed dwelling.<br>- No obvious pollutant linkage.<br>- **No further assessment required.** |

| Hazard Identification | | | Hazard Assessment | | Risk Estimation | | | Risk Evaluation |
|---|---|---|---|---|---|---|---|---|
| **Sources** | **Location** | **Potential Contaminants** | **Pathway** | **Receptor** | **Magnitude of Consequence** | **Probability Occurrence** | **Risk Appraisal** | **Rationale** |
| Historical use of surrounding land<br><br>Smithy | 120m North East | Inorganic and organic contaminants | SWM, GWM | H, GW, SW, SI, FL, FA | Minor | Low | Very low | - Smithy was no longer evident in 1932, with no evidence of historical issues.<br>- Distance to the proposed dwelling.<br>- No obvious pollutant linkage.<br>- **No further assessment required.** |
| Current and historical use of surrounding land<br><br>Electricity Substation | 210m South East | Made Ground, oils, PCB's | W-O, W-I, W-D, O-O, O-I, O-D, FLPU, FaOP SWM, GWM | H, GW, FL, FA | Minor | Low | Very Low | - Distance to the proposed dwelling.<br>- No obvious pollutant linkage.<br>- **No further assessment required.** |

# 13.0 CONCLUSIONS AND RECOMMENDATIONS

## 13.1 Conclusions

A Phase I Land Contamination Desk Study Assessment has been completed of a development site adjacent to 25 Sipson Lane, Hayes, Middlesex, UB5 5EH. An Environmental Desk Study and Preliminary Risk Assessment is required to confirm the extent, scale and nature of any contamination that may be present beneath the site in connection with the proposed development of a 2-storey detached dwelling. Following review of geo-environmental data for the site, a full Preliminary Risk Assessment has been undertaken to assess potentially contaminative sources and applicable pollutant pathways which may give rise to adverse impact to future users of the site.

The subject site itself formed part of a nursery/orchard associated with Manor Farm prior to its residential development in the middle part of the twentieth century. The presence of residual agrochemicals associated with the former horticultural use is considered unlikely given the extensive residential development and intervening time period. No evidence of contamination associated with the current or historical residential use of the site has been identified.

Historical land use in the immediate site vicinity has been predominantly agricultural and residential in nature. Recent, small-scale industrial activity to the south of the site is considered unlikely to have affected the subject site. The extraction of sand and gravel and subsequent inert landfilling activities to the west of the site have been recorded. Although the inert nature of the deposited materials, the buffer zone immediately to the west, the low permeability of the underlying superficial geology and the absence of known ground gas issues in the area reduce the risk to the subject site, a precautionary approach is considered to be warranted to prevent landfill gas migration into the development.

The superficial geology beneath the site comprises the Langley Silt Member, classified as unproductive. These superficial deposits overly the Taplow Gravel Formation, classified in this location as a Principal aquifer. There are no significant watercourses in the vicinity of the subject site. As such, the site setting is considered to be of moderate environmental sensitivity.

No significantly contaminative activities are associated with the current or former uses of the site and its immediate surroundings. The conceptual model of the site demonstrates that potential pollutant linkages are generally of low risk to human health and to the natural environment. With reference to the proposed residential development at the site, no significant pollutant pathways have been identified either at the site or in its vicinity which may give rise to unacceptable risk. Notwithstanding this, mineral extraction and subsequent inert landfilling in the general area warrant a precautionary approach to prevent the migration of landfill gas (if present) into the new residential development.
.

## 13.2 Recommendations

No further investigation of the site is considered necessary at this stage.

As a precautionary measure, the installation of gas protection measures into the base of the building will be specified. These measures will include a dedicated gas membrane (to replace the damp proof membrane) and sealed service entry points.

The report is based on the assumption by the author that should instances of previously unreported contamination be found during the proposed works, then appropriate assessment of the risks and proposed remediation scheme will be required.

The report is supplied subject to our standard terms and conditions and these should be read alongside the report.

# FIGURES


FIGURE 1

SITE LOCATION PLAN
SMALL SCALE

25 SIPSON LANE
HAYES
MIDDLESEX
UB3 5EH


FIGURE 2

SITE LOCATION PLAN
LARGE SCALE

25 SIPSON LANE
HAYES
MIDDLESEX
UB3 5EH


FIGURE 3

SITE AERIAL PHOTOGRAPH

25 SIPSON LANE
HAYES
MIDDLESEX
UB3 5EH

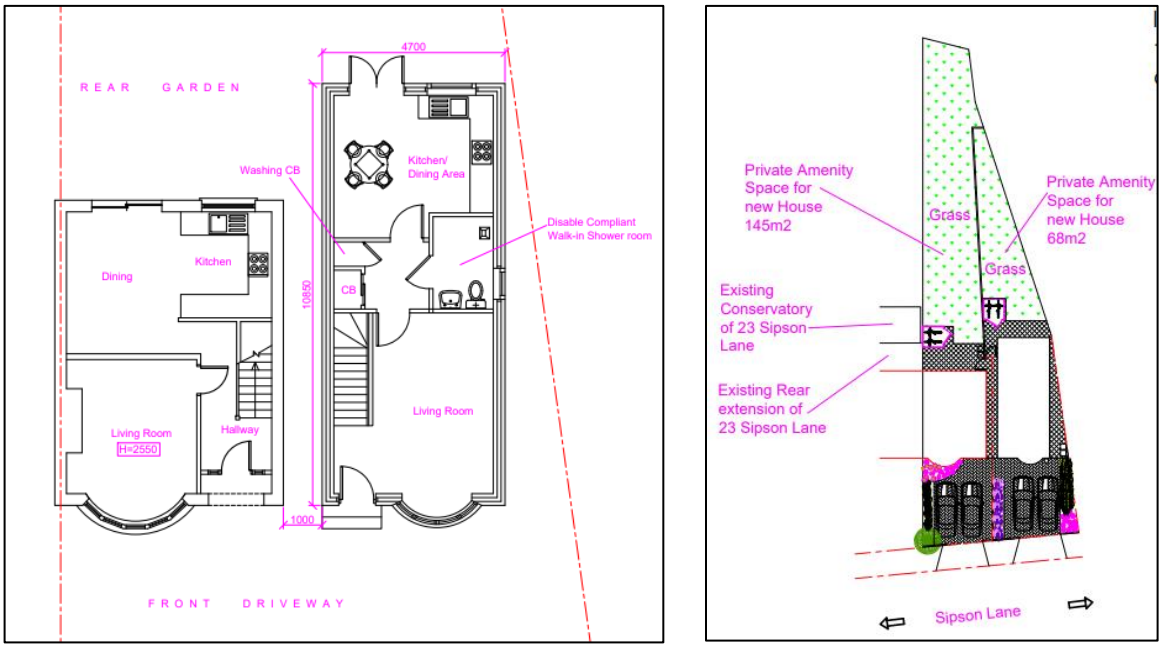



FIGURE 4

PROPOSED SITE PLAN

25 SIPSON LANE
HAYES
MIDDLESEX
UB3 5EH

# APPENDICES

# APPENDIX A

# SITE PHOTOGRAPHS

Photograph 1: View of site from Sipson Lane

Photograph 2: View of adjacent vegetated area

# APPENDIX B

# DATA REPORT

Groundsure LOCATION INTELLIGENCE

# Enviro+Geo Insight

25, SIPSON LANE, HAYES, UB3 5EH

## Order Details

**Date:** 05/12/2022

**Your ref:** CLR6114

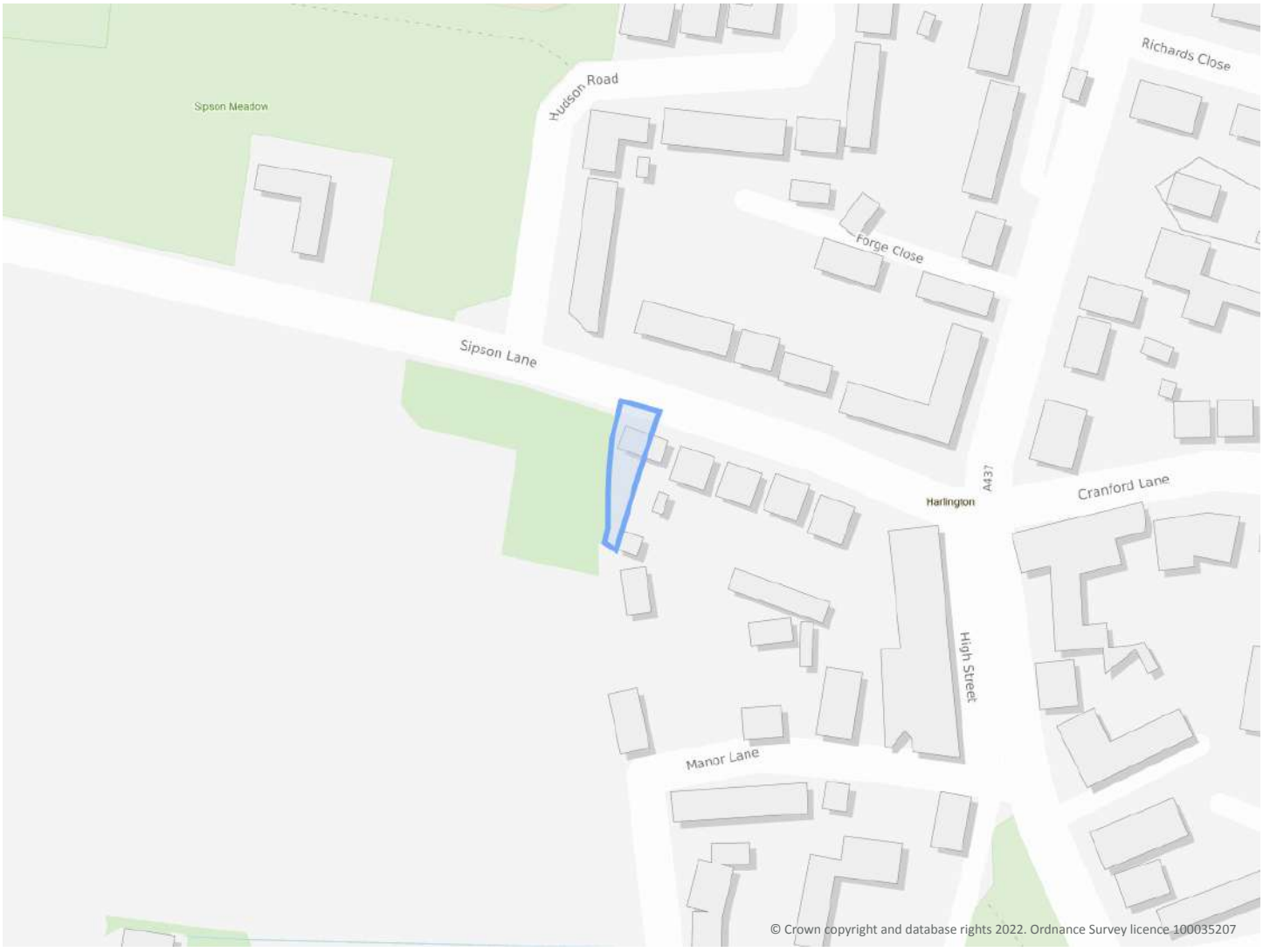
**Our Ref:** GS-9242834

## Site Details

**Location:** 508583 177723

**Area:** 0.04 ha

**Authority:** London Borough of Hillingdon





**Summary of findings** p. 2

**OS MasterMap site plan** p.13

**Aerial image** p. 8

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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 | Historical industrial land uses | 0 | 1 | 8 | 5 | - |
| 15 | 1.2 | Historical tanks | 0 | 0 | 1 | 4 | - |
| 16 | 1.3 | Historical energy features | 0 | 0 | 3 | 5 | - |
| 16 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 17 | 1.5 | Historical garages | 0 | 0 | 1 | 2 | - |
| 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 | Historical industrial land uses | 0 | 2 | 10 | 8 | - |
| 19 | 2.2 | Historical tanks | 0 | 0 | 2 | 7 | - |
| 20 | 2.3 | Historical energy features | 0 | 0 | 7 | 13 | - |
| 21 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 21 | 2.5 | Historical garages | 0 | 0 | 1 | 3 | - |
| Page | Section | Waste and landfill | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 22 | 3.1 | Active or recent landfill | 0 | 0 | 1 | 2 | - |
| 23 | 3.2 | Historical landfill (BGS records) | 0 | 0 | 0 | 0 | - |
| 23 | 3.3 | Historical landfill (LA/mapping records) | 0 | 0 | 0 | 0 | - |
| 23 | 3.4 | Historical landfill (EA/NRW records) | 0 | 1 | 0 | 1 | - |
| 24 | 3.5 | Historical waste sites | 0 | 0 | 0 | 0 | - |
| 24 | 3.6 | Licensed waste sites | 0 | 0 | 0 | 0 | - |
| 24 | 3.7 | Waste exemptions | 0 | 0 | 2 | 1 | - |
| Page | Section | Current industrial land use | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 26 | 4.1 | Recent industrial land uses | 0 | 2 | 5 | - | - |
| 27 | 4.2 | Current or recent petrol stations | 0 | 0 | 0 | 1 | - |
| 27 | 4.3 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 27 | 4.4 | Gas pipelines | 0 | 0 | 0 | 0 | - |
| 28 | 4.5 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 28 | 4.6 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
| 28 | 4.7 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 28 | 4.8 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| **28** | **4.9** | **Historical licensed industrial activities (IPC)** | 0 | 0 | 5 | 0 | - |
| 29 | 4.10 | Licensed industrial activities (Part A(1)) | 0 | 0 | 0 | 0 | - |
| **29** | **4.11** | **Licensed pollutant release (Part A(2)/B)** | 0 | 0 | 1 | 2 | - |
| 30 | 4.12 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| 30 | 4.13 | Licensed Discharges to controlled waters | 0 | 0 | 0 | 0 | - |
| 30 | 4.14 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 31 | 4.15 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 31 | 4.16 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 31 | 4.17 | List 2 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| **31** | **4.18** | **Pollution Incidents (EA/NRW)** | 0 | 0 | 0 | 1 | - |
| 32 | 4.19 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 32 | 4.20 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 32 | 4.21 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrogeology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **33** | **5.1** | **Superficial aquifer** | Identified (within 500m) | | | | |
| **35** | **5.2** | **Bedrock aquifer** | Identified (within 500m) | | | | |
| **36** | **5.3** | **Groundwater vulnerability** | Identified (within 50m) | | | | |
| 37 | 5.4 | Groundwater vulnerability- soluble rock risk | None (within 0m) | | | | |
| **37** | **5.5** | **Groundwater vulnerability- local information** | Identified (within 0m) | | | | |
| **38** | **5.6** | **Groundwater abstractions** | 0 | 0 | 0 | 0 | 8 |
| 41 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 41 | 5.8 | Potable abstractions | 0 | 0 | 0 | 0 | 0 |
| 41 | 5.9 | Source Protection Zones | 0 | 0 | 0 | 0 | - |
| 41 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **42** | **6.1** | **Water Network (OS MasterMap)** | 0 | 0 | 1 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **43** | **6.2** | **Surface water features** | 0 | 0 | 1 | - | - |
| **43** | **6.3** | **WFD Surface water body catchments** | 1 | - | - | - | - |
| **43** | **6.4** | **WFD Surface water bodies** | 0 | 0 | 0 | - | - |
| **44** | **6.5** | **WFD Groundwater bodies** | 1 | - | - | - | - |

| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 45 | 7.1 | Risk of flooding from rivers and the sea | None (within 50m) | | | | |
| 45 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 45 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 46 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 46 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 47 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 47 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |

| Page | Section | Surface water flooding | |
|---|---|---|---|
| **48** | **8.1** | **Surface water flooding** | 1 in 30 year, 0.1m - 0.3m (within 50m) |

| Page | Section | Groundwater flooding | |
|---|---|---|---|
| **50** | **9.1** | **Groundwater flooding** | Moderate (within 50m) |

| Page | Section | Environmental designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 51 | 10.1 | Sites of Special Scientific Interest (SSSI) | 0 | 0 | 0 | 0 | 0 |
| 52 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 52 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 52 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 52 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.6 | Local Nature Reserves (LNR) | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.7 | Designated Ancient Woodland | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| **54** | **10.11** | **Green Belt** | 1 | 1 | 0 | 2 | 17 |
| 55 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.16 | Nitrate Vulnerable Zones | 0 | 0 | 0 | 0 | 0 |
| **57** | **10.17** | **SSSI Impact Risk Zones** | 1 | - | - | - | - |
| 58 | 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 |
| 59 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 60 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 60 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| **60** | **11.4** | **Listed Buildings** | 0 | 0 | 4 | - | - |
| **61** | **11.5** | **Conservation Areas** | 1 | 0 | 0 | - | - |
| 61 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 61 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| **62** | **12.1** | **Agricultural Land Classification** | Grade 1 (within 250m) | | | | |
| 63 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 63 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 63 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| 64 | 12.5 | Countryside Stewardship Schemes | 0 | 0 | 0 | - | - |
| Page | Section | Habitat designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| **65** | **13.1** | **Priority Habitat Inventory** | 1 | 0 | 0 | - | - |
| 66 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 66 | 13.3 | Open Mosaic Habitat | 0 | 0 | 0 | - | - |
| 66 | 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 |
| **67** | **14.1** | **10k Availability** | Identified (within 500m) | | | | |
| **68** | **14.2** | **Artificial and made ground (10k)** | 0 | 2 | 0 | 5 | - |
| **70** | **14.3** | **Superficial geology (10k)** | 1 | 1 | 0 | 3 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 71 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
| 72 | 14.5 | Bedrock geology (10k) | 1 | 0 | 0 | 0 | - |
| 73 | 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 |
| 74 | 15.1 | 50k Availability | Identified (within 500m) | | | | |
| 75 | 15.2 | Artificial and made ground (50k) | 0 | 1 | 0 | 2 | - |
| 76 | 15.3 | Artificial ground permeability (50k) | 0 | 0 | - | - | - |
| 77 | 15.4 | Superficial geology (50k) | 1 | 1 | 0 | 2 | - |
| 78 | 15.5 | Superficial permeability (50k) | Identified (within 50m) | | | | |
| 78 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 78 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| 79 | 15.8 | Bedrock geology (50k) | 1 | 0 | 0 | 0 | - |
| 80 | 15.9 | Bedrock permeability (50k) | Identified (within 50m) | | | | |
| 80 | 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 |
| 81 | 16.1 | BGS Boreholes | 0 | 0 | 2 | - | - |
| Page | Section | Natural ground subsidence | | | | | |
| 82 | 17.1 | Shrink swell clays | Very low (within 50m) | | | | |
| 83 | 17.2 | Running sands | Very low (within 50m) | | | | |
| 85 | 17.3 | Compressible deposits | Negligible (within 50m) | | | | |
| 86 | 17.4 | Collapsible deposits | Low (within 50m) | | | | |
| 87 | 17.5 | Landslides | Very low (within 50m) | | | | |
| 88 | 17.6 | Ground dissolution of soluble rocks | Negligible (within 50m) | | | | |
| Page | Section | Mining, ground workings and natural cavities | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 89 | 18.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 90 | 18.2 | BritPits | 0 | 0 | 3 | 0 | - |
| 90 | 18.3 | Surface ground workings | 0 | 0 | 11 | - | - |
| 91 | 18.4 | Underground workings | 0 | 0 | 0 | 0 | 0 |
| 91 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 2 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 92 | 18.6 | Non-coal mining | 0 | 0 | 0 | 0 | 0 |
| 92 | 18.7 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 92 | 18.8 | JPB mining areas | None (within 0m) | | | | |
| 92 | 18.9 | Coal mining | None (within 0m) | | | | |
| 92 | 18.10 | Brine areas | None (within 0m) | | | | |
| 93 | 18.11 | Gypsum areas | None (within 0m) | | | | |
| 93 | 18.12 | Tin mining | None (within 0m) | | | | |
| 93 | 18.13 | Clay mining | None (within 0m) | | | | |

| Page | Section | Radon | |
|---|---|---|---|
| **94** | **19.1** | **Radon** | Less than 1% (within 0m) |

| Page | Section | Soil chemistry | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **95** | **20.1** | **BGS Estimated Background Soil Chemistry** | 1 | 1 | - | - | - |
| **95** | **20.2** | **BGS Estimated Urban Soil Chemistry** | 2 | 2 | - | - | - |
| 96 | 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 |
|---|---|---|---|---|---|---|---|
| 97 | 21.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 97 | 21.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 98 | 21.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 98 | 21.4 | Historical railway and tunnel features | 0 | 0 | 0 | - | - |
| 98 | 21.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |
| 98 | 21.6 | Historical railways | 0 | 0 | 0 | - | - |
| **98** | **21.7** | **Railways** | 0 | 0 | 1 | - | - |
| 99 | 21.8 | Crossrail 1 | 0 | 0 | 0 | 0 | - |
| 99 | 21.9 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 99 | 21.10 | HS2 | 0 | 0 | 0 | 0 | - |

## Recent aerial photograph


Capture Date: 13/06/2021

Site Area: 0.04ha

# Recent site history - 2019 aerial photograph


Capture Date: 29/06/2019

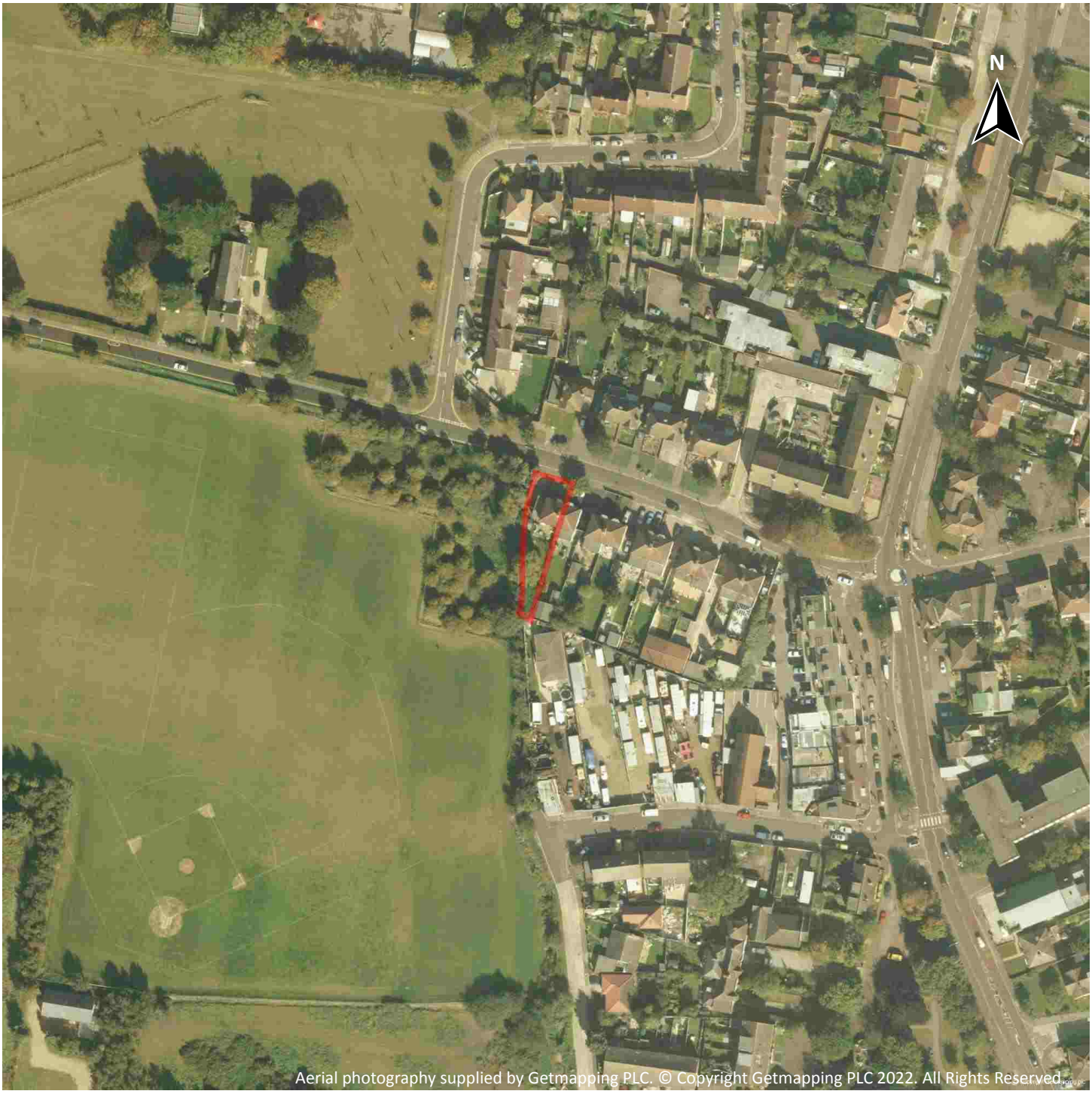
Site Area: 0.04ha

# Recent site history - 2015 aerial photograph


Capture Date: 20/04/2015

Site Area: 0.04ha

# Recent site history - 2011 aerial photograph






Capture Date: 30/09/2011

Site Area: 0.04ha

# Recent site history - 1999 aerial photograph


Capture Date: 29/08/1999

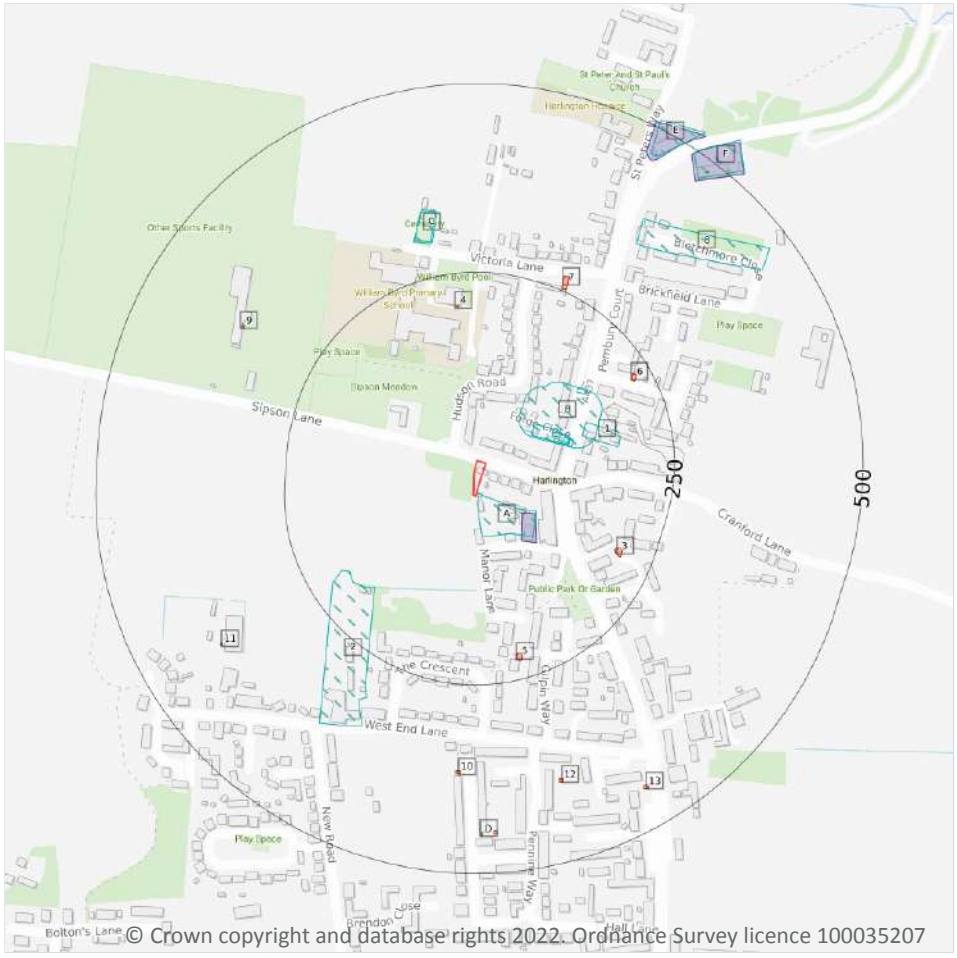
Site Area: 0.04ha

## OS MasterMap site plan




Site Area: 0.04ha

# 1 Past land use






## 1.1 Historical industrial land uses

| Records within 500m | 14 |
|---|---|

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 |
|---|---|---|---|---|
| A | 1m S | Unspecified Works | 1974 - 1987 | 2280095 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| B | 66m NE | Smithy | 1912 | 2174332 |
| B | 71m NE | Smithy | 1912 | 2171018 |
| B | 71m NE | Smithy | 1894 | 2234750 |
| B | 94m NE | Smithy | 1865 | 2177748 |
| B | 96m NE | Smithy | 1897 | 2221184 |
| 1 | 133m E | Smithy | 1898 | 2242342 |
| B | 153m NE | Smithy | 1882 | 2270707 |
| 2 | 179m SW | Nursery | 1970 - 1987 | 2267752 |
| C | 294m N | Burial Ground | 1974 - 1987 | 2222744 |
| C | 296m N | Burial Ground | 1970 | 2210373 |
| 8 | 352m NE | Brick Field | 1882 | 2146650 |
| E | 466m NE | Garage | 1974 - 1987 | 2178126 |
| F | 471m NE | Garage | 1974 - 1987 | 2239415 |

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

## 1.2 Historical tanks

| **Records within 500m** | **5** |
|---|---|

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 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 |
|---|---|---|---|---|
| 4 | 205m N | Unspecified Tank | 1966 | 391118 |
| 9 | 355m NW | Unspecified Tank | 1966 - 1992 | 396791 |
| 11 | 386m SW | Unspecified Tank | 1998 | 363020 |
| D | 446m S | Unspecified Tank | 1966 | 397712 |
| F | 483m NE | Tanks | 1975 | 375901 |

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

## 1.3 Historical energy features

| Records within 500m | 8 |
|---|---|

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 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 |
|---|---|---|---|---|
| 3 | 197m SE | Electricity Substation | 1972 - 1990 | 262730 |
| 5 | 216m S | Electricity Substation | 1972 - 1990 | 259301 |
| 6 | 222m NE | Electricity Substation | 1972 - 1990 | 288144 |
| 7 | 252m NE | Electricity Substation | 1972 - 1990 | 285068 |
| 10 | 364m S | Electricity Substation | 1972 - 1990 | 266712 |
| 12 | 391m S | Electricity Substation | 1972 - 1990 | 266380 |
| 13 | 443m SE | Electricity Substation | 1972 - 1990 | 266217 |
| D | 444m S | Electricity Substation | 1988 - 1990 | 260501 |

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

## 1.4 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, 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'.

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

## 1.5 Historical garages

| Records within 500m | 3 |
|---|---|

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 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 |
|---|---|---|---|---|
| A | 65m SE | Motor Repair Works | 1972 | 74053 |
| E | 458m NE | Garage | 1975 | 73258 |
| F | 466m NE | Garage | 1975 - 1990 | 85365 |

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

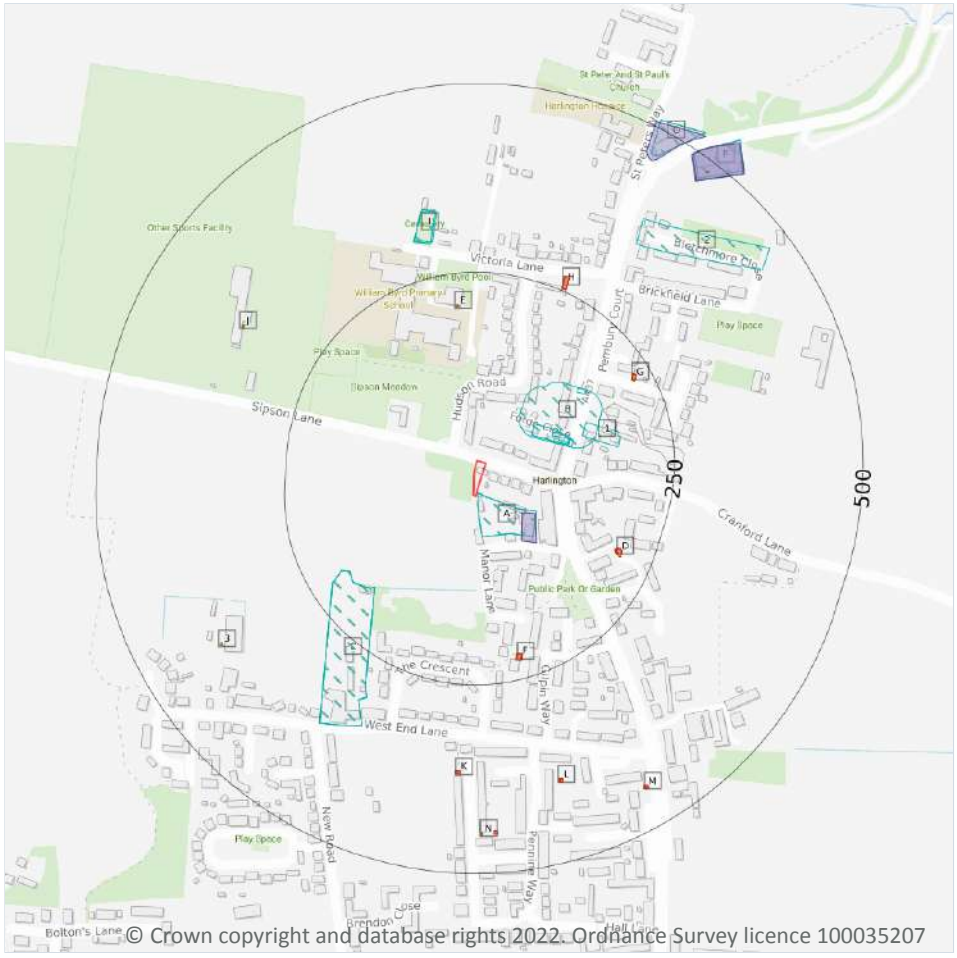
## 1.6 Historical military land

| 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 | 20 |
|---|---|

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 |
|---|---|---|---|---|
| A | 1m S | Unspecified Works | 1987 | 2280095 |
| A | 1m S | Unspecified Works | 1974 | 2280095 |
| B | 66m NE | Smithy | 1912 | 2174332 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| B | 71m NE | Smithy | 1912 | 2171018 |
| B | 71m NE | Smithy | 1894 | 2234750 |
| B | 94m NE | Smithy | 1865 | 2177748 |
| B | 96m NE | Smithy | 1897 | 2221184 |
| 1 | 133m E | Smithy | 1898 | 2242342 |
| B | 153m NE | Smithy | 1882 | 2270707 |
| C | 179m SW | Nursery | 1970 | 2267752 |
| C | 179m SW | Nursery | 1987 | 2267752 |
| C | 179m SW | Nursery | 1974 | 2267752 |
| I | 294m N | Burial Ground | 1987 | 2222744 |
| I | 294m N | Burial Ground | 1974 | 2222744 |
| I | 296m N | Burial Ground | 1970 | 2210373 |
| 2 | 352m NE | Brick Field | 1882 | 2146650 |
| O | 466m NE | Garage | 1987 | 2178126 |
| O | 466m NE | Garage | 1974 | 2178126 |
| P | 471m NE | Garage | 1987 | 2239415 |
| P | 471m NE | Garage | 1974 | 2239415 |

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

## 2.2 Historical tanks

**Records within 500m** **9**

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 |
|---|---|---|---|---|
| E | 205m N | Unspecified Tank | 1966 | 391118 |
| E | 205m N | Unspecified Tank | 1966 | 391118 |
| J | 355m NW | Unspecified Tank | 1966 | 396791 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| J | 356m NW | Unspecified Tank | 1966 | 396791 |
| J | 356m NW | Unspecified Tank | 1992 | 396791 |
| 3 | 386m SW | Unspecified Tank | 1998 | 363020 |
| N | 446m S | Unspecified Tank | 1966 | 397712 |
| N | 447m S | Unspecified Tank | 1966 | 397712 |
| P | 483m NE | Tanks | 1975 | 375901 |

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

## 2.3 Historical energy features

| **Records within 500m** | **20** |
|---|---|

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 |
|---|---|---|---|---|
| D | 197m SE | Electricity Substation | 1990 | 262730 |
| D | 200m SE | Electricity Substation | 1972 | 262730 |
| F | 216m S | Electricity Substation | 1972 | 259301 |
| F | 216m S | Electricity Substation | 1988 | 259301 |
| F | 216m S | Electricity Substation | 1990 | 259301 |
| G | 222m NE | Electricity Substation | 1990 | 288144 |
| G | 224m NE | Electricity Substation | 1972 | 288144 |
| H | 252m NE | Electricity Substation | 1990 | 285068 |
| H | 253m NE | Electricity Substation | 1972 | 285068 |
| K | 364m S | Electricity Substation | 1972 | 266712 |
| K | 365m S | Electricity Substation | 1988 | 266712 |
| K | 365m S | Electricity Substation | 1990 | 266712 |
| L | 391m S | Electricity Substation | 1988 | 266380 |
| L | 391m S | Electricity Substation | 1990 | 266380 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| L | 391m S | Electricity Substation | 1972 | 266380 |
| M | 443m SE | Electricity Substation | 1988 | 266217 |
| M | 443m SE | Electricity Substation | 1990 | 266217 |
| M | 444m SE | Electricity Substation | 1972 | 266217 |
| N | 444m S | Electricity Substation | 1988 | 260501 |
| N | 444m S | Electricity Substation | 1990 | 260501 |

*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** | **4** |
|---|---|

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 | 65m SE | Motor Repair Works | 1972 | 74053 |
| O | 458m NE | Garage | 1975 | 73258 |
| P | 466m NE | Garage | 1990 | 85365 |
| P | 467m NE | Garage | 1975 | 85365 |

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

# 3 Waste and landfill




## 3.1 Active or recent landfill

| Records within 500m | 3 |
|---|---|

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

Features are displayed on the Waste and landfill map on **page 22**

| ID | Location | Details | |
|---|---|---|---|
| 2 | 229m W | Operator: Henry Streeter ( Sand & Ballast ) Ltd<br>Site Address: Henry Streeter (Sand & Ballast) Ltd, Imperial College, Of) Sipson Lane, Harlington, Middlesex, UB7 0JG | WML Number: 80069<br>EPR Reference: STR004<br>Landfill type: A05: Landfill taking Non-Biodegradeable Wastes<br>Status: Closure<br>IPPC Reference: -<br>EPR Number: EA/EPR/AP3696NL/V002 |

| ID | Location | Details | |
|---|---|---|---|
| 3 | 295m N | Operator: Henry Streeter ( Sand & Ballast ) Ltd<br>Site Address: Sipson Lane, Off Sipson Road, West Drayton, Middlesex, UB7 0JG | WML Number: 80594<br>EPR Reference: STR008<br>Landfill type: L05: Inert LF<br>Status: Modified<br>IPPC Reference: -<br>EPR Number: EA/EPR/BT7183IA/V004 |
| 4 | 338m E | Operator: Henry Streeter ( Sand & Ballast ) Ltd<br>Site Address: The Gravel Pit, High Street, Harlington, Hayes, Middlesex, UB3 5DA | WML Number: 80066<br>EPR Reference: STR001<br>Landfill type: A06: Landfill taking other wastes<br>Status: Closure<br>IPPC Reference: -<br>EPR Number: EA/EPR/AP3896NG/V006 |

*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** | **2** |
|---|---|

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 22**

| ID | Location | Details | | |
|---|---|---|---|---|
| 1 | 10m S | Site Address: Imperial College, South of Sipson Lane, Harlington, Middlesex<br>Licence Holder Address: - | Waste Licence: Yes<br>Site Reference: STR030<br>Waste Type: -<br>Environmental Permitting Regulations (Waste) Reference: TE1/L/STR004<br>Licence Issue: 05/06/1997<br>Licence Surrender: - | Operator: -<br>Licence Holder: Henry Streeter (Sand and Ballast) Limited<br>First Recorded 31/12/1997<br>Last Recorded: - |
| 5 | 346m SE | Site Address: South of Cranford Lane, Cranford Lane West<br>Licence Holder Address: - | Waste Licence: Yes<br>Site Reference: DL207, 8HI017, HIL018<br>Waste Type: Inert<br>Environmental Permitting Regulations (Waste) Reference: -<br>Licence Issue: 06/06/1985<br>Licence Surrender: 16/08/1993 | Operator: -<br>Licence Holder: Henry Streeter (Sand and Ballast) Limited<br>First Recorded 10/07/1986<br>Last Recorded: 03/10/1989 |

*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 | 3 |
|---|---|

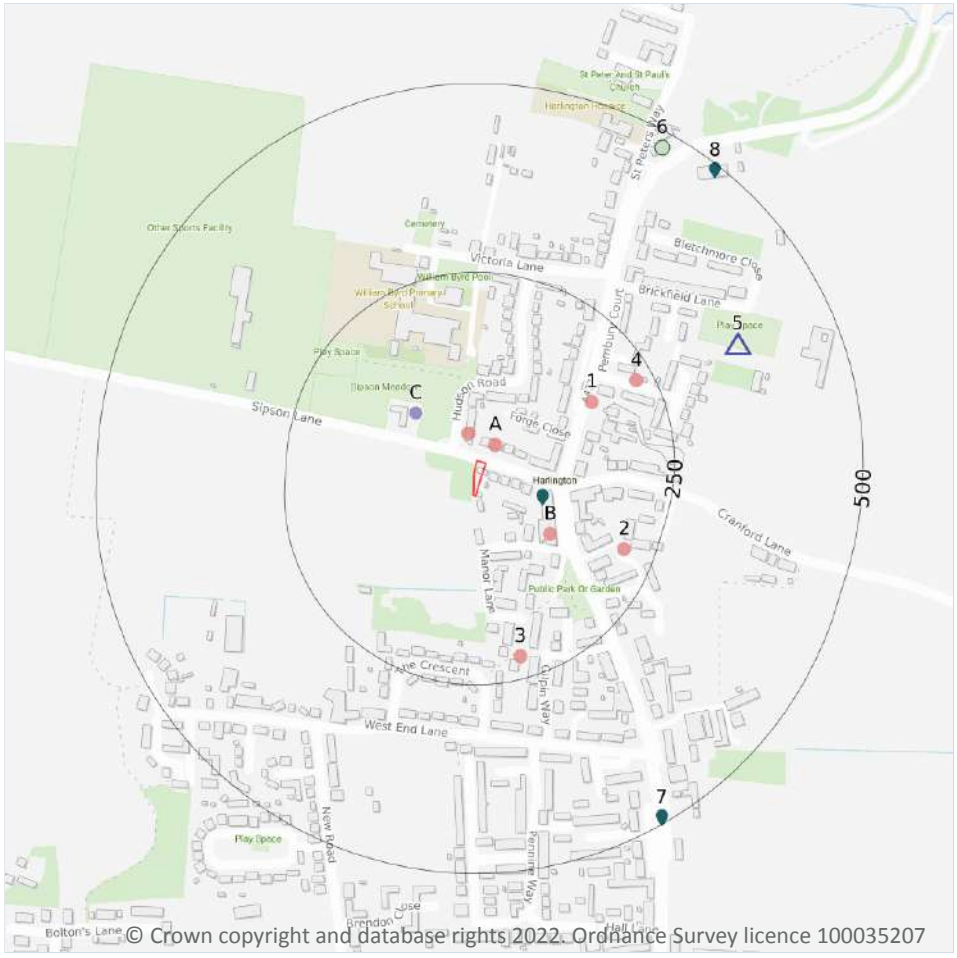
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 22**

| ID | Location | Site | Reference | Category | Sub-Category | Description |
|---|---|---|---|---|---|---|
| A | 96m SE | - | WEX269982 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| A | 96m SE | 218-220, HIGH STREET, HARLINGTON, HAYES, UB3 5DS | WEX151510 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| 6 | 353m SE | 324-326, HIGH STREET, HARLINGTON, HAYES, UB3 5DU | WEX168787 | Using waste exemption | On a farm | Use of waste in construction |

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

# 4 Current industrial land use






## 4.1 Recent industrial land uses

| Records within 250m | 7 |
|---|---|

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26**

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| A | 28m NE | P C D Contracts | 12, Sipson Lane, Hayes, Greater London, UB3 5EH | Office and Shop Equipment | Industrial Products |
| A | 38m N | Car to Scrap | 77, Hudson Road, Hayes, Greater London, UB3 5EN | Scrap Metal Merchants | Recycling Services |
| B | 111m SE | Gearbox Solutions | 228, High Street, Harlington, Hayes, Greater London, UB3 5DS | Vehicle Components | Industrial Products |

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 1 | 162m NE | Miniature Railway | Greater London, UB3 | Railways (Heritage, Steam and Miniature) | Tourism |
| 2 | 209m SE | Electricity Sub Station | Greater London, UB3 | Electrical Features | Infrastructure and Facilities |
| 3 | 220m S | Electricity Sub Station | Greater London, UB3 | Electrical Features | Infrastructure and Facilities |
| 4 | 228m NE | Electricity Sub Station | Greater London, UB3 | Electrical Features | Infrastructure and Facilities |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

| **Records within 500m** | **1** |
|---|---|

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 26**

| ID | Location | Company | Address | LPG | Status |
|---|---|---|---|---|---|
| 5 | 369m NE | OBSOLETE | 90, High Street, Harlington, Hayes, Outer London, UB3 5DN | Not Applicable | Obsolete |

*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 | 5 |
|---|---|

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.

Features are displayed on the Current industrial land use map on **page 26**

| ID | Location | Details | |
|---|---|---|---|
| C | 102m NW | Operator: Heathrow Airport Ltd<br>Address: Engineering Services, Building 218, Northrop Road, Hillingdon, UB3 5AP<br>Process: Combustion Processes<br>Permit Number: AA3506 | Original Permit Number: IPCAPP<br>Date Approved: 30-4-1992<br>Effective Date: 30-4-1992<br>Status: Superseded By Variation |
| C | 102m NW | Operator: Heathrow Airport Ltd<br>Address: Engineering Services, Building 218, Northrop Road, Hillingdon, UB3 5AP<br>Process: Combustion Processes<br>Permit Number: AG6494 | Original Permit Number: IPCMINVAR<br>Date Approved: 22-3-1993<br>Effective Date: 22-3-1993<br>Status: Superseded By Variation |
| C | 102m NW | Operator: Heathrow Airport Ltd<br>Address: Engineering Services, Building 218, Northrop Road, Hillingdon, UB3 5AP<br>Process: Combustion Processes<br>Permit Number: AU9519 | Original Permit Number: IPCMINVAR<br>Date Approved: 16-5-1997<br>Effective Date: 1-6-1997<br>Status: Superseded By Variation |
| C | 102m NW | Operator: Heathrow Airport Ltd<br>Address: Engineering Services, Building 218, Northrop Road, Hillingdon, UB3 5AP<br>Process: Combustion Processes<br>Permit Number: BD5143 | Original Permit Number: IPCMINVAR<br>Date Approved: 24-11-1998<br>Effective Date: 30-11-1998<br>Status: Superseded By Variation |
| C | 102m NW | Operator: Heathrow Airport Ltd<br>Address: Engineering Services, Building 218, Northrop Road, Hillingdon, UB3 5AP<br>Process: Combustion Processes<br>Permit Number: BI5132 | Original Permit Number: IPCMINVAR<br>Date Approved: 17-7-2003<br>Effective Date: 1-8-2003<br>Status: Revoked - Now Ippc |

*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** | **3** |
|---|---|

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.

Features are displayed on the Current industrial land use map on **page 26**

| ID | Location | Address | Details | |
|---|---|---|---|---|
| B | 84m E | Premier Dry Cleaners, 210 High Street, Harlington, Middlesex, UB3 5DS | Process: Dry Cleaning<br>Status: Current Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified |
| 7 | 491m SE | Tesco Harlington, High Street, Harlington | Process: Unloading of Petrol into Storage at Service Stations<br>Status: Historical Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified |
| 8 | 493m NE | Harlington Serv Stn, High St | Process: Petrol Vapour Recovery<br>Status: Historical Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified |

*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 | 1 |
|---|---|

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 26**

| ID | Location | Details | |
|---|---|---|---|
| 6 | 479m NE | Incident Date: 14/03/2017<br>Incident Identification: 1507820<br>Pollutant: Contaminated Water<br>Pollutant Description: Vehicle and Plant Washings | Water Impact: Category 3 (Minor)<br>Land Impact: Category 2 (Significant)<br>Air Impact: Category 4 (No Impact) |

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

## 4.19 Pollution inventory substances

| Records within 500m | 0 |
|---|---|

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

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

## 4.20 Pollution inventory waste transfers

| Records within 500m | 0 |
|---|---|

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

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

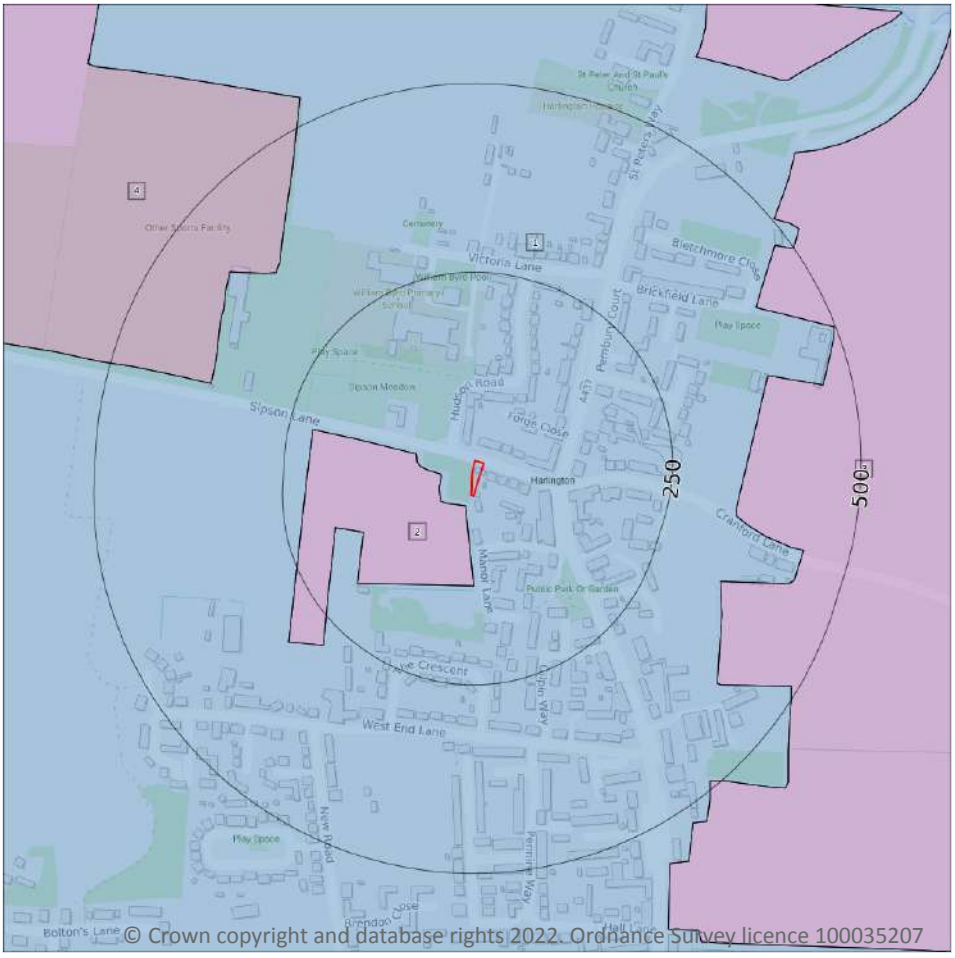
## 4.21 Pollution inventory radioactive waste

| Records within 500m | 0 |
|---|---|

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

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

# 5 Hydrogeology - Superficial aquifer




Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

## 5.1 Superficial aquifer

| Records within 500m | 4 |
|---|---|

Aquifer status of groundwater held within superficial geology.

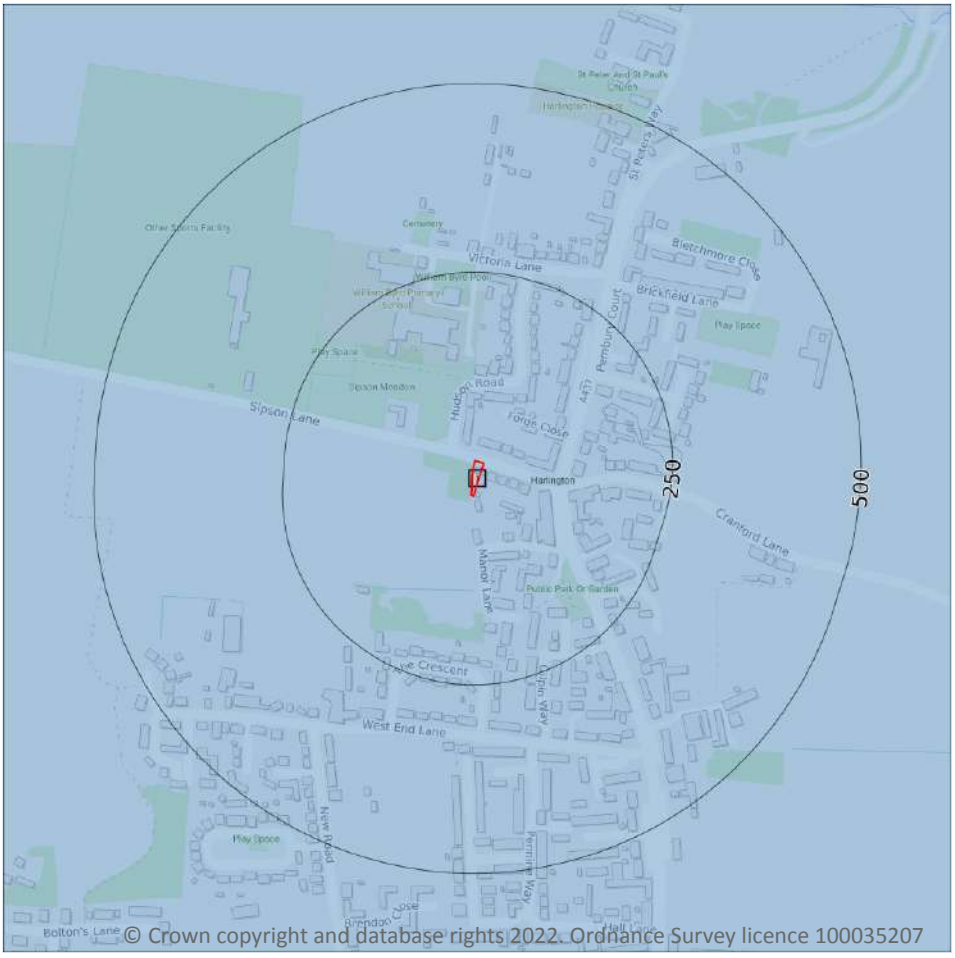
Features are displayed on the Hydrogeology map on **page 33**

| 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 | 17m S | 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 | 340m 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 |
| 4 | 363m NW | 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 |
|---|---|

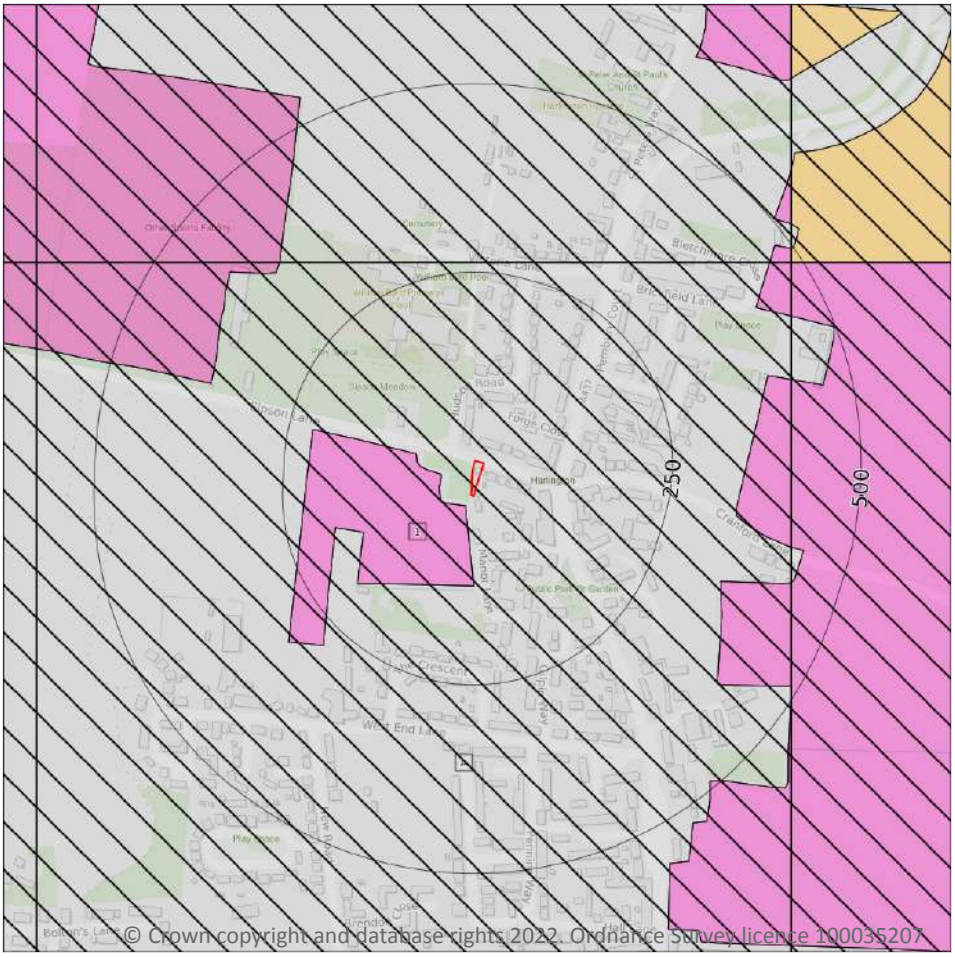
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35**

| 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 | 2 |
|---|---|

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 36**

| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|---|---|---|---|---|---|
| **A** | **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: High** | **Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed** |
| 1 | 16m S | Summary Classification: Principal superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year | Vulnerability: Medium Aquifer type: Principal Thickness: 3-10m Patchiness value: >90% Recharge potential: High | 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** |
|---|---|

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

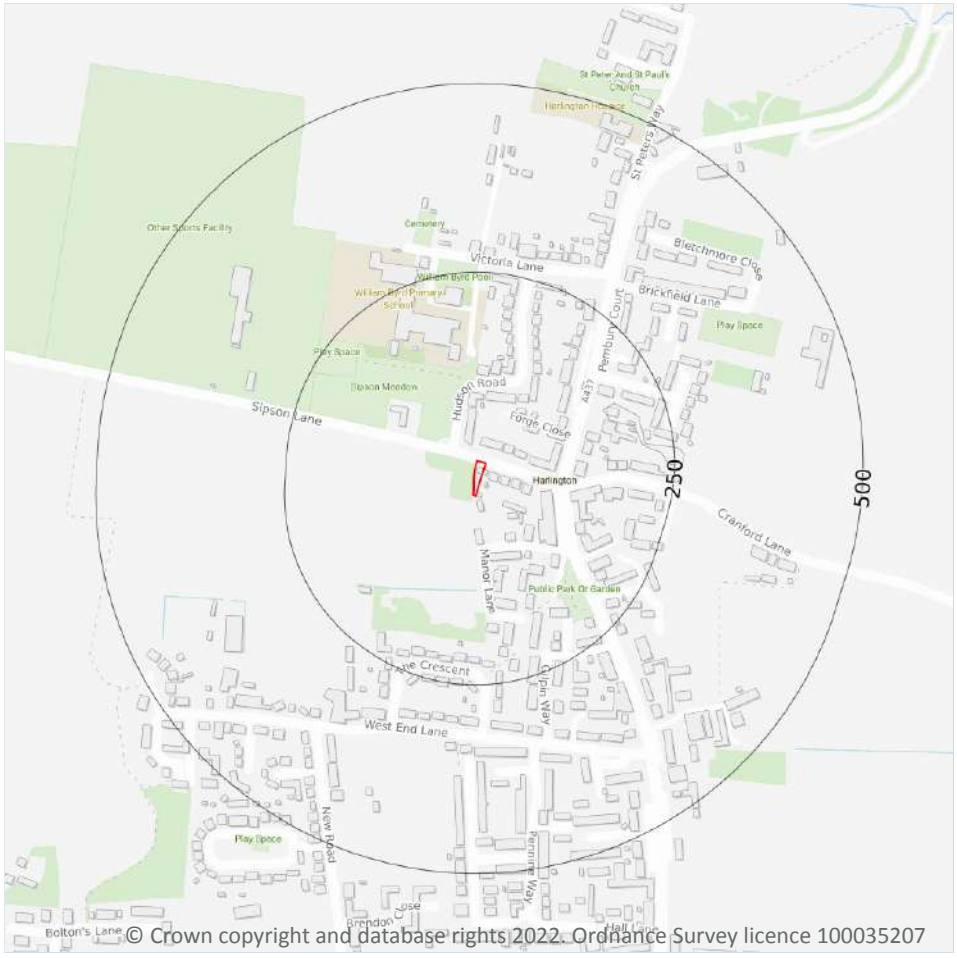
| **Records on site** | **1** |
|---|---|

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 |
|---|---|---|
| **A** | **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
- 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 | 8 |
|---|---|

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 38**

| ID | Location | Details | |
|---|---|---|---|
| - | 850m E | Status: Active<br>Licence No: 28/39/36/0060<br>Details: Mineral Washing<br>Direct Source: THAMES GROUNDWATER<br>Point: WET PIT AT HIGH STREET, HARLINGTON, MIDDLESEX<br>Data Type: Point<br>Name: Harleyford Aggregates Limited<br>Easting: 509400<br>Northing: 178000 | Annual Volume ($m^3$): 649,318<br>Max Daily Volume ($m^3$): 2,455<br>Original Application No: NPS/WR/027025<br>Original Start Date: 06/12/1994<br>Expiry Date: -<br>Issue No: 103<br>Version Start Date: 23/01/2018<br>Version End Date: - |
| - | 984m SE | Status: Active<br>Licence No: 28/39/36/0058<br>Details: Process Water<br>Direct Source: THAMES GROUNDWATER<br>Point: BOREHOLE AT NORTHROP ROAD, HEATHROW AIRPORT, HOUNSLOW<br>Data Type: Point<br>Name: AVIS RENT A CAR LIMITED<br>Easting: 509000<br>Northing: 176800 | Annual Volume ($m^3$): 10,980<br>Max Daily Volume ($m^3$): 30<br>Original Application No: -<br>Original Start Date: 01/03/1993<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/04/2008<br>Version End Date: - |
| - | 1045m W | Status: Active<br>Licence No: 28/39/36/0059<br>Details: Mineral Washing<br>Direct Source: THAMES GROUNDWATER<br>Point: WET PIT AT SIPSON LANE, HARMONDSWORTH<br>Data Type: Point<br>Name: Harleyford Aggregates Limited<br>Easting: 507600<br>Northing: 178100 | Annual Volume ($m^3$): 649,318<br>Max Daily Volume ($m^3$): 2,455<br>Original Application No: NPS/WR/022219<br>Original Start Date: 06/12/1994<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 18/04/2016<br>Version End Date: - |
| - | 1147m SW | Status: Active<br>Licence No: TH/039/0036/017<br>Details: General Use Relating To Secondary Category (Medium Loss)<br>Direct Source: THAMES GROUNDWATER<br>Point: BOREHOLE AT PARK INN HOTEL, BATH ROAD<br>Data Type: Point<br>Name: Park Hotel Heathrow Limited<br>Easting: 507590<br>Northing: 177105 | Annual Volume ($m^3$): 43,800<br>Max Daily Volume ($m^3$): 120<br>Original Application No: NPS/WR/022592<br>Original Start Date: 29/09/2016<br>Expiry Date: 31/03/2025<br>Issue No: 1<br>Version Start Date: 29/09/2016<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1239m SE | Status: Historical<br>Licence No: 28/39/36/0063<br>Details: Process water<br>Direct Source: THAMES GROUNDWATER<br>Point: ARGONAUT HOUSE, BATH ROAD, HAYES-BOREHOLE A<br>Data Type: Point<br>Name: Q-PARK LIMITED<br>Easting: 509410<br>Northing: 176770 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 16/12/1998<br>Expiry Date: 31/12/2008<br>Issue No: 101<br>Version Start Date: 13/12/2002<br>Version End Date: - |
| - | 1280m SE | Status: Historical<br>Licence No: 28/39/36/0063<br>Details: Process water<br>Direct Source: THAMES GROUNDWATER<br>Point: ARGONAUT HOUSE, HAYES - BOREHOLE<br>Data Type: Point<br>Name: BUDGET RENT A CAR INTERNATIONAL<br>Easting: 509500<br>Northing: 176800 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 16/12/1998<br>Expiry Date: 31-Dec-08<br>Issue No: 100<br>Version Start Date: 16/12/1998<br>Version End Date: - |
| - | 1955m W | Status: Historical<br>Licence No: 28/39/36/0070<br>Details: Mineral Washing<br>Direct Source: THAMES GROUNDWATER<br>Point: HARMONDSWORTH QUARRY, WEST DRAYTON-BOREHOLE A<br>Data Type: Point<br>Name: SITA PRODUCTS AND SERVICES LTD<br>Easting: 506640<br>Northing: 177990 | Annual Volume ($m^3$): 617760<br>Max Daily Volume ($m^3$): 2160<br>Original Application No: -<br>Original Start Date: 28/01/2003<br>Expiry Date: 31/03/2013<br>Issue No: 1<br>Version Start Date: 28/01/2003<br>Version End Date: - |
| - | 1955m W | Status: Historical<br>Licence No: 28/39/36/0070<br>Details: Mineral Washing<br>Direct Source: THAMES GROUNDWATER<br>Point: HARMONDSWORTH QUARRY, WEST DRAYTON-LAGOON<br>Data Type: Point<br>Name: SITA ENVIRONMENT LIMITED<br>Easting: 506640<br>Northing: 177990 | Annual Volume ($m^3$): 617760<br>Max Daily Volume ($m^3$): 2160<br>Original Application No: -<br>Original Start Date: 28/01/2003<br>Expiry Date: 31/03/2013<br>Issue No: 2<br>Version Start Date: 26/01/2009<br>Version End Date: - |

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

## 5.7 Surface water abstractions

| Records within 2000m | 0 |
|---|---|

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.

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

## 5.8 Potable abstractions

| Records within 2000m | 0 |
|---|---|

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.

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

## 5.9 Source Protection Zones

| Records within 500m | 0 |
|---|---|

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.*

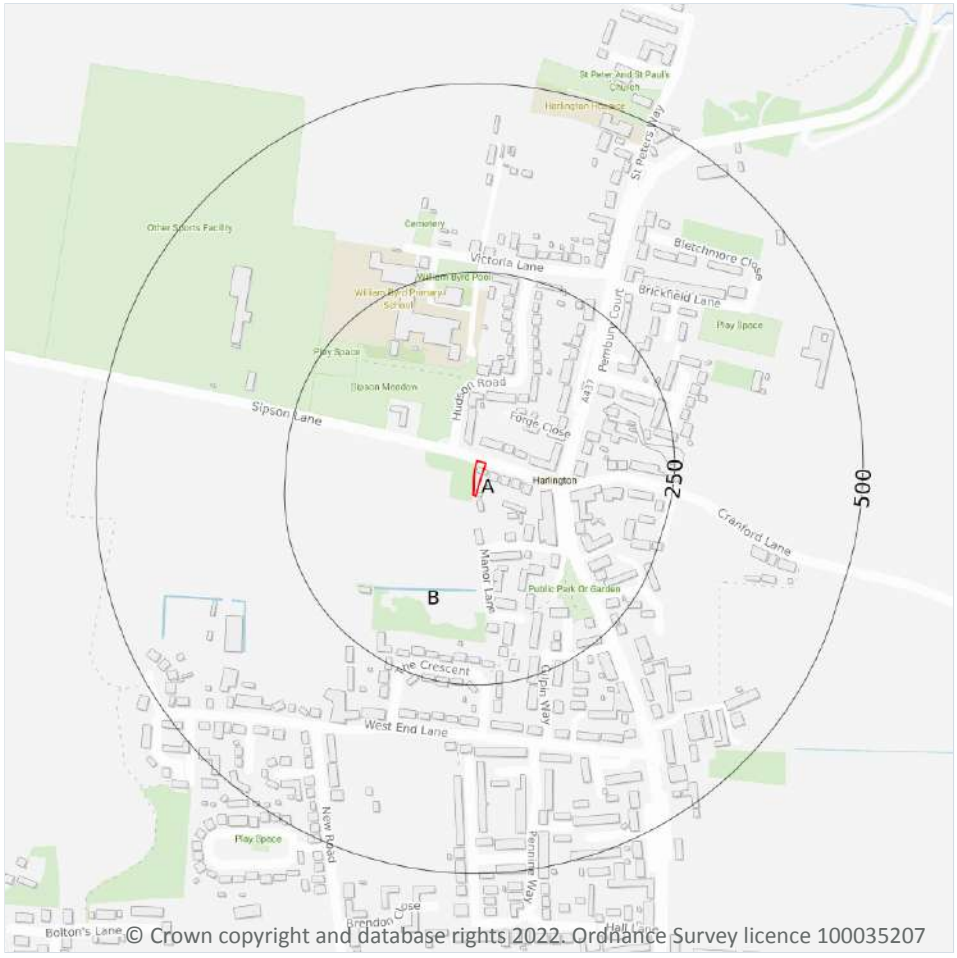
## 5.10 Source Protection Zones (confined aquifer)

| Records within 500m | 0 |
|---|---|

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 42**

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| B | 124m S | 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 42**

*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 42**

| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|---|---|---|---|---|---|---|
| **A** | **On site** | **River** | **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 42**

| ID | Location | Type | Name | Water body ID | Overall rating | Chemical rating | Ecological rating | Year |
|---|---|---|---|---|---|---|---|---|
| - | 1559m E | River | Crane | GB106039023030 | Moderate | Fail | Moderate | 2019 |

*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 42**

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|---|---|---|---|---|---|---|---|
| **A** | **On site** | **Lower Thames Gravels** | **GB40603G000300** | **Poor** | **Good** | **Poor** | **2019** |

*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 the sea

| Records within 50m | 0 |
|---|---|

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; 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). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 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


Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

## 8.1 Surface water flooding

| | |
|---|---|
| **Highest risk on site** | **1 in 250 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 48**

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 0.3m and 1.0m |
| 1 in 250 year | Between 0.1m and 0.3m |
| 1 in 100 year | Negligible |
| 1 in 30 year | Negligible |

*This data is sourced from Ambiental Risk Analytics.*

# 9 Groundwater flooding




## 9.1 Groundwater flooding

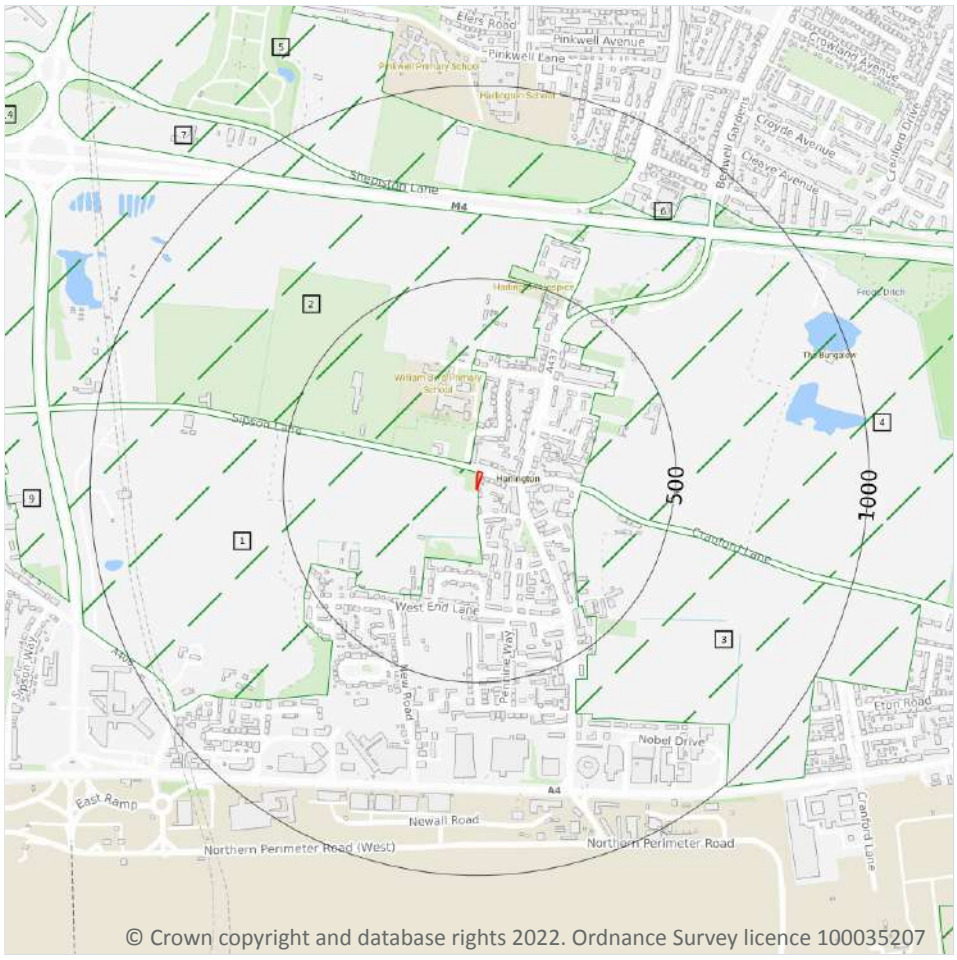
| | |
|---|---|
| **Highest risk on site** | **Moderate** |
| **Highest risk within 50m** | **Moderate** |

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 50**

*This data is sourced from Ambiental Risk Analytics.*

# 10 Environmental designations






## 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 | 21 |
|---|---|

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

Features are displayed on the Environmental designations map on **page 51**

| ID | Location | Name | Local Authority name |
|---|---|---|---|
| **1** | **On site** | **London** | **Hillingdon** |
| 2 | 29m NW | London | Hillingdon |
| 3 | 257m E | London | Hillingdon |
| 4 | 257m E | London | Hillingdon |
| 5 | 718m N | London | Hillingdon |
| 6 | 730m NE | London | Hillingdon |
| 7 | 748m N | London | Hillingdon |
| 8 | 875m NE | London | Hillingdon |
| 9 | 1079m W | London | Hillingdon |
| 10 | 1158m W | London | Hillingdon |
| - | 1305m W | London | Hillingdon |
| - | 1457m E | London | Hillingdon |
| - | 1461m W | London | Hillingdon |
| 14 | 1465m NW | London | Hillingdon |
| 15 | 1529m SE | London | Hillingdon |
| - | 1547m E | London | Hounslow |
| 17 | 1559m NW | London | Hillingdon |
| 18 | 1563m NW | London | Hillingdon |

| ID | Location | Name | Local Authority name |
|---|---|---|---|
| - | 1615m NW | London | Hillingdon |
| - | 1621m SE | London | Hounslow |
| - | 1829m NW | London | Hillingdon |

*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.*

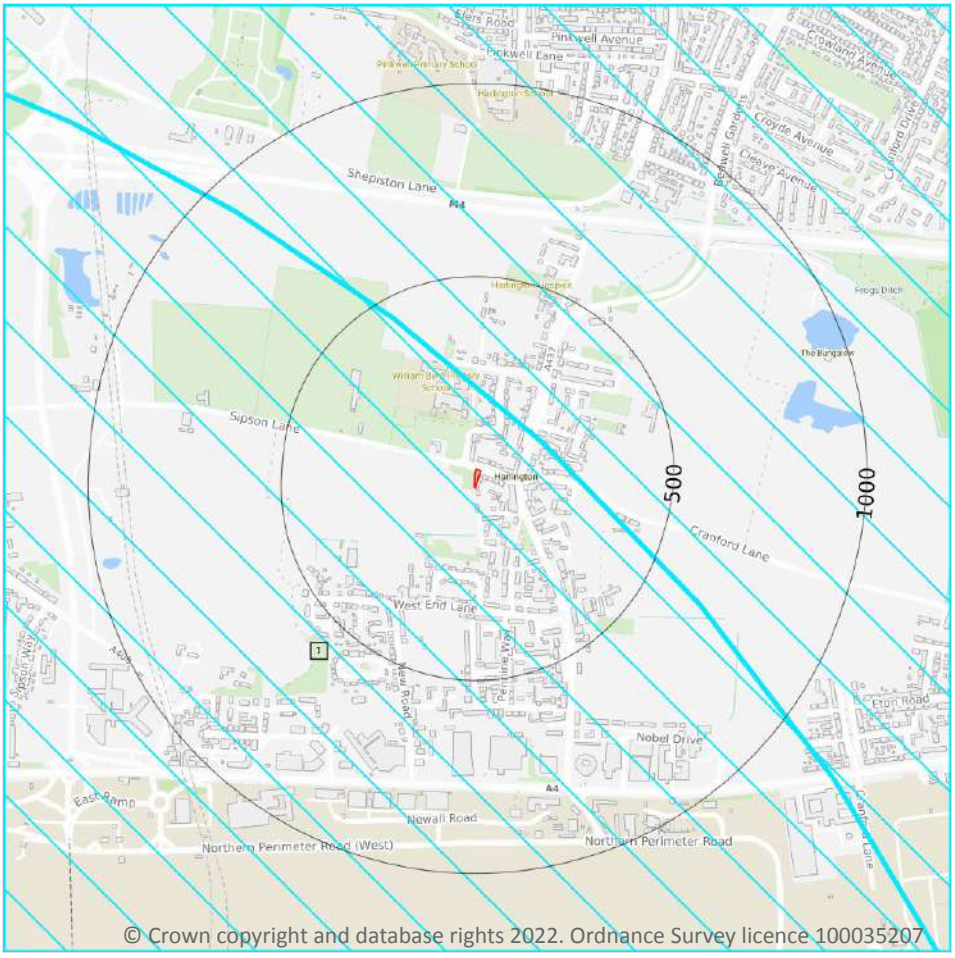
## 10.16 Nitrate Vulnerable Zones

| 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 57**

| ID | Location | Type of developments requiring consultation |
|---|---|---|
| 1 | On site | **Infrastructure - Airports, helipads and other aviation proposals.**<br>**Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).**<br>**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.**<br>**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.** |

*This data is sourced from Natural England.*

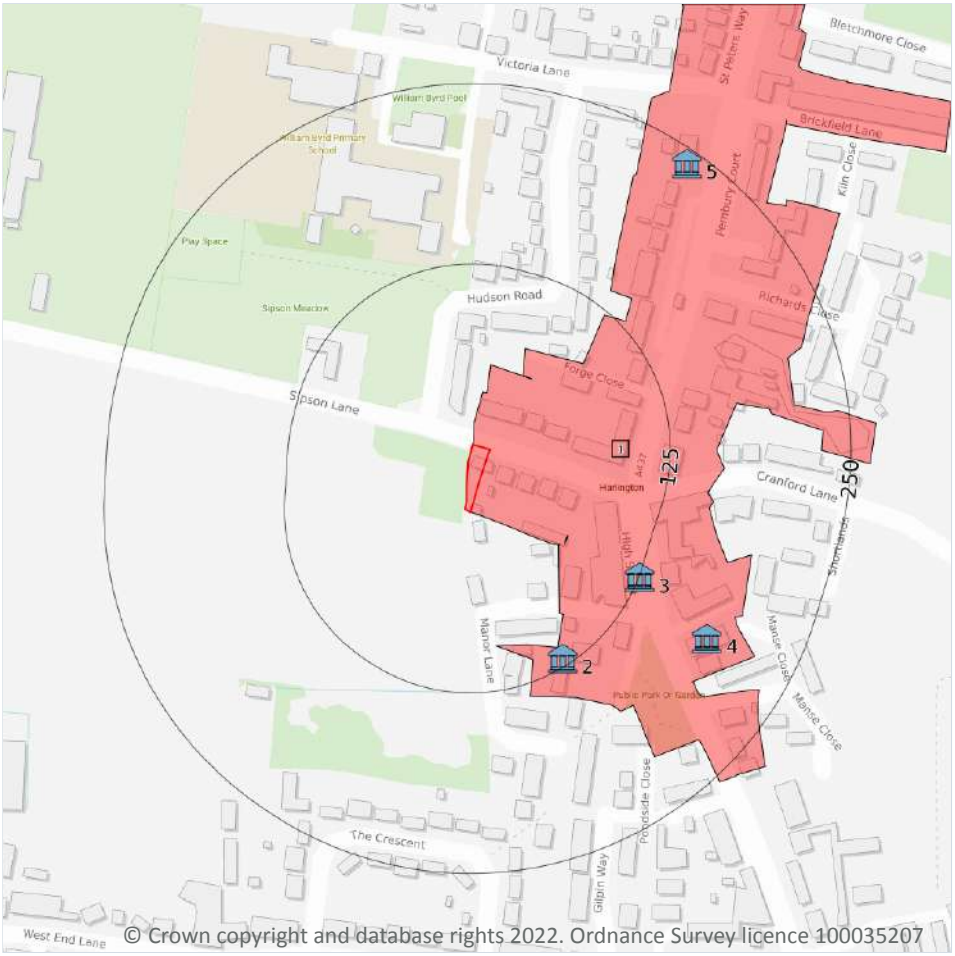
## 10.18 SSSI Units

| Records within 2000m | 0 |
|---|---|

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 | 4 |
|---|---|

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 59**

| ID | Location | Name | Grade | Reference Number | Listed date |
|---|---|---|---|---|---|
| 2 | 120m SE | 268-272, High Street, Heathrow Villages, Hillingdon, London, UB3 | II | 1194282 | 06/09/1974 |
| 3 | 125m SE | Road Traffic Hazard Sign, Heathrow Villages, Hillingdon, London, UB3 | II | 1409790 | 25/07/2012 |
| 4 | 186m SE | Harlington Baptist Church, Heathrow Villages, Hillingdon, London, UB3 | II | 1080195 | 06/09/1974 |

| ID | Location | Name | Grade | Reference Number | Listed date |
|---|---|---|---|---|---|
| 5 | 240m NE | The White Hart Public House, Heathrow Villages, Hillingdon, London, UB3 | II | 1080198 | 06/09/1974 |

*This data is sourced from Historic England, 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 59**

| ID | Location | Name | District | Date of designation |
|---|---|---|---|---|
| **1** | **On site** | **Harlington Village** | **Hillingdon** | **31/03/2005** |

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

## 11.6 Scheduled Ancient Monuments

| **Records within 250m** | **0** |
|---|---|

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

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

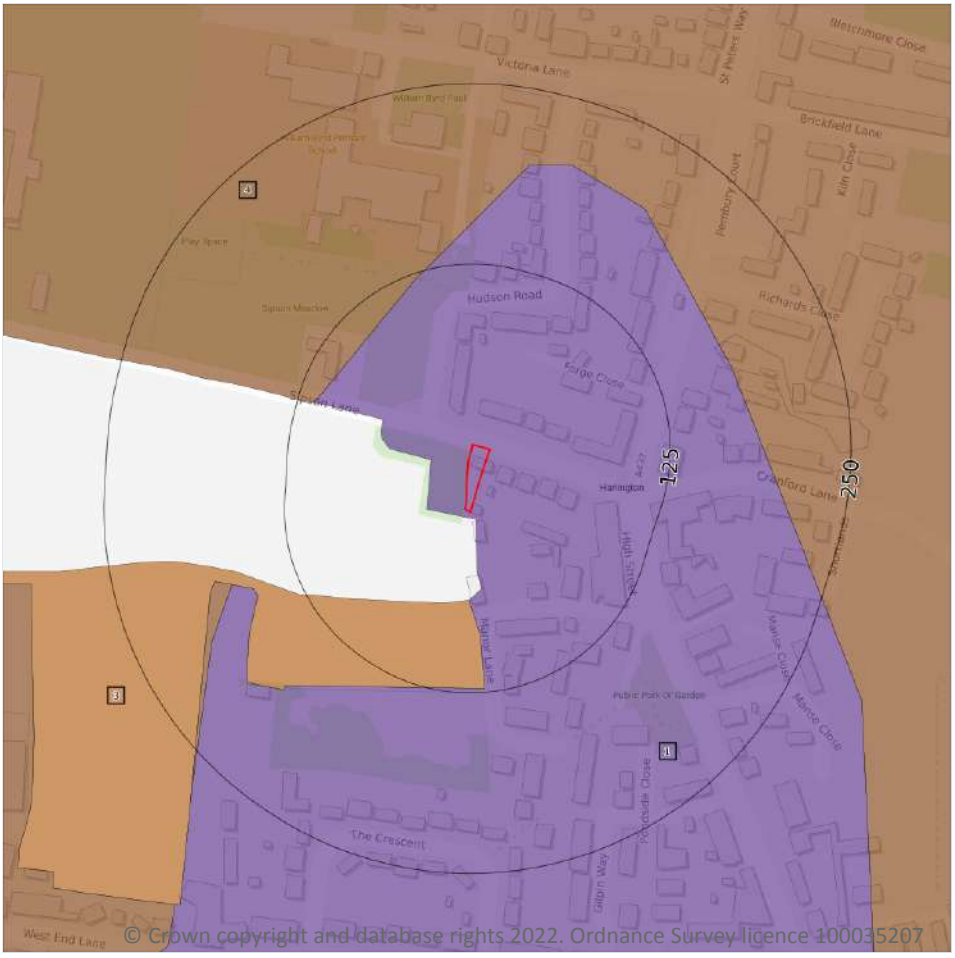
## 11.7 Registered Parks and Gardens

| **Records within 250m** | **0** |
|---|---|

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

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

# 12 Agricultural designations




Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

## 12.1 Agricultural Land Classification

| Records within 250m | 3 |
|---|---|

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 62**

| ID | Location | Classification | Description |
|---|---|---|---|
| **1** | **On site** | **Urban** | - |

| ID | Location | Classification | Description |
|---|---|---|---|
| 3 | 61m S | 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. |
| 4 | 103m NW | 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. |

*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. The schemes identified may be historical schemes that have now expired, or may still be active.

*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 65**

| ID | Location | Main Habitat | Other habitats |
|---|---|---|---|
| **1** | **On site** | **Traditional orchard** | **Overruled by Traditional Orchards HAP Inventory dataset** |

*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


## 14.1 10k Availability

| Records within 500m | 1 |
|---|---|

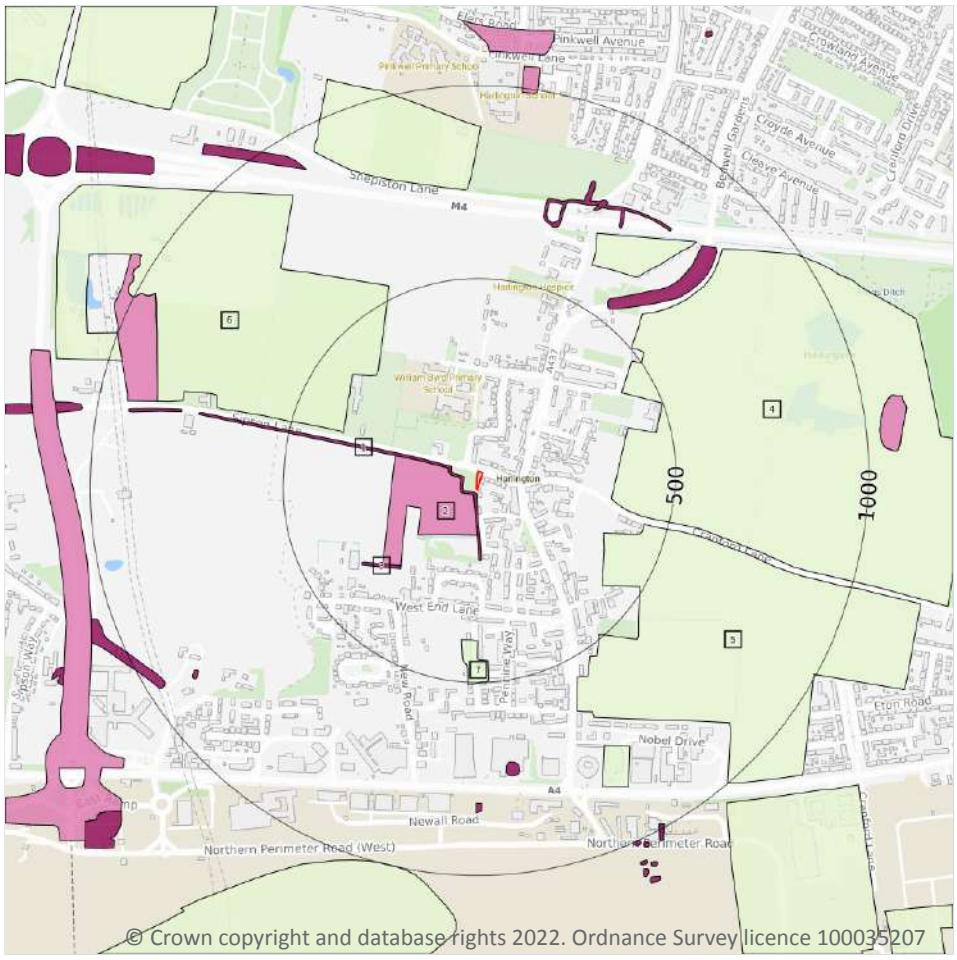
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 67**

| 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.*

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




## 14.2 Artificial and made ground (10k)

| Records within 500m | 7 |
|---|---|

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

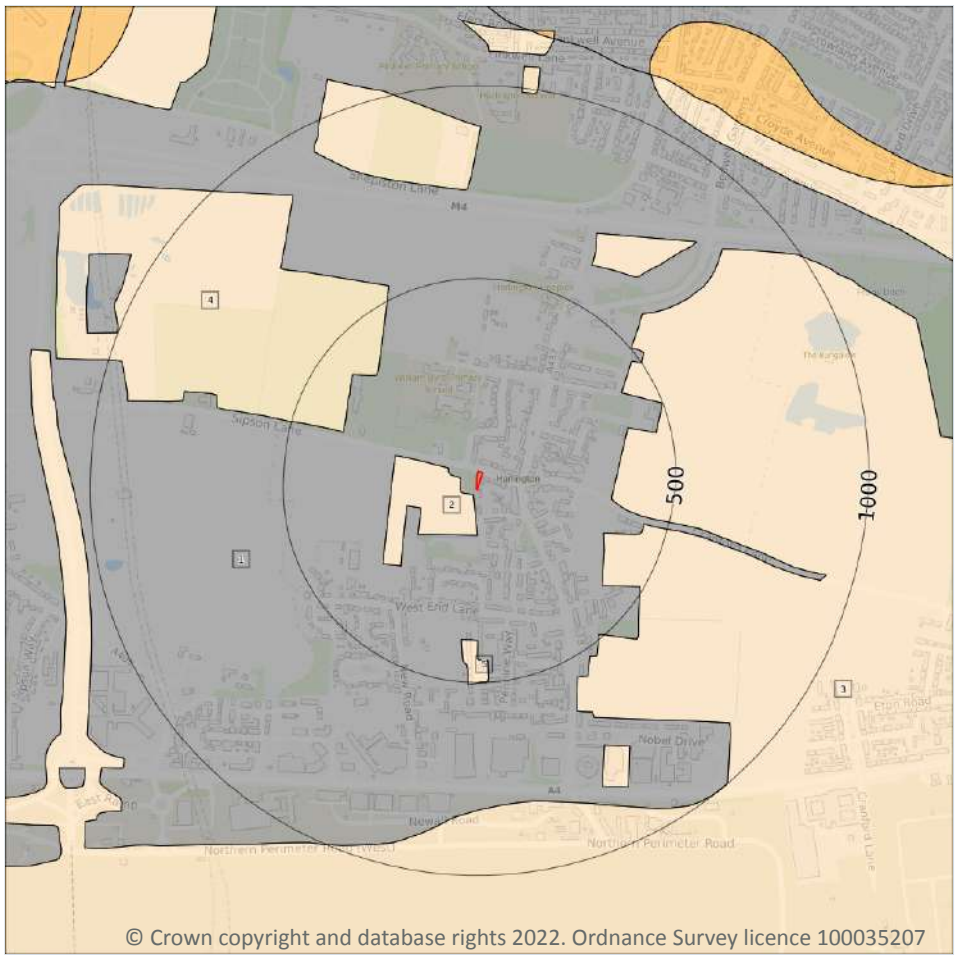
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 68**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 10m S | MGR-UKNOWN | Made Ground (Undivided) | Unknown/unclassified Entry |
| 2 | 17m S | WGR-UKNOWN | Worked Ground (Undivided) | Unknown/unclassified Entry |
| 3 | 280m SW | MGR-UKNOWN | Made Ground (Undivided) | Unknown/unclassified Entry |
| 4 | 340m E | WMGR-UKNOWN | Infilled Ground | Unknown/unclassified Entry |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 5 | 346m SE | WMGR-UKNOWN | Infilled Ground | Unknown/unclassified Entry |
| 6 | 363m NW | WMGR-UKNOWN | Infilled Ground | Unknown/unclassified Entry |
| 7 | 390m S | WMGR-UKNOWN | 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 70**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **LASI-Z** | **Langley Silt Member - Silt (unlithified Deposits Coding Scheme)** | **Silt** |
| 2 | 17m S | TPGR-XSV | Taplow Gravel Formation - Sand And Gravel | Sand And Gravel |
| 3 | 340m E | TPGR-XSV | Taplow Gravel Formation - Sand And Gravel | Sand And Gravel |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 4 | 363m NW | TPGR-XSV | Taplow Gravel Formation - Sand And Gravel | Sand And Gravel |
| 5 | 390m S | TPGR-XSV | Taplow Gravel Formation - Sand And Gravel | Sand And Gravel |

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

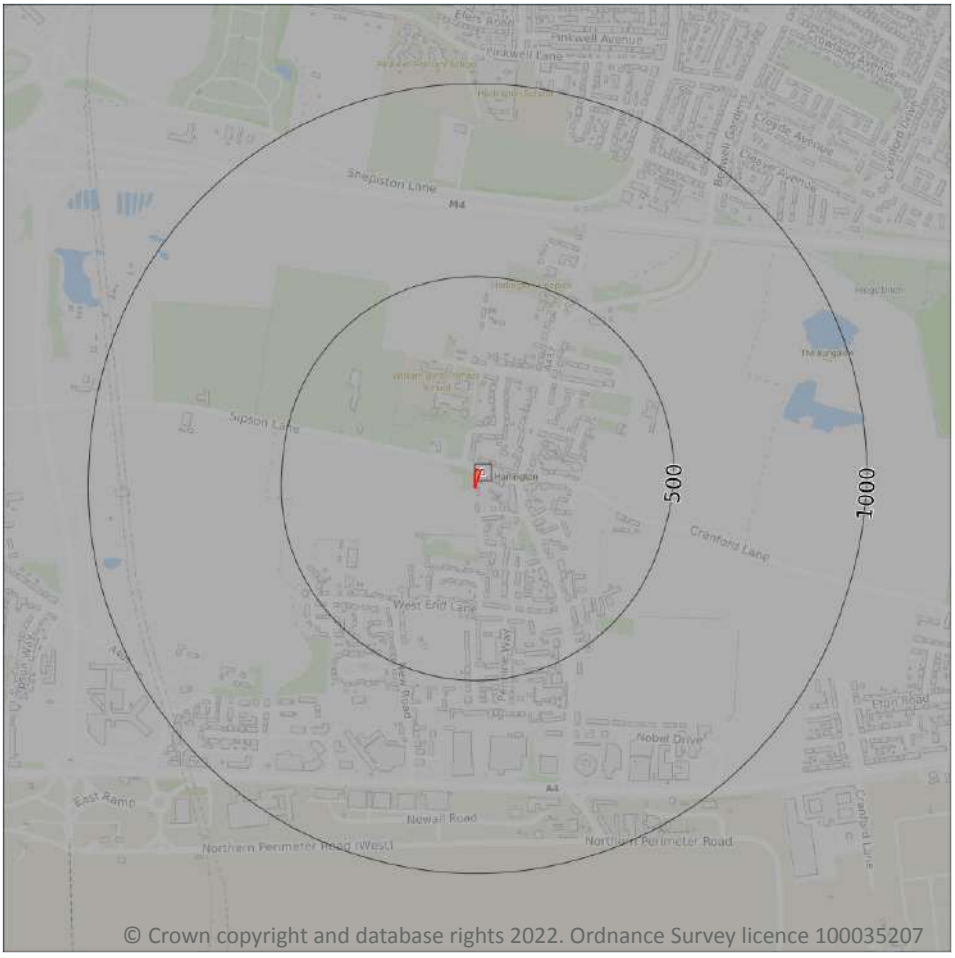
## 14.4 Landslip (10k)

| **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 72**

| 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.*

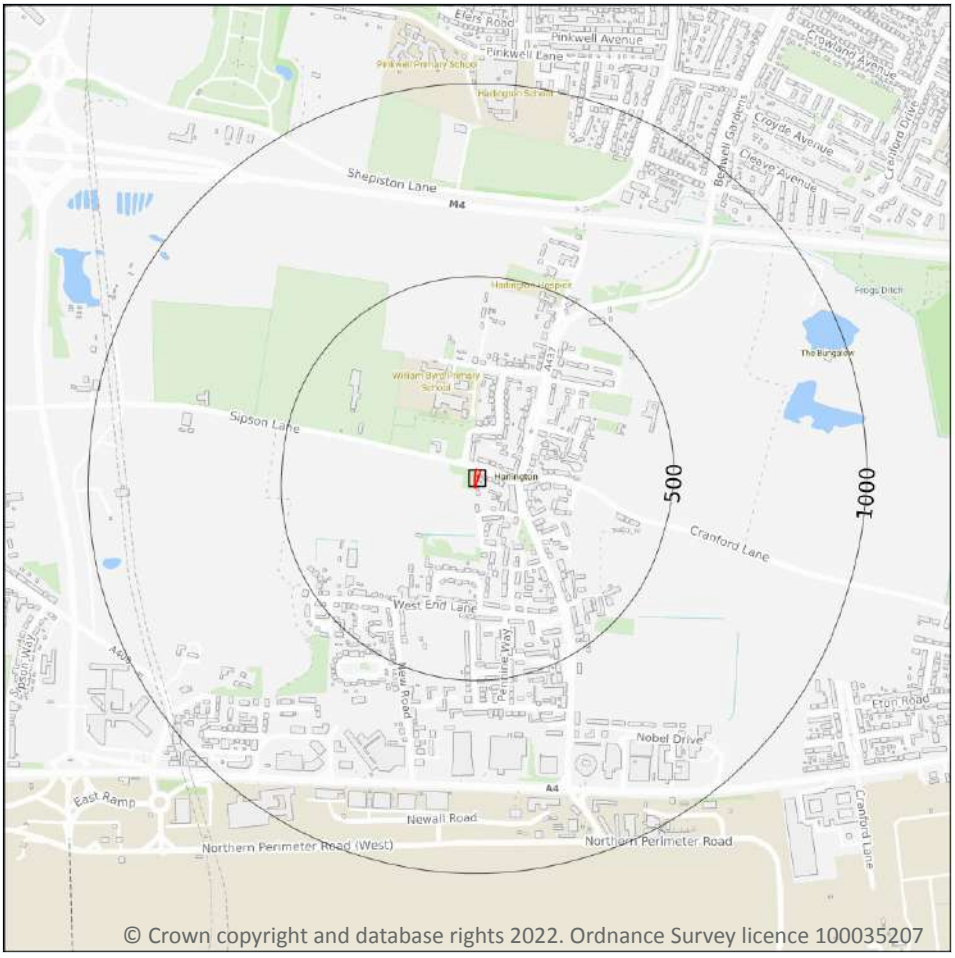
## 14.6 Bedrock faults and other linear features (10k)

| 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 |
|---|---|

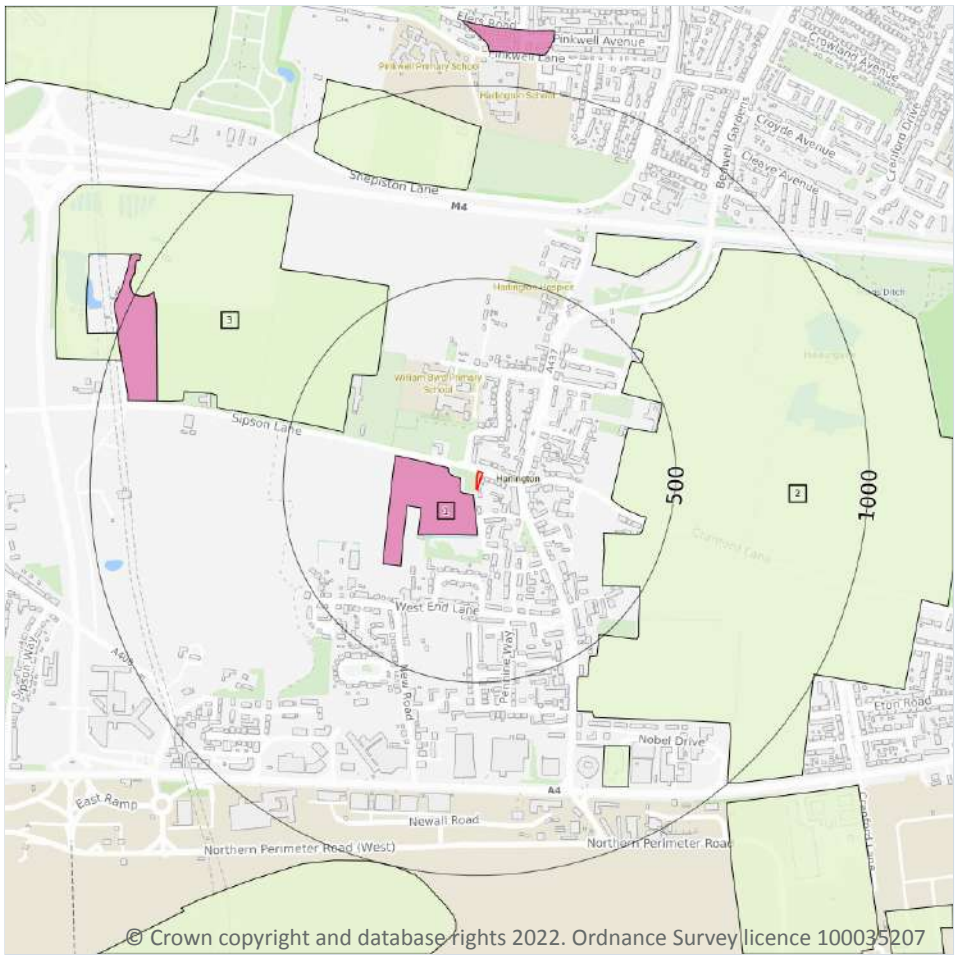
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 74**

| 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 | 3 |
|---|---|

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 75**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 17m S | WGR-VOID | WORKED GROUND (UNDIVIDED) | VOID |
| 2 | 340m E | WMGR-ARTDP | INFILLED GROUND | ARTIFICIAL DEPOSIT |
| 3 | 363m NW | WMGR-ARTDP | INFILLED GROUND | ARTIFICIAL DEPOSIT |

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

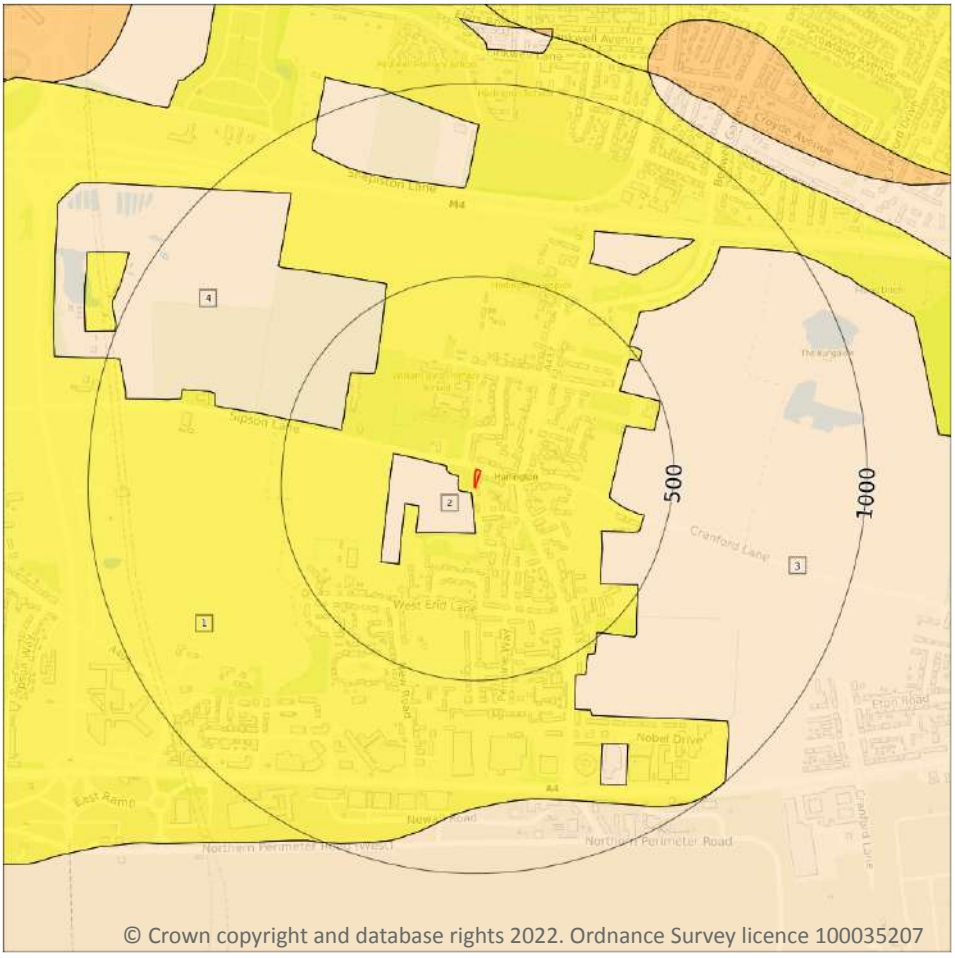
## 15.3 Artificial ground permeability (50k)

| 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** **4**

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 77**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **LASI-XCZ** | **LANGLEY SILT MEMBER** | **CLAY AND SILT** |
| 2 | 17m S | TPGR-XSV | TAPLOW GRAVEL MEMBER | SAND AND GRAVEL |
| 3 | 340m E | TPGR-XSV | TAPLOW GRAVEL MEMBER | SAND AND GRAVEL |
| 4 | 363m NW | 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 | 2 |
|---|---|

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** |
| 17m S | Intergranular | Very High | High |

*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.*

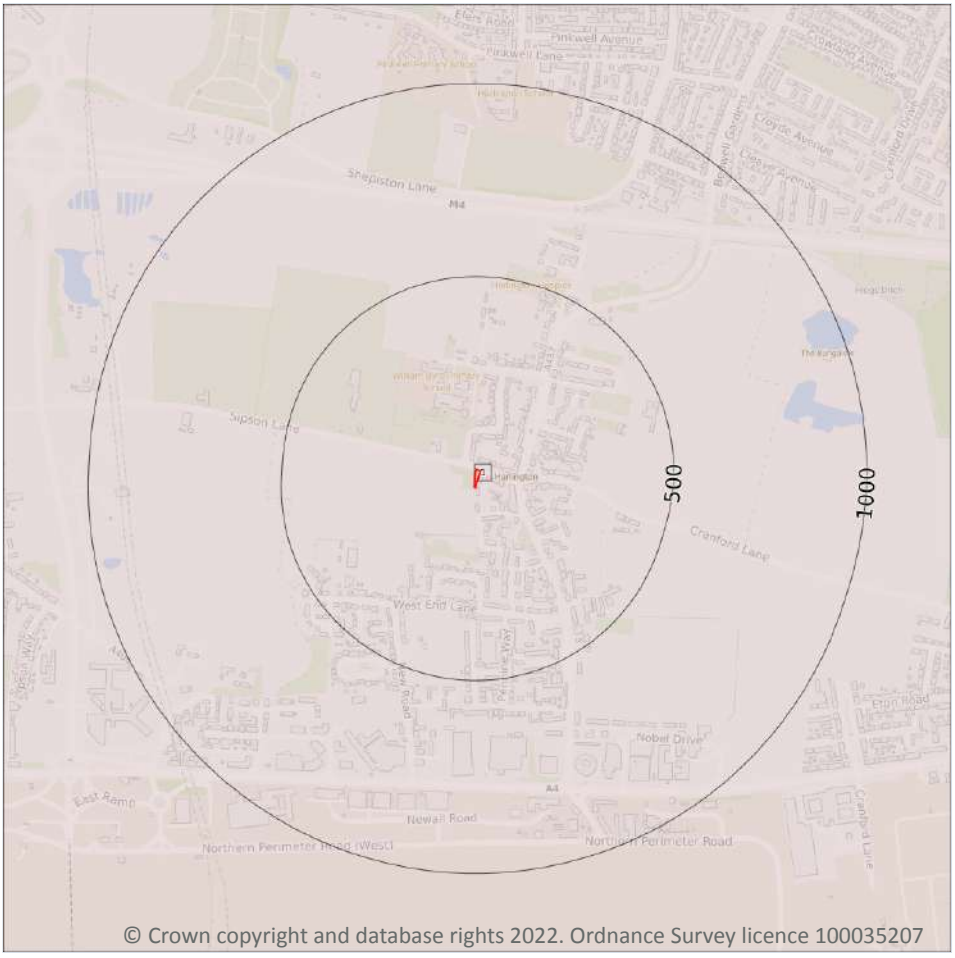
## 15.7 Landslip permeability (50k)

| 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 79**

| 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 | 2 |
|---|---|

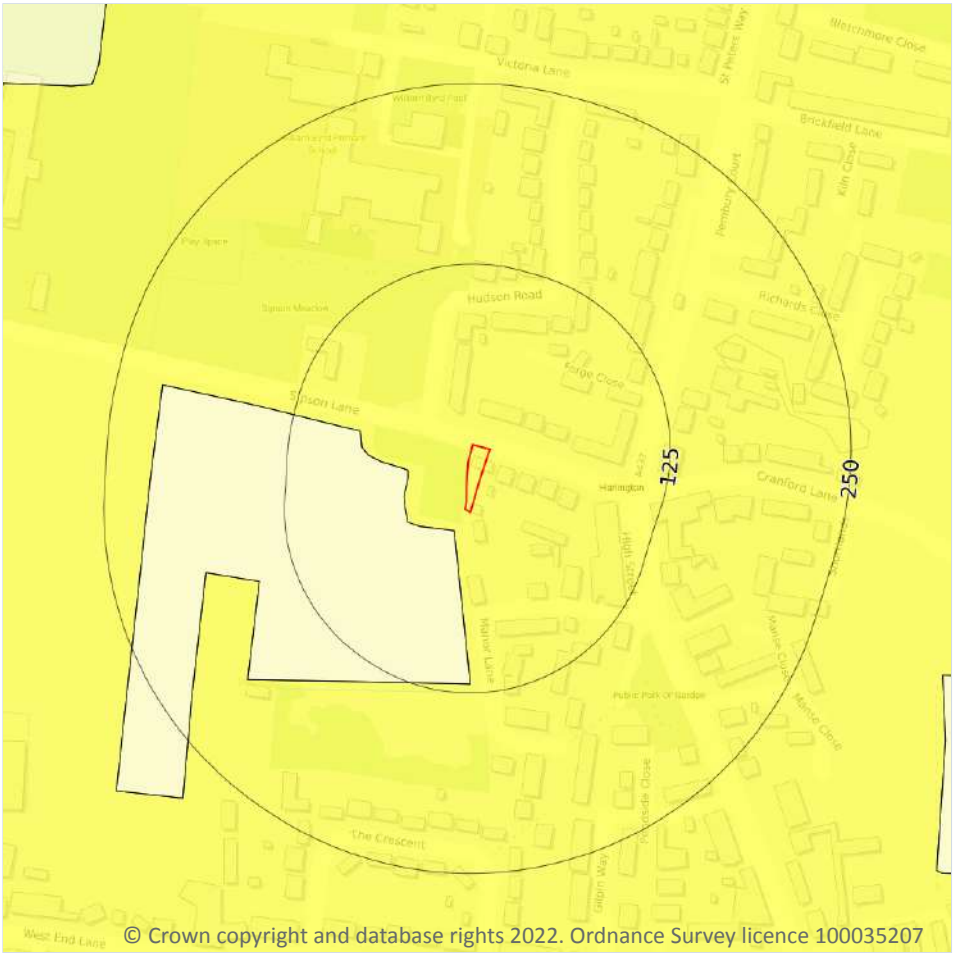
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 81**

| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|---|---|---|---|---|---|---|
| 1 | 193m NE | 508760 177830 | HARLINGTON DRAINAGE 13 | - | Y | N/A |
| 2 | 229m SE | 508720 177510 | HARLINGTON DRAINAGE 12 | - | Y | N/A |

*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

## 17.1 Shrink swell clays

| Records within 50m | 2 |
|---|---|

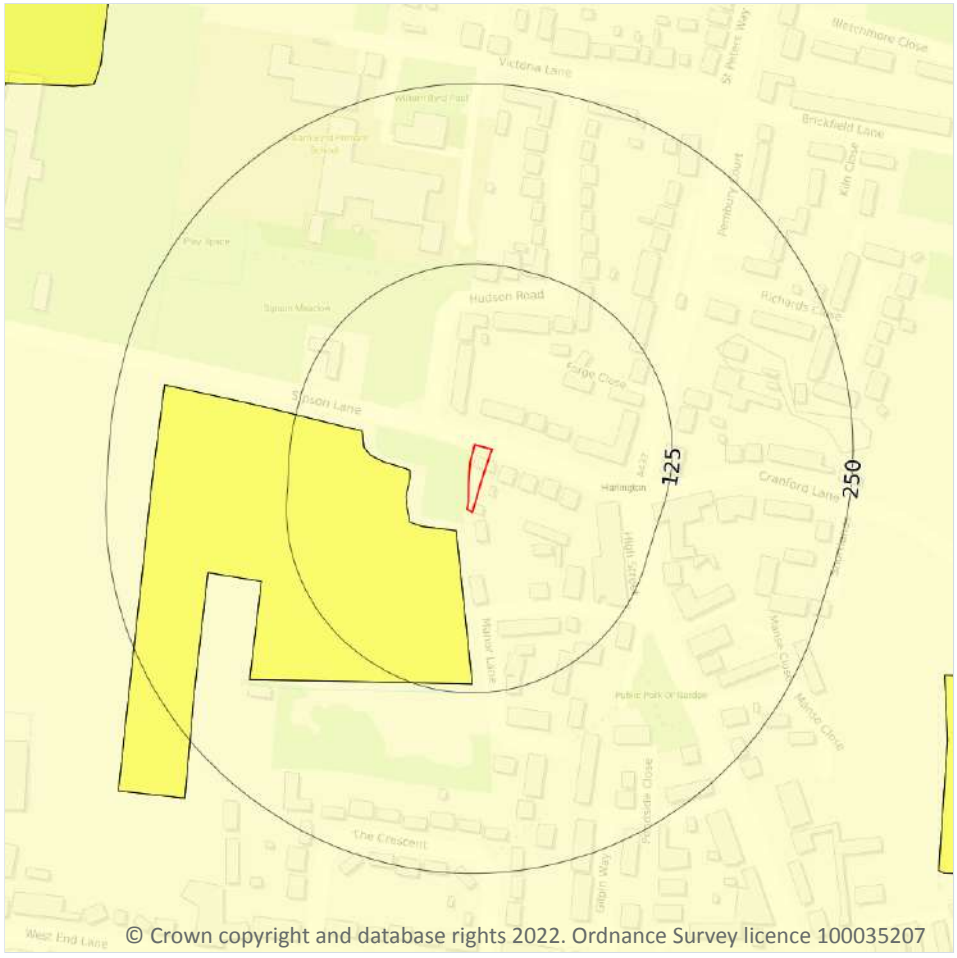
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 82**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Ground conditions predominantly low plasticity.** |
| 17m S | Negligible | Ground conditions predominantly non-plastic. |

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

# Natural ground subsidence - Running sands






## 17.2 Running sands

| Records within 50m | 2 |
|---|---|

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 83**

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

| Location | Hazard rating | Details |
|---|---|---|
| 17m S | Very low | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

*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 |
|---|---|

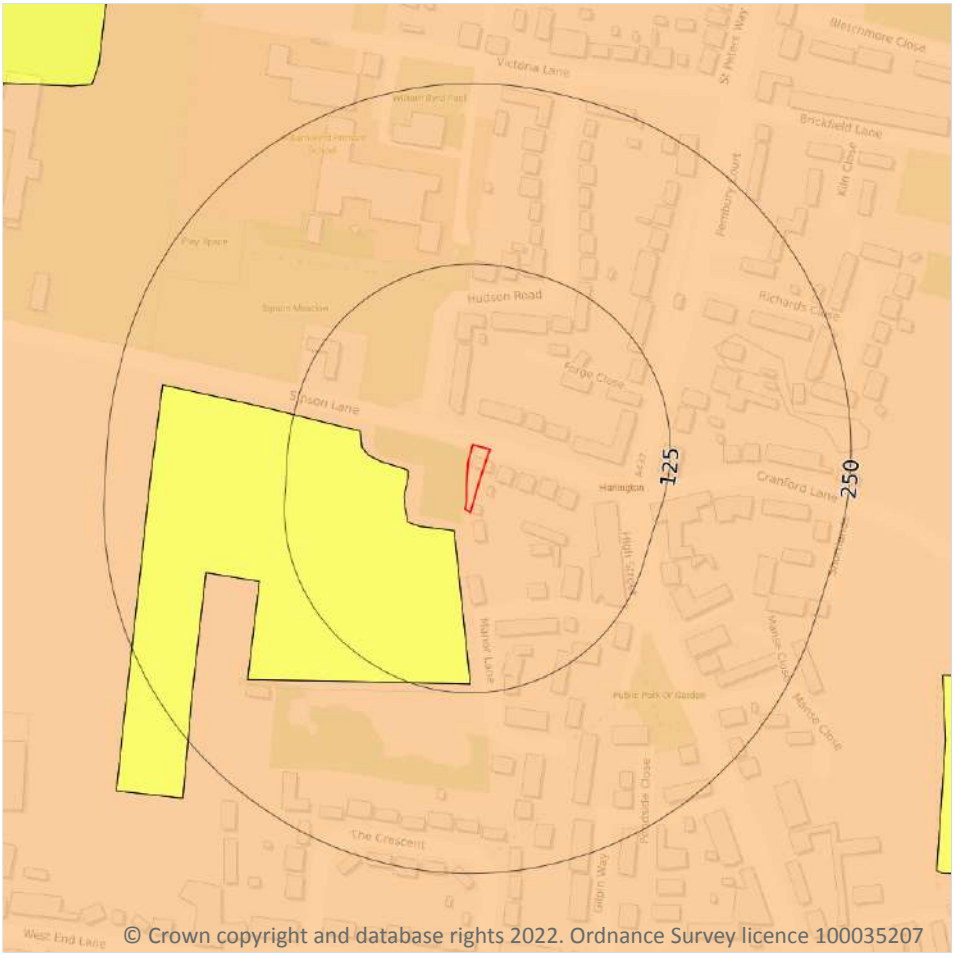
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 85**

| 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 | 2 |
|---|---|

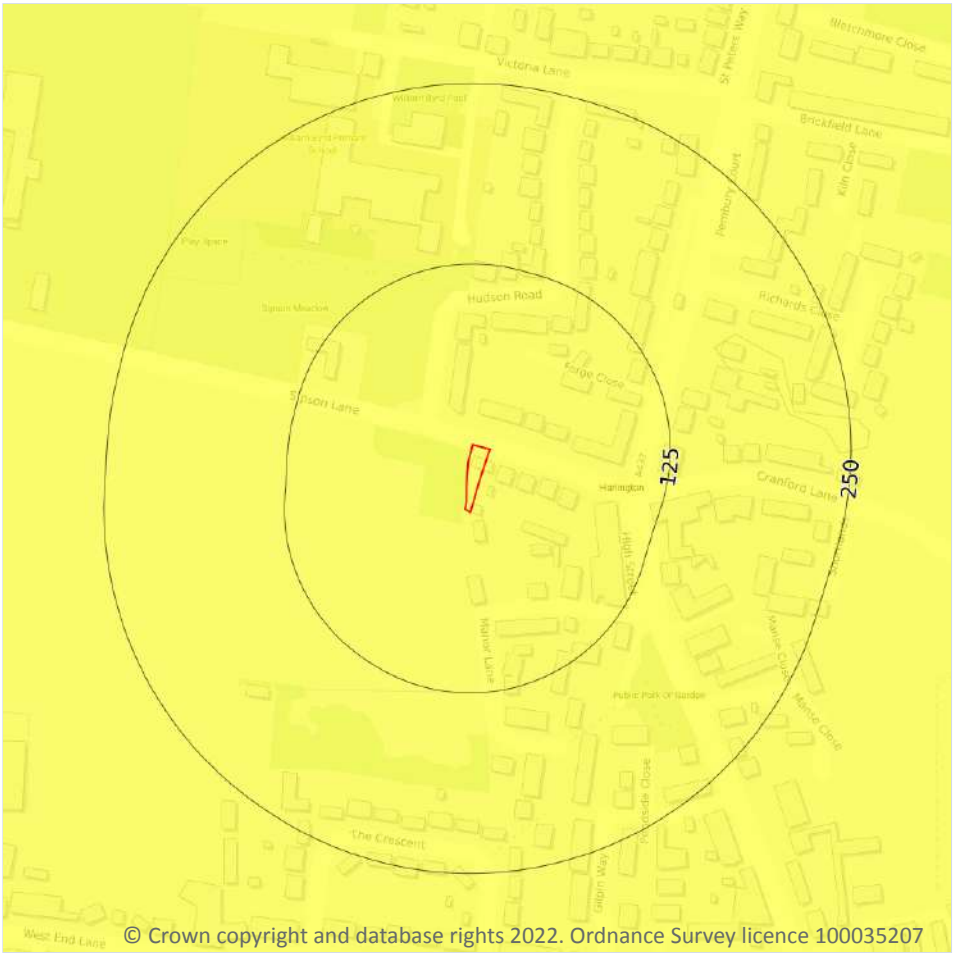
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 86**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Low** | **Deposits with potential to collapse when loaded and saturated are possibly present in places.** |
| 17m S | Very low | Deposits with potential to collapse when loaded and saturated are unlikely to be present. |

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

# 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 87**

| 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 |
|---|---|

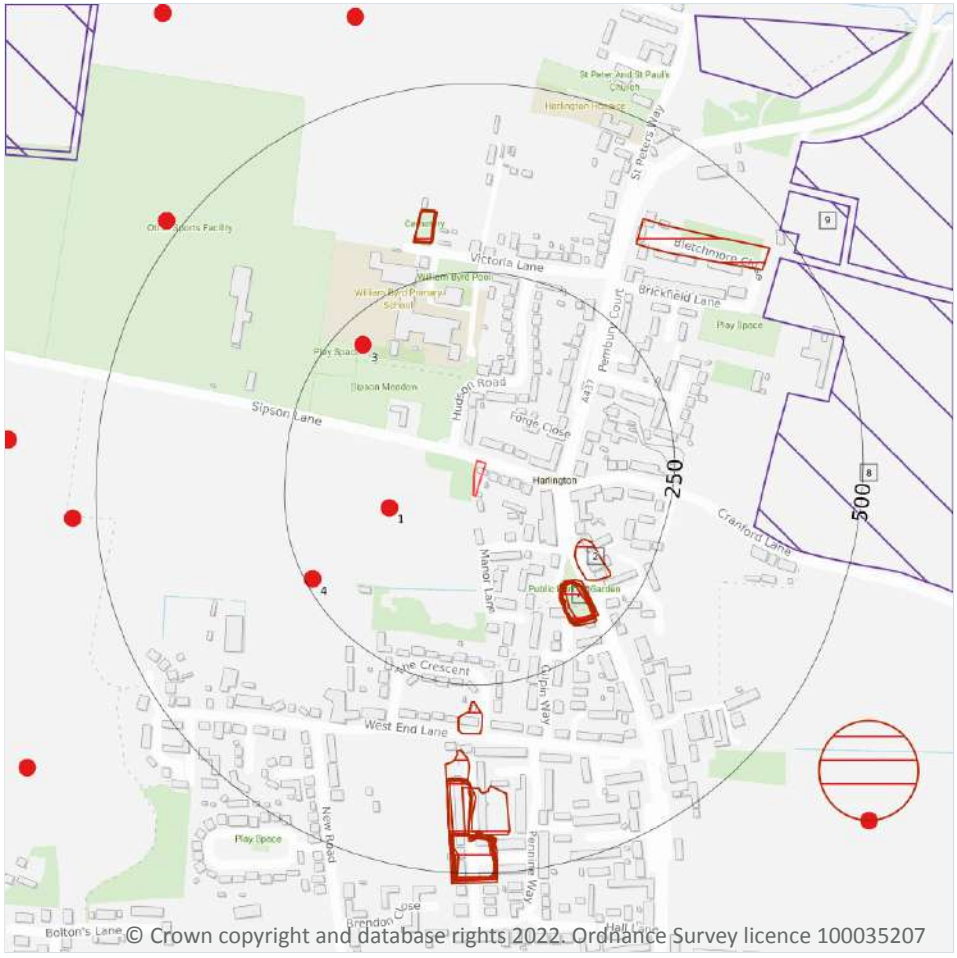
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 88**

| 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 Stantec UK Ltd.*

## 18.2 BritPits

| Records within 500m | 3 |
|---|---|

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 89**

| ID | Location | Details | Description |
|---|---|---|---|
| 1 | 111m W | Name: Manor Farm Gravel Pit<br>Address: HARLINGTON, Middlesex<br>Commodity: Sand & Gravel<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>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 |
| 3 | 214m NW | Name: Imperial College Playing Fields North<br>Address: HARLINGTON, Middlesex<br>Commodity: Sand & Gravel<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>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 |
| 4 | 240m SW | Name: Manor Farm Gravel Pit<br>Address: HARLINGTON, Middlesex<br>Commodity: Sand & Gravel<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>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 | 11 |
|---|---|

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 89**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| 2 | 149m SE | Pond | 1882 | 1:10560 |
| A | 162m SE | Pond | 1959 | 1:10560 |

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 163m SE | Pond | 1935 | 1:10560 |
| A | 166m SE | Pond | 1897 | 1:10560 |
| A | 166m SE | Pond | 1912 | 1:10560 |
| A | 167m SE | Pond | 1865 | 1:10560 |
| A | 168m SE | Pond | 1900 | 1:10560 |
| A | 168m SE | Pond | 1938 | 1:10560 |
| A | 168m SE | Pond | 1932 | 1:10560 |
| A | 168m SE | Pond | 1912 | 1:10560 |
| A | 168m SE | Pond | 1894 | 1:10560 |

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

## 18.4 Underground workings

| **Records within 1000m** | **0** |
|---|---|

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

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

## 18.5 Historical Mineral Planning Areas

| **Records within 500m** | **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 89**

| ID | Location | Site Name | Mineral | Type | Planning Status | Planning Status Date |
|---|---|---|---|---|---|---|
| 8 | 365m E | Cranford Lane | Sand and gravel | Surface mineral working | Refused | Not available |
| 9 | 495m NE | Cranford Lane | Sand and gravel | Surface mineral working | Valid | 1/6/73 |

*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 Stantec UK Ltd.*

## 18.8 JPB mining areas

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

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

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

## 18.9 Coal mining

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

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

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

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

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

## 18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

## 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




Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

## 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 94**

| 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 | 2 |
|---|---|

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 $km^2$. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 $km^2$; 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** | **No data** | **No data** | **No data** | **No data** | **No data** |
| 17m S | No data | No data | No data | No data | No data | 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 $km^2$).

| 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** | **15** | **2.6** | **246** | **169** | **1.2** | **74** | **65** | **25** | **20** |
| **On site** | **15** | **2.6** | **269** | **185** | **1.1** | **70** | **61** | **24** | **19** |
| 7m NE | 15 | 2.6 | 354 | 243 | 1 | 72 | 69 | 25 | 23 |
| 17m SE | 15 | 2.6 | 316 | 217 | 1.1 | 73 | 67 | 25 | 22 |

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

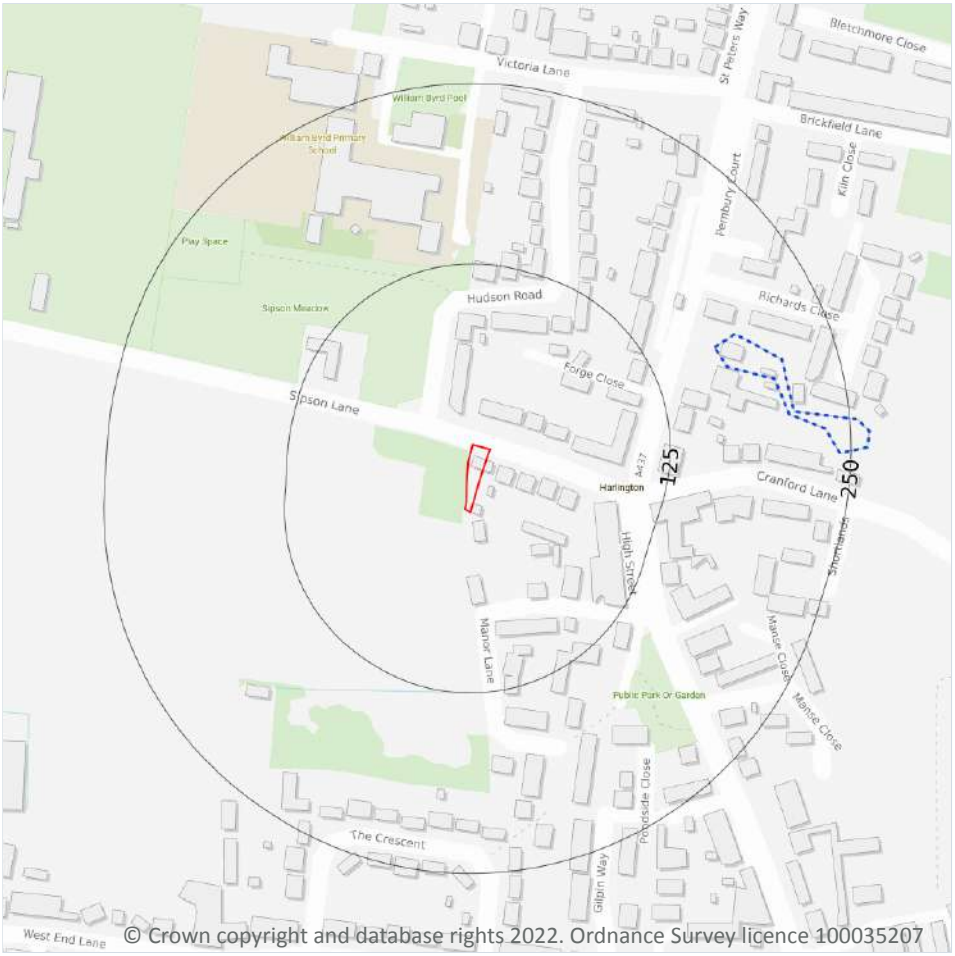
## 20.3 BGS Measured Urban Soil Chemistry

| Records within 50m | 0 |
|---|---|

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

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

# 21 Railway infrastructure and projects




Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

## 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 | 1 |
|---|---|

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

Features are displayed on the Railway infrastructure and projects map on **page 97**

| Location | Name | Type |
|---|---|---|
| 171m NE | Not given | Narrow Gauge |

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

## 21.8 Crossrail 1

| Records within 500m | 0 |
|---|---|

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

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

## 21.9 Crossrail 2

| Records within 500m | 0 |
|---|---|

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

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

## 21.10 HS2

| Records within 500m | 0 |
|---|---|

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

*This data is sourced from HS2 ltd.*

## Data providers

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

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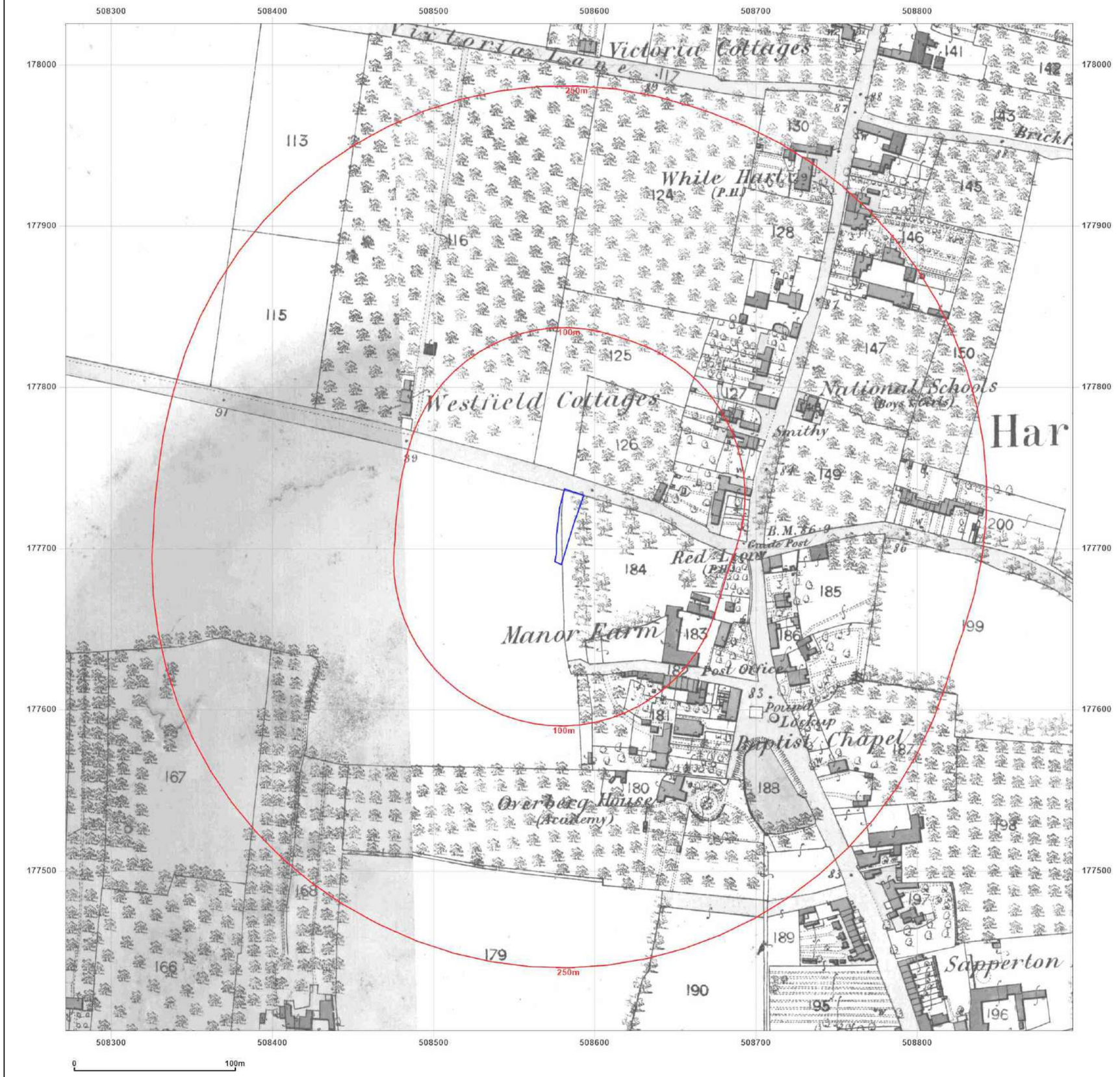
# APPENDIX C

# HISTORICAL MAPPING

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**Site Details:**

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**Report Ref:** GS-9242833
**Grid Ref:** 508584, 177713

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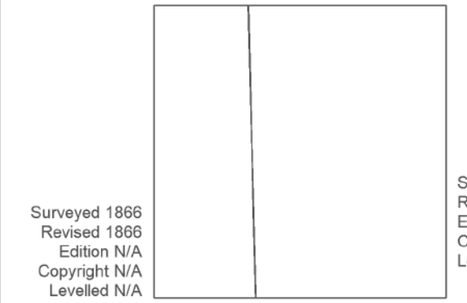


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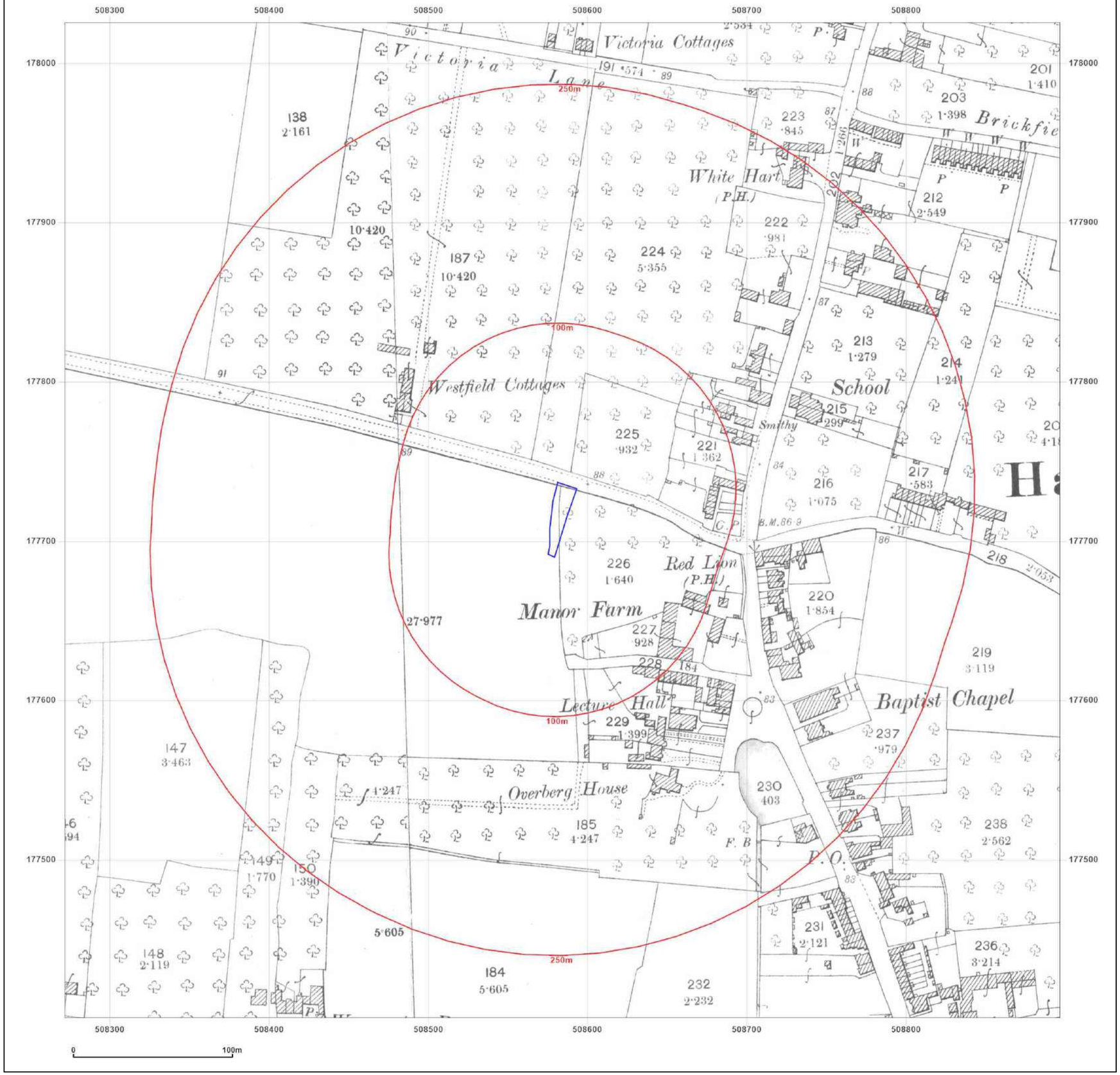


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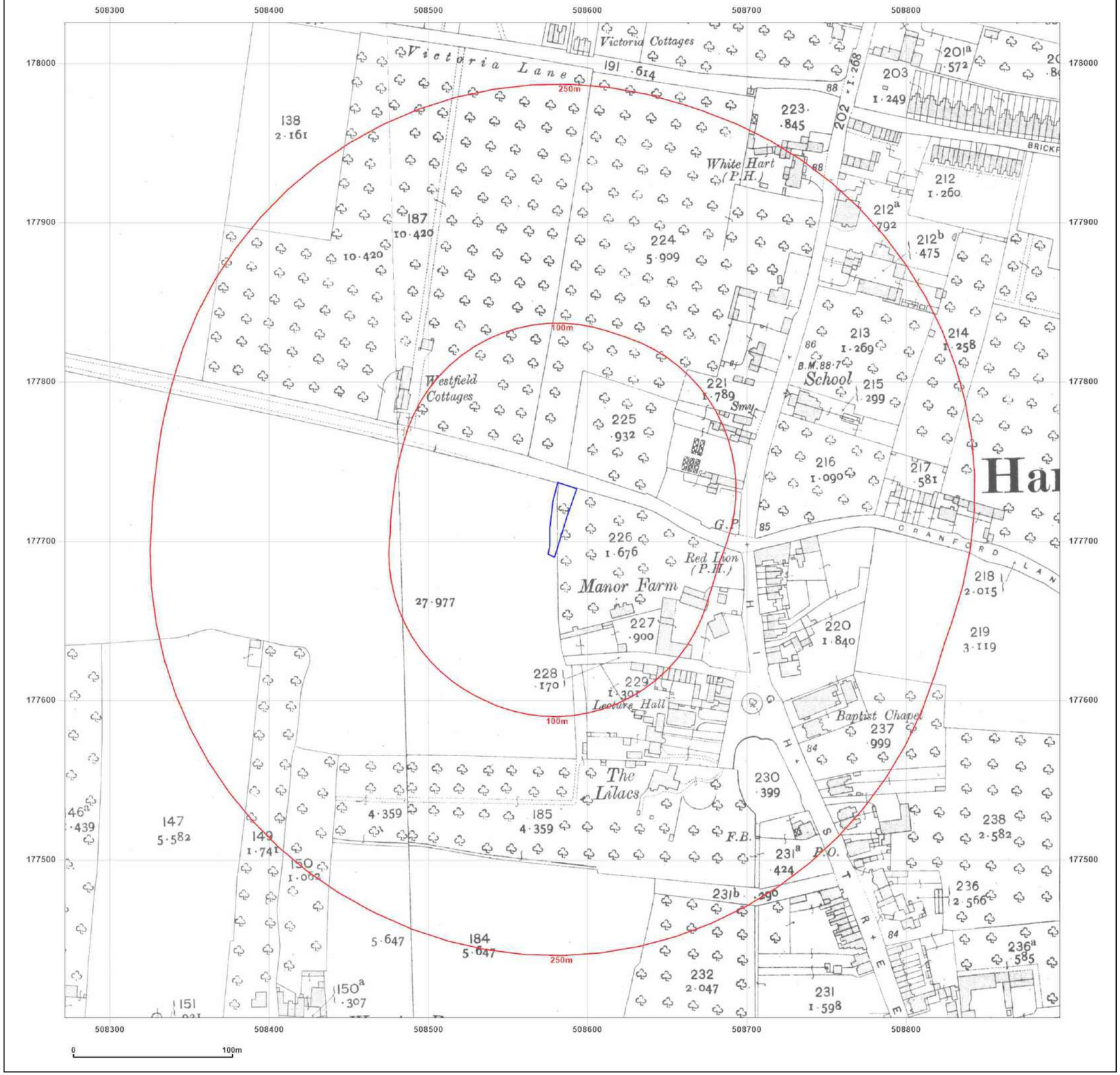


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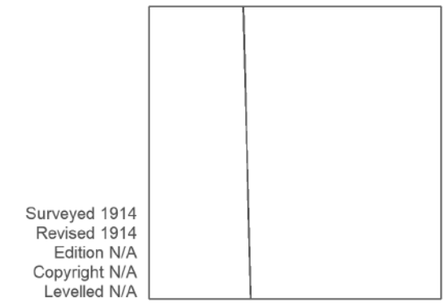


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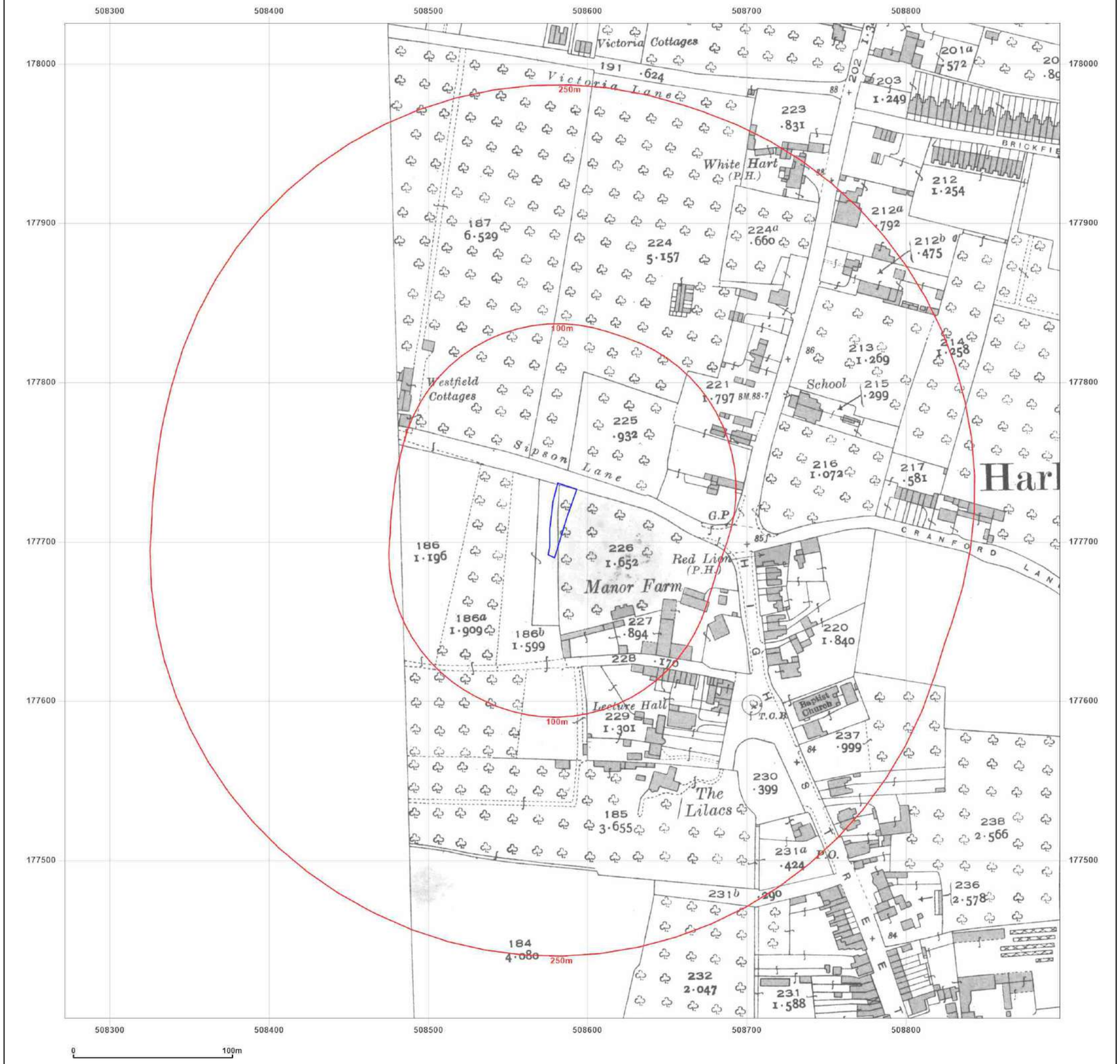


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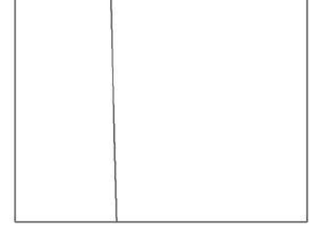

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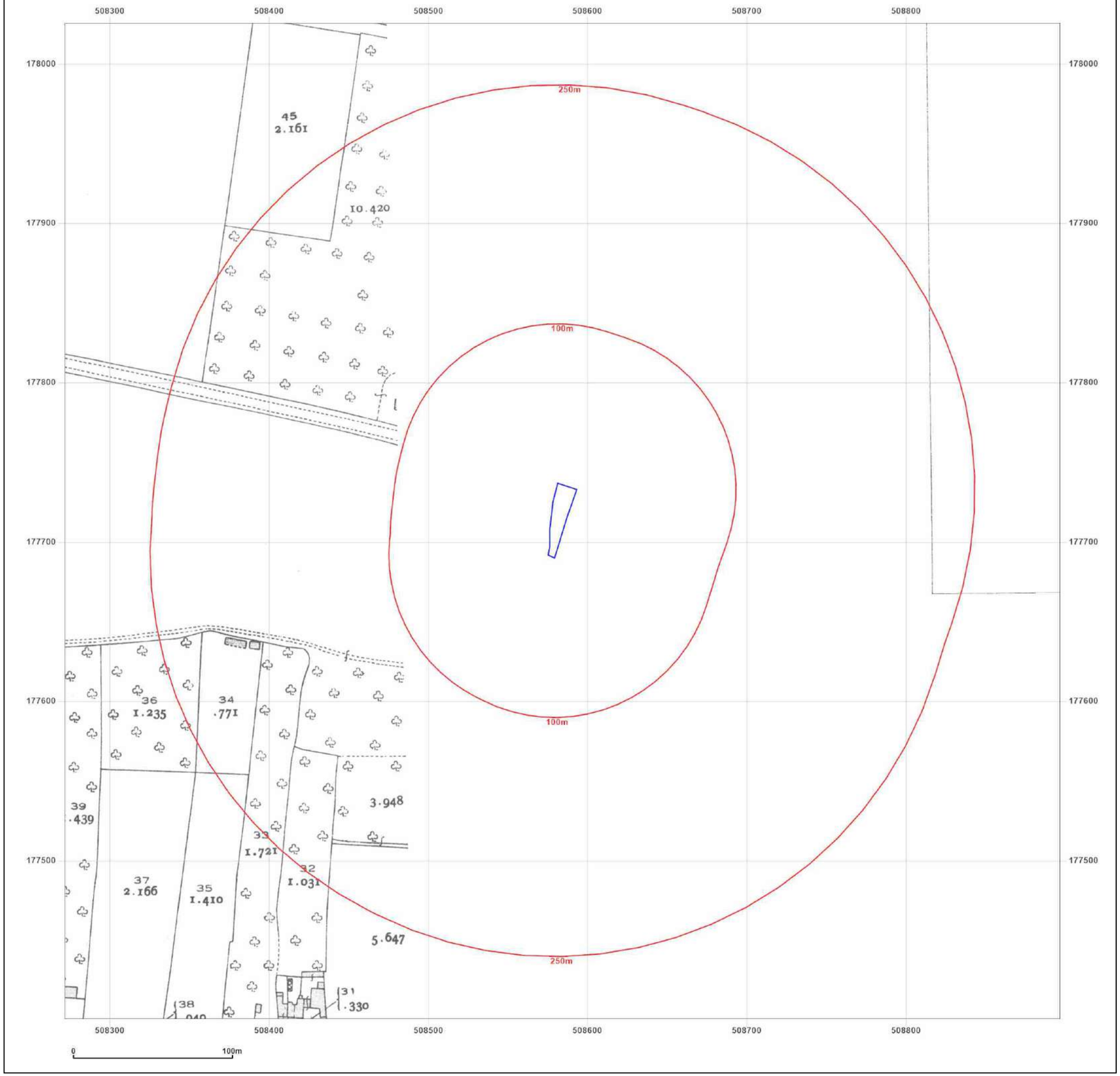


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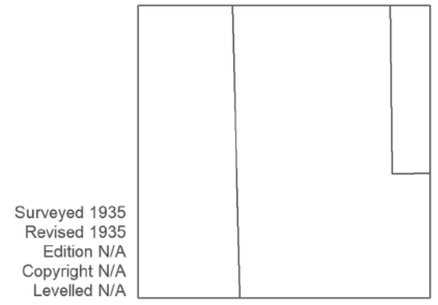

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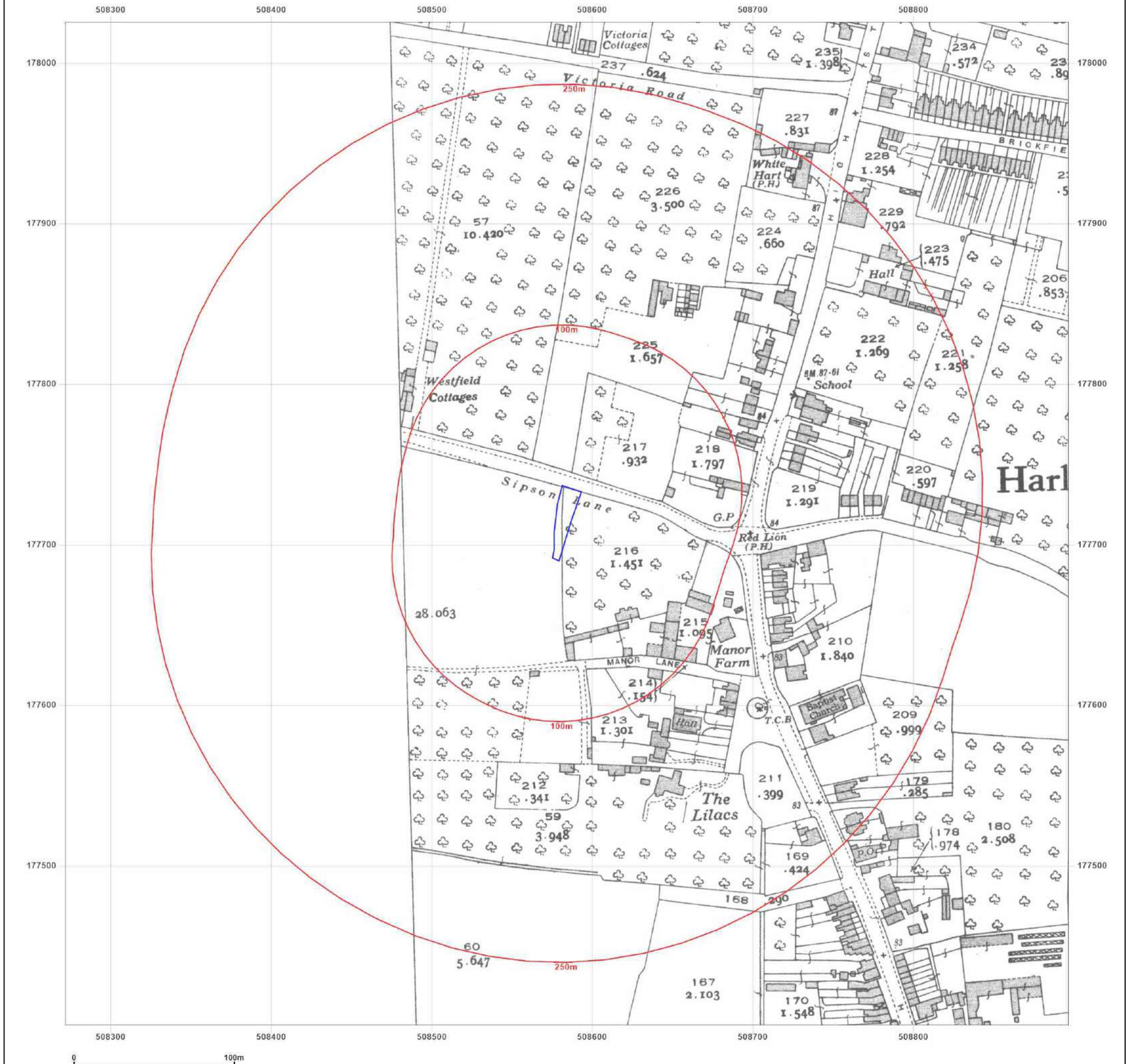


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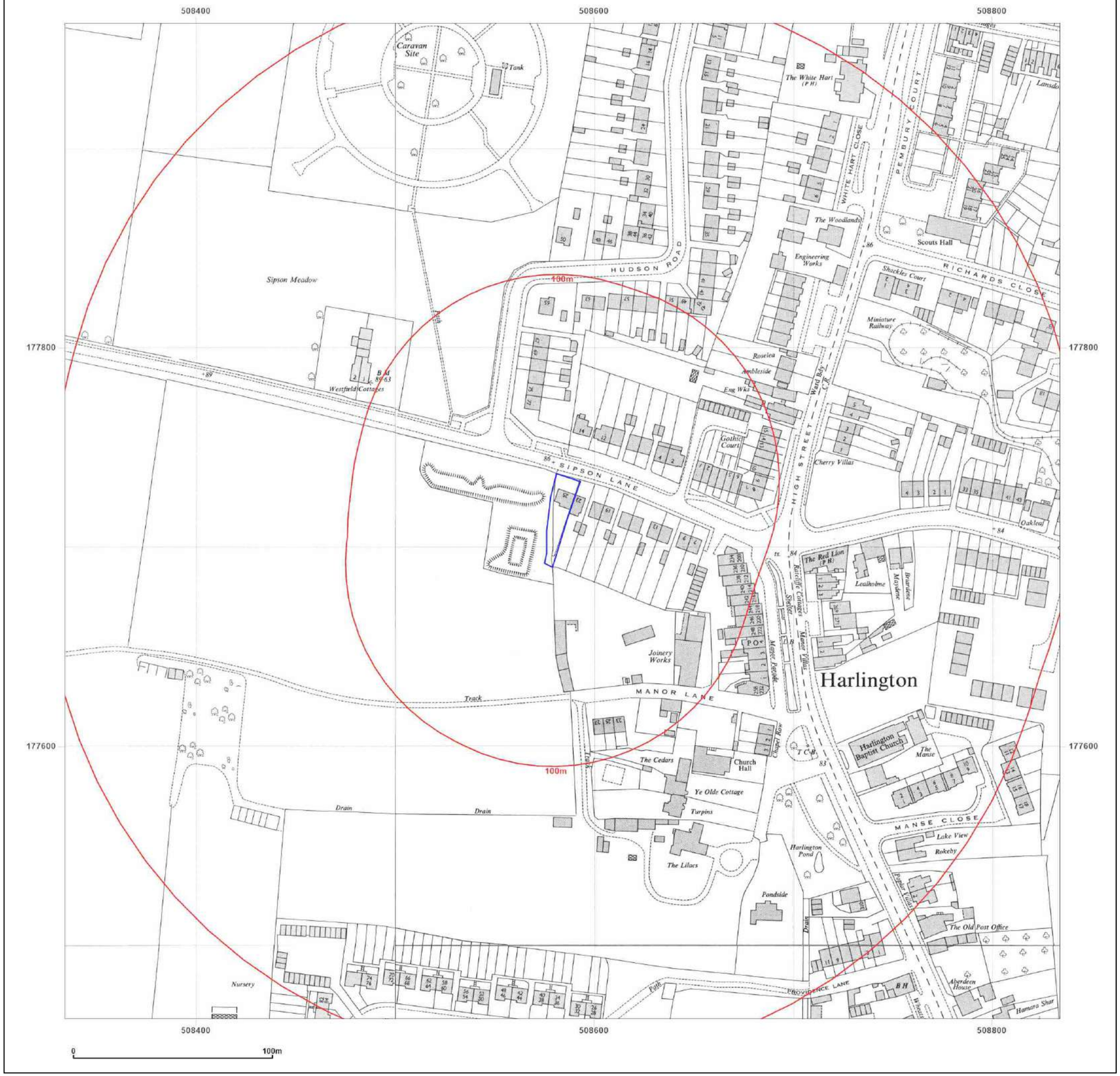


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**Grid Ref:** 508584, 177713

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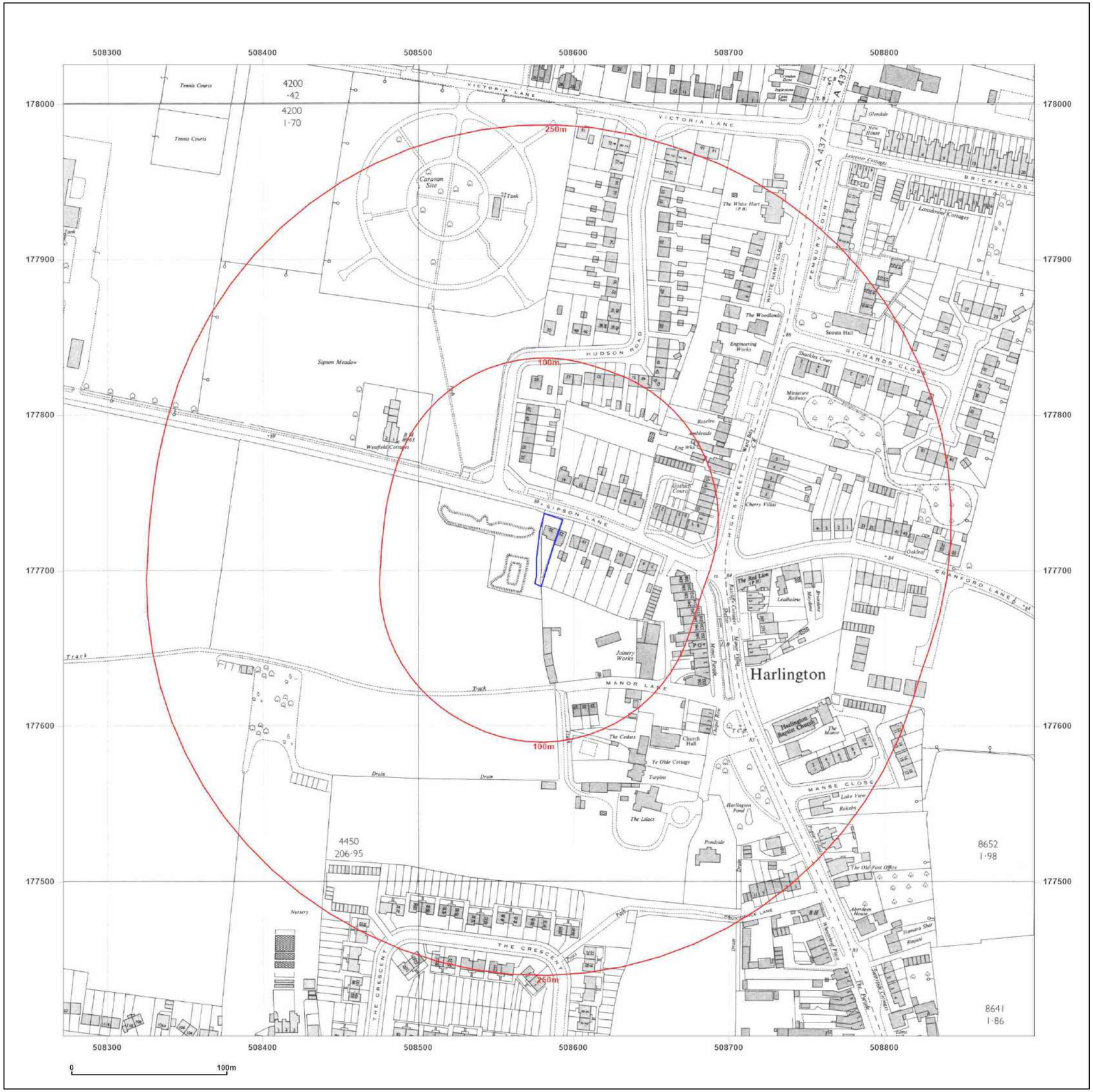


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**Map date:** **1967**

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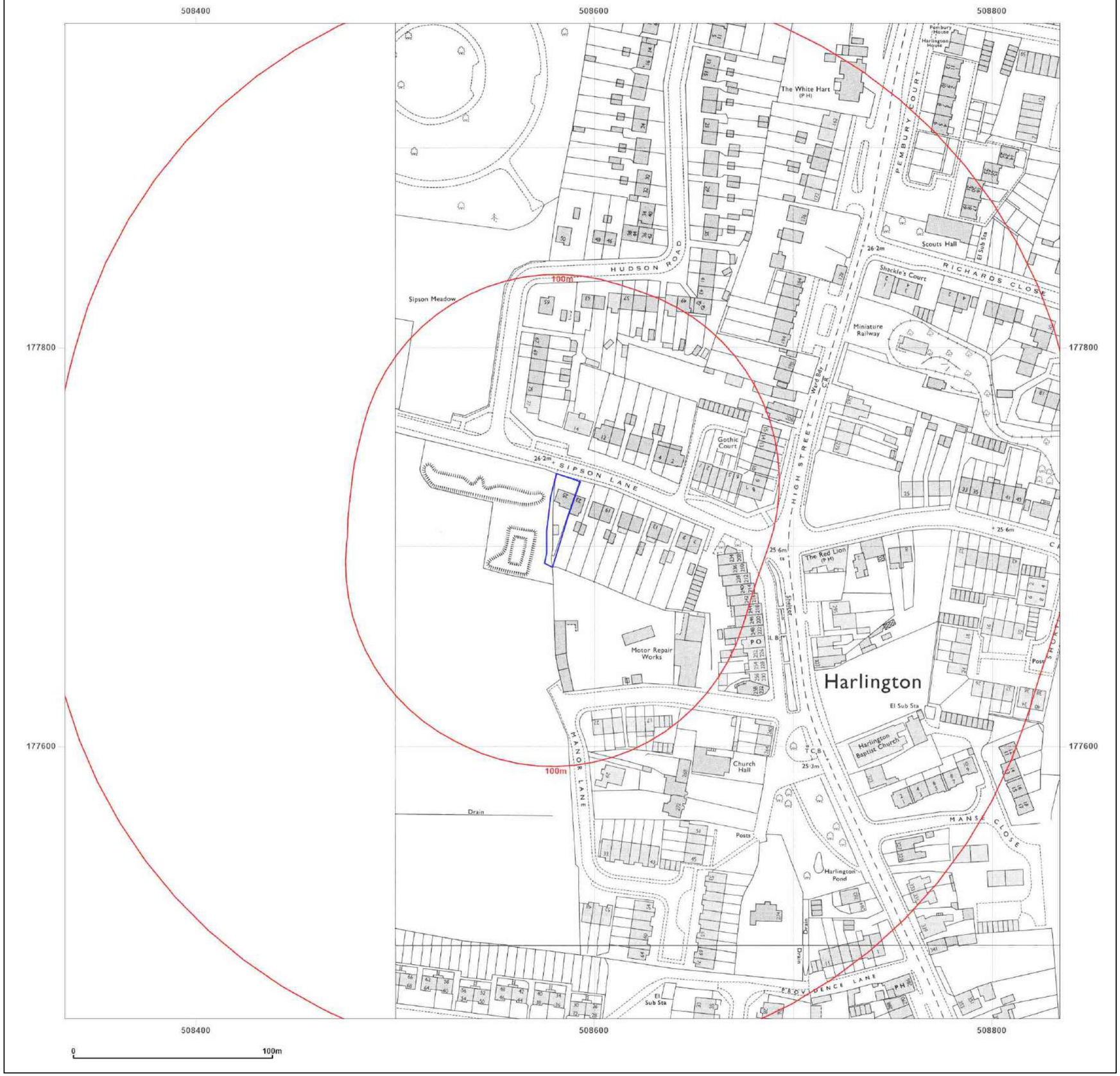


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**Grid Ref:** 508584, 177713

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**Map date:** **1972**

**Scale:** 1:1,250

**Printed at:** 1:2,000

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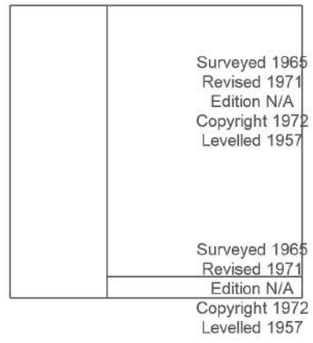


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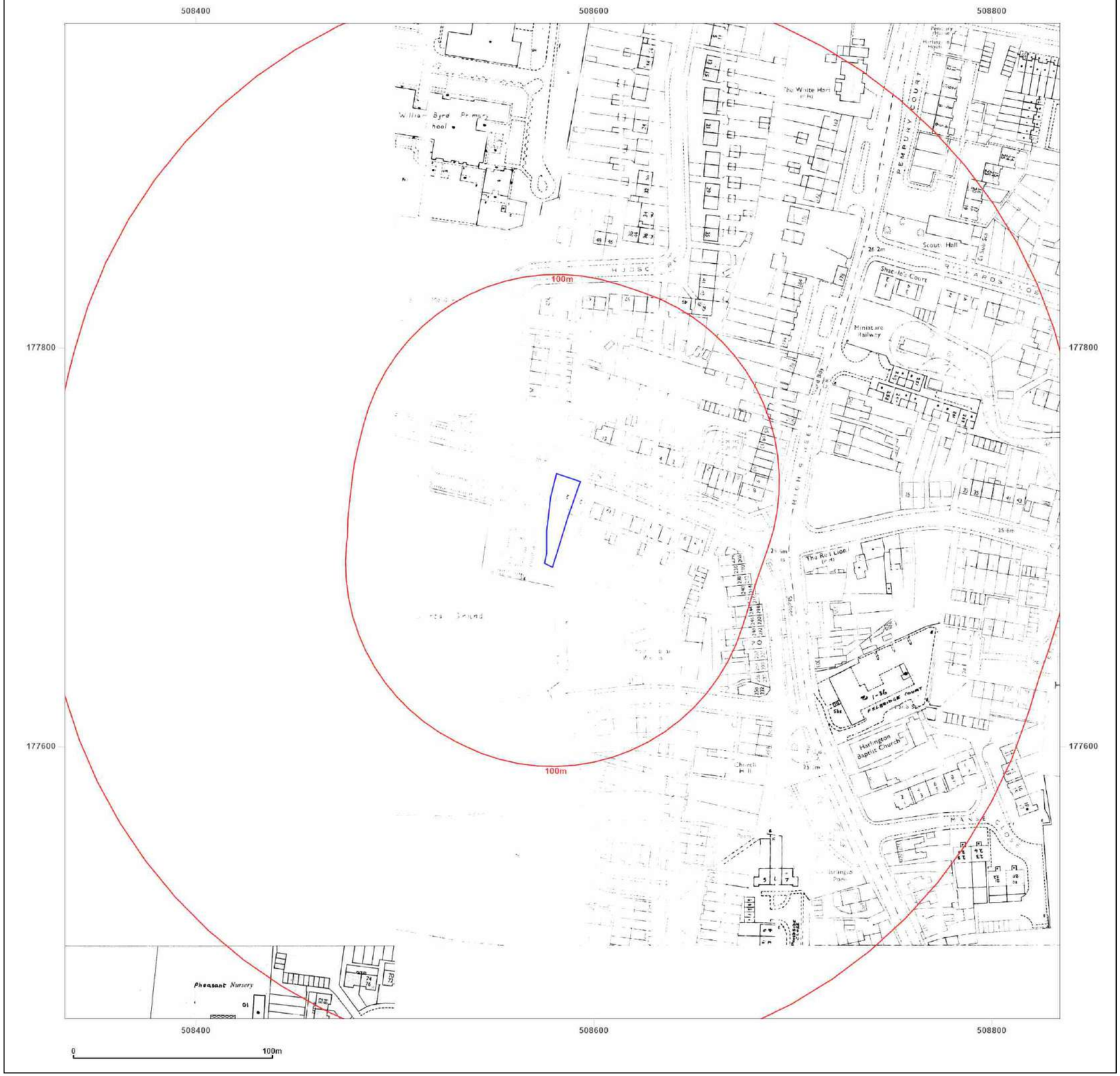


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**Site Details:**

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**Client Ref:** CLR6114
**Report Ref:** GS-9242833
**Grid Ref:** 508584, 177713

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**Site Details:**

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**Client Ref:** CLR6114
**Report Ref:** GS-9242833
**Grid Ref:** 508584, 177713

**Map Name:** National Grid

**Map date:** **1989-1992**

**Scale:** 1:1,250

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**Client Ref:** CLR6114
**Report Ref:** GS-9242833
**Grid Ref:** 508584, 177713

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**Printed at:** 1:1,250

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# APPENDIX D

# ENVIRONMENTAL PERMIT DETAILS

# Notice of variation and consolidation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Henry Streeter (Sand and Ballast) Limited

Sipson Lane Combined Inert Landfill
Sipson Lane
Off Sipson Road
Sipson
West Drayton
UB7 0JG

Variation and consolidation application number

EPR/BT7183IA/V004

Consolidated permit number

EPR/BT7183IA

# Sipson Lane Combined Inert Landfill
# Consolidated permit number EPR/BT7183IA

# Introductory note

## This introductory note does not form a part of the notice.

The following notice gives notice of the variation of environmental permits BT7183IA (Sipson North East Inert Landfill) and TP3597NJ (South of Sipson Lane II) referred to in the status logs below and the replacement of those permits with a consolidated environmental permit.

This variation consolidates the permit for Sipson North East Inert Landfill and the permit South of Sipson Lane II into a single new permit.

The Schedules specify the changes made to the original permits.

Schedule 1 of this notice lists any changes to the original permits. Schedule 2 of this notice contains the varied and consolidated environmental permit, including any site plan.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

| **Status Log of permit A: BT7183IA** | | |
|---|---|---|
| **Detail** | **Date** | **Response date** |
| Permit application BT7183IA | Received 20/11/2002 | |
| Permit BT7183IA Issued | 04/06/2004 | |
| Permit BT7183IA Varied | 09/02/2007 | |
| Variation application EPR/BT7183IA/V003 Duly Made | 08/04/2010 | |
| Variation application EPR/BT7183IA Issued | 28/03/2011 | |
| Variation application EPR/BT7183IA/V004 Duly Made | 08/04/2010 | |
| Variation determined EPR/BT7183IA (varied and consolidated permit issued) | 29/03/2011 | |

| Status Log of permit B: TP3597NJ | | |
|---|---|---|
| **Detail** | **Date** | **Response date** |
| Permit Application EAWML 80531 Received | 10/08/2000 | |
| Permit EAWML 80531 Issued | 24/12/2001 | |
| Application EPR/TP3597NJ/V002 | Duly made 08/04/2010 | |
| Variation determined EPR/TP3597NJ | 28/03/2011 | |
| Variation Application EPR/TP3597NJ/V003 | Duly made 08/04/2010 | |
| Variation determined EPR/BT7183IA (varied and consolidated permit issued) | 29/03/2011 | |

End of Introductory note

## Notice of variation and consolidation

Environmental Permitting (England and Wales) Regulations 2010

**Permit number**
**EPR/BT7183IA**

The Environment Agency in exercise of its powers under regulations 18 and 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates the environmental permits issued to

**Henry Streeter (Sand and Ballast) Limited** ("the operator")

whose registered office is

**14-16 Station Road West**
**Oxted**
**Surrey**
**RH8 9EP**

company registration number 543481

to operate a regulated facility at

**Sipson Lane Combined Inert Landfill**
**Sipson Lane**
**Off Sipson Road**
**Sipson**
**West Drayton**
**Middlesex UB7 0JG**

to the extent set out in the schedules.

The notice shall take effect from 29/03/2011

| Name | Date |
|---|---|
| **Jane McNamara** | **29/03/2011** |

Authorised on behalf of the Environment Agency

**Schedule 1**

Permit A:

All conditions have been replaced by the consolidated permit ERP/BT7183IA as a result of the application made by the operator.

Permit B:

All conditions have been replaced by the consolidated permit ERP/BT7183IA as a result of the application made by the operator.

**Schedule 2 – varied and consolidated permit**

Please see attached.

# Schedule 2

# 1 Management

## 1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

## 1.2 Finance

1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated 29/03/2011 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 1.2.1; and

(c) the estimated costs for the closure and aftercare of the landfill.

# 2 Operations

## 2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

## 2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

## 2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

(b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## 2.4 Landfill Engineering

2.4.1 (a) No construction of any new cell shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

(b) The operator shall review the construction proposals every 12 months

2.4.2 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Environment Agency.

2.4.3 The operator shall submit a CQA Validation Report to the Environment Agency as soon as practicable following the construction of the new cell.

2.4.4 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

2.4.5 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Environment Agency.

2.4.6 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the landfill infrastructure.

2.4.7 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.4.4 and 2.4.5 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.

2.4.8 For the purposes of conditions 2.4.1, 2.4.3 and 2.4.4, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.4.9 Where the Environment Agency has required further information under condition 2.4.8(a), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

## 2.5 Waste acceptance

2.5.1 Wastes shall only be accepted for disposal if:

(a) they are listed in schedule 2, and

(b) they are inert waste, and

(c) they are not liquid waste (including waste waters but excluding sludge), and

(d) all the relevant waste acceptance procedures have been completed, and

(e) they fulfil the relevant waste acceptance criteria, and

(f) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and

(g) they are wastes which have been treated, except for wastes for which treatment is not technically feasible.

2.5.2 The operator shall visually inspect:

(a) without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill; and

(b) waste at the point of deposit;

and shall satisfy itself that it conforms to the basic characterisation documentation submitted by the holder.

2.5.3 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.5.4 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.5.5 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawings PA-1107-13D , PA-1205-16E and SLC/SIPNEEXT/12.

2.5.6 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.3.

2.5.7 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

## 2.6 Closure and aftercare

2.6.1 The operator shall maintain a closure and aftercare management plan.

# 3 Emissions and monitoring

## 3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land.

3.1.2 There shall be no emission from the activities into groundwater of any hazardous substances contrary to the EP Regulations.

3.1.3 There shall be no emission from the activities into groundwater of any non-hazardous pollutants so as to cause pollution.

3.1.4 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in schedule 3 table S3.1 shall not be exceeded.

3.1.5 The limits for landfill gas arising from the facility set out in schedule 3, tables S3.3 shall not be exceeded.

3.1.6 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:

(a) between nine and six months prior to the sixth anniversary of the granting of the permit, and

(b) between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit.

## 3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

## 3.3 Noise and vibration

3.3.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## 3.4 Monitoring

3.4.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions for the parameters specified in the following tables in schedule 3 to this permit:

(a) Groundwater specified in table S3.1 and 3.2;

(b) Landfill gas specified in table S3.3 and S3.4;

3.4.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.4.3 A topographical survey of the site referenced to Ordnance Datum shall be carried out:

(a) annually, or prior to the disposal of waste in any new cell or new development area of the landfill whichever is the shorter period, and

(b) following closure of the landfill or part of the landfill.

The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.

# 4 Information

## 4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) the results of groundwater monitoring;

(ii) landfill gas monitoring;

(iii) waste types and quantities;

(iv) the specification and as built drawings of the basal and sidewall engineering systems

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

## 4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto;

(b) the topographical surveys required by condition 3.4.3 other than those submitted as part of a CQA validation report;

(c) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

(d) an assessment of the settlement behavior of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;

(e) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.2; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

## 4.3 Notifications

4.3.1 The Environment Agency shall be notified without delay following the detection of:

(a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;

(b) the breach of a limit specified in the permit; or

(c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

## 4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

# Schedule 1 - Operations

| Table S1.1 activities | |
|---|---|
| **Description of activities** | **Limits of activities** |
| **D1**: Deposit into or on to land | The deposit of inert waste into or onto land. |

| Table S1.2 Operating techniques | | |
|---|---|---|
| **Description** | **Parts** | **Date Received** |
| Site Operating Plan | All Parts and associated documents | 26/03/2010 |

| Table S1.3 Annual waste input limits | |
|---|---|
| **Category** | **Limit Tonnes/ Year** |
| Inert Waste | 250,000 |

# Schedule 2 - List of permitted wastes

| Table S2.3 Permitted waste types and quantities | |
|---|---|
| **Maximum quantity** | 1,869,000 tonnes |
| **Waste code** | **Description** |
| **01** | **WASTES RESLTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMIACL TREATMENT OF MINERALS** |
| **01 01** | **Wastes from mineral extraction** |
| 01 01 02 | Wastes from mineral non-metalliferous excavation |
| **01 04** | **Wastes from physical and chemical processing of non-metalliferous minerals** |
| 01 04 08 | Waste gravel and crushed rocks other than those mentioned in 01 04 07 |
| 01 04 09 | Waste sand and clays |
| 01 04 12 | Tailins and other wastes from washing and cleaning of minerals other than those mentioned on 01 04 07 and 01 04 11 |
| **01 05** | **Drilling muds and other drilling wastes** |
| 01 05 04 | Firewater drilling muds and wastes |
| **10** | **WASTES FROM THERMAL PROCESSES** |
| **10 11** | **Wastes from manufacture of glass and glass products** |
| 10 11 03 | Waste glass-based fibrous materials |
| 10 12 | Wastes from manufacture of ceramic goods, brick, tiles and construction products |
| 10 12 08 | Waste ceramics, bricks, tiles and construction products (after thermal processing) |
| **15** | **WASTE PACKAGING; ABSORBENT, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED** |
| **15 01** | **Packaging (including separately collected municipal packaging waste)** |
| 15 01 07 | Glass packaging |
| **16** | **WASTES NOT OTHERWISE SPECIFIED IN THE LIST** |
| **16 01** | **End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)** |
| 16 01 20 | Glass |
| **17** | **CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)** |
| **17 01** | **Concrete, bricks tiles and ceramics** |
| 17 01 01 | Concrete |
| 17 01 02 | Bricks |
| 17 01 03 | Tiles and ceramics |
| 17 01 07 | Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06 |
| **17 02** | **Wood, glass and plastic** |
| 17 02 02 | Glass |
| **17 05** | **Soil (including excavated soil from contaminated sites), stones and dredging spoil** |
| 17 05 04 | Soil and stones |
| 17 05 06 | Dredging spoil other than those mentioned in 17 05 05 |
| 17 05 08 | Track ballast other than those mentioned in 17 05 07 |
| **17 09** | **Other construction and demoilition wastes** |
| 17 09 04 | Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02, 17 09 03 |
| **19** | **WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE** |
| **19 12** | **Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified** |

| Table S2.3 Permitted waste types and quantities | |
|---|---|
| **Maximum quantity** | 1,869,000 tonnes |
| **Waste code** | **Description** |
| 19 12 05 | Glass |
| **20** | **MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTUIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS** |
| **20 01** | **Separately collected fractions (except 15 01)** |
| 20 01 02 | Glass |
| **20 02** | **Garden and park wastes (including cemetery waste)** |
| 20 02 02 | Soil and stones |

# Schedule 3 – Emissions and monitoring

| Table S3.1 Trigger levels for emissions into groundwater and monitoring requirements | | | | | |
|---|---|---|---|---|---|
| **Monitoring point reference** | **Parameter** | **Limit (including unit)** | **Reference Period** | **Monitoring frequency** | **Monitoring standard or method** |
| WG40 | Ammoniacal Nitrogen | 5.0 mg/l | Spot Sample | Quarterly | Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water TGN02 |
| WG40 | Total Organic Carbon | 25 mg/l | Spot Sample | Quarterly | As above |
| WG45 | Ammoniacal Nitrogen | 5.0 mg/l | Spot Sample | Quarterly | As above |
| WG45 | Total Organic Carbon | 25 mg/l | Spot Sample | Quarterly | As above |
| WG47 | Ammoniacal Nitrogen | 5.0 mg/l | Spot Sample | Quarterly | As above |
| WG47 | Total Organic Carbon | 25 mg/l | Spot Sample | Quarterly | As above |
| BH15 | Ammoniacal Nitrogen | 2.5 mg/l | Spot Sample | Quarterly | As above |
| BH15 | Total Organic Carbon | 25 mg/l | Spot Sample | Quarterly | As above |
| BH15 | Chloride | 400 mg/l | Spot Sample | Quarterly | As above |
| BH16 | Ammoniacal Nitrogen | 2.5 mg/l | Spot Sample | Quarterly | As above |
| BH16 | Total Organic Carbon | 25 mg/l | Spot Sample | Quarterly | As above |
| BH16 | Chloride | 400 mg/l | Spot Sample | Quarterly | As above |
| BH19 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH19 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH19 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH20 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH20 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH20 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH21 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH21 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH21 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH22 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH22 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH22 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH23 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH23 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH23 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH24 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH24 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH24 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH25 | Ammoniacal Nitrogen | 0.8 mg/l | Spot Sample | Quarterly | As above |
| BH25 | Total Organic Carbon | 15 mg/l | Spot Sample | Quarterly | As above |
| BH25 | Chloride | 250 mg/l | Spot Sample | Quarterly | As above |
| BH26 | Ammoniacal Nitrogen | 5 mg/l | Spot Sample | Quarterly | As above |
| BH26 | Total Organic Carbon | 30 mg/l l | Spot Sample | Quarterly | As above |
| BH26 | Chloride | 250 mg/ | Spot Sample | Quarterly | As above |

| Table S3.2 Groundwater – other monitoring requirements | | | | |
|---|---|---|---|---|
| **Emission point reference or source or description of point of measurement** | **Parameter** | **Monitoring frequency** | **Monitoring standard or method** | **Other specifications** |
| G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28 | Water level, | Monthly | Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water TGN02 | |
| G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28 | Water level, pH<br>Conductivity<br>Ammoniacal Nitrogen<br>Chloride<br>Sulphate<br>Alkalinity as CaCO3<br>TON (Total Oxidised Nitrogen) as N<br>TOC<br>Potassium<br>Sodium<br>Calcium<br>Magnesium | Quarterly | As above | |
| G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28 | Iron<br>Manganese<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Nickel<br>Zinc | Annually | As above | |

| Table S3.3 Landfill gas in external monitoring boreholes – limits and monitoring requirements | | | | |
|---|---|---|---|---|
| **Monitoring point Ref. /description** | **Parameter** | **Limit (including units)** | **Monitoring frequency** | **Monitoring standard or method** |
| WG37 – WG43 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>9 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| G44, WG45, G46, WG47 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>8.3 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| BH06, BH05 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>5 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| BH13, BH14 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>6 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| BH15, BH17 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>6.5 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| BH16 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>7 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |
| BH18 – BH28 | Methane<br>Carbon Dioxide<br>Oxygen<br>Atmospheric pressure<br>Differential Pressure<br>Meteorological data | 1 %v/v<br>7 %v/v<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit]<br>[no limit] | Monthly | Guidance on the management of landfill gas (LFTGN03) |

| Table S3.4 Landfill gas – other monitoring requirements | | | | |
|---|---|---|---|---|
| **Emission point reference or source or description of point of measurement** | **Parameter** | **Monitoring frequency** | **Monitoring standard or method** | **Other specifications** |
| In waste monitoring boreholes INW01, INW02, INW03, INW04, INW05, INW06, INW07, INW08, INW09, INW10, INW11, INW12 | Methane<br>Carbon Dioxide<br>Oxygen<br>Differential Pressure<br>Gas flow Rate<br>Barometric Pressure<br>Liquid Level | Monthly | Guidance on the management of landfill gas (LFTGN03) | |

# Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

**Table S4.1 Reporting of monitoring data**

| Parameter | Emission or monitoring point/reference | Reporting period | Period begins |
|---|---|---|---|
| Water Level<br>pH<br>Conductivity<br>Ammoniacal Nitrogen<br>Chloride<br>Sulphate<br>Alkalinity as $CaCO_3$<br>TON (Total Oxidised Nitrogen) as N<br>TOC<br>Potassium<br>Sodium<br>Calcium<br>Magnesium | G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28 | Quarterly | |
| Iron<br>Manganese<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Nickel<br>Zinc | G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28 | Annually | |
| Methane<br>Carbon Dioxide<br>Oxygen<br>Differential Pressure<br>Barometric Pressure<br>Flow Rate | WG37-43, G44, WG45, G46, WG47, In waste monitoring boreholes INW01, INW02, INW03, INW04, BH5, BH6, BH13 – BH28, In waste monitoring boreholes INW05, INW06, INW07, INW08, INW09, INW10, INW11, INW12 | Quarterly | |

**Table S4.2 Reporting forms**

| Media/parameter | Reporting Format | Date of Form |
|---|---|---|
| Groundwater | Form groundwater 1 or other reporting format to be agreed in writing with the Environment Agency | DD/MM/YY |
| Landfill gas | Form Gas 1 or other reporting format to be agreed in writing with the Environment Agency | DD/MM/YY |
| Waste Return | Waste Return Form RATS2E | DD/MM/YY |
| Landfill topographical surveys and interpretation | Reporting format to be agreed in writing with the Environment Agency | DD/MM/YY |

# Schedule 5 - Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

## Part A

| | |
|---|---|
| Permit Number | |
| Name of operator | |
| Location of Facility | |
| | |
| Time and date of the detection | |

| **(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution** | |
|---|---|
| **To be notified within 24 hours of detection** | |
| Date and Time of the event | |
| Reference or description of the location of the event | |
| Description of where any release into the environment took place | |
| Substances(s) potentially released | |
| Best estimate of the quantity or rate of release of substances | |
| Measures taken, or intended to be taken, to stop any emission | |
| Description of the failure or accident. | |

| **(b) Notification requirements for the breach of a limit** | |
|---|---|
| **To be notified within 24 hours of detection unless otherwise specified below** | |
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value and uncertainty | |
| Date and time of monitoring | |
| Measures taken, or intended to be taken, to stop the emission | |

| Time periods for notification following detection of a breach of a limit | |
|---|---|
| **Parameter** | **Notification period** |
| | |
| | |

| (c) Notification requirements for the detection of any significant adverse environmental effect | |
|---|---|
| **To be notified within 24 hours of detection** | |
| Description of where the effect on the environment was detected | |
| Substances(s) detected | |
| Concentrations of substances detected | |
| Date of monitoring/sampling | |

## Part B to be supplied as soon as practicable

| | |
|---|---|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident | |
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission | |
| The dates of any unauthorised emissions from the facility in the preceding 24 months. | |

| | |
|---|---|
| **Name*** | |
| **Post** | |
| **Signature** | |
| **Date** | |

* authorised to sign on behalf of *Henry Streeter (Sand and Ballast) Ltd*.

# Schedule 6 - Interpretation

*"accident"* means an accident that may result in pollution.

*"annually"* means once every year.

*"application"* means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

*"authorised officer"* means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

*"Construction Proposals"*;

- for new cells, means written information at a level of detail appropriate to the complexity and pollution risk, on stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the new cell.

- for landfill infrastructure, means the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the landfill infrastructure.

*"CQA Validation Report"* means the final "as built" construction and engineering details of the new cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- "As-built" plans and sections of the works;
- Copies of the site engineer's daily records;
- Records of any problems or non-compliance and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the new cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the construction proposals.

*"emissions to land"* includes emissions to groundwater.

*"EP Regulations"* means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

*"emissions of substances not controlled by emission limits"* means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit..

*"groundwater"* means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

*"Landfill Infrastructure"* means any specified element of the:

- surface water drainage systems;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;

within the Site.

*"Liquids"* means any liquid other than leachate within the landfill.

*"MCERTS"* means the Environment Agency's Monitoring Certification Scheme.

*"New Cell"* means any new cell, part of a cell or other similar new area of the Site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- sub-grade;
- artificially established geological barriers;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the new cell.

"*No impact*" means that the change made to the construction process will not alter the agreed design criteria, specification or performance in a way that has a negative effect.

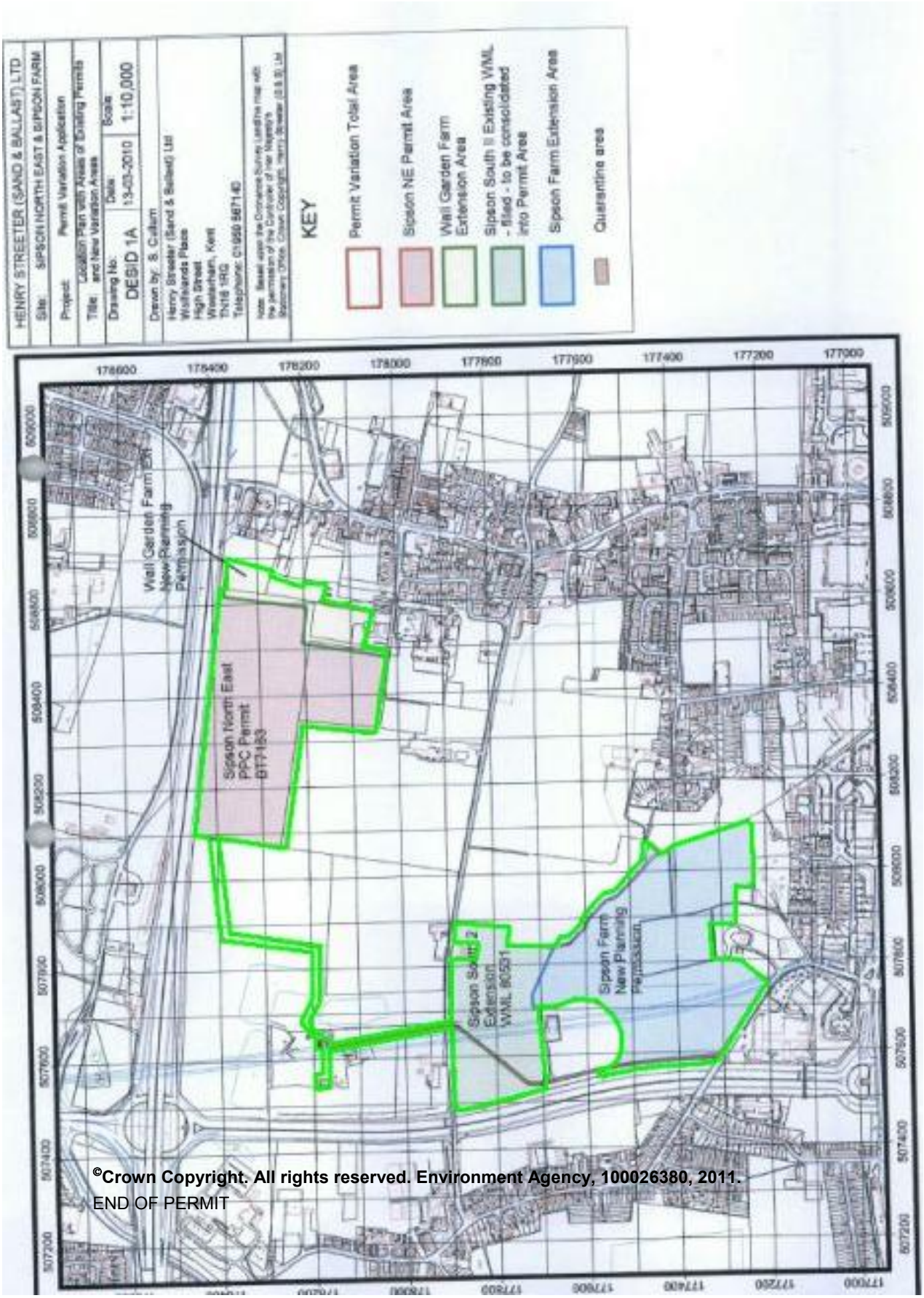
*"quarter"* means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

*"Waste code"* means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less then the limit.

*"year"* means calendar year ending 31 December.

# Schedule 7 - Site plan






END OF PERMIT

Permit Number: AB1234CD Operator: [Operator name]

Facility: [Facility name] Form Number: Groundwater1 / DD/MM/YY

**Reporting of groundwater monitoring for the period from** DD/MM/YYYY **to** DD/MM/YYYY

| Monitoring Point | Substance / Parameter | Trigger level | Reference Period | Result [1] | Test Method [2] | Sample Date and Times [3] | Uncertainty [4] |
|---|---|---|---|---|---|---|---|
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The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: AB1234CD Operator: [Operator name]

Facility: [Facility name] Form Number: LFG1 / DD/MM/YY

**Reporting of landfill gas monitoring for the period from** DD/MM/YYYY **to** DD/MM/YYYY

| Monitoring Point | Substance / Parameter | Compliance limit | Reference Period | Result [1] | Test Method [2] | Sample Date and Times [3] | Uncertainty [4] |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..
(Authorised to sign as representative of Operator)