Phase 1: Preliminary Risk Assessment

February 2023

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Land Adjacent to Building 2, Status Park, Nobel Drive, Harlington, Hayes UB3 5EY

February 2023

Savills

33 Margaret Street

London

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Project no.:		Project name:		
8127		**Land at Status Park, Nobel Drive**		
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V2	Diarmuid Mac Aodha Bhui	Stefan Cannon	Richard Schofield	10 February 2022

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1. Introduction

1.1 Phlorum Ltd has been commissioned by Savills to undertake a Phase 1 Preliminary Risk Assessment (PRA), land contamination desk study assessment, of the proposed redevelopment of the Land Adjacent to Building 2, Status Park, Nobel Drive, Harlington, Hayes at National Grid Reference (NGR) TQ 09166 76958.

1.2 It is understood that the proposed development of the site involves the erection of a 67-unit, six-storey residential apartment complex, associated landscaping and private gardens, and car parking, on the site, currently occupied by car parking.

1.3 Contamination assessments are undertaken in three phases. The results of this Phase 1 (PRA) should provide sufficient information to enable a Phase 2 intrusive site investigation and risk assessment to be effectively undertaken, if necessary. The Phase 2 can sometimes be done in stages. Depending on the results of the Phase 2, a risk management and site remediation (Phase 3) could then subsequently be undertaken, if necessary.

1.4 This report involved the following:

- a site visit of the site, undertaken by Phlorum, on 24th October 2022;
- review of data from the Environment Agency (EA), local authority[1] and British Geological Survey (BGS) for the site;
- review of geological and hydro-geological maps of the site;
- review of publicly available map data; and
- Enviro-Insight and Geo-Insight reports produced by Groundsure were also obtained. A copy of the Groundsure data is shown in Appendix A.

1.5 This report outlines the findings of the Phase 1 contaminated land desk study assessment. This report is based on the end use of the site being residential dwellings, with private gardens.

2. Site Sensitivity

2.1 The aim of this section is to review the main potential receptors and pathways for any contaminants on site. The main source of information was obtained from the Groundsure reports of the site.

Site Location and Adjacent Land Uses

2.2 The site is located approximately 170m north-west of the north-eastern boundary of Heathrow Airport and approximately 150m north of the junction of Northrop Road and Heathrow's Northern Perimeter Road. The site is surrounded by commercial properties to the west and north, with agricultural land identified to the east across Nobel Drive. The A4 road lies along the south, with further commercial buildings located beyond.

Geology

2.3 The report is based on data provided by the British Geological Survey. The bedrock beneath the site is comprised of the London Clay Formation- Clay from the Ypresian Age, (56-49 Million years ago). The thickness of the formation is up to 150m in the eastern part of the London basin and thins to as little as 5m in western areas.

2.4 There is one record relating to permeability of bedrock ground within the site, this is as follows:

- Onsite; Flow Type: Mixed; Maximum Permeability; Moderate; Minimum Permeability; Very Low.

2.5 There are no geological faults recorded within 500m of the site.

2.6 The site has three underlying superficial deposits within 500m of the study site boundary, this is as follows:

- On Site; LEX Code: LASI-XCZ; Description: Langley Silt Member; Rock Description: Clay, Silt.
- 17m east of site; LEX Code: TPGR-XSV; Description: Taplow Gravel Member; Rock Description: Sand and Gravel.
- 159m west of site; LEX Code: TPGR-XSV; Description: Taplow Gravel Member; Rock Description: Sand and Gravel.

2.7 There are no records of artificial and made ground at the site, and eleven records within 500m of the study site boundary. These are as follows:

- 17m east of site; Infilled Ground of unknown rock classification;
- 54m south-east of site; Infilled Ground of unknown rock classification;

- 115m south-west of site; Made ground (undivided) of unknown rock classification;
- 159m west of site; Infilled Ground of unknown rock classification;
- 178m south-west of site; Made ground (undivided) of unknown rock classification;
- 189m south-west of site; Made ground (undivided) of unknown rock classification;
- 209m south-west of site; Made ground (undivided) of unknown rock classification
- 218m south-west of site; Made ground (undivided) of unknown rock classification;
- 236m south-west of site; Made ground (undivided) of unknown rock classification;
- 241m south of site; Made ground (undivided) of unknown rock classification;
- 442m west of site; Made ground (undivided) of unknown rock classification.

Hydrogeology

Groundwater Resources

2.8 The Groundwater Vulnerability Map provided by Groundsure is based on Environment Agency Data which indicates that the bedrock on site is classed as unproductive, described as geology of low permeability that have a negligible significance for water supply or river base flow.

2.9 The following aquifer records are shown on the Aquifer within Superficial Geology Map:

- Onsite; Unproductive stratum; Description: these are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow; and
- 17m east and 159m west of the site; Principal Aquifer; Description: 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.

Source Protection Zones

2.10 There are no Source Protection Zones (SPZ) within 500m from the study site, these are as follows:

Surface Water Abstractions

2.11 There are no surface water abstraction licenses within 2,000m of the study site.

Ground Water Abstractions

2.12 There are 15 Groundwater Abstraction Licences within 2,000m of the study site, and only one within 250m of the site, which is listed below, with the remainder included in Appendix A:

- 174m south-west of the site at NGR 509000 76800; Status: Active; Licence No: 28/39/36/0058; Details: Process Water Supply - Direct Source: Thames groundwater; Point: Borehole At Northrop Road, Heathrow Airport, Hounslow; Data Type: Point; Name: Avis rent a car limited; Annual Volume (m^3): 10980; Max Daily Volume (m^3): 30; Original Start Date: 1/3/1993; Issue No: 100; Version Start Date: 01/04/2008.

Potable Water Abstraction Licences

2.13 There is one Potable Water Abstraction Licence within 2,000m of the study site, this is listed below:

- 1,989m south-west at NGR: 507663 175573; Status: Historical; Licence No: TH/039/0028/007; Details: Drinking, Cooking, Sanitary, Washing (Small Garden) - Commercial/Industrial/Public Services; Direct Source: Thames Groundwater; Point: Heathrow Airport - Borehole C; Data Type: Point; Name: Heathrow Airport Limited; Annual Volume (m^3): 706,000; Max Daily Volume (m^3): 3197; Original Start Date: 13/2/2010; Expiry Date: 31/12/2019; Issue No: 2.

Water Discharges Consents

2.14 There are no records of licensed discharge consent within 500m of the site.

Groundwater Vulnerability Local Information

2.15 There is one instance where the EA gives the information on groundwater vulnerability and soil leaching potential within on the study site, this is:

- 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).

Pollution Incidents

2.16 There are four records of Part A(2) and Part B Activities and Enforcements within 500m of the study site. These are:

- 59m south of the site at NGR 509185 176861; Address: Avis Rent-a-Car Ltd, Unit B, Northrop Road, London Heathrow Airport, Hounslow, TW6 2EB; Process: Unloading of Petrol into Storage at Service Stations; Status: Current Permit; Permit Type: Part B; No enforcements notified.
- 128m south-west of the site at NGR 509041 176824; Address: Avis Rent-a-Car Ltd, Unit B, Northrop Road, London Heathrow Airport, Hounslow, TW6 2QA; Process: Unloading of Petrol into Storage at Service Stations; Status: Current Permit; Permit Type: Part B; No enforcements notified.

- 152m south-east of the site at NGR 509262 176787; Address: Budget Rent-a-Car, Northern Perimeter Rd, HAL; Process: Unloading of Petrol into Storage at Service Stations; Status: Historical Permit; Permit Type: Part B; No enforcements notified.
- 428m north-west of the site at NGR 508825 177264; Address: Tesco Harlington, High Street, Harlington; Process: Unloading of Petrol into Storage at Service Stations; Status: Historical Permit; Permit Type: Part B; No enforcements notified.

2.17 There are no records of industrial sites holding the following licenses and/or authorisations within 500m from the study site:

- Pollution Incidents (EA/NRW);
- Radioactive Substance Authorisations;
- Notification of Installation Handling Hazardous Substances (NIHHS);
- Control of Major Accident Hazards (COMAH);
- Regulated explosive sites;
- Hazardous substance storage/usage;
- Historic IPC authorisations;
- Part A (1) and IPPC Authorised Activities;
- Part A (2) Licensed Industrial Activities;
- Category 3 or 4 Radioactive Substances Authorisations;
- Red List Discharge Consents (potentially harmful discharges to controlled waters);
- Water Industry Referrals (potentially harmful discharges to the public sewer);
- List 1 Dangerous Substances Inventory Sites;
- List 2 Dangerous Substance Inventory Sites;
- Pollution inventory substances;
- Pollution inventory waste transfers; and
- Pollution inventory radioactive waste.

Mineral Deposits and Mining

2.18 There is a record of one inactive BritPit (British Geological Society) within 500m of the site. This record is over 200m from the site and is classified as surface mineral working of sand and gravel.

2.19 There are 22 records of surface ground workings within 250m form the study site. These are 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. Four of these features are within 100m of the site and are classified as follows:

- 71m south-west of site, land use: saw pit, mapped in 1865, subsequently backfilled and labelled as a pond in map dated 1882;

- 80m west of site, land use: saw pit, mapped in 1882, subsequently backfilled and labelled as a pond in map dated 1932.

2.20 There are no records of the following mining activities within 500m from the study site:

- Natural cavities;
- Underground workings;
- Non-coal mining;
- Mining cavities;
- JPB mining areas (data source Johnson Poole Bloomer);
- Coal mining;
- Brine areas;
- Gypsum areas;
- Tin mining; and
- Clay mining.

3. Published Records

3.1 The aim of this section is to review the published records of sensitive areas, potential hazardous activities on, under or around the site. The main source of information was the Groundsure reports for the site.

Current and Recent Industrial Data

3.2 There are eight records of recent industrial land uses within 250m from the site. No record was identified on site. The closest industrial record is classified as Electrical features, 27m to the north-west of the site. For full details please refer to Appendix A of this report.

3.3 There is one record of petrol or fuel sites within 500m of the study site, this is as follows:

- 422m west of the study site; Company: Breeze; Address: Newall Road, Cranford, Hounslow Outer London, TW6 2RZ.

3.4 There are no records of Sites determined as Contaminated Land under Part 2A of the Environmental Protection Act 1990.

3.5 There are no records of the following industrial land uses within 500m of the study site. These are as follows:

- High Voltage Underground Electricity Transmission Cables; and
- National Grid High Pressure Gas Transmission Pipelines.

Landfill and Waste Sites

3.6 There is one record from Environment Agency landfill data within 500m of the study site, these are:

- 27m east of the site; Address; Henry Streeter Ltd, Land South of Cranford Lane, North of Bath Road, Harlington, Middlesex, UB3 5DA; WML number: 80068; Environmental Permitting Regulations (Waste) Reference: STR003; Landfill Types: A05: Landfill taking Non-Biodegradable Wastes; Operator: Henry Streeter Ltd; Status: Closure.

3.7 There are three records of Environment Agency historic landfill sites within 500m of the study site. These are shown below:

- 49m south-east of the site; Site Address: Northern Perimeter Road, Cranford, Hounslow, London; Site Reference: 8H1055; Waste Type: Inert; Operator: Greenhams sand and Gravel; Last Recorded: 31/Dec/1945;

- 89m north of the site-Site Address: South of Cranford Lane, Cranford Lane West; Site Reference: DL207, 8HI017, HIL018; Waste Type: Inert; Licence Issue:06/06/1985; Licence Surrendered: 16/08/1993; Licence Holder: Henry Streeter (Sand and Ballast) Limited First Recorded: 10/07/1986; Last Recorded: 03/10/1989; and
- 221m west of the site: Site Address: Land Rear of Airport Bowl; Site Reference: 8HI063.

3.8 There are no records of the following Landfill or Waste sites within 500m of the study site:

- Historical landfill (BGS records);
- Historical landfill (LA/mapping records);
- Historical waste sites;
- Licensed waste sites; and
- Waste exemptions.

Historical Land Uses

3.9 The systematic analysis of data extracted from High Detailed 1:10,000 and 1:10,560 scale historical maps indicate 40 records of historical industrial land uses within 500m of the study site. All of these are located offsite and described in Chapter 4 of this report. The nearest recording to the site is located 31m south and is labelled as an airport dated from 1959.

3.10 The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps indicate 16 records of Historical Tank Features within 500m of the site boundary. None of them recorded on site, with the closest recorded 138m west of the site between 1974 and 1987. For full details please see Appendix A of this report.

3.11 The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps indicate 18 records of Historical energy features within 500m of the search boundary. None of them recorded on site, with the closest being an Electricity Substation recorded 26m northwest of the site, dated between 1990 and 1993.

3.12 The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps revealed no records of the following historical industrial sites with 500m of the study site:

- Historical Petrol Stations;
- Historical garages; and
- Historical Military Sites.

Natural Hazardous Findings

3.13 The maximum **Shrink-Swell** hazard rating identified on the study site is **Very Low**. Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

3.14 The maximum **Running Sand** hazard rating identified on the study site is **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.

3.15 The maximum **Compressible Ground** hazard rating identified on the study site is **Negligible**. Compressible strata are not thought to occur.

3.16 The maximum **Collapsible Rocks** hazard rating identified on the study site is **Low**. Deposits with potential to collapse when loaded and saturated are possibly present in places.

3.17 The maximum **Landslide** hazard rating identified on the study site is **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.

3.18 The maximum **Soluble Rocks** hazard rating identified on the study site is **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.

Radon

3.19 The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level, therefore, no Radon protective measures are necessary under publication BR211 by the Building Research Establishment.

Environmental Designations

3.20 There is one record of Local Nature Reserves (LNR) within 2,000m of the study site the reserve is detailed below:

- 1,111m south-east of the site; LNR Name: Cranebank; Data Source: Natural England.

3.21 There is one record of SSSI Impact Risk Zones onsite, this is detailed below:

- Infrastructure: Airports, helipads and other aviation proposals, with a risk of air pollution, combustion and discharges.

3.22 There are 16 records of Green Belt land within 2,000m of the study site, with the closest recorded 16m east of the site, all of them detailed as follow:

- Green Belt Name: London Green Belt Area; Local Authority Name: Hillingdon.

3.23 There are no records of the following Designated Environmentally Sensitive Sites within 2,000m of the study site:

- Sites of Special Scientific Interest (SSSI);
- National Nature Reserves (NNR);
- Ancient Woodlands;
- Special Areas of Conservation (SAC);
- Special Protection Areas (SPA);
- Ramsar sites;
- World Heritage Sites;
- Biosphere Reserves;
- Forest Parks;
- Marine Conservation Zones;
- Environmentally Sensitive Areas;
- Areas of Outstanding Natural Beauty (AONB);
- National Parks (NP);
- Nitrate Vulnerable Zones; or
- Nitrate Sensitive Areas.

Borehole Records

3.24 There are fifteen records of boreholes within 250m of the site boundary according to BGS Borehole Records, these are:

- 85m south-west of the site at NGR 509050 176890; Borehole Name: Harlington Drainage 15;
- 91m east of the site at NGR 509300 176960; Drilled Length 5.0; Borehole Name: Heathrow surface access studies 297;
- 128m south-east of the site at NGR 508315 176875; Drilled Length 4.3; Borehole Name: Heathrow surface access studies 298;
- 132m east of the site at NGR 509330 176910; Borehole Name: Harlington Drainage 30;
- 151m west of the site at NGR 508980 176940; Drilled Length 3.04; Borehole Name: Hayes UB.8 Hayes & Harlington;
- 175m south-west of the site at NGR 509000 176800; Drilled Length 8.6; Borehole Name: Avis Car Rental Hounslow;
- 185m east of the site at NGR 509380 176890; Borehole Name: Fly a way Bath Road Heathrow 7;
- 202m east of the site at NGR 509400 17690; Borehole Name: Fly a way bath road Heathrow 8;

- 203m south-east of the site at NGR 509390 176860; Borehole Name: Bath Road Heathrow TP10;
- 210m west of the site at NGR 509390 176840; Borehole Name: Fly a way Bath Road Heathrow 6;
- 217m east of the site at NGR 509420 176920; Borehole Name: Harlington Drainage 16;
- 219m east of the site at NGR 509410 176870; Borehole Name: Bath Road Heathrow TP9;
- 229m south-east of the site at NGR 509410 176840; Borehole Name: Bath Road Heathrow TP8;
- 244m south-east of the site at NGR 509400 176790; Borehole Name: Bath Road Heathrow TP6; and
- 249m south east of the site at NGR 509390 176770; Borehole Name: Fly a way Bath Road Heathrow 4.

4. Historic Records

4.1 This section is based on historic maps of the area dating back to 1865. The maps are included in Appendix B. All measurements are approximate.

The Site and within 100m of the Study Site

4.2 The original 1:2,500 scale maps from 1865 shows this plot of land was originally used as an orchard. The area was predominantly agricultural farmland of orchards and grazing fields with the villages of Cranford to the east and Harlington to the north. There is a Public House to the south-west, approximately 100m away.

4.3 A domestic dwelling with gardens and outhouses is shown in the 1865 map, appearing as Ash Cottage. This building was situated approximately 60m west of the study site boundary.

4.4 In 1895 the same scale map shows two new buildings within 60m of the site, one to the north-east and the other to the south-east.

4.5 The 1932 1:2,500 scale map no longer shows the site as an orchard, but instead an open field. The building to the north-east of the site has been extended and an additional small structure added close to the structure south-east of the site. Also at this time, a Sports Ground has been constructed approximately 120m to the west of the site, where originally there had been an open field. The domestic dwellings to the south are largely unchanged since 1865.

4.6 The 1935 1:2,500 map shows no significant change to the site or the surrounding areas, except for the change of label of the sports ground to the west to a greyhound racing stadium.

4.7 The 1964 map shows that the site area had now been developed into the William Byrd County Primary School. Furthermore, a small building has been erected 50m west of the site. Ash Cottage to the west and the structures to the south-west are still shown on the map, but no longer labelled. The road immediate south of the site is shown to now have a central reservation. The domestic dwellings to the south of the road are unchanged. The field north of the site is used as playing field for the school.

4.8 No major changes were recorded until the 1972 1:1,250 map, by which time Ash Cottage no longer appears on the map and has been replaced by a bowling alley. The small structures to the north-east and south-east of the site no longer appear on the map. The domestic terraced houses to the south of Bath Road no longer appear on the map and have been replaced with large buildings and car parking spaces.

4.9 The 1986 1:1,250 scale map shows the current layout of the site. The primary school has been replaced with an office block on the western side of the site with the rest of the site taken up with car parking spaces and green verges. The plot to the west between the bowling alley and the site, is shown as an Ibis Hotel. North of the site, where previously there had been playing fields there are now domestic properties within 100m to the north-west, labelled as David Close and Caroline Place. Directly to the north are large block buildings with corresponding car parks, these are connected to Bath Road by Nobel Drive, a new road.

4.10 The 1993 1:1,250 scale map shows no change to the site or the surrounding areas north of Bath Road. The area directly south of the site continues to be developed with a large car park. This is the last recorded historical map to date. The site has been unchanged since this last mapping.

4.11 The agricultural land directly to the east of the site, has not changed use since the earliest 1865 map. However, as reported in Paragraph 3.6 this area is currently classed as an EA/NRW Active Landfill Site.

The Surrounding Area within 250m of the Study Site

4.12 The 1865 map shows that the surrounding land use within 250m is primarily agricultural and domestic. To the north there are orchards and to the east and west there are open fields, with gardens near the houses south of Bath Road. This map also shows the Coach and Horses Public House approximately 250m west of the site.

4.13 The 1914 map shows a new collection of buildings to the south of the site, just north of the area marked as marsh land. The access to these buildings is via Bath Road.

4.14 The 1932 1:2,500 scale map shows the first record of the sports ground with corresponding structures situated between Ash Cottage and the Coach & Horses Public House. To the south-east approximately 200m from the site a gravel pit is recorded. There is a tank recorded east of the gravel pit, approximately 260m from the site. This tank is part of a new development of buildings situated on a strip of land running north-south. The areas north of the site are unchanged.

4.15 The 1964 1:2,500 map shows considerable change to the area. The Coach and Horse Public House west of the site has been redeveloped into a hotel, which is circular in structure. Directly to the south a new road labelled the 'Northern Perimeter Road' runs parallel with Bath Road, joining Hatton Road to the west and turning south and continuing off the map in the east. The map shows new developments to the south-west of the site, approximately 230m away. These structures are however labelled as works buildings and factories on the later 1970 and 1974 1:10,000 scale maps. The last recording of these buildings is in 2002, after which they have been redeveloped into a hotel and long-stay car park. New buildings have also been constructed to the south-east of the site, with entrances from Bath Road and the new Northern Perimeter Road. The use of these buildings is unknown. The largest building is labelled as Argonaut House.

4.16 The 1967 maps shows little change apart from four rows of terraced housing appearing 250m east of the site with two new roads. These are part of Cranford village.

4.17 The 1794 map refers to Argonaut House as a factory.

4.18 The 1990 1:1,250 scale map shows the first recording of the commercial and domestic developments to the north of the site. Between 1967 and 1972 the sports ground to the west of the site is redeveloped into the bowling alley.

4.19 The 1992 1:1,250 map shows the domestic development to the north-west has been extended further to the west.

The Surrounding Area within 500m of the Study Site

4.20 A school is shown to be 500m east of the site on the 1865 1:10,560 scale map. 500m to the west of the site there is a small horse patrol Police Station along the Bath Road. 500m to the north-west of the site are a group of houses belonging to Harlington village.

4.21 The area within 500m of the site remains largely unchanged from rural domestic and agricultural use. St. George's Nursery had been constructed approximately 400m to the west of the site by 1912.

4.22 There are domestic developments to the west of the site and south of Harlington, as shown on the 1932 1:10,560 scale map.

4.23 The 1935 map shows the extension of the gravel pit to the south-east of the site, now covering more land to the east and south. This site is currently marked as an EA/NRW Historic Landfill site. Within this site there is an EA/NRW Licensed Waste Site approximately 460m south-east of the site.

4.24 The 1960 map shows the first recording of the Heathrow Airport to the south and south-west of the site. The area west of the site continues to be developed with further domestic properties and two hotels north of Bath Road.

4.25 The 1974 map records an industrial complex of factory works buildings within 500m east of the site.

4.26 The 1985 map shows another gravel pit approximately 300m to the north of the site, though this is not indicated on the smaller scale maps. This gravel pit extends to the north to 650m from the site. This site is now marked as an EA/NRW Historic Landfill site.

4.27 The 2014 1:10,000 scale map shows that there has been no significant change to the area from1974.

Historic Records Summary

4.28 The site was historically used as an orchard and or agricultural fields.

4.29 Off-site there are reported gravel pits which have since be infilled.

5. Site Walkover

5.1 A member of Phlorum staff conducted a site walkover of the external areas of the site on 24th October 2022 to assess any contamination issues. The weather conditions during the survey were overcast with sunny spells.

5.2 The photographs of the site taken during the walkover are included as Appendix D and observations in the text are included as Target Notes on Figure 1 in Appendix E.

5.3 The area to be redeveloped is currently a car park for Building 2, Building 4 and Building 5, comprising of a tarmac, brick, and soil surface. The site is surrounded by planted green verges.

5.4 There were several metal-grate drains across the site that could act as pathways for contaminants from the surface to the soils beneath. Other potential pathways include the joints between the bricks and small cracks seen in the tarmac. There was no obvious staining on the surfaces of the site. Where soils were at the surface, kerbstones separated them from the tarmac, as well as being upslope of the camber of the carpark.

5.5 There is a bicycle stand at the south-west corner of the site that was in use.

5.6 At the southern boundary of the site, a wooden unit for the storage of rubbish bins was seen. This area likely served the adjacent building 2. Within this unit were children's toys and a bed frame, as well as bins for general waste and recycling.

5.7 One manhole cover was observed on the site where the new development is proposed. This is at the western end of the central planted area.

5.8 Building 2 is surrounded by several rodent traps by the base of the walls, with three of these being within two metres of the western site boundary.

5.9 There were no olfactory sources of contamination observed during the survey.

5.10 Bath Road runs adjacent to the southern boundary of the site. There is the potential for surface runoff from the road, to drain into the soils beneath the site.

5.11 Several Cotoneaster plants were observed at the site in the surrounding planted verges. There are 5 types of cotoneasters listed in Part II, Schedule 9 of the Wildlife and Countryside Act (WCA) 1981, as amended.

Summary

5.12 The site was visited on 24th of October 2022, the external areas of the site were surveyed for evidence of contamination when the weather was clear and dry. Access could not be gained to the office area.

5.13 The main potential source of contamination on site, was from spillages and leaks from the cars using the car park. This is likely to have been localised spillages of oil and/or fuel. However, the hydrocarbons could runoff through the drains or through the joints between the bricked paving into the underlying soils.

5.14 The main offsite potential sources of contamination observed from the site walkover was from fuel and oil spillages from the vehicles using Bath Road, to the south of the site. Hydrocarbons spillages could enter the ground through drains, joints, and cracks, and then migrate through the gravel to the soils beneath the car park.

5.15 Cotoneaster plants were also observed on site. Five Cotoneaster species are listed on the WCA, as invasive non-natives species that should not be allowed to grow in the wild.

6. Contamination Risk Assessment

General

6.1 Based on the previous information reviewed and obtained for this report an initial qualitative risk assessment can be undertaken. This assessment is based on the development of an appropriate conceptual model in accordance with current UK guidelines set out within Contaminated Land (England) Regulations 2006, as amended, Section 57 of the Environmental Protection Act 1990 and other guidance (e.g. BS10175:2011+A2:2017, the National Planning Policy Framework).

6.2 For environmental risk to be present there must be three conditions simultaneously coexisting, namely:

- A source is a contaminant or potential pollutant which has the potential to cause harm, or to cause pollution of controlled waters.
- A receptor (e.g. end-user, off-site water abstraction) which can be harmed by the site conditions.
- A plausible pathway is a route or means of connecting the source and receptor such that the harm could actually occur.

6.3 The relationship between a contaminant source and receptor, by means of a pathway, is termed a "pollutant linkage". A "pollutant linkage" is only considered to exist if all three elements of the linkage are present (i.e. source, pathway and receptor). Where one of these conditions is absent, there is, by definition, no risk. The risk is itself considered in terms of its significance and this is qualitatively assessed on the basis of magnitude of harm that may occur and likelihood of that harm occurring.

Potential Sources of Contamination

6.4 The site comprises of a currently unused car park. The following potential sources of contamination have been identified from the desk study and site walkover of external areas:

- Underground services;
- The public highway south and east of the site could be a source for fuel oil spills;
- Leaks and spillages of hydrocarbons from cars in the carpark.
- General rubbish found at the contained areas for bins onsite;
- Migration of volatile contaminants through the ground;
- Offsite contamination (Bath Road, and infilled gravel pits);
- Historic activities in the areas (e.g. factories); and
- invasive plants (cotoneaster).

Potential Pathways

6.5 The site lies over predominantly impermeable London Clay as the bedrock. However, above this there are permeable sands and gravels, which have a high potential for leaching and subterranean migration of fluids.

6.6 The following potential pathways have been identified in the context of the current site condition:

- Leaching of localised mobile inorganic and organic contamination into surface and ground water;
- Buried pipes and services;
- Soil ingestion, dermal contact, inhalation;
- Vegetation uptake
- Migration of volatile contaminants through the ground; and
- Chemical attack.

Potential Receptors

6.7 The risk of contamination exposure to any future ground workers can generally be mitigated via the use of appropriate Health & Safety Risk Assessments and PPE. The following potential receptors have been identified:

- Ecological environment;
- Construction workers;
- Future site users;
- Neighbouring site users; and
- Ground/surface water.

7. Conclusions

7.1 The geological records indicate that the geology of the site is the London Clay Formation with an overlying Taplow Gravel Member.

7.2 The main potential contamination sources on the site are from its current use as a car park. There is a risk of hydrocarbon leakage and spillage from vehicles using this site, as well as chemicals from the wearing of tyres. Runoff from Bath Road to the underlying geology could have also migrated across the soils beneath the car parking area. These potential sources would likely be localised and uncommon, but could drain to low lying areas, resulting in localised areas of contamination. However, there was no observed evidence of any contamination of that kind.

7.3 The historic use of the site as an orchard and school is considered a **Very Low** risk as a potential contamination source. The current use of the site as a car park is a **Low** risk as a potential contamination source. The risk is considered to be mainly from the potential localised areas of hydrocarbons spillages from vehicles using the car park and the unknown infilling of the EA/NRW Historic Landfill sites.

7.4 The future use of the site as a residential apartment complex, private gardens and car parking is predicted to have a **Low/Moderate** contamination risk.

7.5 The potential risks to the current or proposed future users of the site from any off-site contamination sources, either current or historical, are considered to be **Moderate**. The site is primarily surrounded by commercial office buildings, hotels, residential buildings and agricultural farmland, there is a potential risk of contaminants migrating onsite site from the offsite historic and active landfills and factories, as well as from the roadways around the site.

7.6 There is also a potential migration risk of leachate and gases through the Taplow Gravel Member from the EA/NRW Historic Landfill sites to the south-east and to the north of the site. The material used to infill the gravel pits is unknown making the risk **Moderate**. This can only be determined from further investigation. However, there have been no reported incidents of landfill gas or leachate in the area. The actual presence of contamination in, on, or under the ground from hydrocarbons, leachate and gas can only be confirmed by an intrusive site investigation and gas monitoring.

7.7 Based on the above we consider the risk of contamination being in the ground of the external areas of the site is **Moderate**, however the actual presence of contamination in, on, or under the ground can only be confirmed by an intrusive site investigation. Therefore, we recommend that a site investigation is carried out as this is the only way to confirm if there has, or has not been any contamination of the site from the current or previous uses of the site and the surrounding areas. This assessment will also need to assess the potential of gas migration from the adjacent landfills.

7.8 Cotoneaster plants were also observed on site. Five Cotoneaster species are listed on the WCA, as invasive non-natives species that should not be allowed to grow in the wild.

7.9 An Unexploded Ordinance (UXO) risk exists at the site, and a UXO Risk Assessment should also be undertaken to assess the UXO hazard.

8. References

- Environment Agency (2020) Land Contaminated Risk Management (LCRM)
- REP 211 Radon (2015): guidance on protective measures for new buildings
- BS 10175:2011+A2:2017 Investigation of potentially contaminated sites. Code of practice. Code of practice.

Site Walkover Figure

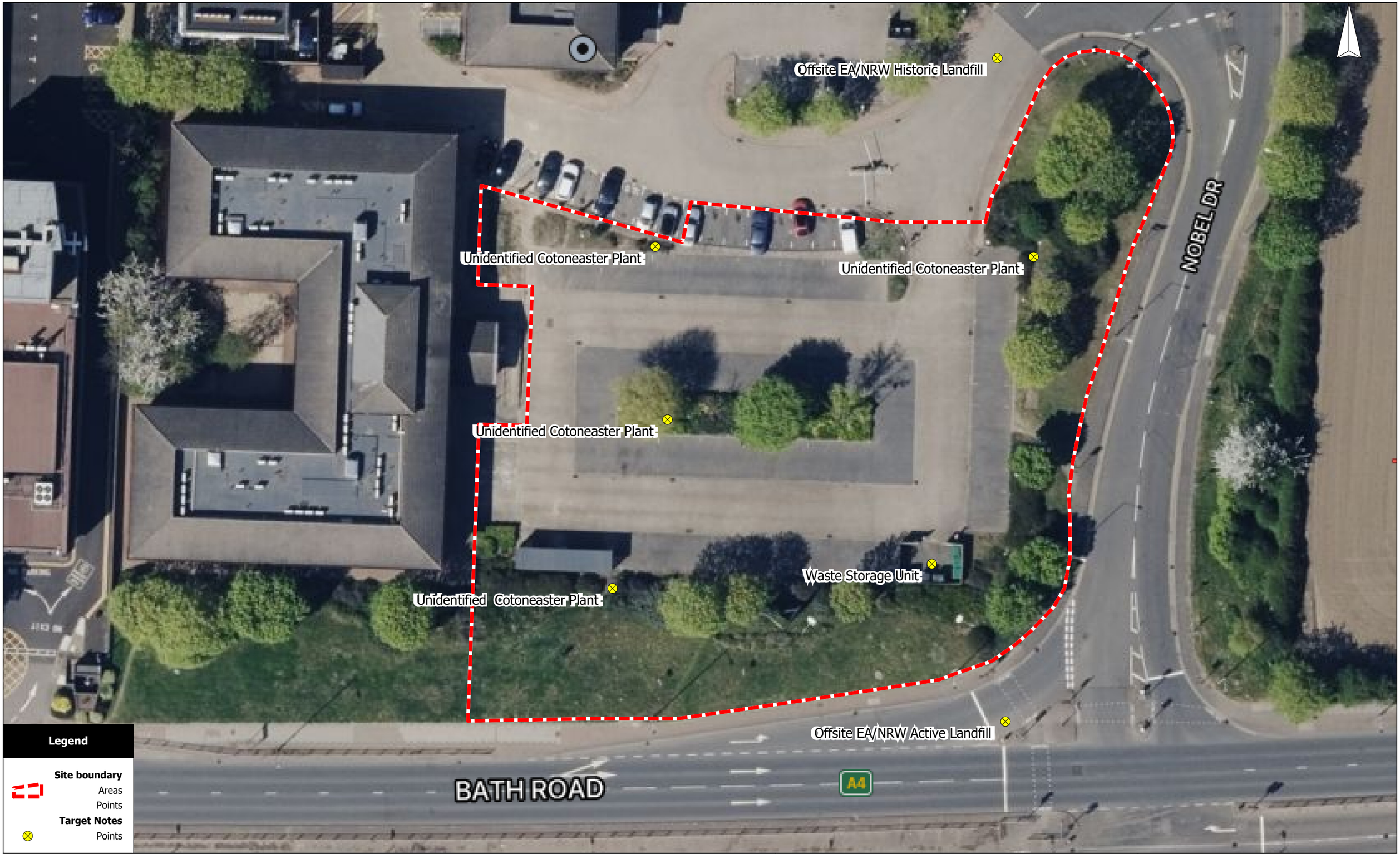

Figure 1: PRA Survey at
Land Adjacent to Building 2, Status Park, Nobel Drive,
Harlington, Hayes UB3 5EY

phlorum

Scale: NTS
Job no.: 8127
Drawn by: DMAB
Printed at: 04/11/2022
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Appendix A

Groundsure Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

2 STATUS PARK, NOBEL DRIVE, HEATHROW, UB3 5EY

Order Details

Date: 18/10/2022

Your ref: 8127

Our Ref: HMD-439-9137610

Site Details

Location: 509164 176959

Area: 0.4 ha

Authority: London Borough of Hillingdon

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	2	12	26	-
16	1.2	Historical tanks	0	0	1	15	-
17	1.3	Historical energy features	0	3	7	8	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
19	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
20	2.1	Historical industrial land uses	0	1	15	35	-
22	2.2	Historical tanks	0	0	3	25	-
24	2.3	Historical energy features	0	5	9	19	-
25	2.4	Historical petrol stations	0	0	0	0	-
25	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
26	3.1	Active or recent landfill	0	1	0	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
27	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
27	3.4	Historical landfill (EA/NRW records)	0	1	2	0	-
28	3.5	Historical waste sites	0	0	0	0	-
28	3.6	Licensed waste sites	0	0	0	0	-
28	3.7	Waste exemptions	0	0	0	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	Recent industrial land uses	0	1	7	-	-
30	4.2	Current or recent petrol stations	0	0	0	1	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-

31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	4	1	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
33	4.15	Pollutant release to public sewer	0	0	0	0	-
33	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	0	0	-
34	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
34	4.19	Pollution inventory substances	0	0	0	0	-
34	4.20	Pollution inventory waste transfers	0	0	0	0	-
34	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
35	**5.1**	**Superficial aquifer**	Identified (within 500m)				
37	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
38	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
40	**5.5**	**Groundwater vulnerability- local information**	Identified (within 0m)				
41	**5.6**	**Groundwater abstractions**	0	0	1	2	12
45	5.7	Surface water abstractions	0	0	0	0	0
45	**5.8**	**Potable abstractions**	0	0	0	0	1
46	5.9	Source Protection Zones	0	0	0	0	-
46	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
47	**6.1**	**Water Network (OS MasterMap)**	0	0	1	-	-

48	6.2	Surface water features	0	0	1	-	-
48	6.3	WFD Surface water body catchments	1	-	-	-	-
48	6.4	WFD Surface water bodies	0	0	0	-	-
49	6.5	WFD Groundwater bodies	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
50	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
50	7.2	Historical Flood Events	0	0	0	-	-
50	7.3	Flood Defences	0	0	0	-	-
51	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
51	7.5	Flood Storage Areas	0	0	0	-	-
52	7.6	Flood Zone 2	None (within 50m)				
52	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
53	8.1	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
55	9.1	Groundwater flooding	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
56	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
57	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
57	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
57	10.4	Special Protection Areas (SPA)	0	0	0	0	0
57	10.5	National Nature Reserves (NNR)	0	0	0	0	0
58	10.6	Local Nature Reserves (LNR)	0	0	0	0	1
58	10.7	Designated Ancient Woodland	0	0	0	0	0
58	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
59	10.10	Marine Conservation Zones	0	0	0	0	0
59	10.11	Green Belt	0	1	0	0	15
60	10.12	Proposed Ramsar sites	0	0	0	0	0

60	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
60	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
60	10.15	Nitrate Sensitive Areas	0	0	0	0	0
61	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
62	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
63	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
64	11.1	World Heritage Sites	0	0	0	-	-
64	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
64	11.3	National Parks	0	0	0	-	-
64	11.4	Listed Buildings	0	0	0	-	-
65	11.5	Conservation Areas	0	0	0	-	-
65	11.6	Scheduled Ancient Monuments	0	0	0	-	-
65	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
66	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
67	12.2	Open Access Land	0	0	0	-	-
67	12.3	Tree Felling Licences	0	0	0	-	-
67	12.4	Environmental Stewardship Schemes	0	0	0	-	-
67	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
68	13.1	Priority Habitat Inventory	0	0	0	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	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
69	**14.1**	**10k Availability**	Identified (within 500m)				
70	**14.2**	**Artificial and made ground (10k)**	0	1	9	1	-
72	**14.3**	**Superficial geology (10k)**	1	1	1	0	-

73	14.4	Landslip (10k)	0	0	0	0	-
74	14.5	Bedrock geology (10k)	1	0	0	0	-
75	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
76	15.1	50k Availability	Identified (within 500m)				
77	15.2	Artificial and made ground (50k)	0	1	2	0	-
78	15.3	Artificial ground permeability (50k)	0	1	-	-	-
79	15.4	Superficial geology (50k)	1	1	1	0	-
80	15.5	Superficial permeability (50k)	Identified (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81	15.8	Bedrock geology (50k)	1	0	0	0	-
82	15.9	Bedrock permeability (50k)	Identified (within 50m)				
82	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
83	16.1	BGS Boreholes	0	0	15	-	-
Page	Section	Natural ground subsidence					
85	17.1	Shrink swell clays	Very low (within 50m)				
86	17.2	Running sands	Very low (within 50m)				
88	17.3	Compressible deposits	Moderate (within 50m)				
90	17.4	Collapsible deposits	Low (within 50m)				
91	17.5	Landslides	Very low (within 50m)				
92	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
93	18.1	Natural cavities	0	0	0	0	-
94	18.2	BritPits	0	0	0	1	-
94	18.3	Surface ground workings	0	0	22	-	-
95	18.4	Underground workings	0	0	0	0	0
95	18.5	Historical Mineral Planning Areas	0	0	0	0	-

96	18.6	Non-coal mining	0	0	0	0	0
96	18.7	Mining cavities	0	0	0	0	0
96	18.8	JPB mining areas	None (within 0m)				
96	18.9	Coal mining	None (within 0m)				
96	18.10	Brine areas	None (within 0m)				
97	18.11	Gypsum areas	None (within 0m)				
97	18.12	Tin mining	None (within 0m)				
97	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
98	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
99	**20.1**	**BGS Estimated Background Soil Chemistry**	1	5	-	-	-
99	**20.2**	**BGS Estimated Urban Soil Chemistry**	2	4	-	-	-
100	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
101	21.1	Underground railways (London)	0	0	0	-	-
101	21.2	Underground railways (Non-London)	0	0	0	-	-
101	21.3	Railway tunnels	0	0	0	-	-
101	21.4	Historical railway and tunnel features	0	0	0	-	-
101	21.5	Royal Mail tunnels	0	0	0	-	-
102	21.6	Historical railways	0	0	0	-	-
102	21.7	Railways	0	0	0	-	-
102	21.8	Crossrail 1	0	0	0	0	-
102	21.9	Crossrail 2	0	0	0	0	-
102	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 13/06/2021

Site Area: 0.4ha

Recent site history - 2019 aerial photograph

Capture Date: 29/06/2019

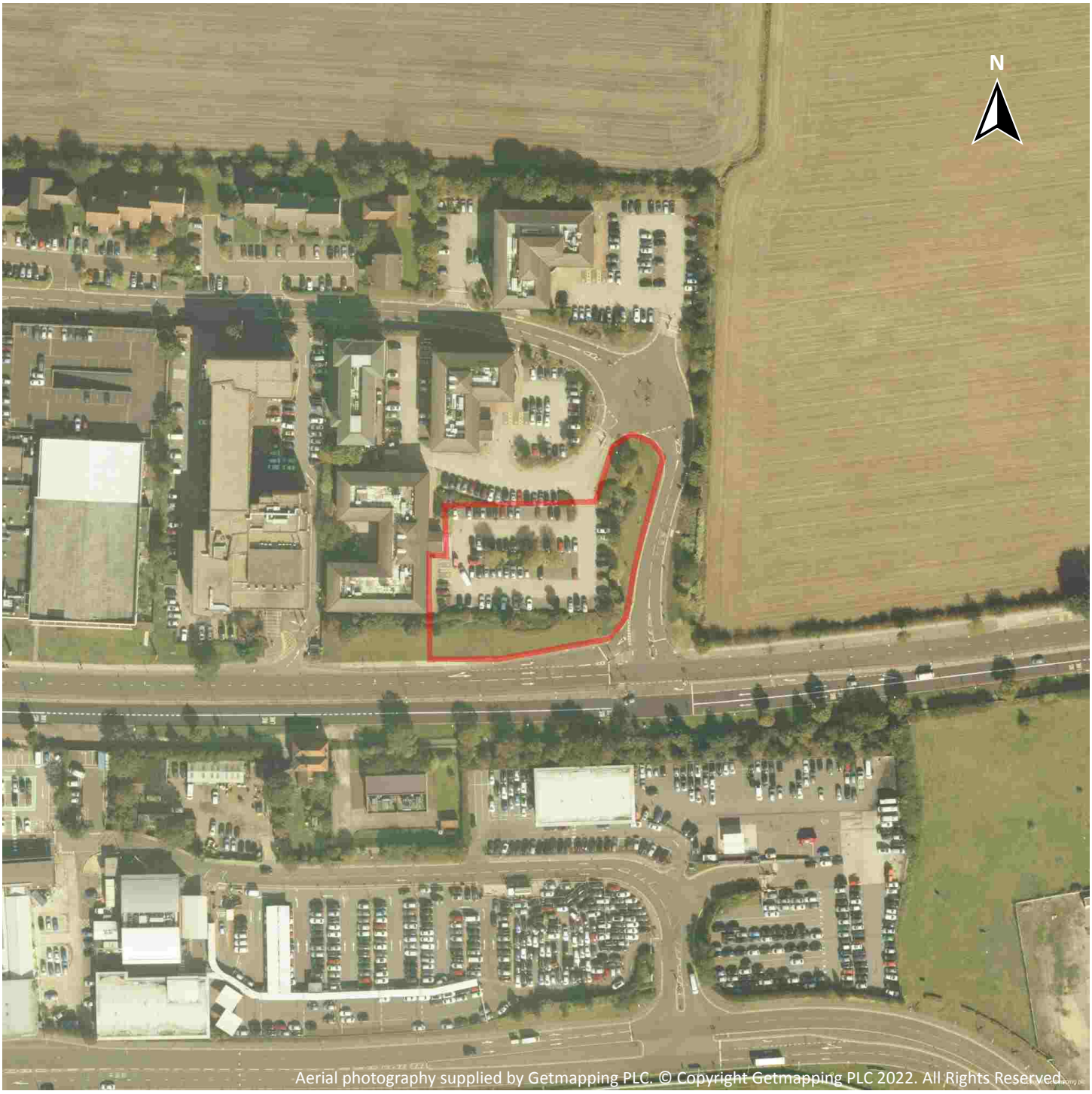
Site Area: 0.4ha

Recent site history - 2015 aerial photograph

Capture Date: 20/04/2015

Site Area: 0.4ha

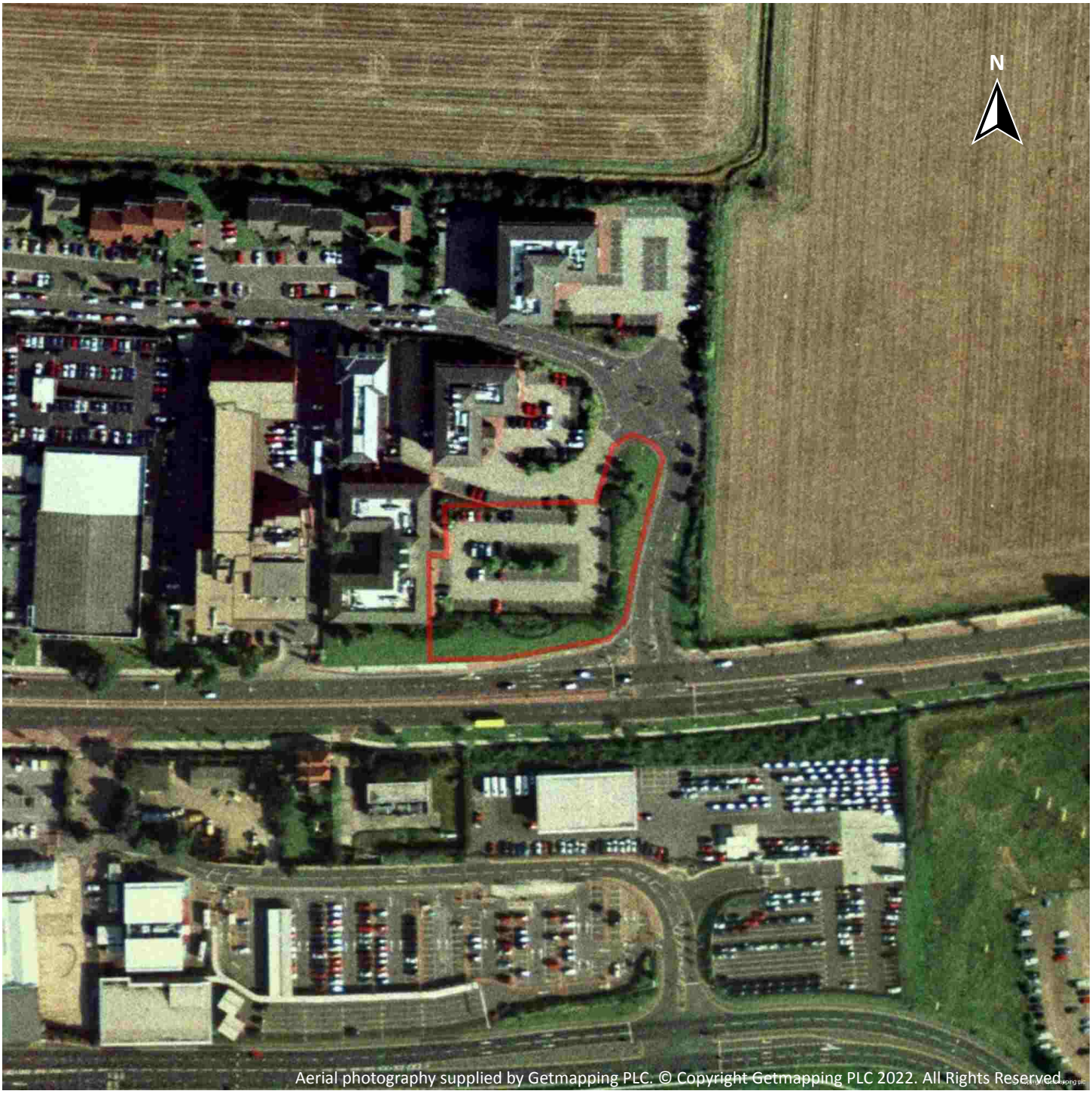
Recent site history - 2011 aerial photograph



Capture Date: 30/09/2011

Site Area: 0.4ha

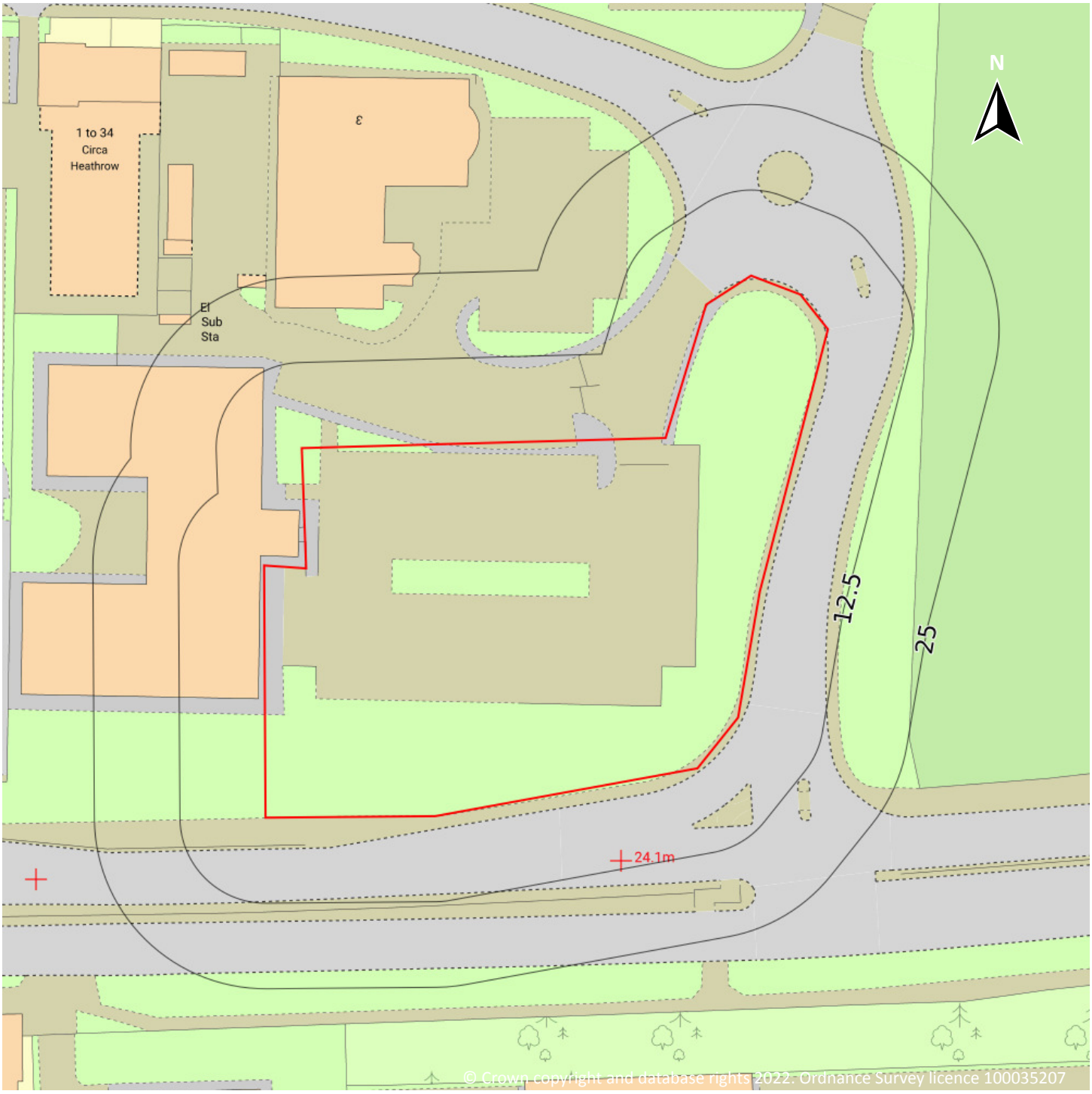
Recent site history - 1999 aerial photograph



Capture Date: 29/08/1999

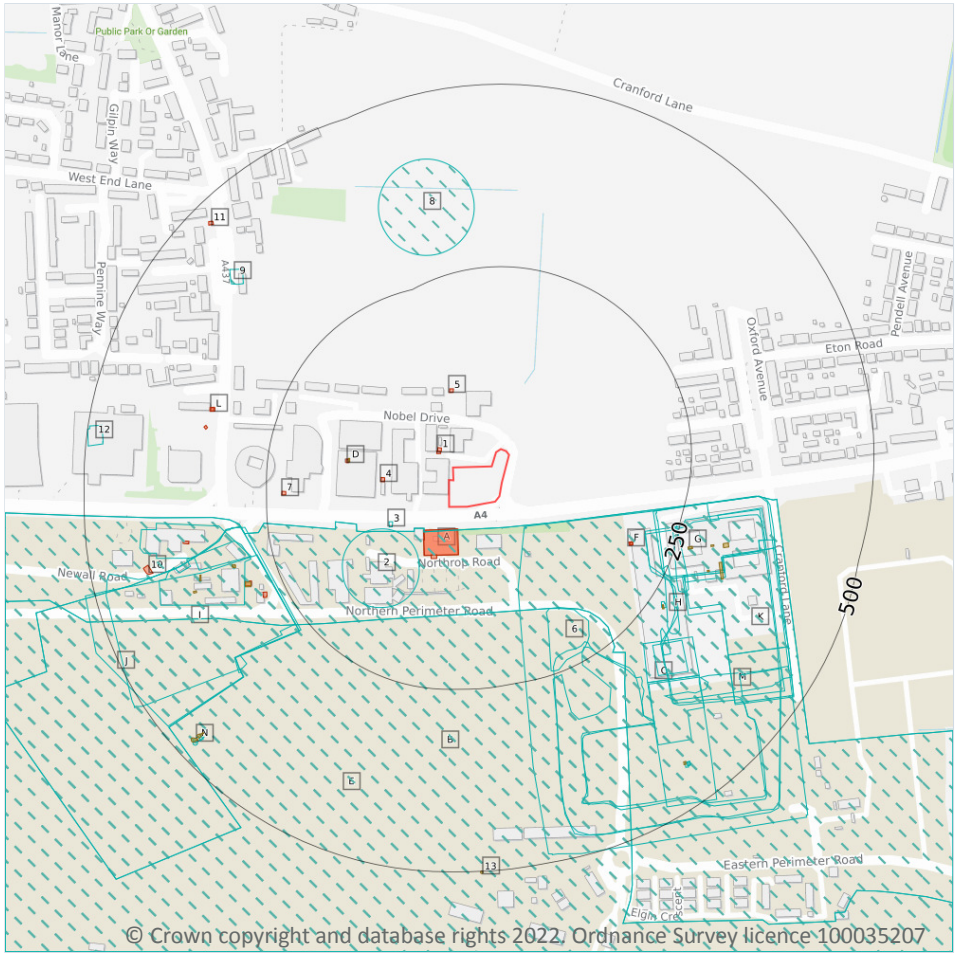
Site Area: 0.4ha

OS MasterMap site plan



Site Area: 0.4ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	40

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
B	31m S	Airport	1959	2271702

ID	Location	Land use	Dates present	Group ID
B	31m S	Airport	1964 - 1966	2279956
C	54m SE	Sand and Gravel Works	1935 - 1938	2258317
2	71m SW	Saw Pit	1865	2162465
3	80m W	Saw Pit	1882	2162467
E	147m S	Airport	1974 - 1987	2186997
E	147m S	Airport	1970	2240650
6	164m SE	Gravel Pit	1932	2263149
C	205m E	Gravel Pit	1935	2179521
C	206m E	Refuse Heap	1938	2158671
G	211m E	Unspecified Works	1970	2238411
G	215m E	Unspecified Factory	1974 - 1987	2281278
G	243m E	Unspecified Ground Workings	1882	2133391
H	244m SE	Unspecified Pit	1865	2125200
I	259m SW	Nursery	1912	2270460
I	262m SW	Nursery	1935	2206596
J	262m SW	Nursery	1938	2177591
J	262m SW	Nursery	1932	2225266
H	265m SE	Unspecified Tank	1935 - 1938	2291131
K	274m SE	Unspecified Works	1970 - 1974	2248683
K	275m SE	Unspecified Works	1987	2282928
I	280m W	Telephone Exchange	1974 - 1987	2189078
8	281m N	Gravel Pit	1987	2138955
I	281m W	Unspecified Depot	1987	2147051
C	281m SE	Unspecified Warehouse	1987	2199910
C	287m SE	Unspecified Pit	1865	2125201
C	292m SE	Unspecified Warehouse	1974	2221612
C	324m SE	Unspecified Warehouse	1987	2244974
C	327m SE	Unspecified Commercial/Industrial	1974	2130804

ID	Location	Land use	Dates present	Group ID
M	354m SE	Gravel Pit	1932	2193259
M	381m SE	Unspecified Works	1987	2186724
9	382m NW	Smithy	1894 - 1897	2263438
M	410m SE	Unspecified Works	1970	2280997
C	442m SE	Unspecified Tank	1935	2254242
C	443m SE	Unspecified Tank	1938	2217920
C	443m SE	Unspecified Tank	1932	2268688
N	461m SW	Sewage Tanks	1935	2263824
N	462m SW	Sewage Tanks	1938	2286835
N	472m SW	Sewage Tanks	1938	2173918
12	477m W	Sewage Pumping Station	1935 - 1938	2218185

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**16**

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
D	138m W	Unspecified Tank	1974 - 1987	406628
G	268m E	Unspecified Tank	1974 - 1993	385705
H	268m SE	Unspecified Tank	1932 - 1935	404120
I	290m W	Unspecified Tank	1998	363029
G	297m E	Unspecified Tank	1974	363024
G	302m E	Unspecified Tank	1974	363025
I	303m W	Unspecified Tank	1986 - 1998	401804

ID	Location	Land use	Dates present	Group ID
G	313m E	Unspecified Tank	1990 - 1997	389488
G	314m E	Tanks	1990 - 1997	404540
I	353m W	Unspecified Tank	1974	363026
I	354m W	Unspecified Tank	1974	363028
I	365m W	Unspecified Tank	1974	363027
C	440m SE	Unspecified Tank	1932 - 1935	388183
N	457m SW	Sewage Tanks	1932 - 1935	390725
N	469m SW	Sewage Tanks	1932 - 1935	389593
13	500m S	Unspecified Tank	1913	363030

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**18**

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
1	26m NW	Electricity Substation	1990 - 1993	263589
A	30m S	Electricity Substation	1990 - 1993	268166
A	30m S	Electricity Substation	1974	260726
A	68m S	Electricity Substation	1993	255158
4	88m W	Electricity Substation	1990 - 1993	288073
5	101m NW	Electricity Substation	1990	243728
D	140m W	Electricity Substation	1998	243729
F	188m E	Electricity Substation	1990 - 1993	263454
F	190m E	Electricity Substation	1974	272631

ID	Location	Land use	Dates present	Group ID
7	224m W	Electricity Substation	1998	243730
I	276m SW	Electricity Substation	1974 - 1998	269529
I	289m W	Electricity Substation	1974 - 1987	281962
L	334m W	Electricity Substation	1972	263841
L	336m W	Electricity Substation	1988 - 1990	258002
L	339m W	Electricity Substation	1990	243594
I	360m W	Electricity Substation	1974 - 1998	276477
10	416m W	Electricity Substation	1998	243590
11	468m NW	Electricity Substation	1972 - 1990	266217

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	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

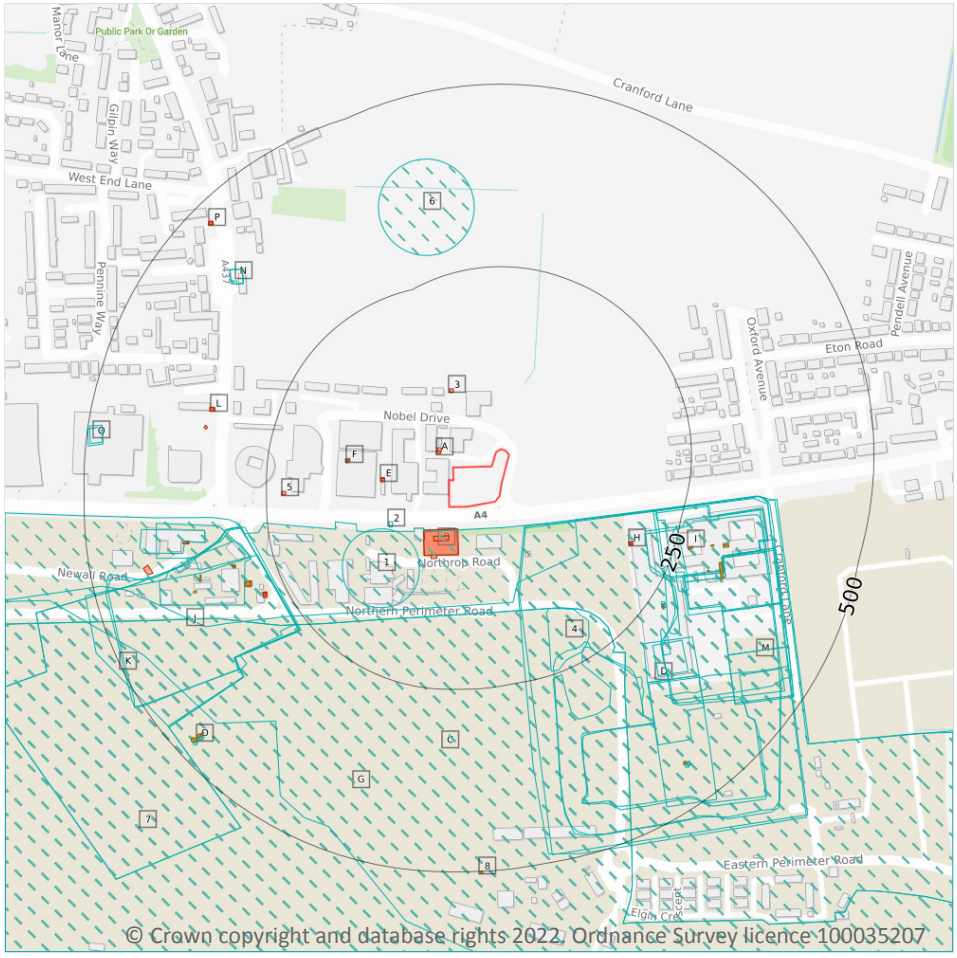
1.6 Historical military land

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

2.1 Historical industrial land uses

Records within 500m	51

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 20**

ID	Location	Land Use	Date	Group ID
C	31m S	Airport	1964	2279956
D	54m SE	Sand and Gravel Works	1938	2258317
D	54m SE	Sand and Gravel Works	1935	2258317

ID	Location	Land Use	Date	Group ID
1	71m SW	Saw Pit	1865	2162465
2	80m W	Saw Pit	1882	2162467
C	109m E	Airport	1959	2271702
G	147m S	Airport	1987	2186997
G	147m S	Airport	1974	2186997
4	164m SE	Gravel Pit	1932	2263149
D	205m E	Gravel Pit	1935	2179521
D	206m E	Refuse Heap	1938	2158671
I	211m E	Unspecified Works	1970	2238411
I	215m E	Unspecified Factory	1987	2281278
I	215m E	Unspecified Factory	1974	2281278
I	243m E	Unspecified Ground Workings	1882	2133391
D	244m SE	Unspecified Pit	1865	2125200
J	259m SW	Nursery	1912	2270460
J	261m SW	Nursery	1912	2270460
J	262m SW	Nursery	1935	2206596
K	262m SW	Nursery	1938	2177591
K	262m SW	Nursery	1932	2225266
D	265m SE	Unspecified Tank	1935	2291131
D	268m SE	Unspecified Tank	1938	2291131
I	274m SE	Unspecified Works	1970	2248683
I	275m SE	Unspecified Works	1987	2282928
J	280m W	Telephone Exchange	1974	2189078
6	281m N	Gravel Pit	1987	2138955
I	281m SE	Unspecified Works	1974	2248683
J	281m W	Unspecified Depot	1987	2147051
D	281m SE	Unspecified Warehouse	1987	2199910
D	287m SE	Unspecified Pit	1865	2125201

ID	Location	Land Use	Date	Group ID
D	292m SE	Unspecified Warehouse	1974	2221612
D	324m SE	Unspecified Warehouse	1987	2244974
D	327m SE	Unspecified Commercial/Industrial	1974	2130804
J	337m W	Telephone Exchange	1987	2189078
M	344m SE	Unspecified Works	1974	2248683
M	354m SE	Gravel Pit	1932	2193259
7	378m SW	Airport	1970	2240650
M	381m SE	Unspecified Works	1987	2186724
N	382m NW	Smithy	1894	2263438
N	382m NW	Smithy	1897	2263438
M	410m SE	Unspecified Works	1970	2280997
D	442m SE	Unspecified Tank	1935	2254242
D	443m SE	Unspecified Tank	1938	2217920
D	443m SE	Unspecified Tank	1932	2268688
O	461m SW	Sewage Tanks	1935	2263824
O	461m SW	Sewage Tanks	1935	2263824
O	462m SW	Sewage Tanks	1938	2286835
O	472m SW	Sewage Tanks	1938	2173918
Q	477m W	Sewage Pumping Station	1938	2218185
Q	477m W	Sewage Pumping Station	1935	2218185

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**28**

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 20**

ID	Location	Land Use	Date	Group ID
F	138m W	Unspecified Tank	1986	406628
F	138m W	Unspecified Tank	1987	406628
F	139m W	Unspecified Tank	1974	406628
I	268m E	Unspecified Tank	1990	385705
I	268m E	Unspecified Tank	1974	385705
I	268m E	Unspecified Tank	1993	385705
D	268m SE	Unspecified Tank	1935	404120
D	269m SE	Unspecified Tank	1932	404120
J	290m W	Unspecified Tank	1998	363029
I	297m E	Unspecified Tank	1974	363024
I	302m E	Unspecified Tank	1974	363025
J	303m W	Unspecified Tank	1998	401804
J	304m W	Unspecified Tank	1986	401804
J	304m W	Unspecified Tank	1987	401804
I	313m E	Unspecified Tank	1990	389488
I	314m E	Unspecified Tank	1997	389488
I	314m E	Tanks	1990	404540
I	315m E	Tanks	1997	404540
J	353m W	Unspecified Tank	1974	363026
J	354m W	Unspecified Tank	1974	363028
J	365m W	Unspecified Tank	1974	363027
D	440m SE	Unspecified Tank	1932	388183
D	440m SE	Unspecified Tank	1935	388183
O	457m SW	Sewage Tanks	1932	390725
O	457m SW	Sewage Tanks	1935	390725
O	469m SW	Sewage Tanks	1932	389593
O	469m SW	Sewage Tanks	1935	389593
8	500m S	Unspecified Tank	1913	363030

This data is sourced from Ordnance Survey / Groundsure.