Intended for
Montagu Evans LLP

On behalf of
Sackville Property Hayes (Jersey GP) Limited
As general partner of Threadneedle UKPEC6 Hayes Jersey LP

Date
June 2025

Project Number
1620017965

HYDE PARK HAYES
PHASE I GEOENVIRONMENTAL SITE ASSESSMENT

RAMBOLL

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Project No.	**1620017965**
Issue No.	**02**
Date	**25th June 2025**
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Made by:

Checked/Approved by:

Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
01	14/05/2025	LW / MW / IB	SGR	SS	First Issue to Client
02	25/06/2025	LW / MW / IB	SGR	SS	Second Issue to Client

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EXECUTIVE SUMMARY

Ramboll UK Limited ("Ramboll") was instructed by Montagu Evans LLP on behalf of Sackville Property Hayes (Jersey GP) Limited as general partner of Threadneedle UKPEC6 Hayes Jersey LP (the "Client"), to undertake a Phase I Geoenvironmental Assessment of the Hyde Park Hayes, Millington Road, Hayes, Middlesex (the "site").

It is understood that the Client is considering the proposed redevelopment of the site with a residentially-led mixed-use scheme.

The review was undertaken by desk-based research, a site inspection, review of previous reports and regulatory enquiries. The site is located approximately 500m south-west of the centre of Hayes, Middlesex and 2.5km north-west of Heathrow Airport, and occupies an area of approximately 2.48 hectares. The site is currently occupied by (mostly vacant) office buildings and associated vehicle parking; it is proposed to redevelop the site with several residential blocks, with associated vehicle parking, some ancillary commercial and community uses and landscaping.

The findings of the Phase I Environmental Assessment may be summarised as follows:-

- The potential for significant ground contamination to exist at the site due to current and historical uses is considered to be ***moderate***.
- The potential for significant ground contamination to exist at the site as a result of off-site activities is considered to be ***moderate***.
- The hydrogeological sensitivity of the site is considered to be ***moderate to high*** (due to the underlying Principal Aquifer), and the vulnerability of groundwater resources is considered to be ***moderate*** (due to the presence of soakaways for storm water disposal).
- The hydrological sensitivity of the site is considered to be ***low*** (as the nearest assessed watercourse is artificial (Grand Union Canal) and has been classified as having 'Moderate' Ecological Potential by the Environment Agency (EA) under the Water Framework Directive (WFD)). The vulnerability is considered to be ***low*** (since the Canal is located approximately 470m north).
- The site is located within Flood Zone 1, indicating that the area has been assessed as having a less than a 1 in 1,000 (<0.1%) annual probability of river or sea flooding.
- The sensitivity of the site in relation to land use is currently considered to be ***low to moderate***, but in the proposed residential redevelopment scenario, would be considered ***moderate to high***.

In the UK, a risk-based approach is used to assess the potential impact associated with ground contamination. Overall the current and former use of the site indicates that there is a ***low to moderate*** potential for significant or widespread soil and groundwater contamination, relevant to the current commercial land use.

Additional ground investigation work is required, in order to gather further data to allow site-specific risk assessment relating to the proposed development (particularly in the proposed extended basement car park area (current Multi-Storey Car Park area) and the areas of HPH2 and the surface car park in the north of the site, where ground investigation coverage to date has been low), and also to conduct appropriate appraisal for geotechnical purposes.

Due to the anticipated loads associated with the redevelopment, it is currently considered that a piled foundation could be a suitable solution.

1. INTRODUCTION

1.1 Background

This report presents the objectives, scope, findings and conclusions of a Phase I Geoenvironmental Site Assessment undertaken at Hyde Park Hayes, Millington Road, Hayes, Middlesex, UB3 4AZ (the "site").

This report was prepared by Ramboll UK Limited ("Ramboll") on behalf of Sackville Property Hayes (Jersey GP) Limited as general partner of Threadneedle UKPEC6 Hayes Jersey LP (the "Client"), in connection with the proposed redevelopment of the site with a residentially-led scheme, and the associated Planning Application.

1.2 Objectives

The main objective of the review was to assess the potential for soil or groundwater contamination, both at and in the vicinity of the site, and its likely implications to the Client in terms of the site's redevelopment for predominantly residential use.

A secondary objective was to establish the regulatory flood zone classification for the site.

This report also considers an additional objective to undertake a preliminary geotechnical assessment of the proposed development, and an appraisal of the key geotechnical risks.

1.3 Scope of Works

The scope of the Phase I Geoenvironmental Site Assessment has included the following:-

- examination of historic, recent and current Ordnance Survey plans to identify activities which might have led to contamination of soil or groundwater (for example, from manufacturing processes, from storage activities or waste disposal practices) both on the subject site and on adjacent sites;
- examination of published records and plans on the shallow and deep geology and hydrogeology of the site to assess the vulnerability and sensitivity of groundwater and surface water resources to contamination, if present, and the possible direction of movement off site, if mobile;
- a detailed review of the ground conditions, in relation to the geoenvironmental risks that may be present;
- search of a proprietary database of environmental permits, records and incidents at the site and surrounding area;
- enquiries of the Local Authority Planning and Environmental Health Departments to obtain information on environmental conditions, incidents and known contamination risks and on the Local Authority's Contaminated Land Strategy; and
- a site walk-over visit.

1.3.1 Scope of Works Notable Exceptions and Restrictions

No sampling or analysis of soils, waters or other materials has been carried out as part of the Phase I Environmental Site Assessment.

The assessment did not include an audit of operational environmental compliance issues or environmental compliance requirements associated with close-down of operations and site exit.

The assessment specifically excluded a detailed assessment as to the presence and condition of asbestos or asbestiform containing materials at the site.

Ramboll's visit was limited to the basement area of HPH5, rooftop plant of HPH2 and HPH5, basement / ground floor of the multi-storey car park, surrounding external areas and the northern surface car park.

As the majority of the buildings are proposed to be demolished as part of the redevelopment, internal areas in the upper floors of the buildings were not accessed during the visit.

1.4 The Proposed Development

Ramboll understands that it is intended to submit an outline Planning Application for redevelopment of the site, for a residentially-led mixed-use development.

The proposed development would comprise approximately 61,810m^2 of residential floorspace (approx. 652 units), and 150m^2 of non-residential floor space, over four (4) blocks of ten (10) to eleven (11) storeys in height (maximum height 67.9m). It is understood that the maximum height of the buildings are capped due to the proximity of the site to Heathrow Airport.

Ramboll understands that the proposed development would be achieved by:-

- **Block A** - development of the existing surface car park area in the north with two (2) 11-storey towers; no basement proposed.
- **Block B** - demolition of HPH2 and replacement with 11-storey building with car parking and some residential units at ground floor level; no basement.
- **Block C** - demolition of HPH5 to ground level, retaining the existing basement car park and extending it to the east beneath the current Multi-Storey Car Park area. New 10-storey residential building to be constructed on the approximate footprint of HPH5.
- **Block D** - demolition of Multi-Storey Car Park (MSCP), new basement car park extended from HPH5. New 10-storey residential building above with additional car parking and some residential units at ground floor level.

A total of 272 vehicle parking spaces are proposed to be provided for residential use, and 112 for commercial use, spread over the ground floor level in Block B (site of HPH2), enlarged basement in Blocks C (including the site of HPH5) and ground floor level in Block D (site of MSCP) and on-street parking bays.

Amenities within the development are proposed to include cycle parking for residents and visitors, play space (to the north of Building HPH1), private front gardens to ground floor level units and communal open spaces.

Communal open spaces would include public realm landscaping between and around the buildings, semi-private courtyard gardens within the building footprint areas (at first floor level at Blocks C and D, and ground floor level at Block B), and roof terraces.

1.5 General Limitations and Reliance

This report has been prepared by Ramboll exclusively for the intended use by the Client in accordance with the agreement between Ramboll and the Client defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the Client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the

information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and / or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the Client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

Unless otherwise stated in this report, the scope of services, assessment and conclusions made assume that the site is to be redeveloped with a residentially-led scheme as described in Section 1.4 above.

Ramboll's scope of services for this assignment did not include collecting samples of any environmental media. Ramboll cannot rule out the existence of conditions, including, but not limited to, contamination not identified and defined by the data and information available to and / or obtained by Ramboll. Specifically, this assessment must not be considered as an asbestos survey (whether in built structures, waste, soils, etc.), even though the subject of asbestos-containing materials may have been discussed in the report.

2. SITE VISIT

The following information was derived from a site visit undertaken on Friday 2nd May 2025 by Matt Wright of Ramboll UK Limited ("Ramboll"). Discussions were held with Luke Squires, HPH2 / HPH5 Rackspace (who has worked at the site since c. 2015), and John Okolie, Site Security (who has worked at the site since c. 2010).

The purpose of the site visit was to assess whether there is potential for contamination from current and recent activities.

Ramboll's visit was limited to the basement area of HPH5, rooftop plant of HPH2 and HPH5, basement / ground floor of the multi-storey car park, surrounding external areas and the northern surface car park. As the majority of the buildings are proposed to be demolished as part of the re-development, internal areas in the upper floors of the buildings were not accessed during the visit.

Figures showing the location of the site, site boundary and key features on site are presented in Appendix 1. Photographs taken during the site visit are presented in Appendix 3.

2.1 Site Setting

The site forms part of the wider Hyde Park Hayes Business Park, approximately 500m south-west of the centre of Hayes, Middlesex, and 2.5km north-west of Heathrow Airport, at National Grid Reference 509250, 179210. The primary vehicular access to the site is via Millington Road, from a roundabout located to the west of the site. Supplementary vehicle and pedestrian access to the site can be obtained from the north-east and south-east, along Millington Road (which circumnavigates buildings HPH1, HPH2, HPH5 and the multi-storey car park).

The full site address is:-

Hyde Park Hayes,
Millington Road,
Hayes,
UB3 4AZ

The site is located within an area of mixed land use, with commercial and residential properties. Adjacent and surrounding land uses are summarised in Table 2.1 below.

Table 2.1: Adjacent and Surrounding Land Uses

Direction	Distance	Occupant	Activities	Notes
North	Adjacent	North Hyde Road	N/A	
	30m	Residential properties	Residential houses with gardens	
	30m	Yodel	Warehouse in logistics use	
	60m	Railway Line	Elizabeth Line / Great Western Railway	
South	Adjacent	Millington Road	Estate access road	Concrete-surfaced
	10m	Geiger, Attewell, Nippon Express	Brand merchandising, Aerospace Engineering, Logistics	Single storey industrial units.
	40m	Residential properties	Residential houses with gardens	

Direction	Distance	Occupant	Activities	Notes
East	Adjacent	Hyde Park Hayes Building 1 (HPH1)	Mixed Commercial and Residential building	
	Adjacent	Millington Road	Estate access road	Concrete-surfaced
	10m	Selco City Circle UK Ltd	Builders Merchants. Coach and minibus hire depot	Adjacent
	100m	Asda	Supermarket and Petrol Filling Station (PFS)	PFS 130m east
West	Adjacent	Millington Road	Estate access road	Concrete and asphalt surfaced
	10m	HPH Building 3	Residential building	Converted office building
	10m	HPH Plot 4	Vacant plot with planning consent for residential development	Asphalt hardstanding and rough grassland
	70m	Undeveloped land	Landscaped public open space	Grassed with ornamental tree planting
	100m	Dawley Road	Trunk road	

2.2 Site Layout and Activities

The existing site is an irregularly-shaped parcel of land, that extends to an area of c. 2.48 hectares, and currently primarily comprises three (3) separate buildings: HPH2 (in the west), HPH5 (in the south-west), and a multi-storey car park (MSCP, in the south-east). The site layout is presented in Figure 2.

In addition to the main buildings, the site also has a substation / generator building (in the central west between HPH2 and HPH5), and an external surface car park (in the north).

The buildings are generally surrounded by car parking, access roads, and soft landscaping, with the largest green space area located in the central portion of the site between HPH2 and HPH5.

The site is generally flat, as is the surrounding area.

Current site occupants and activities are summarised in Table 2.2 below.

Table 2.2: Summary of Site Occupants and Activities

HPH Building	Occupant	Nature of Activity
HPH2	Rackspace	Office for technology company
HPH5	Rackspace	Former office for technology company, indicated by the site representative as having been vacant c. 2-3 years

Activities at the site are typical office usage on most floors of HPH2 and HPH5, with the latter also including a basement car park and commercial kitchen / canteen on the ground floor. Plant

equipment is predominantly located on the rooftop for both buildings, with a substation / back-up generator building located in the central portion of the site (between HPH2 and HPH5).

2.3 Storage of Chemicals and Hazardous Substances

2.3.1 Underground Storage Tanks (USTs)

Site personnel were not aware of the current or former presence of USTs at the site, and no visual evidence of USTs (such as fill points, pumps, gauges, or signage, markings or concrete scarring indicative of such potential uses) was identified during the visit.

2.3.2 Above Ground Storage Tanks (ASTs)

There are five (5) ASTs located on the site, as summarised in Table 2.3 below.

Table 2.3: Summary of Above Ground Storage Tanks On Site

Tank Name/No.	Contents & Capacity	Location	Construction and Containment
1	Diesel 13,300 litres	In the basement of HPH5	Used for refuelling back-up generator day tank. An integrally bunded steel tank with level gauge, observed to be in good condition, located on concrete hardstanding. A spill kit was located within the tank room. The fill point is located on the outside of the building, adjacent to the waste collection area. The tank is refilled on an as required basis by a tanker operated by a third-party. No signs of significant staining observed.
2	Diesel c. 1000L litres	On the roof top of HPH5	Day tank for the back-up generator for HPH5. An integrally bunded steel tank with level gauge, observed to be in good condition. The tank is filled via internal / above ground pipework from the basement diesel tank on an as required basis. The generator and day tank are all located within the generator room in a container on the rooftop. No signs of significant staining observed.
3	Diesel c. 10,000 litres	Located in the substation/ generator building between HPH2 and HPH5	Used for refuelling back-up generator day tanks. Access to the room was not possible at the time of the inspection, however it was noted as a brick bunded steel tank with level gauge. The fill point is located on the outside of the building. The tank is refilled on an as required basis by a tanker operated by a third-party. No signs of significant staining observed around the fill point.

Tank Name/No.	Contents & Capacity	Location	Construction and Containment
4 & 5	2 x Diesel 500 litres	Located in the substation/ generator building between HPH2 and HPH5	Day tanks for the backup generators for HPH2. Two (2) steel day tanks with level gauges, observed to be in good condition. The tanks are filled via internal / above ground pipework from the main tank in the adjacent brick bunded room. Booms were located adjacent to one of the generators, with minor discolouration observed on the concrete floor.

In addition to the diesel ASTs, cold water storage tanks and pump systems were also present in the basement for HPH5 and on the rooftop of HPH2.

The site representatives indicated that regular inspections are undertaken for ASTs and plant equipment and are stored within the Operation & Maintenance file for the site (not available to view by Ramboll during the site visit).

2.3.3 Other Bulk Storage

Further smaller-scale chemical storage of note at the site is summarised below:-

- Two (2) x 20 litre Solar S1 heat transfer fluid observed in the rooftop cold water storage / pump room for HPH Building 2;
- Small volumes of general cleaning supplies were noted in each of the buildings.

Multiple spill kits were observed in plant rooms and workshops throughout each of the buildings.

No signs of significant staining were observed in these areas, which were typically located in areas of hardstanding / roof top plant rooms.

2.4 Water, Wastewater and Drainage

2.4.1 Water Supply and Foul Water System

The site is reportedly supplied from the municipal water supply and mains drainage to the municipal foul sewer system. The site contact was not aware of any groundwater or surface water abstractions at the site.

A legionella risk assessment for the site was not available for review by Ramboll during the site inspection. The site representatives indicated that legionella testing is undertaken and are results stored within the Operation & Maintenance file for the site.

2.4.2 Surface Water System

A drainage drawing for the site was not available for review by Ramboll during the site visit.

No oil-water interceptors were reported to be present on site or identified on-site by Ramboll during the site visit; however, their presence or absence cannot be confirmed without review of comprehensive drainage drawings.

It is understood from previous reports that surface water soakaways are present on and around the wider Hyde Park Hayes commercial area, including serving HPH1 (off-site) and the MSCP. Some of the soakaways serving HPH1 are likely to be located within the boundary of the current subject site.

In addition, it is understood that a rainwater attenuation system was constructed as part of the HPH5 development, comprising three (3) underground attenuation tanks located to the west and

north-west of the HPH5 building; these are discussed further in Section 5 below. The site representatives were not able to provide further details of these during the site visit.

Hardstanding on-site appeared to be in good condition and was served by grilles for surface water drainage; these were in good condition with no vegetation growth present.

No current issues in relation to flooding were reported by the site representatives during the site visit.

2.4.3 Discharge Consents

Site personnel had no knowledge of any Discharge Consents held with the water undertaker or the Environment Agency (for the discharge of surface water drainage).

The need for such Consents is usually at the discretion of the water undertaker, Local Authority, and / or the Environment Agency. Ramboll considers it possible that, if consulted, the Environment Agency may require a Consent to be in place for the operation of the on-site soakaways, as these would likely discharge into a Principal Aquifer (Lynch Hill Gravels). No other activities are currently undertaken on site that would likely require a Consent.

2.5 Waste Storage and Disposal

Non-hazardous wastes generated on-site predominantly comprise general waste, food waste and recyclables (including paper, cardboard, plastic packaging and glass bottles). Waste from each building is stored in wheeled bins located in designated waste storage areas and removed under separate contracts (arranged by the various tenants).

Hazardous waste previously generated on-site was limited to waste oil from the ground floor kitchen area in HPH5; however, this is no longer generated due to the building being vacant. Waste oil from the kitchen was previously collected within a storage container in the basement prior to the container being transferred to a drip tray located in the HPH5 waste storage area on the eastern side of the building (for offsite removal by a third-party contractor). The storage container located in the basement was observed during the visit and is located on concrete hardstanding in good condition. It appeared to be approximately 60% full of an unknown liquid, with staining observed adjacent to the base of this container however no significant odours were present.

No other visual evidence of staining or leaching from waste storage areas onto unsurfaced ground was noted. A review of waste documentation was outside the scope of this review.

2.6 Deleterious Materials

2.6.1 Asbestos Containing Materials (ACM)

The site representatives were not aware of any ACM located on-site, and no materials labelled as containing asbestos were identified during the site visit.

Under the Control of Asbestos Regulations (2012), the dutyholder must manage the risk from asbestos on a premises and to develop and implement an ACM management plan, with review and updating as appropriate. The dutyholder is the party who has, by virtue of contract or tenancy, the main responsibility for maintenance or repair of the building.

An asbestos survey has not been undertaken by Ramboll as it is outside the scope of this assessment. A Refurbishment and Demolition Survey is likely to be required as part of the site redevelopment.

2.6.2 Refrigerant Gases

A number of air conditioning inverter units are located on the roof of the site buildings and in the basement of HPH5. The type of refrigerant used could not be confirmed for all air conditioning units present in these areas however, a number of the units were observed to contain varying quantities of R410A, a non-ozone depleting substance. The larger chiller units located on the roof of HPH5 were used to provide cooled air to the air handling units and observed to make use of R134A, also a non-ozone depleting substance. Refrigerant gases are not generally considered to pose a significant ground contamination risk, but should be removed in a controlled manner when the buildings are to be demolished.

Under the Fluorinated Greenhouse Gases (F-gas) Regulations 2015 (SI 2015/310) and Ozone-Depleting Substances (ODS) Regulations 2015 (SI 2015/168), ODS are to be phased out and must be recovered during servicing, maintenance and decommissioning. F-gas systems require leak testing and good record keeping. It is good practice to make sure that all equipment containing refrigerant gases is labelled with the type and amount of gas contained.

2.6.3 Polychlorinated Biphenyls (PCB)

An electricity substation operated by SSE Power distribution is located in the substation / generator building between HPH2 and HPH5. Available planning information indicates that planning permission for the substation building was likely granted in 1988 (although this is not confirmed), and as such it is possible that polychlorinated biphenyl's (PCBs) could be present within transformer coolant oils. Responsibility for PCB oils (if present) would be expected to lie with SSE Power. No other potential PCB-containing equipment was identified during the site visit.

Under the Polychlorinated Biphenyls Regulations 2000, the holder of equipment that contains PCBs must ensure it is decontaminated to less than 0.05% unless within an electrical transformer, which requires annual registration with the regulatory authorities.

2.7 Emissions to Air

No significant sources of air emissions are present on-site, and it is considered unlikely that the site would currently require authorisation from the Regulatory Authorities in relation to air emissions.

The buildings are either heated via gas boilers or electric air handling units (AHUs) and cooled via electric air conditioning units or chiller systems. Those observed are considered not to contribute significant emissions to air and are considered not to present a significant environmental contamination risk.

2.8 Other Issues

According to the site representatives, there is no known history of complaints, enforcements or other regulatory actions regarding the site or immediate surrounding properties related to environmental conditions.

No fire or spill events were reported.

No flooding of the site is known to have occurred historically, according to site representatives.

A ground instability has previously been identified within the surface car park in the north of the site. The noted instability is situated within a gravel-surfaced landscaped 'island' within the car park and is protected by a temporary cover. During the site visit the ground instability and surrounding car park area were inspected and observed to be in line with observations made in 2023. No signs of significant changes in the surrounding area were observed and the site representative indicated no subsequent issues have been reported.

Facility personnel were aware of environmental ground investigations and monitoring having taken place on site. A number of monitoring boreholes were identified by Ramboll during the site visit.

2.9 Potential for Ground Contamination from Current Uses

2.9.1 Potential On-site Contamination Sources

Current potential on-site contamination sources are limited to:-

- Diesel tanks located in HPH5 (basement and roof level) and within the generator / substation buildings between buildings HPH2 and HPH5 (ground level). The diesel tanks are used to supply fuel to back-up power generators. No evidence of significant staining associated with the tanks was noted (although minor discoloration was observed associated with one of the generators located in the generator building.

2.9.2 Potential Off-site Contamination Sources

Current potential off-site contamination sources include:-

- Industrial units from 10m south of the site (including aeronautical engineering and possible printing activities (brand merchandising)), a coach and minibus hire depot 10m east, and a petrol filling station 130m east. Potential contaminants could include metals, solvents, hydrocarbon fuels and oils.

3. HISTORICAL & REGULATORY INFORMATION

3.1 Map History

Ramboll has undertaken a review of historical mapping and aerial imagery (where available) obtained from a proprietary environmental database which is summarised below. Selected historical maps are presented in Appendix 2.

The historical development of the site and surrounding area is detailed in Table 3.1 below.

Table 3.1: Site History

Date & Scale	Features On-Site	Features Off-Site
1864, 1866 1:2,500 1868-1869 1:10,560	The site is undeveloped (likely in agricultural use).	The surrounding area is predominantly undeveloped (likely in agricultural use). A Railway Line (Great Western Railway) is depicted 70m north, lying in approximately east to west orientation. Woolpack Farm is present 180m north-west. Multiple Brick Fields are depicted from 250m north. Dawley Farm is located 470m north-west.
1895 1:2,500 1897, 1900 1:10,560	No significant changes noted on-site.	Brick Fields are no longer denoted from 250m north. A Brick Field is now shown between 250m and 600m north-west. The Grand Junction Canal is present approximately 470m north at its nearest point, lying in a general north-west / south-east orientation.
1914 1:2,500 1915-1920 1:10,560	No significant changes noted on-site.	The area from 50m south-west has been developed with residential properties, together with areas from 130m east and 280m north. A Gramophone Factory is present 110m north, and adjacent west of Goss (Printing Press) Works (150m north-east). The Brick Field 250m west is no longer annotated. Further industrial developments are depicted to the north including a Marble, Slate & Granite Works, an Engineering Works, a Brewing Sugar Works (all 360m north) and Mack Partition Works (400m north).
1932-1935 1:10,560 1934 1:2,500	The site has been partially developed with part of an Aviation Works (extending off-site to the east) comprising a square building in the central east (extending off-site to the east into the area of HPH1). Multiple small structures are depicted in the south-east of the site.	The Aviation Works present on-site extends off-site to the east, with associated Tanks from adjacent to the eastern boundary, and an additional large building 10m east. Further residential properties are present 10m north and from 80m west. The Gramophone Factory has expanded such that it now occupies at least four (4) buildings from 120m north, including the

Date & Scale	Features On-Site	Features Off-Site
	Tennis courts and a sports ground encroach onto the south of site (extending off-site to the south and south-east.	location of the former Goss Works (160m north-east). Canal Works (Engineering) is present 270m north-east. Crown Oil Works has replaced both the Marble Slate & Granite Works and Brewing Sugar Works 360m north, with multiple Tanks now depicted. The Engineering Works 360m north has expanded east. The canal is now denoted as the Grand Union Canal (470m north).
1938 1:10,560	An additional large rectangular building has been constructed in the north-east of site.	No significant changes in the vicinity noted.
1946-1946 1:1,250 1948 1:10,560 Aerial Photography	The building in the central east of the site has been expanded to the south across the south-eastern part of the site. Large areas in the west of the site appear to be used for external storage.	Areas off-site to the south (including the former sports ground and tennis courts), west and north-west appear to also be in use as part of the wider operations, including areas of storage.
1960 1:10,000	Mapping depicts the site as it was in 1938. This is not considered to be a true representation of the site at the time, likely due to the sensitive nature of the industrial use (Aviation Works) during WWII, and consequential mapping censorship.	A large Factory is depicted 290m north-west.
1965-1966 1:1,250 1967 1:2,500 1965-1966 1:10,000	The building in the east has had two (2) extensions added into the western part of the site, resulting in a "U-shaped" building. A square-shaped mound is depicted in the north-western corner of the site. Within the middle of the U-shaped building are three (3) adjoined rectangular buildings. A small rectangular feature annotated as "Water" is depicted adjacent north-east of the U-shaped building (in the current HPH1 car park area, likely to be an open storage tank or reservoir).	The industrial buildings (both on and off-site) are now annotated as an Aeronautical Engineering Works. Six (6) small rectangular features are located adjacent to the north-west. New industrial buildings (likely associated with the Aeronautical Engineering Works) are denoted from adjacent south to 100m south. The Gramophone Factory (120m north and 350m north-west) is now denoted as a Gramophone & Electrical Works; the associated building (250m north) is now a Printing & Engineering Works. A large additional Gramophone & Electrical Works is present 290m north-west. A Transport Depot is depicted 160m north-west, adjacent south of multiple Engineering Works and a Builders Yard (between 250m and 350m north-west). A Builders Yard is present 220m east, to the north-west of a Garage 280m east.

Date & Scale	Features On-Site	Features Off-Site
		Various other industrial buildings are now present from 250m north and 350m north including a Rope Works, Enamelling Works, multiple Engineering Works, and Warehouses. Canal Works (280m north-east) is now a Depot, with an Engineering Works present adjacent east (310m north-east).
1970-1975 1:10,000 1972-1978 1974 1:1,250 1975-1977 1:10,000	The main building on-site has been sub-divided into five (5) Warehouses, with an associated Electricity Substation present adjacent to the north. The three (3) rectangular buildings in the centre of the site, the Mound in the north-west, and the cluster of smaller buildings / features on the eastern boundary as well as the Tanks are no longer depicted.	An 'L'-shaped building is present adjacent north-west annotated as Cavenham House. The building from 10m east, has been replaced by a large Warehouse. The building adjacent to the north-east of the site is annotated as Mercury House and has an associated Electricity Substation present (90m east). A Warehouse is now present adjacent west; this is north of a Works (adjacent south-west of site). Millington Road is adjacent to the south and east. The six (6) small rectangular features adjacent to the north-west have been removed. Seven (7) small adjoining buildings are present 20m south annotated as Works, Offices, a Laboratory and Warehouses.
1985-1989 1:10,000 1985 1:25,000	No significant changes noted on-site.	A rectangular commercial / industrial type building is present 30m north-west. The number of buildings associated with the Gramophone and Electrical Works (110m north) has reduced, with some demolition having taken place.
1992 1:1,250	The northernmost of the five (5) adjoining Warehouses (in the U-shaped cluster) has been replaced by a square commercial type building (current HPH2). A smaller rectangular building is present in the central west (the current substation / generator building). The rectangular building in the north is no longer depicted; the northern part of the site has been set out as a car park.	Two (2) large circular tanks (possibly sprinkler water tanks) have been added 20m south-east (associated with the large Warehouse building to the east).
1996 1:1,250	The four (4) remaining adjoining Warehouse buildings in the east of the site have been replaced by a rectangular building in the south-east of the site (the current multi-storey car park).	A rectangular building has been constructed adjacent to the east (HPH1)

Date & Scale	Features On-Site	Features Off-Site
	The south-west of the site remains occupied by one of the warehouse buildings.	
1999 1:10,000 Aerial Photography	No significant changes noted on-site.	The Works (290m north-west) is no longer present.
2006 1:10,000 2006 Google Earth Aerial Photography	The site (and surrounding area to the east) is annotated as Westlands Estate.	The seven (7) small adjoining buildings (20m south) have been demolished. Two (2) commercial / industrial buildings are present on the location of the former Works (290m north-west) and are marked as part of the wider Adler Industrial Estate.
2008 Google Earth Aerial Photography	No significant changes noted on-site.	The building adjacent to the north-east has been demolished. Two (2) large industrial buildings are present adjacent south and 50m south-east.
2010 Google Earth Aerial Photography	The warehouse building in the south-west of site has been demolished.	The rectangular Warehouse building 10m west has been demolished.
2011 Google Earth Aerial Photography	No significant changes noted on-site.	The large Warehouse building adjacent east has been demolished, along with the associated circular Tanks.
2014, 2015 Google Earth Aerial Photography	The south-west of the site appears as a construction site in 2014 and has been redeveloped with an office building by 2015. The site configuration represents the current layout.	A large superstore is present from 100m east with an associated petrol filling station (130m east). A construction site compound is present adjacent west.
2018 Google Earth Aerial Photography	No significant changes noted on-site.	A T-shaped elongate commercial building (hotel / restaurant) is present adjacent to the north-east. Two (2) rectangular commercial / industrial buildings have been constructed adjacent to the east. The construction compound (adjacent west) is no longer present.
2024 1:10,000 Google Earth Aerial Photography	No significant changes noted on-site.	Multiple residential apartment buildings are now present adjacent north of the Railway (100m north).

3.2 Anecdotal Information

In 1915 Fairey Aviation Co. took over a shed in North Hyde Road which had been used by the Army Motor Lorry Co. At first it tested the aircraft in an adjoining field, but soon after moved the testing grounds to Heston and Heathrow, while extending the factory into Hayes. Some 4,000

people worked on the North Hyde Road site in 1959[1]. The site was occupied in the 1920s by an aircraft production facility (Fairey Aviation).

Since then the site has been used by Westland Helicopters, Mercedes, and Argyll Foods. Argyll Foods began the alteration of the warehousing on-site to offices. Following the takeover of Argyll Foods in 1987 by Safeway, the site became the group headquarters. Safeway was then acquired by Morrisons in 2004, and the site became surplus to requirements.

Fairey Aviation was taken over by Westland Aircraft (Westland Helicopters) in 1960[2]. The Mercedes occupation was for car sales and likely small scale car maintenance (see Section 3.4.2)[3].

3.3 Environmental Database Records

The following information has been obtained from a search of a publicly available third-party environmental database (dated 1st May 2025):-

- There are no contaminated land register entries / notices within a 1km radius of the site.
- There are no current or former landfill sites recorded within a 250m radius of the site (i.e. the "planning consultation zone").
- There are records of six (6) former landfills within 1km of the subject site. The closest is approximately 780m south-west of the subject site and is named Frogsditch Farm. The first input date is noted as 31st December 1973 and the last input date is noted as 1st August 1989; deposited waste is noted to have included inert waste. No further information is supplied in the environmental database in relation to this landfill.
- There is one (1) current Environmental Permit for waste management activities[4] within 1km of the site. This is held by Talking Rubbish Waste Solutions Ltd (900m north-west) for the operation of a household, commercial and industrial waste transfer station, which also treats waste and accept asbestos. The licence was issued in May 2022.
- There are three (3) current Environmental Permits to operate Part A(1) Installations issued under the Industrial Emissions Directive[5] within 1km of the site. The closest (approximately 240m north) is licensed to Owen Coyle Anodising Limited, for the following primary activity:
  - Surface Treating Metals And Plastics; Electrolytic / Chemical Greater Than 30 Cubic Metres.

  There are also two (2) non-primary activities related to this Permit:
  - Other Waste Disposal; Non-Hazardous Waste >50T/D By Physico-Chemical Treatment; and
  - Surface Treating Metals & Plastics; With Release To Air Of Oxides Of Nitrogen.
- There are no Environmental Permits to operate Part A(2) Installations issued under the Industrial Emissions Directive[6] within 1km of the site.
- There are seven (7) current Environmental Permits to operate Part B Installations issued under the Industrial Emissions Directive[7] within 1km of the site. The closest (approximately 330m north-east) is licensed to Owen Coyle (Anodising) Ltd authorising processes for the surface treatment of metals.

[1] http://www.british-history.ac.uk/report.aspx?compid=22363 accessed 27th March 2023
[2] http://en.wikipedia.orw/wiki/Fairey_Aviation_Company Accessed 27th March 2023
[3] http://www.motorsportmagazine.com/archive/article/january-1982/46/magnificent-mercedes Accessed 27th March 2023
[4] Excluding Part A(1) and Part B permitted waste installations.
[5] Formerly referred to as Integrated Pollution Prevention and Control (IPPC) Authorisations, or Pollution Prevention and Control (PPC) Authorisations.
[6] Formerly referred to as Local Authority IPPC Authorisations.
[7] Formerly referred to as Local Air Pollution Prevention and Control Authorisations

- There are no Radioactive Consents registered within 1km of the site. *NB Due to public security restrictions, certain information on closed or mobile radioactive substance authorisations has been removed from the public register and is not available to Ramboll*.
- There is one (1) Control of Major Accident Hazard (COMAH) site within 1km of the site. This is 470m north-west and operated by Lufthansa Technik Landing Gear Services UK Limited (Upper Tier).
- There are no active explosive sites or Planning Hazardous Substance Consents within 1km of the site. There is an explosive site which is no longer active (190m north-east), associated with Thomson Thorn Missile Electronics Ltd.
- There have been no prosecutions relating to authorised processes within 1km of the site.
- There is one (1) Environmental Permit held with the Environment Agency for water discharge activities (formerly referred to as Discharge Consents) within a 500m radius of the site. This is approximately 490m north and held by UBS AG, for the discharge from Trade Discharges - Cooling Water to the Grand Union Canal.
- There are no Environmental Permits held with the Environment Agency for Groundwater Activities (previously referred to as Discharge Consents) within 1km of the site.
- There have been thirty-seven (36) pollution incidents and one (1) substantiated pollution incident recorded within 1km of the site. The nearest of these (130m north-east) related to the escape of Oils into an unknown watercourse. The incident occurred in December 1993 and was classified by the Environment Agency as a Category 3 – Minor Incident.
- There are three (3) fuel station entries within a 1km radius. The nearest (located 150m south-east) is an active Asda branded petrol filling station.
- There are no ecologically sensitive sites within a 1km radius of the subject site.

The site is located in an area where less than 1% of residential properties are above the action level (200 Bq/m^3) for Radon set by the UK Health Security Agency.

According to BRE Report BR211 (2023) Radon: Protective Measures for New Buildings, radon protection measures are not required under building regulations for new buildings and extensions at this location. These guidelines refer to residential dwellings, and can be considered conservative for commercial properties. The Action Level for commercial properties is 300Bq/m^3 and assessment of potential worker exposure is the responsibility of the occupant.

The LinesearchbeforeUdig database, which lists pipelines distributing crude oil and refined hydrocarbon products owned and / or operated by a number of UK pipeline operators indicates that there are no records of underground oil or refined hydrocarbon product pipelines on the site or within 250m.

Transport for London's Property Asset Register does not identify the site as lying within the zone of influence for the London Underground. The Elizabeth Line (overground) is present approximately 80m north at its nearest point.

The site has a moderate risk from Unexploded Ordnance (UXO), using online information from Zetica UXO database[8]. A moderate risk area is indicated as having a bombing density of 15 to 49 bombs per 1000 acres; however, the mapping does not show any UXO finds within a 1km radius of the site, although a Luftwaffe target is indicated off-site to the off-site to the east (possibly relating to the former Aviation Works).

[8] https://zeticauxo.com/downloads-and-resources/risk-maps/ Accessed 7th May 2025

3.4 Regulatory Authority Enquiries

3.4.1 Local Authority Environmental Health Department

Ramboll has requested information from the Environmental Health Department of the Local Authority and this is awaited.

In the interim, Ramboll previously received information from the Environmental Health Department of the London Borough of Hillingdon Council (response dated 31st March 2023), which related to the current subject site, and in addition, the area of HPH1 (adjacent to the east / north-east). The response is summarised as follows:-

- At the time of the response, the study site had not been identified for inspection or further review under the Council's Contaminated Land Strategy (or other Part IIA undertaking).
- The Council had no records of any current (in March 2023) known contamination issues associated with the study site or in the near vicinity (e.g. in terms of former or current contaminative site uses, leaks or spills of any oil / chemical substances etc). Parts of the Hyde Park Hayes site had been the subject of redevelopment, and Conditions relating to contaminated land had been addressed accordingly under various Planning Applications (as reviewed by Ramboll under Section 3.4.2 and Section 5 below). The site of HPH5 was subject to land contamination Conditions which were subsequently Discharged under Planning Application 45753/APP/2015/3148 (after the submission of a Contamination Remediation Verification report).
- The searched records show there are no recorded landfills within 250m of the study site.
- The searched records do not show any radon to be present at the study site.
- The searched records do not have any details concerning any known current or former nuisance issues, prosecutions, or enforcements associated with the site
- The Council does not hold information of any unlicensed water supplies.
- The Council held one (1) record of a Part B Environmental Permit, at the ASDA Hayes PFS site 130m (off-site) to the east for petrol vapour recovery (ref. EPA/SS/1/053/07/2015). Ramboll notes that this Permit is not included in the third-party environmental database in Section 3.3 above).

3.4.2 Local Authority Planning Department

Ramboll has obtained a planning history of the site from the Planning Department of the London Borough of Hillingdon.

A summary of relevant Applications is provided in Table 3.2 below.

Table 3.2: Summary of Relevant Planning Applications at the Site

Applicant	Application ref.	Details of Application	Status
Unknown	1902/AV/73/1000	Part change from warehouse to sales and office areas.	Unknown (Viewed on-line by Ramboll Environ in November 2014; not available to view on-line in May 2025)
Unknown	1902/BJ/74/15	Erection of store for inflammable materials.	Granted on 22nd February 1973; no information on the presence or nature of any Conditions. (Viewed on-line by Ramboll Environ in November 2014;

Applicant	Application ref.	Details of Application	Status
			not available to view on-line in May 2025)
Unknown	1902/HZ/81/0920	Westland Site Alterations to elevation.	Granted on 11th June 1981. No documents available to view on-line.
Unknown	31826/82/843	Change of use from warehousing to a mixed use comprising printing, laboratory analysis, equipment testing, offices, storage, and alterations to the northern elevation of the building.	Approved on 26th May 1982. (Viewed on-line by Ramboll Environ in November 2014; not available to view on-line in May 2025)
Unknown	32672/83/0072	Unit 4E Commercial development 28m^2.	Granted on 15th February 1983. No documents available to view on-line.
Unknown	35572/84/1904	Mercedes Benz Unit 4A (likely relates to HPH2 area) Alterations to elevation.	Granted on 29th January 1985. No documents available to view on-line.
Unknown	35572/A/85/0682	Mercedes Benz Unit 4A (likely relates to HPH2 area) Mixed development on 0.56 hectares.	Granted on 4th April 1986. No documents available to view on-line.
Unknown	40652/87/1562	Safeway House, 6 Millington Road (HPH2) Redevelopment of site for business use.	Granted on 16th December 1987. No documents available to view on-line.
Unknown	40652/D/88/0739	Safeway House, 6 Millington Road (HPH2) Erection of sub-station & generator housing at rear of proposed new office block	Grated on 3rd June 1988. No documents available to view on-line.
Unknown	33517/A/91/1453	Unit 4B (likely relates to HPH1 area) Continued use of site for body repairs and vehicle testing centre.	Granted on 22nd November 1991. No documents available to view on-line.
Debenham Tewson & Chinnocks (Agent)	45753/C/92/0773	Units 4B, 4C, 4D, 4E and Mercury House (HPH1 and Multi-Storey Car Park Area, and off-site Premier Inn) Erection of 132,615ft^2 gross office floor space and erection of ancillary sports and social building	Granted on 28th April 1993. No documents available to view on-line.

Applicant	Application ref.	Details of Application	Status
		together with multi-storey car park, reorganised surface car parking and landscaping.	
Debenham Tewson & Chinnocks (Agent)	45753/B/92/0771	Units 4B, 4C and 4E (HPH1 and Multi-Storey Car Park Area) Erection of 82,616ft^2 gross office floor space in a four (4) storey block; erection of a six (6) level multi-storey car park, rationalisation of existing car parking layout plus comprehensive landscaping.	Granted on 28th April 1993. No Conditions relating to land contamination.
Debenham Tewson and Chinnocks (Agent)	45753/G/92/1106	Unit 4D (Maccess) (site of HPH5) Recladding of exposed eastern wall following demolition of adjoining building.	Granted on 7th August 1992. No documents available to view on-line.
Safeway PLC	45753/J/93/1075	Units 4B, 4C & 4E (HPH1 and Multi-Storey Car Park Area) Details of external materials of multi-storey car park in (part) compliance with Condition 7 of planning permission ref. 45753B/92/771 dated 28/04/1993.	Granted on 28th July 1993. No documents available to view on-line.
Safeway Stores	45753/P/96/1335	Safeway House II (HPH1) Change of use of part of basement car park to provide accommodation for Home Economics Department, involving minor alterations to entrance at Safeway House II.	Granted on 1st November 1996. No documents available to view on-line.
The Hyde Park Partnership	40652/APP/2006/1703	Remodelling of part of the car parking / external area to include the creation and removal of existing spaces, new roadway and other associated works. Application relates to the site and wider Hyde Park Hayes Site.	Granted Conditionally on 4th August 2006. No Conditions relating to land contamination.

Applicant	Application ref.	Details of Application	Status
Hyde Park Group Ltd (Building 5)	45753/APP/2008/481	Unit 4D (HPH5) Erection of an office development (Class B1(A)) with maximum floor space of 14,000m^2, with 140 car parking spaces (involving demolition of existing class B8 building).	Granted on 22nd April 2008; Condition 17 related to land contamination. This application appears to have been superseded by Application 45753/APP/2012/2029.
Rackspace (Building 1)	67351/APP/2010/2408	HPH1 Installation of detached bin/storage compound and gas bottle enclosures.	Granted Conditionally on 30th December 2010. No Conditions relating to land contamination.
Hyde Park Hayes Ltd.	45753/APP/2012/2029	HPH5 Erection of five (5) storey building to provide 13,880m^2 of Class B1(a) Office floor space, provision of car parking spaces at surface and basement level, associated landscaping and ancillary works.	Granted with Conditions on 5th July 2013. Conditions 12, 13 and 14 related to land contamination as detailed below.
Hyde Park Hayes Ltd.	45753/APP/2013/1980	HPH5 Variation of Condition 14 (contamination) of planning permission 45753/APP/2012/2029, to split the Condition into two (2) parts: Part 1 to allow occupation after the submission of a verification report for soil remediation. Part 2 to allow the submission of a verification report for groundwater within 2 years of the permitted development.	Granted Conditionally on 9th September 2013. Conditions 12, 13 and 14 related to land contamination. Condition 12 was discharged under Applications 45753/APP/2013/2011 (4th September 2013) and 45753/APP/2015/3148 (2nd February 2016). Condition 13 did not require discharge. Condition 14 was discharged under Applications 45753/APP/2015/3147 (2nd February 2016) and 45753/APP/2015/3676 (28th November 2017).

Planning Application **45753/APP/2012/2029** (HPH5) contained the following Conditions relating to contaminated land:-

Condition 12

No development approved by this planning permission except that necessary to fulfil this condition (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), shall take place until a scheme that includes the following components to deal with the risks associated with contamination of the site shall each be submitted to and approved, in writing, by the Local Planning Authority:

1) A preliminary risk assessment which has identified:

- all previous uses
- potential contaminants associated with those uses
- a conceptual model of the site indicating sources, pathways and receptors
- potentially unacceptable risks arising from contamination at the site.

2) A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.

3) The results of the site investigation and detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.

4) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

Any changes to these components require the express written consent of the Local Planning Authority. The scheme shall be implemented as approved.

Condition 13

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted a remediation strategy to the Local Planning Authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the local planning authority. The remediation strategy shall be implemented as approved.

Condition 14

If, during development, contamination is found and remediation is required, no occupation of any part of the permitted development shall take place until a verification report demonstrating completion of works as set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

In Planning Application ***40652/APP/2013/1980*** (HPH5), Condition 14 from Planning Application 45753/APP/2012/2029 was varied:-

Variation of Condition 14

A verification report demonstrating completion of works set out in the approved remediation report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority. This can be produced in two (2) parts:

1. *No occupation of any part of the permitted development shall take place until a report detailing verification of soil contamination which represents a potential risk to human health and structures has been provided, and*
2. *Within two (2) years of the permitted development, a report detailing verification of the groundwater remediation (which may be required to prevent impact to controlled waters) shall be provided and agreed with the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.*

A series of letters between the EA and the London Borough of Hillingdon (dated between 28th November 2012 and 9th April 2014) were provided to ENVIRON (now Ramboll) via the Client. The letters relate to Planning Application 45753/APP/2012/2029 (the Building 5 development). Six (6) letters chronologically document the review of SKM Enviros assessment reports by the EA. The reports reviewed have also been reviewed by Ramboll (see Section 5 below). No further information regarding contamination at the site was included within the letters.

It was stated following the review of a Phase I report as well as a Phase 2 Site Investigation, (both carried out by SKM ENVIROS, see Section 5 below) that a Remediation Strategy would be required. This was subsequently accepted, and Condition 12 was partially Discharged under ***Application 45753/APP/2013/2011*** on 4th September 2013.

The remaining parts of Condition 12 were Discharged on 2nd February 2016 (under ***Application 45753/APP/2015/3148***), and appeared to relate to the submission of a Contamination Remediation Verification Report (Jacobs UK Ltd, August 2015, ref: KU03300). A subsequent version of this report (dated October 2015) was reviewed by Ramboll (see Section 5 below for details).

Condition 14 was Discharged under ***Application 45753/APP/2015/3147*** (2nd February 2016), which relates to the submission of the same Contamination Remediation Verification Report (Jacobs UK Ltd, August 2015, ref: KU03300) as approved under ***Application 45753/APP/2015/3148***) and ***Application 45753/APP/2015/3676*** (28th November 2017), which also relates to the submission of the Contamination Remediation Verification Report (but with additional appendices M-O) and the submission of a Groundwater Assessment By Ramboll Environ (October 2017, ref: UK16-20878, see Section 5 below).

3.4.3 Petroleum Enforcement Authority

Ramboll has previously submitted an enquiry to the Petroleum Officer at London Fire and Emergency Planning Authority regarding licensing records associated with the bulk storage of petroleum products.

The response (dated 17th April 2023) states that the Authority has no records of any tanks within the search area.

3.5 Historical Potential for Ground Contamination

3.5.1 The Site

The following potentially contaminative activities have been identified as having taken place on site:-

- Fairey Aviation (Aeronautical Engineers) present across the site (and wider off-site area) and operational by c.1930s (including WWII) until c.1960, when it was taken over by Westland Helicopters.

  Potential contaminants from these activities include metal dross and lubricants, acids, heavy metals, degreasing agents, hydrocarbon fuels and oils, solvents, asbestos and Polychlorinated Biphenyls (PCBs).
- Maccess formerly occupied the footprint of Building 5 in the south-west of the site for the distribution of road vehicle spare parts and accessories. Ramboll understands from third party document review (see Section 5) that some vehicle maintenance was undertaken here, including a recycling area adjacent north of Building 5. Mercedes also occupied a unit on-site and although the specific location is unconfirmed, planning information indicates that it likely related to the HPH2 area. The principal activity was car sales; however small scale car

maintenance was likely also undertaken, which would include the generation and storage of waste oils.

Potential contaminants could include hydrocarbons, metals, lubricants, and degreasers.

- Multiple Electricity Substations on-site including in the north of site from c.1970s.

  Potential contaminants include oils and polychlorinated biphenyls (PCBs).

3.5.2 The Surrounding Area

The following potentially contaminative activities have been identified as having taken place in the surrounding area:-

- Refuelling activities carried out by Safeway (and previously acquired companies: Argyll Foods, Allied Suppliers, and Cavenham Foods which all occupied the site and off-site adjacent north-west of the site from potentially the 1970s until the mid-1990s). This included two (2) petrol USTs which are understood to have been located within the current HPH3 area (off-site to the north-west) and decommissioned by foam filling in 1996.

  Potential contaminants from these activities include hydrocarbon fuels and oils.
- The large Aeronautical Engineering Works (also present on-site) extended off-site to the west, south, and east. Review of previous reports (see Section 5) indicates that this may have included testing of aircraft on unsurfaced ground to the west of the site.

  Potential contaminants from these activities include metal dross and lubricants, acids, heavy metals, degreasing agents, hydrocarbon fuels and oils, solvents, and Polychlorinated Biphenyls (PCBs).
- A Railway Line 70m north from at least the 1860s to present.

  Potential contaminants from these activities could include hydrocarbon fuels and oils, metals and timber treatments.
- Gramophone Factories (The Old Vinyl Factory[9]) 120m north from at least the 1910s to the 1990s, including the manufacture of vinyl records and record players. The buildings currently occupying this area are mixed use including office space and residential apartments.

  Potential contaminants from these activities could include solvents, hydrocarbons and metals.
- Asda PFS 130m to the east from 2015 to present.

  Potential contaminants from these activities include hydrocarbon fuels and oils.
- Further industrial and commercial land use in the area; including Warehouse buildings from adjacent south (1970s to the 2010s), a Transport Depot 160m north-west (from 1960s), a large unidentified Factory 240m north-west (1960s to 1990s) and Crown Oil Works 360m north (1930s to at least 1960s).

  Potential contaminants include various chemicals, metals, oils, and fuels.

The above activities represent potential off-site sources of contamination that (if present) could potentially migrate beneath the site.

The potential for off-site contamination (if present) to migrate beneath the site would be dependent on the underlying geological conditions, which are discussed in Section 4.

[9] https://www.uandiplc.com/our-places/the-old-vinyl-factory/#:~:text=The%20Old%20Vinyl%20Factory%20is,His%20Master's%20Voice%20in%201907 Accessed 28th March 2023

4. ENVIRONMENTAL SETTING

Desk-based research of the local geology, hydrogeology and hydrology was carried out in order to establish the potential for migration of contamination onto or away from the site, and to assess the sensitivity and vulnerability of the site's setting with respect to surface water, groundwater and ecological resources.

Information was obtained from a number of sources, including:-

- examination of published geological maps produced by the British Geological Survey (BGS);
- review of publicly available BGS borehole logs for the site or near vicinity;
- a proprietary environmental database procured by Ramboll;
- previous intrusive investigation reports; and
- Regulatory Authority websites, including the Environment Agency (EA).

4.1 Geology and Hydrogeology

According to the BGS website (accessed 6th May 2025) the BGS map of the area indicates that the north-western corner of the site (approximately 5% of the total site area) is situated on Worked Ground (Undivided) (which extends off-site to the north and west over a larger area).

The north-western corner of the site is then further underlain by superficial deposits of the Lynch Hill Gravel Member (comprising sand and gravels), while the majority of the site (approximately 90% total site area) is situated directly on the superficial Langley Silt Formation (comprising silt or gravelly Clay). The Lynch Hill Gravels are understood to underlie the Langley Silt Formation deposits.

The superficial deposits across the site are underlain by bedrock geology of the London Clay Formation comprising clay, silt and sand.

The nearest available-to-view borehole logs on the BGS website, are located in the north and north-west of the site. These indicate the site is underlain by Made Ground varying from 0.3m in thickness (comprising tarmac and concrete) to 4.5m in thickness (comprising sandy clay with gravel, brick, concrete and clinker; or brick rubble, concrete fragments, wire and glass), overlying superficial deposits to depths between 4.1m and 5.4m below ground level (bgl) (generally comprising clayey silty sandy gravel). This was then underlain by silty clay to 20m bgl (the maximum termination depth of the boreholes).

The nearest available-to-view deep borehole logs are located approximately 240m north and show drift deposits (no description) to 5.8m bgl, overlying London Clay to 46.8m bgl. This is further underlain by 'Pebble Beds' (comprising blue and mottled Clay) to 71.9m bgl, which overly the Upper Chalk to a depth of 152m bgl (the ultimate depth of the Chalk is not proven in these logs).

Based on information gathered in previous investigations (see Section 5 of this report for further details) the site has been found to be underlain by the Langley Silt Formation only in the northern and eastern parts of the site (the surface car park area in the north and Multi Storey Car Park Area). The Langley Silt Formation was noted to be absent in the Building 5 area (south-west of site), with Made Ground being directly underlain by Lynch Hill Gravels.

A summary of the geological and hydrogeological setting of the site is provided in Table 4.1 below.

Table 4.1: Summary of Geology and Hydrogeology

Formation	Description	Thickness	EA Aquifer Designation	Hydrogeological Significance
Worked Ground (Undivided) (western section of site)	Sandy clay with gravel, brick, concrete and clinker; or brick rubble, concrete fragments, wire and glass (possible infilled basements)	0.3-4.5m	N/A	N/A
Langley Silt Formation (only in north and east)	Silt or gravelly Clay	Variable Thickness (likely less than 1.5m)	Unproductive Strata	Low permeability formations with negligible significance for water supply.
Lynch Hill Gravel Member	Sand and Gravel	2.8 – 5.8 m	Principal	Highly permeable, with significant water storage. Able to support large abstractions.
London Clay Formation	Clay, Silt and Sand	At least 35m thick	Unproductive Strata	Low permeability formations with negligible significance for water supply.
Lambeth Group	Clay, mottled in part with beds of sand	Up to 30m	Secondary A	Permeable formations with potential to support localised abstractions.
Thanet Sand	Fine-grained sand	Up to 18m	Secondary A	Permeable formations with potential to support localised abstractions.
White Chalk Sub-Group	White nodular chalk with flints	Up to 200m	Principal	Highly permeable, with significant water storage. Able to support large abstractions.

There are seven (7) records of mineral extraction within 1km of the site, the nearest being Botwell Brickfield (located 320m north-east of the site). Common clay and shale were abstracted from the Langley Silt Formation via opencast methods.

According to the EA, the geological units on-site make up part of the Lower Thames Gravels Water Body. In 2019, the EA classified the groundwater within this water body as being of 'Good' chemical quality and of 'Poor' quantitative status under the Water Framework Directive (WFD) classification scheme.

According to EA information provided by a commercial environmental regulatory database provider, there are twelve (12) licensed groundwater abstractions within a 2km radius of the site, as summarised in Table 4.2 below.

Table 4.2: Licensed Groundwater Abstractions within 2km of the Site

Licence Holder	Distance from Site	Abstraction source	Purpose of Abstraction
Thorn EMI Electronics Ltd	140m N	Chalk (Undifferentiated)	Additional Purposes – Process, Cooling, and Manufacture.
Nestle UK Limited	940m E	Not specified	Other Industrial / Commercial / Public Service: Evaporative Cooling, Boiler Feed
Harleyford Aggregates Limited	1.14km S	Not specified	Mineral Products: Mineral Washing
Stockley Park Estates Company Ltd	1.20km NW	Not specified	Business Parks: Make-Up or Top Up Water, Spray Irrigation - Direct
Stockley Park Management Ltd	1.21km NW	Chalk (Undifferentiated)	Additional Purpose - Lake / Reservoir Filling For Spray Irrigation
Stockley Park Estates Company Ltd	1.26km NW	Unlined lagoon within Gravels	Business Parks: Trickle Irrigation - Direct
Virtus Hayes Limited	1.69km E	Not specified	Business Parks: Evaporative Cooling
Chelsea Limited Partnership	1.86km E	Not specified	Other Industrial / Commercial / Public Services: Non-Evaporative Cooling
Harleyford Aggregates Limited	1.87km SW	Not specified	Mineral Products: Mineral Washing
Prologis UK CCCIX Sarl	1.90km NW	Not specified	Business Parks: Make-Up or Top Up Water
Stockley Park Golf Club Ltd	1.91km NW	Not specified	Golf Courses: General Washing / Process Washing, Spray Irrigation
Stockley Park Golf Ltd	1.95km NW	Not specified	Golf Courses: Spray Irrigation - Direct

None of the groundwater abstractions within 2km of the site are for sensitive use, and the site is not situated within an EA designated groundwater Source Protection Zone.

The London Borough of Hillingdon previously provided information to Ramboll (response date 31st March 2023) indicating that it holds no records of private (unlicensed) abstractions (that are generally of smaller scale) within 2km of the site. *Ramboll has requested updated confirmation information from the Environmental Health Department and a response is awaited.*

4.2 Ground Instability

During property surveys conducted in April 2023 by Workman LLP (the Client's Asset Manager) an area of ground instability was identified within the car park area in the north of the site.

A cavity of approximately 0.3m diameter and 0.5m depth was observed in a landscaped part of the car parking area. Visual observations of the side walls of the cavity suggest that this feature is a result of poor compaction of Made Ground materials, leading to a deficiency and instability of the Made Ground, and leading to a minor collapse.

Ramboll instructed geophysical surveys (undertaken in June 2023) to investigate the apparent deficiency (see Section 5). The findings of the surveys indicated that the shallow subsurface

material surrounding the void comprised apparent larger objects, (e.g. remnant building structures / slabs and rubble in the Made Ground, but no large voiding associated with the existing surface hole was identified.

No other occurrences of such mass deficiencies or ground instabilities are known to exist on the site.

4.3 Coal Mining

According to the Mining Remediation Authority, the site is not located in a Coal Mining Affected Area. The Mining Remediation Authority Interactive Map does not show the site to be in a mine entry zone of influence or Development High Risk Areas.

The BGS has stated that the site is located in an area where other (non-coal) mining activities are considered to present no hazard.

4.4 Hydrology

The nearest identified surface watercourse is the Grand Union Canal, located 510m north at its nearest point. The EA currently classifies the Grand Union Canal (Uxbridge to Hanwell Locks, Slough Arm, Paddington Arm) Water Body as being of 'Moderate' ecological quality and as 'Does Not Require Assessment' for chemical quality under the WFD classification scheme.

According to the Environment Agency's Catchment Data Explorer, the site falls within the catchment of the River Crane (located 1.2km to the east at its nearest point). The EA currently classifies the Crane Water Body as being of 'Moderate' ecological quality and as 'Does Not Require Assessment' for chemical quality under the WFD classification scheme.

According to an independent, third party environmental database, there are two (2) licensed surface water abstractions within a 2km radius of the site, as summarised in Table 4.3 below.

Table 4.3: Licensed Surface Water Abstractions within 2km of the Site

Licence Holder	Distance from Site	Abstraction source	Purpose of Abstraction
Canal And River Trust	510m N	Grand Union Canal At UBS Data Processing Centre	Other Industrial / Commercial / Public Services: Non-Evaporative Cooling
Canal And River Trust	1.50km NW	Grand Union Canal At Stockley Road, West Drayton.	Mineral Products: Process Water

4.5 Regulatory Flood Designations

4.5.1 Fluvial and Tidal

According to the EA's fluvial and tidal flood map for planning, the entire site is located in Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 (<0.1%) annual probability of river flooding.

4.5.2 Surface Water

According to the EA Flood Map for Surface Water which presents the theoretical potential for flooding from pluvial sources (i.e. flooding caused by rainwater exceeding capacity of drainage systems):-

- the majority of the site (approximately 90% of the total site area, including all current building footprints) is located in an area of Very Low flooding probability. This zone comprises land assessed as having a less than 1 in 1,000 (<0.1%) annual probability of pluvial flooding.
- approximately 5% of the total site area (including parts of the car park in the north of site, the south-east of the site adjacent to Millington Road, the central courtyard of HPH2 in the north-west, and areas to the north and west of the multi-storey car park) is located in an area of Low flooding probability. This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 (1% - 0.1%) annual probability of pluvial flooding.
- approximately 3% of the total site area (including parts of the car park in the north of site, the south-east of the site adjacent to Millington Road, the central courtyard of HPH2 in the north-west, and areas to the north and west of the multi-storey car park) is located in an area of Medium flooding probability. This zone comprises land assessed as having between a 1 in 100 and 1 in 30 (1% - 3.3%) probability of pluvial flooding.
- approximately 2% of the total site area (including small area in the central courtyard of HPH2, a small area to the east of HPH5 and areas adjacent to the north and west of the Multi-Storey Car Park) is located in an area of High flooding probability. This zone comprises land assessed as having a 1 in 30 (>3.3%) or greater annual probability of pluvial flooding.

Surface water drainage networks are typically designed to accommodate only a 1 in 30 (3.3%) annual probability rainfall event. Older drainage networks may have a lower capacity, especially if they have not been maintained adequately.

Although not true of every situation, surface water flooding is typically relatively shallow and would be expected to subside following the storm event assuming drainage assets are maintained in an appropriate condition.

4.6 Designated Ecological Sites

There are no statutory designated ecologically sensitive areas within 2km.

4.7 Environmental Sensitivity and Vulnerability

The site is considered to be situated in an area of ***moderate to high*** sensitivity with respect to groundwater resources due to the underlying Principal Aquifer (in relation to the Lynch Hill Gravel Member). However, Unproductive Strata in relation to the London Clay Formation is also present beneath the site to protect the deeper Chalk Aquifer at depth. There are twelve (12) licensed groundwater abstractions within 2km of the site although none are for sensitive use. The site is not situated within an EA groundwater Source Protection Zone and the EA classified the groundwater chemical quality as 'Good' under the WFD, but the quantitative status was 'Poor'.

The vulnerability of the groundwater receptor in the vicinity of the site is considered to be ***moderate*** as although the majority of the site is covered by buildings / hardstanding, the presence of soakaways (likely for roof stormwater) is reported at the site.

The sensitivity of the hydrological receptor can be considered as ***low to moderate*** as the Grand Union Canal (the nearest surface watercourse), is artificial and has been classified as having a 'Moderate' ecological potential by the EA under the WFD. There are two (2) licensed surface water abstractions within 2km of the site; neither are for sensitive use.

The site is considered to be in an area of ***low*** vulnerability with respect to surface water resources as the nearest surface watercourse is 470m distant.

There are no statutory designated ecologically sensitive areas within 2km.

5. PREVIOUS REPORTS

Environmental assessments of the wider Hyde Park Hayes site and remediation verification reporting for HPH5 was undertaken by Jacobs on behalf of the former owner of the site (Melfords) in conjunction with the Planning process for the construction of HPH5 (see Section 3.4.2). Long term monitoring of groundwater conditions was requested by the EA in conjunction with the discharge of Planning Condition 14 relating to groundwater contamination.

The following reports were provided to Ramboll for review in 2014, as part of the acquisition process by the Client:-

- Delta-Simons, Phase II Environmental Assessment, October 2005, ref: 05-3230.02 (wider HPH area);
- SKM Enviros, Phase I Environmental Assessment, HPH4-6, March 2012, ref: JL30529.21.3.12 (wider HPH5 area with resampling of DS wells);
- SKM Enviros, Phase II Site Investigation, Hyde Park, Hayes, HPH4-6, October 2012, ref: JL30529.002.16.10.12 (HPH 4-6 area);
- SKM Enviros Additional Phase II Site Investigation, Hyde Park, Hayes, HPH5, February 2013, ref: JL30666.002.21.02.13 (wider HPH area);
- Halcrow, Hyde Park Hayes Geotechnical Interpretative Report, March 2013, ref GIB016-GEO-RPT-001 (HPH 4-6 area);
- SKM Enviros Remediation Statement, Hyde Park, Hayes HPH5, April 2013, ref: JL30666.002.30.04.13;
- Jacobs Detailed Quantitative Risk Assessment, Hyde Park, Hayes, HPH5, October 2014, ref: KU032300.DQRA.Interim.29.10.14;
- Celtic, Hyde Park HPH5 Hayes, Validation Report (Final), January 2014, ref: R1588/14/4467;
- Paragon Building Consultancy Ltd, Vendors Survey Report Rackspace City, August 2014, ref: 14.0365/ADH/SH; and
- Paragon Building Consultancy Ltd, Vendors Survey Report Rackspace City, August 2014, ref: 14.0365/ADH/SH; and
- ENVIRON UK Ltd, Phase I Environmental Assessment, Rackspace City, December 2014, ref: UK16-20878 v.3.

A review of the above reports was included in ENVIRON's December 2014 Phase I Environmental Assessment (as above), produced at the time of the acquisition of the site by the Client. The information in the above reports is no longer considered to be representative of current site conditions (with respect to soil and groundwater contamination), given the remediation activities carried out during the construction of HPH5, and therefore is not repeated here. However, information regarding geological strata is still considered relevant and is summarised in the sections below.

The following reports have been provided to, or produced by ENVIRON, Ramboll Environ (both now Ramboll UK Ltd) and Ramboll UK Ltd on behalf of the Client since 2014:-

- Jacobs, Contamination Remediation Verification Report, HPH5, 1st October 2015, ref: KU033000.HPH5 Verification Rev. 05.
- Ramboll Environ, Summary of Works Undertaken to Achieve Discharge of Planning Conditions at HPH5, October 2016, ref: LUK16-20878_UK03SI_2
- Ramboll Environ, Groundwater Assessment, HPH5, October 2017, ref: UK16-20878_GWA_2

- Ramboll UK Ltd, Phase I Desktop Assessment, Hyde Park Hayes, June 2023, ref: 1700000706_UK11 v02, incorporating Groundwater Assessment Technical Memo, June 2023; and
- TerraDat, Geophysical Survey Report on Geophysical Survey to Investigate Surface Void, Hyde Park Hayes, July 2023, ref: 8516

The post-remediation groundwater monitoring conducted at the site by Ramboll between 2016 and 2023 is considered to be more representative of current site conditions with respect to soil and groundwater contamination status and is summarised in the sections below.

5.1 Ground Conditions

Ground conditions encountered on-site have been found to comprise a relatively thin layer of variable thickness of typically granular Made Ground materials overlying either Langley Silt Formation in the northern and eastern parts of the site only (overlying Lynch Hill Gravels) and in western and central / southern areas of the site, where the Made Ground is directly underlain by Lynch Hill Gravels.

The Lynch Hill Gravels are underlain across the site by London Clay, characterised as weathered, fissured clay in the upper profile; the total thickness of the London Clay has not been proven by available investigations to date, although the deepest borehole drilled as a part of the above investigations was terminated at a depth of 40m bgl within the London Clay. The upper surface of the London Clay has been characterised by detailed investigation as having an undulating form possibly representing the erosional and depositional environment at the time of the formation of the Lynch Hill Gravels. A significant depression in the upper surface of the London Clay was identified centred on the footprint of Building HPH5 (in the south-west of the current subject site).

The borehole logs in the initial 2012 SKM Enviros investigation (ref: JL30529.002.16.10.12) appear to have been based on drillers observations only, this investigation having been conducted as a combined geotechnical and environmental assessment (with geotechnical interpretation provided by Halcrow separately). Thus, the logging while likely to be correct in terms of lithology, is not considered to be adequate in terms of observations of potential contamination. Ramboll also notes that field sampling of volatile organic compounds (VOC) was undertaken typically only in the upper metre, rather than at greater depths.

Groundwater flow direction at the site has not been definitively characterised. The results of the various assessments calculate groundwater flow to be towards the south-west, in a radial direction into or away from HPH5, and towards the north-east. During the excavation of the basement at HPH5 (in March 2014) significant dewatering activities were required (approximately 2140m^3 of water was removed from the excavation). Groundwater elevations are considered likely to be sensitive to seasonal variations and may be impacted by the presence of basements or other subsurface structures.

Utility survey drawings shared by the on-site management team at the time of Ramboll's monitoring well reinstallation works in April 2018 indicate the presence of surface water soakaways surrounding the HPH1 and MSCP buildings. Five (5) of these lie in the roadway between HPH5 and the MSCP and were recorded as being flooded at that time.

Three (3) underground rainwater attenuation tanks (with a total capacity of 263m^3) are understood to have been installed as part of the HPH5 development, with two (2) located to the west of HPH5 and one located to the north-west of HPH5. The specifications indicate that the attenuation tanks were to be constructed from a plastic geo-grid, enclosed in "minimum 2000-gauge membrane welded at all joints and pipe openings… surrounded by bib woven permeable geotextile fibretex F32 or similar for protection". Ramboll considers that the soakaways and the

surface water attenuation tanks (if the seals have been compromised) have potential to influence groundwater levels at the site by acting as local recharge points. No direct evidence of the influence of soakaways on local groundwater elevations has been identified in survey data; however, the locations of the rainwater attenuation tanks correlate well with the observed mounding of groundwater at the site, which may be indicative of artificial recharge.

Six (6) rounds of groundwater monitoring, undertaken between April 2018 and March 2023, generally determined groundwater flow to be towards the north-east, but with an apparent recharge mound in the centre-west of the site.

5.2 HPH5 Area

Remediation works were undertaken at the HPH5 area by Celtic Technologies between February 2014 and September 2015, and verified by Jacobs in its 2015 Contamination Remediation Verification Report. The works undertaken are summarised as follows:-

- Excavation of the basement area to a depth of 0.8m to 1.5m bgl, resulted in 5,783m^3 of soils which were segregated, stockpiled, sampled and consigned for off-site disposal.
- Where the base of the excavation was in Made Ground and in proposed areas of soft landscaping, verification soil samples were collected (i.e. to the south-west of the HPH5 building). The four (4) samples failed the remediation criteria due to the presence of asbestos fibres in all four (4) samples, and benzo(a)pyrene and cadmium in three (3) of the samples. A clean cover layer was required in the landscaping areas (verified in September 2015).
- A previously unknown 6000 gallon underground storage tank was discovered in the south of the HPH5 area, decontaminated and removed from site. A localised area of visually hydrocarbon-impacted gravels was removed. Residual risk to groundwater within the Lynch Hill Gravels was considered low given that sheet piles had been installed around the basement areas, extending approximately 5m into the London Clay.
- Significant dewatering was undertaken to facilitate the basement excavation. Dewatering was conducted using pumps to remove water; approximately 2140m^3 of water was removed from the excavation between 7th February and 4th April 2014.
- Ramboll considers that the combined soil excavation and related dewatering works are likely to have removed the soil bound groundwater "smear zone" impacts and dissolved contaminant mass in the basement area, and the presence of the sheet pile wall extending into the London Clay will have prevented further migration of any residual contaminants into or from the HPH5 footprint area. Residual chlorinated hydrocarbons could still remain beneath the vertical extent of the basement, as soil validation sampling associated with the basement excavation works does not appear to have included analysis for chlorinated hydrocarbons.
- Jacobs noted a reducing trend in concentrations of some chlorinated hydrocarbons in groundwater through 2014, and interpreted this as evidence that a significant contaminant load had been removed by the dewatering works, and recommended no further monitoring or assessment works. At the time, ENVIRON (now Ramboll) concurred that the dewatering may have mobilised and liberated residual chlorinated hydrocarbons, but considered that the data available was not sufficient to validate the complete remediation of this area, as the possibility of a future "rebound" effect could not be discounted (whereby residual sources of chlorinated hydrocarbons could re-equilibrate with the dissolved phase over time and cause an increase in observed dissolved phase concentrations).

Following acquisition of the wider Hyde Park Hayes site by Columbia Threadneedle in 2015, Ramboll Environ UK Ltd (now Ramboll) was commissioned in 2016 to conduct a groundwater monitoring and sampling survey programme over a 12-month period commencing March 2016

with a view to discharging Planning Condition 14 (Groundwater Remediation Verification Report) of Application 45753/APP/2015/3676.

The principal objective of the monitoring programme was to provide evidence that concentrations of target contaminants in groundwater were exhibiting a downward trend over time in order to satisfy the EA (as statutory consultee within the planning regime) that no ongoing risk to groundwater resources was presented by the HPH site. The survey programme involved the regular monitoring of groundwater elevations, field measurement of groundwater physio-chemical parameters and collection of groundwater samples for laboratory analysis for target contaminants and other compounds indicative of the activity of natural attenuation.

The Groundwater Assessment programme conducted by Ramboll comprised:-

- Eight (8) groundwater monitoring and sampling surveys (over the period March 2016 to March 2017), reported and submitted to the Local Planning Authority (ref: RUK16-20878_GWA_2, dated 10th October 2017).
- Excavation of three (3) new boreholes and installation of monitoring wells part-way through the monitoring programme: two (2) in the south-east of the site to delineate impacts identified in this area of the site, and one (1) off-site to the west (HPH4) to delineate potential impacts to the west of HPH5.

5.2.1 2017 Groundwater Assessment Summary

The findings of the 2017 Groundwater Assessment can be summarised as follows:-

- Overall, groundwater flow direction is consistently towards the east / north-east across the wider HPH area, which is broadly consistent with the findings of Jacobs' previous assessments;
- The groundwater system within the Lynch Hill Gravels Aquifer was demonstrated by 12 months of field monitoring surveys to be moderately dynamic, with seasonal fluctuations in groundwater levels and physio-chemical parameters observed; and
- Hydrocarbons and chlorinated hydrocarbons were detected in multiple monitoring wells across the Hyde Park Hayes site in all of the eight (8) sampling surveys conducted to March 2017.
- Lines of evidence for the active presence of natural attenuation processes included:-
  - Complete reductive de-chlorination to ethene / ethane.
  - Groundwater parameters indicative of the electrochemical evolution of groundwater on-site confirmed the presence of reducing processes within areas of the site where the highest concentrations of target contaminants were observed (i.e. the south-eastern corner of the site (BH09, REH02, REH03) and off-site to the south-west in the HPH4 area (REH01)).

5.2.2 HPH5 Planning Condition Discharge

Discharge of the outstanding Planning Condition 14 (Part 2) by the Local Planning Authority (LPA), following advice from the EA, was achieved on 28th November 2017. The advice from the EA included the comments:-

"*We have recently revised our risk bars to focus our efforts on those development sites with the greatest environmental sensitivity. As such we are unable to provide specific comments on the discharge of this condition. We recommend that you seek the views of your Environmental Health / Environmental Protection Department for further advice.*

The developer should continue to address any further risks to controlled waters from contamination at the site following the requirements of the National Planning Policy Framework (NPPF) and our Guiding Principles for Land Contamination (GPLC). Our previous correspondence provides site-specific advice regarding land contamination issues in this location. We have no further comments to make with regard to land contamination issues for this site."

5.2.3 Ramboll Groundwater Assessment

As part of Columbia Threadneedle's ownership of the site Ramboll has continued to undertake periodic groundwater monitoring and sampling surveys, with laboratory analysis for the key contaminants of concern (i.e. Total Petroleum Hydrocarbons (TPH) and Volatile Organic compounds (VOCs):-

- Three (3) rounds of groundwater monitoring and sampling surveys over 2018 (April, September, and December);
- April 2021; and
- March 2023. The March 2023 groundwater samples were analysed for a broader suite of analysis including metals, polycyclic aromatic hydrocarbons (PAH), semi-volatile organic compounds (SVOCs) and phenols, along with TPH and VOCs.

Recent groundwater assessments have broadly confirmed the conditions identified in prior assessments by Ramboll (ENVIRON), as summarised below:-

- Arsenic, chromium and zinc were detected at elevations exceeding Generic Assessment Criteria (GAC) based on standards for surface water and / or drinking water quality. These were considered to be isolated occurrences within the site but it was considered that the presence of the metals in groundwater could be as a result of metal treatment activities undertaken at the site and in the wider surrounds as part of its historical use (e.g. aeronautical engineering).
- A concentration of aromatic hydrocarbons exceeded the GAC in the north of the site; this was considered to be an isolated occurrence, and the source unknown.
- Chlorinated hydrocarbons were detected in the same order of magnitude as the Remedial Target Criteria (RTC) derived by Jacobs in its 2014 Detailed Quantitative Risk Assessment (DQRA) and used in the 2014-2015 dewatering exercise in the HPH5 area. However, concentrations detected in 2023 were generally lower than those detected in the 2018 and 2021 sampling. The presence of cis-1,2-dichloroethene and vinyl chloride were considered as evidence of the reductive dehalogenation of parent chlorinated alkenes.
- The presence of elevated concentrations of chloride, manganese, dissolved iron (II) and ammoniacal nitrogen within the groundwater samples were also considered to be strong indicators of reducing groundwater conditions.
- With specific reference to the chlorinated hydrocarbons, a significant body of evidence has been collected that substantiates the contention that natural attenuation processes are active within the areas of the site impacted by chlorinated hydrocarbons. As such and notwithstanding some evidence of increasing trends for certain determinands, it is considered likely that concentrations of chlorinated hydrocarbons will decline over time as a result of natural attenuation processes.

Given that it is proposed to redevelop the site with residential buildings, Ramboll has undertaken a comparison of the March 2023 groundwater sampling results with GAC for residential end-use.

The volatile organic compound (VOC) trichloroethene (TCE), was detected at concentrations greater than the residential GAC for human health in BH09, BH26, BH28, BH29 and REH02 (in the south-east, centre and north-east of the site), up to a maximum of 68ug/l compared to the

GAC of 3.2ug/l. This GAC has been derived by Ramboll to be protective of human health via volatilisation pathways in a "typical" residential scenario (without HVAC systems) where the ground-floor is in residential use and subject to accumulation of vapours from intrusions from below the slab (sub-surface).

Proposed development plans for the site indicate that residential units are proposed at ground floor level (with no basement level beneath) in these areas. Based on the currently available information, Ramboll considers that potential risks associated with vapours from chlorinated hydrocarbon-impacted groundwater could likely be mitigated. Further exceedances of GACs for human health via volatilisation pathways were detected for two (2) other VOCs; cis-1,2-dichloroethene (cis-1,2-DCE) in BH09 (in the south-east of the site, 649ug/l compared to the GAC of 12ug/l), and vinyl chloride (VC), also in BH09, 29.4ug/l compared to the GAC of 12ug/l). For the remaining chemical suite analysed in March 2023, concentrations were below their respective GACs and were typically below the method detection limits or were minor detections.

5.3 Ground Instability

A known void (within the Made Ground) is located in the north-west of the site, in the west of the surface car park. At the time of the site visit in May 2025, this was marked on the surface by a yellow heavy-duty rectangular plastic cover, positioned over a roughly circular hole, approximately 0.3m in diameter. The void is located within a gravel-surfaced 'island' within the surface car park area.

The void was investigated by Terradat on behalf of Ramboll in June 2023, including magnetic, electromagnetic (EM), ground penetrating radar (GPR) and microgravity geophysical surveys. The findings of the surveys indicated that the shallow subsurface material surrounding the void comprised apparent larger objects, (e.g. remnant building structures / slabs and rubble in the Made Ground, but no large voiding associated with the existing surface hole).

At the time of the site visit in May 2025, no signs of significant changes in the surrounding area were observed and the site representative indicated no subsequent issues have been reported.

5.4 Ramboll Comments

Ramboll considers that the Hyde Park Hayes site has the benefit of a significant level of environmental investigation and assessment which serves to reduce the uncertainty associated with the assessment of the contamination status of the site resulting from historic industrial land uses.

Ground conditions encountered by intrusive investigations have broadly confirmed the published geological information:-

- a variable thickness of Made Ground was encountered across the site (up to 4.5m thick, with the thickest Made Ground deposits considered likely to be associated with infilled former basement areas and other former below ground structures associated with the historical industrial use.
- the Lynch Hill Gravel Member is in part overlain by the Langley Silt in the north and south-east of the site.;
- The top of the London Clay exhibits a variable undulating surface contour with a shallow depression centred on HPH5; and
- the thickness of the London Clay has been proved to a depth of at least 40m bgl beneath the site.

Further to remedial activities undertaken as part of the construction of HPH5 (considered by Jacobs (in 2014) to represent the primary source area for observed chlorinated solvent impacts

to groundwater), long term monitoring and sampling of groundwater undertaken by Ramboll from 2016 to 2023 confirmed the presence of residual impacts to groundwater within the Lynch Hill Gravels from both hydrocarbons (fuel related compounds likely to be associated with historical activities) and chlorinated solvents (degreasing chemicals thought likely to be associated with the historical Aerospace Engineering site uses).

Analytical results from the latest groundwater data for the site (2023) indicates that although minor exceedances of specific contaminants have been identified, chlorinated hydrocarbons are not present at concentrations significantly exceeding their respective remedial targets derived by Jacobs.

Given the proposed residential development of the site, Ramboll has undertaken a comparison of the concentrations of potential contaminants in groundwater with GAC derived by Ramboll to be protective of human health via volatilisation pathways. Concentrations of trichloroethene, cis-1,2-dichloroethene and vinyl chloride in groundwater were found to exceed the respective GAC for residential use. Therefore, based on the currently available information, Ramboll considers that potential risks associated with vapours from chlorinated hydrocarbon-impacted groundwater could likely be mitigated. An example of such measures may be the installation of a cast-in-situ floor slab, (with minimal and sealed penetrations) and a vapour-proof membrane within the proposed new buildings.

Ramboll's assessments between 2018 and 2023 have identified multiple lines of evidence supporting the activity of Natural Attenuation (NA) processes on the site including, but not limited to, complete reductive de-chlorination to ethene / ethane, and electrochemical indicators in groundwater indicative of reductive processes, particularly associated with areas of impact from chlorinated hydrocarbons.

The observed level of contamination in groundwater at the site is not considered to be representative of a continuing on-site source, and contaminant mass would be expected to diminish over time due to the natural attenuation processes observed, most notably reductive de-chlorination of chlorinated hydrocarbons.

As a part of the proposed redevelopment plans for the site, excavations to extend the existing HPH5 basement eastwards (into the western part of the current MSCP area) will likely require further ground investigation, to determine the nature of the material to be excavated from site, and appropriate means of disposal or (if appropriate) potential options for re-use. This presents an opportunity to undertake further sampling of groundwater to confirm that natural attenuation of chlorinated hydrocarbons in groundwater is continuing. The extended basement excavation will presumably require the installation of sheet piling and dewatering, as was the case during the construction of the existing HPH5 basement in 2015; (if required) the dewatering activities could be designed to further reduce concentrations of chlorinated solvents in groundwater.

The redevelopment will also necessitate the removal of current soakaways located to the west of the current MSCP (and possibly also removal or relocation of the underground surface water attenuation tanks to the west and north-west of HPH5), which provides an opportunity to review the integrity of the current surface water attenuation and /or disposal infrastructure, and the most suitable means of surface water disposal / attenuation this area.

A Piling Risk Assessment was undertaken as part of the pre-construction assessments for HPH5; this is also likely to be required to inform potential risks to groundwater resources associated with piled foundations for the proposed development.

Given that asbestos-fibres and benzo(a)pyrene were detected in Made Ground samples during the 2014-2015 remediation works for HPH5, Ramboll also considers it likely that a clean cover

system will be required in areas of proposed soft landscaping; this should be confirmed by analysis of shallow soil samples in these areas.

6. PRELIMINARY GEOTECHNICAL ASSESSMENT

Using the sources of data described in Section 5, and the proposed current redevelopment plans as proposed by the Client, Ramboll has undertaken a preliminary appraisal of the site, in the context of the proposed development.

The opinions and recommendations are based on assumptions (given the information provided by the Client) that the proposed predominantly residential buildings are likely to be ten to eleven (10-11) storeys in height.

It is considered that the primary geotechnical risks associated with the development will be basement excavation and groundwater control, and remnant foundations / piles / obstructions in the ground from existing and previous developments. The geotechnical risks are not assessed to be significant in terms of feasibility, at this stage of the project.

External areas of hard and soft landscaping are proposed (based on drawings provided to Ramboll to date), with vehicular access and some parking areas shown at ground level. Basement level car parking will utilise the existing basement car park beneath HPH5, which will be extended to the east beneath the western part of the proposed residential building to occupy the location of the current Multi-Storey Car Park. Ramboll understands that no further basement areas are proposed at the site.

From the review of the previous ground investigation results for the site (see Section 5), which were completed in 2005, 2012, 2013 and 2016, the ground conditions underlying the site are summarised in Table 6.1.

Table 6.1: Summary of Ground Conditions

Stratum	Description	Depth range of strata to base (m bgl)	Thickness range (m)
Made Ground	Worked ground and demolition rubble, variable in thickness and composition, comprising both sandy clay with gravel, brick, concrete and clinker; or brick rubble, concrete fragments, wire and glass (possible infilled basements).	0.3-4.5 [1]	0.3-4.5
Langley Silt	Typically consisted of silty or gravelly clay.	1.5-2.1 [2]	0-1.1
Lynch Hill Gravel	Sand and gravel.	1.2-7.0	2.7 -5.8
London Clay Formation	Silty clay or sandy clay.	40 (max depth proved)	>35

[1] Made Ground is typically reported ranging from 1 to 1.8m thick with areas around the site identified with increased thickness of made ground; usually associated with historic site features, previous structures, and remedial works carried out.

[2] Langley Silt is only present in the north (current surface car park) and east (current Multi-Storey Car Park) of the site, and was found to be absent from the current HPH5 area.

Groundwater has been encountered within the Langley Silt and Lynch Hill Gravel layers, with resting groundwater level at 27.9m to 30.4m AOD (i.e. approximately 1.4m to 3.7m bgl).

A known void (within the Made Ground) is located in the north-west of the site, in the west of the surface car park. At the time of the site visit in May 2025, this was marked on the surface by a

yellow heavy-duty rectangular plastic cover, positioned over a roughly circular hole, approximately 0.3m in diameter. The void is located within a gravel-surfaced 'island' within the surface car park area. The void was investigated by Ramboll in June 2023, including magnetic, electromagnetic (EM), ground penetrating radar (GPR) and microgravity geophysical surveys. The findings of the surveys indicated that the shallow subsurface material surrounding the void comprised apparent larger objects, (e.g. remnant building structures / slabs and rubble in the Made Ground, but no large voiding associated with the existing surface hole).

The historical development of the site is reviewed in Section 3; the site and immediate surrounds was occupied by an Aeronautical Engineering Works from at least the 1930s. Redevelopment and repurposing of the site to offices began in the 1980s, with the current buildings understood to date from the early 1990s to 2015.

6.1 Structural Foundation Options

6.1.1 Foundation type

The scale and type of buildings proposed has been considered for the purposes of this exercise. Structural loads have not been provided or assessed at this stage.

Made Ground is present throughout the site, typically comprising granular and anthropogenic materials. The variability in composition and relative compaction of the made ground is likely to render it unsuitable for supporting structural loads.

The Langley Silt is of insufficient strength to support structural loads from the proposed development.

The Lynch Hill Gravel may be suitable for supporting structural loads from conventional foundations. Settlement would be experienced, but the majority of the settlement would be rapid upon application of load and some mitigation for this could be made during construction. However, for the proposed multi-storey buildings, it is likely that pad foundations would need to be impractically large and deep to ensure a consistent founding stratum in the Lynch Hill Gravel, and to ensure adequate allowable bearing pressure for substantial structural foundation loads. The Lynch Hill Gravel could provide a contribution to shaft friction in a piled foundation design, but to carry structural loads the piles would need to extend to greater depth, into the London Clay beneath.

The London Clay is encountered too deeply to be considered as a founding stratum for conventional foundations. However, the London Clay would form a suitable bearing stratum for piled foundations.

For the proposed structures a piled foundation solution is considered appropriate. Piles would probably be constructed into the London Clay to a typical depth in the range of 15 to 30m bgl.

6.1.2 Proposed Structures

<u>Existing 'Car Park'</u>

The shallow ground is unlikely to be suitable for supporting structural loads from the proposed new building.

The optimum foundation solution is likely to be a grid of pilecaps, each supporting several Continuous flight auger (CFA) piles. CFA piles are typically used for this type of structure, founded within London Clay. For very large diameter piles (e.g. greater than 1.2m) each carrying very high loads, conventional bored piles are required, rather than CFA. However, conventional piles are less economical than CFA, and take longer to install.

HPH2

Consideration should be given to re-use of the existing foundations. An exercise in reviewing and analysing the existing data, supplemented by intrusive structural and ground investigations, would assist in making such assessments.

Modifying or extending the existing foundations (for example by extending pilecaps, adding further piles etc) would bring substantial cost and environmental benefits compared to abandoning existing foundations. Existing foundations and piles also constitute a design and construction risk until they are accurately located.

If a new foundation system is required, the most suitable foundation solution is likely to be CFA piles, as per the above commentary for the 'Car Park' site.

MSCP

The proposed new basement would need to resist groundwater and earth pressure forces in both temporary and permanent cases.

Various options exist for such retention, and a detailed discussion is outside the scope of this report. However, it is noted that the groundwater levels are likely to be above the basement excavation level, and substantial flows can be expected within the Lynch Hill Gravel. Assessments of groundwater drawdown in the surrounding area, and the potential effect on other properties, would need to be considered. Typical mitigations for this scenario include a sheet piled perimeter wall, taken to such depth in the London Clay to form an effective groundwater cut-off during construction, as used in the HPH5 basement construction in 2015 (see Section 5.2). Sheet piles would not form a complete cut-off for groundwater, and provision for groundwater pumping and disposal would be required.

Potential groundwater contamination would need to be considered for disposal purposes. The permanent structure would need to resist buoyancy forces; tension piles may be required to hold-down basement floor slabs between pilecaps and ground beams; alternatively structural slabs may require suitable thickenings or reinforcement to resist uplift across spans between ground beams / pilecaps.

Heave is a consideration in basement design, and structural mitigations such as compressible membranes would probably be required to prevent residual heave (post-construction) within the London Clay from affecting the structure.

Monitoring of movement across the surrounding area can be achieved effectively using InSAR (Interferometric Synthetic Aperture Radar) technology. The existing dataset pre-construction can be compared to data from during the work, to validate that groundwater drawdown from pumping during basement construction isn't causing significant movement on adjoining sites and buildings. The need for such monitoring may be considered during detailed design, based on assessment of the effect and significance of groundwater drawdown.

HPH5

The Contamination Remediation Verification Report for HPH 5 by Jacobs (2015) includes a Basement Floor Plan, sections and details drawings. The drawings indicate sheet piled perimeter walls, internal pilecaps, and a piled lift shaft core. It is understood that the basement at HPH5 is intended to remain (and be extended) as part of the new development, whilst the building will be demolished and replaced. Further details of the structural form are needed before preliminary design can take place.

It is understood that the existing building was constructed in circa 2015, and therefore the foundation system is likely to have a substantial residual design life. Provided that the nature and capacity of the existing foundation system can be verified, an assessment may be made of new

structural loads versus foundation capacities. This may be a factor in the structural and architectural design of the building, as large savings could be made in terms of financial and environmental cost, if some or all of the loads can be supported by the existing foundations. It is anticipated that additional loads over-and-above the existing could be supported by modification / extension of existing pilecaps (e.g. by adding additional piles), or by the addition of further piled structural columns.

Design and construction records for the existing basement in HPH5 should be obtained and reviewed; records of the structural performance and any serviceability issues (cracking, groundwater ingress, etc) should be obtained. Records of the foundation design and construction should also be sought and reviewed. The basement will need to be warranted to confirm its suitability for re-use in the new proposed building. The basement perimeter walls and intermediate columns and foundations of the building core / lift shaft will need to be verified for ongoing use in supporting new structural loads.

If new foundations are required, installation methods which don't involve destruction of the existing basement floor slab would be preferable. Watertightness will be a consideration, along with control of groundwater potentially ingressing through new excavations or pile bores.

6.2 Structural Slab Options

For buildings without basements, ground-bearing floor slabs are unlikely to be suitable if founded on the existing materials at shallow depth (Made Ground and Langley Silt).

Excavation and re-processing of the granular Made Ground could render it suitable for re-use as a ground improvement layer to support nominal loads from ground-bearing floor slabs. However, such processing would require space on site for the operation, and this may have a significant associated cost. To avoid the need for processing of material, potential settlement in the silts (where present), and unnecessary disturbance of potentially contaminated material, specification of suspended floor slabs would be a more robust option for design consideration at this stage.

An alternative would be to remove the unsuitable founding material and replace with Lynch Hill Gravel from the new basement excavation at the MSCP site. The gravel could form a suitable founding layer for the support of floor slabs. This option would require close programming and simultaneous construction of the buildings, or an available stockpile area, so on that basis may be unworkable; but this could be considered as a potential opportunity to avoid the increased structural cost of suspended slabs.

Basement slabs would likely be ground bearing on the Lynch Hill Gravel or London Clay and would need to resist uplift forces; refer to the 'Structural Foundation Options' discussion above.

6.3 Earthworks

Material re-use

It is understood that significant changes in level are not proposed. As such, there will not be a bulk cut and fill operation. However, substantial quantities of soil will be excavated for the new basement at the MSCP site.

The Made Ground would require identification and processing for re-use (subject to appropriate reuse criteria).

The Langley Silt is unlikely to be suitable for re-use as engineered fill, although it could be re-used as bulk fill or for landscaping, subject to appropriate assessment.

The Lynch Hill Gravel may be suitable for use as engineered fill, and subject to grading and durability may be suitable for re-use as sub-base or capping type material. The typical description of the Lynch Hill Gravel is 'sandy gravel, gravels of flint'. Significant quantities of this

material are likely to arise from the basement excavation, and re-use would result in cost savings, environmental benefits such as reduced need for quarrying new aggregate, reduced lorry movements, and less disposal off-site as a waste.

The London Clay, if reached and excavated during basement construction, would probably be suitable for re-use as cohesive fill, although there may be no requirement for this in the development proposals.

All materials proposed for re-use would be subject to classification, acceptability and conformance testing. The re-use of cohesive materials would be affected by handling and potentially drying-out, where waterlogged.

Chemical Aggressivity

Chemical aggressivity to concrete is assessed following the guidelines of BRE SD1, 'Concrete in Aggressive Ground'. The available assessment (by Halcrow in the March 2013 GIR report) indicates that the Made Ground would be Design Sulphate Class DS-2 / Aggressive Chemical Environment for Concrete (ACEC) Class AC-2, and the Langley Silt and Lynch Hill Gravel would be DS-1 / AC-1.

No assessment has been made for the London Clay, as Halcrow didn't consider that this was warranted, based on observations. London Clay can contain minerals which oxidise when disturbed, resulting in potentially damaging sulphates and chemical expansion / heave. The London Clay may be disturbed during basement excavation, and this should be considered in detailed design. Piles are not considered to cause 'disturbance' of the ground, although piles must be designed with an appropriate concrete specification for the ground and groundwater they are in contact with.

Roads and Car Parking

The Made Ground and / or Langley Silt at shallow levels would need to be assessed on a location-specific basis to determine whether a suitable pavement foundation material could be achieved.

Typically, granular made ground would be expected to exhibit a Subgrade Surface Modulus (SSM) exceeding 30MPa, which is the threshold, under current industry guidance, below which ground improvement or replacement would be required. However, variability of composition and the presence of organic and anthropogenic material may necessitate some excavation, processing and treatment of the material to render it suitable as a pavement foundation. The Langley Silt may achieve a SSM of 30MPa or greater where the material is firm and not waterlogged.

Permanent drainage of the pavement foundation would be a design requirement.

It would be prudent to anticipate that removal and replacement of soft material in some areas would be required.

Drainage

As discussed in Section 5.1 above, Ramboll is aware that soakaways are present on the site surrounding the MSCP and the HPH1 building (the HPH1 building is located off-site, although some of the associated soakaways are likely to be situated on the current subject site).

During an inspection by Ramboll Environ in April 2018, it was noted that soakaways to the south of HPH1 were flooded to cover level, although Ramboll has not been made aware of above ground level flooding or overflowing of the soakaways.

Ramboll considers that soakaway drainage may not be considered suitable for the current subject site because the groundwater levels are close to surface, within a similar range to typical soakaway invert levels. The granular Made Ground may have appropriate drainage characteristics, while the Langley Silt is likely to be too impermeable to host soakaways. The

Lynch Hill Gravel would probably have sufficient permeability for soakaway drainage, but its depth and the fact that it is submerged below the groundwater table, would preclude it from such use. Potential effects on the migration of contaminants in groundwater would also need to be considered.

It is not known whether there are planning constraints or Local Authority requirements associated with off-site surface water disposal.

6.4 Preliminary Geotechnical Risk Register

A preliminary, qualitative appraisal of geotechnical risk is presented in Table 6.2. This should be updated upon receipt of new information.

Table 6.2: Preliminary Geotechnical Risk Register

Hazard	Risk	Mitigative Measures
Ground and groundwater Conditions	The available ground investigation data does not cover the Car Park, Multistorey Car Park, or HPH2 site. There is risk associated with uncertainty in ground conditions in these areas.	If any historic ground investigations were conducted in these areas, this information should be obtained. A project-specific ground investigation will be required to assess the ground conditions across the site to inform design of both temporary works and permanent structures.
Ground Conditions	Variability and potentially low strength of Made Ground renders it unlikely to be suitable as a founding stratum. The Langley Silt is variable in strength and thickness, and is likely to be susceptible to settlement under loading. Because of the presence of Made Ground and Langley Silt at shallow depth, shallow foundations (such as pad foundations) and ground-bearing floor slabs are unlikely to be suitable (for structures without basements). For structures with basements, founding depths would be below the level of these materials.	Ground remediation or excavation and removal of the Made Ground would probably be required for ground-bearing floor slabs. Suspended floor slabs may be a preferable alternative. Settlement analysis would be required for ground-bearing loads, particularly in the case of the Langley Silt. Project-specific ground investigation should be undertaken, with input from the scheme geotechnical designer.
Basement construction – temporary works	The Lynch Hill Gravel is a permeable water-bearing stratum. This has significant implications for temporary works in basement design.	The basement walls would be required to provide an effective groundwater cut-off during construction. Provision will likely be necessary for pumping and disposal of significant quantities of groundwater during construction. Temporary groundwater drawdown at neighbouring properties may cause minor movement/settlement – this should be considered and monitored during construction.
Basement construction – permanent works	Groundwater is present above the depth of likely basement construction. Buoyancy should therefore be considered in design.	The structure will need to be suitably designed to resist serviceability issues or failure resulting from groundwater pressure, during construction and operation.

Hazard	Risk	Mitigative Measures
Basement construction – permanent works	Heave will be experienced by the London Clay, upon reduction of overburden pressure during excavation. The heave may be of significant duration and would therefore need to be accommodated within the structural design.	Structural detailing of the basement slab, e.g. reinforcement and underlying compressible membrane.
Excavation – temporary works	Potential excavations for remediation or removal of Made Ground and Langley Silt pose a risk of stability.	Consideration of safe slope gradients within available space constraints, or potential temporary retaining works.
Underground Obstructions	Obstructions, services and remnant foundations associated with present and former site uses present a construction risk.	Locate all underground structures and services using GPR survey and intrusive investigations (machine trial pitting/hand digging as necessary). Obtain records of foundations / piles/ pilecaps of existing buildings. Removal of relic underground structures prior to new construction works, or reuse if appropriate.
Chemical Aggressivity	The existing sulphate assessment does not provide a classification for the London Clay. High sulphate levels can lead to degradation of concrete, if it hasn't been designed accordingly. High sulphide (potential sulphate) levels, associated with minerals such as gypsum which may be present in London Clay, may lead to chemical expansion and heave.	Use of sulphate resistant cement as necessary and appropriate concrete mix design; based on the results of targeted ground investigation including BRE SD1 testing on ground and groundwater from appropriate depths. Consideration of potential chemical heave if excavation of London Clay is necessary.
Drainage	Site may be unsuitable for soakaway drainage due to high groundwater levels, and the potential effects on migration of contaminants in groundwater.	Consider the need for soakaway tests during targeted ground investigation, and make provision for off-site drainage unless viability of soakaways is proven.
Ground stability	Small void feature identified in existing northern Car Park. Investigated using geophysical methods and considered to be a shallow localised feature associated with the Made Ground.	Excavate the Made Ground in this area and replace with controlled compacted granular fill to a suitable specification.

6.5 Recommendations

6.5.1 Ground Investigation

Development-specific ground investigation is necessary to inform preliminary design and to quantify the geotechnical risks.

Ground Investigation (GI) may be conducted over several phases (typically a 'preliminary' GI, conducted by the client, and a 'detailed' GI conducted either by the client, or by a design and build contractor).

Based on the present site layout, a suitable investigation spacing for detailed design is unlikely to be achievable at HPH2 and HPH5, prior to demolition. It is recommended that a preliminary GI is carried out to obtain sufficient data to progress the scheme proposals. Indoor GI methods should be considered, subject to appropriate safety measures and provisions, for the MSCP and HPH2 where possible to supplement GI positions achievable around the edges of the buildings.

In order to inform the RIBA 2 scheme design and address the geotechnical risks outlined above, it is considered that the ground investigation could include the following:-

- Cable percussive boreholes to investigate the ground conditions to depth, and allow for insitu (SPT) testing, and sampling for geotechnical laboratory testing;
- Trial pits within the made ground to obtain bulk samples for classification and acceptability testing, if excavation and re-use of the material is proposed;
- Installation of groundwater monitoring wells to sufficient depth to record groundwater pressure at the proposed basement excavation depth. Down-hole permeability tests (for example rising head tests) should also be specified;
- Geophysical methods to locate and identify existing and relict foundations;
- Soakaway tests (to BRE 365, 'Soakaway Design'), if soakaway drainage is being considered;
- Shallow CBR testing (using CPR plunger test, or plate load test on granular made ground) to assess the Subgrade Surface Modulus in areas proposed for roads/carparks/hard landscaping.

To meet the spacing and depth recommendations of BS EN 1997 (Eurocode 7, Geotechnical Design), the borehole spacing should be no greater than 40 metres, and the depth should be at least 5 metres below anticipated pile toe depth. Greater depth may be necessary in the case of basements, to assess groundwater and have behaviour within the basement's depth of influence. The scheme geotechnical design should be involved in the specification of ground investigation to ensure that such aspects are suitably covered.

On completion of the investigation, a Ground Investigation Report (GIR) should be produced in accordance with BS EN 1997 (Eurocode 7). In due course, a Geotechnical Design Report (GDR), also in accordance with Eurocode 7, would need to be produced by the designer.

6.5.2 Existing Foundation Structures

The existing structural records should be obtained and reviewed to determine the existing foundation forms, layouts and construction details. It is likely that the buildings are piled, as such, the piling contractor, if still in operation, may hold records which could be obtained. The design life of the previous foundations, their capacity, and what warranties could be obtained or procured, should be investigated. Substantial savings to the project (environmental and financial) could be made if foundations could be re-used.

If there is potential for re-using existing foundations, intrusive investigation methods should be considered, such as:-

- Concrete coring and testing;
- Exhumation of reinforcement for inspection;
- Isolation of a single pile by breaking out pilecap to allow dynamic and integrity testing to verify pile condition and likely performance.

7. QUALITATIVE RISK ASSESSMENT

7.1 Legislative Framework

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently revoked with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380) (as amended), which came into force in August 2006, and consolidated the previous regulations and amendments. Revised statutory guidance ("the Guidance") for local authorities on how to implement the regime, including the decision-making process on whether land is contaminated land in the legal sense, has been published by Defra and entered into force in April 2012.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… to be in such a condition, by reason of substances in, on or under the land, that:

a) significant harm is being caused or there is a significant possibility of such harm being caused[10]; or

b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused".

The pollution of controlled waters is defined in Section 78A(9) of the Act as "the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter".

7.2 Risk Assessment Framework

"Significant harm" or "significant pollution of controlled waters" is defined in the Guidance on risk-based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land.

The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three (3) factors must be present and potentially or actually linked for a potential risk to exist. For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A ***source*** - a substance that is capable of causing pollution or harm;
- A ***receptor*** - something which could be adversely affected by the contaminant; and
- A ***pathway*** - a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

[10] Water Act 2003 (Commencement No. 11) Order 2012

Table 7.1: Classification of Risk (after NHBC/EA 2008)

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	**Very high**	High	Moderate	Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/ Low	Low	Very low
	Unlikely	Moderate/ Low	Low	Very low	Very low

It has been assumed that the site will be redeveloped with a residentially-led scheme, with residential units present from ground floor level.

7.3 Preliminary Risk Assessment

A preliminary conceptual site model has been developed and qualitative risk assessment undertaken to identify and assess the potential risks associated with environmental conditions at and in the vicinity of the site based on the available information. This is presented in Table 6.2.

Table 7.2: Conceptual Site Model

Source	Pathway	Receptor	Risk of Contaminant Linkage
Current use of the site as offices, multi-storey car park and surface car park. Six (6) current diesel fuel ASTs located on-site (for back-up power generators). All located internally and in good condition with no evidence of staining.	Leaching to Groundwater & Groundwater Flow.	Groundwater in the Lynch Hill Gravel and the deeper Chalk (Principal Aquifers); Chalk protected by London Clay.	**Low**. Limited on-site potential contamination sources from current use.
	Surface water run-off.	Surface water as controlled water.	**Low**. Limited on-site potential contamination sources from current use. Nearest receptor is at distance.
	Dermal contact / ingestion.	Site buildings, current and future site users and neighbours.	**Low**. Limited on-site potential contamination sources from current use.
	Vapours.		**Low**. Limited on-site potential contamination sources from current use.

Source	Pathway	Receptor	Risk of Contaminant Linkage
Potential sources of contamination relating to historic site use include:- • Fairey Aviation (Aeronautical Engineers) from c.1930s to c.1960s; • Westland Helicopters present across the site from c.1960s; • Warehouses (used by food supplier companies) from c. 1970s to 1990s. • Servicing / repair of vehicles and distribution of vehicle parts, 1980s to 1990s. • Elevated concentrations of chlorinated hydrocarbons, TPH and metals detected in groundwater between 2016 and 2023.	Leaching to Groundwater & Groundwater Flow.	Groundwater in the Lynch Hill Gravel and the deeper Chalk (Principal Aquifers); Chalk protected by London Clay. Lynch Hill Gravel is not abstracted for sensitive use. Site not situated in a groundwater Source Protection Zone.	**Low to Moderate**. Potential for residual historic contamination. Limited ground investigation information available for current building footprint areas, and the HPH2 and northern car park areas. Groundwater was impacted by chlorinated solvents, assumed to originate from a historical source in the vicinity of HPH5. Remediation undertaken in the HPH5 area during construction of the current HPH5 building (2014-15). However there is good evidence of ongoing natural attenuation. Risks associated with lateral and vertical contaminant migration with groundwater flow are considered to be ***low***.
		Surface water as controlled water via connectivity with groundwater flow.	**Low**. Potential residual historic contamination present; nearest receptor is at distance.
	Dermal contact / ingestion / inhalation.	Site buildings, current and future site users and neighbours.	**Moderate.** Potential for residual historic contamination in shallow soils. Risks to current site users considered ***low***, due to majority hard cover and commercial use. Risks to future residential users are considered ***moderate***, particularly associated with proposed garden / public open space areas. Limited information available regarding shallow soils, although asbestos fibres and benzo(a)pyrene have been detected in shallow soils previously. Further assessment required to confirm appropriate materials to be used for water supply pipes in the proposed development, to mitigate the risk of potential permeation of the pipes by contaminants detected in soil and groundwater.

Source	Pathway	Receptor	Risk of Contaminant Linkage
	Vapours.		**Moderate**. Groundwater data from 2023 indicates concentrations of chlorinated hydrocarbons were sufficiently high to present a potential risk to future residential receptors via the volatilisation pathway. Residential units are proposed at ground floor level. Mitigation measures likely to need incorporating into the design.
Potential current and historical off-site contamination sources in the site vicinity include:- • Aeronautical Engineering Works, extending off-site to the east, south and west (1930s to 1970s). • Industrial units from 10m south, 1980s to present; • Railway 150m north (1800s to present); • Gramophone Factory 240m north (c.1910s to c.1990s); • Refuelling activities carried out by Safeway (and previously acquired companies) 80m north-west	Leaching onto site in Groundwater & Groundwater Flow.	Groundwater in the Lynch Hill Gravel and the deeper Chalk (Principal Aquifers). Chalk protected by London Clay Formation. Lynch Hill Gravel not abstracted for sensitive use, and site is not within a groundwater Source Protection Zone. Groundwater flow direction is unclear. Groundwater from off-site has the potential to migrate within the Lynch Hill Gravel.	**Moderate**. Potential for presence of contamination sources from off-site activities. Much of the surrounding area historically formed part of the Aeronautical Engineering Works (along with the site). Recent (2023) Ramboll groundwater monitoring indicates some slightly elevated chlorinated hydrocarbon concentrations. However there is good evidence of ongoing natural attenuation, and risks associated with lateral and vertical contaminant migration with groundwater flow are considered to be ***low***.

Source	Pathway	Receptor	Risk of Contaminant Linkage
(c.1970s to mid-1990s); • Asda PFS 130m east (2015 to present).	Vapours	Site buildings, current and future site users and neighbours.	**Moderate**. Potential for vapours associated with detected concentrations of chlorinated solvents and breakdown products. Not considered to be a significant concern with respect to current commercial use. Groundwater data from 2023 indicates concentrations of chlorinated hydrocarbons were sufficiently high to present a potential risk to future residential receptors via the volatilisation pathway. Residential units are proposed at ground floor level. Mitigation measures likely to need incorporating into the design.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Summary of Phase I Geoenvironmental Assessment

The findings of the Phase I Geoenvironmental Assessment may be summarised as follows:-

- The site was historically undeveloped (likely agricultural land) from at least 1864 until the 1930s, when the site was developed as part of an Aeronautical Engineering Works (which extended off-site to the east, south and west). The site was redeveloped for commercial and office use in the 1980s / 1990s.

  Previous investigations indicated that a source of chlorinated solvents historically existed, centred on HPH5. Soil excavation and dewatering activities associated with the construction of HPH5 are understood to have removed a significant proportion of the contaminant mass from the dissolved phase in groundwater. Chlorinated solvents were also detected in other areas of the office park; these were typically at lower concentrations. Groundwater monitoring data obtained by Ramboll in 2023 concludes that there is good evidence that natural degradation / attenuation processes for chlorinated solvents is occurring. Assessment of the 2023 groundwater monitoring results with respect to the proposed residential use indicated the presence of chlorinated hydrocarbons remaining at concentrations sufficient to present a theoretical risk to future residential receptors via the volatilisation pathway.

  Based on current information available, the potential for significant ground contamination to exist at the site (with respect to the proposed residential land use) due to current and historical uses is considered to be ***moderate***.

- Historical potentially contaminative activities present in the vicinity include the aeronautical engineering works extending off-site to the east, south and west from at least the 1930s to 1970s. The site is currently surrounded by industrial / commercial units and residential properties.

  The potential for significant ground contamination to exist at the site as a result of off-site activities is considered to be ***moderate***.

- The site is located on a Principal Aquifer (in relation to the Lynch Hill Gravel Member). However, Unproductive Strata in relation to the London Clay Formation is present underneath to protect the deeper Chalk Aquifer at depth. There are twelve (12) licensed groundwater abstractions within 2km of the site although none are for sensitive use. The site is not situated within an EA groundwater Source Protection Zone and the EA classified the groundwater chemical quality as 'Good' under the WFD but the quantitative status was 'Poor'.

  Overall, the hydrogeological sensitivity in the vicinity of the site is considered to be ***moderate to high***.

  The vulnerability of the groundwater resources is considered to be ***moderate*** due to the majority building / hardstanding coverage of the site, but the presence of soakaways for stormwater disposal.

- The hydrological sensitivity of the site is considered to be ***low to moderate*** (as the nearest assessed watercourse is artificial (Grand Union Canal) and has been classified as having 'Moderate' Ecological Potential by the EA under the WFD).

  The vulnerability is considered to be ***low*** (since the Canal is located approximately 470m north).

- The site is located within Flood Zone 1, indicating that the area has been assessed as having less than a 1 in 1000 (<0.1%) annual probability of river flooding.

- There are no designated ecologically sensitive sites within a 2km radius of the subject site.

In the UK, a risk-based approach is used to assess the potential impact associated with ground contamination, as summarised in the CSM. The current and former uses of the site indicate a ***low to moderate*** potential for the current ground conditions to present a significant risk to the current commercial land use.

8.2 Proposed Redevelopment to Residential-Led Future Use – Contamination

The proposed redevelopment of the site to residential use would be considered more sensitive than the current uses, with residential units proposed from ground floor level in parts of the site. With respect to the proposed future residential land use, Ramboll considers that the former uses of the site indicate a ***moderate*** potential for the current ground conditions to present a significant risk to the future residential land use.

Additional ground investigation work is required, in order to gather further data to allow site-specific risk assessment relating to the proposed development (particularly in the proposed extended basement car park area (current Multi-Storey Car Park area) and the areas of HPH2 and the surface car park in the north of the site, where ground investigation coverage to date has been low), and also to conduct appropriate appraisal for geotechnical purposes.

Review of the available environmental ground investigation and monitoring data collected to date indicates that (subject to further investigation, analysis and site-specific risk assessment), further consideration may need to be given to the following:-

- excavation and disposal (or treatment and appropriate re-use) of potentially contaminated material where required for the proposed development, but particularly in the area of the proposed basement extension (current MSCP area). The proposed basement extension will also likely require dewatering, and consideration will need to be given to the disposal (or treatment) of potentially contaminated groundwater;
- It is likely that mitigation measures will need to be incorporated into the design and construction of the new buildings. This may include vapour-proof membranes under slabs (with minimal and sealed penetrations) within the proposed new buildings, but this can be confirmed following further assessment;
- concentrations of contaminants detected in soil and groundwater at the site may have the potential to permeate conventional water supply pipes, and therefore selection of appropriate pipe materials, or the provision of protection for water supply pipes may be required;
- it is likely that a clean cover system will be required in areas of proposed soft landscaping.

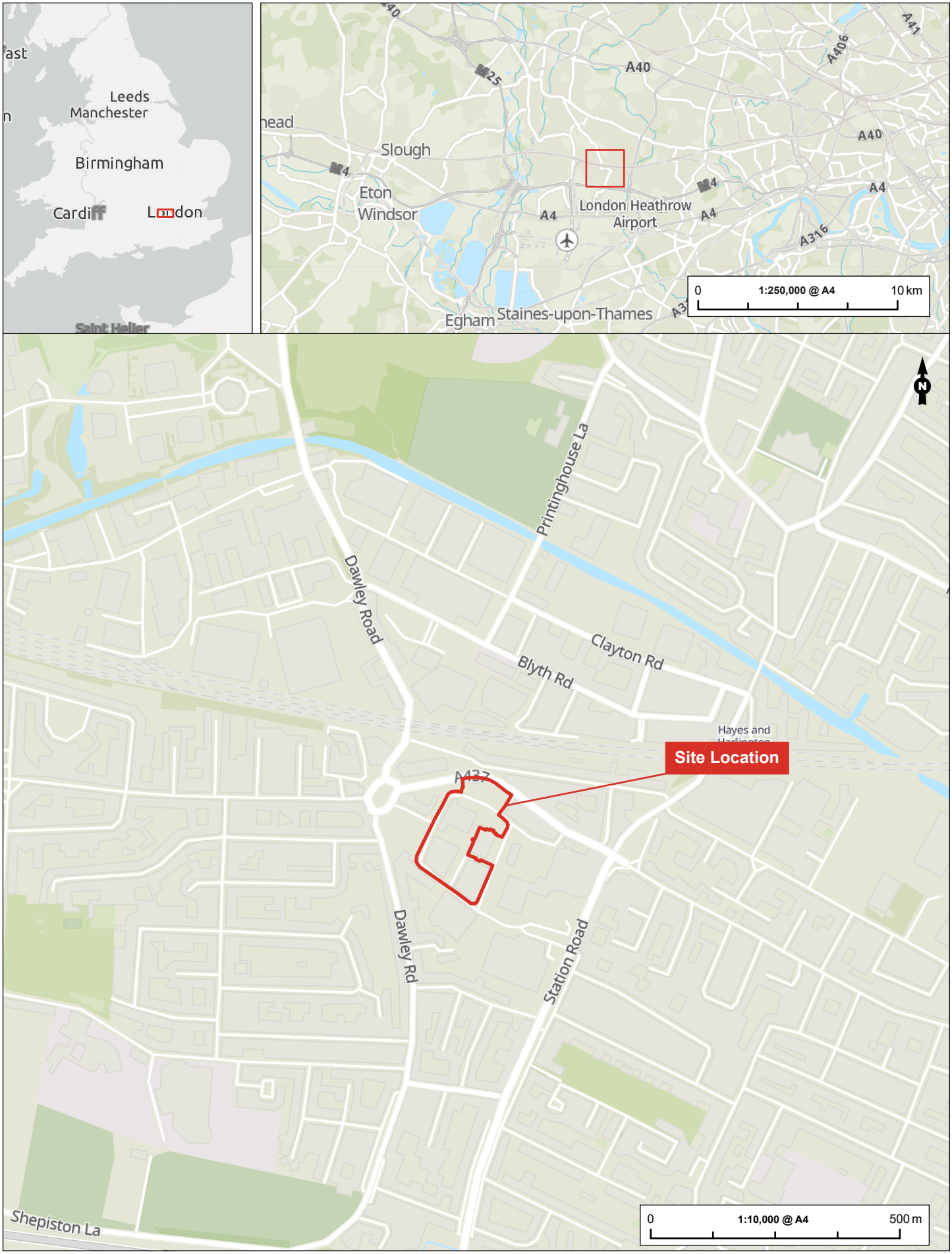
8.3 Proposed Redevelopment to Residential-Led Future Use - Geotechnical

From the review of the available ground investigation reports, the site's ground conditions consist of Made Ground overlying Langley Silt (not present across the entire site), Lynch Hill Gravel and London Clay Formation, while groundwater has been encountered within Langley Silt and Lynch Hill Gravel across the site at depths between 1.4m and 3.7m below ground level.

For the proposed structures, a piled foundation solution is considered likely most appropriate. Piles would probably be constructed into the London Clay to a typical depth in the range of 15 to 30 metres below ground level. A Piling Risk Assessment will likely be required to assess the potential risks to controlled waters in relation to the installation of piled foundations.

A geotechnical site-specific ground investigation is required to assess the relevant risks and inform the design of the development. Detailed recommendations will be subject to the findings of the investigation.

APPENDIX 1
FIGURES



RAMBOLL	Figure Title: Site Location	Project Name: HPH2, HPH5, Multi-Storey Car Park and associated land, Hyde Park Hayes, Millington Road, Hayes	Date: May 2025	
			Prepared By: HR	Figure No.: 1
	Client: **Threadneedle UKPEC6 Hayes Jersey LP**	Project No./Filery ID: 1620017965	Scale: As Shown	Revision: 1.0

1620017965-RAM-MA-SS-00001_Fig1SiteLocA4Portrait_01.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

Site Boundary

Figure Title

Site Layout

Project Name

HPH2, HPH5, Multi-Storey Car Park and associated land, Hyde Park Hayes, Millington Road, Hayes

Project No./Filery ID

1620017965

Date	Figure No.	Revision
May 2025	2	1.0

Prepared By	Scale
HR	1:2,864 @A4

Client

Threadneedle UKPEC6 Hayes Jersey LP

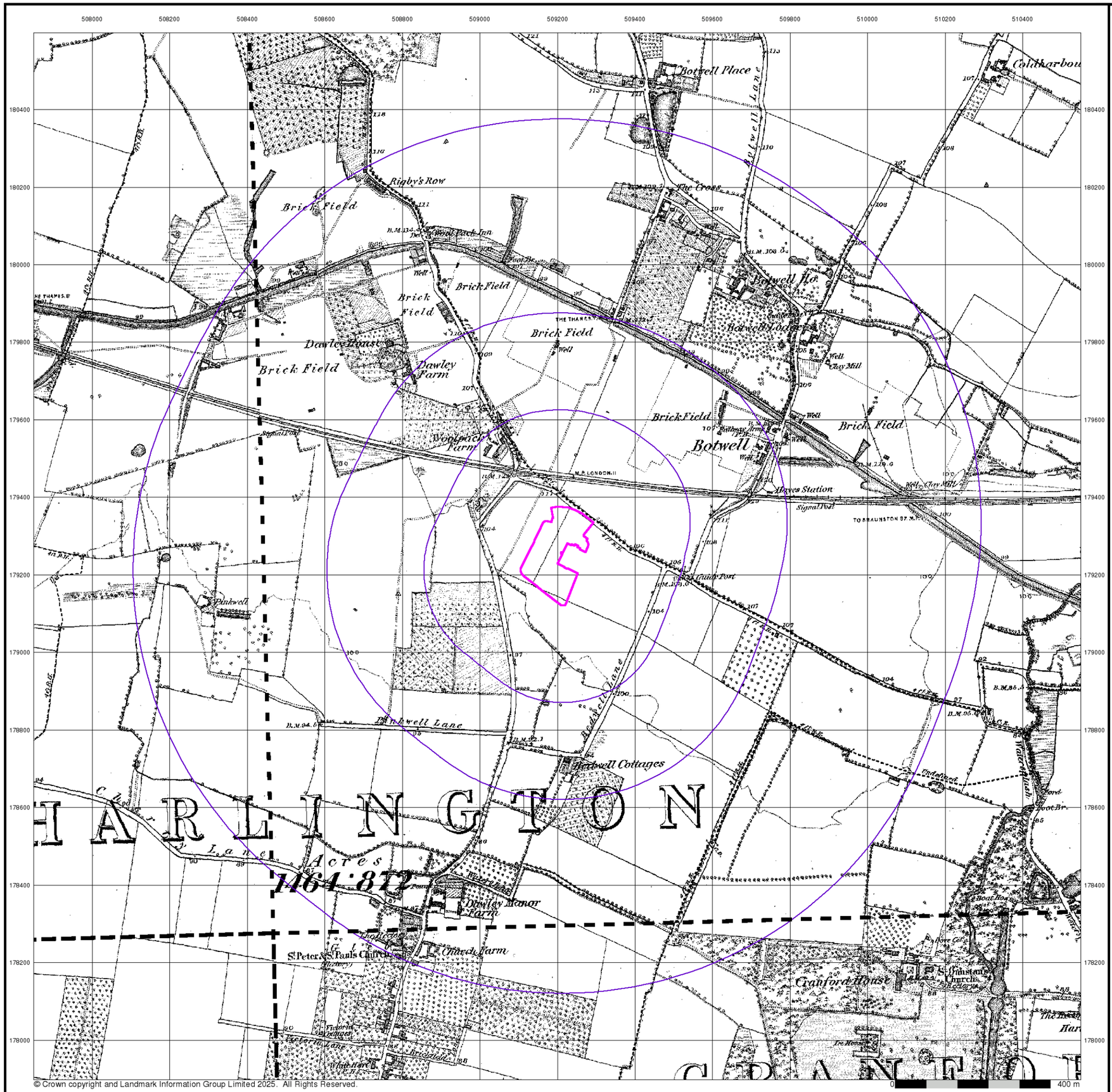
RAMBOLL

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Maxar, Microsoft

1620017965 -RAM-MA-SS-00002_Fig2SiteLayout_01.pagx

APPENDIX 2
SELECTED HISTORICAL MAPS



RAMBOLL

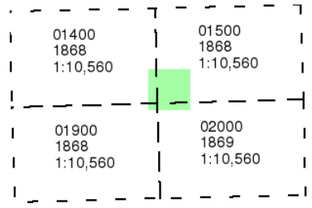
Middlesex

Published 1868 - 1869

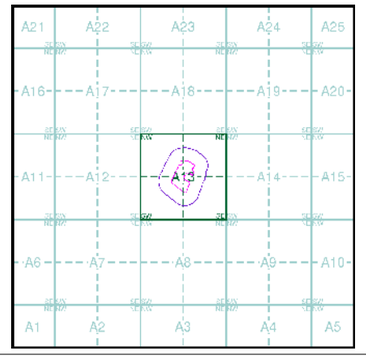
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Customer Ref:	1620017965 HPH
National Grid Reference:	509200, 179250
Slice:	A
Site Area (Ha):	2.48
Search Buffer (m):	1000

Site Details

HPH2, HPH5, MSCP and Surface Car Park,, Hyde Park Hayes, Millington Road, Hayes, UB3 4AZ

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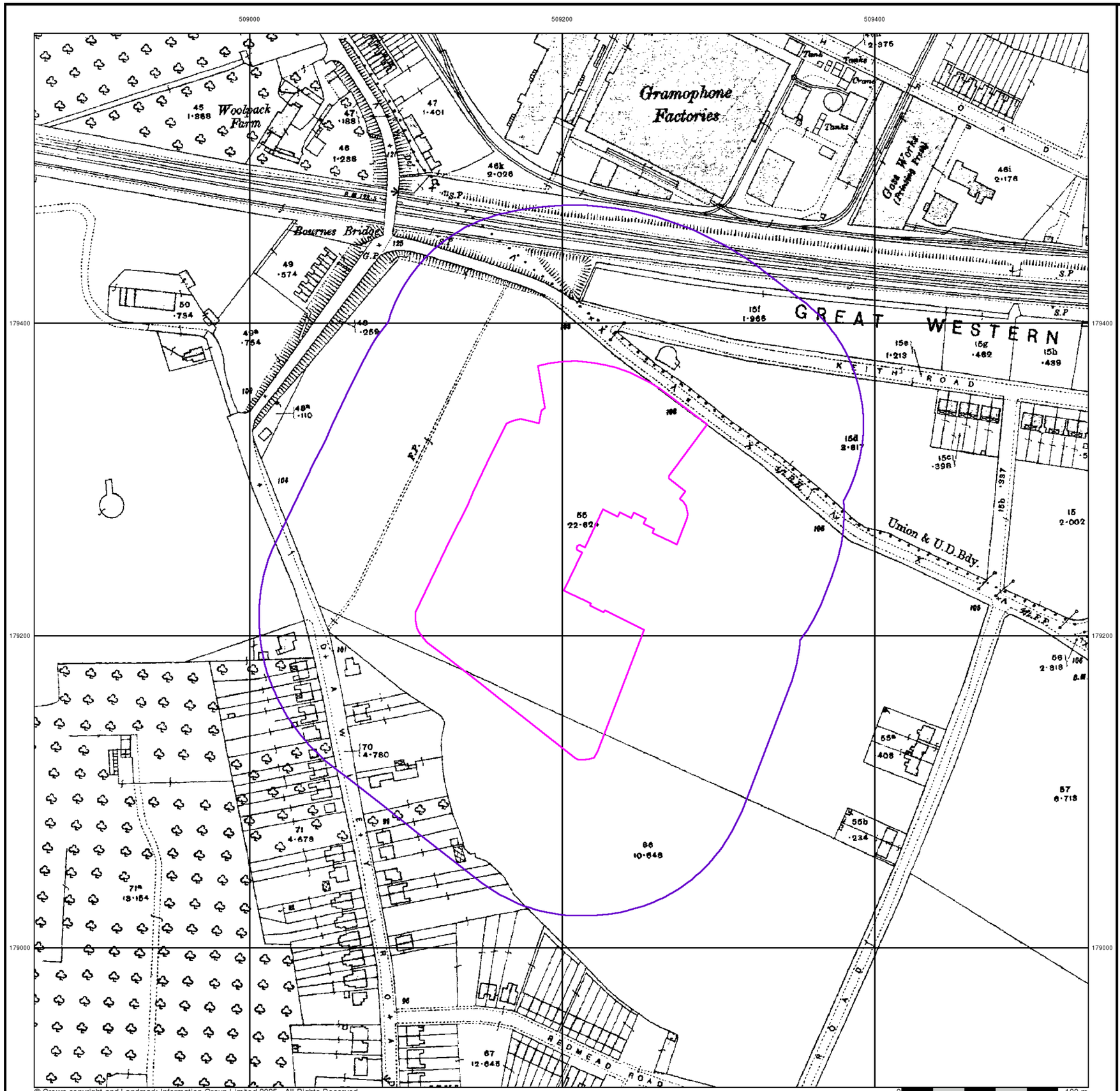


RAMBOLL

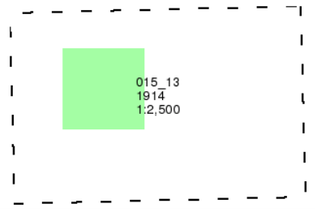
Middlesex

Published 1914

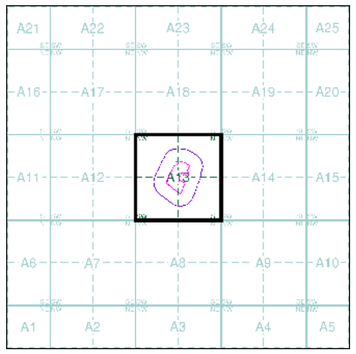
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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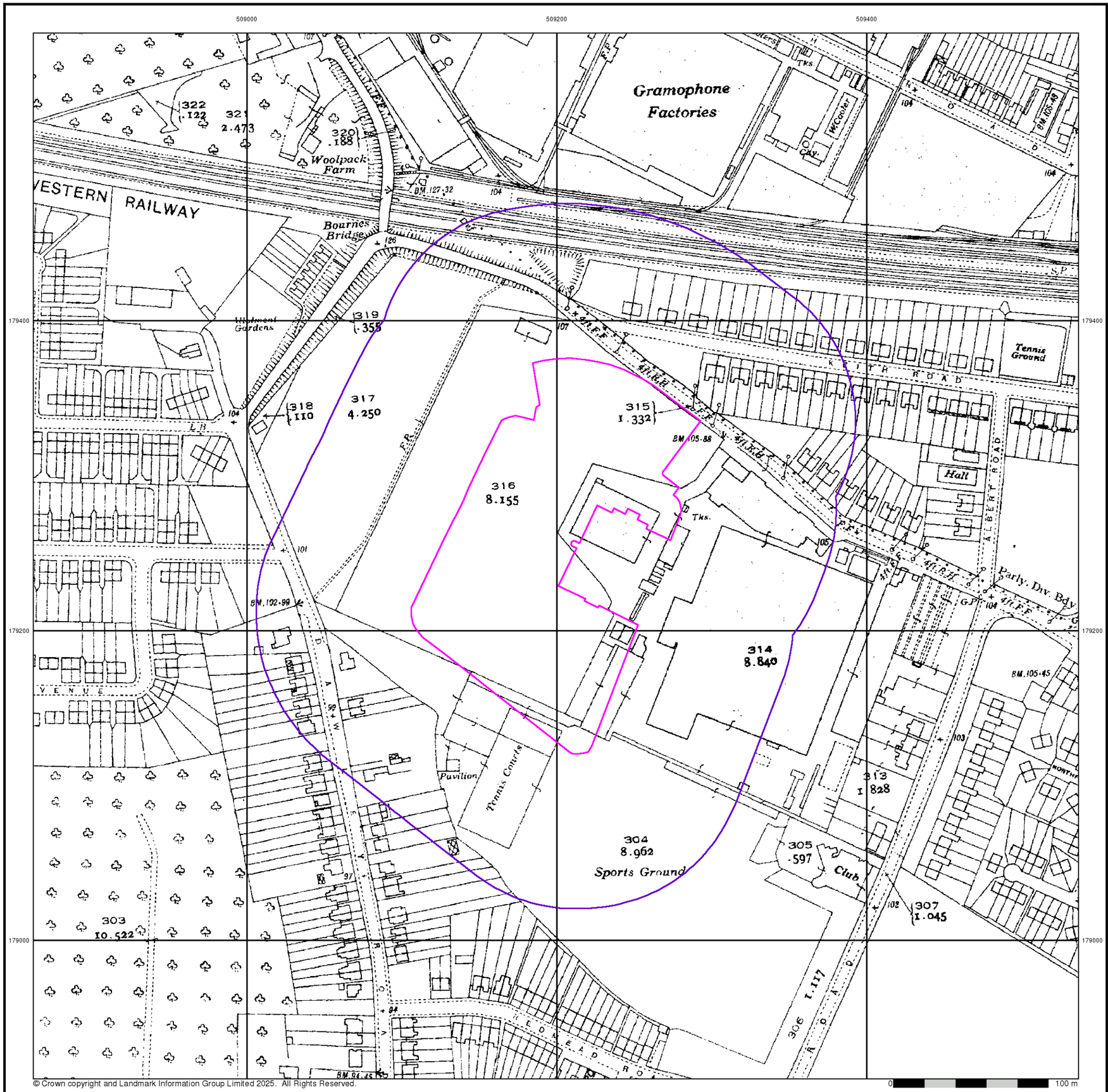

RAMBOLL

Middlesex

Published 1934

Source map scale - 1:2,500

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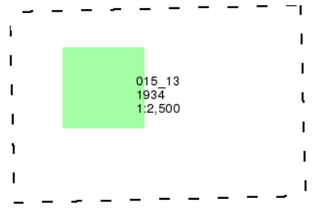
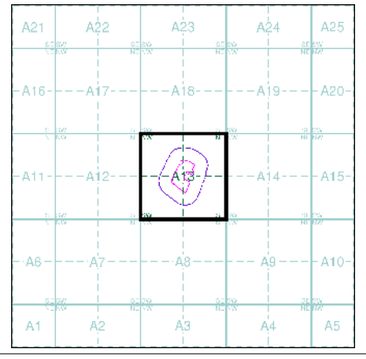
Map Name(s) and Date(s)



Historical Map - Segment A13



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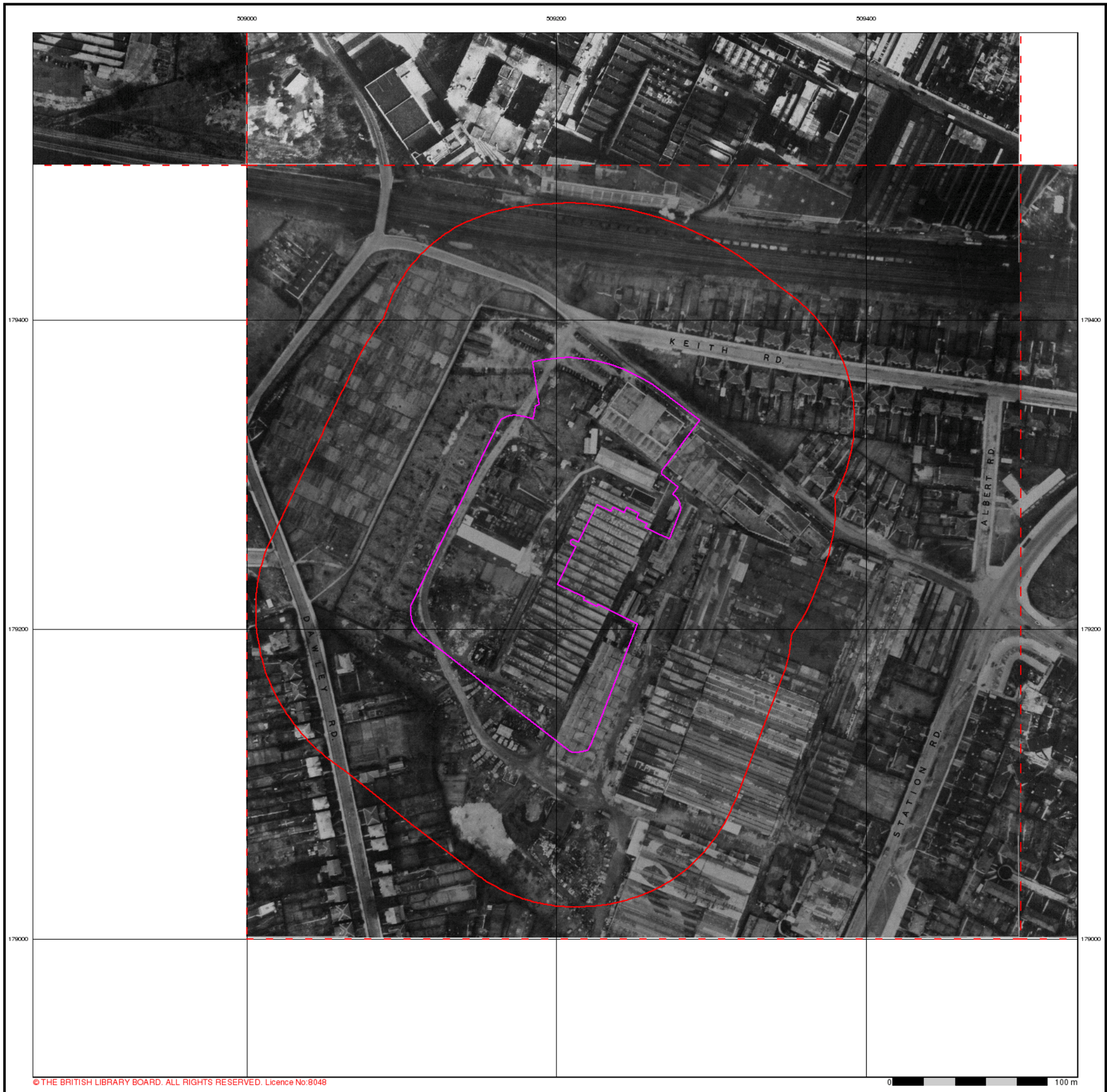


RAMBOLL

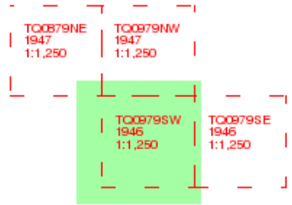
Historical Aerial Photography

Published 1946 - 1947

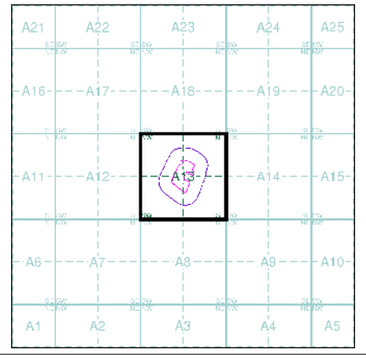
Source map scale - 1:1,250

The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

Map Name(s) and Date(s)



Historical Aerial Photography - Segment A13



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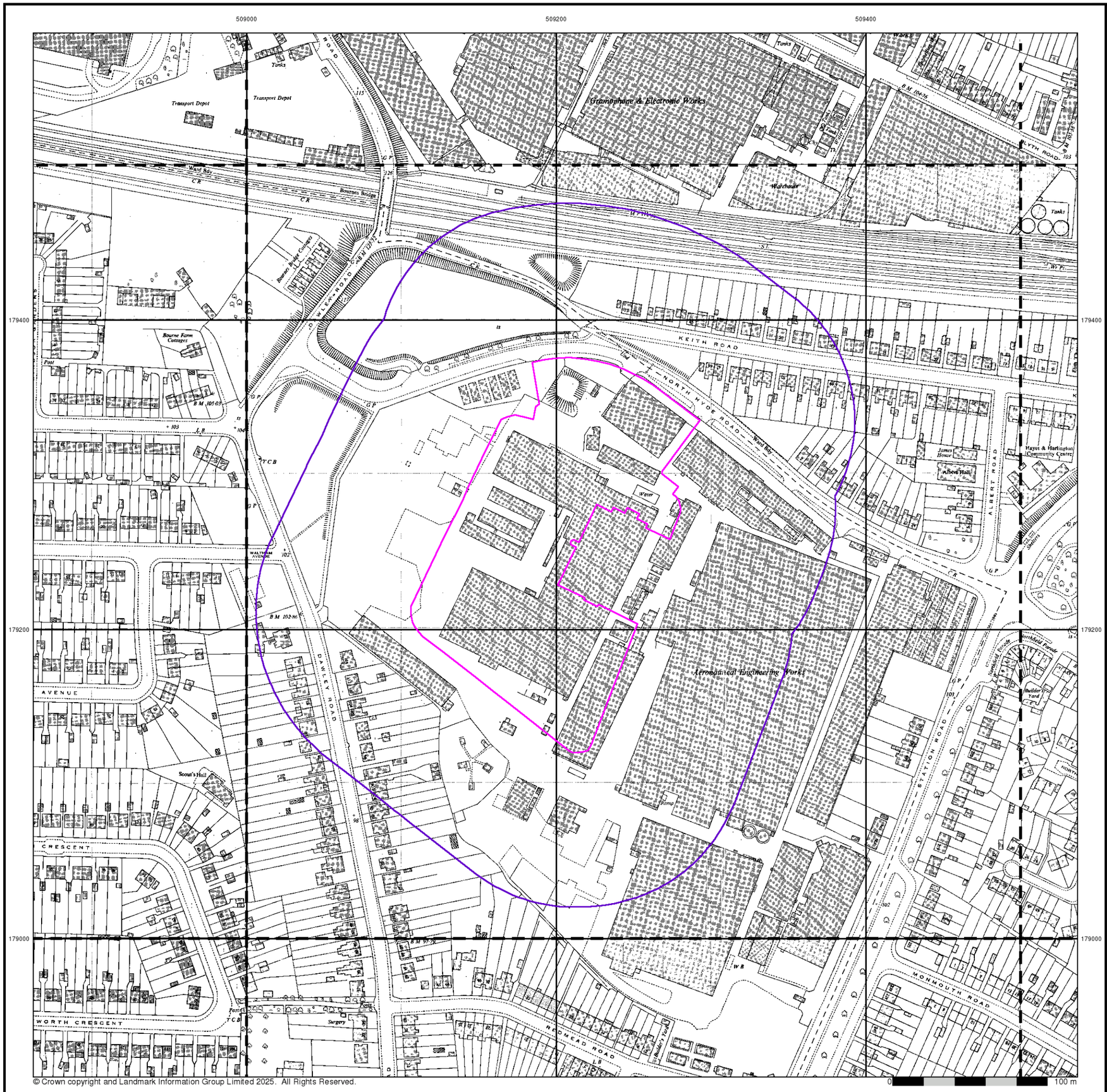


RAMBOLL

Ordnance Survey Plan

Published 1965 - 1966

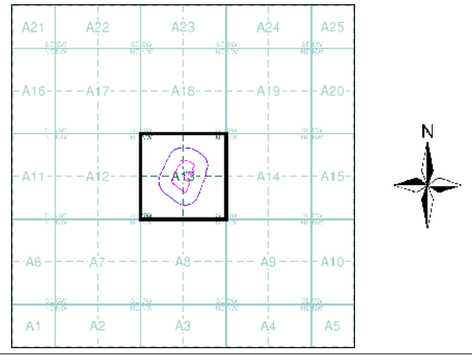
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

TQ0879NE 1965 1:1,250	TQ0979NW 1965 1:1,250	TQ0979NE 1965 1:1,250
TQ0879SE 1965 1:1,250	TQ0979SW 1965 1:1,250	TQ0979SE 1965 1:1,250
TQ0878NE 1965 1:1,250	TQ0978NW 1966 1:1,250	TQ0978NE 1966 1:1,250

Historical Map - Segment A13



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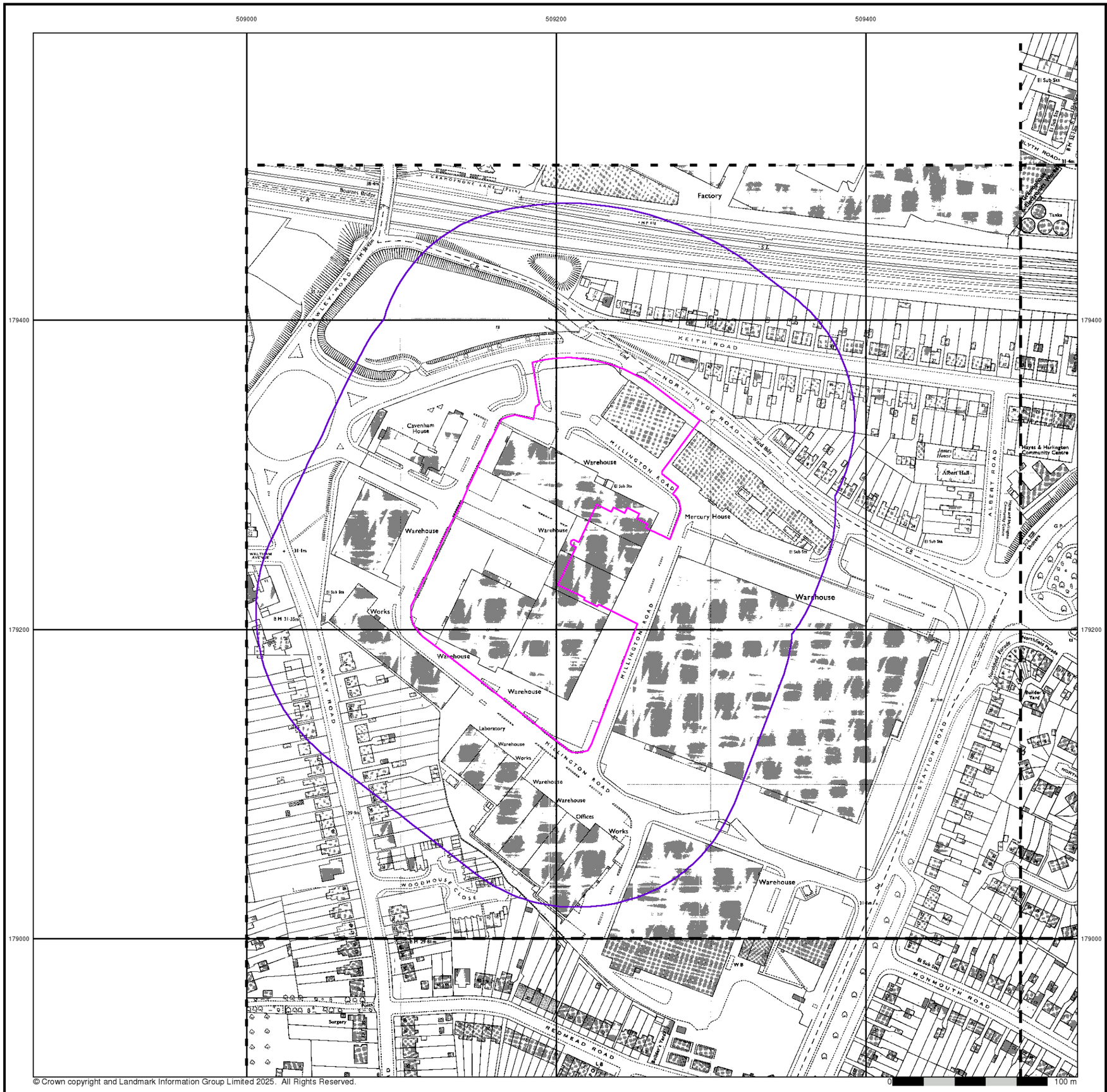

RAMBOLL

Ordnance Survey Plan

Published 1972 - 1978

Source map scale - 1:1,250

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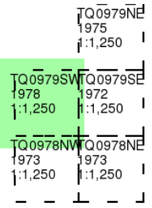
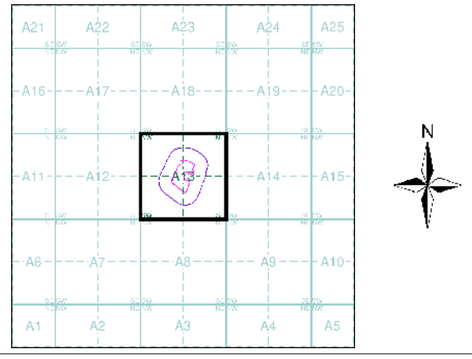
Map Name(s) and Date(s)



Historical Map - Segment A13



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RAMBOLL

Large-Scale National Grid Data

Published 1992

Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

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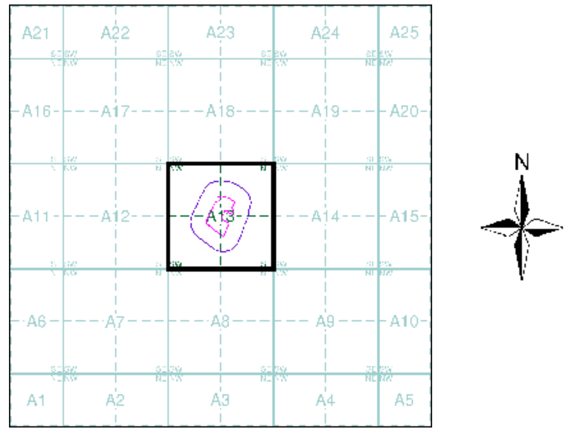
TQ0879SE 1992 1:1,250	TQ0979SW 1992 1:1,250	TQ0979SE 1992 1:1,250
TQ0878NE 1992 1:1,250	TQ0978NW 1992 1:1,250	TQ0978NE 1992 1:1,250

Historical Map - Segment A13



Order Details

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Site Area (Ha): 2.48
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Site Details

HPH2, HPH5, MSCP and Surface Car Park,, Hyde Park Hayes, Millington Road, Hayes, UB3 4AZ

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RAMBOLL

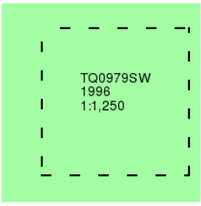
Large-Scale National Grid Data

Published 1996

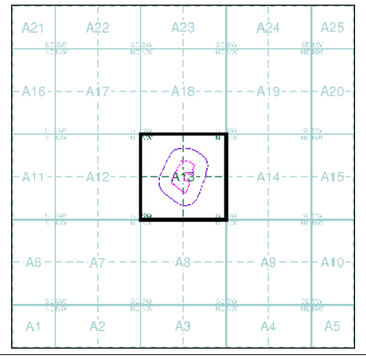
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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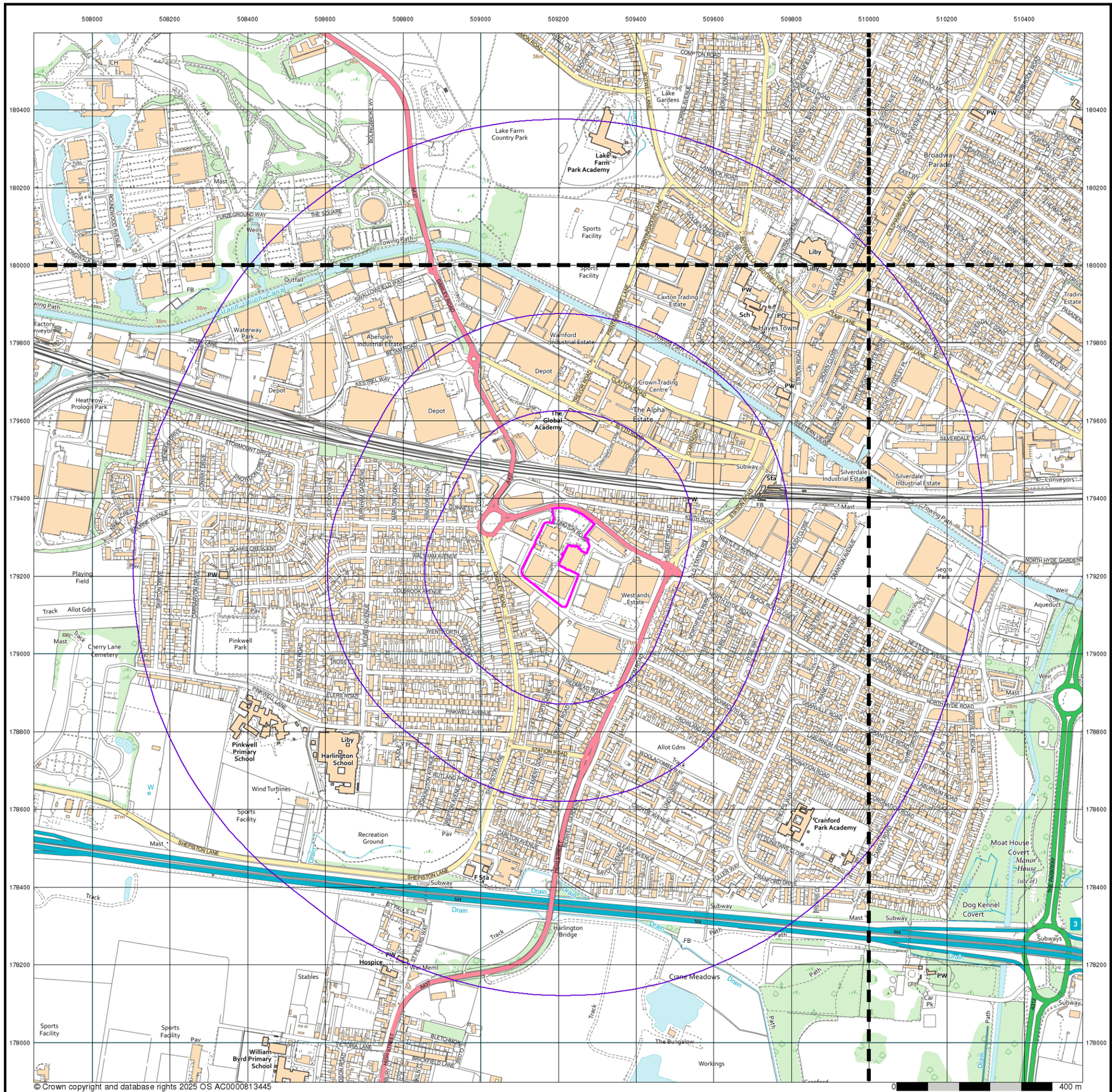

RAMBOLL

VectorMap Local

Published 2024

Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

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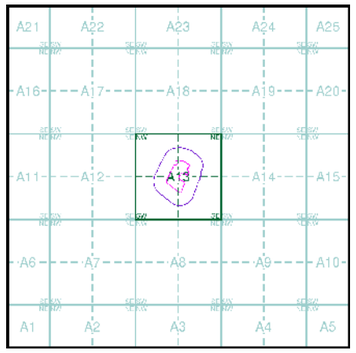
TQ07NE 2024 Variable	TQ17NW 2024 Variable

Historical Map - Slice A



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APPENDIX 3
PHOTOGRAPHIC LOG

Photo 1. View of substation/ generator building between HPH2 and HPH5

Photo 2. View of main tank fill point and surrounding ground conditions

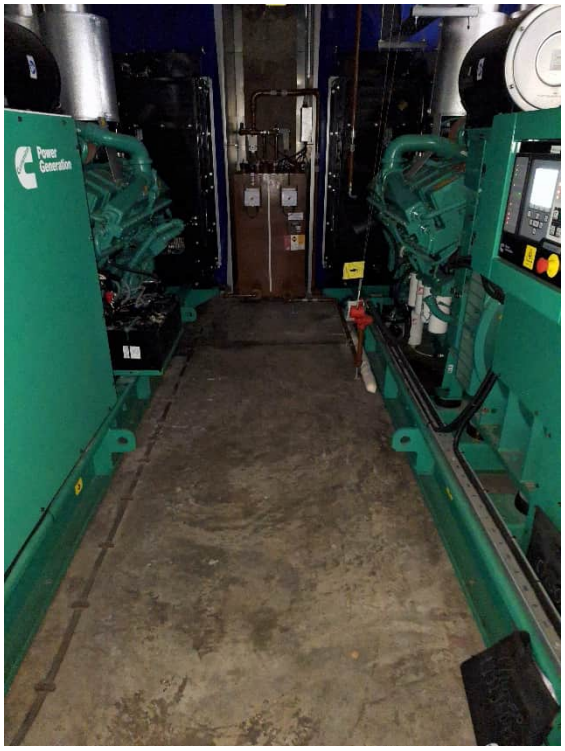

Photo 3. View of generators and concrete floor in substation/ generator building

Photo 4. View of diesel day tanks in substation/ generator building

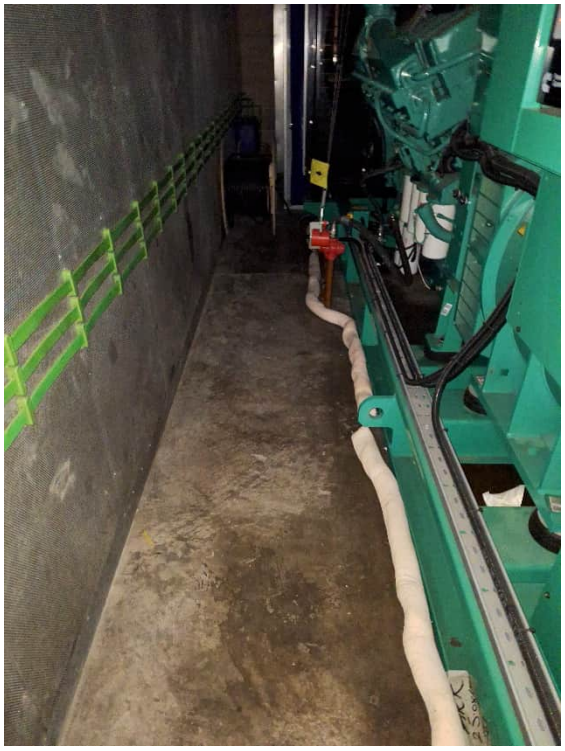

Photo 5. View of booms located adjacent to the generator with minor discolouration of concrete floor

Photo 6. View of main diesel tank in basement of HPH5 building

Photo 7. View of cold water storage tank in basement of HPH5 building

Photo 8. View of rooftop backup generator and diesel tank container for HPH5 building

Photo 9. View of rooftop backup generator for HPH5 building

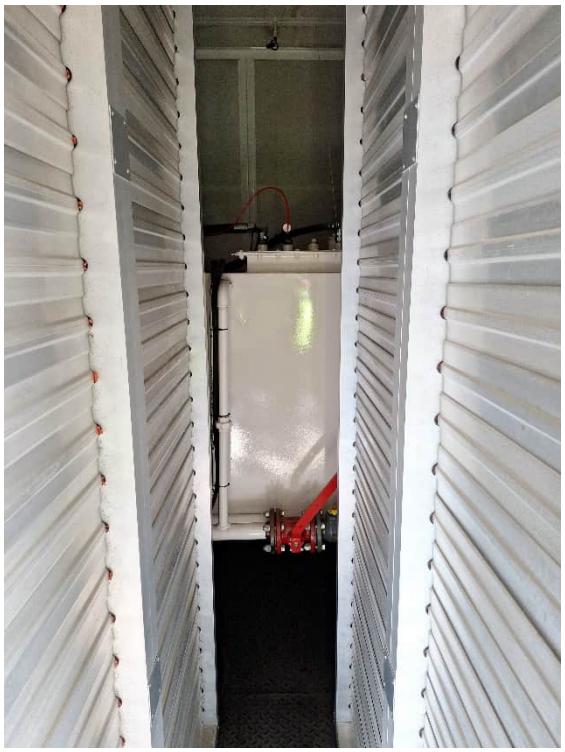

Photo 10. View of back-up generator diesel day tank for HPH5 building

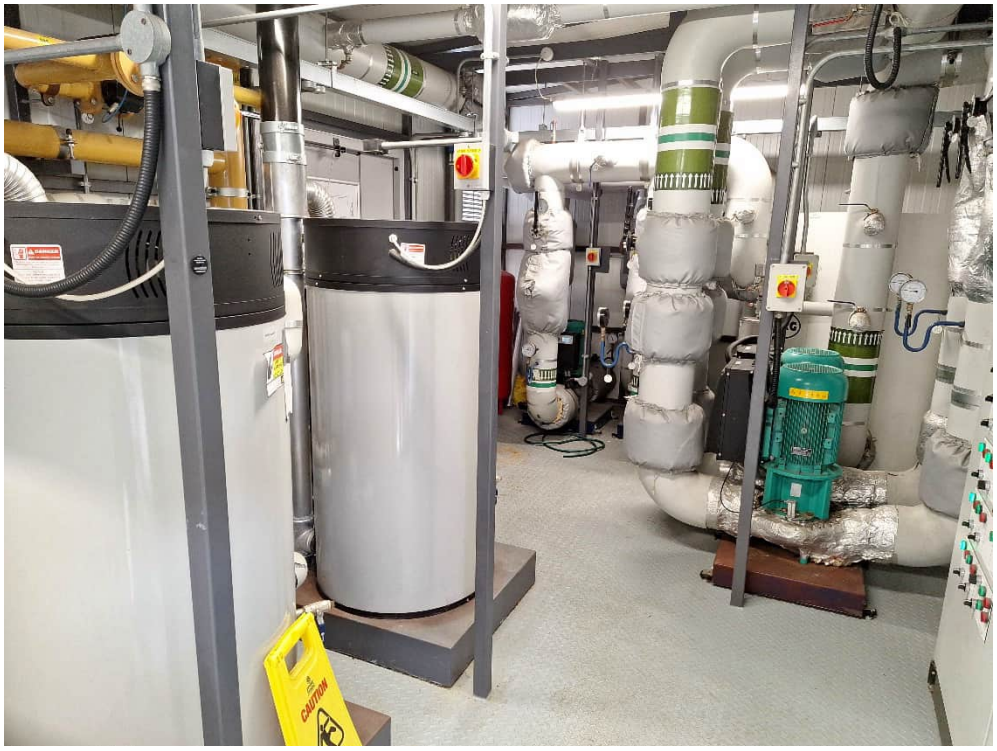

Photo 11. View of rooftop boiler room for HPH5 building

Photo 12. View of rooftop chiller units for HPH5 building

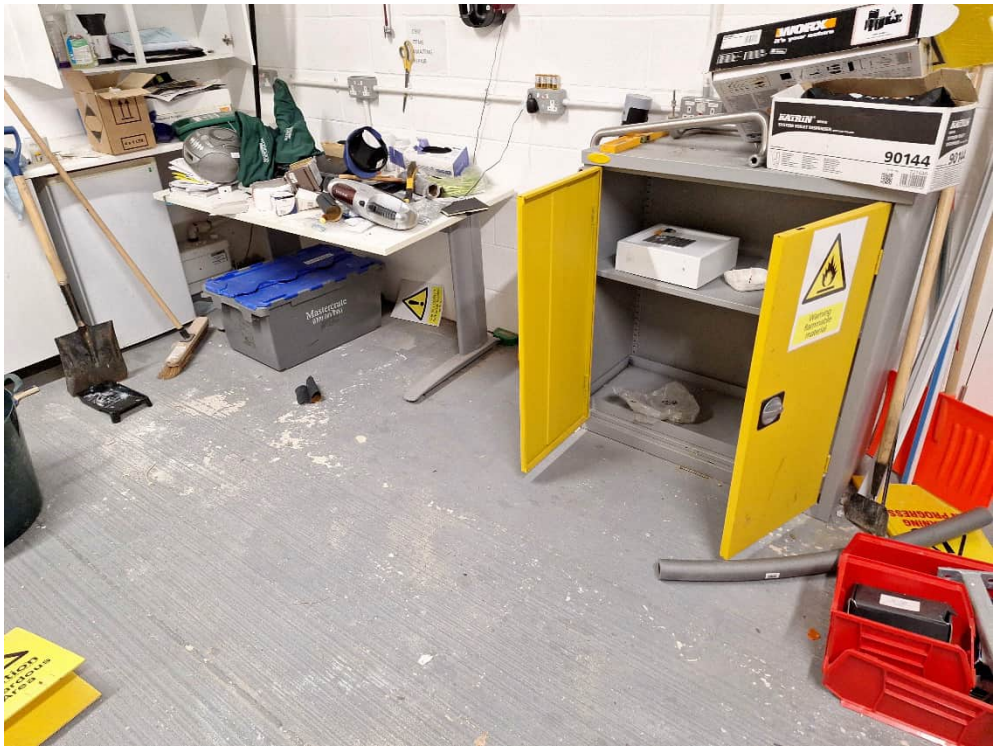

Photo 13. View of workshop area in basement of HPH5 building

Photo 14. View of car park in basement of HPH5 building

Photo 15. View of intermediary waste oil storage in basement of HPH5 building

Photo 16. View of main diesel tank fill point on external wall of HPH5 building

Photo 17. View of waste storage compound for HPH5, no longer in use as property is vacant

Photo 18. View of rooftop cold water storage tank for HPH2

Photo 19. View of rooftop air conditioning units for HPH2

Photo 20. View of ground floor car park entrance for the MSCP building

Photo 21. View of MSCP ground floor relative to external ground level.

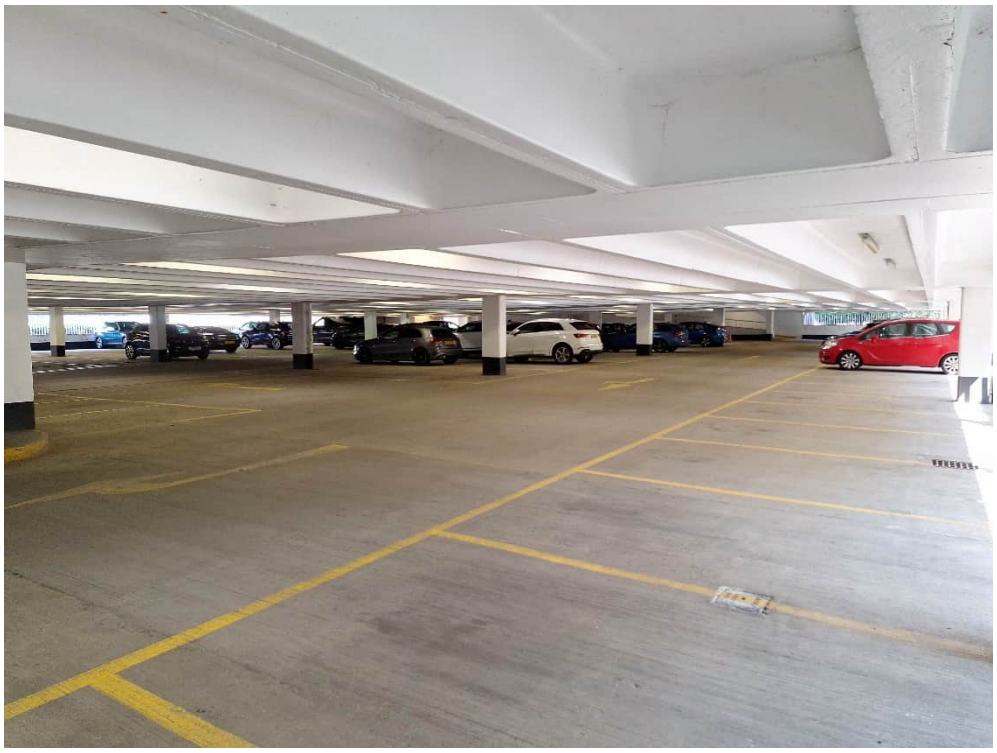

Photo 22. View of MSCP basement/ ground level car park and typical concrete floor.

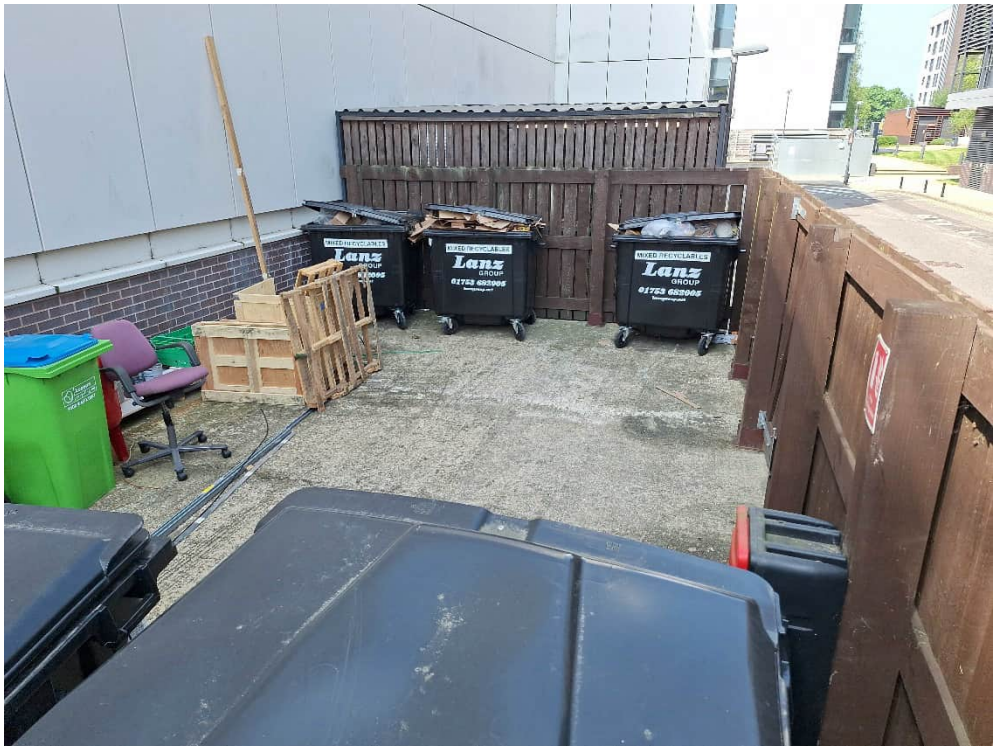

Photo 23. View of waste storage compound for MSCP and surrounding buildings

Photo 24. View of external car park in the north of the site

Photo 25. View of area of ground instability on 'island' in the surface car park in the north of the site

Photo 26. View of ground instability on 'island' in the surface car park in the north of the site.