

SMALL SITES



SMALL BUILDERS

ALBANY ROAD

TECHNICAL INFORMATION

LAND AT ALBANY ROAD, EDMONTON, N18 2DY

Navigate this pack using the links below or the pdf bookmarks

Aerial and OS maps

Planning Statement

Site Investigation Summary Report

Topographical Survey

Flood Risk Review

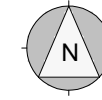
Geotechnical and Geo-Environmental Desk Study



Transport for London

TfL Operational Property
Commercial Development
Windsor House
42-50 Victoria Street
SW1H 0TL

Site Ref: DEV092
Site at Albany Road



A3 Landscape

Date : Mar 2017

Initial : REM

File : PAR

Scale : 1/1250 at A3

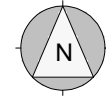




Transport for London

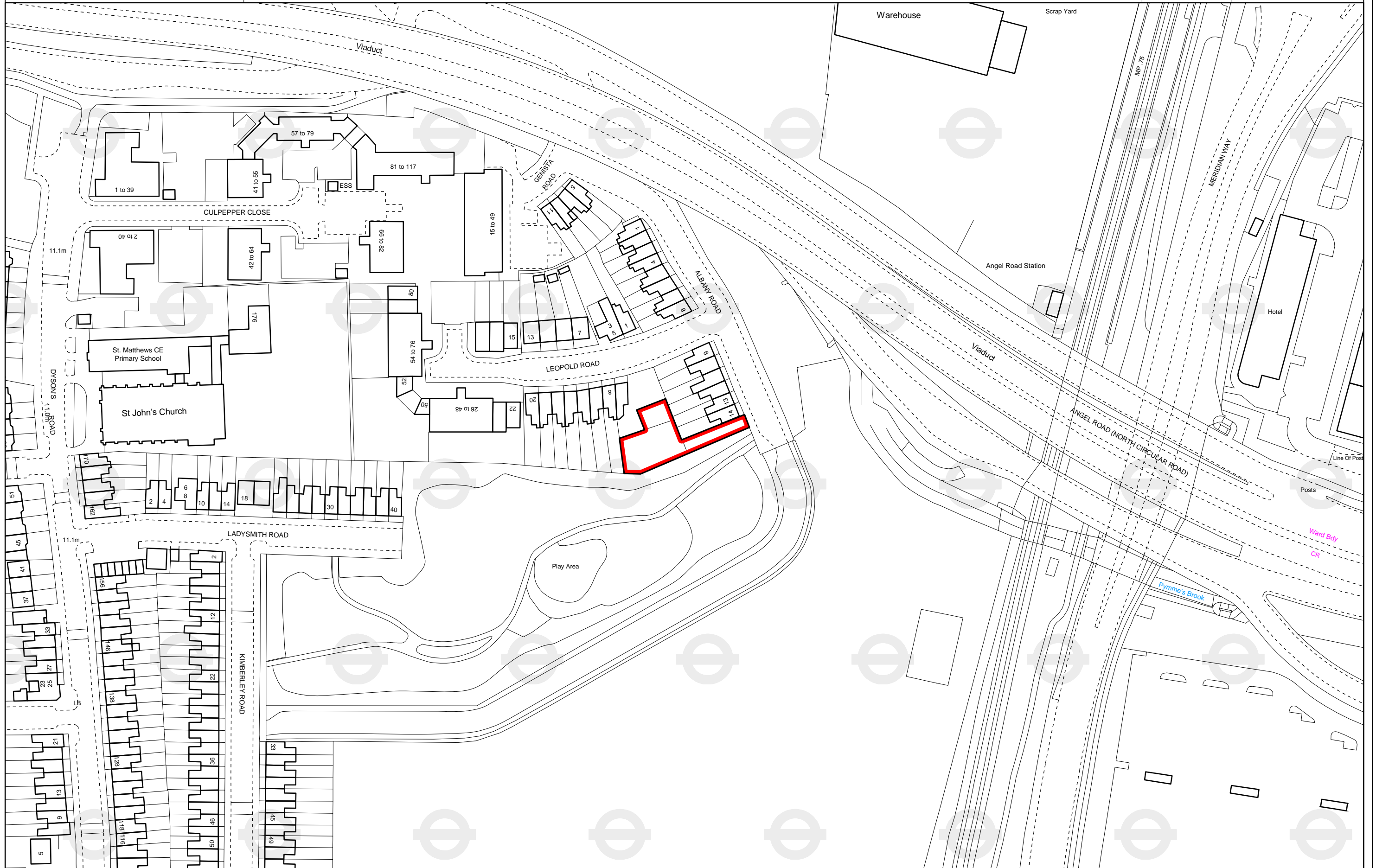
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Site Ref: DEV092
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1. PROPERTY DETAILS	
Site Name & Address	Site at Albany Road, N18 2DY
Unique Ref (PAR)	DEV092
Borough	Enfield
Zone (TfL)	4
Site Area (acres)	Approx. 0.12 acres (501.52 sq. m)
Location and Site Plan	 
Existing Use	<ul style="list-style-type: none"> - Storage (B8 Use)
2. TOWN PLANNING	
Planning Policy Documents	<ul style="list-style-type: none"> - Adopted: London Plan (consolidated 2016), Core Strategy (2010), Development Management Document (2014) - Emerging: A new plan for Enfield 2017-2032 - Other: Central Leaside Area Action Plan (AAP) - draft submission 2014, new submission currently being prepared to reflect increased housing delivery targets.
Site Allocations	<ul style="list-style-type: none"> - The site is adjacent to a Local Open Space, the Meridian Water Housing Zone and a Place Shaping Priority Area
Housing zone/OA	<ul style="list-style-type: none"> - No
Heritage Designations	<ul style="list-style-type: none"> - None
Flood Zone	<ul style="list-style-type: none"> - The site is within Flood Zone 2

Ecological Designations	- None				
PTAL	- The current PTAL is 2 but there may be improvements as a result of the forthcoming Meridian Water Development and new station.				
Tall buildings permitted	- The proximity of the site to existing 2 storey terrace homes which are all relatively homogeneous in scale, grain and height would make tall buildings inappropriate at this site (Policy DMD 43). Further to this, tall buildings may infringe on privacy, rights to light, daily and sunlight and amenity value of the surrounding residents.				
Car parking standards	- Car parking standards for residential properties adhere to the London Plan standards, these are: maximum 2 spaces per unit (4 or more bedrooms), 1.5 space per unit (3 bedrooms); and less than 1 space per unit (1-2 bedroom).				
LPA affordable housing target	Threshold	Affordable Housing target (unit)	Affordable Housing Tenure Split	Provision Requirement	
	10 units of more	40%	70% Social Rented and 30% Intermediate	On site preferred	
	9 units or less	20%	n/a	Financial contribution for the delivery of off-site housing	
Other	<ul style="list-style-type: none"> - Vacant site immediately to the north has planning consent (ref:14/04793/FUL) for an end of terrace house with windows and patio doors overlooking the subject site. - Significant change is happening in the area with the Meridian Water masterplan proposals being brought forward 				
Planning Policy Overview	<ul style="list-style-type: none"> - Appropriate location for residential development subject to meeting the criteria outlined in Policy DMD 8 - The site is not an appropriate location for new retail, leisure or office development (Policy DMD 25) 				
Planning History	Date	Reference	Description	Status	
	09/02/1996	LDC/96/0018	Use of site for the storage of plant and materials, and overnight parking of vehicles.	Withdrawn	
	04/07/1996	LDC/96/0118	Erection of a 2.4m high wooden hoarding along Albany Road frontage.	Granted	
Local Planning Authority Feedback Meeting with Andy Higham and Josleen Ray of London Borough of Enfield on 02/06/2017	- Principle of development - Subject to meeting the relevant policies and standards including excellent design, there would be potential for residential development on this site.				

TFL_PSF_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE SITE AT ALBANY ROAD, ENFIELD, N18 2DY

Site Ref: DEV092

Summary Report

JULY 2017

Incorporating

EC HARRIS
BUILT ASSET
CONSULTANCY



Site at Albany Road, Enfield, N18 2DY

Summary Report

Author Various

Checker Alison Pugh

Approver Angela Mulgrew

Report No 1203-UA009686-UP32R-02

Date JULY 2017

VERSION CONTROL

Version	Date	Author	Changes
01	July 2017	Various	1 st issue
02	July 2017		Final Issue

This report dated 20 July 2017 has been prepared for Transport for London (TfL) (the "Client") in accordance with the terms and conditions of appointment dated 02 May 2017 (the "Appointment") between the Client and Arcadis Consulting (UK) Limited ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 Introduction

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) to undertake a number of technical surveys for a site referred to as the Site at Albany Road in Enfield, London ('the Site').

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the survey work is to provide robust and pragmatic advice associated with flood risk and geotechnical and geo-environmental conditions. This report provides a summary of the technical surveys commissioned for the Site and reference should be made to the individual reports for further detailed information.

The Site covers 0.1 hectares and is an infill plot located at the southern end of Albany Road, Enfield, (national grid reference 535019 192141). The Site comprises an area of hardstanding, with some overgrown vegetation, which is currently used as a storage facility. The Site is located within a generally suburban setting and is surrounded by residential, commercial and public buildings as well as some green open spaces.

The surveys carried out for the site at Albany Road comprise the following;

- Topographical Survey (Ref 1);
- Flood Risk Review (Ref 2); and
- Geotechnical and Geo-Environmental Desk Study (Ref 3).

A summary of the findings of these surveys are detailed in the following sections.

2 Topographical Survey

The topographical survey indicates the Site to be generally flat with levels varying between 10.70m and 11.19m (Ordnance Survey Datum). There are a number of structures on the site including two containers, skips and an area of construction material. The Site is bordered by a brick / concrete wall with a wire fence along the southern boundary.

3 Flood Risk Review

Following an assessment of flood risk to the Site from all likely sources, it is considered that there is a Medium risk of flooding from rivers and a Low risk of flooding from surface water, groundwater and artificial sources, including sewers.

The EA *Flood Map for Planning* identifies the Site as being located entirely in Flood Zone 2. Following the National Planning Policy Framework (NPPF) guidance, the Site is therefore suitable for all development types (including residential development), but would trigger the application of the Exception Test for 'Highly Vulnerable' uses, which includes basement dwellings; emergency services stations/command centres; caravans, mobile homes and park homes intended for permanent use; and installations requiring hazardous substance consent.

The Flood Zone 2 designation triggers the requirement for a Flood Risk Assessment (FRA) to be prepared in support of a planning application for any development on the Site. The FRA would be a more detailed assessment than is presented in this Flood Risk Review and would need to be specific to the type and layout/configuration of development that is proposed. The FRA should demonstrate that the proposed development would not be subject to an unreasonable risk of flooding over its lifetime, and would not increase flood risk to third parties. Further investigation, via the FRA, would therefore be required to demonstrate how the Site can be developed safely, identifying necessary design measures to provide adequate protection in a flood scenario, without increasing flood risk to third parties.

It is considered that there is a low risk of surface water flooding and there are no records of surface water flooding affecting the Site. The ELBC Level 1 SFRA states that the '*re-development of brownfield sites will provide opportunities to reduce overall flood risk, principally through the use of sustainable drainage systems (SuDS) and allowing space for flood storage, overland flows and future maintenance and upgrade of flood defences*'. Surface water drainage and runoff from the Site should be investigated further and it should be ensured that drainage is managed to a high standard, which should include the calculation of current rainfall-runoff rates and volumes and greenfield runoff rates for the Site. A Drainage Strategy should be developed, detailing methods to manage runoff from the Site, which would ideally be controlled to match greenfield rates.

Subject to the production of a FRA and Drainage Strategy for any future planning application and the implementation of the flood resilience recommendations from these studies, it is considered likely that flood risk would not limit development on the Site.

4 Geotechnical and Geo-Environmental Desk Study

The geo-environmental and geotechnical desk study comprised a review of existing historical and current information on the Site. No site investigations were undertaken for the Site.

The historical review reveals that development within the Site has been limited. However, off-site sources of contamination, which may have impacted on the Site have been identified such as gas works, railways and industrial facilities. The presence of the underlying Enfield Silt Member and London Clay which is relatively impermeable may have reduced the migration of contaminants unless Kempton Park Gravels are present underlying the Site (which would be confirmed during an investigation).

Potential risks to human health, controlled waters and the built environment have been identified, notably associated with off-site sources. It is recommended that an intrusive site investigation is carried out to quantify these risks. This should include for chemical testing of soils, leachates, groundwater monitoring and testing and ground gas monitoring in accordance with current guidance and, for foundations concerns, consideration of shrinkage and swelling, sulphate attack and the potential for relict shear slip surfaces.

Potential founding solutions will be dependent on the thickness of Made Ground the geotechnical properties of the natural deposits. The Made Ground is generally considered unsuitable for foundations due to its variable composition and its potential for high total and differential settlement. Below ground structures and services associated with previous structures may be present and will require removal prior to redevelopment. Ground disturbance caused by the removal of historical structures may increase the thickness of Made Ground already present beneath the site locally. At this stage, conventional shallow foundations may not be appropriate for the Site but this would depend on the thickness of the Made Ground and the underlying ground conditions. In areas of deeper Made Ground, or where deeper soft / loose bands are recorded either piling or ground treatment e.g. vibro-stone columns should provide a suitable foundation solution.

Based on the findings of the desk study report and assuming that the Site will be developed for residential use with gardens, it is anticipated that some remediation (off-site disposal, clean cover, gas membrane, basic asbestos monitoring and pipe upgrade but excluding foundation) may be required. Indicative costs are provided in the desk study report (Ref. 3) which are based on the information known to date.

The Site is in an area where 'low' risk of encountering unexploded ordnance is present, according to Zetica. However, information held within the National Archives suggests that bombs were dropped to the west of the Site. Therefore, further assessment may be recommended.

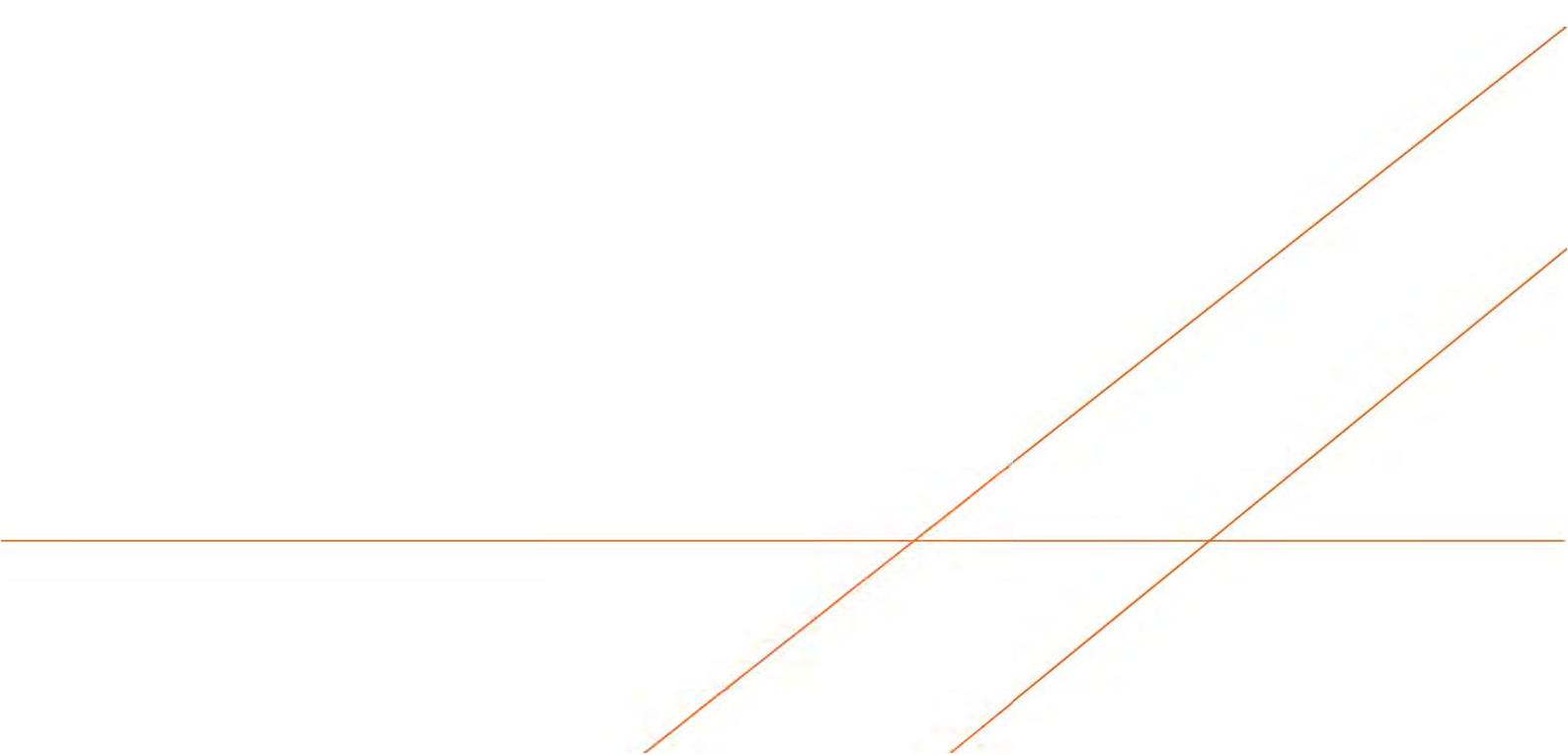
5 References

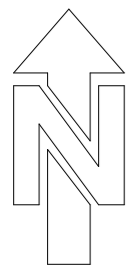
1. 40Seven (July 2017) Topographical Survey – Land at Albany Road, N18 2DY (Site Ref: DEV092) (Drawing Number DEV092_P_Albany Road)
2. Arcadis Consulting (UK) Limited (July 2017) Land at Albany Road, Enfield. Flood Risk Review (Report Number 1202-UA009686-UU41R-03)
3. Arcadis Consulting (UK) Limited (July 2017) Land at Albany Road, Enfield. Geotechnical and Geo Environmental Desk Study (Report Number 1201-UA009686-UP32R-01)

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534980E

535000E

535020E

535040E

535060E

192160N

192160N

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TOPOGRAPHICAL LEGEND

	Building		Structure Underground
	Building Canopy		Vegetation Extents
	Surface Edge		Drainage Channel
	Road Edge		Scar
	Road Kerb Channel		Above Ground Pipe
	Banking		Overhead Pipe
	Fence		Overhead Electricity
	Wall		Overhead Telecom
	Structure		Railway Track
	Structure Overhead		Contour Line

ABBREVIATIONS

AC Asbestos Cement	FS Flag Staff	SI Spun Iron
ACU Air Conditioning Unit	G Gully	SL Soffit Level
AD Assumed Direction	GPRI Ground Penetrating Radar Inconclusive	SP Sign Post
AR Assumed Route	GV Gas Valve	Spr Sprig
AV Air Valve	HR Hand Rail	S/R Steel Railings
BB Bellisha Beacon	IC Inspection Cover	ST Structure Support
BD Back Drop	IL Invert Level	ST Stop Tap
BdL Bed Level	IR Iron Rail Fence	Stn Survey Station
BH Borehole	KO Kerb Outlet	SV Sluice Valve
Bk Brick	LB Letter Box	SVP Soil Vent Pipe
BL Basement Light	LC Lighting Column	SW Stone Wall
BO Bollard	LH Lamp Hole	Tac Tactile Paving
BR Brick	LOR Loss Of Reflection	TBM Temporary Bench Mark
BS Bus Stop	LOS Loss Of Signal	TC Telecom Cover
BT British Telecom Cover	MB Mooring Bollard	TCB Telephone Call Box
BTB British Telecom Box	MIC Multiple Cables	TCP Telephone Call Post
BW Brick Wall	MH Manhole Cover	TFR Taken From Records
B/W Barbed Wire Fence	Mkr Marker Post	TH Trial Hole / Pit
Cam Camera	MP Mile Post/Stone	THL Threshold Level
CAT Catenary Level	NFI No Further Information	TK Tank
C-B Close Bordered Fence	NM Node Marker	TOW Top Of Wall
CC Control Cabinet	NP Name Plate	TP Telegraph Pole
CH Charnage	NPV No Pipes Visible	TS Traffic Signals
CHL Channel Level	OSA Off Survey Area	US Upstream
CI Cast Iron	P Post	UTGA Unable to Gain Access
CL Chain Link Fence	PBM Permanent Bench Mark	UTL Unable to Locate
CL Cover Level	PE Polyethylene	UTS Unable to Survey
CL Chain Link Fence	PGM Permanent Ground Marker	UTT Unable to Trace
CP Concrete	PL Plastic	VC Verified Clay
CP Catch Pit	PIL Palisade Fence	VDP Vehicle Detector Pads
CPL Coping Level	PM Parking Meter	VP Vent Pipe
CB Crash Barrier	PRR Post and Rail Fence	VR Vapour Recovery
CTV Cable TV	PJ Pump	VTP Vertical Pipe
CUL Culvert	PJ Concrete Pipe	WC Water Cover
CW Concrete Wall	PVC Polyvinylchloride	WL Water Level
DI Dilapidated	P/W Post and Wire Fence	WM Water Meter
dis Disused	PZ Piezometer	WM Wire Mesh Fence
DS Downstream	RE Rodding Eye	WO Water Wash Out
DSW Dry Stone Wall	RI Riser	WS Window Sample
EB Electricity Box	RL Rail Level	WV Wheel Valve
EC Electricity Cover	RP Reflector Post	
E/F Electric Fence	RS Road Sign	
EOT End of Trace	RWP Rain Water Pipe	
EP Electricity Pole	R/W Retaining Wall	
ER Earth Road	S Stump	
FC Fuel Cover	SA Survey Abandoned	
FFL Finished Floor Level	S/A Soakaway	
FH Fire Hydrant	SC Speed Camera	
FO Fibre Optic Cover	SF Safety Fence	

NOTES

REV.	DETAILS	BY	DATE
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GRID ORDNANCE SURVEY RELATED TO THE OS ACTIVE STATIONS BY GPS OBSERVATIONS	DATUM ORDNANCE SURVEY RELATED TO THE OS ACTIVE STATIONS BY GPS OBSERVATIONS
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40SEVEN

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PROJECT TITLE:
LAND AT - ALBANY ROAD
N18 2DY
LONDON

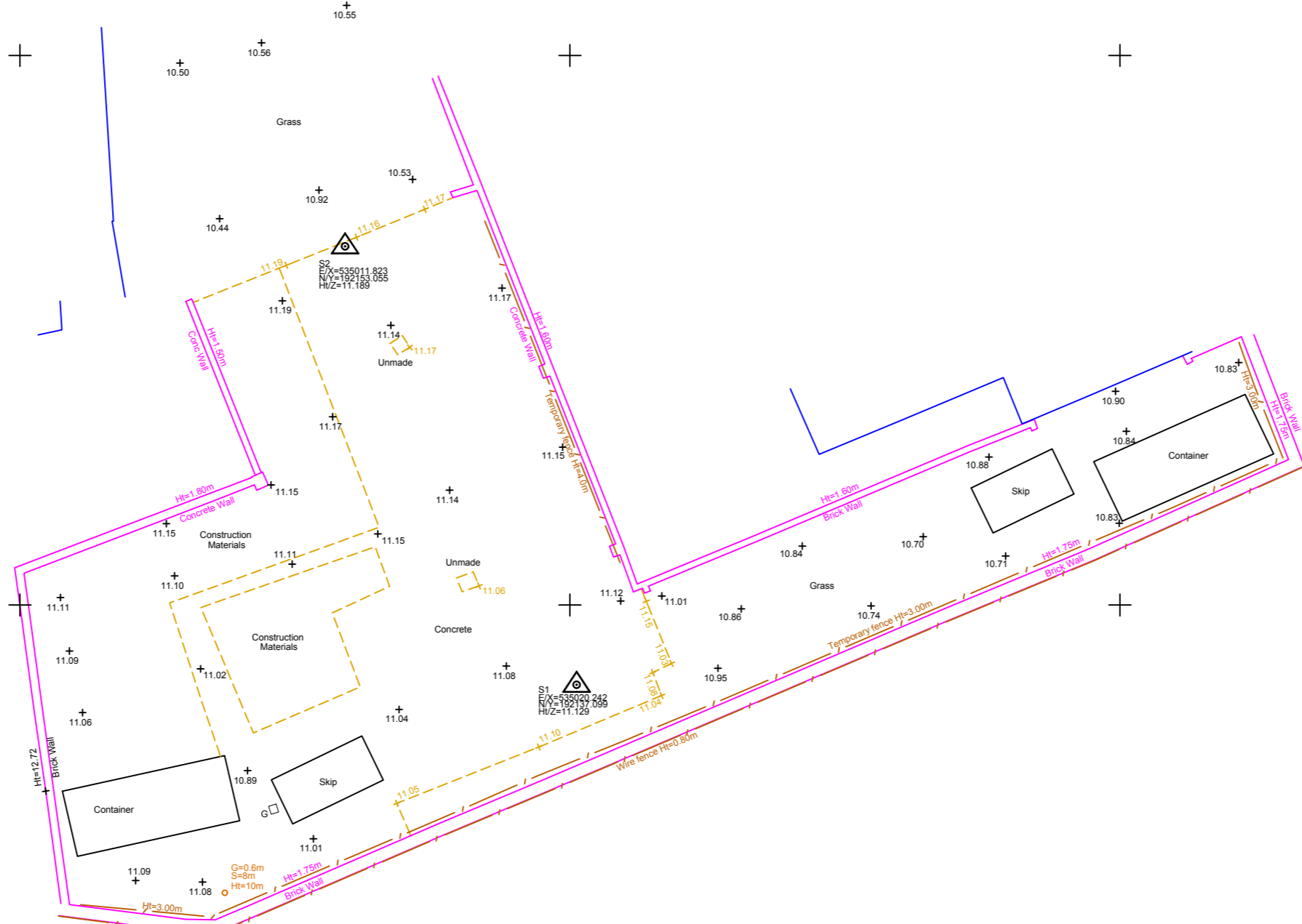
DRAWING TITLE:
TOPOGRAPHICAL SURVEY
SITE REF: DEV092

SURVEYED BY: DD	DRAWN BY: VK	APPROVED BY: JB
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SCALE: 1:200 @ A2	SURVEY DATE: JULY / 2017
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DRAWING NUMBER:
DEV092_P_Alban Road

SHEET NUMBER: 1 of 1 A2	REV:
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TFL_PSF_9131 SITE INVESTIGATIONS: SMALL SITES INITIATIVE SITE AT ALBANY ROAD, ENFIELD, N18 2DY

Site Ref. DEV092

Flood Risk Review

OCTOBER 2017

Site at Albany Road, Enfield, N18 2DY

Flood Risk Review

Author Joshua Moore 

Checker Lisa Driscoll 

Approver Angela Mulgrew 

Report No 1202-UA009686-UU41R-04
Date OCTOBER 2017

Version Control

Issue	Revision No.	Date Issued	Description of Revision: Page No.	Description of Revision: Comment	Reviewed by:
01	0	11/07/2017	-	Initial Draft	JM
02	1	18/07/2017		Technical Review	LD
03	2	18/07/17		Update Following Technical Review	JM
04	3	17/10/17		Final Issue	AP

This report dated 17 October 2017 has been prepared for Transport for London (TfL) (the "Client") in accordance with the terms and conditions of appointment dated 02 May 2017 (the "Appointment") between the Client and **Arcadis Consulting (UK) Limited** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 INTRODUCTION

1.1 Background

Arcadis Consulting (UK) Limited ('Arcadis') has been commissioned by Transport for London (TfL) 'the Client' to undertake a number of technical surveys for a Site at Albany Road in the London Borough of Enfield ('the Site').

TfL is aiming to divest a number of small sites to enable positive regeneration. The objective of the Small Sites Initiative is to provide robust and pragmatic advice for each of the sites such that unreasonable 'abnormal' development costs are not included by developers.

The aim of this flood risk review is to assess the flood risk status of the Site and confirm the suitability for various forms of development as based on the findings of this desk study.

1.2 Scope of Works

Specific objectives of the flood risk review are to:

- Collect and review Environment Agency (EA) and Lead Local Flood Authority (Enfield London Borough Council (ELBC)) flood maps and published datasets (Strategic Flood Risk Assessments, Preliminary Flood Risk Assessment and Local Flood Risk Management Strategy);
- Assess flood risk from all relevant sources (rivers, groundwater, surface water, sewers and artificial sources) and assign a risk value for each form of flooding (high, medium or low);
- Confirm the EA Flood Zone and confirm the acceptability of accommodating residential or other forms of development in accordance with the National Planning Policy Framework (NPPF) requirements;
- Confirm the need for application of the NPPF Sequential and Exception Tests; and
- Provide recommendations for further study or necessary flood risk mitigation measures to facilitate development.

1.3 Limitations

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This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time. Consequently, there is a potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be responsible.

2 SITE OVERVIEW

The Site covers 0.1 hectares and is an infill plot located at the southern end of Albany Road, Enfield, centred at national grid reference 535019 192141.

The Site comprises an area of hardstanding, with some overgrown vegetation, which is currently used as a storage and parking facility. The Site is located within a generally suburban setting and is surrounded by residential, commercial and public buildings as well as some green open spaces. The Site is bounded by Albany Road and residential properties to the east, by grassed and open space to the south and by residential properties to the west and north, as shown in Figure 1.

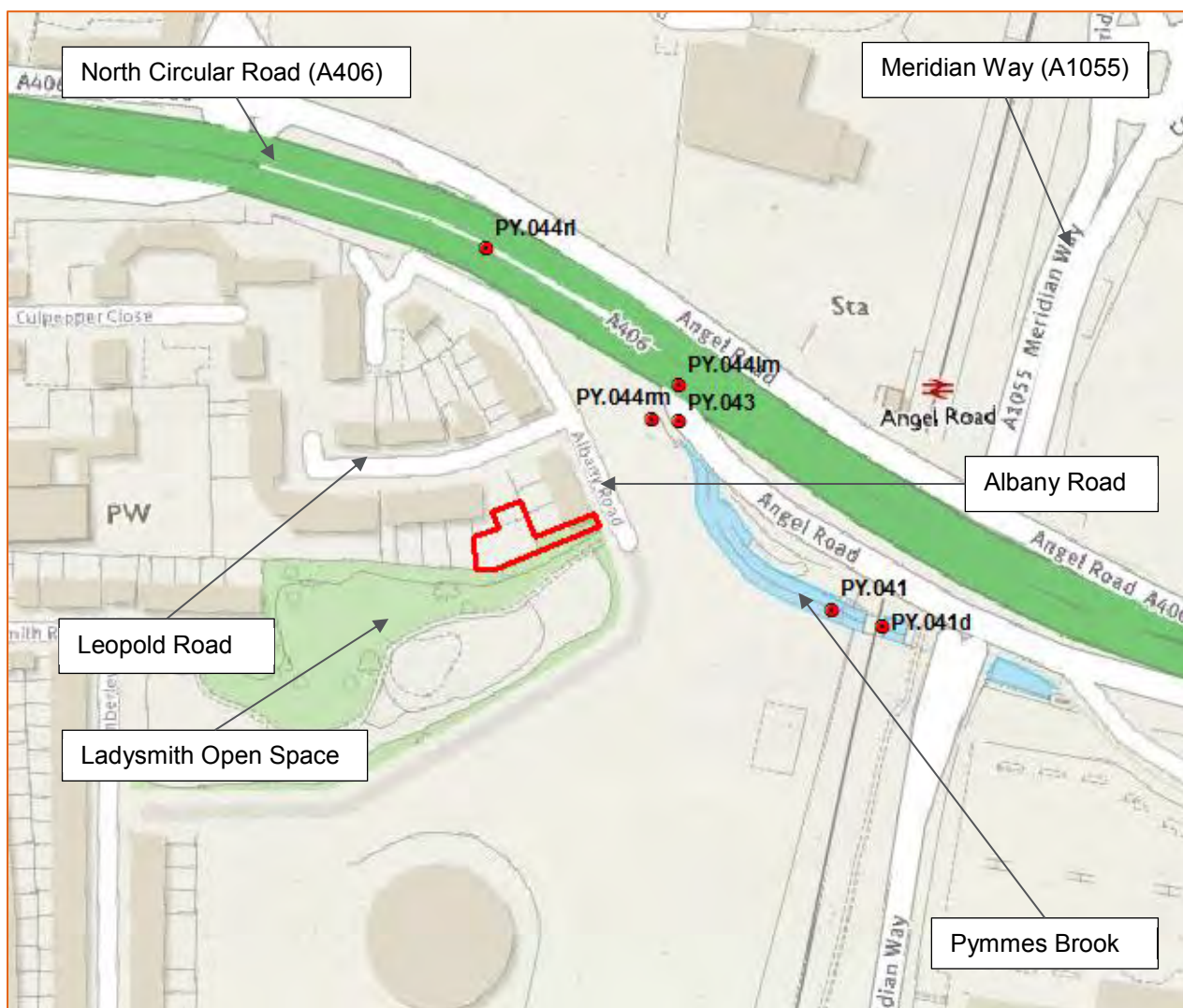


Figure 1: Site Location. Site Boundary Outlined in Red, EA River Model Nodes shown as Red Circles
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Topographical information for the Site has been identified from EA Opensource Government License 2m LiDAR digital terrain mapping (DTM) datasets (Ref. 1). The Site is relatively flat, with ground levels between 10.4m above ordnance datum (mAOD) and 11.2mAOD, with a slight slope down towards the northeast. The landform in the wider area generally slopes down towards the Pymmes Brook and the River Lee in the east (Figure 2).

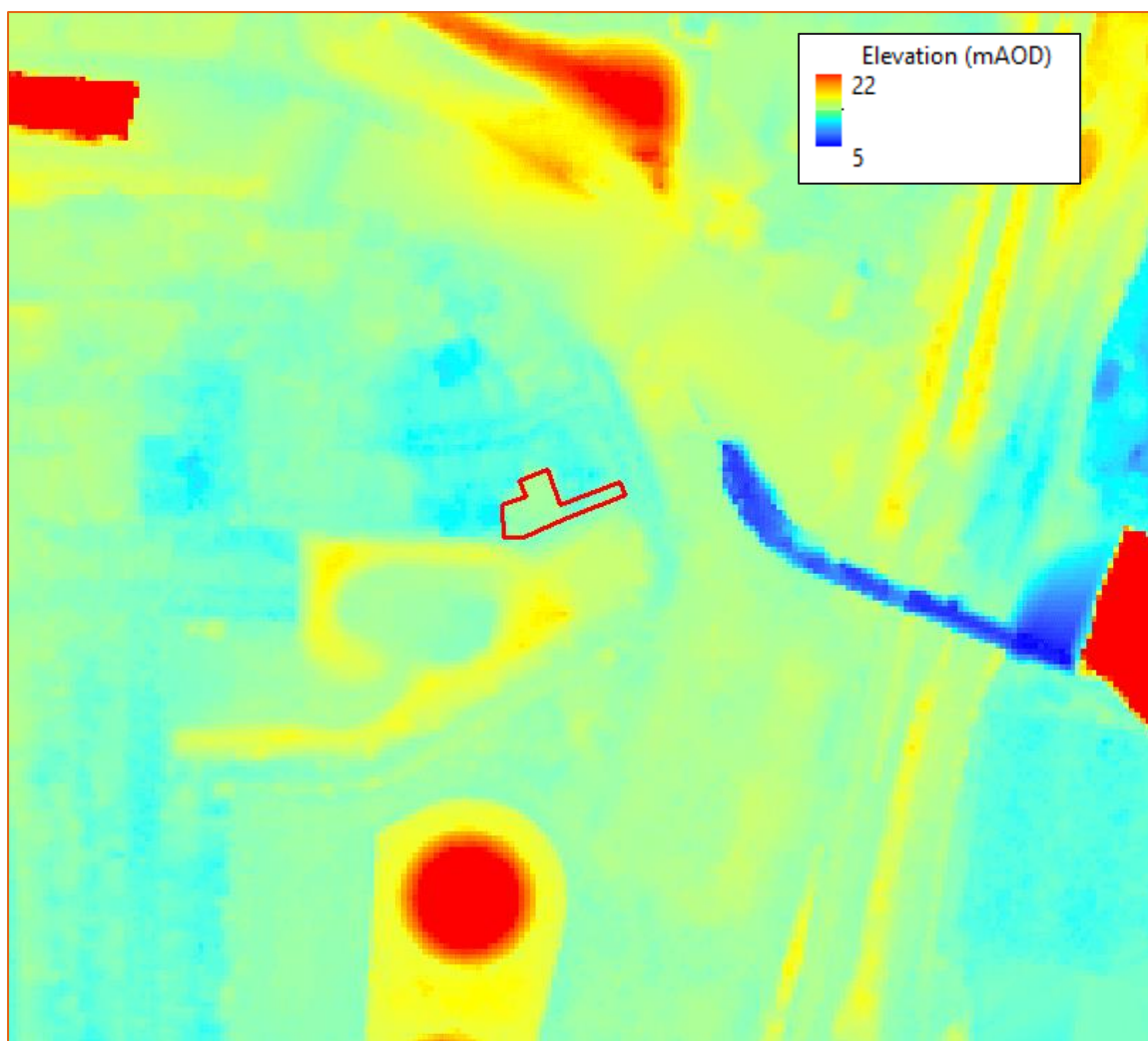


Figure 2: Site Topography. Site Boundary Outlined in Red
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2.1 Catchment Description

The Site is located within the catchment of the Pymmes Brook, an EA designated Main River and tributary of the River Lee. The Pymmes Brook flows in an easterly direction approximately 40m east of the Site and to this point drains a catchment of approximately 42km². The catchment receives an average annual rainfall of 685mm (Ref. 2).

The Brimsdown Ditch, an EA designated Main River and tributary of the Pymmes Brook, flows in a southerly direction along the western edge of the Meridian Way (A1055), approximately 150m east of the Site. The Brimsdown Ditch confluences with the Pymmes Brook approximately 200m downstream (and east) of the Site, to which point the Ditch drains a catchment of 1km².

Salmon Brook, an EA designated Main River and tributary of the Pymmes Brook, flows in a southerly direction approximately 600m east of the Site and confluences with the Pymmes Brook 700m downstream of the Site. To this point, the Salmon Brook drains a catchment of approximately 42km².

The River Lee (also known as the River Lea), an EA designated Main River and tributary of the River Thames, flows in a southerly direction approximately 700m east of the Site and to this point drains a catchment of over 1,200km².

2.2 Ground Conditions and Aquifers

Soils underlying the Site are described as freely draining, slight acid loamy soils (Ref. 3). The superficial geology underlying the Site consists of the Enfield Silt Member – clay and silt (Ref. 4) and the bedrock geology consists of the London Clay Formation – clay and silt, which have no aquifer designations (Ref. 5).

3 DATA SOURCES

Information has been drawn from web-based and published sources, outlined below, as well as having been collected through consultation with the EA who provided a Flood Product 4 data pack (Ref. 6).

Web-based sources:

- Flood Estimation Handbook (FEH) Web-Service;
- EA What's In Your Backyard? Interactive Maps;
- EA Long Term Flood Risk Interactive Maps (Ref. 7);
- EA Flood Map for Planning (Ref. 8);
- Cranfield Soil and AgriFood Institute, Soilscales Viewer; and
- British Geological Survey, Geology of Britain Viewer.

Published documents:

- ELBC Level 1 Strategic Flood Risk Assessment (SFRA) (Ref. 9);
- ELBC Level 2 SFRA (Ref. 10);
- ELBC Preliminary Flood Risk Assessment (PFRA) (Ref. 11);
- ELBC Local Flood Risk Management Strategy (LFRMS) (Ref. 12);
- ELBC Surface Water Management Plan (SWMP) (Ref. 13);
- ELBC Core Strategy – The Enfield Plan (Ref. 14); and
- River Lee Modelling & Mapping Study (Ref. 15).

4 RELEVANT PLANNING POLICES & DESIGNATIONS

4.1 NPPF and Flood Risk

The NPPF (Ref. 16) and accompanying flood risk and coastal change planning practice guidance (PPG) (Ref. 17) set out the Government's planning policy for England and advises on '*how to take account of and address the risks associated with flooding and coastal change in the planning process*'. The principal aim of the NPPF is to achieve sustainable development by accounting for flooding at all stages of the planning process, avoiding inappropriate development in areas at risk of flooding and directing development away from areas where risks are highest. Where development is necessary in areas at risk of flooding, the NPPF aims to ensure it is safe, without increasing flood risk to third parties.

Early adoption of, and adherence to, the principles set out in the NPPF and its PPG, with respect to flood risk, ensures that detailed designs and plans for development take due account of flood risk and the need for appropriate mitigation, if required.

4.2 The Sequential and Exception Tests

The NPPF identifies four Flood Zone classifications, detailed in Table 1 below.

Table 1 Flood Zones (Source: PPG, Table 1)

Flood Zone	Definition
Zone 1 – Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding.
Zone 2 – Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Zone 3a – High Probability	Land having a greater than 1 in 100 annual probability of river flooding; or land having a greater than 1 in 200 annual probability of sea flooding.
Zone 3b – The Functional Floodplain	Land where water flows or is stored in times of flood.

The NPPF specifies that the suitability of all new development in relation to flood risk should be assessed by applying the Sequential Test to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development proposed. The NPPF provides guidance on the compatibility of each land use classification in relation to each of the Flood Zones, as summarised in Table 2.

Flood Risk Review

Table 2 Flood Risk Vulnerability and Flood Zone Compatibility (Source: PPG, Table 3)

Flood Zone	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test required	✓	✓
Zone 3a	Exception Test required	✓	X	Exception Test required	✓
Zone 3b	Exception Test required	✓	X	X	X

Key: ✓ Development is appropriate X Development should not be permitted

When the Exception Test is triggered, this requires the development proposals to demonstrate wider sustainability benefits to the community that outweigh flood risk, and that the development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.

The Site has been assessed against the NPPF planning tests in Section 6 of this report.

5 FLOOD RISK SOURCES AND FLOODING HISTORY

5.1 Overview

In line with best practice, flood risk from the range of possible sources listed in Table 3 has been considered.

Table 3 Potential Sources of Flooding

Source of Flooding	Description
1. Flooding from rivers (Fluvial)	Floodwater originating from a nearby watercourse when the amount of water exceeds the channel capacity of that watercourse.
2. Flooding from land (Surface Water)	Flooding caused by intense rainfall exceeding the available infiltration and/or drainage capacity of the ground.
3. Flooding from groundwater	Flooding caused when groundwater levels rise above ground level following prolonged rainfall.
4. Flooding from reservoirs, canals and other artificial sources	Failure of infrastructure that retains or transmits water or controls its flow.

5.2 Historical Flooding

The EA *Historic Flood Map* identifies no records of historic flooding affecting the Site.

The ELBC Level 2 SFRA *Flood History* map indicates no records of flooding affecting the Site. There are two records of surface water flooding in proximity to the Site: located at the intersection of Meridian Way and the North Circular Road (A406), approximately 200m east of the Site; and at the southern end of Kimberly Road, approximately 400m south of the Site, however during these events, floodwaters did not extend to the Site.

The ELBC Level 1 SFRA *Indicative Groundwater Flood Risk* map identifies no incidences of historical groundwater flooding in proximity to the Site. The ELBC Level 1 SFRA *Historic Sewer Flood Incidents* map, which categorises sewer flooding by postal code, identifies 3 incidences of sewer flooding in the N18 2 area, however no further specific location data is available for these occurrences.

5.3 Flood Defences

The EA *Structures and Defences* map identifies that the stretch of the Pymmes Brook in proximity to, and approximately 40m east of, the Site is contained within a concrete-lined channel. The lining was built in the 1990s (as part of the A406 North Circular Upgrade). The crest level of the channel was built to between 10.4mAOD and 11.3mAOD, which provides protection up to the 1 in 100 year (1%) standard. The condition of the defences is described as a three (out of five) and therefore holding some minor-moderate defects.

5.4 Flooding from Rivers

The EA *Flood Map for Planning* (Figure 3) identifies the entire Site in Flood Zone 2, medium flood risk (land having between a 1 in 100 (1%) and 1 in 1,000 (0.1%) annual probability of flooding) from rivers. The flood risk area is associated with flooding from the Pymmes Brook, to the northeast.

Areas to the north of the Site, beyond the North Circular Road, are designated as Flood Zone 3, high flood risk (land having a greater than 1 in 100 (1%) annual probability of flooding) from rivers, which is associated with flooding from the Pymmes Brook, the Salmon Brook and the Brimsdown Ditch. However, some of the areas designated as Flood Zone 3 are also identified as “*benefitting from flood*”

defences”. Accounting for the protection that is afforded by these defences, the residual fluvial flood hazard for the Site is defined as “Moderate – Danger for Some”, which indicates a flood hazard for children or the elderly.



Figure 3: EA Flood Map for Planning. Site Boundary Outlined in Red
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The EA have provided modelled flood levels for the Pymmes Brook for nodes located to the north and east of the Site (see Figure 1). Flood levels for a range of return period events, between 1 in 5 year (20% annual probability) and 1 in 1000 year (0.01% annual probability) have been supplied. Climate change allowance has been included for the 1 in 100 year (1% annual probability) event, based on a 20% increase in flow. Due to their proximity to the Site, it is considered that model nodes PY.043 and PY.044rm, highlighted, provide the most relevant flood levels. The data is presented in Table 4.

Table 4: EA Modelled Flood Levels for the Pymmes Brook (mAOD)

Modelled Flood Levels: Pymmes Brook	5yr	20yr	50yr	100yr	100yr +CC	1000yr
PY.041	10.16	10.59	11.13	11.33	11.48	11.56
PY.041d	10.16	10.58	11.02	11.15	11.26	11.31
PY.043	10.23	10.64	11.15	11.34	11.48	11.56
PY.044rl	10.21	10.67	11.20	11.40	11.54	11.63
PY.044lm	10.20	10.59	11.07	11.26	11.40	11.48
PY.044rm	10.20	10.59	11.07	11.26	11.40	11.48

It should be noted that the tabulated flood levels represent in-channel water levels and therefore provide conservative estimate of flood conditions if protected out of bank onto the surrounding terrain. When doing this conservative comparison, the data indicate that most of the Site would be flood free during flood events up to and including the 50 year (2% annual probability).

Additional data for a 1% AEP flood event in the Pymmes Brook catchment that includes a 40% uplift in flow as an allowance for climate change, which is beyond the 'higher central' allowance to 2080, predict the Site to be in "*Flood Zone 3a + Climate Change*". In this future scenario, flooding across the Site is predicted with floodwater levels reaching approximately 10.9mAOD.

Data extracted from another EA model, constructed to inform the River Lee Modelling and Mapping Study, which represents water levels on the floodplain and includes all main river sources of flooding, identifies no flooding on Site in the 100 year event. Flood levels of up to 11.24mAOD over the Site are predicted in the 100 year plus climate change flood scenario and up to 11.36mAOD in the extreme 1000 year event. This modelled data confirms the classification of the Site in Flood Zone 2.

The EA *Flood Map for Planning*, does not illustrate flood risk from non-Main River sources (ordinary watercourses), however there are no non-Main River waterbodies in proximity to the Site.

Overall, it is considered that the Site is at a low current risk of fluvial flooding, but which may increase to medium in future scenarios.

5.5 Flooding from Surface Water

The EA *Risk of Flooding from Surface Water* map (Figure 4) identifies the entire Site as having a low risk (land having between a 1 in 100 (1%) and 1 in 1,000 (0.1%) annual probability) of surface water flooding.

Overall, it is considered that the Site is at a low risk of surface water flooding.

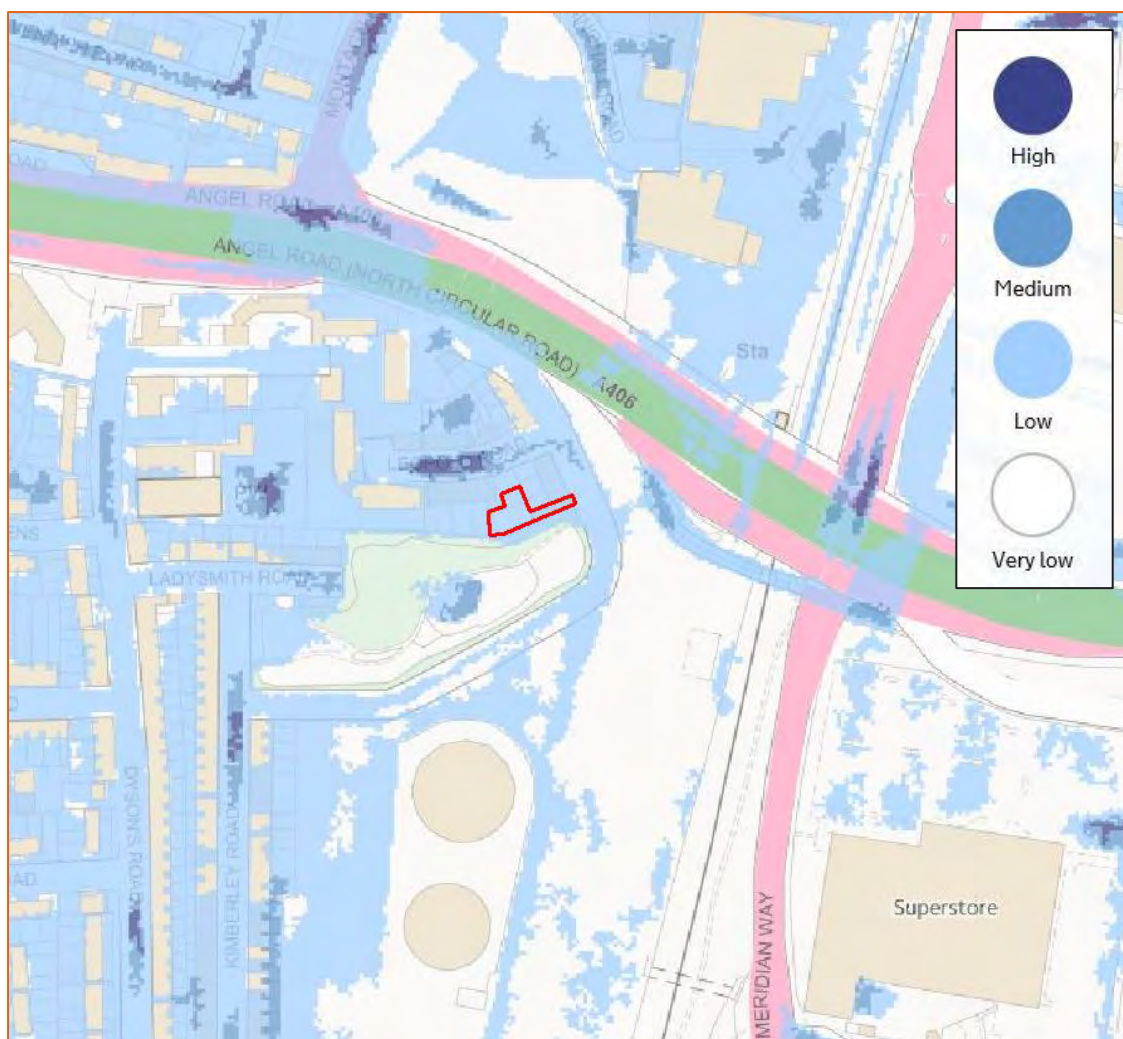


Figure 4: EA Risk of Flooding from Surface Water. Site Boundary Outlined in Red Contains EA data © Crown copyright and database right 2017. All rights reserved.

5.6 Flooding from Groundwater

The ELBC SFRA *Indicative Groundwater Flood Risk* map identifies the Site outside of any flood risk zones and the ELBC SWMP *Increased Potential for Elevated Groundwater* map does not identify the Site within an at-risk area. Water levels in the underlying soils may have connectivity with the Pymmes Brook, which could cause groundwater to rise to the surface if river levels were high for prolonged periods, however, there are no records of groundwater flooding in proximity to the Site.

Overall, it is considered that the Site is at a low risk of groundwater flooding.

5.7 Flooding from Artificial Sources and Sewers

The EA *Risk of Flooding from Reservoirs* map indicates that the Site is located within the maximum extent of flooding should large reservoirs fail and release the water that they hold. This risk is associated with the Lee Valley Reservoir Chain, and principally the King George's and William Girling Reservoirs, located 1.5km and 3km upstream of the Site. The consequence of reservoir breach can be very high, however continuing management of reservoirs under the Reservoirs Act 1975 serves to greatly reduce the likelihood of flooding from reservoir breach.

The Site is located approximately 700m west of the River Lee Navigation. The River Lee Navigation is a bifurcation from the River Lee and flood impacts from the canal are included within the River Lee

Modelling and Mapping Study, outlined in the Flooding from Rivers section above. The Study identifies the Site with a medium risk of flooding, with flood levels of up to 11.36mAOD. **Overall, it is considered that the Site is at a medium risk of flooding from canals and with a low risk of flooding from reservoirs.**

Enfield is predominantly served by separate foul and surface water sewer networks, managed by Thames Water. The ELBC SFRA states that the *'surface water sewer network forms a key part of the overall drainage network'* and is *'closely integrated with the highway and private drainage systems, ordinary watercourses and Main Rivers'*. The foul water network is *'largely built alongside the surface water network'* and it largely outfalls into *'large, deep trunk sewers in the Lee Valley'*, which transport flows to Deephams Sewage Treatment Works on the Lee Navigation.

The ELBC SFRA states that *'sewer flooding does not represent a significant risk to properties in Enfield'* and in the last decade, *'less than two properties have been flooded annually due to overloading of the sewerage network'* with *'two-thirds of these events [from the] foul water network, which is relatively unaffected by extreme weather events'* and is mostly caused by *'inadequate design or insufficient maintenance'*. The ELBC SFRA identifies flooding in the borough by postal code, and the N18 2 area has experienced 3 flood events in the last decade, with all attributed to the foul water network. No further location information is available for these events.

Overall, it is considered that the Site is at a low risk of flooding from sewers.

6 RISK RATING & RECOMMENDATIONS FOR FURTHER INVESTIGATION

Following an assessment of flood risk to the Site from all likely sources, it is considered that there is a **Medium** risk of flooding from rivers and a **Low** risk of flooding from surface water, groundwater and artificial sources, including sewers, as summarised in Table 5.

Table 5 Flood Risk Sources

Source of Flooding	Flood Risk
1. Flooding from rivers (Fluvial)	Medium
2. Flooding from land (Surface Water)	Low
3. Flooding from groundwater	Low
4. Flooding from reservoirs, canals, sewers and other artificial sources	Medium - Low

The EA *Flood Map for Planning* identifies the Site as being located entirely in Flood Zone 2. Following the NPPF guidance, the Site is therefore suitable for all development types (including residential development), but would trigger the application of the Exception Test for 'Highly Vulnerable' uses, which includes basement dwellings; emergency services stations/command centres; caravans, mobile homes and park homes intended for permanent use; and installations requiring hazardous substance consent.

The Flood Zone 2 designation triggers the requirement for a Flood Risk Assessment (FRA) to be prepared in support of a planning application for any development on the Site. The FRA would be a more detailed assessment than is presented in this Flood Risk Review and would need to be specific to the type and layout/configuration of development that is proposed. The FRA should demonstrate that the proposed development would not be subject to an unreasonable risk of flooding over its lifetime, and would not increase flood risk to third parties. Further investigation, via the FRA, would therefore be required to demonstrate how the Site can be developed safely, identifying necessary design measures to provide adequate protection in a flood scenario, without increasing flood risk to third parties.

It is considered that there is a low risk of surface water flooding and there are no records of surface water flooding affecting the Site. The ELBC Level 1 SFRA states that the '*re-development of brownfield sites will provide opportunities to reduce overall flood risk, principally through the use of sustainable drainage systems (SuDS) and allowing space for flood storage, overland flows and future maintenance and upgrade of flood defences*'. Surface water drainage and runoff from the Site should be investigated further during any future planning application and it should be ensured that drainage is managed to a high standard, which should include the calculation of current rainfall-runoff rates and volumes and greenfield runoff rates for the Site. A Drainage Strategy should be developed, detailing methods to manage runoff from the Site, which would ideally be controlled to match greenfield rates.

Subject to the production of a FRA and Drainage Strategy as part of any future planning application and the implementation of the flood resilience recommendations from these studies, it is considered likely that flood risk would not limit any form of development on the Site.

7 REFERENCES

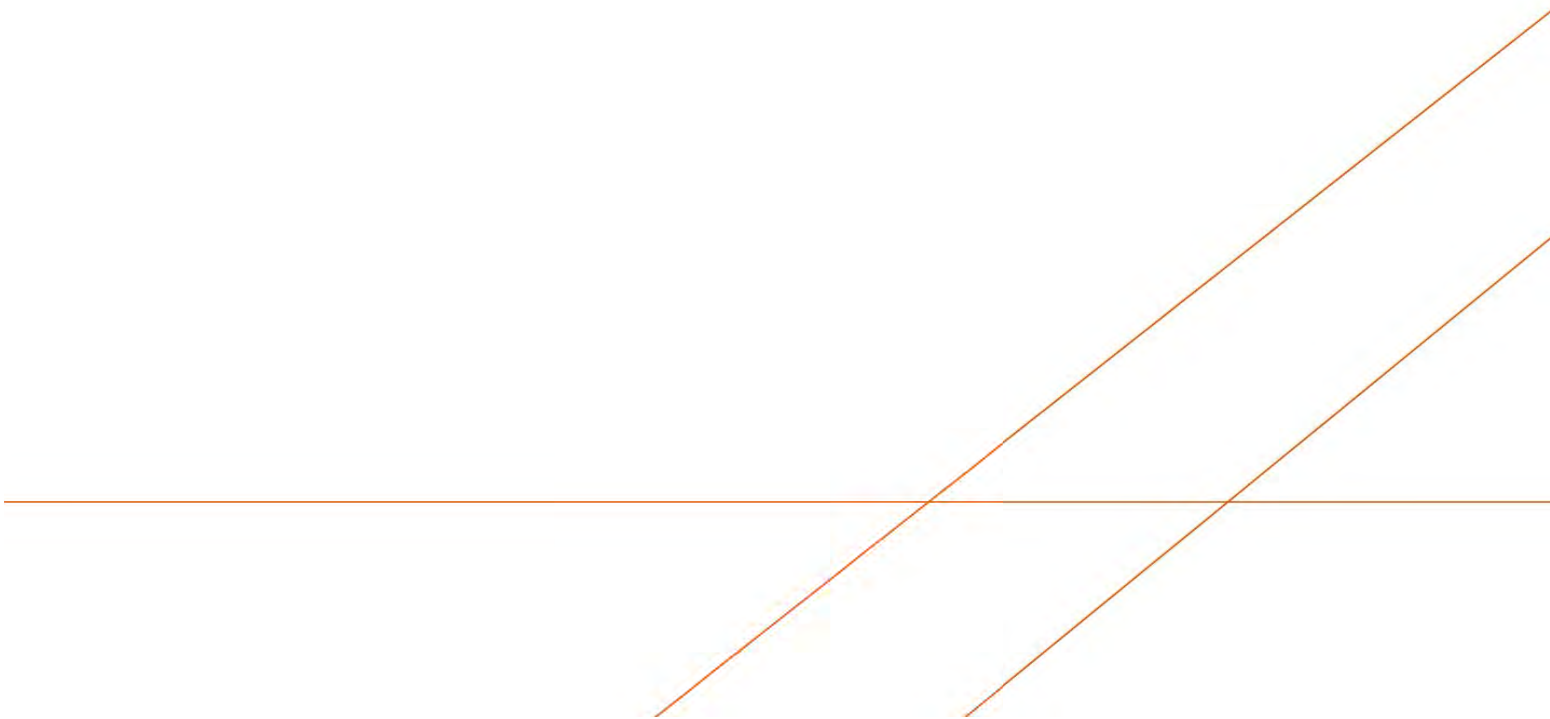
1. Her Majesty's Stationary Office, 2017. Open Government License, LiDAR Composite Digital Terrain Model (DTM) 2m spatial resolution. Accessed May 2017, via <http://environment.data.gov.uk/ds/survey/>
2. Centre for Ecology and Hydrology, 2017. Flood Estimation Handbook (FEH) Web-Service. Accessed June 2017 via: <https://fehweb.ceh.ac.uk/GB/map>
3. Cranfield Soil and Agrifood Institute University, 2017. Soilscales Viewer. Accessed June 2017 via: <http://www.landis.org.uk/soilscales/>
4. British Geological Survey, 2017. Geology of Britain viewer. Accessed June 2017 via: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
5. Environment Agency, 2017. What's In Your Backyard? Groundwater map. Accessed June 2017 via: http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=357683&y=355134&scale=1&layerGroups=default&ep=map&textonly=off&lang=_e&topic=groundwater
6. Environment Agency, 2017. Provision of Flood Risk Product 4 data pack: HNL51609DL
7. Environment Agency, 2017. Long term flood risk information. Accessed June 2017 via <https://flood-warning-information.service.gov.uk/long-term-flood-risk/>
8. Environment Agency, 2017. Flood Map for Planning. Accessed June 2017 via <https://flood-map-for-planning.service.gov.uk/>
9. London Borough of Enfield Council, 2008. London Borough of Enfield Level 1 Strategic Flood Risk Assessment.
10. London Borough of Enfield Council, 2013. London Borough of Enfield Council Level 2 Strategic Flood Risk Assessment
11. Capita Symonds Scott Wilson, 2011. London Borough of Enfield Preliminary Flood Risk Assessment.
12. London Borough of Enfield Council, 2016. London Borough of Enfield Local Flood Risk Management Strategy.
13. Capita Symonds Scott Wilson, 2012. London Borough of Enfield Surface Water Management Plan.
14. London Borough of Enfield Council, 2010. The Enfield Plan, Core Strategy 2010-2025.
15. Halcrow, 2010. River Lee Modelling and Mapping Study.
16. Department for Communities and Local Government, 2012. National Planning Policy Framework
17. Department for Communities and Local Government, 2014. Planning Practice Guide: Flood Risk and Coastal Change

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**TFL_PSF_9131 SITE
INVESTIGATIONS: SMALL SITES
INITIATIVE
SITE AT ALBANY ROAD, ENFIELD,
N18 2DY**

Site Ref. DEV092

Geotechnical and Geo-Environmental Desk Study

OCTOBER 2017

Incorporating

EC HARRIS
BUILT ASSET
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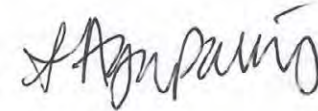


LAND AT ALBANY ROAD, ENFIELD, N18 2DY

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Date OCTOBER 2017

VERSION CONTROL

Version	Date	Author	Changes
01	July 2017	Steven Jotham	1 st Issue
02	October 2017		Final Issue

This report dated 16 October 2017 has been prepared for Transport for London (TfL) (the "Client") in accordance with the terms and conditions of appointment dated 02 May 2017 (the "Appointment") between the Client and Error! No text of specified style in document. ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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APPENDICES

APPENDIX A

Historical Maps

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Zetica UXO Maps

1 Introduction

1.1 Terms of Reference

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) ‘the Client’ to undertake a Geotechnical and Geo-Environmental desk study report for a site on Albany Road, Enfield, N18 2DY (‘the Site’).

TfL is aiming to divest a number of small sites to enable positive regeneration. The objective of this review is to identify potential development constraints due to geotechnical and geo-environmental conditions on Site based on the findings of this desk study.

The aims of this desk study are to:

- Review geo-environmental information regarding the Site and its surrounding area;
- Provide outline information on potential geo-environmental and geotechnical constraints which may impact on the land value or redevelopment potential of the Site; and
- Identify potential development constraints due to geotechnical and geo-environmental conditions on Site.

The site location is shown in

Figure 1 below.

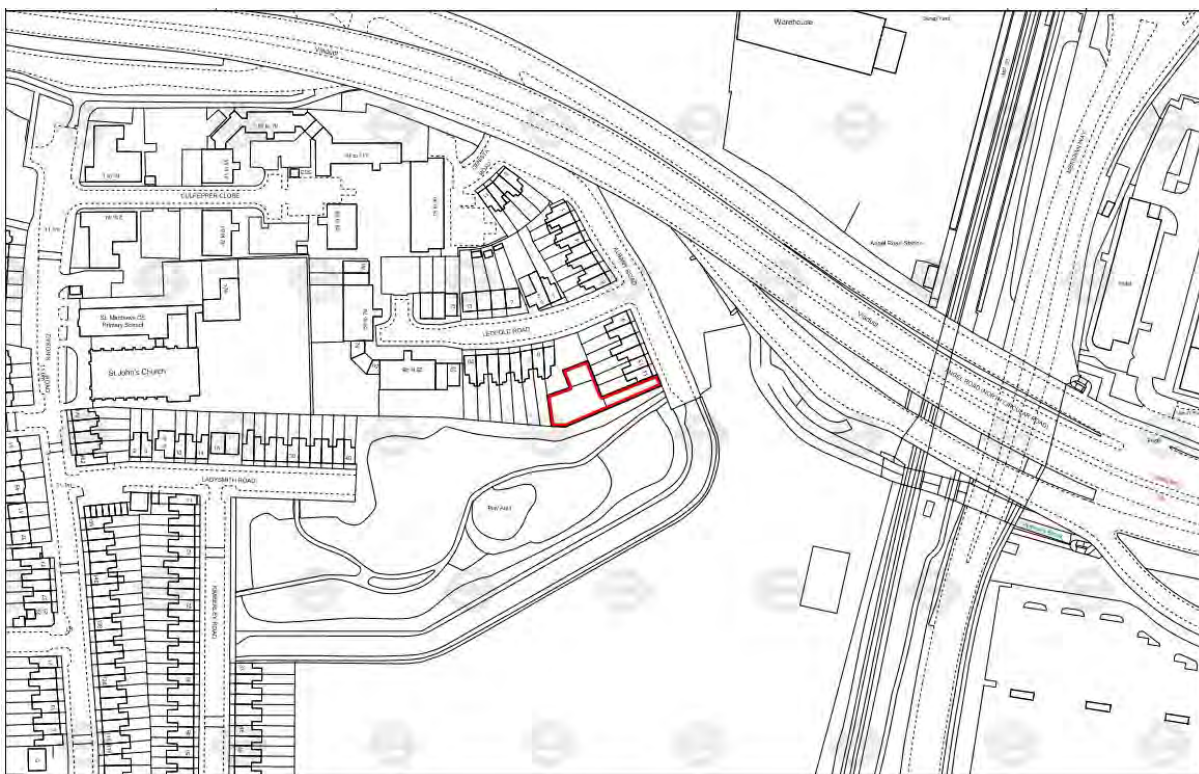


Figure 1: Site Location Plan Provided by TfL

1.2 Sources of Information

As part of this desk study report various sources of information have been used and are detailed below:

- The on-line British Geological Survey (BGS) 1:50 000 scale geological map comprising the Site (Ref. 1);
- Historical borehole records available through BGS website and viewed;
- Historical Ordnance Survey maps (included in Appendix A);
- Groundsure datasheets (GeoInsight and EnviroInsight) Appendix B;
- The Environment Agency (EA) What's in Your Backyard Website (Ref. 2);
- Google maps (Ref. 3);
- Zetica Regional Unexploded Ordnance Map (Appendix C); and
- National Archives (www.bombsight.org – Ref. 4).

1.3 Limitations and Expectations

This report has been prepared for the Client in accordance with the terms and conditions of appointment. Arcadis cannot accept any responsibility for any use of or reliance on the contents of this report by any third party. The copyright of this document, including the electronic format shall remain the property of Arcadis.

This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time. Consequently, there is a potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be responsible.

2 Site Setting and History

2.1 Site Location

Table 2.1 Details Relating to Site Location

Site Location / Address	Albany Road, Enfield, N18 2DY
National Grid Reference	535023,192138
Approximate Site Area	The Site is irregular in shape and covers an area of approximately 0.05 hectares.
Description of Site	<p>A Site visit has not yet been undertaken and the Site is not clearly represented on Google maps, however the limited information suggests it to be an area of hardstanding which appears to be used as a yard / storage area.</p> <p>There is no apparent access from the north and there is a wall at the Albany Road side of the Site, suggesting no obvious access to the Site unless it could be gained via the adjoining vacant parcel of land to the north off Leopold Road, where there is secured gates with security surveillance warning signage.</p>
Topography	Appears generally level.
Surrounding Area	<p>The Site is located on the eastern side of a residential area of Edmonton, on the southern side of Angel Road (North Circular). North of Angel Road, the area is a mix of residential housing, parks and industrial estates. To the east is a railway line with Angel Road (overground) Station approximately 100m north-east. East of the railway line the area is formed of industrial estates, retail parks and trading estates. To the immediate south is a small car park and open space / ground which could be associated with Meridian Angel Primary School which is present to the south-west. Beyond the school is a large area of derelict land most recently occupied by a gasholder station however, all structures have now been demolished. To the west, the area is largely residential with local amenities such as schools and churches and some trading / industrial estates further to the south-west.</p>

2.2 Site History

A review of the available historical Ordnance Survey maps (Appendix A) has been undertaken to assess the historical development of the Site and surrounding areas.

It is not the intention of this report to provide a full history, but to identify those past uses on and within the vicinity of the Site that could have resulted in contamination of the soils and/or waters. Significant changes to the land use of the Site and surrounding areas are summarised in Table 2.2 below.

Table 2.2 History of Site and Surrounding Area

Date	Historical Development (Site and Surrounding Area)
1867	<p>The Site and immediate surrounding area are largely undeveloped fields, which are located approximately 750m east of Edmonton.</p> <p>A Railway Line orientated north-south and Angel Road Station are shown approximately 100m east of the Site. Angel Road is present approximately 100m to the north-east but at its closest is located within 30m east of the Site. A watercourse (later referred to as Pymme's Brook) runs along the northern side of Angel Road before crossing beneath the road, north of the Blue Anchor public house, when it then runs along the southern side of the road. Both</p>

Date	Historical Development (Site and Surrounding Area)
	<p>the road and the watercourse pass below the railway to the east. There is a rectangular moat surrounding Dyson Farm approximately 150m south-west of the Site.</p>
<p>1872 -1873 1894 - 1896</p>	<p>There is limited mapping of the Site during the 1870s and 1880s however by the 1890s, the fields within the Site and adjacent surrounding area are no longer shown, but no development is recorded. Within the vicinity, houses along Genista Road with some realignment or widening of Angel Road have been noted.</p> <p>The 1870s map show Tottenham and Edmonton Gas Works with two large gasholders, tanks and a square building within approximately 150m south of the Site (on the western side of the railway line). By the 1890s, much of the surrounding area (within 250m) remained largely undeveloped with some residential development, large nurseries with greenhouses and schools noted.</p>
<p>1914 – 1915 1920</p>	<p>No significant changes are noted within the Site. Immediately adjacent to the Site, the residential properties along Leopold Road and Albany Road had developed. The railway sidings had expanded into the area between Albany Road and Angel Road (approximately 20m north-east). Dyson’s farm is no longer present, the moat infilled and the area redeveloped into housing.</p> <p>The gas works expanded to within 100m of the Site with 3 additional gasholders and numerous buildings being serviced by railway sidings; at its closest the sidings are recorded adjacent to the south-western boundary of the Site. On the western side of the railway line, immediately north of Angel Road Station, a goods shed is shown (approximately 150m north-east) and allotments are shown on the eastern side of the railway. The sidings continued north towards the gravel pit (infilled by the 1930s) and on the eastern side of the railway, a number of works, and a sewage works (not shown after the 1930s) are recorded within 400m of the Site.</p>
<p>1935 - 1936</p>	<p>The map shows a large building occupying most of the western section of the Site, with the eastern half being formed partly by the rear gardens of the properties fronting onto Albany Road and an access road; although later mapping suggests the building occupies the entire western section of the Site with only the access road present in the east. Approximately 60-100m west of the Site is a Bakelite works and approximately 80-120m north-west is an electric plating works.</p> <p>The map shows the extent of development within the surrounding areas (250m radius) with residential properties, expansion of industries such as the goods shed (approximately 120m north-east) with numerous tanks recorded and at the gas works, further tanks, a chimney, a water tower and a cooler are noted (within 50m at its closest).</p> <p>The allotments (east of the railway) have been replaced by additional railway sidings servicing a new large clothing factory (approximately 150m east) and Gothic Works within 250m of the Site.</p>
<p>1955 - 1960</p>	<p>The map now shows the building occupies the entire western section of the Site, with only access noted in the east; suggesting earlier mapping error. No other significant changes are noted on-site.</p> <p>The Bakelite and electric plating works are no longer shown and these works and adjacent area were redeveloped into larger works / factories (at its closest are within 40m north-west).</p> <p>The gas works to the south had undergone further expansion with the addition of large rectangular structures on the western side of the gas works (approximately 250m south-west).</p> <p>A coal yard had developed approximately 90m east of the Site. The railway sidings north-east of the Site had been removed and the Angel Road is referred to as the Angel Road North Circular Road.</p>
<p>1965-1967 & 1966 1971 - 1974 1974 - 1977</p>	<p>The 1960s map shows the Angel Road North Circular had been realigned to its current day position, with the properties beyond (approximately 100m north) having been demolished and replaced by a park (Kenninghall Open Space). To the east of the park is a large scrap metal depot, fuel distribution depot and engineering works.</p> <p>The 1965-67 map shows a circular tank within 20m of the southern boundary of the Site with a series of additional rectangular tanks added in the vicinity of this circular tank by the 1971-1974 map. The 1971-1974 map also shows a large building within the gas works</p>

Date	Historical Development (Site and Surrounding Area)
	approximately 50m south-east of the Site having been demolished. The clothing factory, gothic works and adjacent works and warehouses were replaced when the gas works expanded into the area on the eastern side of the railway line by the late 1960s/1970s.
1987 - 1991	The building in the west appears to have been demolished by this time. By the late 1980s, much of the gasworks structures, building and sidings (east and west of the railway line) had been demolished and removed with only a gasholder station (two gasholders) remaining approximately 100m south. Further away is a further gasholder approximately 800m south-east. Much of the off-site railway sidings had been removed by the late 1980s and a scrap yard established approximately 50m north-east.
1991-1994	No significant changes noted on-site. To the south-east of the Site, the Gothic Works is no longer shown having been replaced by a Superstore and car parking.
2002, 2010 & 2014	No significant changes are noted on-site or within in the immediate vicinity of the Site with the exception of the factories / works (approximately 40m north-west) having been redeveloped into housing off Culpepper Close by the 2010 plan.

2.3 Unexploded Ordnance

With reference to the Zetica Regional Unexploded Bomb Risk of East Central London (Appendix C), the Site is designated as lying within an area denoted as “low” bomb risk area. Further reference has been made to the National Archives (www.bombsight.org – Ref. 4) which reveals high explosive bombs having been dropped near to the Site, the two closest are recorded approximately 40-50m west of the Site close to Ladysmith Road and Culpepper Close.

Therefore, based on the information provided by the National Archives, the Site may have been affected by Second World War bombing.

3 Physical and Environmental Setting

3.1 Published Geology, Hydrogeology and Hydrology

With reference to the sources of information summarised in Section 1.2, the following information has been obtained.

Table 3.1 Information Regarding Geology, Hydrogeology and Hydrology

Geology / Aquifer Status	<p>Superficial Deposit: Enfield Silt Member described as comprising clay and silt. It is classified as an Unproductive Strata.</p> <p>Solid Geology: London Clay described as clay, silt and sand and is classified as an Unproductive strata.</p> <p>The BGS geological generalised cross sections reveal the London Clay is underlain by the Lambeth Group (circa 20mbgl – TQ39SE92), which in turn is underlain by the Thanet Sand Member and further underlain by the White Chalk Supergroup. There are no geological faults recorded within 500m of the Site.</p> <p>The underlying Lambeth Group is a Secondary A Aquifer and the Thanet Sand and Chalk are Principal Aquifers.</p>
BGS Boreholes (within 100m of the site)	<p>There are two BGS borehole logs within approximately 90m of the Site;</p> <ul style="list-style-type: none"> - TQ39SE92 for the A406 North Circular Road 209, dated 1986 approximately 55m north-east. - TQ39SE195 for the Tottenham Gas Works, dated 1923 approximately 60m south. <p>TQ39SE92 reveals Made Ground to 2.20m comprising an upper layer of brick and concrete rubble (to 0.6m) underlying stiff fissured silt/clay with occasional pottery fragments. The Made Ground is underlain by varying bands of silty clays and sands with the clay ranging from stiff to firm and the sand and becoming largely granular below 9.3m terminating at 30.00mbgl. Large bands of silty sands recorded from 9.3m suggest the Kempton Park Gravels (KPG) underlie the Enfield Silt Member near to the Site. If present, the KPG would be classified as a Secondary A Aquifer.</p> <p>TQ39SE195 reveals an upper layer of Made Ground to 1.4m comprising of dark soil, which is underlain by a deeper layer of Made Ground, potentially comprising reworked Drift Deposits described as of brown clay and ballast to a depth of 7.9m. This is underlain by London Clay to 20m bgl comprising of blue and brown weak clays, with an increasing content of sandy loam and pebbles. Below the London Clay there is a succession of dark loamy sand (either Lambeth Group and / or Thanet Sand) to 106m. This is underlain by Chalk and flint, likely part of the White Chalk Group but this was not proven beyond 121.9m.</p>
Within a Source Protection Zone	<p>The Site lies within Source Protection Zone 1 'Inner Catchment' associated with 4 historical potable water abstractions licensed to Coca-Cola enterprises for water bottling at locations between approximately 370m and 420m north-east of the Site, although the licenses have since expired. There is no further information regarding the abstraction however, these may have targeted the Thanet Sand or Chalk (Principal Aquifers).</p>
Licensed Groundwater Abstraction Points	<p>There is a historical groundwater abstraction license within 250m of the site (License number: 29/38/09/0175) registered to Secondsite holdings for pollution remediation, associated with remediation works within the gas works on Willoughby Lane, Tottenham (approximated 247m south of the Site).</p>

Surface Water Feature	Pymme’s Brook (a primary river) flows in an easterly direction and at its closest, it is recorded approximately 30m east of the Site. Approximately 150m north-east, it is culverted beneath the Angel Road North Circular.
Likely Groundwater Flow Direction	Inferred to flow easterly/north-easterly towards Pymme’s Brook.

3.2 Environmental Public Registers

Public register information from the Groundsure Report (Appendix B) for the Site and the surrounding area (within 250m radius) has been summarised in Table 3.2 below.

It is not the purpose of this section to provide a comprehensive account of the environmental data but only to detail those factors that are or could impact the Site.

Table 3.2. Environmental Data

Data type	Description	Distance (m) and Direction
Radon	The Site is not in a radon affected area, as less than 1% of properties are above the Action Level.	N/A
Landfill sites	None identified within 250m of the Site the closest is a historical landfill located 375m north-east at Montagu Road.	N/A
Current Industrial Data	There are 10 records within 250m of the Site, including Angel Road Station, tanks, electrical substations, a gasholder station, 3 warehouses, a scrap yard, a garage and a works.	116-227m north, north east, east-south and north west.
Part A(2) and Part B Activities	None identified within 250m of the Site. However 280m to the South East of the Site there is a Petrol Filling Station with a current permit under Part B.	280m south east.

The Site is currently located within a mixed residential and commercial / industrial area. Within the Site itself, development has been limited to a building/structure recorded within the west until it was removed by the 1980s. Made Ground is likely to be present within the Site associated with this. However, the historical review has revealed that due to its location and proximity to the railway line, numerous industries have been recorded near to the Site, including Tottenham and Edmonton Gas Works which expanded to the southern boundary, and onto land east of the railway line. Warehouses, factories, scrap yards, fuel depot, works and further away, a gravel pit, works and sewage works serviced by branch lines have previously been recorded. Made Ground is likely to be present adjacent to the Site and contamination associated with these industrial uses may impact upon the Site.

4 Preliminary Conceptual Site Model

Geo-environmental assessments are required, in accordance with current regulatory guidance (CIRIA C552 – Ref. 5 and CLR11 – Ref. 6), to consider the significance of potential contamination in terms of plausible contaminant source-pathway-receptor contaminant linkages. As part of this process, it is necessary to develop a conceptual model of these potential contaminant linkages by identifying the potential contamination sources, sensitive receptors and potential exposure pathways. A risk assessment was then undertaken to determine the likelihood and significance of these potentially complete contaminant linkages.

4.1 Potential Contaminant Sources

Based on the information obtained from the existing data and information obtained from historical and environmental research and the Site information, there are a number of potential contaminative sources identified on and off-site. These are summarised in Table 4.1 below.

It should be noted that it is considered unlikely that all these substances would be present at significant concentrations within the Site.

Table 4.1: Potential Sources of Contamination On Site

Source	Potential Contaminants
On Site	
Made Ground associated with the demolition of the former building	Metals, polycyclic aromatic hydrocarbon (PAH) compounds, hydrocarbons (TPH), asbestos, ground gas and vapours
London Clay	Sulphates
Off Site	
Tottenham and Edmonton Gas works, railway, goods sheds including gas holders and tanks storage Industries, factories, works Current day commercial / industrial uses including scrap yards and infilled land (railway line, moat and gravel pit)	Metals, PAHs, TPHs, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs) / semi-volatile organic compounds (SVOCs), solvents asbestos, ground gas and vapours Other contaminants associated with gasworks may include Ammoniacal liquor, Coal Tar, spent oxide, fowl lime, coal dust.
Demolition and associated Made Ground from former housing and re-alignment of Angel Road North Circular	Metals, PAHs, TPHs, asbestos, ground gas and vapours

4.2 Potential Receptors

The proposed land use is currently unknown. As a precautionary approach, the potential receptors detailed below take into consideration the future land use as residential properties with gardens and landscaped areas. It is considered possible that any potential contamination within the soils may be disturbed during the construction phase, or during gardening or landscaping undertaken by any future site users.

4.2.1 Human Health

- Site Users (residents, visitors, maintenance workers and contractors).

Contamination risks to construction workers are not appraised by chronic (long term) exposure human health risk assessments. There are no appropriate published criteria applicable to assessment of potential risks to construction workers. The potential risks should be addressed by a site-specific construction workers risk assessment and implementation of appropriate health and safety measures, to adequately mitigate any potential risks. All works should be conducted in accordance with the CDM Regulations 2015 (Ref. 7) or any other relevant guidance. Construction workers are not considered further in this assessment.

4.2.2 Controlled Waters

- Groundwater beneath the Site – Whilst the Enfield Silt Member and London Clay are classified as Unproductive Strata, the Kempton Park Gravels, if present (as identified within the BGS log approximately 55m north-east), would be classified as a Secondary A Aquifer. The Lambeth Group is classified as Secondary A Aquifer and the Thanet Sand and Chalk are classified as Principal Aquifers.
- Pymme’s Brook is recorded at its closest flowing approximately 30m east of the Site. Pymme’s Brook is also culverted at 3 locations within 250m of the site, with the closest being located approximately 60m north of the site.
- The Site is within a groundwater Source Protection Zone 1 (Inner Catchment).

4.2.3 Buildings

- Underground structures / services (water pipes, concrete, foundations) including sulphate attack.
- Proposed buildings.

4.3 Potential Pathways

Potential pathways are the routes that link the receptor to the contamination. The potential pathways for this Site are summarised in the table below,

Table 4.2: Potential Contaminant Pathways

Receptor	Description
Human Health (residents, visitors and maintenance workers)	Accidental ingestion of contaminants within soil, water and dust Inhalation of dust, vapours and ground gases Dermal contact with contaminants within soil, water and dust Ingestion of contaminated vegetables and soil attached to vegetables
Controlled Waters (Secondary A, Principal Aquifers and Pymme’s Brook – 30m east)	Leaching of potential contaminants in soil or Made Ground into groundwater Vertical migration of soluble contaminants through the unsaturated zone into groundwater beneath the Site Surface run-off and lateral migration
Buildings	Direct contact of building services or foundations with contaminants in the soil and Made Ground Gas and / or vapour accumulation in confined and poorly ventilated spaces Sulphate attack on buried concrete

4.4 Preliminary Quantitative Risk Assessment

The assessment has revealed that on-site sources of contamination are likely to be limited to Made Ground associated with the former uses (from demolition / redevelopment). However, a number of off-site sources have been identified within the vicinity of the Site ranging from the realignment of Angel Road to Tottenham and Edmonton Gas Works, which expanded to the southern boundary of the Site and appears to be undergoing remediation. Other off-site sources have also been identified. Whilst the cohesive nature of the underlying Enfield Silt Member and London Clay may have reduced the mobilisation of contamination onto the Site, Kempton Park Gravels may be present within the Site, which is considered to be a potential receptor and could allow the migration of contaminants onto the Site.

The data review suggests that remediation has been carried out at the gas works site; Table 3.1 refers to a historical (expired in 2004) groundwater abstraction license registered to Secondsite Holdings for remediation works within the gas works on Willoughby Lane, Tottenham (approximated 247m south of the Site), the extent and nature of the remediation works is currently unknown therefore a ground investigation is recommended to assess whether impacts could have migrated to the subject site. There is no record of on-going remedial works active at the gas works Site.

Ground gas / vapours could be generated by the Made Ground or organic contamination migrating onto the Site which could accumulate in confined spaces and poses potential risk to future site users.

The London Clay is a source of naturally occurring sulphates which could impact buried concrete.

5 Waste Management and Potential Development Constraints

5.1 Waste Management

Consideration should be given to disposal of waste soils / Made Ground generated by the development. Chemical testing of soils / Made Ground is likely to be required to inform a waste classification assessment and determine the potential disposal options. It should be noted that the waste contractor may require testing of the actual material to be disposed prior to acceptance, and that there is no obligation on a landfill operator to accept the waste.

Soils suspected of being contaminated should be segregated from soils which appear to be 'clean' and should not be used elsewhere on the Site as fill or landscaping unless they can be proven to be fit for purpose (i.e. to minimise waste production/overly conservative classification of material for disposal). Imported topsoil for gardens and landscaped areas should be clean, fit for purpose and validated as necessary.

The records (Table 3.1 & Groundsure Report – Appendix B) reveal remediation of the off-site gasworks however, as the extent and nature of these works are unknown, the gas works remains a potential source of off-site contamination which could impact on-site soils or groundwater and this may require waste management.

5.2 Potential Development Constraints

The historical review reveals that developments within the Site have been limited however, off-site sources of contamination, which may have impacted on the Site have been identified. The presence of the underlying Enfield Silt Member and London Clay which is relatively impermeable may have reduce the migration of contaminants unless Kempton Park Gravels are present underlying the Site (which would be confirmed during an investigation).

A ground investigation is recommended to determine the potential contamination present on the site and the risk from off-site migration of contaminants onto the Site.

The following potential environmental conditions have been identified that will warrant further consideration and/or implementation:

It has been assumed that:

- Buried obstructions (foundations and services) associated with the former buildings may be present and may require removal prior to redevelopment. Buried services may require removal, protection, diversion or chasing and plugging at the boundary.
- Provisions should be allowed for the potential for gross contamination and unforeseen contamination (this can be a planning requirement);
- Asbestos, if encountered, will require testing and further assessment.
- Gas resistant and potentially vapour resistant membranes may be required but this would depend on the findings of a ground investigation and assessment;
- Provision of contaminant resistant water supply pipes may be required but this would depend on the findings of the ground investigation;
- Provision of clean cover system in garden areas and public open space may be required subject to the findings of an investigation. Where possible, the Topsoil should be retained and incorporated within the redevelopment;
- Further UXO assessment/surveys and investigation may be required;
- Design specific ground investigation and consultancy advice to support planning obligations will be required; and
- Reference should be made to the Arcadis Flood Risk Review (Ref 9) relating to the requirements for flood risk assessment.

6 Geotechnical Considerations

Ground conditions anticipated at the site comprise Made Ground, underlain potentially by the Kempton Park Gravels and in turn by the London Clay, in turn by the Lambeth Group, the Thanet Formation and Chalk.

Potential founding solutions will be dependent on the thickness of Made Ground the geotechnical properties of the natural deposits. The Made Ground is generally considered unsuitable for foundations due to its variable composition and its potential for high total and differential settlement. Below ground structures and services associated with previous structures may be present and will require removal prior to redevelopment. Ground disturbance caused by the removal of historical structures may increase the thickness of Made Ground already present beneath the site locally. At this stage, conventional shallow foundations may not be appropriate for the site but this would depend on the thickness of the Made Ground and the underlying ground conditions. Deeper trench fill may be possible although the maximum practical extent of this type of foundation is in the region of 2-2.5m. In areas of deeper Made Ground, or where deeper soft / loose bands are recorded either piling or ground treatment e.g. vibro-stone columns should provide a suitable foundation solution. The advice of a specialist ground improvement contractor should be sought to verify the suitability of the ground for treatment.

Consideration will need to be given to the presence of existing trees that are removed, retained or the planting of future trees when considering the depths of the foundations (Ref. 8). In addition, the risks associated with the London Clay include high plasticity clay which are subject to shrinkage and swelling, sulphate attack and the potential for relict shear slip surfaces should considered during the investigation / design.

7 Conclusions and Recommendations

A Site visit has not yet been undertaken and the Site is not clearly represented on Google maps, however the limited information suggests it to be an area of hardstanding which appears to be used as a yard / storage area. The Site is in a residential area of Enfield with the A406, railway, historic gas and other works recorded close to the eastern, northern and southern boundaries. An intrusive site investigation has not been undertaken at this stage, however based upon the historical review Made Ground is anticipated within the Site and surrounding area.

7.1 Design Considerations

Potential risks to human health, controlled waters and the built environment have been identified, notably associated with off-site sources. It is recommended that an intrusive site investigation is carried out to quantify these risks. This should include for chemical testing of soils, leachates, groundwater monitoring and testing and ground gas monitoring in accordance with CIRIA C665 and CLR11 (Refs. 5 & 6) and, for foundations concerns, consideration of shrinkage and swelling, sulphate attack and the potential for relict shear slip surfaces.

7.2 Construction Considerations

During construction, a watching brief should be undertaken to identify the presence of any unforeseen contamination. If contamination is encountered, all works should cease until the advice of a suitably qualified professional can be sought.

Construction / demolition workers should use appropriate PPE and follow the site-specific contractors risk assessment which should include risks to human health from potential contamination. Due to the historic phases of development and demolition consideration should be given to the presence of asbestos within the Made Ground.

Good site management practices should be adopted during the construction phase such as covering stockpiles to minimise surface runoff/dust creation.

It is likely that a foundation risk assessment will be required to assess the risks to the underlying if foundations or piling which penetrate the base of Made Ground are proposed and contamination is identified.

The Site is in an area where 'low' risk of encountering unexploded ordnance is present, according to Zetica, however bombs are recorded as having been dropped to the west of the Site by the National Archives, therefore further assessment is recommended.

8 References

1. British Geological Survey (BGS) Online Viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> and solid and drift sheet 256 North London.
2. Environment Agency (EA) What's in my backyard http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=539500.0&y=177500.0&topic=groundwater&ep=map&scale=9&location=Greenwich,Greenwich&lang=_e&layerGroups=default&distance=&textonly=off#x=540296&y=177564&lg=1,10,&scale=9
3. Google maps accessed 31/05/17
<https://www.google.co.uk/maps/place/Royal+Borough+of+Greenwich/@51.4861634,0.0063882,13.97z/data=!4m5!3m4!1s0x47d8a829cbb8cf25:0x4918237ce468a6c2!8m2!3d51.483462!4d0.0586198>
4. National Archives Bomb Sight <http://www.bombsight.org/#16/51.4805/0.0221>
5. CIRIA C552, 2001. Contaminated land risk assessment. A guide to good practice.
6. DEFRA and the Environment Agency, 2004. Model Procedures for the Management of Land Contamination, Guidelines for Environmental Risk Assessment and Management, Contaminated Land Report 11 (CLR11).
7. The Construction (Design and Management) Regulations 2015.
8. National House Builders Council (NHBC), March 2007. Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present.
9. Arcadis Consulting (UK) Limited (2017) Land at ALBANY ROAD, Enfield, N18 2DY, Flood Risk Review (Report number 1202-UA009686-UU41R-01)

APPENDIX A

Historical Maps

Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

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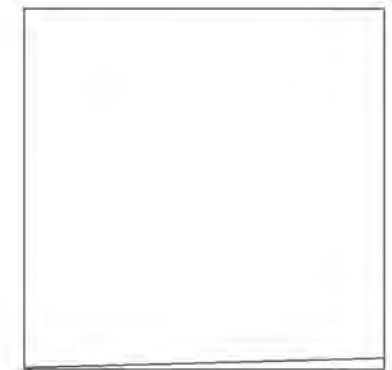
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 Revised 1887
 Edition N/A
 Copyright N/A
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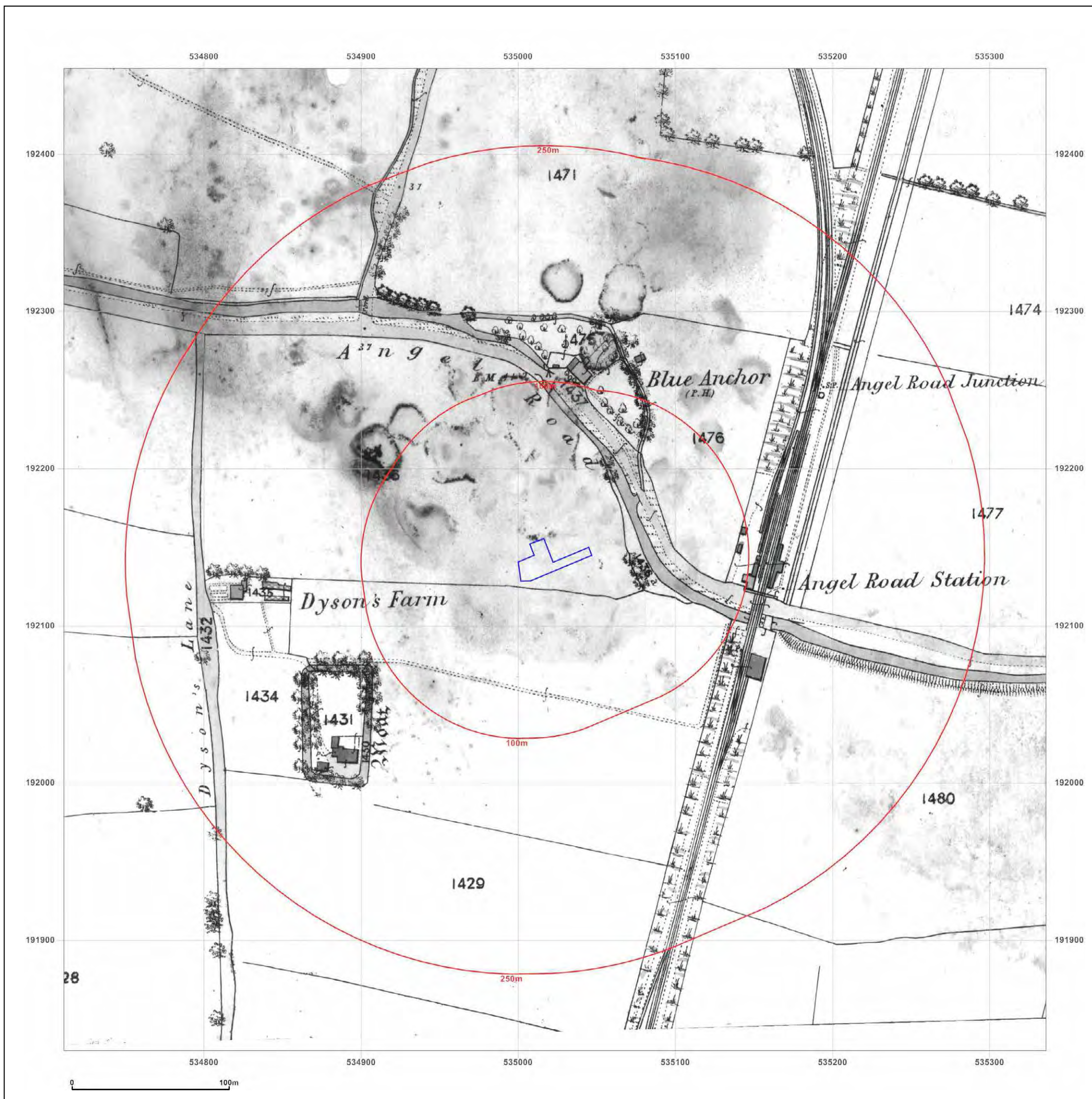


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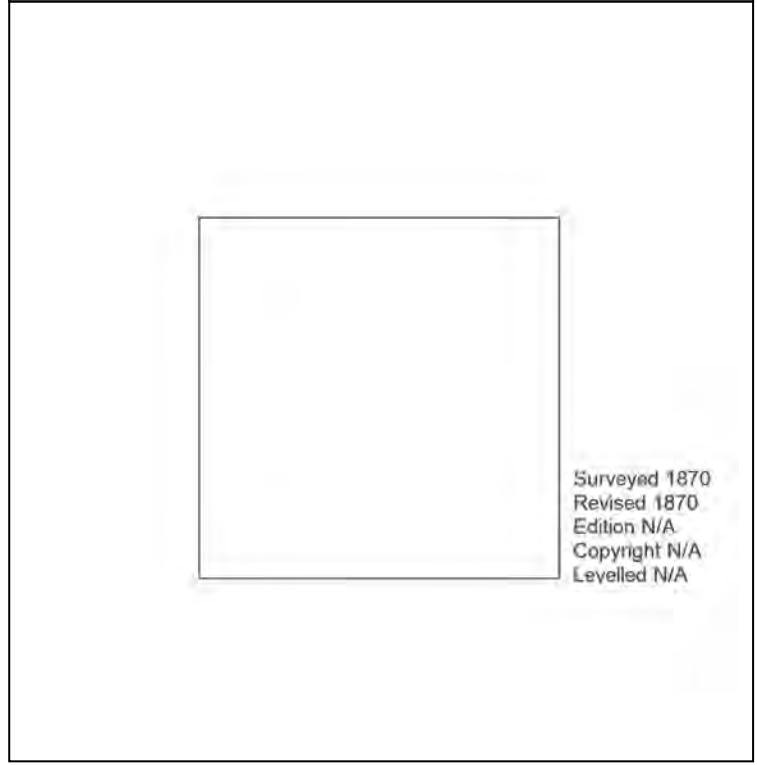
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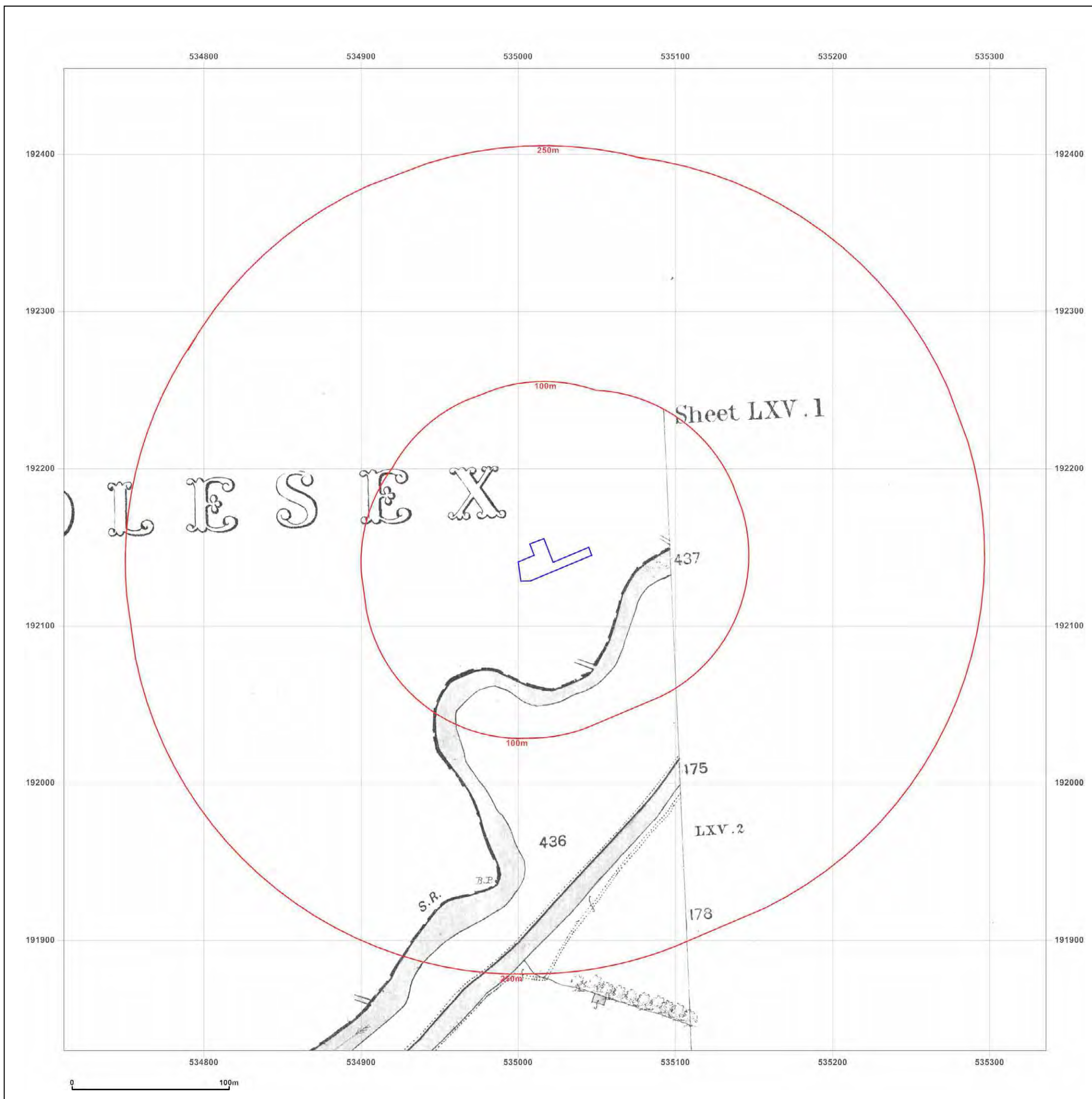


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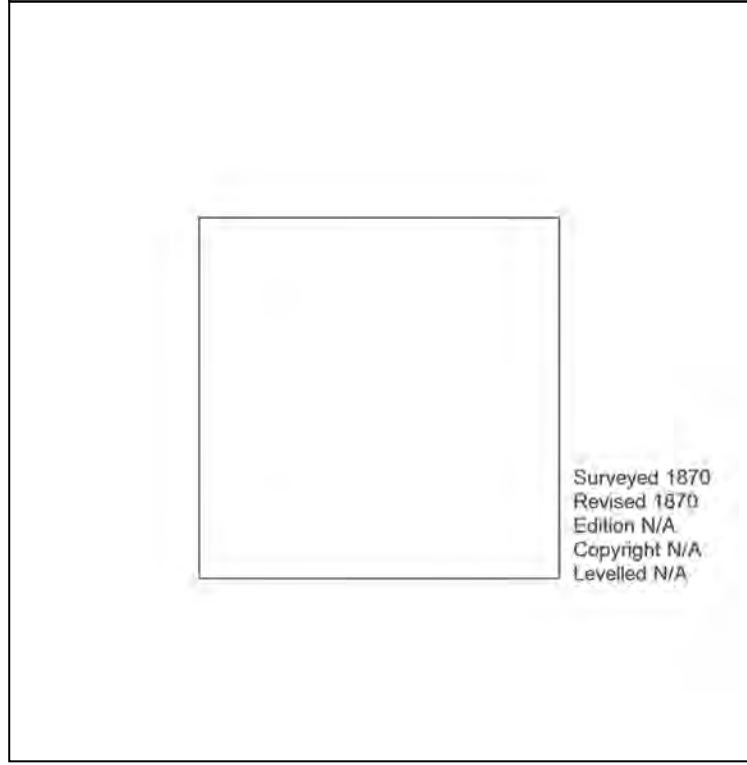
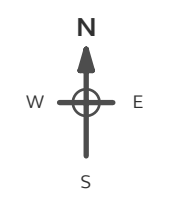
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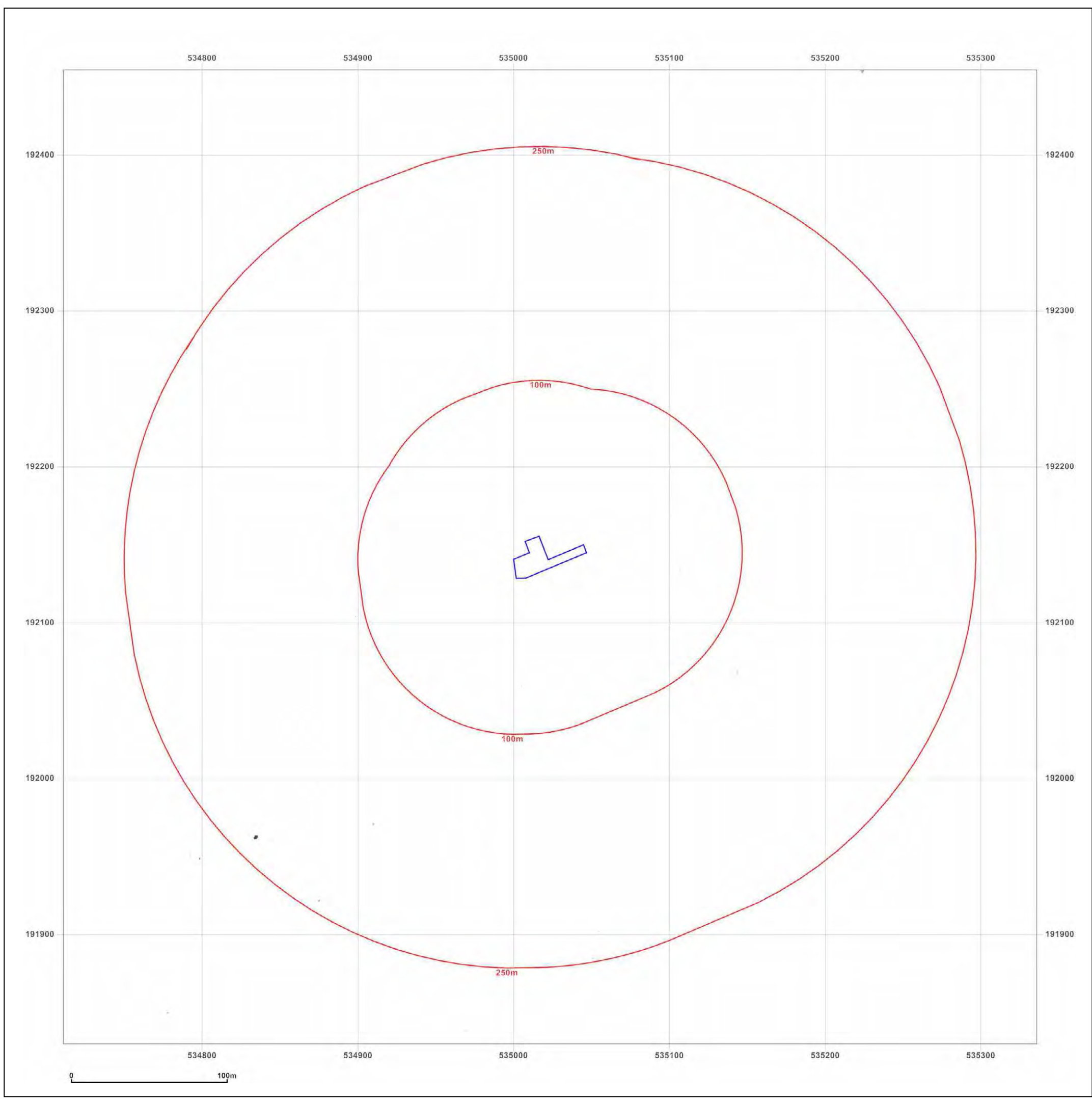


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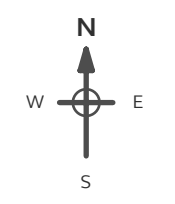
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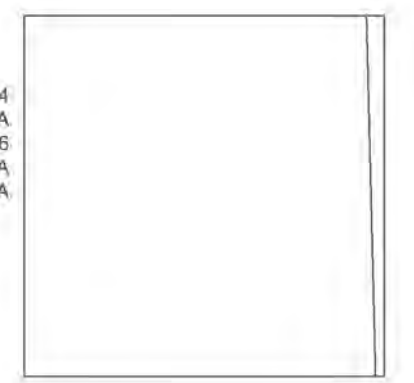
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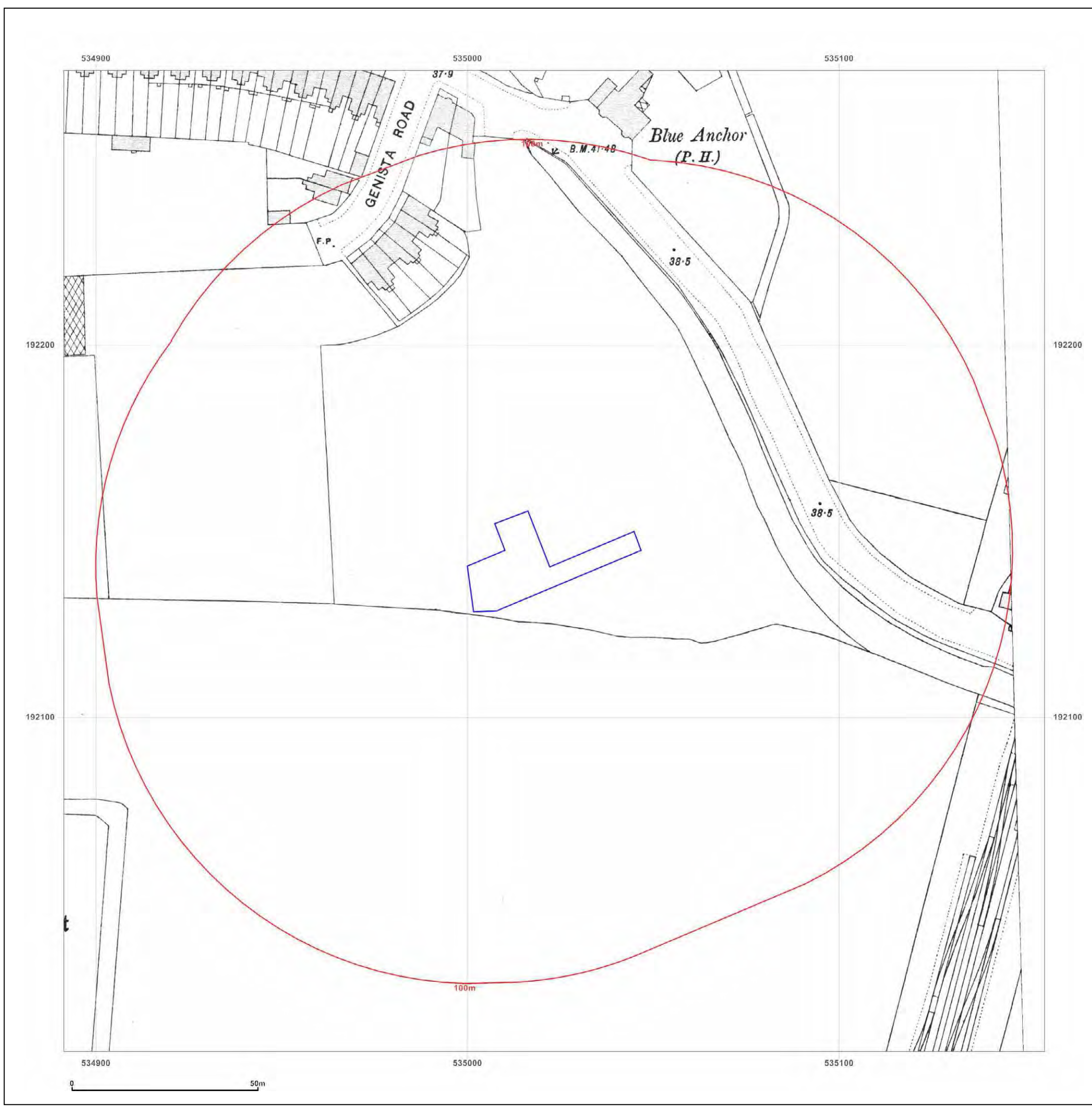


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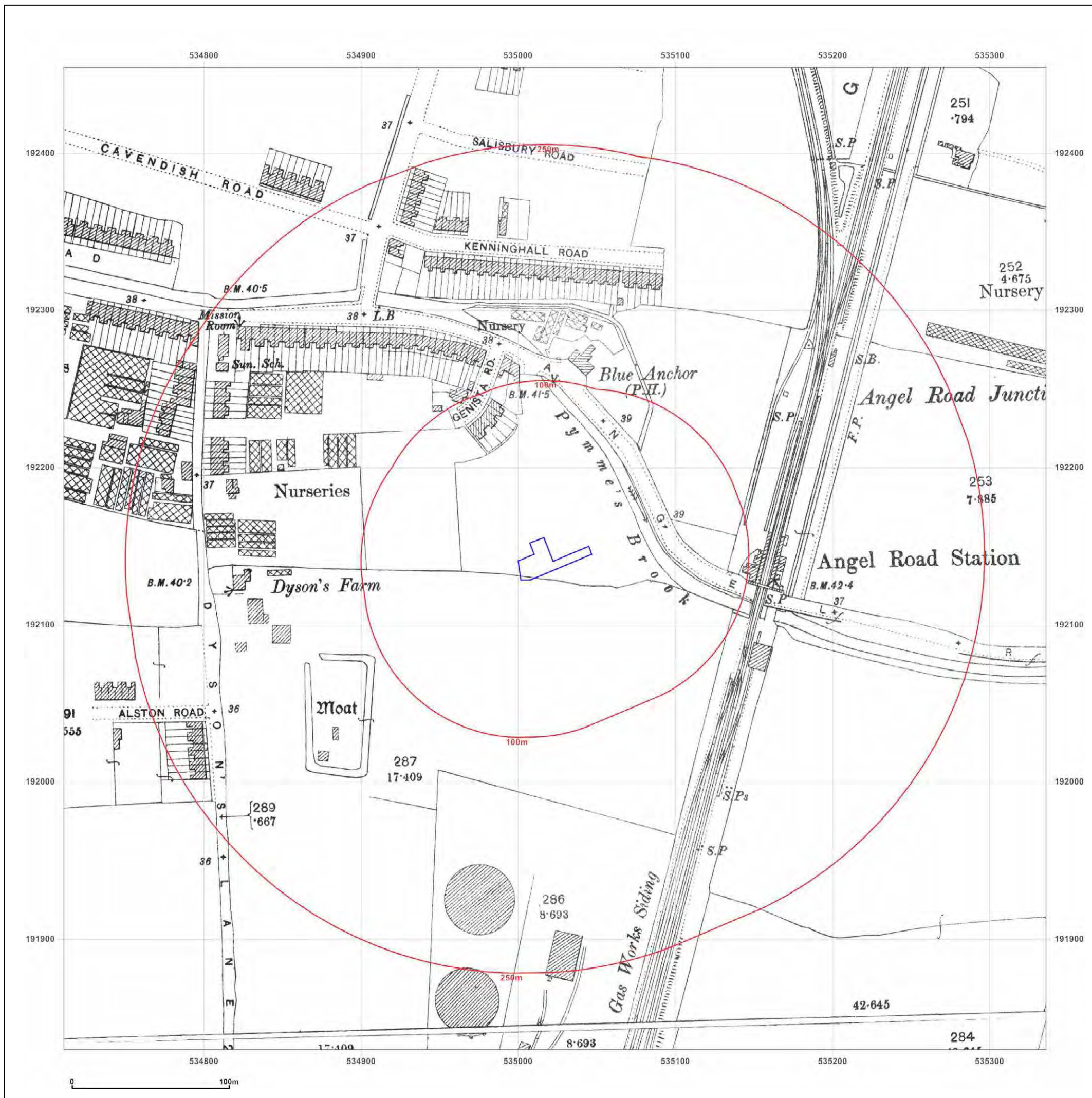


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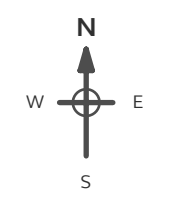
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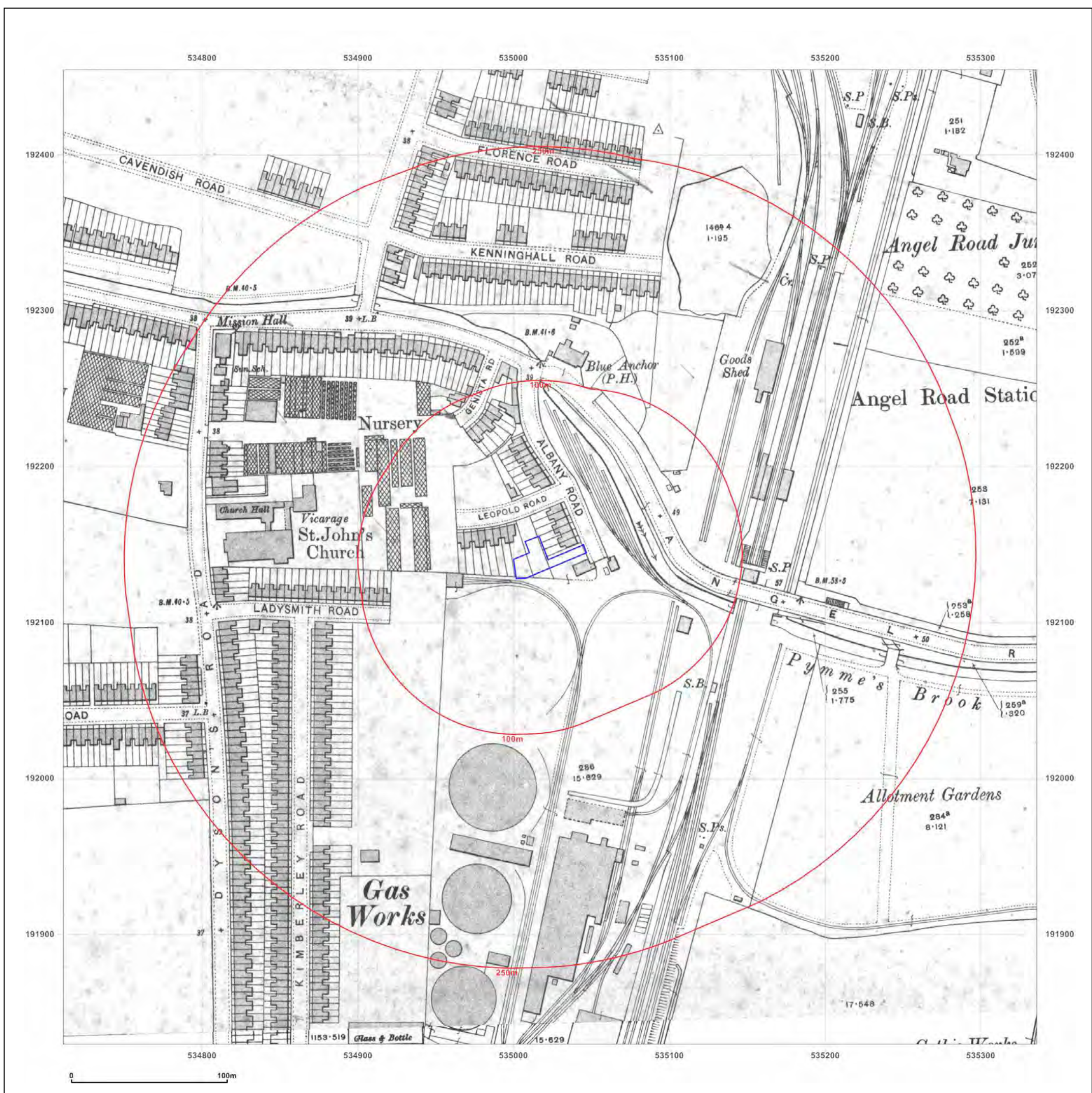


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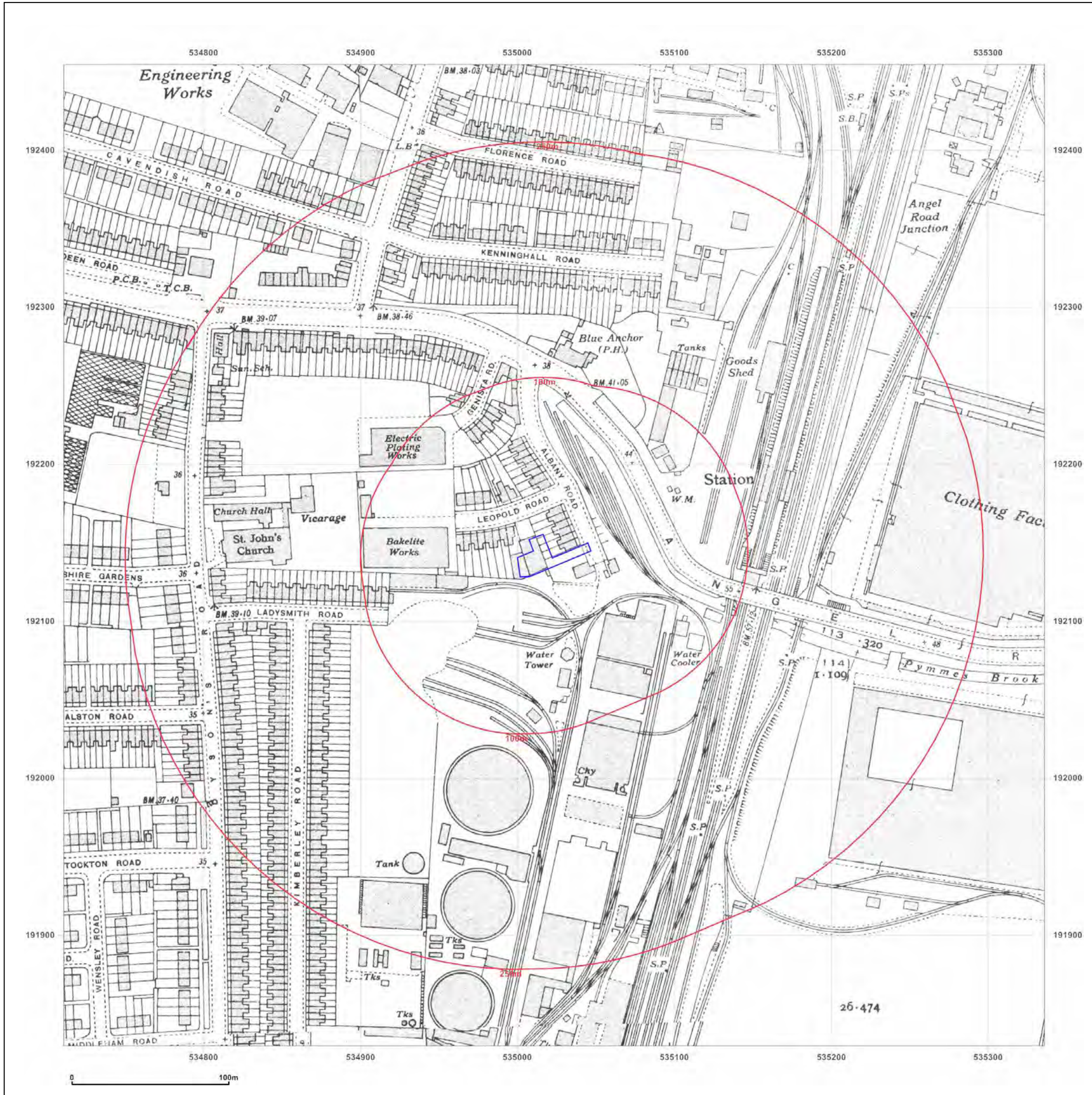


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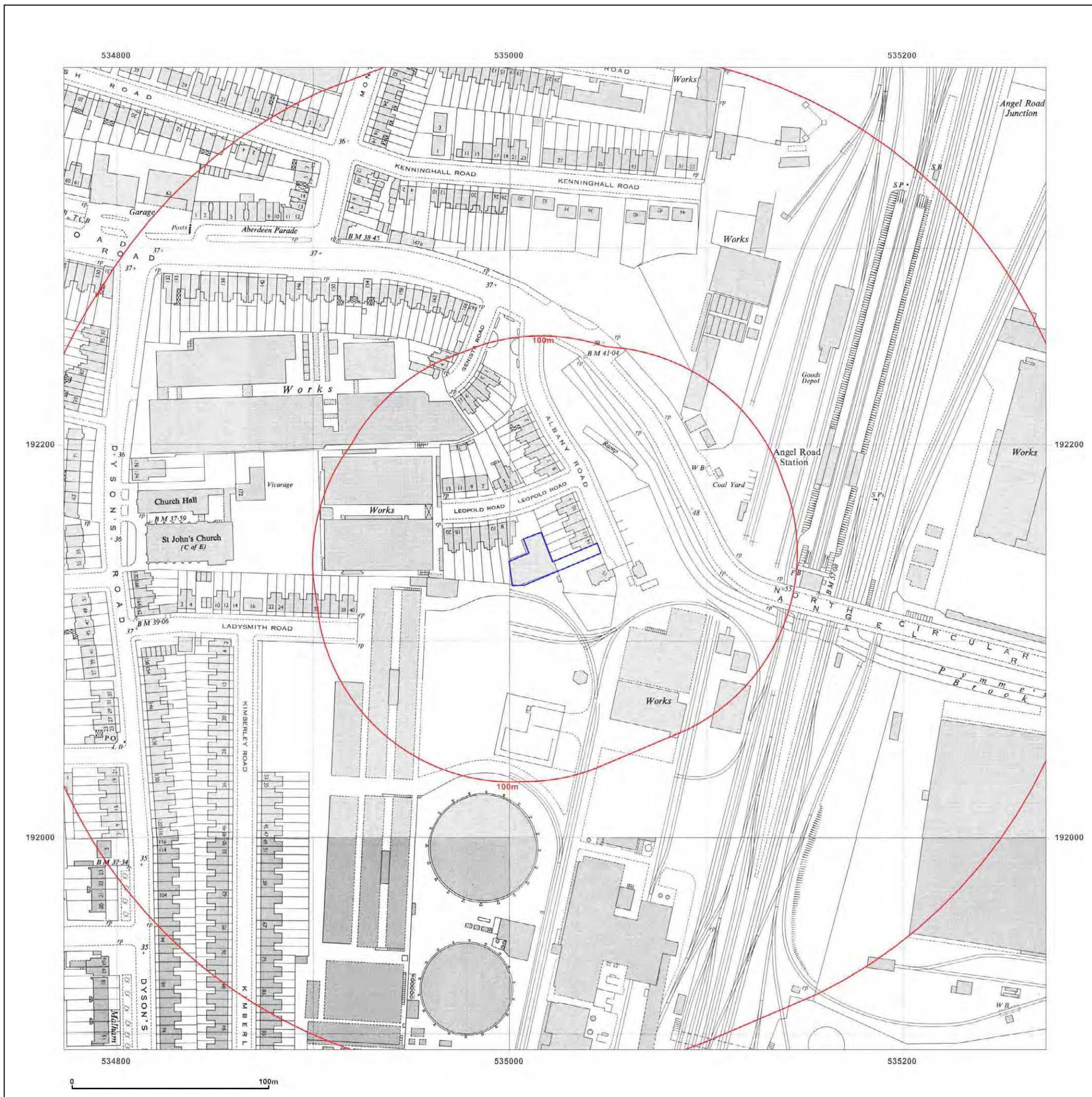


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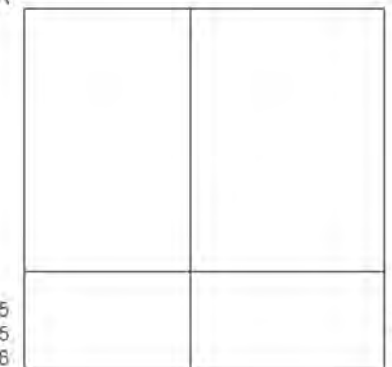
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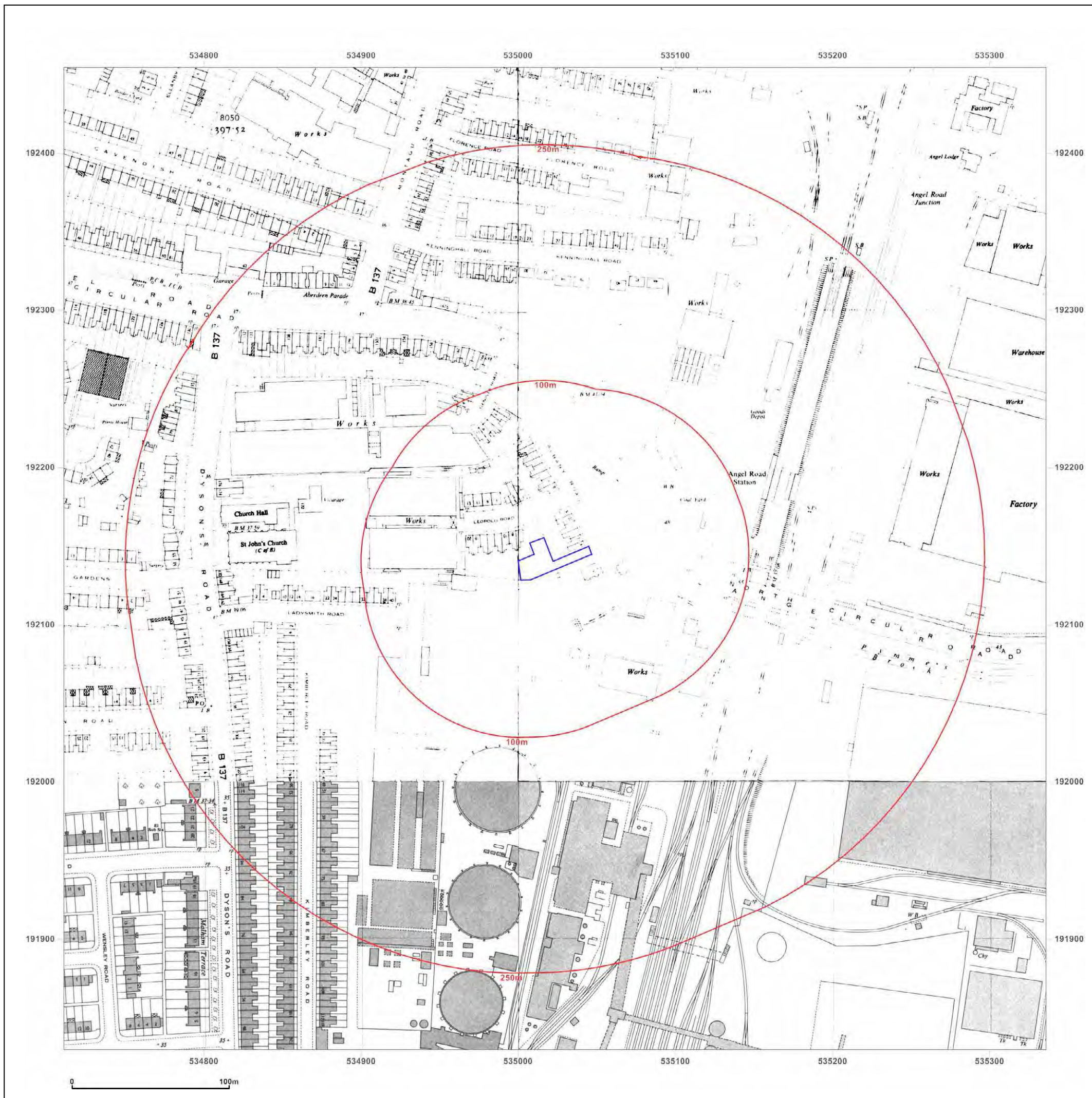


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Report Ref: GS-4021759
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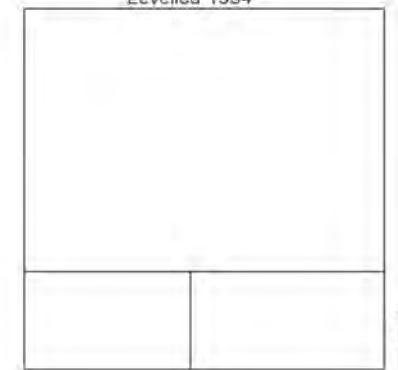
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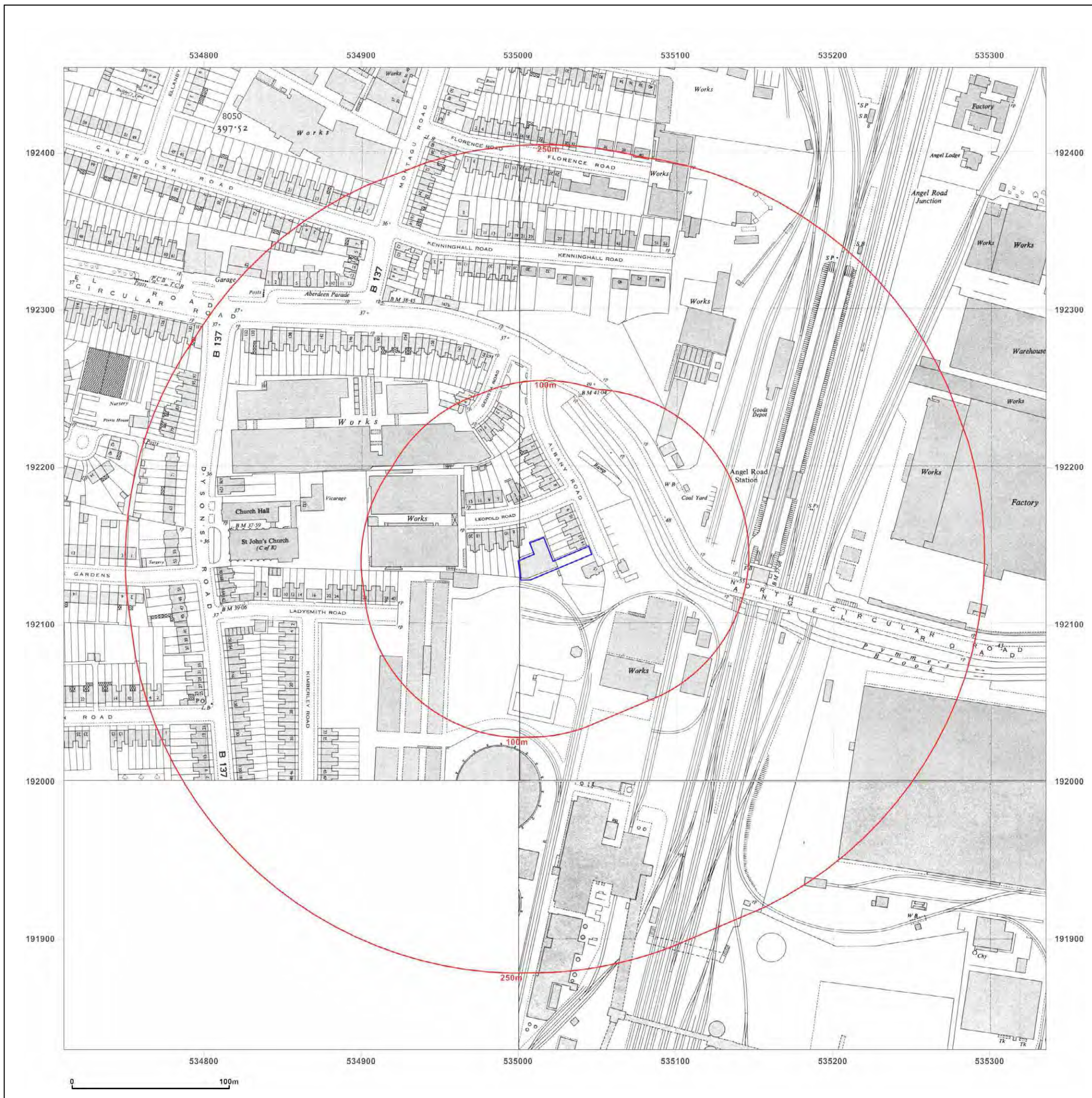


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Grid Ref: 535023, 192142

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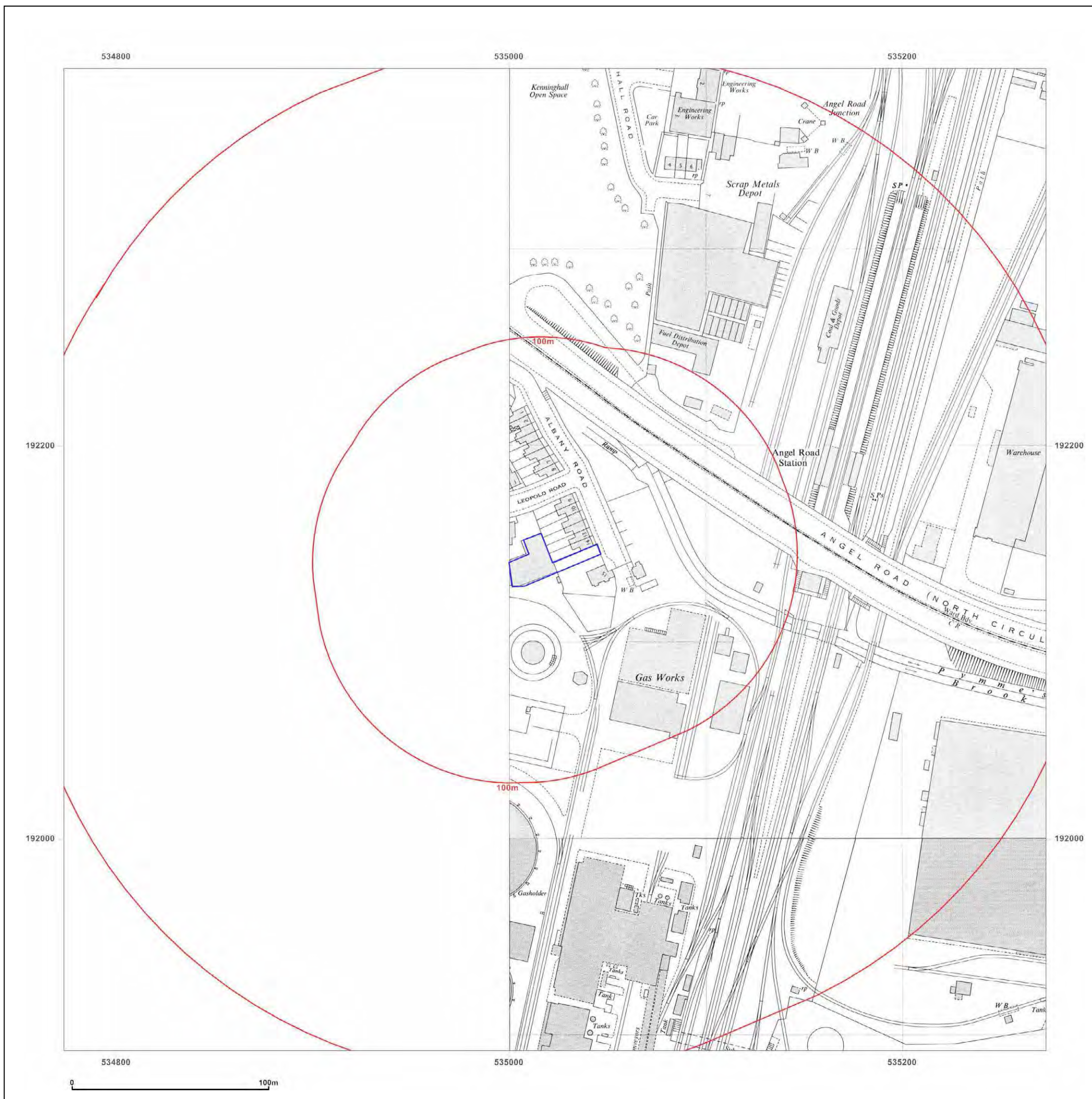


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Site Details:

ALBANY ROAD

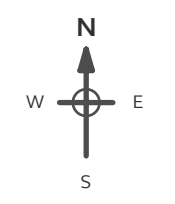
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
 Revised 1968
 Edition N/A
 Copyright 1969
 Levelled 1957

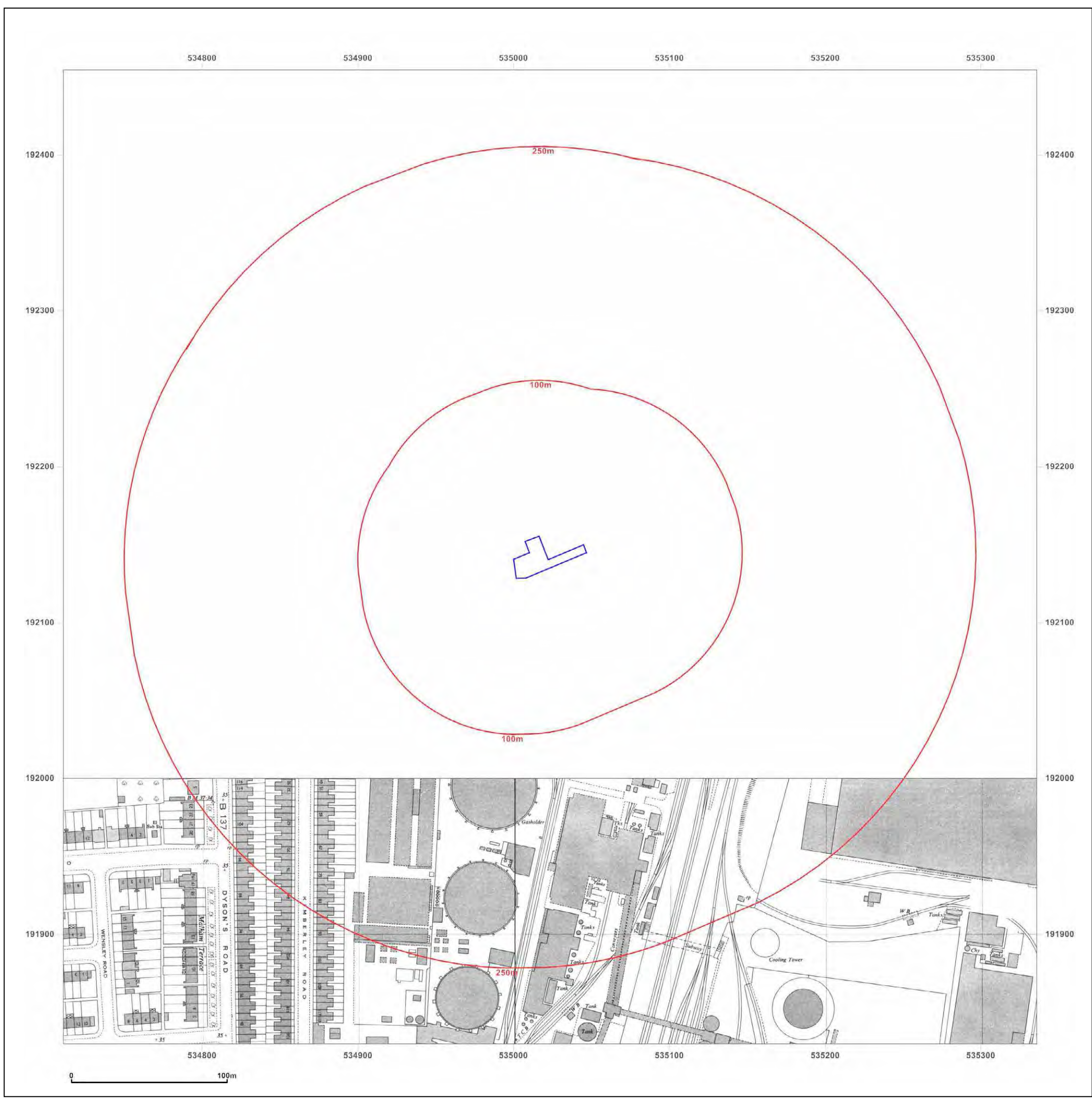


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Site Details:

ALBANY ROAD

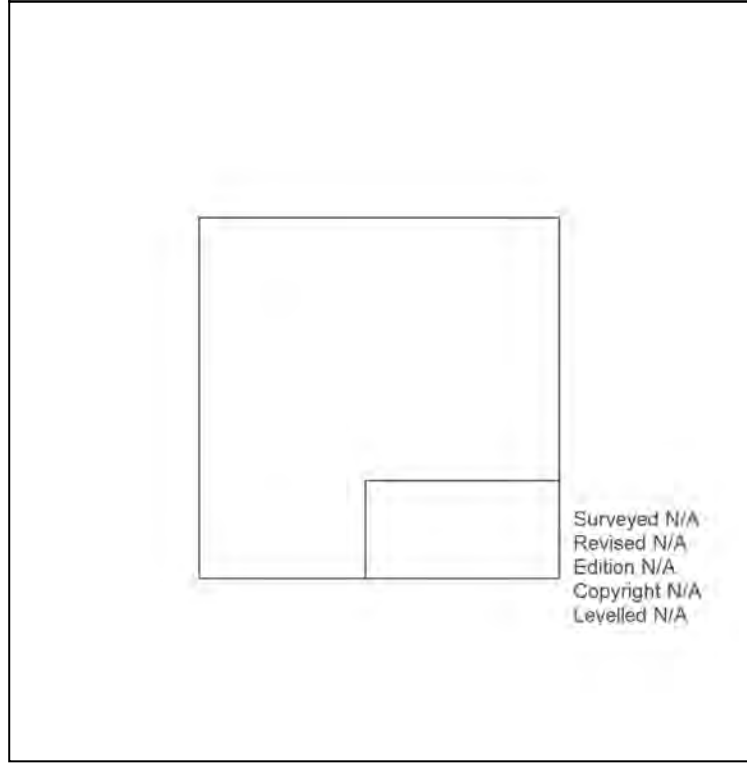
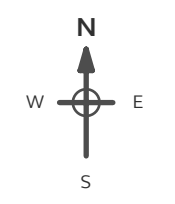
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1969

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

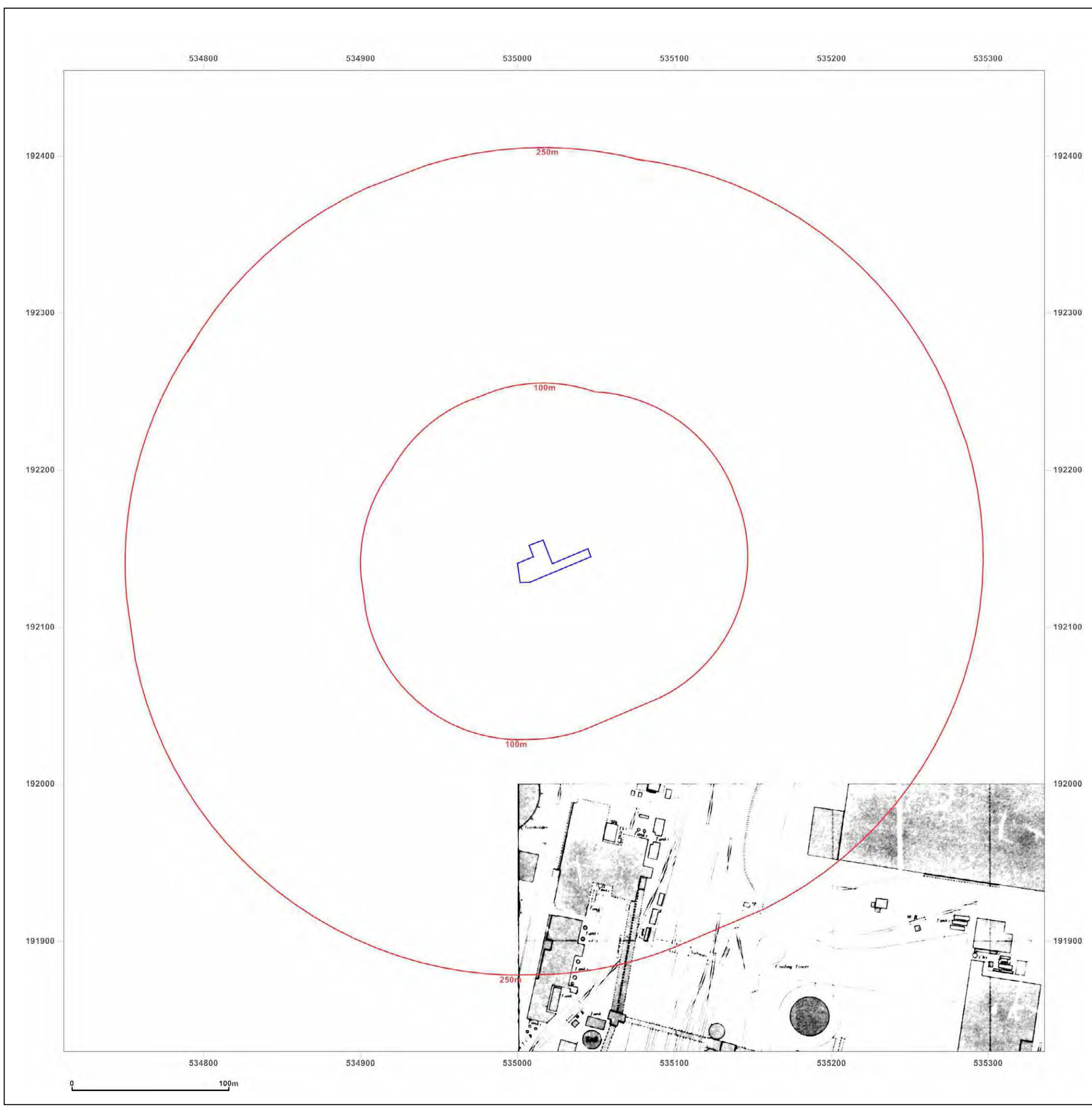


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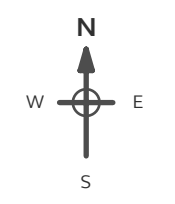
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1971-1974

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1959 Revised 1971 Edition N/A Copyright 1972 Levelled 1954	Surveyed N/A Revised N/A Edition N/A Copyright 1974 Levelled N/A
Surveyed 1955 Revised 1970 Edition N/A Copyright 1971 Levelled 1954	Surveyed N/A Revised N/A Edition N/A Copyright 1974 Levelled N/A

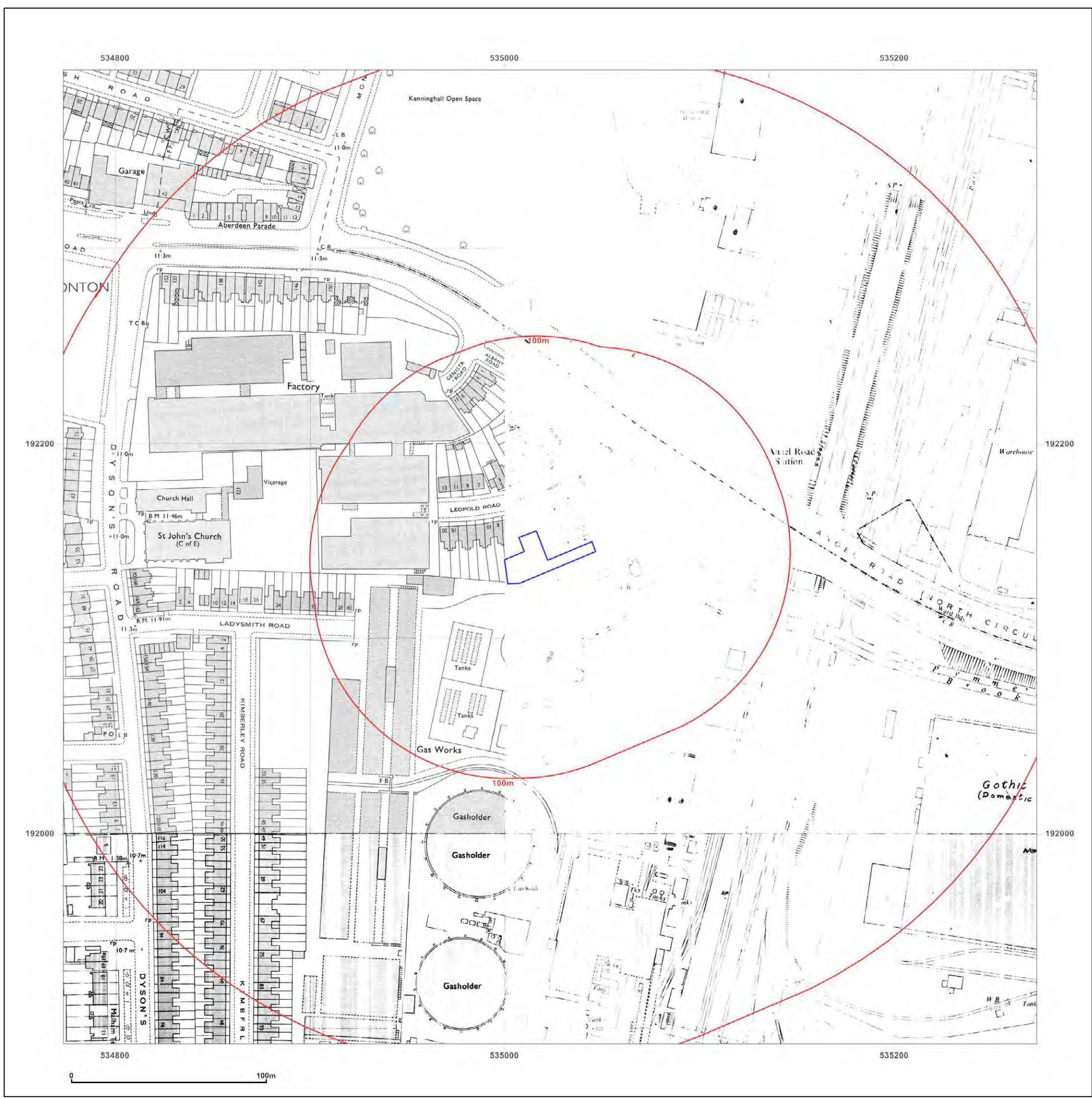


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1974-1977

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1974
 Levelled N/A

Surveyed 1959
 Revised 1975
 Edition N/A
 Copyright 1974
 Levelled 1954

Surveyed 1956
 Revised 1975
 Edition N/A
 Copyright 1977
 Levelled 1954



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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1987-1991

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A	Surveyed 1976 Revised 1987 Edition N/A Copyright 1987 Levelled 1976

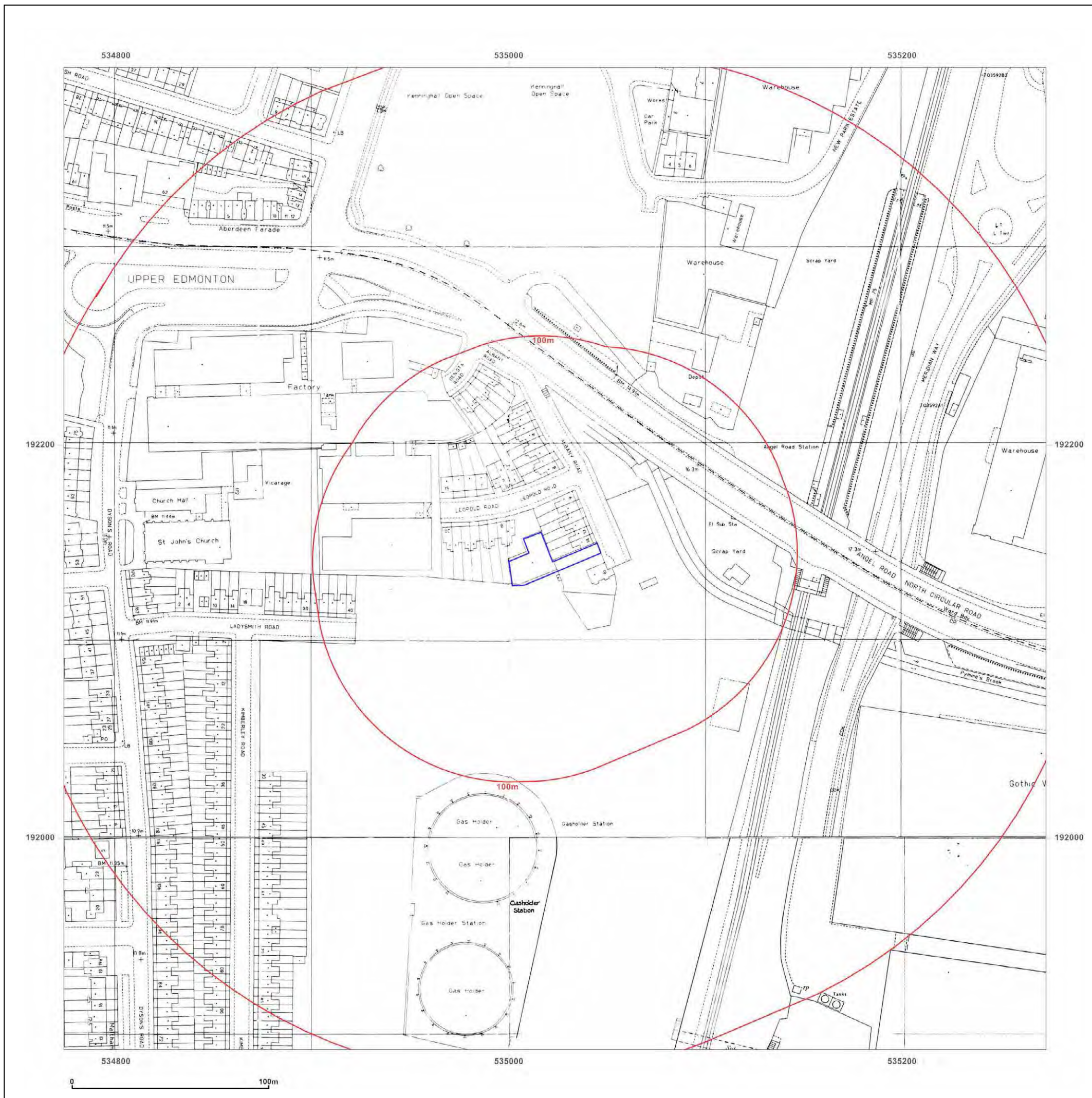


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Site Details:

ALBANY ROAD

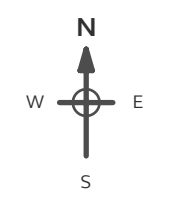
Client Ref: PO0067007-1
 Report Ref: GS-4021759
 Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993	Revised 1993	Edition N/A	Copyright N/A	Levelled N/A
Surveyed N/A	Revised N/A	Edition N/A	Copyright 1993	Levelled N/A

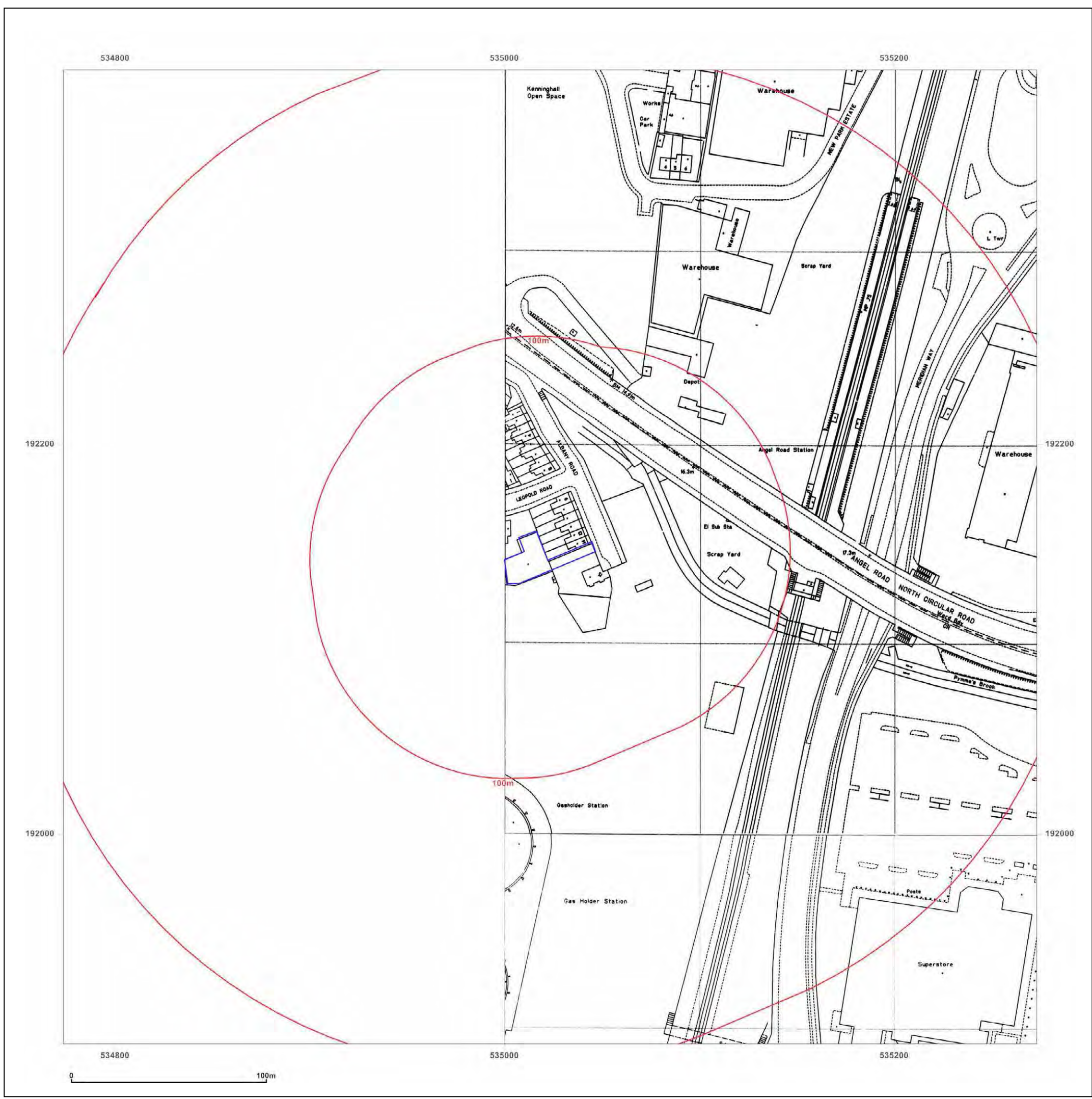


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1991-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed 1959 Revised 1975 Edition N/A Copyright 1991 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled N/A

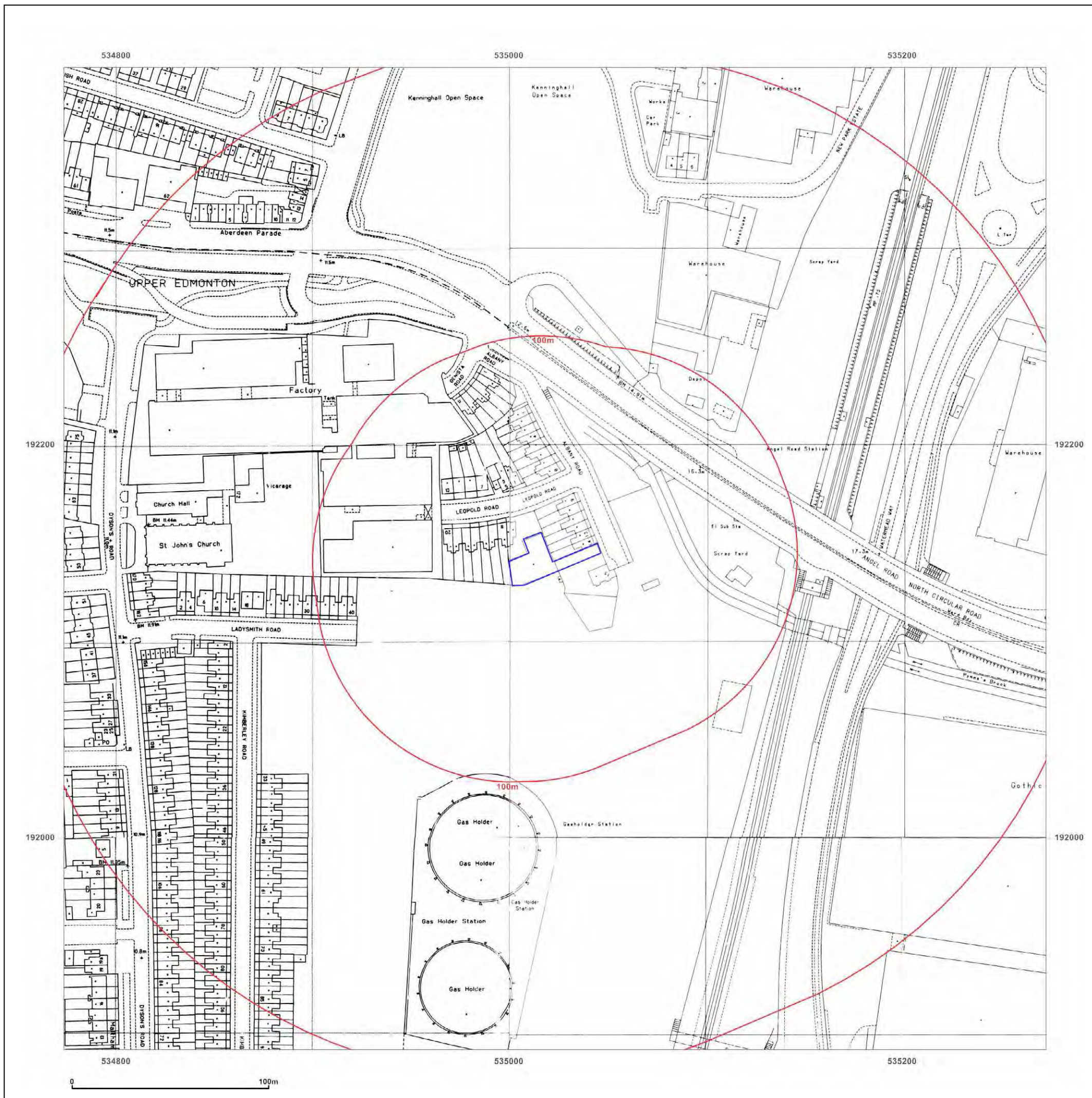


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1991-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
Surveyed N/A Revised 1994 Edition N/A Copyright 1994 Levelled N/A	Surveyed 1956 Revised 1966 Edition N/A Copyright 1991 Levelled N/A

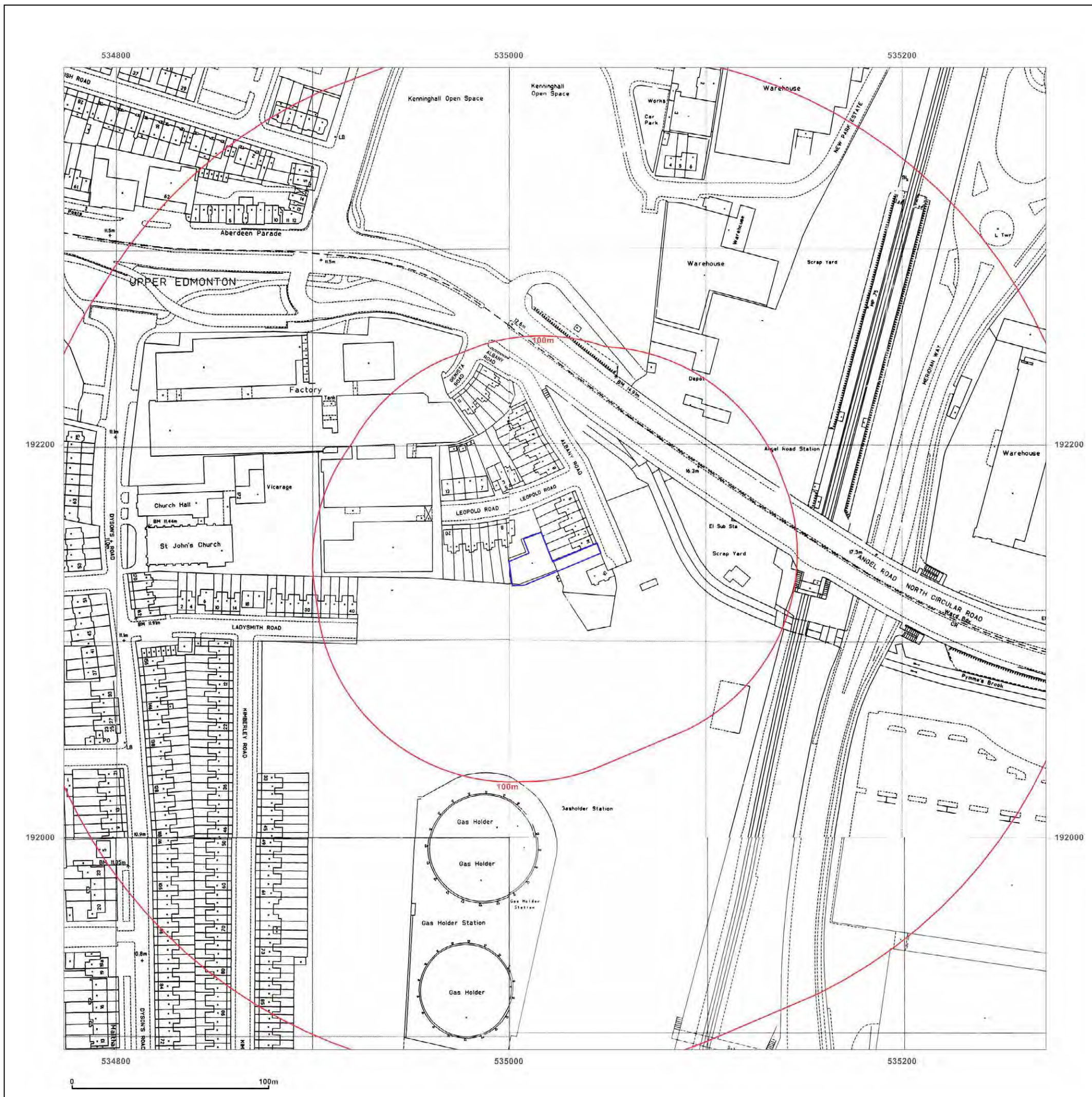


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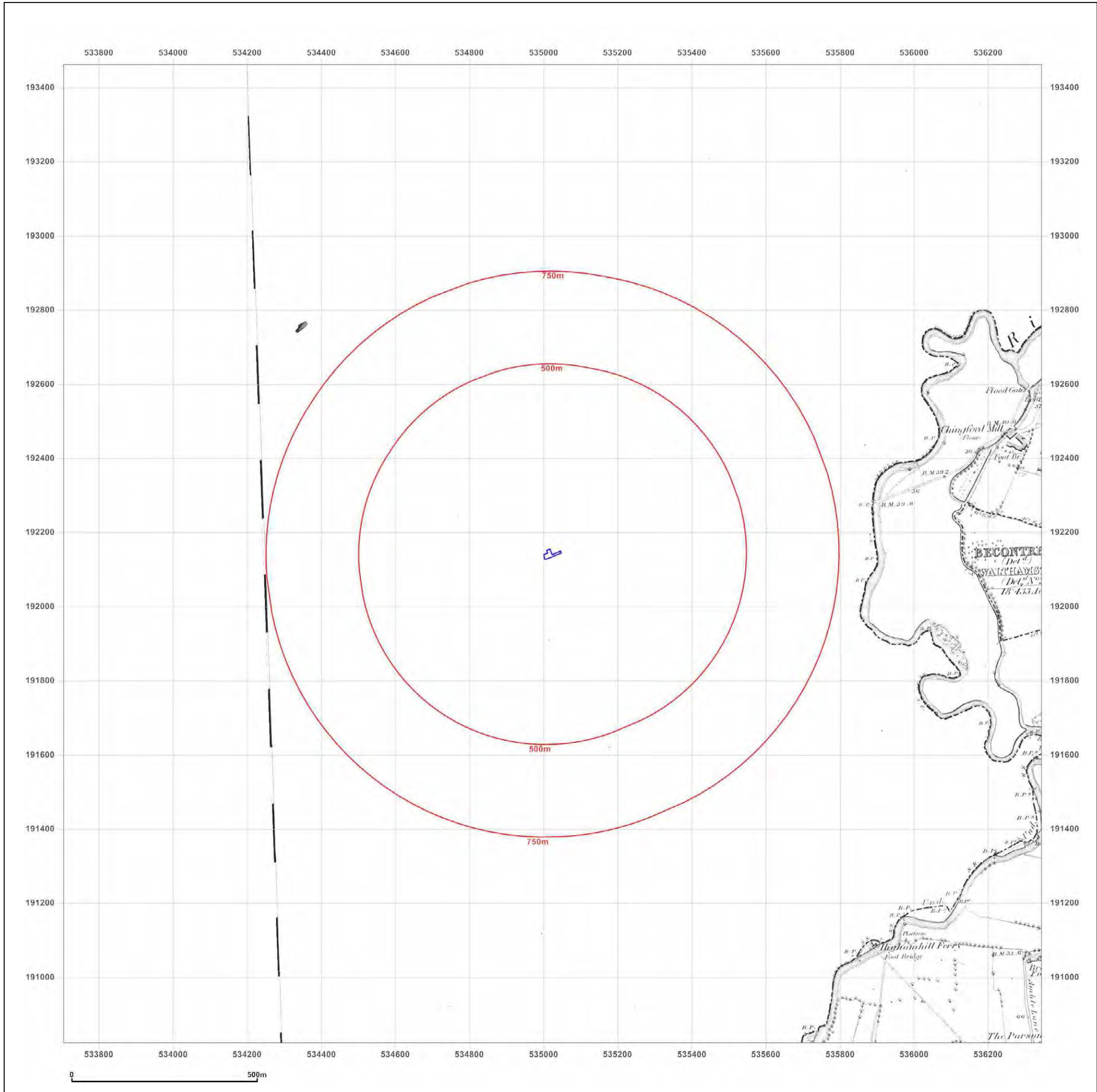
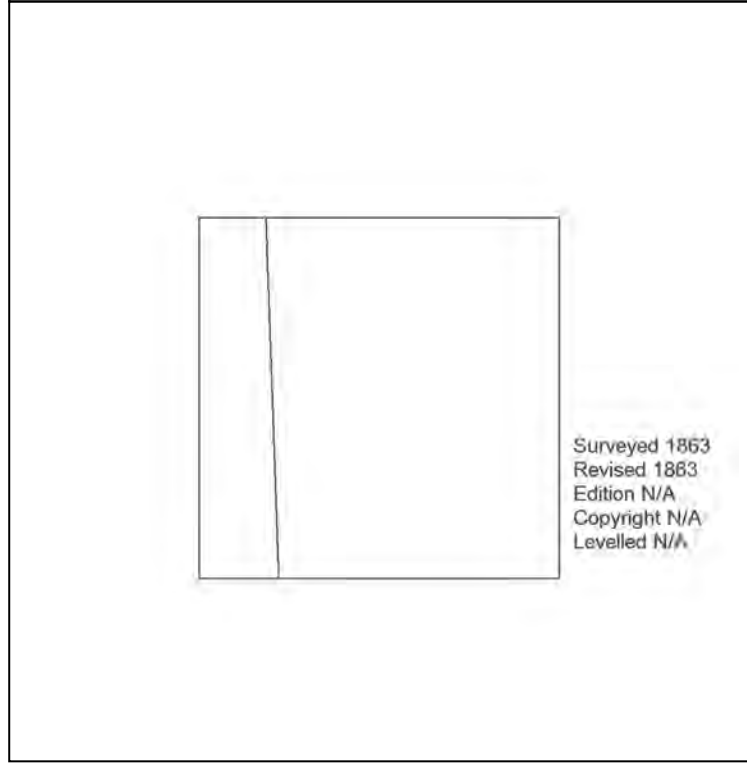
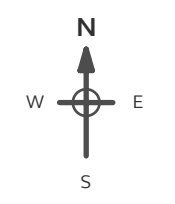
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1863

Scale: 1:10,560

Printed at: 1:10,560

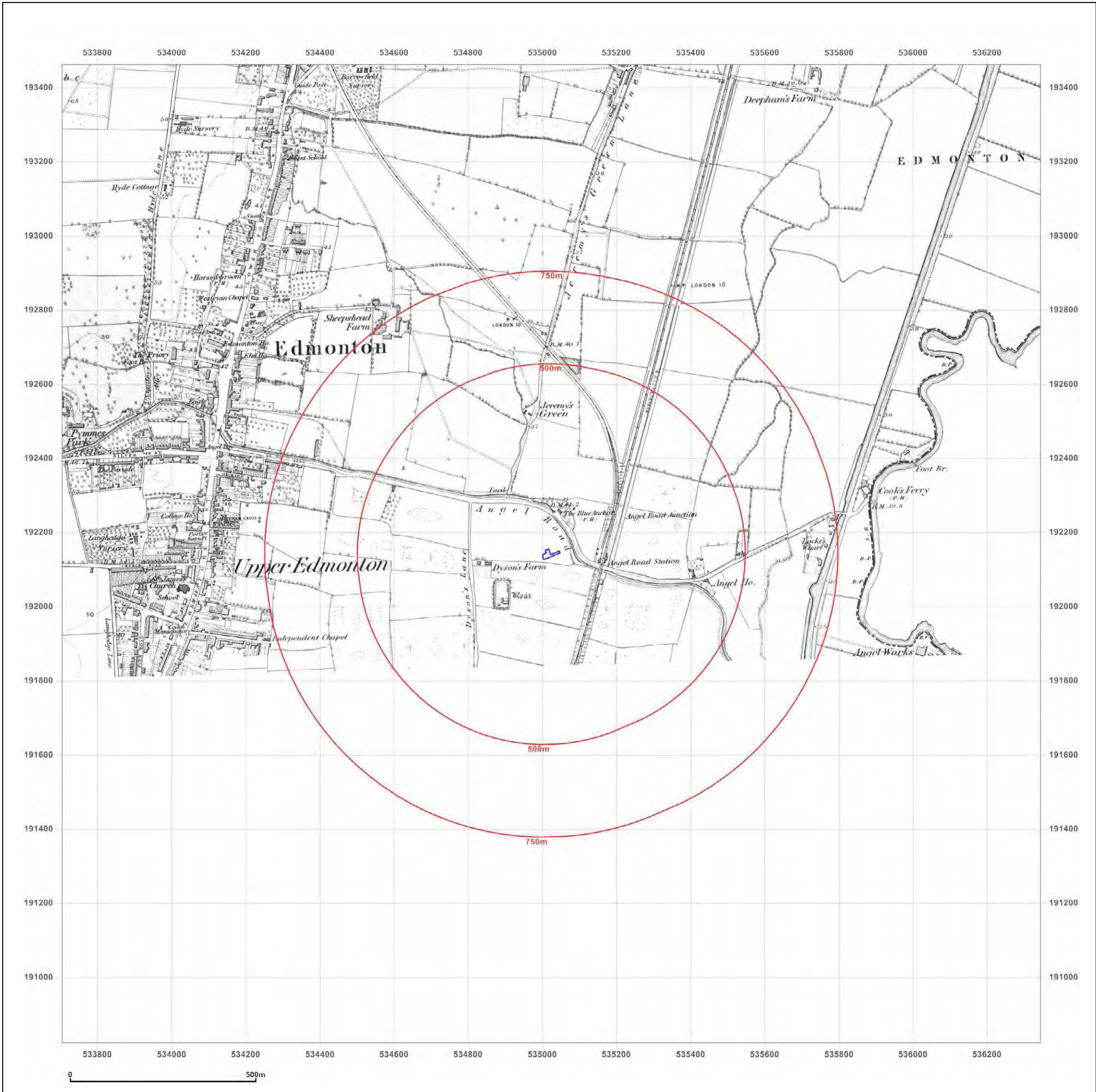


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
 Report Ref: GS-4021759
 Grid Ref: 535023, 192142

Map Name: County Series

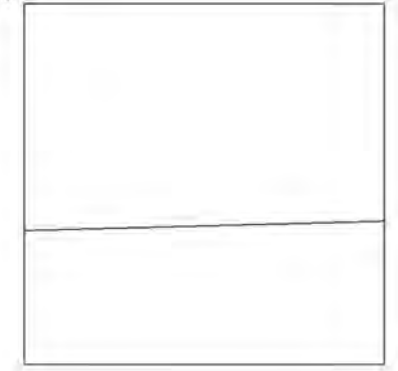
Map date: 1864

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1864
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

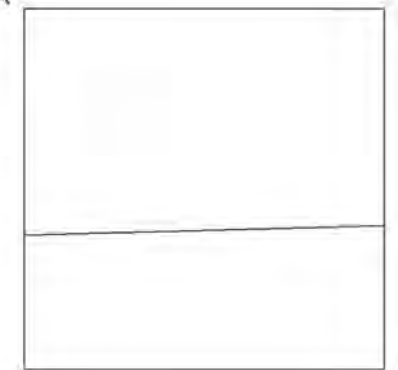
Map date: 1872

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1866
 Revised 1866
 Edition 1872
 Copyright N/A
 Levelled N/A

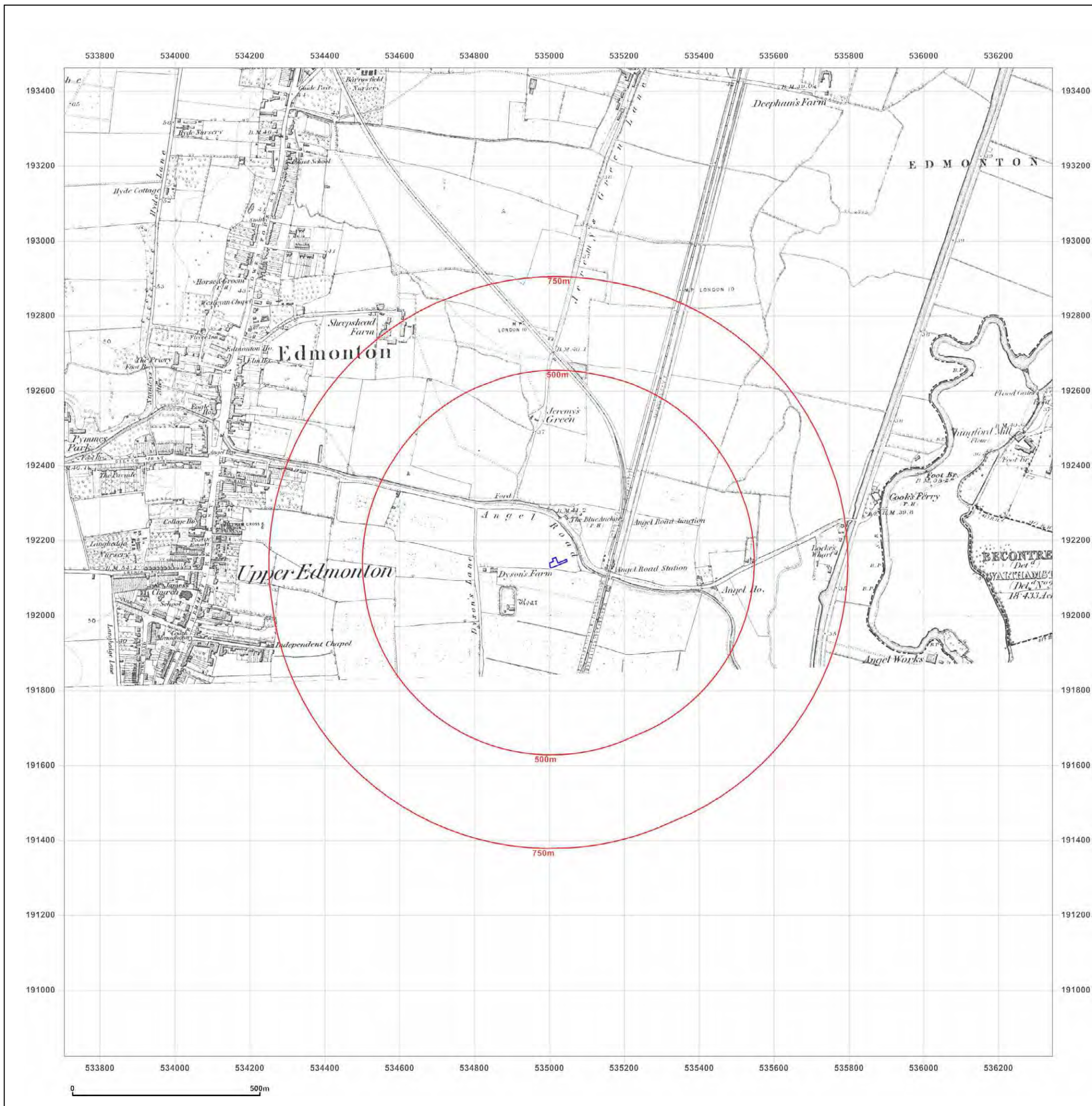


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

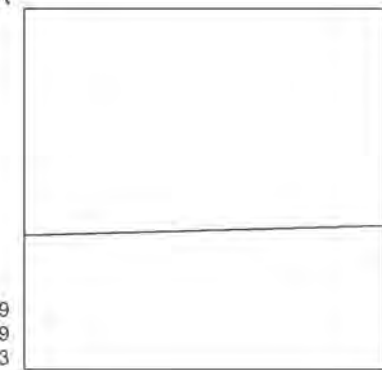
Map date: 1872-1873

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1864
 Edition 1872
 Copyright N/A
 Levelled N/A



Surveyed 1869
 Revised 1869
 Edition 1873
 Copyright N/A
 Levelled N/A

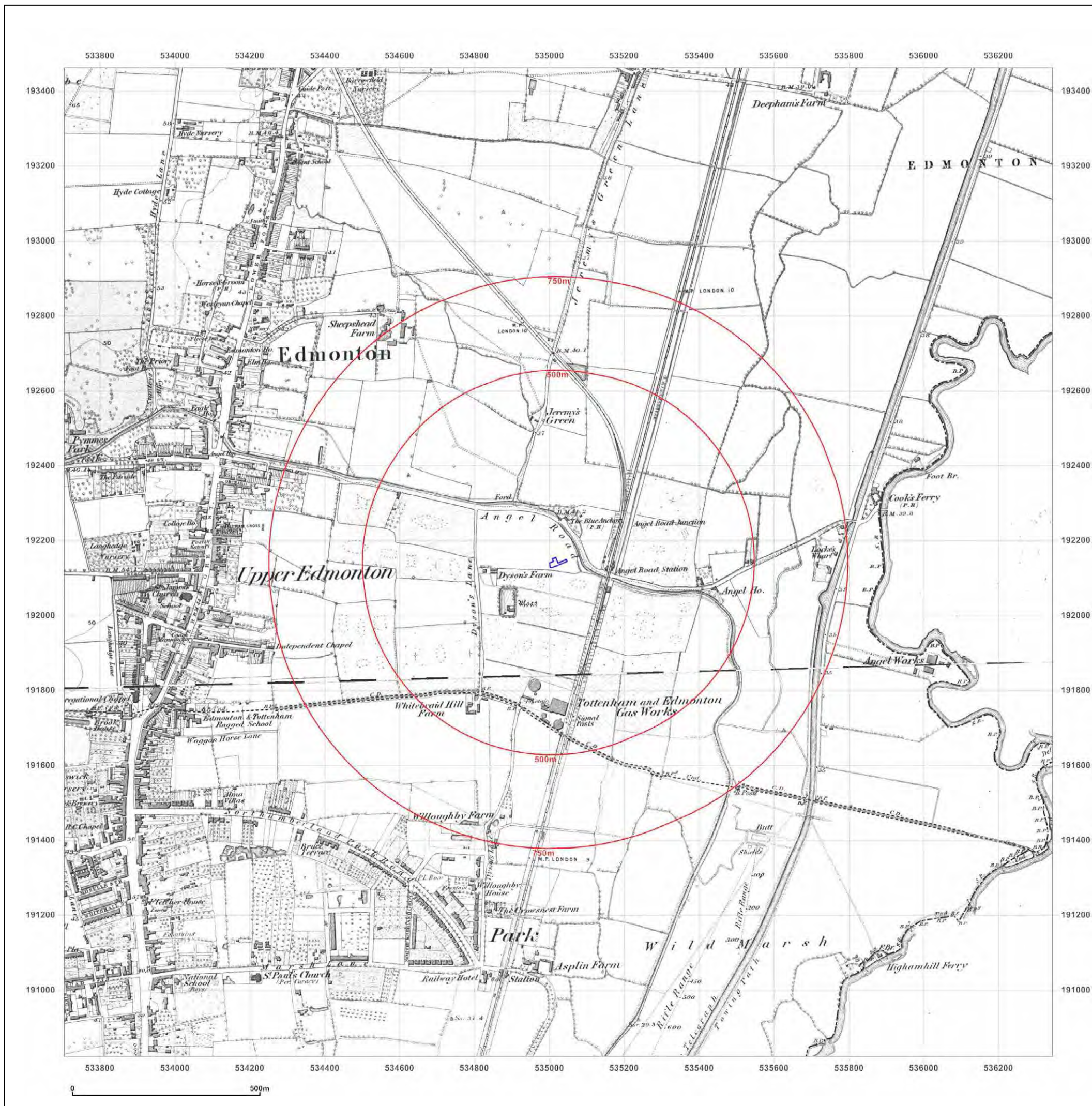


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1879

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1879
 Revised 1879
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1894

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1894
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1894
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A

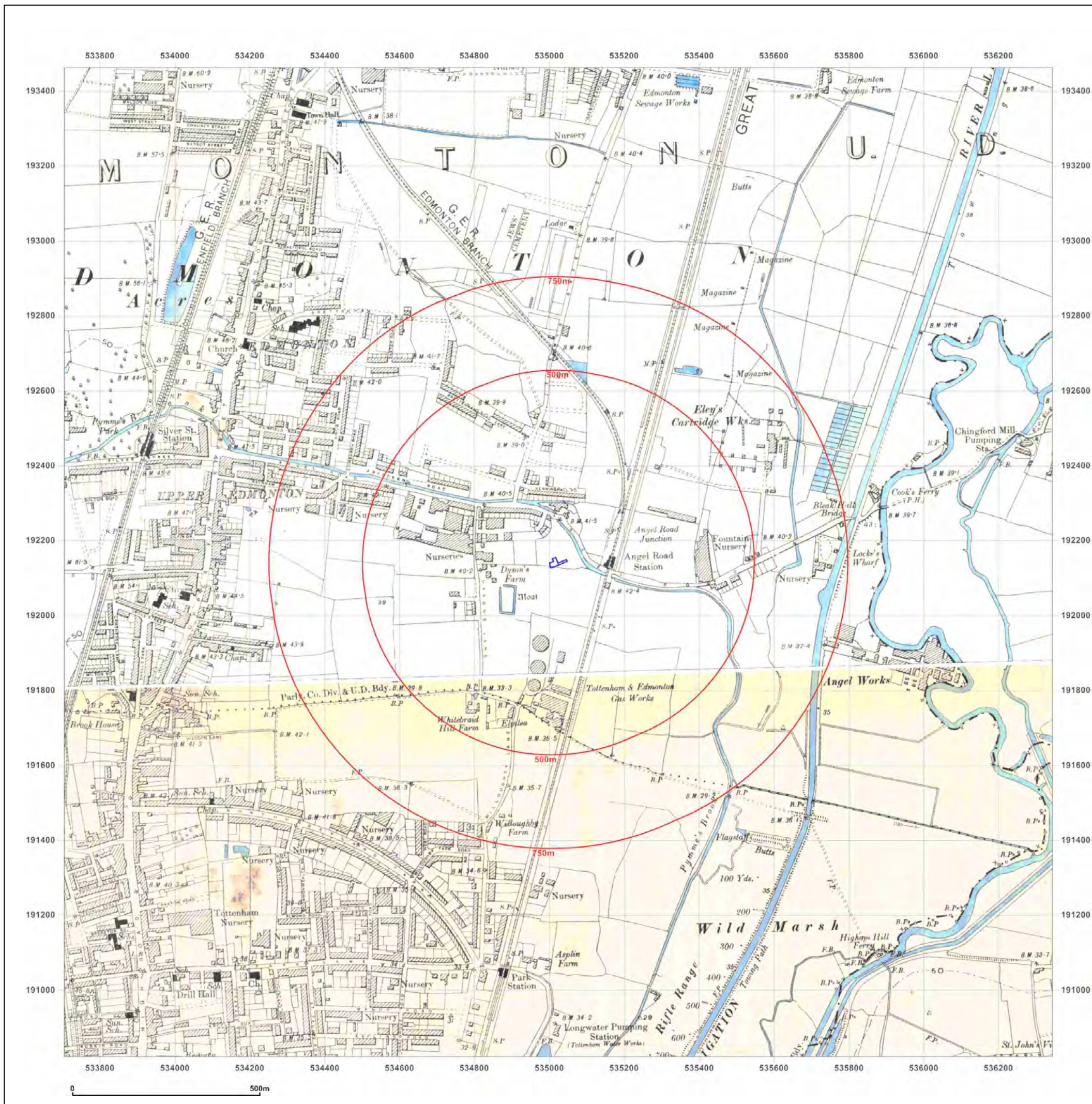


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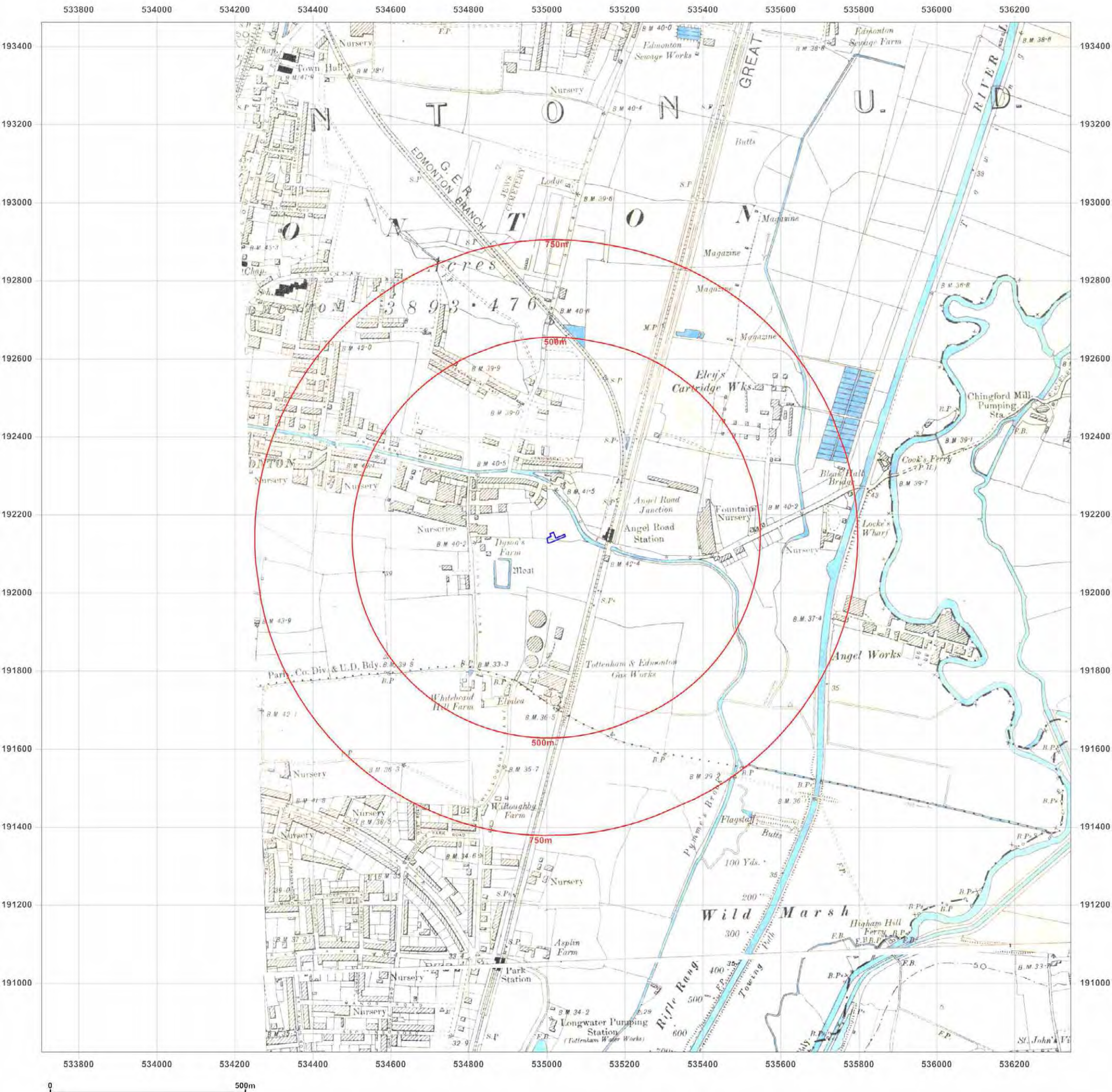
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1894

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1863
 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A



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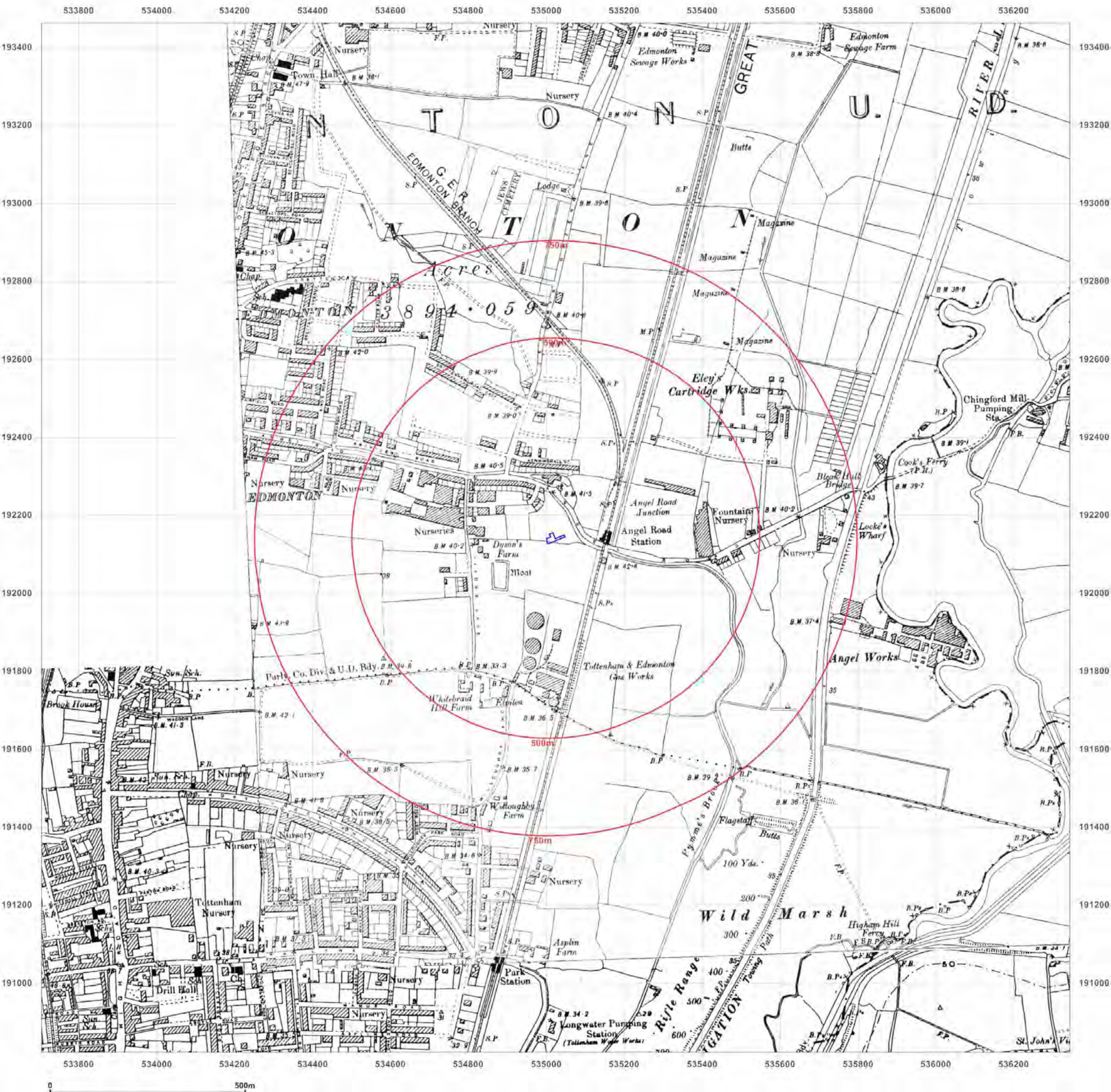
Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1896-1897

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1863
 Revised 1897
 Edition 1897
 Copyright N/A
 Levelled N/A

Surveyed 1894
 Revised 1894
 Edition 1896
 Copyright N/A
 Levelled N/A



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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1920

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1869
 Revised 1919
 Edition 1920
 Copyright N/A
 Levelled 1912

Surveyed 1869
 Revised 1919
 Edition 1920
 Copyright N/A
 Levelled 1913

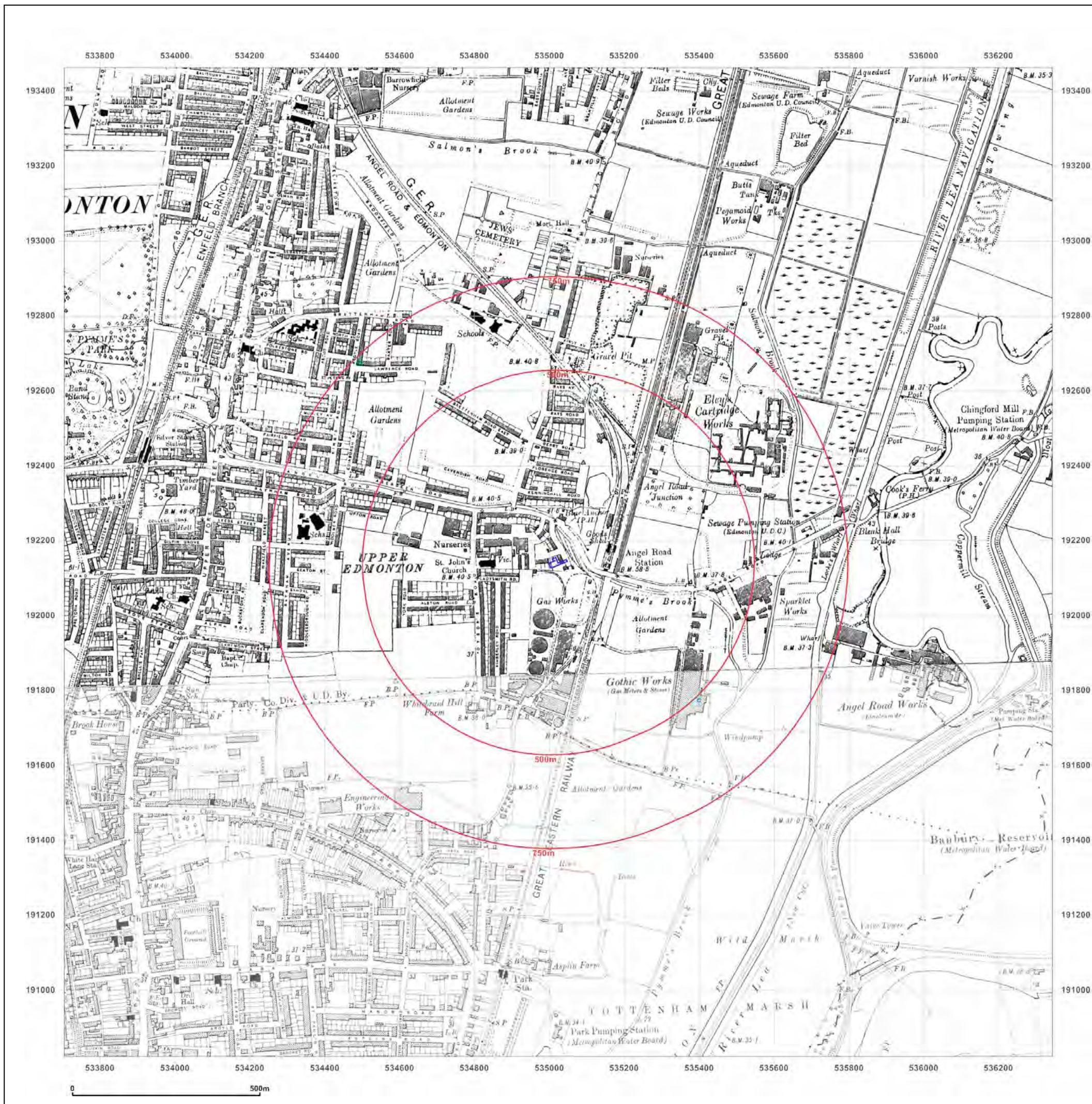


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1920

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1969
 Revised 1919
 Edition 1920
 Copyright N/A
 Levelled 1912

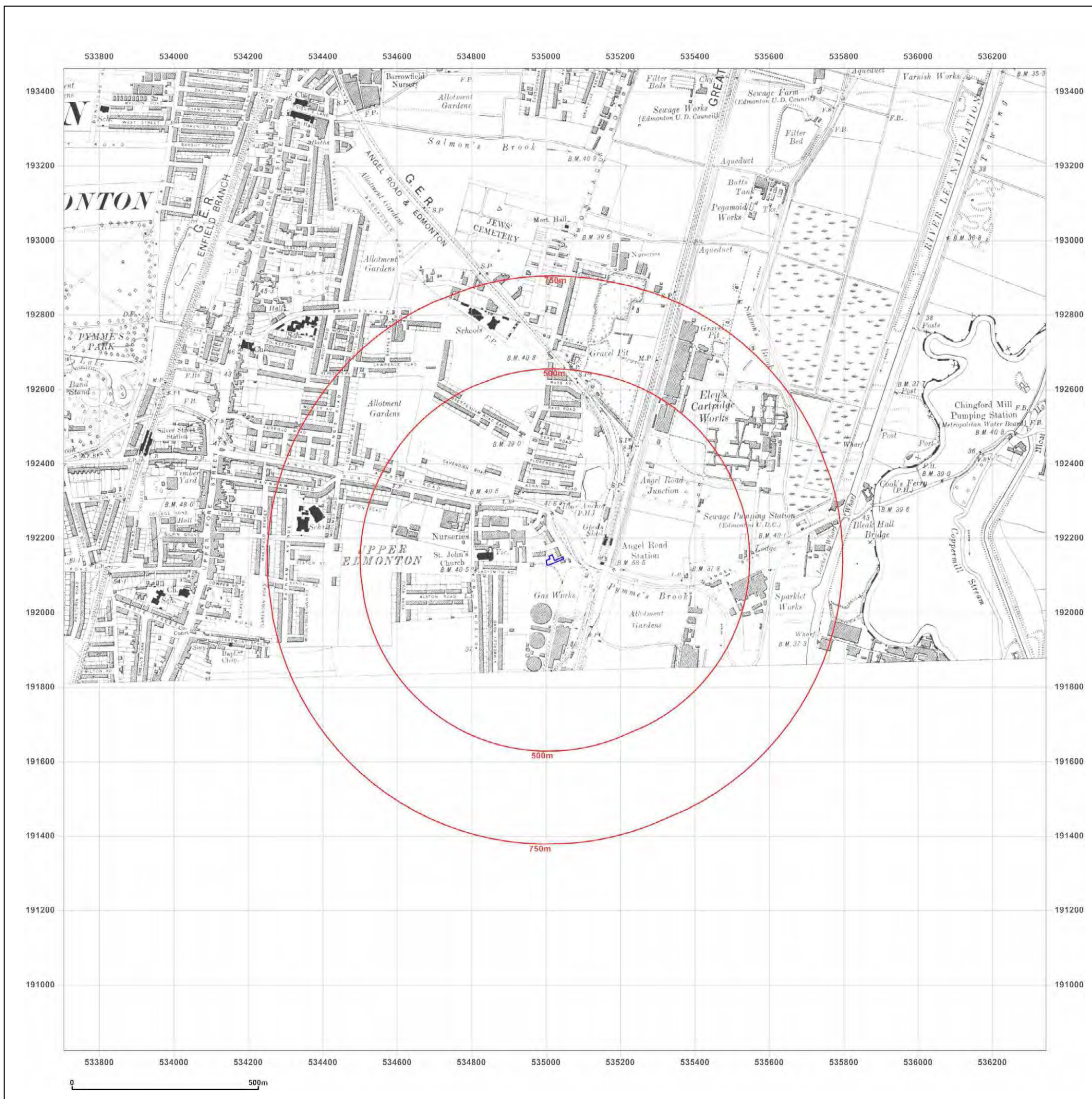


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

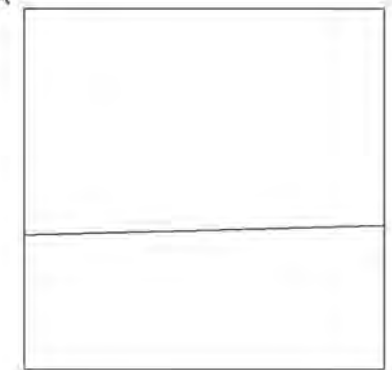
Map date: 1920

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1866
 Revised 1920
 Edition N/A
 Copyright N/A
 Levelled N/A

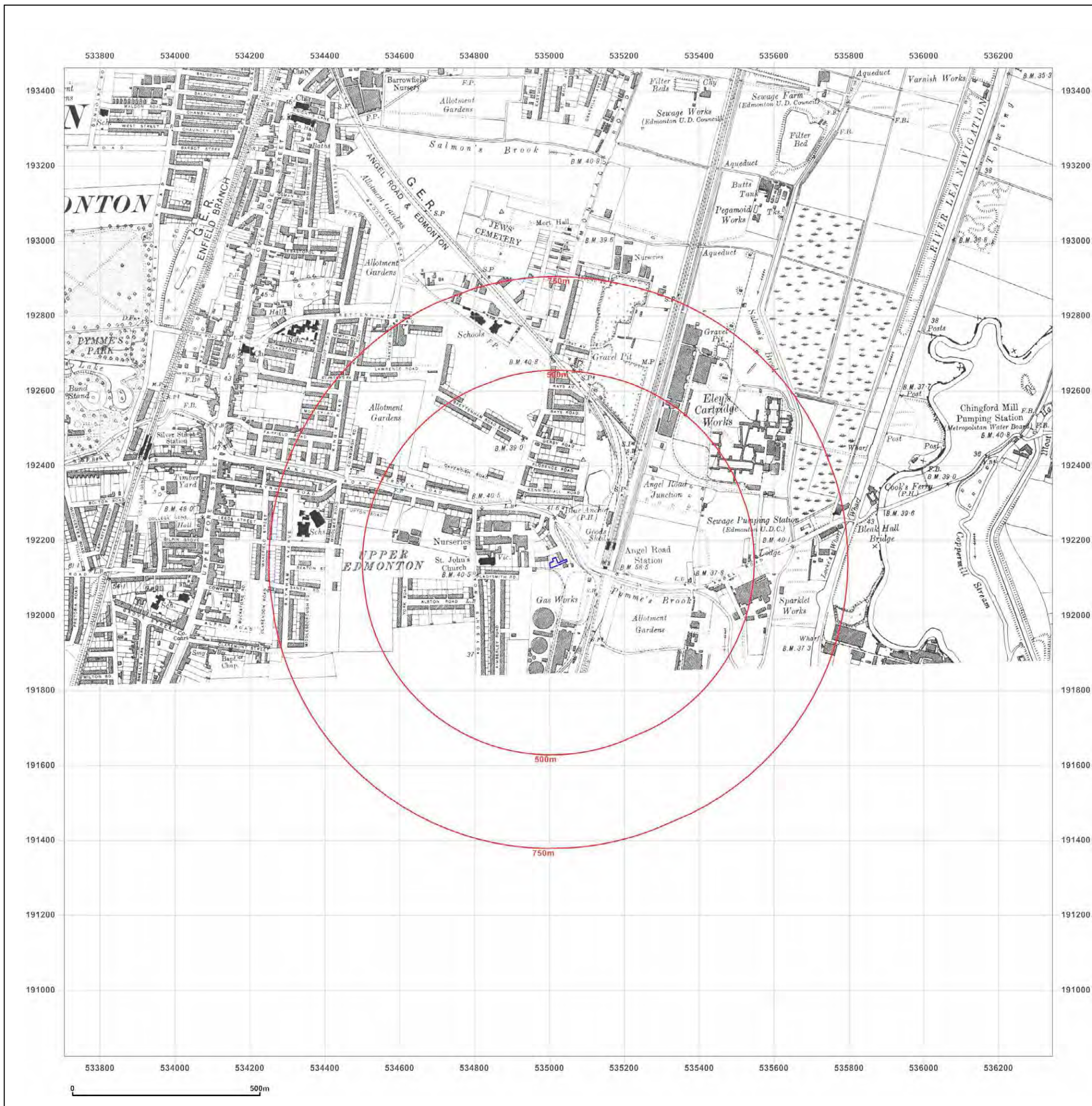


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
 Report Ref: GS-4021759
 Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1869
 Revised 1938
 Edition N/A
 Copyright 1938
 Levelled 1933

Surveyed 1869
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A

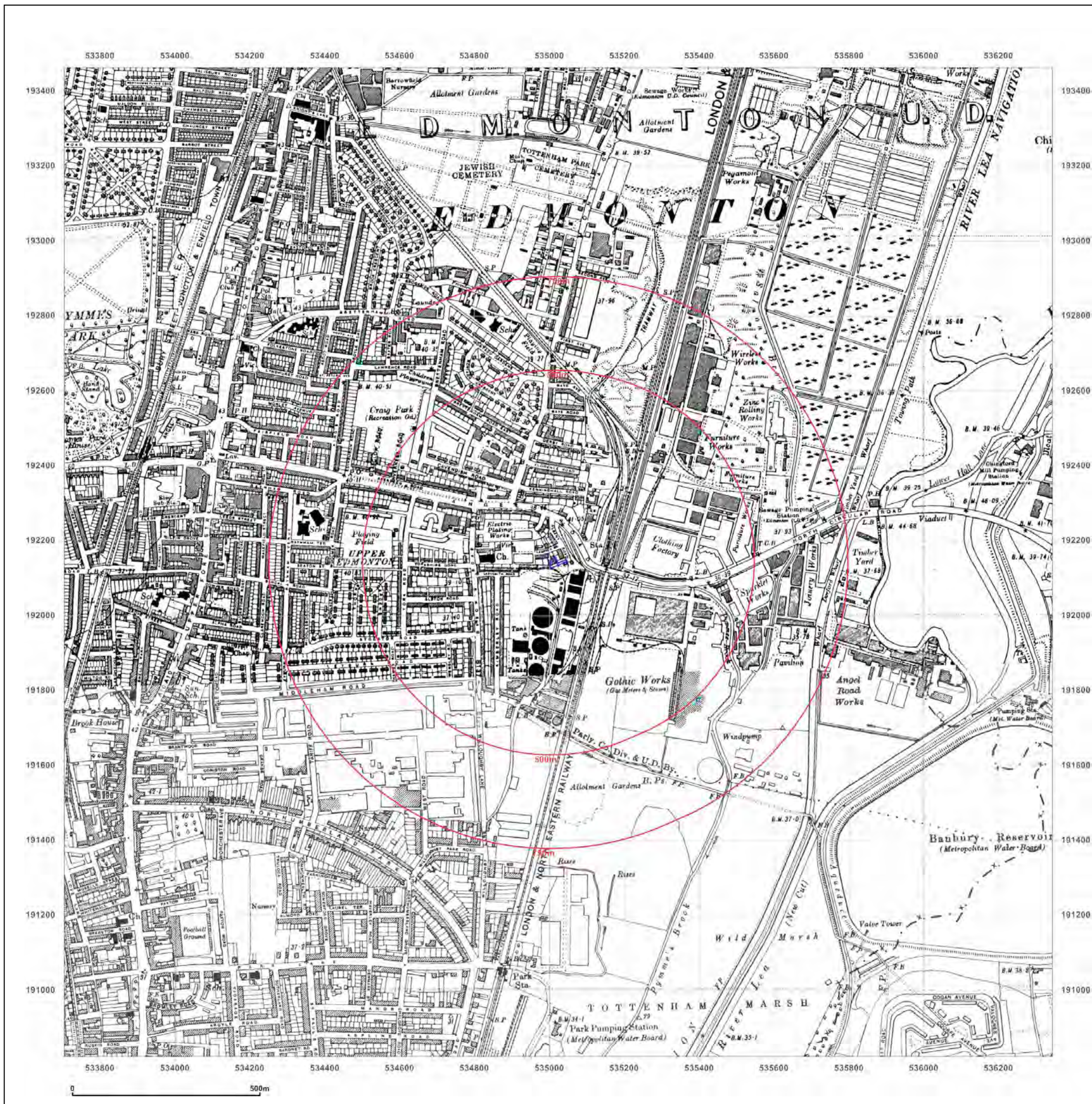


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1869
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A

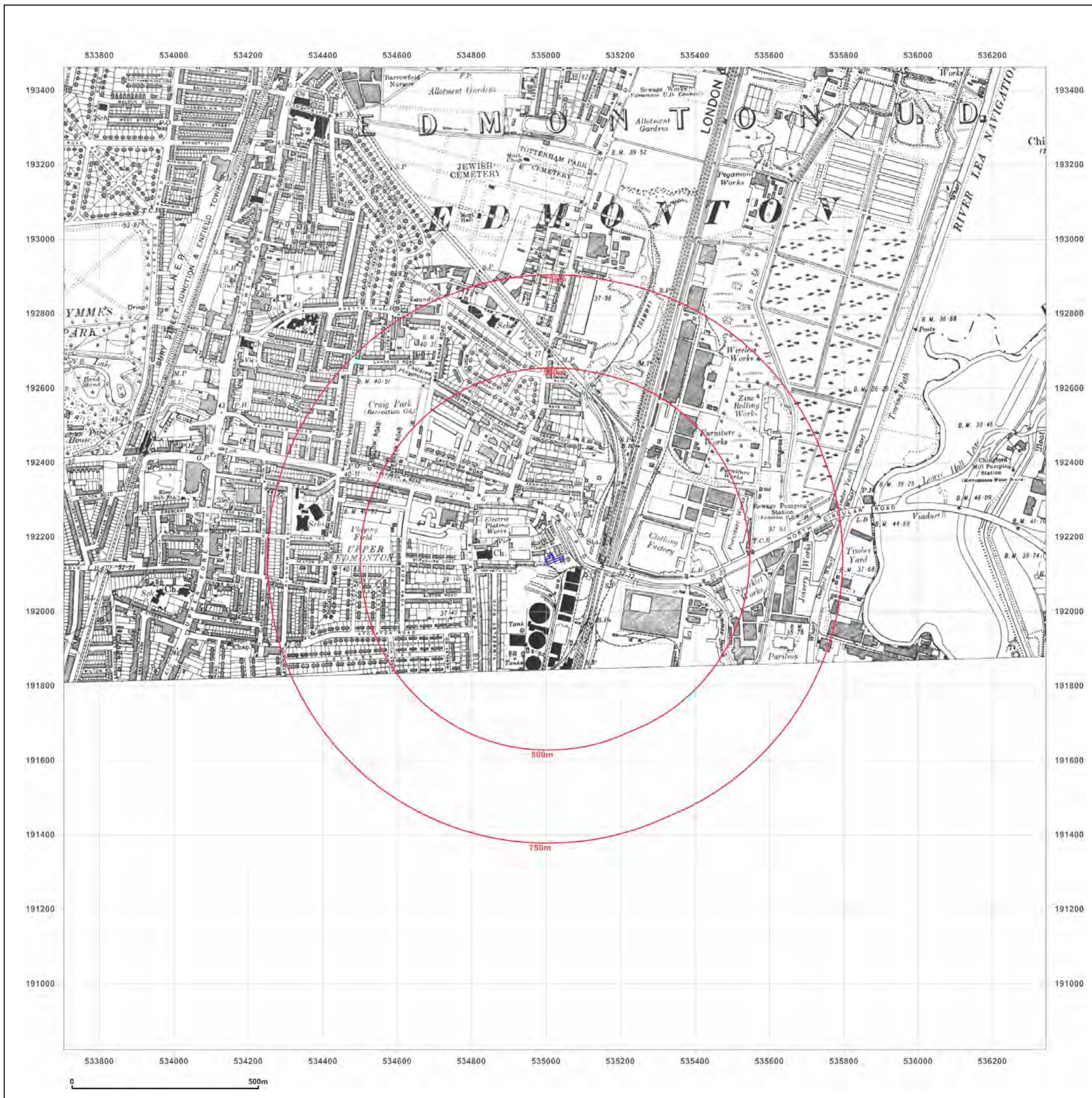


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: Provisional

Map date: 1952

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1951
 Edition 1952
 Copyright N/A
 Levelled 1933.

Surveyed N/A
 Revised 1951
 Edition N/A
 Copyright 1952
 Levelled 1949.

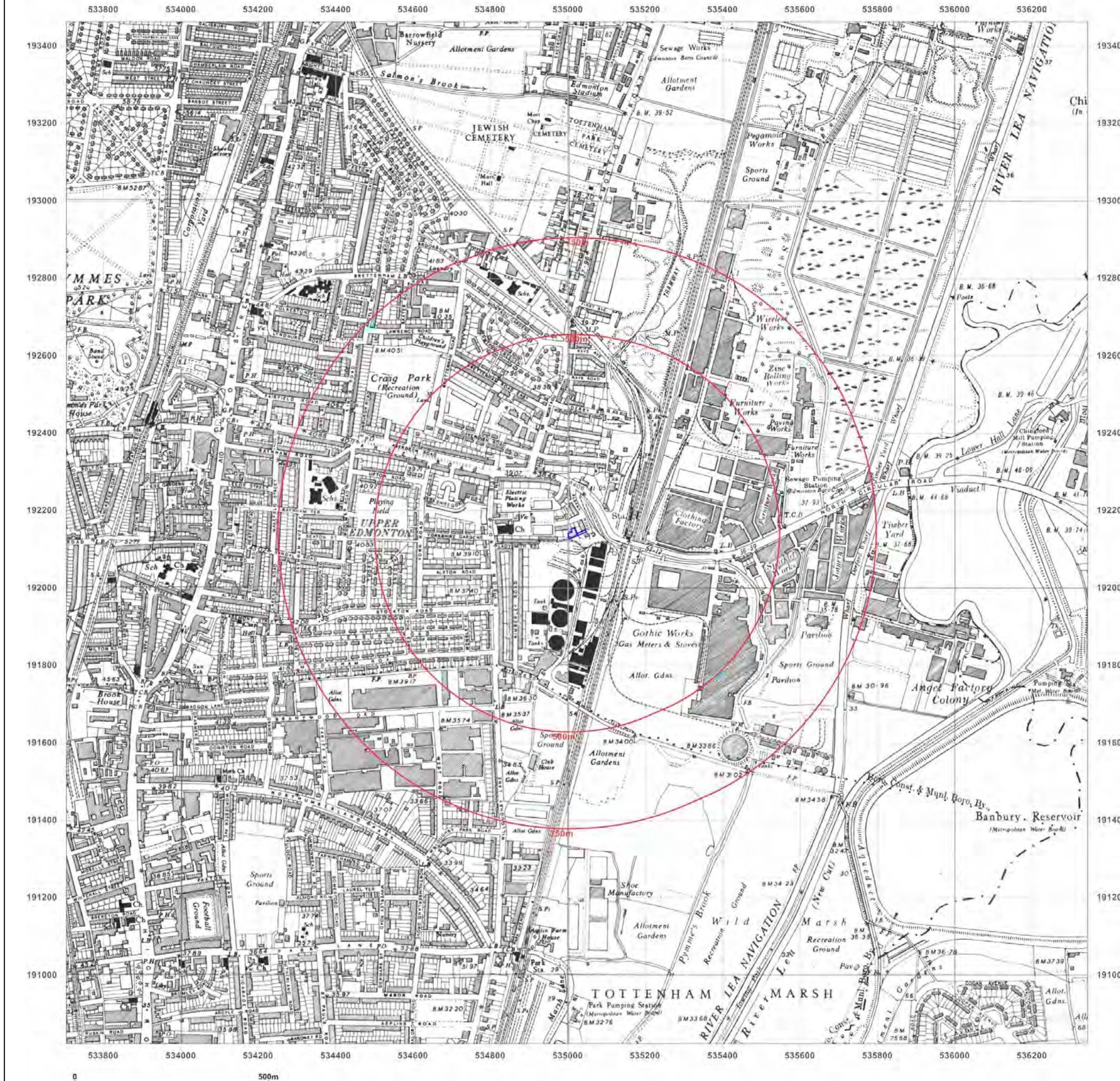


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: Provisional

Map date: 1966-1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1968
 Revised 1968
 Edition N/A
 Copyright N/A
 Levelled N/A

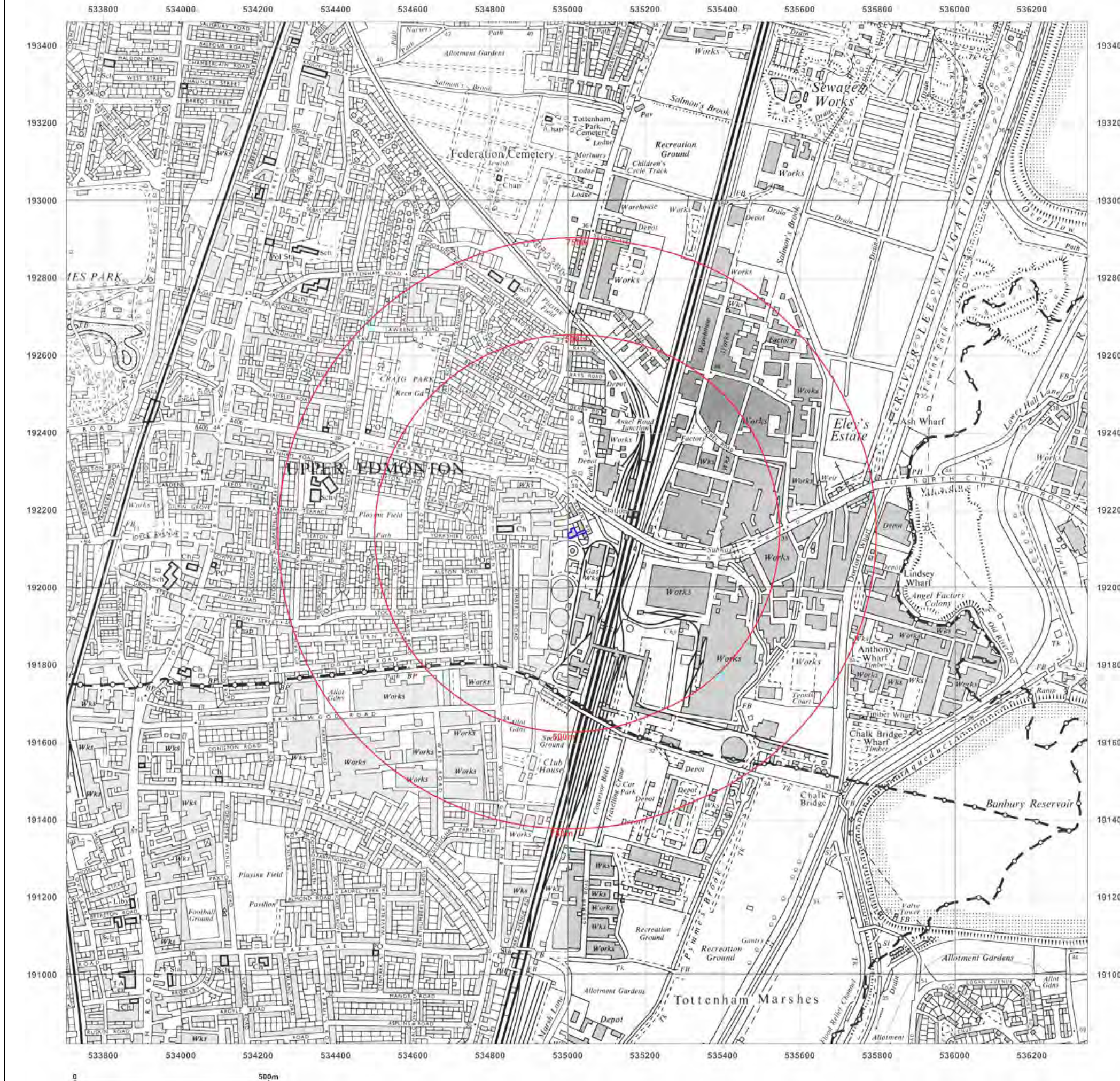


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1974-1975

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
 Revised 1974
 Edition N/A
 Copyright 1975
 Levelled 1972

Surveyed 1973
 Revised 1974
 Edition N/A
 Copyright 1976
 Levelled 1972

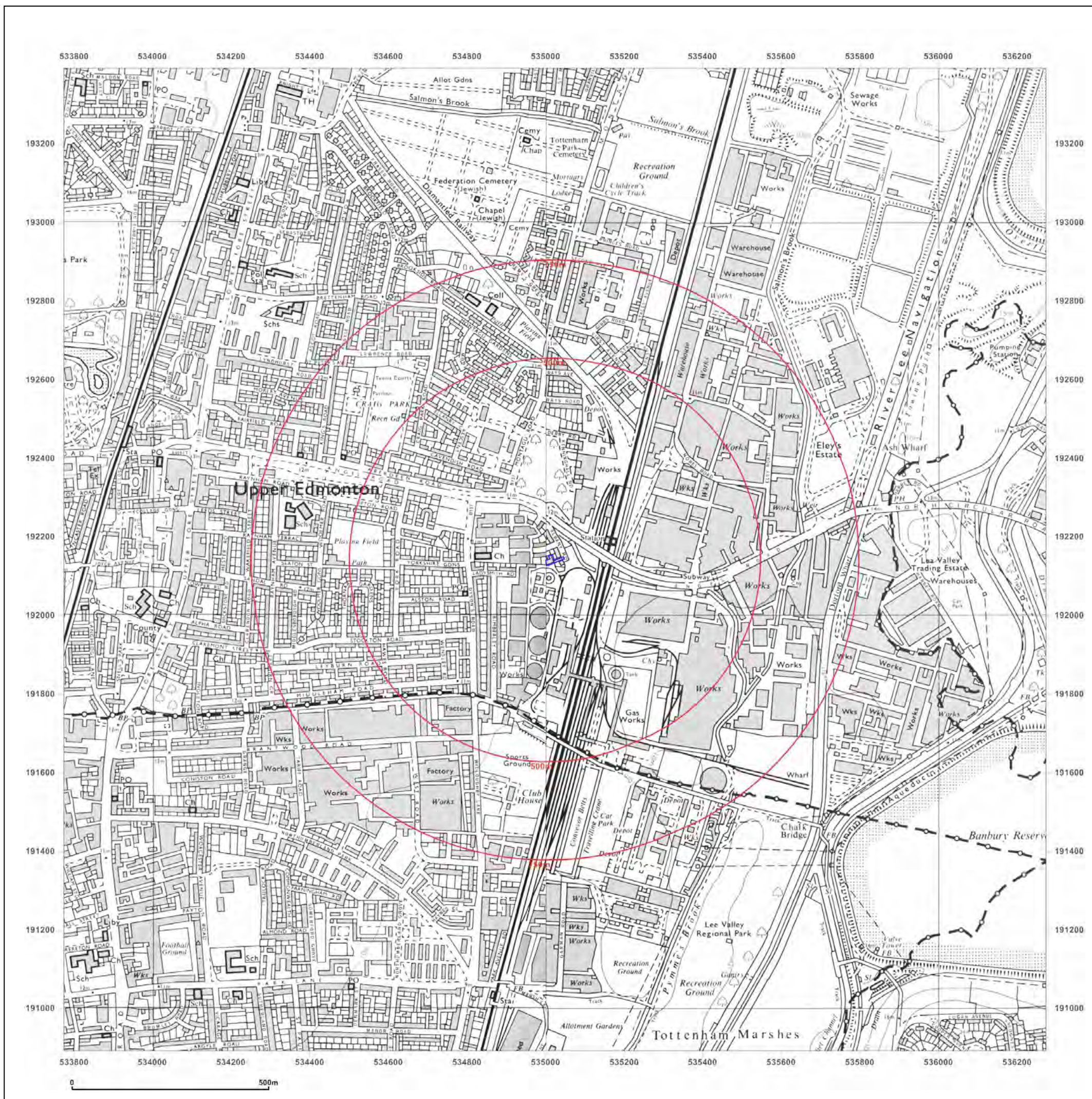


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

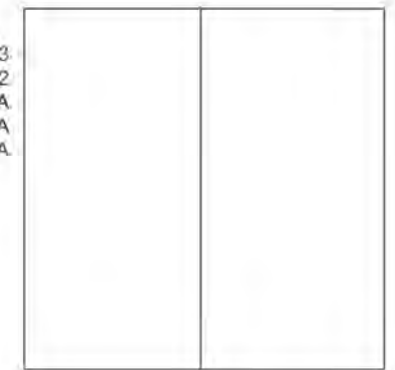
Map date: 1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
 Revised 1982
 Edition N/A
 Copyright N/A
 Levelled N/A

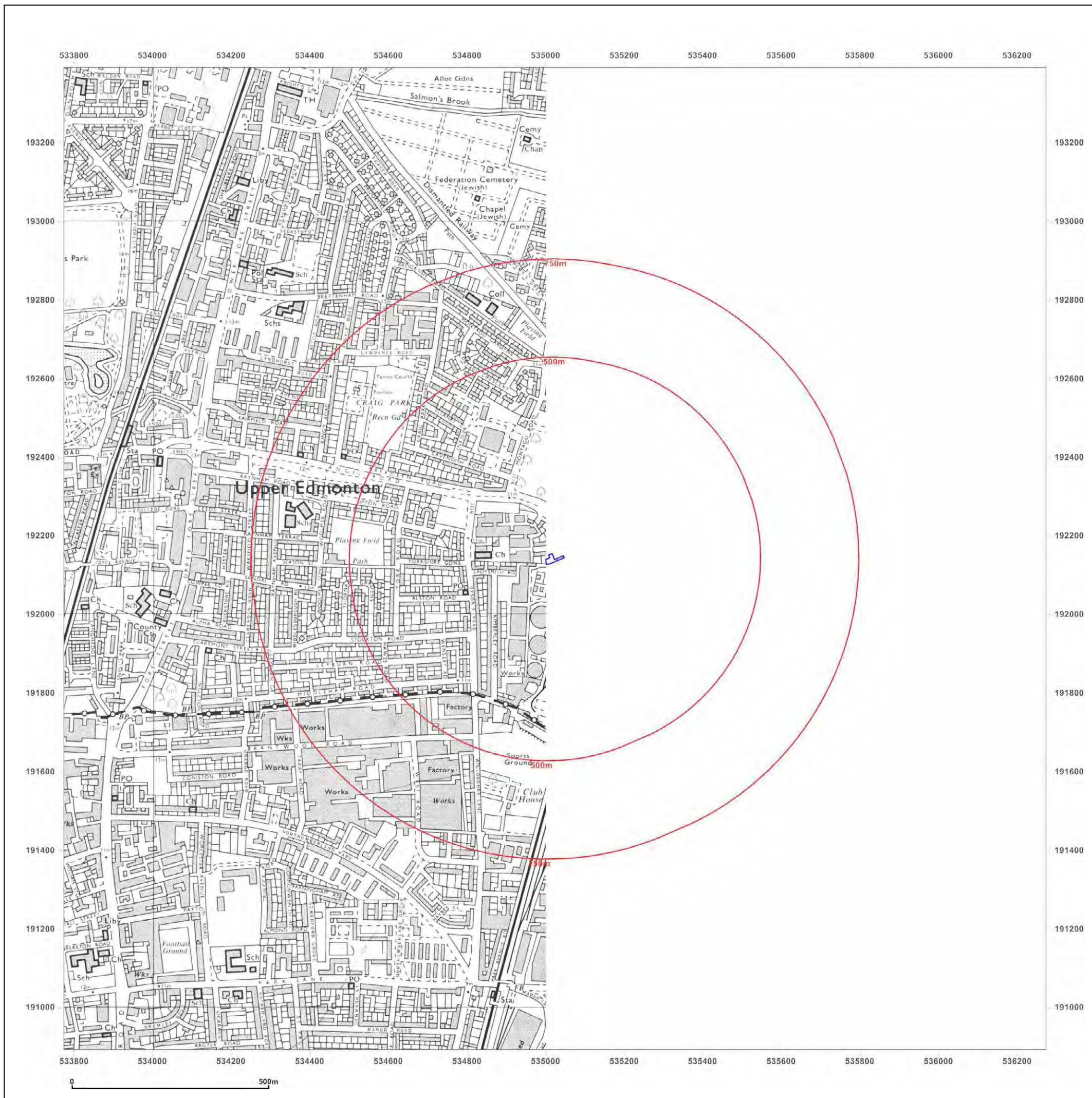


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Site Details:

ALBANY ROAD

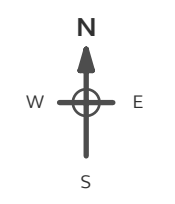
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Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 1990-1991

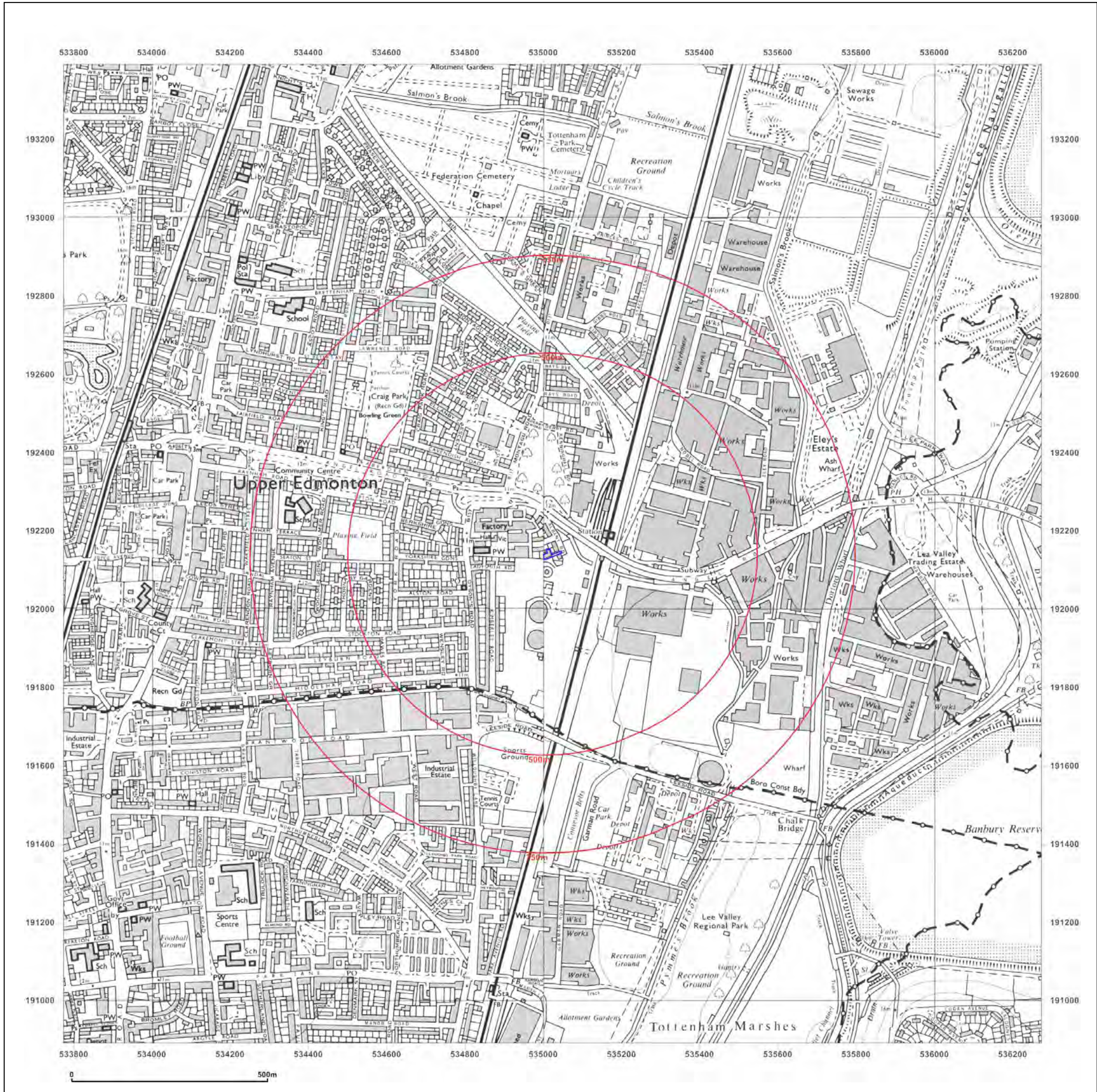
Scale: 1:10,000

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Surveyed 1989
 Revised 1991
 Edition N/A
 Copyright N/A
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Surveyed 1973
 Revised 1988
 Edition N/A
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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

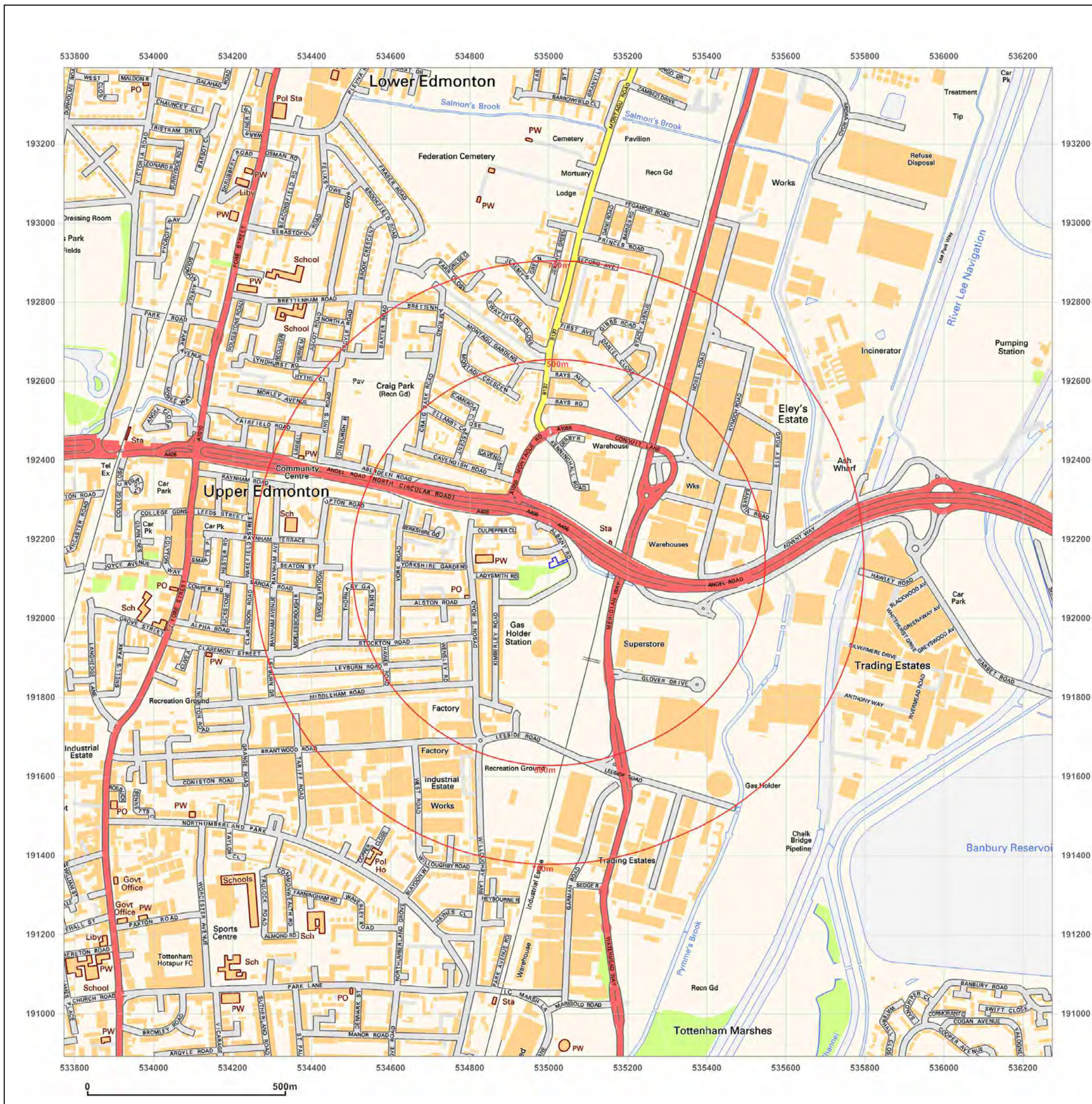


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Site Details:

ALBANY ROAD

Client Ref: PO0067007-1
Report Ref: GS-4021759
Grid Ref: 535023, 192142

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000

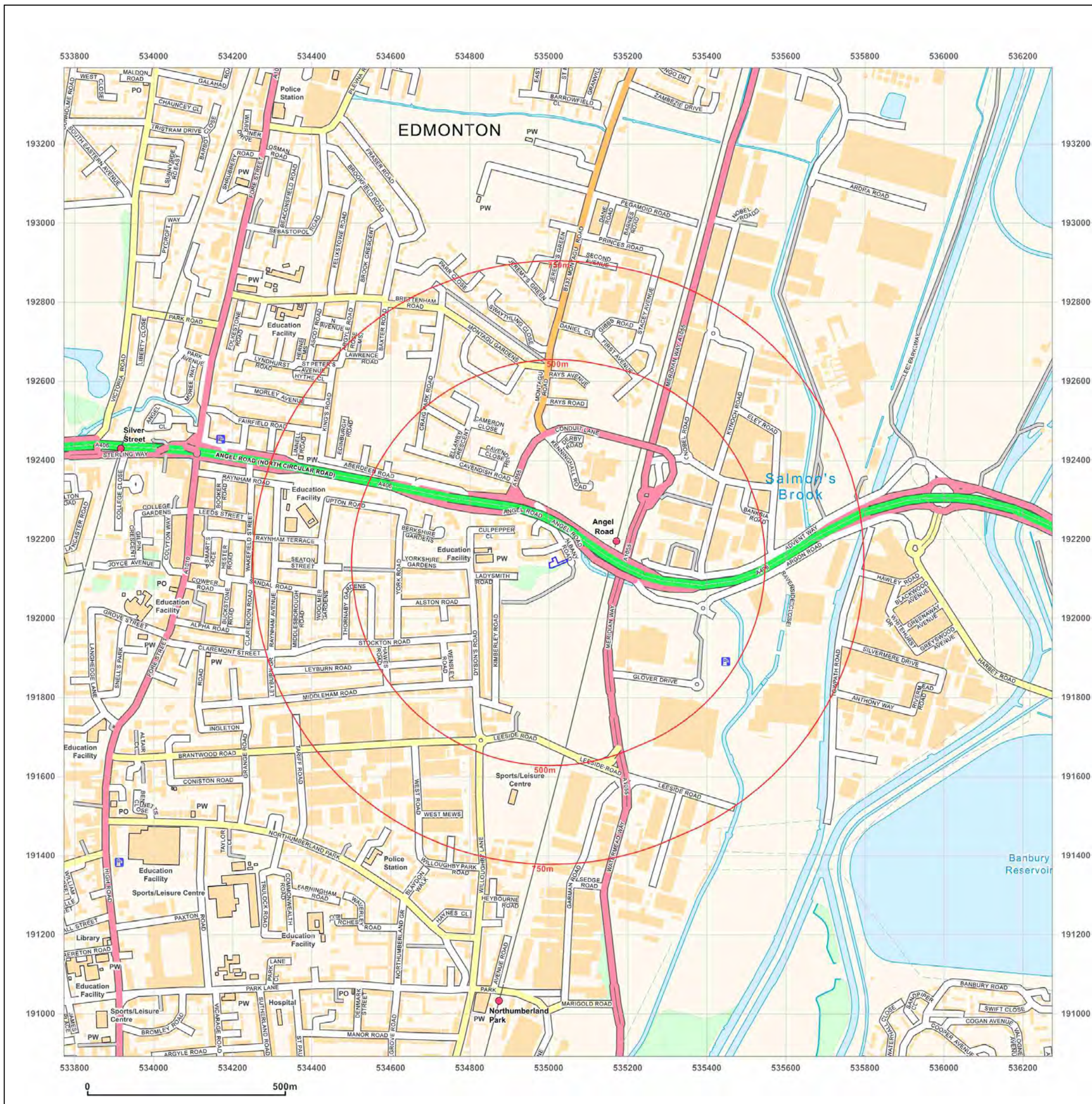


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APPENDIX B

Groundsure Data Sheets



Arcadis

Arcadis, 10, MEDAWAR ROAD,
GUILDFORD, GU2 7AR

Groundsure Reference: GS-4021757

Your Reference: PO0067007-1

Report Date 27 Jun 2017

Report Delivery Method: Email - pdf

Enviro Insight

Address: ALBANY ROAD,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Address: ALBANY ROAD,
Date: 27 Jun 2017
Reference: GS-4021757
Client: Arcadis

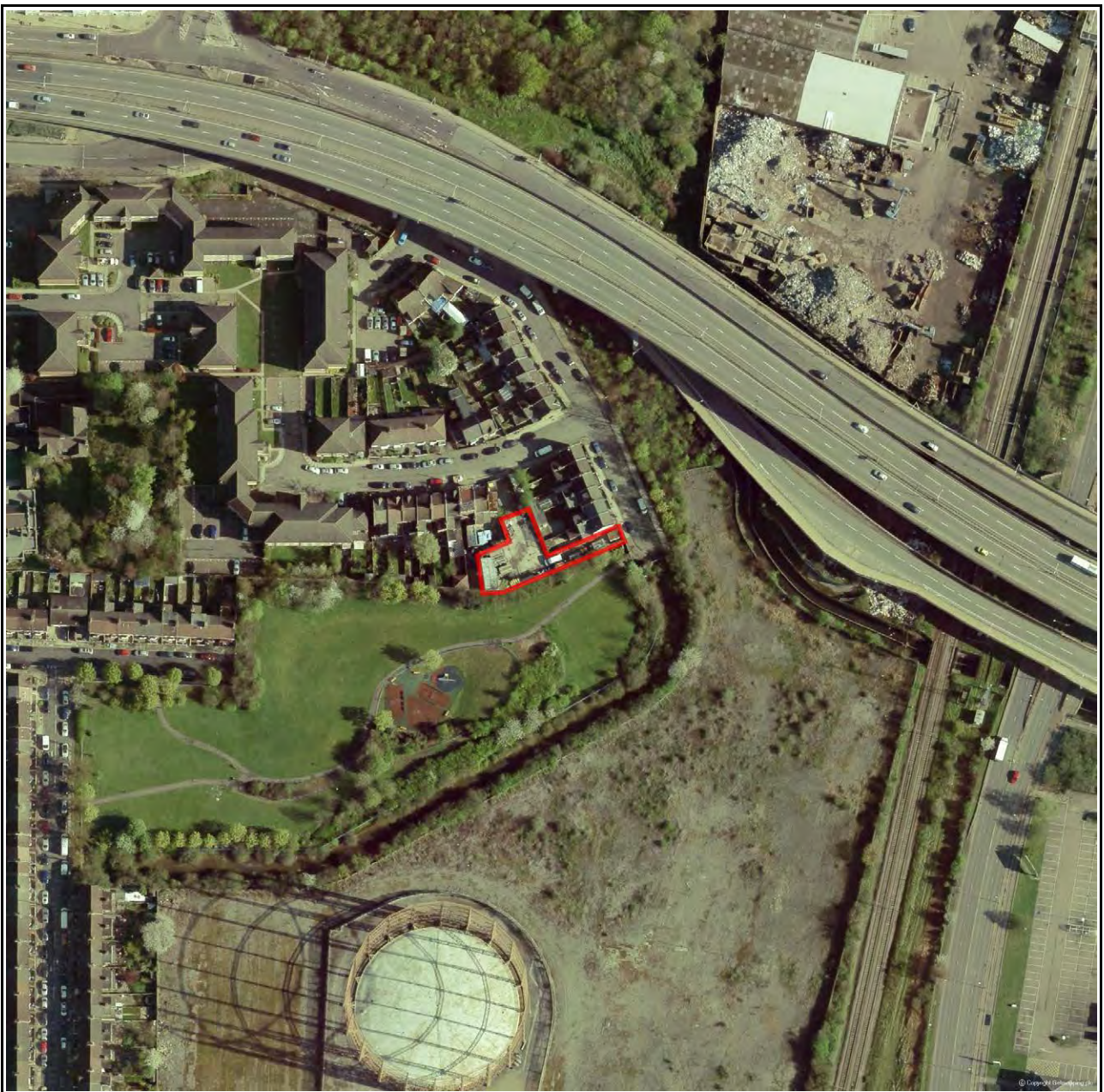
NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 28-Apr-2013
Grid Reference: 535023,192138
Site Size: 0.05ha

Report Reference: GS-4021757
Client Reference: PO0067007-1

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	12	18	137	154
1.2 Additional Information – Historical Tank Database	3	7	116	133
1.3 Additional Information – Historical Energy Features Database	3	5	51	52
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	3	1
1.6 Potentially Infilled Land	0	0	3	18

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	4	10
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	4
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	1	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	2	0
2.2 Records of COMAH and NIHHS sites	0	0	1	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	1	3	8
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	1	2	5
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	4
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	3	4	2	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	6	5	45	10

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	10	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	1	10	6	16
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	1	1
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	4	0	15
6.6 Source Protection Zones (within 500m of the study site)	1	0	1	1	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
6.10 Detailed River Network entries within 500m of the site	0	2	3	1	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site?	Yes					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	Yes					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable					

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	3
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	1
8.5 Records of Ramsar sites	0	0	0	0	0	1
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	3	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?

Very Low

9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?

Very Low

9.1.2 What is the maximum Landslides hazard rating identified on the study site?

Very Low

9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?

Negligible

9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?

Negligible

9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?

Very Low

9.1.6 What is the maximum Running Sand hazard rating identified on the study site?

Negligible

9.2 Radon

9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?

No

10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?

No

10.3 Are there any brine affected areas within 75m of the study site?

No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

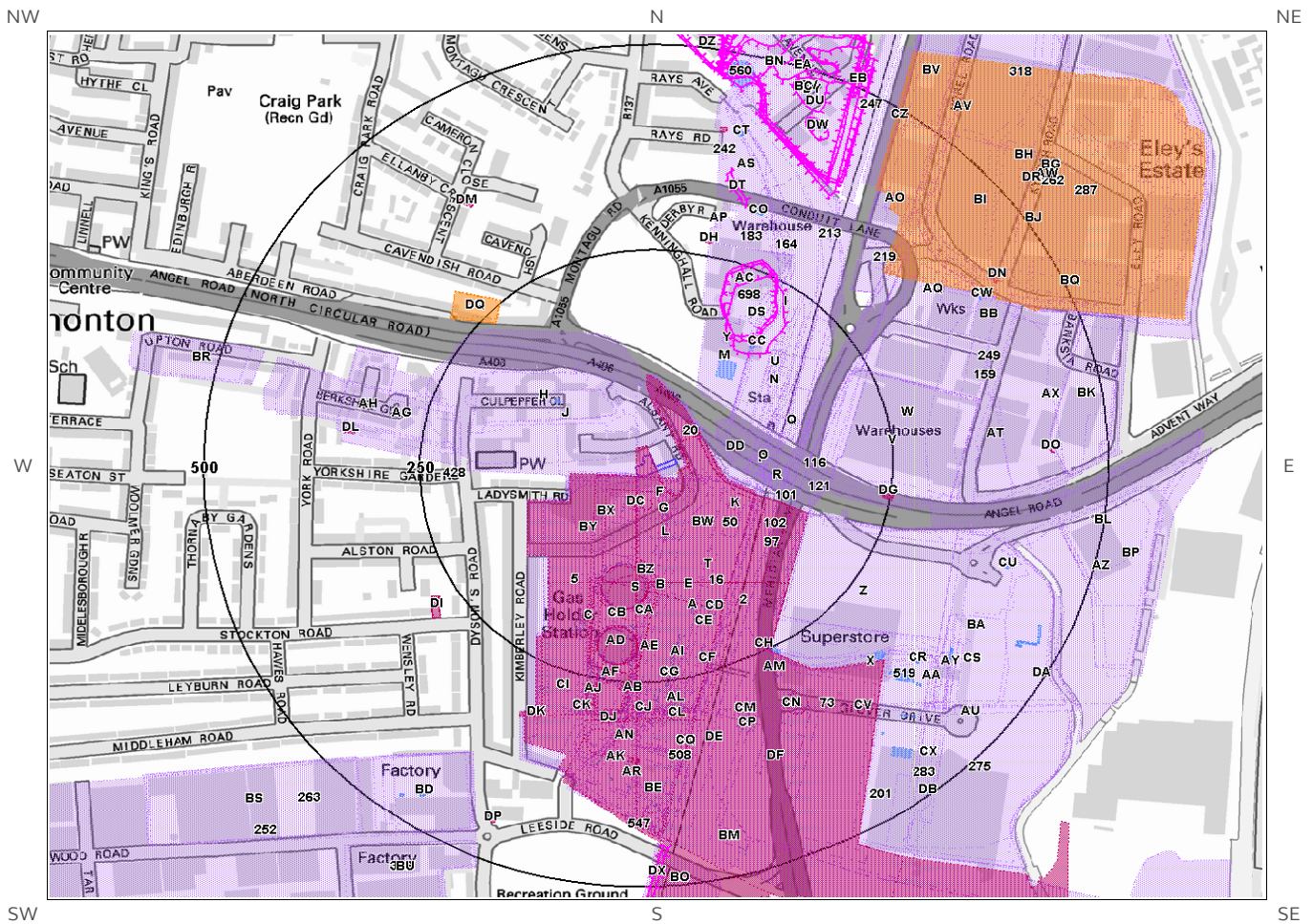
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 321

ID	Distance [m]	Direction	Use	Date
1O	0	On Site	Railway Sidings	1938
2	0	On Site	Unspecified Commercial/Industrial	1938
3A	0	On Site	Gas Works	1974
4A	0	On Site	Gas Works	1968
5	0	On Site	Unspecified Commercial/Industrial	1966
6B	0	On Site	Gas Works	1920
7A	0	On Site	Railway Sidings	1951
8E	0	On Site	Railway Sidings	1920
9	0	On Site	Railway Sidings	1938
10S	0	On Site	Unspecified Commercial/Industrial	1938
11F	0	On Site	Railway Sidings	1951
12J	0	On Site	Unspecified Commercial/Industrial	1982
13C	1	W	Unspecified Works	1982
14BX	2	W	Railway Sidings	1951
15B	2	S	Gas Works	1920
16	2	S	Railway Sidings	1920
17C	2	W	Unspecified Works	1974
18H	9	NW	Electricity Plating Works	1951
19B	12	E	Gas Works	1920
20	13	NE	Railway Sidings	1920
21D	14	NE	Railway Sidings	1920
22D	14	E	Railway Building	1951
23E	21	SE	Railway Sidings	1974
24E	21	SE	Railway Sidings	1968
25F	27	S	Gasometer	1974
26F	27	S	Unspecified Tank	1988
27F	27	S	Gasometer	1968
28Al	41	SE	Railway Buildings	1951
29G	46	SE	Unspecified Tank	1938
30G	48	SE	Unspecified Tank	1938
31G	52	SE	Unspecified Tank	1951
32H	56	NW	Unspecified Works	1966

33H	56	NW	Unspecified Factory	1991
34I	56	E	Railway Sidings	1920
35I	58	NE	Railway Sidings	1920
36I	62	E	Railway Sidings	1951
37L	63	SE	Railway Buildings	1951
38J	63	NW	Electricity Plating Works	1938
39CE	63	SE	Railway Sidings	1951
40H	63	NW	Electric Plating Works	1938
41K	75	SE	Railway Building	1951
42K	77	SE	Railway Building	1988
43K	77	SE	Railway Building	1974
44I	77	NE	Railway Sidings	1974
45I	77	NE	Railway Sidings	1988
46I	78	NE	Railway Sidings	1968
47P	81	E	Railway Station	1897
48L	81	S	Railway Building	1951
49N	82	E	Railway Sidings	1920
50	84	SE	Railway Building	1968
51M	84	NE	Unspecified Depot	1988
52M	84	NE	Unspecified Depot	1968
53M	84	NE	Unspecified Depot	1974
54N	89	E	Railway Sidings	1894
55O	93	E	Railway Sidings	1864
56O	93	E	Railway Sidings	1866
57N	94	NE	Railway Sidings	1897
58N	95	E	Railway Station	1938
59P	95	E	Railway Building	1866
60P	95	E	Railway Building	1864
61CB	96	S	Unspecified Commercial/Industrial	1991
62Q	96	E	Railway Sidings	1864
63P	97	E	Railway Buildings	1864
64P	97	E	Railway Station	1894
65AJ	98	S	Unspecified Commercial/Industrial	1951
66Q	100	E	Railway Sidings	1920
67P	101	E	Railway Building	1974
68P	101	E	Railway Building	1988
69P	101	E	Railway Building	1968
70P	101	E	Railway Buildings	1951
71R	103	E	Railway Station	1866
72R	103	E	Railway Station	1864
73	104	E	Railway Sidings	1968
74S	104	S	Unspecified Tank	1938
75S	104	S	Gasometer	1920
76R	106	E	Railway Station	1864

77S	107	S	Unspecified Tank	1982
78S	107	S	Unspecified Tank	1974
79S	107	S	Unspecified Tank	1951
80S	107	S	Unspecified Tank	1966
81S	107	S	Unspecified Tank	1991
82S	107	S	Unspecified Tank	1938
83T	108	SE	Railway Sidings	1988
84T	108	SE	Railway Sidings	1974
85O	109	E	Railway Station	1920
86Q	109	E	Railway Station	1920
87S	110	S	Gasometer	1920
88S	110	S	Gasometer	1968
89S	110	S	Gasometer	1974
90O	111	E	Railway Station	1920
91O	111	E	Railway Station	1938
92O	112	E	Railway Station	1988
93O	112	E	Railway Station	1974
94O	112	E	Railway Station	1968
95O	112	E	Railway Station	1951
96S	120	S	Gasometer	1920
97	125	E	Railway Sidings	1920
98X	127	E	Railway Sidings	1951
99CV	127	E	Railway Sidings	1974
100AB	128	S	Gas Works	1897
101	130	E	Railway Building	1968
102	131	SE	Railway Building	1864
103AE	131	S	Unspecified Commercial/Industrial	1894
104	137	E	Railway Sidings	1938
105N	138	NE	Goods Shed	1920
106N	140	NE	Goods Shed	1920
107U	144	NE	Railway Building	1938
108U	144	NE	Goods Shed	1920
109U	144	NE	Railway Building	1988
110U	144	NE	Railway Building	1974
111U	145	NE	Railway Building	1968
112U	145	NE	Railway Building	1951
113V	148	E	Clothing Factory	1938
114V	149	E	Clothing Factory	1938
115Y	152	N	Unspecified Tanks	1938
116	156	E	Railway Building	1951
117W	156	E	Unspecified Works	1974
118W	156	E	Unspecified Works	1988
119X	157	E	Unspecified Commercial/Industrial	1938
120AA	158	E	Unspecified Works	1988

121	159	E	Railway Building	1951
122Y	160	NE	Unspecified Tanks	1938
123Z	163	E	Unspecified Works	1968
124Z	163	E	Unspecified Works	1974
125CC	164	NE	Railway Building	1951
126AA	165	E	Gas Meters and Stoves Works	1951
127CD	174	SE	Railway Building	1951
128AB	177	S	Gasometers	1897
129V	178	E	Clothing Factory	1951
130AC	179	N	Unspecified Works	1968
131AC	179	N	Unspecified Works	1974
132AC	179	N	Unspecified Works	1988
133AD	182	S	Unspecified Tank	1938
134AD	182	S	Gasometer	1920
135AE	183	S	Unspecified Tank	1991
136AD	184	S	Unspecified Tank	1894
137AD	186	S	Unspecified Tanks	1974
138AD	186	S	Unspecified Tanks	1951
139AD	186	S	Unspecified Tanks	1982
140AD	186	S	Unspecified Tanks	1966
141C	186	S	Unspecified Tank	1938
142C	186	S	Unspecified Tank	1951
143C	187	S	Unspecified Tank	1938
144AF	188	S	Unspecified Tanks	1938
145AD	188	S	Gasometer	1920
146AY	196	SE	Railway Sidings	1920
147AF	197	S	Gasometers	1920
148AG	203	W	Nurseries	1920
149AH	205	W	Nurseries	1894
150AC	205	N	Railway Building	1951
151AG	212	W	Nurseries	1920
152AH	212	W	Nurseries	1920
153AI	218	S	Railway Building	1951
154AH	221	W	Nurseries	1897
155AC	225	NE	Railway Building	1951
156AF	229	S	Gasometer	1920
157AF	232	S	Unspecified Tanks	1920
158AF	234	S	Gasometer	1920
159	240	NE	Unspecified Commercial/Industrial	1938
160CH	241	SE	Railway Building	1951
161AK	243	S	Railway Sidings	1966
162AJ	245	S	Gasometer	1920
163AK	247	S	Railway Sidings	1974
164	248	NE	Railway Sidings	1920

165AB	249	S	Unspecified Tank	1938
166AB	249	S	Gasometer	1920
167AB	250	S	Unspecified Tank	1894
168AL	251	S	Railway Sidings	1920
169AB	253	S	Unspecified Tanks	1974
170AB	253	S	Unspecified Tanks	1982
171AB	253	S	Unspecified Tanks	1951
172AB	253	S	Unspecified Tanks	1966
173AB	253	S	Gasometer	1920
174AN	254	S	Railway Sidings	1897
175AL	258	S	Railway Building	1938
176AL	259	S	Railway Sidings	1894
177AJ	259	S	Unspecified Tanks	1938
178AM	267	SE	Unspecified Tank	1974
179AM	267	SE	Unspecified Tank	1968
180AL	268	S	Railway Sidings	1920
181AJ	269	S	Unspecified Tanks	1951
182CI	269	S	Unspecified Tanks	1938
183	278	N	Railway Building	1951
184AK	283	S	Gas Works	1896
185AN	283	S	Railway Sidings	1896
186AK	283	S	Railway Sidings	1938
187AK	283	S	Unspecified Commercial/Industrial	1938
188AP	286	N	Railway Building	1951
189AK	287	S	Railway Sidings	1894
190AK	287	S	Gas Works	1894
191AK	289	S	Railway Sidings	1920
192AK	289	S	Unspecified Commercial/Industrial	1920
193AT	289	E	Nursery	1894
194AO	289	NE	Unspecified Factory	1968
195AO	289	NE	Unspecified Factory	1988
196AO	289	NE	Unspecified Factory	1974
197AP	295	N	Railway Buildings	1951
198AQ	296	NE	Unspecified Works	1968
199AQ	296	NE	Unspecified Works	1974
200AQ	296	NE	Unspecified Works	1988
201	298	S	Gas Meters and Stoves Works	1938
202AN	298	S	Gasometer	1896
203AR	300	S	Gas Works	1869
204AR	300	S	Gas Works	1879
205AN	301	S	Gasometer	1894
206AN	303	S	Gasometer	1869
207AN	303	S	Gasometer	1879
208AS	310	N	Unspecified Depot	1974

209AS	310	N	Unspecified Depot	1988
210AS	310	N	Unspecified Depot	1968
211CN	311	SE	Unspecified Tank	1974
212DT	321	N	Unspecified Ground Workings	1938
213	321	NE	Railway Building	1951
214AT	323	E	Nursery	1897
215DR	324	NE	Unspecified Works	1897
216AW	334	NE	Unspecified Works	1894
217AU	335	SE	Unspecified Works	1968
218AU	335	SE	Unspecified Works	1974
219	335	NE	Railway Building	1951
220AK	339	S	Unspecified Tank	1869
221AV	340	NE	Wireless Works	1938
222BA	342	E	Unspecified Commercial/Industrial	1920
223AV	345	NE	Unspecified Commercial/Industrial	1951
224AW	346	NE	Unspecified Works	1920
225AX	347	E	Unspecified Works	1988
226AX	347	E	Unspecified Works	1974
227AX	347	E	Unspecified Works	1968
228AX	347	E	Furniture Works	1951
229AY	349	SE	Chimney	1968
230AY	349	SE	Chimney	1974
231AZ	350	E	Unspecified Works	1988
232AZ	350	E	Unspecified Works	1974
233AZ	350	E	Unspecified Works	1968
234BG	354	NE	Cartridge Works	1920
235BA	356	E	Unspecified Commercial/Industrial	1920
236AX	361	E	Sewage Pumping Station	1920
237AR	364	S	Unspecified Tanks	1869
238AR	364	S	Unspecified Tanks	1879
239AA	367	SE	Railway Sidings	1920
240CS	367	SE	Unspecified Commercial/Industrial	1920
241BC	368	NE	Gravel Pit	1920
242	370	N	Railway Building	1951
243BB	373	NE	Unspecified Works	1968
244BB	373	NE	Unspecified Works	1974
245BB	373	NE	Unspecified Works	1988
246BE	373	S	Railway Sidings	1951
247	375	NE	Railway Sidings	1951
248BC	379	NE	Gravel Pit	1920
249	381	E	Sewage Pumping Station	1920
250DU	383	NE	Ground Workings and Refuse Heap	1938

251BC	383	NE	Gravel Pit	1920
252	385	SW	Industrial Estate	1991
253BF	386	S	Railway Buildings	1951
254DV	386	NE	Unspecified Ground Workings	1951
255BD	387	SW	Unspecified Factory	1974
256BD	388	SW	Unspecified Factory	1982
257BD	388	SW	Unspecified Works	1966
258BH	390	NE	Railway Sidings	1920
259BE	390	S	Unspecified Tank	1869
260BF	390	S	Unspecified Tank	1879
261BG	390	NE	Unspecified Works	1920
262	390	NE	Railway Sidings	1920
263	391	SW	Unspecified Commercial/Industrial	1951
264BF	393	S	Gasometers	1897
265BH	395	NE	Railway Sidings	1920
266BF	398	S	Gasometer	1896
267BF	399	S	Unspecified Tank	1938
268CU	401	E	Unspecified Tank	1938
269BI	401	NE	Furniture Works	1938
270BF	402	S	Gasometer	1894
271BI	402	NE	Furniture Works	1938
272BF	403	S	Unspecified Tank	1920
273BF	405	S	Unspecified Tank	1869
274BI	409	NE	Furniture Works	1951
275	410	SE	Gas Meters and Stoves Works	1920
276BJ	410	NE	Unspecified Works	1974
277BJ	410	NE	Unspecified Works	1968
278BJ	410	NE	Unspecified Works	1988
279BF	410	S	Gasometer	1869
280BF	410	S	Gasometer	1879
281CX	410	SE	Railway Sidings	1938
282AZ	412	E	Sparklet Works	1938
283	415	SE	Railway Sidings	1920
284DW	423	NE	Unspecified Heap	1938
285BN	428	N	Railway Sidings	1951
286BK	430	E	Furniture Works	1938
287	432	NE	Railway Sidings	1894
288BL	432	E	Sparklet Works	1938
289BK	434	E	Furniture Works	1938
290BL	437	E	Sparklet Works	1951
291BQ	438	NE	Furniture Works	1938
292BM	438	S	Railway Building	1968
293BM	438	S	Railway Building	1974
294AW	439	NE	Railway Sidings	1897

295BN	444	N	Tramway Sidings	1938
296BN	446	N	Tramway Sidings	1938
297BP	447	E	Sparklet Works	1920
298BO	448	S	Railway Sidings	1968
299BO	448	S	Railway Sidings	1974
300BP	449	E	Sparklet Works	1920
301BP	449	E	Unspecified Works	1920
302BR	452	W	Nursery	1894
303DY	454	N	Unspecified Heap	1938
304BQ	458	NE	Furniture Works	1938
305BQ	461	NE	Furniture Works	1951
306BR	468	W	Nursery	1897
307BT	471	N	Ground Workings and Refuse Heap	1938
308BS	471	SW	Unspecified Works	1974
309BS	471	SW	Unspecified Works	1966
310BS	473	SW	Unspecified Commercial/Industrial	1982
311BT	477	N	Unspecified Pit	1938
312EA	479	N	Unspecified Heap	1938
313BU	483	SW	Unspecified Factory	1982
314BU	483	SW	Unspecified Works	1966
315BU	483	SW	Unspecified Factory	1974
316	484	SW	Unspecified Commercial/Industrial	1951
317EB	487	NE	Unspecified Ground Workings	1938
318	490	NE	Wireless Works	1938
319BV	495	NE	Unspecified Warehouse	1968
320BV	495	NE	Unspecified Warehouse	1974
321BV	495	NE	Unspecified Warehouse	1988

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

259

ID	Distance (m)	Direction	Use	Date
322S	0	On Site	Gas Works	1914
323BW	0	On Site	Gas Works	1976
324BW	0	On Site	Gas Works	1965
325BY	2	W	Gas Works	1972
326B	12	E	Gas Works	1920

327DC	27	S	Gasometer	1972
328F	28	S	Gasometer	1976
329F	28	S	Gasometer	1965
330BX	30	SW	Tanks	1972
331G	46	SE	Unspecified Tank	1938
332BY	59	S	Tanks	1972
333BZ	98	S	Gasholder Station	1991
334BZ	98	S	Gasholder Station	1993
335BZ	98	S	Gasholder Station	1998
336BZ	106	S	Unspecified Tank	1959
337S	107	S	Unspecified Tank	1938
338BZ	107	S	Gas Holder	1991
339BZ	107	S	Gas Holder	1998
340BZ	107	S	Gas Holder	1992
341BZ	108	S	Gas Holder	1972
342BZ	108	S	Unspecified Tank	1960
343S	110	S	Unspecified Tank	1936
344S	110	S	Gasometer	1914
345B	110	S	Gasholder	1993
346B	110	S	Gasholder	1998
347M	112	NE	Tanks	1936
348H	117	NW	Unspecified Tank	1992
349H	117	NW	Unspecified Tank	1998
350H	117	NW	Unspecified Tank	1991
351H	118	NW	Unspecified Tank	1972
352S	120	S	Gasometer	1920
353S	127	S	Unspecified Tank	1955
354CA	128	S	Gas Holder Station	1991
355S	128	S	Gas Holder	1991
356CA	128	S	Gas Holder Station	1993
357S	128	S	Gas Holder	1993
358S	128	S	Unspecified Tank	1955
359S	128	S	Gasholder	1968
360DE	128	S	Gas Works	1968
361S	128	S	Gas Holder	1994
362CB	128	S	Gas Holder Station	1994
363B	128	S	Unspecified Tank	1956
364B	128	S	Unspecified Tank	1956
365S	128	S	Gas Holder	1991
366CB	128	S	Gas Holder Station	1991
367CA	128	S	Gas Holder Station	1987
368B	128	S	Gas Holder	1981
369B	128	S	Gas Holder	1987
370B	128	S	Gas Holder	1991
371CA	128	S	Gas Holder Station	1991
372CB	129	S	Gasholder Station	1981

373S	129	S	Gasholder	1981
374B	129	S	Gas Holder	1977
375B	129	S	Gas Holder	1967
376DF	129	S	Gas Works	1967
377B	129	S	Gasometer	1956
378AE	131	S	Gas Works	1896
379B	133	S	Unspecified Tank	1956
380B	133	S	Unspecified Tank	1956
381B	133	S	Unspecified Tank	1956
382CC	161	NE	Unspecified Tanks	1938
383CD	169	S	Tanks	1977
384A	169	S	Tanks	1967
385A	169	S	Tanks	1968
386A	170	SE	Tanks	1967
387A	170	SE	Tanks	1977
388A	170	SE	Tanks	1968
389A	171	SE	Tanks	1967
390A	171	SE	Tanks	1977
391A	171	SE	Tanks	1956
392A	172	SE	Tanks	1968
393A	172	SE	Tanks	1956
394A	172	SE	Tanks	1956
395CB	180	S	Tanks	1955
396CB	181	S	Tanks	1968
397CB	181	S	Tanks	1955
398AD	182	S	Unspecified Tank	1955
399AF	183	S	Gasometers	1896
400AD	183	S	Unspecified Tank	1955
401AD	184	S	Gasometer	1968
402AD	184	S	Gas Holder	1994
403AD	184	S	Gas Holder	1991
404AD	184	S	Gasholder	1981
405C	187	S	Unspecified Tank	1938
406AD	188	S	Gasometer	1914
407AD	188	S	Unspecified Tank	1936
408AF	188	S	Unspecified Tanks	1938
409C	190	S	Unspecified Tank	1936
410CE	196	S	Tanks	1968
411CE	197	S	Tanks	1977
412CE	197	S	Tanks	1967
413AB	197	S	Gasometers	1920
414AD	198	S	Gas Holder	1987
415AD	198	S	Unspecified Tank	1981
416AD	198	S	Gas Holder	1991
417AD	199	S	Unspecified Tank	1977
418AD	199	S	Gasholder	1967

419AD	199	S	Unspecified Tank	1956
420AD	200	S	Gas Holder	1993
421AD	200	S	Gas Holder	1991
422AI	200	S	Unspecified Tank	1968
423AD	200	S	Unspecified Tank	1956
424AD	200	S	Unspecified Tank	1956
425AD	204	S	Tanks	1955
426AD	205	S	Tanks	1955
427AD	205	S	Tanks	1968
428	208	W	Unspecified Tank	1872
429AI	209	S	Unspecified Tank	1977
430AI	209	S	Unspecified Tank	1967
431AI	222	S	Tanks	1977
432AI	222	S	Tanks	1967
433AI	222	S	Tanks	1956
434AI	222	S	Tanks	1956
435AI	222	S	Tanks	1968
436AI	222	S	Tanks	1956
437AF	232	S	Tanks	1914
438CF	233	S	Unspecified Tank	1967
439CF	233	S	Unspecified Tank	1968
440AF	235	S	Tanks	1936
441AF	238	S	Tanks	1936
442CG	242	S	Tanks	1968
443CG	242	S	Unspecified Tank	1956
444CG	242	S	Unspecified Tank	1956
445CG	243	S	Tanks	1977
446CG	243	S	Tanks	1967
447CG	243	S	Tanks	1956
448CH	251	SE	Tanks	1987
449CH	251	SE	Tanks	1981
450AB	251	S	Unspecified Tank	1955
451AB	251	S	Gasometer	1968
452AB	251	S	Unspecified Tank	1955
453CG	252	S	Tanks	1968
454CG	252	S	Tanks	1956
455CG	252	S	Tanks	1956
456CH	252	SE	Tanks	1977
457AJ	253	S	Gasometer	1914
458AJ	253	S	Unspecified Tank	1936
459AB	258	S	Unspecified Tank	1967
460AB	258	S	Unspecified Tank	1968
461AM	266	SE	Unspecified Tank	1956
462AM	266	SE	Unspecified Tank	1956
463AM	266	SE	Unspecified Tank	1956
464CI	272	S	Tanks	1936

465CI	273	S	Tanks	1936
466AL	278	S	Unspecified Tank	1977
467AL	278	S	Unspecified Tank	1967
468AL	279	S	Unspecified Tank	1968
469CJ	282	S	Tanks	1967
470CJ	282	S	Tanks	1977
471CJ	282	S	Tanks	1956
472CJ	282	S	Tanks	1968
473CJ	282	S	Tanks	1956
474CJ	282	S	Tanks	1956
475CK	287	S	Tanks	1955
476CK	287	S	Tanks	1955
477CK	287	S	Tanks	1968
478CL	288	S	Unspecified Tank	1977
479CL	288	S	Unspecified Tank	1967
480CL	288	S	Unspecified Tank	1968
481CK	291	S	Tanks	1936
482CK	293	S	Unspecified Tank	1915
483AR	295	S	Gas Works	1896
484DJ	297	S	Gasometer	1896
485CJ	300	S	Tanks	1935
486CM	304	S	Unspecified Tank	1977
487CM	304	S	Unspecified Tank	1967
488CM	304	S	Unspecified Tank	1956
489CM	305	SE	Unspecified Tank	1968
490CM	305	SE	Unspecified Tank	1956
491CM	305	SE	Unspecified Tank	1956
492AN	310	S	Gasometer	1896
493CN	310	SE	Unspecified Tank	1977
494CN	311	SE	Gasometer	1968
495CO	314	N	Tanks	1991
496CO	314	N	Tanks	1976
497CM	318	S	Tanks	1977
498CM	318	S	Tanks	1967
499CM	318	S	Tanks	1956
500CP	318	S	Tanks	1956
501CP	318	S	Tanks	1968
502CP	318	S	Tanks	1956
503CQ	325	S	Unspecified Tank	1967
504AY	325	SE	Tanks	1967
505AY	325	SE	Tanks	1968
506CQ	326	S	Unspecified Tank	1968
507AK	344	S	Tanks	1896
508	345	S	Unspecified Tank	1977
509AK	346	S	Unspecified Tank	1955
510AK	348	S	Unspecified Tank	1955

511AK	349	S	Unspecified Tank	1955
512AK	350	S	Unspecified Tank	1955
513AY	353	SE	Tanks	1981
514AY	353	SE	Tanks	1987
515AY	353	SE	Tanks	1991
516AY	353	SE	Tanks	1991
517AA	361	SE	Tanks	1967
518AA	361	SE	Tanks	1977
519	364	SE	Tanks	1968
520CR	366	SE	Unspecified Tank	1981
521CR	367	SE	Unspecified Tank	1977
522AR	368	S	Unspecified Tank	1955
523BE	377	S	Unspecified Tank	1955
524BE	378	S	Unspecified Tank	1955
525AA	387	SE	Tanks	1981
526CS	390	SE	Tanks	1967
527CS	390	SE	Unspecified Tank	1956
528CS	390	SE	Unspecified Tank	1956
529CS	390	SE	Unspecified Tank	1956
530CS	390	SE	Tanks	1968
531BE	396	S	Tanks	1896
532CT	400	N	Unspecified Tank	1960
533CT	400	N	Unspecified Tank	1968
534CU	401	E	Unspecified Tank	1938
535CV	401	SE	Unspecified Tank	1956
536CV	401	SE	Unspecified Tank	1956
537CV	401	SE	Unspecified Tank	1956
538CT	402	N	Unspecified Tank	1959
539CW	403	NE	Unspecified Tank	1991
540CW	403	NE	Unspecified Tank	1976
541CV	405	SE	Unspecified Tank	1981
542BF	410	S	Gasometer	1896
543CV	411	SE	Unspecified Tank	1956
544CV	411	SE	Unspecified Tank	1956
545CV	411	SE	Unspecified Tank	1956
546CX	426	SE	Tanks	1981
547	428	S	Unspecified Tank	1896
548CY	448	SE	Tanks	1967
549CY	449	SE	Tanks	1956
550CY	449	SE	Tanks	1956
551CY	449	SE	Tanks	1956
552CY	449	SE	Tanks	1968
553BD	452	SW	Tanks	1968
554BD	452	SW	Tanks	1955
555BD	452	SW	Tanks	1955
556BD	453	SW	Tanks	1994

557BD	453	SW	Unspecified Tanks	1991
558BD	453	SW	Tanks	1981
559BD	455	SW	Tanks	1994
560	459	N	Unspecified Tank	1872
561CY	463	SE	Tanks	1956
562CY	463	SE	Tanks	1967
563CY	463	SE	Tanks	1956
564CY	463	SE	Tanks	1956
565CY	463	SE	Tanks	1968
566BM	467	S	Unspecified Tank	1977
567BD	471	SW	Unspecified Tank	1994
568BD	471	SW	Unspecified Tank	1991
569BD	472	SW	Unspecified Tank	1981
570CZ	485	NE	Unspecified Tank	1968
571CZ	486	NE	Unspecified Tank	1992
572CZ	486	NE	Unspecified Tank	1991
573CZ	486	NE	Unspecified Tank	1982
574CZ	486	NE	Unspecified Tank	1991
575DA	495	SE	Unspecified Tank	1956
576DA	495	SE	Unspecified Tank	1956
577DA	495	SE	Unspecified Tank	1956
578DB	496	SE	Unspecified Tank	1956
579DB	496	SE	Unspecified Tank	1956
580DB	496	SE	Unspecified Tank	1956

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

111

ID	Distance (m)	Direction	Use	Date
581B	0	On Site	Gas Works	1914
582BW	0	On Site	Gas Works	1965
583BW	0	On Site	Gas Works	1976
584BY	2	W	Gas Works	1972
585B	12	E	Gas Works	1920
586DC	27	S	Gasometer	1972
587F	28	S	Gasometer	1976
588F	28	S	Gasometer	1965
589DD	69	E	Electricity Substation	1976
590DD	69	E	Electricity Substation	1993
591DD	70	E	Electricity Substation	1991

592BZ	98	S	Gasholder Station	1991
593BZ	98	S	Gasholder Station	1993
594BZ	98	S	Gasholder Station	1998
595BZ	107	S	Gas Holder	1991
596BZ	107	S	Gas Holder	1998
597BZ	107	S	Gas Holder	1992
598BZ	108	S	Gas Holder	1972
599S	110	S	Gasometer	1914
600B	110	S	Gasholder	1993
601B	110	S	Gasholder	1998
602S	120	S	Gasometer	1920
603CA	128	S	Gas Holder Station	1991
604B	128	S	Gas Holder	1991
605CA	128	S	Gas Holder Station	1993
606B	128	S	Gas Holder	1993
607S	128	S	Gasholder	1968
608DE	128	S	Gas Works	1968
609CB	128	S	Gas Holder Station	1994
610S	128	S	Gas Holder	1994
611S	128	S	Gas Holder	1991
612CB	128	S	Gas Holder Station	1991
613CA	128	S	Gas Holder Station	1987
614B	128	S	Gas Holder	1981
615B	128	S	Gas Holder	1987
616CA	128	S	Gas Holder Station	1991
617B	128	S	Gas Holder	1991
618CB	129	S	Gasholder Station	1981
619S	129	S	Gasholder	1981
620DF	129	S	Gas Works	1967
621B	129	S	Gasometer	1956
622B	129	S	Gas Holder	1967
623B	129	S	Gas Holder	1977
624AE	131	S	Gas Works	1896
625AF	183	S	Gasometers	1896
626AD	184	S	Gasometer	1968
627AD	184	S	Gas Holder	1994
628AD	184	S	Gas Holder	1991
629AD	184	S	Gasholder	1981
630AD	188	S	Gasometer	1914
631AB	197	S	Gasometers	1920
632AD	198	S	Gas Holder	1987
633AD	198	S	Gas Holder	1991
634AD	199	S	Gasholder	1967
635AD	200	S	Gas Holder	1993
636AD	200	S	Gas Holder	1991
637DG	241	E	Electricity Substation	1976

638DG	241	E	Electricity Substation	1993
639DG	242	E	Electricity Substation	1991
640AB	251	S	Gasometer	1968
641AJ	253	S	Gasometer	1914
642DH	266	N	Electricity Substation	1993
643DH	266	N	Electricity Substation	1998
644DH	267	N	Electricity Substation	1991
645DH	267	N	Electricity Substation	1976
646DI	271	SW	Electricity Substation	1968
647DI	271	SW	Electricity Substation	1955
648DI	272	SW	Electricity Substation	1955
649DI	272	SW	Electricity Substation	1991
650DI	272	SW	Electricity Substation	1994
651DI	272	SW	Electricity Substation	1981
652AR	295	S	Gas Works	1896
653DJ	297	S	Gasometer	1896
654AN	310	S	Gasometer	1896
655DK	311	S	Electricity Substation	1994
656DK	311	S	Electricity Substation	1991
657DK	311	S	Electricity Substation	1981
658CN	311	SE	Gasometer	1968
659DL	328	W	Electricity Substation	1991
660DL	328	W	Electricity Substation	1992
661DL	328	W	Electricity Substation	1998
662DL	329	W	Electricity Substation	1972
663AK	341	S	Electricity Substation	1994
664AK	342	S	Electricity Substation	1991
665AR	342	S	Electricity Substation	1981
666AR	344	S	Electricity Substation	1991
667AR	344	S	Electricity Substation	1993
668AR	344	S	Electricity Substation	1987
669AR	344	S	Electricity Substation	1981
670AR	344	S	Electricity Substation	1991
671AR	345	S	Electricity Substation	1977
672DM	363	NW	Electricity Substation	1972
673DM	363	NW	Electricity Substation	1992
674DM	363	NW	Electricity Substation	1998
675DM	363	NW	Electricity Substation	1991
676CT	402	N	Electricity Substation	1991
677CT	403	N	Electricity Substation	1991
678CT	403	N	Electricity Substation	1982
679CT	403	N	Electricity Substation	1992
680BF	410	S	Gasometer	1896
681DN	428	NE	Electricity Substation	1993
682DN	428	NE	Electricity Substation	1998
683DN	428	NE	Electricity Substation	1976

684DN	428	NE	Electricity Substation	1991
685DO	432	E	Electricity Substation	1993
686DO	432	E	Electricity Substation	1998
687DO	432	E	Electricity Substation	1991
688DO	434	E	Electricity Substation	1976
689DP	447	S	Electricity Substation	1991
690DP	447	S	Electricity Substation	1994
691DP	448	S	Electricity Substation	1981

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 4

ID	Distance (m)	Direction	Use	Date
692DQ	235	NW	Garage	1960
693DQ	235	NW	Garage	1972
694DQ	238	NW	Garage	1959
695DR	332	NE	Carriage Works	1896

1.6 Potentially Infilled Land

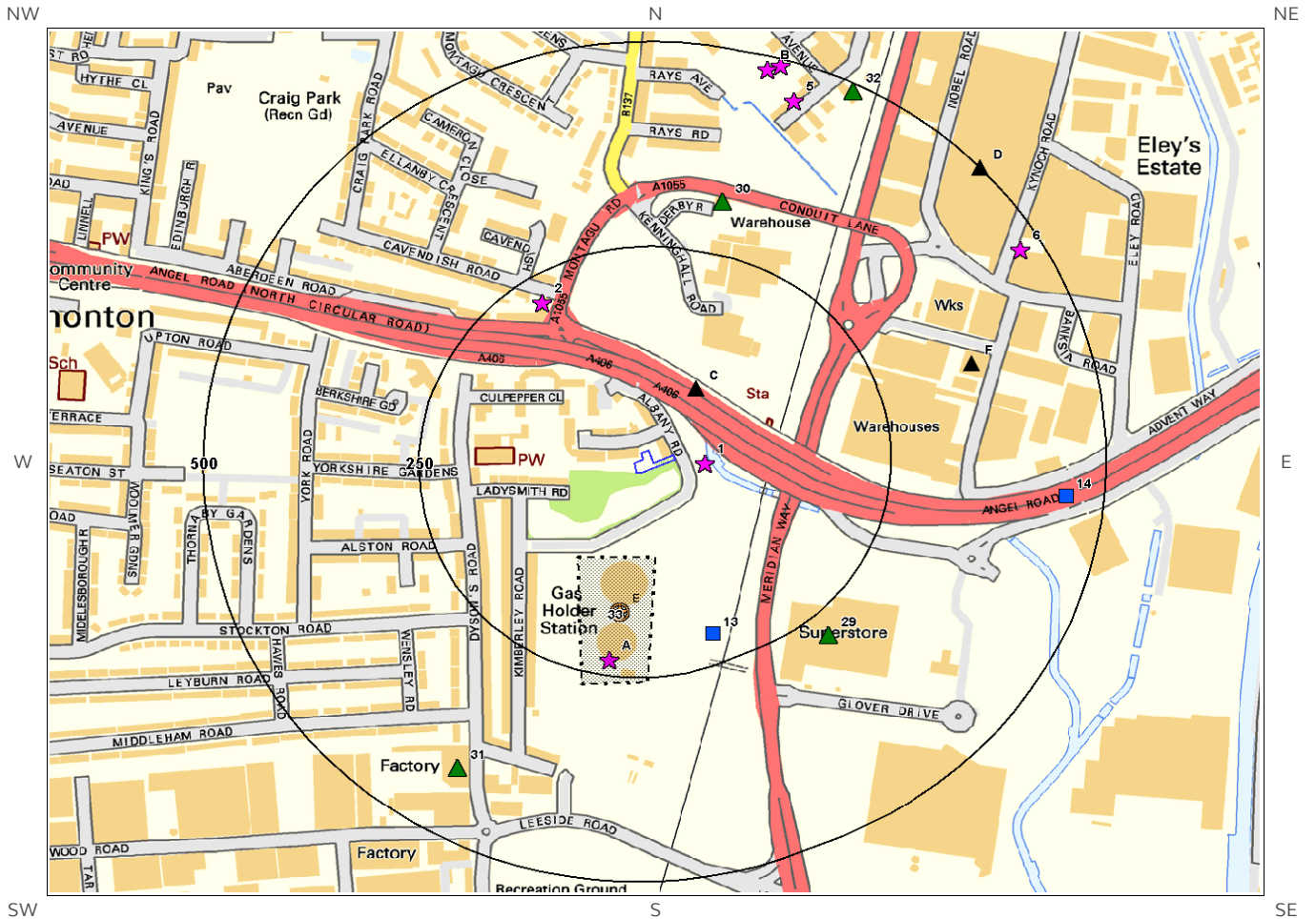
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 21

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:















ID	Distance(m)	Direction	Use	Date
696DS	150	NE	Pond	1920
697DS	160	NE	Pond	1920
698	164	N	Pond	1920
699DT	321	N	Unspecified Ground Workings	1938
700BC	368	NE	Gravel Pit	1920

701BC	379	NE	Gravel Pit	1920
702DU	383	NE	Ground Workings and Refuse Heap	1938
703BC	383	NE	Gravel Pit	1920
704DV	386	NE	Unspecified Ground Workings	1951
705DW	423	NE	Unspecified Heap	1938
706DX	450	S	Pond	1869
707DX	450	S	Pond	1879
708DY	454	N	Unspecified Heap	1938
709DZ	469	N	Pond	1894
710BT	471	N	Ground Workings and Refuse Heap	1938
711DZ	476	N	Pond	1866
712DZ	476	N	Pond	1864
713DZ	477	N	Unspecified Pit	1938
714DZ	477	N	Pond	1864
715EA	479	N	Unspecified Heap	1938
716EB	487	NE	Unspecified Ground Workings	1938

2. Environmental Permits, Incidents and Registers Map



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- | | | | |
|---|-------------------------------|---|--|
|  | Recorded Pollution Incident |  | RAS 3 & 4 Authorisations |
|  | Dangerous Substances (List 1) |  | Part A(1) Authorised Processes and Historic IPC Authorisations |
|  | Dangerous Substances (List 2) |  | Part A(2) and Part B Authorised Processes |
|  | Water Industry Referrals |  | COMAH / NIHHS Sites |
|  | Licenced Discharge Consents |  | Sites Determined as Contaminated Land |
|  | Red List Discharge Consents |  | Hazardous Substance Consents and Enforcements |
|  | Site Outline | | |
|  | Search Buffers (m) | | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

14

The following Part A(1) and IPPC Authorised Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
36C	84	N	535070 192230	<p>Operator: Metal And Waste Recycling Limited Installation Name: Albert Works Epr/ep3091nt Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES</p> <p>Permit Number: ZP3137AB Original Permit Number: ZP3137AB EPR Reference: - Issue Date: 29/1/2016 Effective Date: 29/1/2016 Last date noted as effective: 2017-01-30 Status: Effective</p>
37C	84	N	535070 192230	<p>Operator: Metal And Waste Recycling Limited Installation Name: Albert Works Epr/ep3091nt Process: RECOVERY OR A MIX OF RECOVERY AND DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING TREATMENT IN SHREDDERS OF METAL WASTE, INCLUDING WEEE AND ELV AND THEIR COMPONENTS</p> <p>Permit Number: ZP3137AB Original Permit Number: ZP3137AB EPR Reference: - Issue Date: 29/1/2016 Effective Date: 29/1/2016 Last date noted as effective: 2017-04-01 Status: Effective</p>
38C	84	N	535070 192230	<p>Operator: Metal And Waste Recycling Limited Installation Name: Albert Works Epr/ep3091nt Process: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED</p> <p>Permit Number: ZP3137AB Original Permit Number: ZP3137AB EPR Reference: - Issue Date: 29/1/2016 Effective Date: 29/1/2016 Last date noted as effective: 2017-04-01 Status: Effective</p>

ID	Distance (m)	Direction	NGR	Details	
39C	84	N	535070 192230	Operator: Metal And Waste Recycling Limited Installation Name: Albert Works Epr/ep3091nt Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES	Permit Number: ZP3137AB Original Permit Number: ZP3137AB EPR Reference: - Issue Date: 29/1/2016 Effective Date: 29/1/2016 Last date noted as effective: 2017-04-01 Status: Effective
40F	362	E	535390 192260	Operator: Capricorn Detergents Limited Installation Name: Capricorn Detergents Process: ORGANIC CHEMICALS; SURFACE-ACTIVE AGENTS	Permit Number: MP3538CP Original Permit Number: MP3538CP EPR Reference: - Issue Date: 19/9/2012 Effective Date: 19/9/2012 Last date noted as effective: 2017-04-01 Status: Effective
41D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: YP3336KC Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/6/2010 Effective Date: 4/6/2010 Last date noted as effective: 2017-04-01 Status: Superseded
42D	499	NE	535400 192500	Operator: Coca-cola European Partners Great Britain Limited Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: CP3937DY Original Permit Number: BX5930IU EPR Reference: - Issue Date: 7/12/2016 Effective Date: 7/12/2016 Last date noted as effective: 2017-04-01 Status: Effective
43D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: YP3336KC Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/6/2010 Effective Date: 4/6/2010 Last date noted as effective: 2017-04-01 Status: Superseded
44D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ASSOCIATED PROCESS	Permit Number: BX5930IU Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/4/2006 Effective Date: 4/4/2006 Last date noted as effective: 2017-04-01 Status: Superseded
45D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ASSOCIATED PROCESS	Permit Number: YP3336KC Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/6/2010 Effective Date: 4/6/2010 Last date noted as effective: 2017-04-01 Status: Superseded
46D	499	NE	535400 192500	Operator: Coca-cola European Partners Great Britain Limited Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: CP3937DY Original Permit Number: BX5930IU EPR Reference: - Issue Date: 7/12/2016 Effective Date: 7/12/2016 Last date noted as effective: 2017-04-01 Status: Effective

ID	Distance (m)	Direction	NGR	Details	
47D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: BX5930IU Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/4/2006 Effective Date: 4/4/2006 Last date noted as effective: 2017-04-01 Status: Superseded
48D	499	NE	535400 192500	Operator: Coca-cola European Partners Great Britain Limited Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ASSOCIATED PROCESS	Permit Number: CP3937DY Original Permit Number: BX5930IU EPR Reference: - Issue Date: 7/12/2016 Effective Date: 7/12/2016 Last date noted as effective: 2017-04-01 Status: Effective
49D	499	NE	535400 192500	Operator: Coca Cola Enterprises Ltd Installation Name: Coca Cola - Edmonton Epr/bx5930iu Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D	Permit Number: BX5930IU Original Permit Number: BX5930IU EPR Reference: - Issue Date: 4/4/2006 Effective Date: 4/4/2006 Last date noted as effective: 2017-04-01 Status: Superseded

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

4

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
29	280	SE	535224 191928	Address: Tesco Petrol Filling Station, 1 Glover Drive, Edmonton, N18 3HF Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
30	313	N	535101 192458	Address: McRedmond Plant Hire & Haulage Ltd, 1 Derby Road, Edmonton, N18 2PA Process: Other Minerals Process Status: Revoked Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
31	418	SW	534794 191766	Address: Deery Demolition, Leaside Rd, N17 0SH Process: recycling/including vegetable matter/composting process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
32	489	NE	535252 192593	Address: Garner & Shaw Ltd, 27 First Avenue, Edmonton, N18 3PD Process: Coating Process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

2

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
13	213	SE	535090 191932	Address: WILLOUGHBY LANE GAS WORKS, WILLOUGHBY LANE & TEESIDE ROAD, TOTTENHAM, LONDON, N17 0RY Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CANM.0223 Permit Version: 1 Receiving Water: INTO LAND Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 09/02/2001 Effective Date: 09-Feb-2001 Revocation Date: 01/06/2006

ID	Distance (m)	Direction	NGR	Details	
14	456	E	535500 192100	Address: ANGEL ROAD,EDMONTON., ANGEL ROAD,EDMONTON., - - - - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CTWC.1762 Permit Version: 1	Receiving Water: SALMON BROOK Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/07/1987 Effective Date: 24-Jul-1987 Revocation Date: 14/06/2005

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

2

The following records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Application Reference Number	NGR	Application Status	Application Date	Address	Details	Details of Enforcement Action
50E	172	S	HAZ/92/0007	534982 191958	Historical Consent	10/12/1992	British Gas, Willoughby Lane Holder Station, (Nos.2 & 3) Willoughby Lane, London, N17 0RT	Storage of 206 tonnes of natural gas.	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
51E	172	S	HAZ/92/0007/1	534982 191958	Approved	17/03/2000	Transco Plc, formerly British Gas, Willoughby Lane Holder Station, (Nos.2 & 3) Willoughby Lane, London, N18 4DW	Continuation of consent granted under HAZ/92/0007 for the vessel storage of natural gas.	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Company	Address	Operational Status	Tier
33	104	S	British Gas	British Gas, Tottenham Holder Station, Willoughbylane, Tottenham, N17 0SA	Historical COMAH Site	-

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

12

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	34	E	535080 192140	Incident Date: 10-Jul-2001 Incident Identification: 15207 Pollutant: Specific Waste Materials Pollutant Description: Tyres Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	217	NW	534892 192336	Incident Date: 27-Feb-2003 Incident Identification: 140817 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
3A	231	S	534969 191900	Incident Date: 21-Aug-2001 Incident Identification: 25636 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4A	231	S	534969 191900	Incident Date: 21-Aug-2001 Incident Identification: 25636 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	455	N	535183 192583	Incident Date: 02-Mar-2006 Incident Identification: 381031 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
6	473	NE	535446 192401	Incident Date: 05-Nov-2002 Incident Identification: 118777 Pollutant: Oils and Fuel Pollutant Description: Diesel Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
7B	483	N	535153 192621	Incident Date: 16-Sep-2002 Incident Identification: 108210 Pollutant: Atmospheric Pollutants and Effects:Other Pollutant Pollutant Description: Smoke:Other Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)

ID	Distance (m)	Direction	NGR	Details	
8B	483	N	535153 192621	Incident Date: 16-Sep-2002 Incident Identification: 108210 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
9B	483	N	535153 192621	Incident Date: 16-Sep-2002 Incident Identification: 108210 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
10B	483	N	535153 192621	Incident Date: 16-Sep-2002 Incident Identification: 108210 Pollutant: Other Pollutant Pollutant Description: Smoke Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
11B	483	N	535153 192621	Incident Date: 16-Sep-2002 Incident Identification: 108210 Pollutant: Atmospheric Pollutants and Effects : Other Pollutant Pollutant Description: Smoke :Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
12B	492	N	535168 192626	Incident Date: 19-Apr-2002 Incident Identification: 73210 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

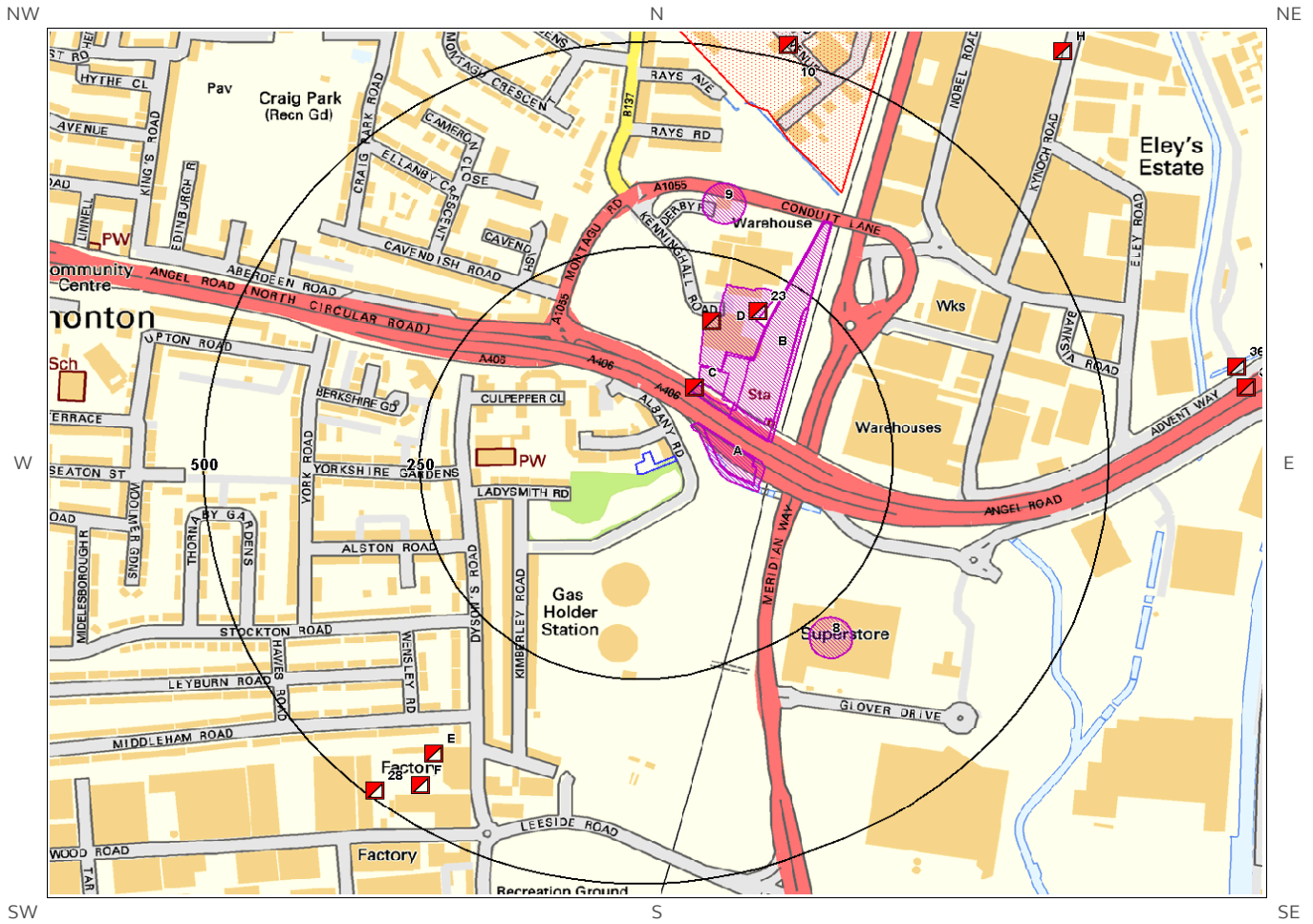
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?










0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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-  Site Outline
-  EA/NRW Active Landfill
-  EA/NRW Historic Landfill
-  BGS / DoE Survey Landfill
-  Historic and Planned Waste Sites
-  EA/NRW Licensed Waste Site
-  Local Authority/Historical Mapping Landfill Records
-  250 Search Buffers (m)
-  500 Search Buffers (m)

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

8

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
10	375	NE	535200 192900	Site Address: Montagu Road, Lower, Edmonton, Edmonton, Enfield, London Waste Licence: - Site Reference: 8EN016 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1896 Last Recorded: 31-Dec-1953
Not shown	634	N	534700 192800	Site Address: Provident Park, Lower, Edmonton, Edmonton, Enfield, London Waste Licence: - Site Reference: 8EN021 Waste Type: Inert, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: 31-Dec-1945
Not shown	896	E	536000 192100	Site Address: Lee Valley Trading Estate, Lee Valle Waste Licence: - Site Reference: 8WF003, WAL003 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1120	N	535300 193500	Site Address: Montagu Road, Edmonton Waste Licence: - Site Reference: 8EN016 Waste Type: Inert, Industrial, Liquid, sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: P T Read and Company Licence Holder: - First Recorded: 31-Dec-1958 Last Recorded: 31-Dec-1965

ID	Distance (m)	Direction	NGR	Details	
Not shown	1128	NE	536200 192700	Site Address: Chingford South Pumping Station, Chingford Waste Licence: - Site Reference: 8WF002, WAL002 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1173	NW	534000 192900	Site Address: Rear of Victoria Road, Victoria Road, Edmonton Waste Licence: - Site Reference: 8EN019 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Local Authority Licence Holder: - First Recorded: 31-Dec-1936 Last Recorded: 31-Dec-1985
Not shown	1225	NE	535900 193100	Site Address: Picketts Lock Lane, Lower Edmonton Waste Licence: - Site Reference: - Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1952 Last Recorded: 31-Dec-1971
Not shown	1353	S	534900 190400	Site Address: Tottenham Marshes, Tottenham Hale, Tottenham, Haringey, London Waste Licence: - Site Reference: 8HG002 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1955 Last Recorded: 31-Dec-1962

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

4

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1172	NW	534065 192958	Pyecroft Way Landfill	Enfield Council	Polygon
Not shown	1344	NW	534096 193142	Pyecroft Way Landfill	Enfield Council	Polygon
Not shown	1427	NE	536064 193253	Refuse Tip	1964 mapping	Polygon
Not shown	1428	NE	536064 193253	Refuse Tip	1964 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

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The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
1A	36	NE	535105 192148	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1975	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
2A	44	E	535107 192152	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1975	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
3A	44	NE	535107 192151	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1993	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
4B	75	NE	535170 192301	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1975	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
5B	79	NE	535167 192301	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1993	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
6B	92	NE	535169 192310	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1998	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
7D	116	N	535119 192308	Type of Site: Scrap Metals Depot Site Address: N/A	Planning Application Reference: N/A Date: 1964	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
8	255	SE	535224 191928	Type of Site: Torma Recycling Unit Site Address: Tesco Store, 1 Glover Drive, LONDON, Central London, N18 3HF	Planning Application Reference: TP/07/1632 Date: -	Further Details: Scheme comprises replacement of recycling units with torma recycling unit. An application (ref: TP/07/1632) for detailed planning permission was granted by Enfield L.B. Planning decision obtained Data Source: Historic Planning Application Data Type: Point

ID	Distance (m)	Direction	NGR	Details	
9	288	N	535101 192457	Type of Site: Recycling Centre Site Address: 1-2 Derby Road, LONDON, Central London, N18 2PA	Further Details: Scheme comprises change of use from plant hire and metal fabrication workshop to scrap yard in connection with adjacent scrap yard together with demolition of buildings and construction of new workshop and installation of 4 container filling machines. An application (ref: TP/09/0980) for detailed planning permission was refused by Enfield L.B. A detailed planning application has been refused. Data Source: Historic Planning Application Date Type: Point

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

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The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
18C	87	N	535067 192234	Site Address: Chris Pelosi, Albert Works, Kenninghall Road, Edmonton, London, N18 2ED Type: Metal Recycling Site (mixed MRS's) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GDM001 EPR reference: - Operator: GD Metal Recycling Ltd Waste Management licence No: 80298 Annual Tonnage: 0.0	Issue Date: 02/06/1992 Effective Date: - Modified: 19/01/1993 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "G D Metal Recycling, Edmonton" Correspondence Address: GD Metal Recycling Limited, Albert Works, Kenninghall Road, Edmonton, London, N18 2PD
19C	87	N	535067 192234	Site Address: Chris Pelosi, Albert Works, Kenninghall Road, Edmonton, London, N18 2PD Type: Metal Recycling Site (mixed MRS's) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GDM001 EPR reference: EA/EPR/EP3091NT/V005 Operator: Metal & Waste Recycling Group Ltd Waste Management licence No: 80298 Annual Tonnage: 349000.0	Issue Date: 02/06/1992 Effective Date: - Modified: 26/08/2010 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Albert Works Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
20D	170	N	535087 192315	Site Address: Unit 1, New Park Estate, Edmonton, London, N18 2PD Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ELV001 EPR reference: - Operator: E L V Ltd Waste Management licence No: 80631 Annual Tonnage: 12500.0	Issue Date: 28/01/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: E L V Limited Correspondence Address: Mr Garry Baker, 421, Hertford Road, Enfield, Middlesex, EN3 5PT
21D	170	N	535087 192315	Site Address: Unit 1, New Park Estate, Edmonton, London, N18 2PD Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LTR001 EPR reference: EA/EPR/DP3596ST/V003 Operator: London Tyre Recycling Ltd Waste Management licence No: 80631 Annual Tonnage: 12500.0	Issue Date: 28/01/2005 Effective Date: 20/12/2007 Modified: 02/06/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: E L V Limited Correspondence Address: -
22D	170	N	535087 192315	Site Address: Unit 1, New Park Estate, Edmonton, London, N18 2PD Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ELV001 EPR reference: - Operator: E L V Limited Waste Management licence No: 80631 Annual Tonnage: 12500.0	Issue Date: 28/01/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: E L V Limited Correspondence Address: 421, Hertford Road, Enfield, Middlesex, EN3 5PT
23	201	NE	535140 192327	Site Address: Chris Pelosi, Albert Works, Kenninghall Road, Edmonton, London, N18 2PD Type: Metal Recycling Site (mixed MRS's) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GDM001 EPR reference: EA/EPR/EP3091NT/V006 Operator: Metal & Waste Recycling Limited Waste Management licence No: 80298 Annual Tonnage: 280000.0	Issue Date: 02/06/1992 Effective Date: - Modified: 29/01/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Albert Works Correspondence Address: -
24E	414	SW	534765 191788	Site Address: Brantwood House, 175, Willoughby Lane, Tottenham, London, N17 0RX Type: Metal Recycling Site (Vehicle Dismantler) Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRA006 EPR reference: EA/EPR/SP3493ES/A001 Operator: Brantwood Auto Recycling Limited Waste Management licence No: 80749 Annual Tonnage: 40000.0	Issue Date: 20/12/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: Brantwood Willoughby Lane Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
25E	414	SW	534765 191788	<p>Site Address: 175, Willoughby Lane, Tottenham, London, N17 0RX Type: Metal Recycling Site (Vehicle Dismantler) Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRA006 EPR reference: - Operator: Brantwood Auto Breakers Limited Waste Management licence No: 80749 Annual Tonnage: 5000.0</p>	<p>Issue Date: 20/12/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Brantwood Tottenham Correspondence Address: 175, Willoughby Lane, Tottenham, London, N17 0RX</p>
26F	454	SW	534750 191750	<p>Site Address: Land/premises At, Brantwood Road, Tottenham, London, N17 0DT Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRA005 EPR reference: EA/EPR/AP3797NG/A001 Operator: Brantwood Auto Recycling Ltd Waste Management licence No: 80653 Annual Tonnage: 18000.0</p>	<p>Issue Date: 16/11/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: Brantwood Auto Breakers Ltd Correspondence Address: -</p>
27F	454	SW	534750 191750	<p>Site Address: Brantwood Road, Tottenham, London, N17 0DT Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRA005 EPR reference: - Operator: Brantwood Auto Breakers Ltd Waste Management licence No: 80653 Annual Tonnage: 18000.0</p>	<p>Issue Date: 16/11/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Brantwood Auto Breakers Ltd Correspondence Address: Brantwood Road, Tottenham, London, N17 0DT</p>
28	491	SW	534698 191743	<p>Site Address: Redcorn, Brantwood Road, Tottenham, London, N17 0ED Type: 75kte Vehicle Depollution Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RED074 EPR reference: EA/EPR/EB3333AD/A001 Operator: Redcorn Ltd Waste Management licence No: 103763 Annual Tonnage: 74999.0</p>	<p>Issue Date: 20/01/2012 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Redcorn Correspondence Address: -</p>
29G	519	N	535176 192652	<p>Site Address: Robin D Rooke, Montague Road Industrial Estate, 22-26, First Avenue, Edmonton, London, N18 3PH Type: Metal Recycling Site (mixed MRS's) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ROO001 EPR reference: EA/EPR/WP3191NU/A001 Operator: End of Life Vehicle Ltd Waste Management licence No: 80326 Annual Tonnage: 79040.0</p>	<p>Issue Date: 17/09/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Rooke & Co Ltd, Edmonton Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
30G	519	N	535176 192652	<p>Site Address: Robin D Rooke, Montague Road Industrial Estate, 22-26, First Avenue, Edmonton, London, N18 3PH Type: Metal Recycling Site (mixed MRS's) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ROO001 EPR reference: - Operator: End of Life Vehicle Limited Waste Management licence No: 80326 Annual Tonnage: 0.0</p> <p>Issue Date: 17/09/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: "Rooke & Co Ltd, Edmonton" Correspondence Address: F W Rooke & Co Limited, Montague Road Industrial Estate, 22-26, First Avenue, Edmonton, London, N18 3PH</p>
Not shown	584	S	535161 191565	<p>Site Address: P Quinn, 81, Garman Road, Tottenham, London, N17 Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAL003 EPR reference: - Operator: Hales Waste Control Ltd Waste Management licence No: 80300 Annual Tonnage: 0.0</p> <p>Issue Date: 22/09/1992 Effective Date: - Modified: 05/08/1999 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "Hales Waste, Garman Road" Correspondence Address: Hales Waste Control Limited, 81, Garman Road, Tottenham, London, N17</p>
Not shown	606	S	535168 191544	<p>Site Address: P Quinn, 81, Garman Road, Tottenham, London, N17 0UN Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF002 EPR reference: EA/EPR/EP3591NR/V004 Operator: Biffa Waste Services Ltd Waste Management licence No: 80300 Annual Tonnage: 86925.0</p> <p>Issue Date: 22/09/1992 Effective Date: 18/12/2003 Modified: 31/03/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Garman Road Correspondence Address: -</p>
Not shown	639	N	535249 192755	<p>Site Address: Mr Edward Pipe, 17, Stacey Avenue, Edmonton, London, N18 3PP Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TUG001 EPR reference: EA/EPR/CP3696LL/V006 Operator: Tuglord Enterprises Ltd Waste Management licence No: 80319 Annual Tonnage: 111600.0</p> <p>Issue Date: 30/11/1993 Effective Date: - Modified: 11/07/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: A M I Waste Correspondence Address: -</p>
Not shown	639	N	535249 192755	<p>Site Address: Mr. Edward Pipe, 17, Stacey Avenue, Edmonton, London, N18 3PH Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TUG001 EPR reference: - Operator: Tuglord Enterprises Limited Waste Management licence No: 80319 Annual Tonnage: 0.0</p> <p>Issue Date: 30/11/1993 Effective Date: - Modified: 19/09/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "Howard Waste, Edmonton" Correspondence Address: Howard Waste, 17, Stacey Avenue, Edmonton, London, N18 3PH</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	650	N	535100 192800	<p>Site Address: Second Avenue, Off Montague Road, Edmonton, London, N18 2PG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LEE002</p> <p>EPR reference: -</p> <p>Operator: Lea Valley Motors Ltd</p> <p>Waste Management licence No: 80722</p> <p>Annual Tonnage: 1000.0</p>	<p>Issue Date: 14/08/2006</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Lea Valley Motors, Edmonton</p> <p>Correspondence Address: Second Avenue, Off Montague Road, Edmonton, London, N18 2PG</p>
36	657	E	535694 192259	<p>Site Address: Steve Oulds / Nicola Dowlen, Fuel Preparation Plant, Advent Way, Edmonton, London, N18 3AG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LON005</p> <p>EPR reference: EA/EPR/AP3791NR/S005</p> <p>Operator: LondonWaste Ltd</p> <p>Waste Management licence No: 80337</p> <p>Annual Tonnage: 317500.0</p>	<p>Issue Date: 07/04/1992</p> <p>Effective Date: -</p> <p>Modified: 05/08/1999</p> <p>Surrendered Date: 25/05/2006</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Londonwaste, Advent Way Fuel Plant</p> <p>Correspondence Address: -</p>
37	664	E	535705 192234	<p>Site Address: Nigel Young, LondonWaste Ltd, Angel Road, Edmonton, London, N18 3AG</p> <p>Type: Material Recycling Treatment Facility</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LON007</p> <p>EPR reference: EA/EPR/RP3991NV/S002</p> <p>Operator: LondonWaste Ltd</p> <p>Waste Management licence No: 80340</p> <p>Annual Tonnage: 75000.0</p>	<p>Issue Date: 19/10/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 11/05/2000</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: LondonWaste, Advent Way RDF</p> <p>Correspondence Address: -</p>
38H	668	NE	535494 192644	<p>Site Address: Mr Herbert, Apex Works, Eley Estate, Kynoch Road, Edmonton, London, N18 3BH</p> <p>Type: Metal Recycling Site (mixed MRS's)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: HEN000</p> <p>EPR reference: -</p> <p>Operator: Henard (Edmonton) Ltd</p> <p>Waste Management licence No: 80303</p> <p>Annual Tonnage: 0.0</p>	<p>Issue Date: 18/03/1994</p> <p>Effective Date: -</p> <p>Modified: 16/08/1994</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Henard Eley Estate, Edmonton</p> <p>Correspondence Address: Henard (Edmonton) Limited, Apex Works, Eley Estate, Kynoch Road, Edmonton, London, N18 3BH</p>
39H	668	NE	535494 192644	<p>Site Address: Mr Herbert, Apex Works, Eley Estate, Kynoch Road, Edmonton, London, N18 3BH</p> <p>Type: Metal Recycling Site (mixed MRS's)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: HEN001</p> <p>EPR reference: EA/EPR/EP3291NZ/S003</p> <p>Operator: Henard (Edmonton) Ltd</p> <p>Waste Management licence No: 80303</p> <p>Annual Tonnage: 1000.0</p>	<p>Issue Date: 18/03/1994</p> <p>Effective Date: -</p> <p>Modified: 16/08/1994</p> <p>Surrendered Date: 20/10/2006</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Henard Eley Estate, Edmonton</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	681	NE	535374 192746	Site Address: Pegamoid Site, Nobel Road, Edmonton, London, N18 3BH Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JOD002 EPR reference: EA/EPR/JP3795EL/A001 Operator: J O'Doherty Haulage Ltd Waste Management licence No: 100204 Annual Tonnage: 325000.0	Issue Date: 11/01/2008 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: - Cancelled Date: - Status: Issued Site Name: O' Doherty - Pegamoid Correspondence Address: -
Not shown	702	N	535252 192821	Site Address: Anthony E Morris, Montague Industrial Estate, 22A, Stacey Avenue, Edmonton, London, N18 3PS Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOR001 EPR reference: EA/EPR/RP3691NH/A001 Operator: Morris Anthony Edward Waste Management licence No: 80345 Annual Tonnage: 5200.0	Issue Date: 01/10/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: Commercial Truck Sales Correspondence Address: -
Not shown	726	N	535260 192843	Site Address: 22a & 24, Stacey Avenue, Montagu Industrial Estate, Enfield, N18 3PS Type: 75kte Vehicle Depollution Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RED082 EPR reference: EA/EPR/BB3200TB/A001 Operator: Redcorn Ltd Waste Management licence No: 401137 Annual Tonnage: 74999.0	Issue Date: 06/03/2014 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Redcorn Correspondence Address: -
Not shown	732	SE	535435 191525	Site Address: David Owen, Leaside Road, Tottenham, London, N17 Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON003 EPR reference: EA/EPR/EP3791NQ/S004 Operator: London Restoration (Civil Engineering) Ltd Waste Management licence No: 80306 Annual Tonnage: 0.0	Issue Date: 22/09/1992 Effective Date: - Modified: 15/02/1994 Surrendered Date: 07/02/2008 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: London Restoration, Leaside Road Correspondence Address: -
Not shown	732	SE	535435 191525	Site Address: David Owen, Leaside Road, Tottenham, London, N17 Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON003 EPR reference: - Operator: London Restoration (Civil Engineering) Ltd Waste Management licence No: 80306 Annual Tonnage: 0.0	Issue Date: 22/09/1992 Effective Date: - Modified: 15/02/1994 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "London Restoration, Leaside Road" Correspondence Address: London Restoration(Civil Engineering)Ltd, First Floor, 144-146, East Barnet Road, New Barnet, Herts, EN4 8RD

ID	Distance (m)	Direction	NGR	Details	
Not shown	737	SE	535455 191531	Site Address: Kevin Deery, Leaside Road, Tottenham, London, N17 0SH Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: VHE001 EPR reference: EA/EPR/NP3291NJ/S003 Operator: V H E Construction Plc Waste Management licence No: 80293 Annual Tonnage: 145524.0	Issue Date: 19/05/1993 Effective Date: 08/08/2003 Modified: - Surrendered Date: 13/09/2005 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: End Of Leaside Road, N17 Correspondence Address: -
Not shown	737	SE	535455 191531	Site Address: Kevin Deery, Leaside Road, Tottenham, London, N17 0SH Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: VHE001 EPR reference: - Operator: VHE Construction Plc Waste Management licence No: 80293 Annual Tonnage: 0.0	Issue Date: 19/05/1993 Effective Date: 08/08/2003 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: End Of Leaside Road, N17 Correspondence Address: Deery Construction Limited, Narrow Quay House, Narrow Quay, Bristol, BS1 4AH
Not shown	737	SE	535455 191531	Site Address: Kevin Deery, Leaside Road, Tottenham, London, N17 0SH Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DEE001 EPR reference: - Operator: Deery Construction Ltd Waste Management licence No: 80293 Annual Tonnage: 0.0	Issue Date: 19/05/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: "Deery Construction, Tottenham" Correspondence Address: Deery Construction Limited, Leaside Road, Tottenham, London, N17 0SH
Not shown	765	NE	535470 192786	Site Address: Mark Lennon, Oakwood House, Nobel Road, Eley Ind. Estate, Edmonton, London, N18 3BH Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: OAK001 EPR reference: EA/EPR/VP3791NV/A001 Operator: Oakwood Plant Ltd Waste Management licence No: 80316 Annual Tonnage: 44900.0	Issue Date: 07/04/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Oakwood Plant Ltd, Edmonton Correspondence Address: -
Not shown	769	N	535182 192907	Site Address: Second Avenue, Off Montague Road, Edmonton, London, N18 2PG Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LEE002 EPR reference: EA/EPR/PP3393EY/A001 Operator: Lea Valley Motors Ltd (dissolved) Waste Management licence No: 80722 Annual Tonnage: 1000.0	Issue Date: 14/08/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Lea Valley Motors, Edmonton Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details
Not shown	779	E	535824 192100	<p>Site Address: Unit 8a Stonehill Business Park, Hawley Road, Edmonton, London, N18 3QU Type: Material Recycling Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ENV983 EPR reference: EA/EPR/EB3339DF/V002 Operator: Environcom England Ltd Waste Management licence No: 103771 Annual Tonnage: 14999.0</p> <p>Issue Date: 19/03/2012 Effective Date: - Modified: 06/01/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Edmonton Facility Correspondence Address: -</p>
Not shown	788	N	535274 192904	<p>Site Address: Andy Gibbons, 10, Princes Road, Edmonton, London, N18 3PR Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PER002 EPR reference: EA/EPR/WP3891NR/V002 Operator: Personnel Hygiene Services Ltd Waste Management licence No: 80322 Annual Tonnage: 4999.0</p> <p>Issue Date: 08/11/1994 Effective Date: - Modified: 19/04/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Personnel Hygiene Services Ltd Correspondence Address: -</p>
Not shown	809	E	535854 192090	<p>Site Address: 8a, Hawley Road, Stonehill Business Park, London, N18 3QU Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ELV002 EPR reference: EA/EPR/LP3893EL/A001 Operator: E L V Ltd Waste Management licence No: 80762 Annual Tonnage: 24999.0</p> <p>Issue Date: 22/01/2007 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: E L V, Stonehill Business Park Correspondence Address: -</p>
Not shown	877	NE	535767 192648	<p>Site Address: Ecoplant, Advent Way, Edmonton, London, N18 3AG Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: POL006 EPR reference: HP3597NH/V002 Operator: Polkacrest Ltd Waste Management licence No: 80544 Annual Tonnage: 0.0</p> <p>Issue Date: 13/02/2004 Effective Date: - Modified: 16/01/2007 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Polkacrest Limited Correspondence Address: -</p>
Not shown	877	NE	535767 192648	<p>Site Address: Ecoplant, Advent Way, Edmonton, London, N18 3AG Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON254 EPR reference: EA/EPR/VP3798VN/S002 Operator: LondonWaste Ltd Waste Management licence No: 80544 Annual Tonnage: 160200.0</p> <p>Issue Date: 13/02/2004 Effective Date: 01/06/2011 Modified: 16/01/2007 Surrendered Date: 20/12/2016 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Clinical Waste Plan Correspondence Address: -</p>
Not shown	877	NE	535767 192648	<p>Site Address: Ecoplant, Advent Way, Edmonton, London, N18 3AG Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON254 EPR reference: EA/EPR/VP3798VN/T001 Operator: London Waste Ltd Waste Management licence No: 80544 Annual Tonnage: 13350.0</p> <p>Issue Date: 13/02/2004 Effective Date: 01/06/2011 Modified: 16/01/2007 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Polkacrest Limited Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	877	NE	535767 192648	<p>Site Address: Advent Way, Edmonton, London, N18 3AG</p> <p>Type: Clinical Waste Transfer Station</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POL006</p> <p>EPR reference: -</p> <p>Operator: Polkacrest Limited</p> <p>Waste Management licence No: 80544</p> <p>Annual Tonnage: 13350.0</p>	<p>Issue Date: 13/02/2004</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Polkacrest Limited</p> <p>Correspondence Address: Advent Way, Edmonton, London, N18 3AG</p>
Not shown	896	E	535902 191878	<p>Site Address: Units 3a & 3b Stonehill Bus Park, Harbet Road, Edmonton, London, N18 3HT</p> <p>Type: Physical Treatment Facility</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PLA002</p> <p>EPR reference: EA/EPR/QP3497NW/A001</p> <p>Operator: Plasterboard Recycling U K Ltd (in Liquidation)</p> <p>Waste Management licence No: 80717</p> <p>Annual Tonnage: 24999.0</p>	<p>Issue Date: 08/11/2005</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Expired</p> <p>Site Name: Plasterboard Recycling Ltd</p> <p>Correspondence Address: -</p>
Not shown	896	E	535902 191878	<p>Site Address: Units 3a & 3b Stonehill Bus Park, Harbet Road, Edmonton, London, N18 3HT</p> <p>Type: Physical Treatment Facility</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PLA002</p> <p>EPR reference: EA/EPR/QP3497NW/A001</p> <p>Operator: Plasterboard Recycling Uk Ltd (in Liquidation)</p> <p>Waste Management licence No: 80717</p> <p>Annual Tonnage: 24999.0</p>	<p>Issue Date: 08/11/2005</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Plasterboard Recycling Edmonton</p> <p>Correspondence Address: -</p>
Not shown	913	NE	535606 192870	<p>Site Address: Edmonton I B A Facility, Advent Way, Edmonton, London, N18 3AG</p> <p>Type: Physical Treatment Facility</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BAL143</p> <p>EPR reference: EA/EPR/AB3938AN/V002</p> <p>Operator: Ballast Phoenix Limited</p> <p>Waste Management licence No: 103144</p> <p>Annual Tonnage: 150000.0</p>	<p>Issue Date: 03/07/2012</p> <p>Effective Date: -</p> <p>Modified: 08/11/2013</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Edmonton I B A Facility</p> <p>Correspondence Address: -</p>
Not shown	913	NE	535606 192870	<p>Site Address: Edmonton I B A Facility, Advent Way, Edmonton, London, N18 3AG</p> <p>Type: Physical Treatment Facility</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BAL143</p> <p>EPR reference: EA/EPR/AB3938AN/V003</p> <p>Operator: Ballast Phoenix Ltd</p> <p>Waste Management licence No: 103144</p> <p>Annual Tonnage: 150000.0</p>	<p>Issue Date: 03/07/2012</p> <p>Effective Date: -</p> <p>Modified: 22/12/2016</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: To PPC</p> <p>Site Name: Edmonton I B A Facility</p> <p>Correspondence Address: -</p>
Not shown	917	NE	535631 192855	<p>Site Address: Ecopark, Advent Way, Edmonton, London, N18 3AG</p> <p>Type: Composting Facility</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LON013</p> <p>EPR reference: EA/EPR/QP3997NL/V004</p> <p>Operator: LondonWaste Ltd</p> <p>Waste Management licence No: 80714</p> <p>Annual Tonnage: 45000.0</p>	<p>Issue Date: 13/09/2005</p> <p>Effective Date: -</p> <p>Modified: 18/08/2016</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: To PPC</p> <p>Site Name: Compost Plant</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	923	NE	535700 192800	Site Address: Ecopark, Advent Way, Edmonton, London, N18 3AG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON012 EPR reference: - Operator: LondonWaste Limited Waste Management licence No: 80689 Annual Tonnage: 730000.0	Issue Date: 08/11/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Bulk Waste Recycling Facility Correspondence Address: Ecopark, Advent Way, Edmonton, London, N18 3AG
Not shown	923	NE	535700 192800	Site Address: Ecopark, Advent Way, Edmonton, London, N18 3AG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON012 EPR reference: - Operator: London Waste Ltd Waste Management licence No: 80689 Annual Tonnage: 730000.0	Issue Date: 08/11/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Bulk Waste Recycling Facility Correspondence Address: Ecopark, Advent Way, Edmonton, London, N18 3AG
Not shown	923	NE	535700 192800	Site Address: Ecopark, Advent Way, Edmonton, London, N18 3AG Type: Composting Facility Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON013 EPR reference: - Operator: London Waste Ltd Waste Management licence No: 80714 Annual Tonnage: 30000.0	Issue Date: 13/09/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Compost Plant Correspondence Address: Ecopark, Advent Way, Edmonton, London, N18 3AG
Not shown	926	E	535972 192111	Site Address: The Market Compound, 2, Harbet Road, Edmonton, London, N18 3HQ Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BUD004 EPR reference: EA/EPR/EP3391SD/A001 Operator: Budd Skips Ltd Waste Management licence No: 101097 Annual Tonnage: 10000.0	Issue Date: 06/01/2010 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: The Market Compound Correspondence Address: -
Not shown	947	SE	535860 191660	Site Address: Julian Hanley, Phoenix Wharf, Stonehill Business Park, Angel Road, Edmonton, London, N18 3LD Type: Transfer Station taking Non- Biodegradable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ENV001 EPR reference: EA/EPR/VP3491NH/A001 Operator: Environmental Tyre Disposals Ltd Waste Management licence No: 80312 Annual Tonnage: 24999.0	Issue Date: 15/11/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: Environmental Tyre Disposals Ltd Correspondence Address: -

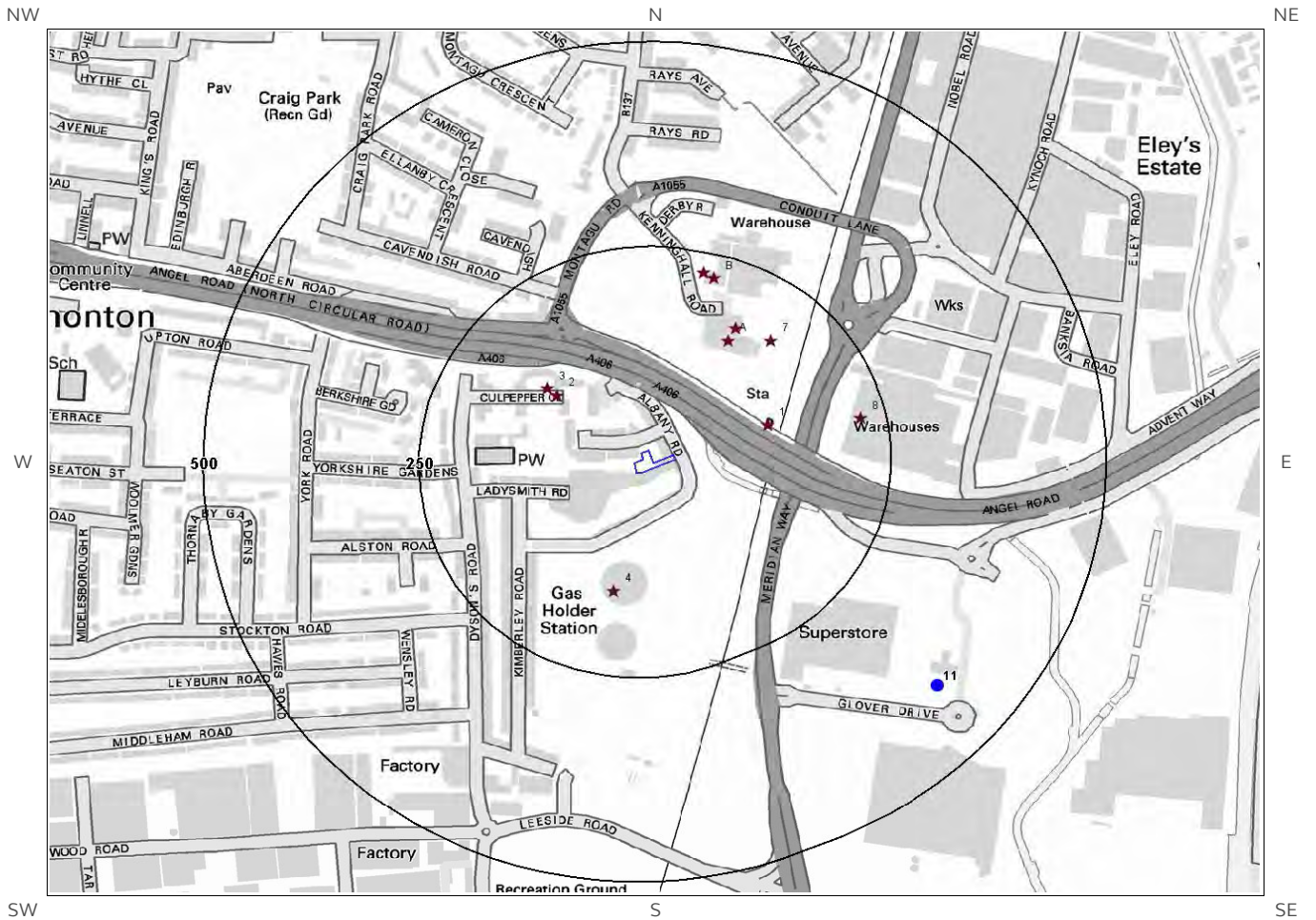
ID	Distance (m)	Direction	NGR	Details	
Not shown	947	SE	535860 191660	<p>Site Address: Julian Hanley, Edmonton Wharf, Lea Valley Trading Estate, Edmonton, London, N18</p> <p>Type: Transfer Station taking Non-Biodegradable Wastes</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ENV001</p> <p>EPR reference: -</p> <p>Operator: Environmental Tyre Disposals Limited</p> <p>Waste Management licence No: 80312</p> <p>Annual Tonnage: 0.0</p>	<p>Issue Date: 15/11/1996</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Environmental Tyre Disposals Limited</p> <p>Correspondence Address: Environmental Tyre Disposals Limited, Phoenix Wharf, Stonehill Business Park, Angel Road, Edmonton, London, N18 3LD</p>
Not shown	954	E	535973 191917	<p>Site Address: Stonehill Business Park, Angel Road, Edmonton, London, N18 3LD</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ODO003</p> <p>EPR reference: EA/EPR/TP3497ND/S002</p> <p>Operator: O'Doherty James</p> <p>Waste Management licence No: 80533</p> <p>Annual Tonnage: 24999.0</p>	<p>Issue Date: 30/03/2001</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 29/03/2006</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Stonehill Park</p> <p>Correspondence Address: -</p>
Not shown	954	E	535973 191917	<p>Site Address: 6, The Yard, Stonehill Business Park, Angel Road, London, N18 3LD</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ODO003</p> <p>EPR reference: -</p> <p>Operator: O'Doherty James</p> <p>Waste Management licence No: 80533</p> <p>Annual Tonnage: 24999.0</p>	<p>Issue Date: 30/03/2001</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Stonehill Park</p> <p>Correspondence Address: -</p>
Not shown	982	SE	535900 191660	<p>Site Address: Phoenix Wharf, Stonehill Business Park, Edmonton, London, N18 3QX</p> <p>Type: Physical Treatment Facility</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ENV005</p> <p>EPR reference: EA/EPR/CP3597NU/A001</p> <p>Operator: Environmental Tyre Disposals Ltd</p> <p>Waste Management licence No: 80574</p> <p>Annual Tonnage: 62000.0</p>	<p>Issue Date: 15/07/2004</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Revoked</p> <p>Site Name: Environmental Tyre Disposals Ltd</p> <p>Correspondence Address: -</p>
Not shown	982	SE	535900 191660	<p>Site Address: Phoenix Wharf, Stonehill Business Park, Edmonton, London, N18 3LD</p> <p>Type: Physical Treatment Facility</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ENV005</p> <p>EPR reference: -</p> <p>Operator: Environmental Tyre Disposals Limited</p> <p>Waste Management licence No: 80574</p> <p>Annual Tonnage: 62000.0</p>	<p>Issue Date: 15/07/2004</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Phoenix Wharf</p> <p>Correspondence Address: Phoenix Wharf, Stonehill Business Park, Edmonton, London, N18 3LD</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	989	SE	535909 191660	Site Address: Phoenix Wharf, Towpath Road, London, N18 3QX Type: Material Recycling Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LMS001 EPR reference: EA/EPR/JB3632RJ/A001 Operator: L & M Skips Ltd Waste Management licence No: 104500 Annual Tonnage: 4999.0	Issue Date: 13/09/2012 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: L & M Skips Recycling Facility Correspondence Address: -
Not shown	989	SE	535909 191660	Site Address: Phoenix Wharf, Towpath Road, London, N18 3QX Type: Material Recycling Treatment Facility Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LMS001 EPR reference: EA/EPR/JB3632RJ/V002 Operator: London & Metropolitan Recycling Limited Waste Management licence No: 104500 Annual Tonnage: 3500.0	Issue Date: 13/09/2012 Effective Date: - Modified: 21/05/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: London & Metropolitan Recycling Facility Correspondence Address: -
Not shown	1007	E	536017 191876	Site Address: Yard 10 -12 Hastingwood Trading Est, Harbet Road, Edmonston, London, N18 3HR Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON034 EPR reference: EA/EPR/AP3098LW/A001 Operator: London Waste Recycling Ltd Waste Management licence No: 100468 Annual Tonnage: 24999.0	Issue Date: 09/10/2008 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Yard 10 - 12 Hastingwood Trading Est Correspondence Address: -
Not shown	1007	E	536017 191876	Site Address: Yard 10 -12 Hastingwood Trading Est, Harbet Road, Edmonston, London, N18 3HQ Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON034 EPR reference: EA/EPR/AP3098LW/V002 Operator: A & A Skip Hire Limited Waste Management licence No: 100468 Annual Tonnage: 24999.0	Issue Date: 09/10/2008 Effective Date: - Modified: 22/01/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Yard 10 - 12 Hastingwood Trading Est Correspondence Address: -
Not shown	1011	NE	535819 192800	Site Address: Ecopark, Advent Way, Edmonton, London, N18 3AG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON012 EPR reference: EA/EPR/YP3197NR/V003 Operator: LondonWaste Ltd Waste Management licence No: 80689 Annual Tonnage: 730000.0	Issue Date: 08/11/2005 Effective Date: - Modified: 02/09/2015 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Bulk Waste Recycling Facility Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details
Not shown	1074	NE	535562 193091	<p>Site Address: Pegamoid Site, Nobel Road, Edmonton, London, N18 3BH Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JOD002 EPR reference: EA/EPR/JP3795EL/V002 Operator: J O Doherty Haulage Limited Waste Management licence No: 100204 Annual Tonnage: 74999.0</p> <p>Issue Date: 11/01/2008 Effective Date: - Modified: 25/04/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: O' Doherty - Pegamoid Correspondence Address: -</p>
Not shown	1161	NE	536091 192654	<p>Site Address: Mick Marrinan, Land/ Premises At, Lower Hall Lane, Chingford, London, E4 8JG Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAM002 EPR reference: EA/EPR/DP3891NP/A002 Operator: Camden Plant Ltd Waste Management licence No: 80355 Annual Tonnage: 109368.0</p> <p>Issue Date: 30/06/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Camden Plant Correspondence Address: -</p>
Not shown	1366	E	536396 192358	<p>Site Address: 21, Chingford Industrial Estate, Hall Lane, Chingford, London, E4 8DJ Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MER003 EPR reference: EA/EPR/AP3497NB/A001 Operator: Exectec Ltd Waste Management licence No: 80647 Annual Tonnage: 2499.0</p> <p>Issue Date: 01/03/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Mercedes Parts Centre Correspondence Address: -</p>
Not shown	1371	NE	535891 193229	<p>Site Address: Chris Gillooly, Solid Waste Incineration Plant, Advent Way, Edmonton, London, N18 3AG Type: Composting Facility Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LON006 EPR reference: EA/EPR/RP3391NM/S003 Operator: LondonWaste Ltd Waste Management licence No: 80338 Annual Tonnage: 30000.0</p> <p>Issue Date: 09/03/1993 Effective Date: - Modified: - Surrendered Date: 19/11/2001 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: LondonWaste, Advent Way Compost & Tyres Correspondence Address: -</p>
Not shown	1430	SW	533774 191394	<p>Site Address: 44, White Hart Lane, Tottenham, London, N17 8DP Type: Metal Recycling Site (Vehicle Dismantler) Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RED008 EPR reference: EA/EPR/EP3997NE/S002 Operator: Redcorn Ltd Waste Management licence No: 80607 Annual Tonnage: 824989.0</p> <p>Issue Date: 10/01/2005 Effective Date: - Modified: - Surrendered Date: 12/10/2016 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: White Hart Lane Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1459	SW	533720 191431	<p>Site Address: B Luther, British Rail Sidings, 44, White Hart Lane, Tottenham, London, N17 8DP</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: RED004</p> <p>EPR reference: -</p> <p>Operator: Redcorn Limited</p> <p>Waste Management licence No: 80343</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 22/05/1996</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Redcorn Limited</p> <p>Correspondence Address: Redcorn Limited, British Rail Sidings, 44, White Hart Lane, Tottenham, London, N17 8DP</p>
Not shown	1459	SW	533720 191431	<p>Site Address: B Luther, British Rail Sidings, 44, White Hart Lane, Tottenham, London, N17 8DP</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: RED004</p> <p>EPR reference: EA/EPR/RP3491NX/S002</p> <p>Operator: Redcorn Ltd</p> <p>Waste Management licence No: 80343</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 22/05/1996</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 12/10/2016</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Redcorn Limited</p> <p>Correspondence Address: -</p>

4. Current Land Use Map



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-  Site Outline
-  Current Industrial Sites
-  Electricity Transmission Cables
-  Search Buffers (m)
-  Petrol & Fuel Sites
-  Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 10

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	116	E	Angel Road Rail Station	535154 192188	Angel Road Rail Station, N18	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure
2	122	NW	Tank	534909 192224	Tank, N18	Tanks (Generic)	Industrial Features
3	135	NW	Electricity Sub Station	534898 192232	Electricity Sub Station, N18	Electrical Features	Infrastructure and Facilities
4	146	S	Gas Holder	534975 191985	Gas Holder, N18	Gas Features	Infrastructure and Facilities
5A	155	NE	Warehouse	535108 192291	Warehouse, N18	Container and Storage	Transport, Storage and Delivery
6A	172	NE	Warehouse	535116 192306	Warehouse, N18	Container and Storage	Transport, Storage and Delivery
7	180	NE	Scrap Yard	535157 192291	Scrap Yard, N18	Scrap Metal Merchants	Recycling Services
8	220	E	Warehouse	535261 192196	Warehouse, N18	Container and Storage	Transport, Storage and Delivery
9B	222	N	Edmonton Auto Centre	535091 192367	Edmonton Auto Centre, 3, Kenninghall Road, London, N18 2PD	Vehicle Repair, Testing and Servicing	Repair and Servicing
10B	227	N	Works	535079 192374	Works, N18	Unspecified Works Or Factories	Industrial Features

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
11	411	SE	535351 191869	Tesco Extra	Tesco Lea Valley Extra, 1, Glover Drive, Glover Drive, Upper Edmonton, London, Outer London, N18 3HF	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
ESI-XCZ	ENFIELD SILT MEMBER	CLAY AND SILT

5.3 Bedrock and Solid Geology

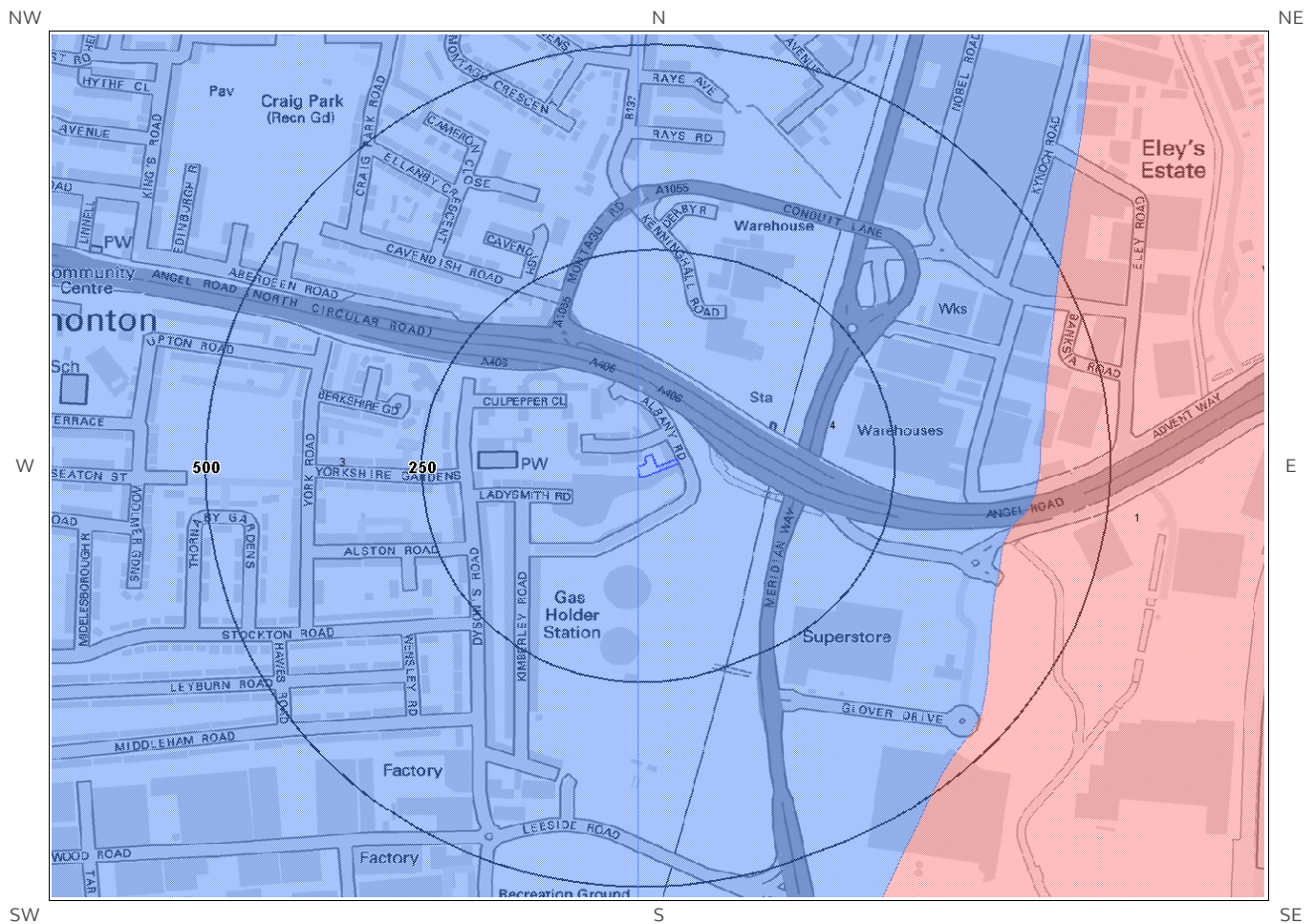
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-XCZS	LONDON CLAY FORMATION	CLAY, SILT AND SAND

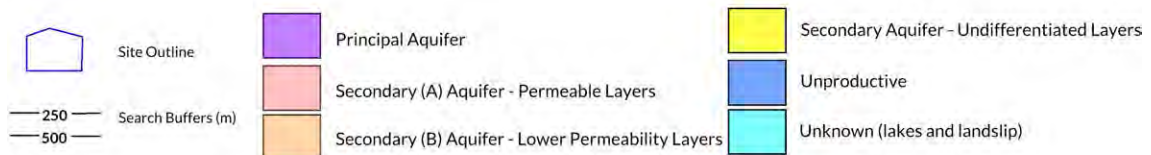
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



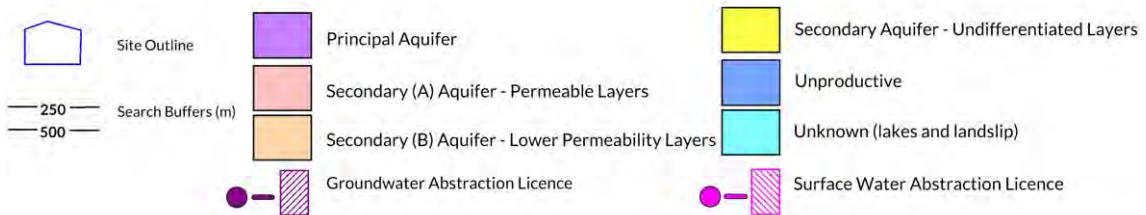
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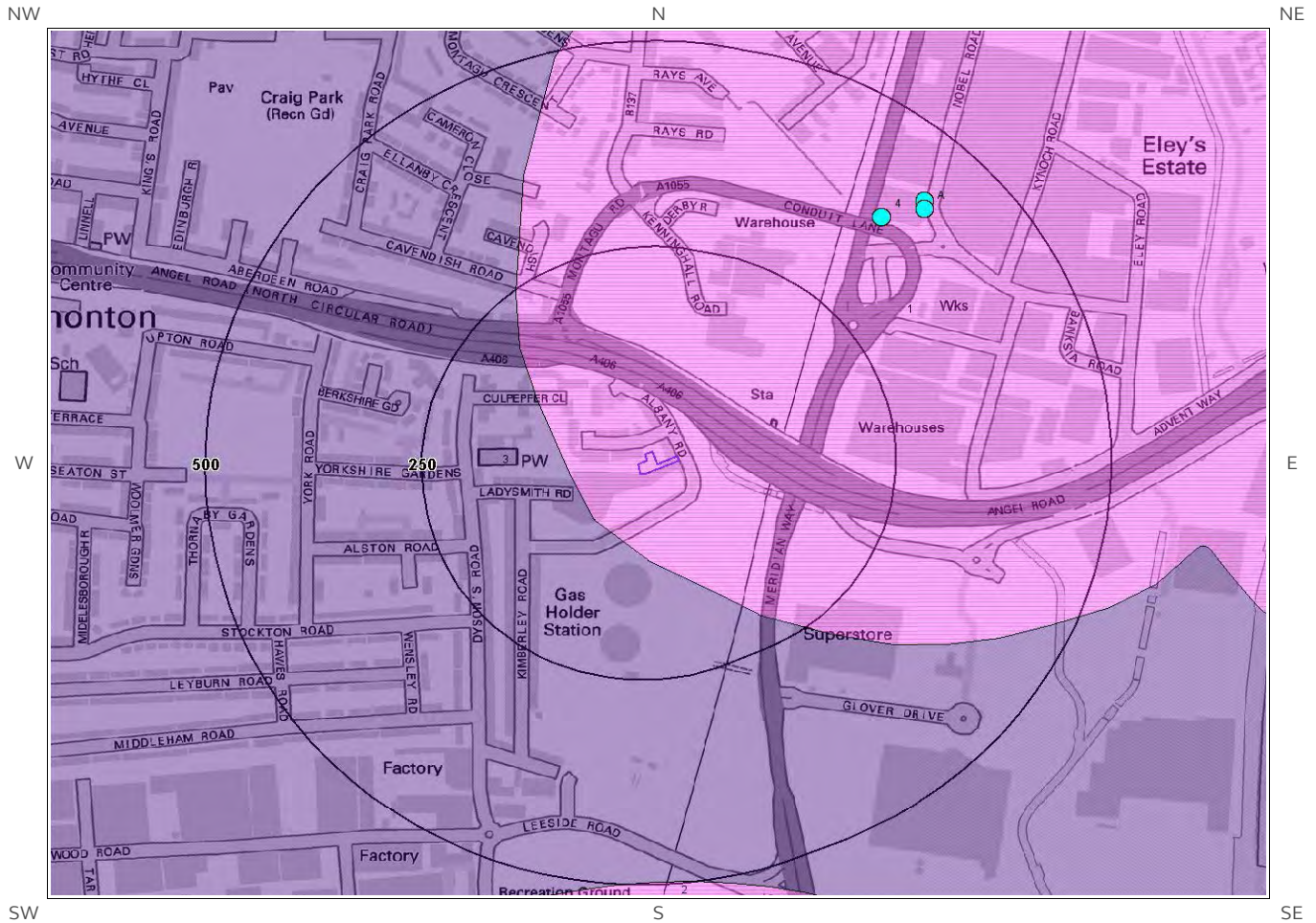
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



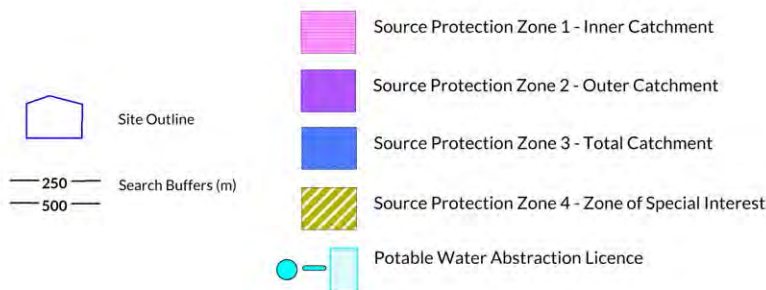
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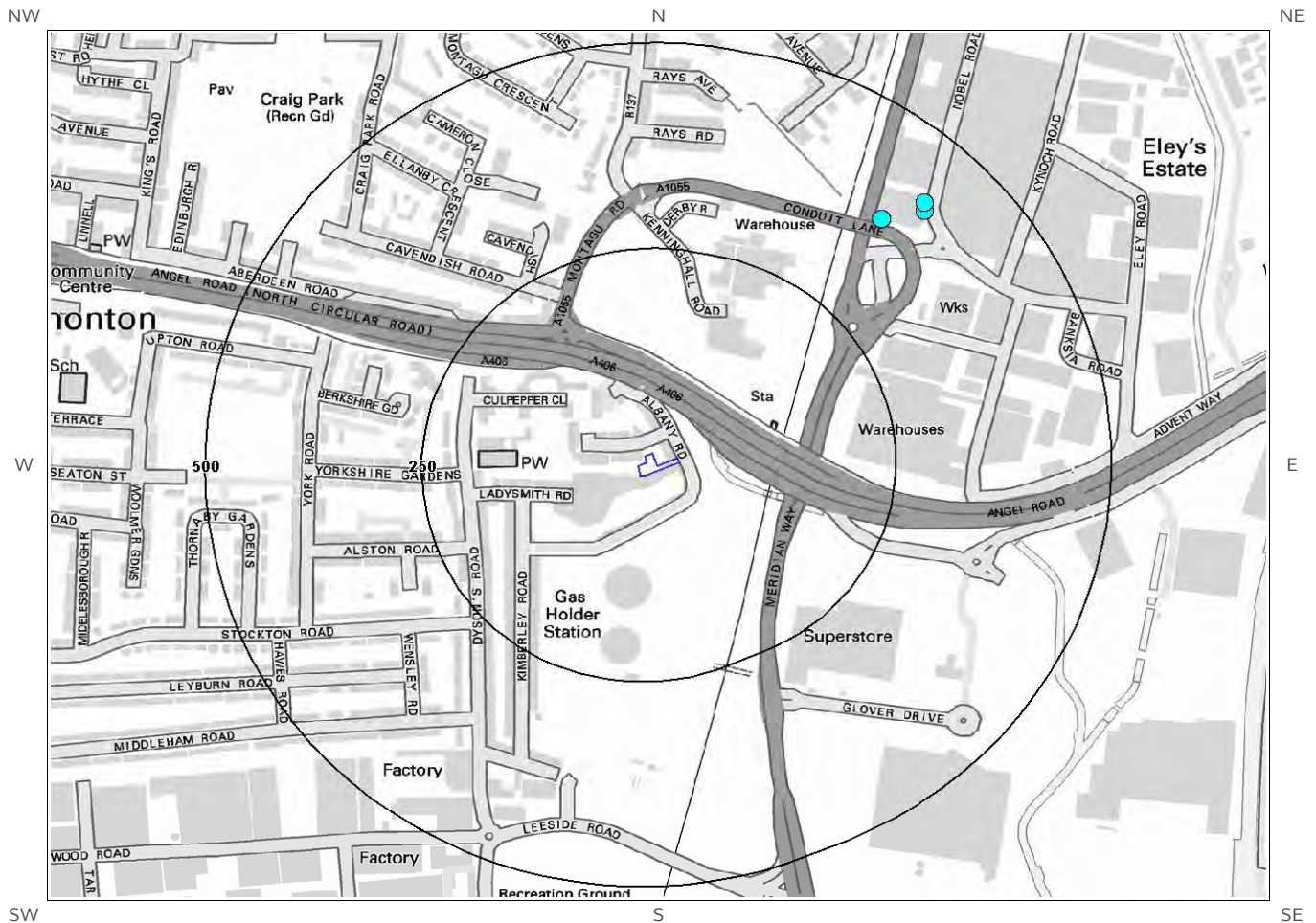
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



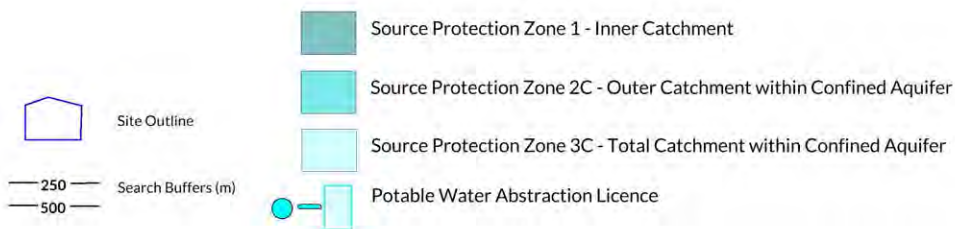
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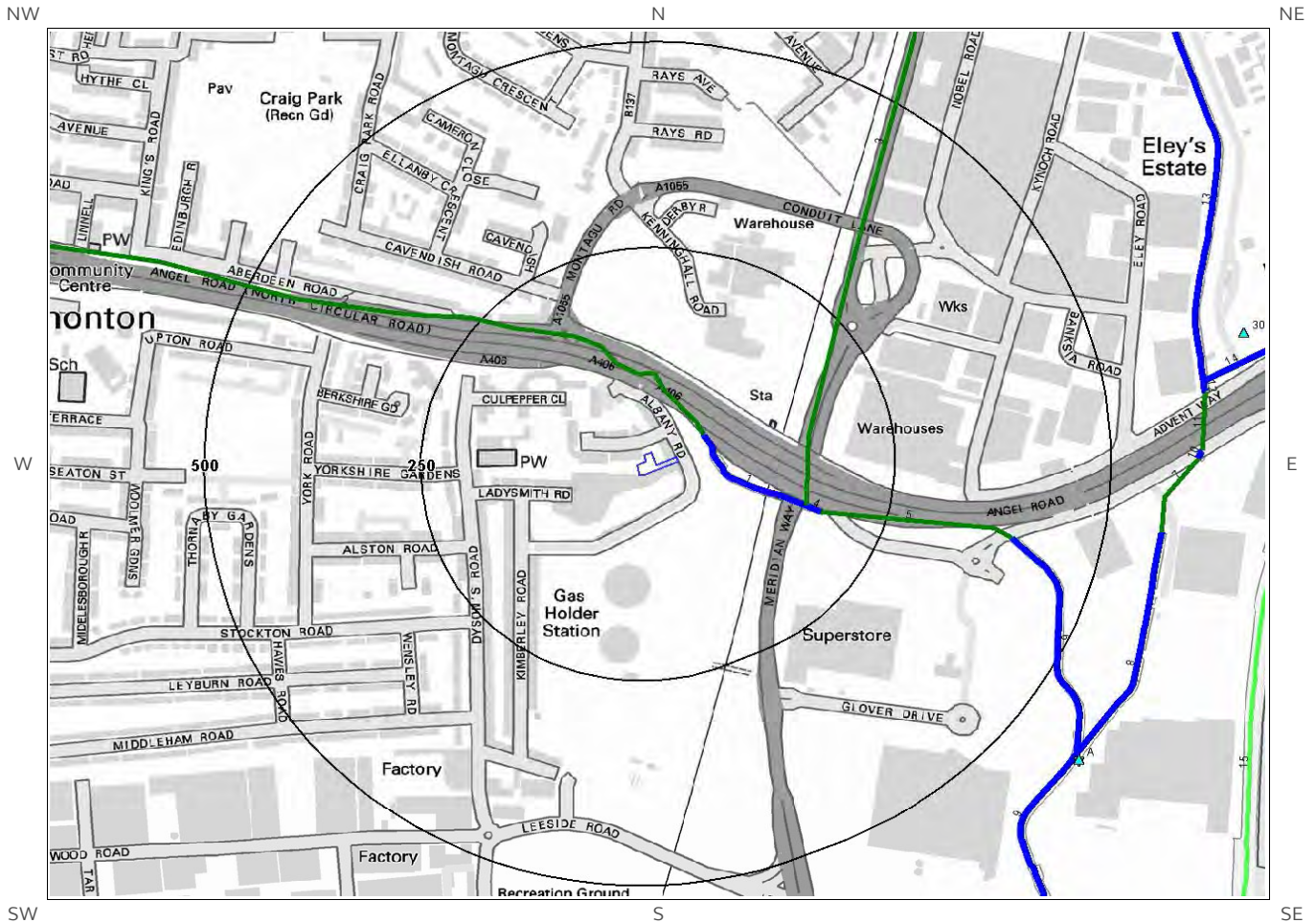
6d. Hydrogeology – Source Protection Zones within confined aquifer



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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property?
Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
3	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
1	388	E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
3	247	S	535100 191900	<p>Status: Historical Licence No: 29/38/09/0175 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Willoughby Lane, Tottenham - 42 Boreholes Data Type: Point Name: SECONDSITE PROPERTY HOLDINGS LTD</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 26/7/2002 Expiry Date: 30/6/2004 Issue No: 2 Version Start Date: 21/10/2002 Version End Date:</p>
4	279	S	535010 191850	<p>Status: Historical Licence No: 29/38/09/0189 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Former Gas Works, Tottenham- Borehole Data Type: Point Name: SECONDSITE PROPERTY HOLDINGS LTD</p> <p>Annual Volume (m³): 100000 Max Daily Volume (m³): 408 Original Application No: WRA/N/1355 Original Start Date: 6/7/2004 Expiry Date: 31/12/2008 Issue No: 1 Version Start Date: 6/7/2004 Version End Date:</p>
5	289	NW	534780 192330	<p>Status: Historical Licence No: 29/38/09/0181 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Point 'a' At Aberdeen Road, Edmonton, London. Data Type: Point Name: HIGGINS HOMES LIMITED</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA/N/1249 Original Start Date: 28/3/2002 Expiry Date: 30/4/2004 Issue No: 1 Version Start Date: 28/3/2002 Version End Date:</p>
6	358	E	535400 192200	<p>Status: Historical Licence No: 29/38/09/0087 Details: Process Water Direct Source: Thames Groundwater Point: Angel Road Works Data Type: Point Name: GREAT UNIVERSAL STORES LTD</p> <p>Annual Volume (m³): 16593 Max Daily Volume (m³): 45.46 Original Application No: W/552 Original Start Date: 20/6/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/1/1967 Version End Date:</p>
7A	373	NE	535280 192440	<p>Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole B Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): 438000 Max Daily Volume (m³): 1200 Original Application No: - Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 2 Version Start Date: 8/6/2005 Version End Date:</p>
8A	381	NE	535285 192445	<p>Status: Active Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole B Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): 876000 Max Daily Volume (m³): 2400 Original Application No: NPS/WR/013941 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 2 Version Start Date: 9/10/2014 Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details	
9B	414	NE	535330 192450	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole A Data Type: Point Name: COCA-COLA ENTERPRISES LTD	Annual Volume (m ³): 438000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 2 Version Start Date: 8/6/2005 Version End Date:
10B	414	NE	535330 192450	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole Data Type: Point Name: COCA-COLA ENTERPRISES LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: WRA/N/1367 Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 8/2/2005 Version End Date:
11	419	NE	535387 192391	Status: Active Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Coca Cola, Edmonton - Borehole C Data Type: Point Name: COCA-COLA ENTERPRISES LTD	Annual Volume (m ³): 876000 Max Daily Volume (m ³): 2400 Original Application No: NPS/WR/013941 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 2 Version Start Date: 9/10/2014 Version End Date:
12B	421	NE	535335 192455	Status: Active Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole A Data Type: Point Name: COCA-COLA ENTERPRISES LTD	Annual Volume (m ³): 876000 Max Daily Volume (m ³): 2400 Original Application No: NPS/WR/013941 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 2 Version Start Date: 9/10/2014 Version End Date:
13B	421	NE	535330 192460	Status: Historical Licence No: 29/38/09/0161 Details: Water Bottling Direct Source: Thames Groundwater Point: Nobel Road Borehole Data Type: Point Name: COCA-COLA ENTERPRISES LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: WRA6408 Original Start Date: 25/7/1996 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: 1/3/2000 Version End Date:
Not shown	594	N	535165 192732	Status: Active Licence No: TH/038/0009/039 Details: Process Water Direct Source: Thames Groundwater Point: Edmonton Concrete Plant-borehole Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD	Annual Volume (m ³): 38000 Max Daily Volume (m ³): 174 Original Application No: NPS/WR/009198 Original Start Date: 2/5/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 2/5/2013 Version End Date:
Not shown	596	N	535180 192730	Status: Historical Licence No: 29/38/08/0264 Details: Process Water Direct Source: Thames Groundwater Point: Edmonton Concrete Plant-borehole Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD	Annual Volume (m ³): 48024 Max Daily Volume (m ³): 174 Original Application No: NPS/WR/011609 Original Start Date: 16/5/2006 Expiry Date: 31/3/2013 Issue No: 2 Version Start Date: 13/8/2012 Version End Date:
Not shown	717	NW	534700 192800	Status: Historical Licence No: 29/38/09/0184 Details: Laundry Use Direct Source: Thames Groundwater Point: Sinclair Laundry, Edmonton-point A Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: WRA/N/1292 Original Start Date: 18/12/2003 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 18/12/2003 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	717	NW	534700 192800	<p>Status: Historical Licence No: 29/38/09/0184 Details: Laundry Use Direct Source: Thames Groundwater Point: Sinclair Laundry, Edmonton - Borehole Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD</p> <p>Annual Volume (m³): 75000 Max Daily Volume (m³): 300 Original Application No: WRA/N/1292 Original Start Date: 18/12/2003 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 18/12/2003 Version End Date:</p>
Not shown	729	NW	534704 192815	<p>Status: Active Licence No: TH/038/0009/037 Details: Laundry Use Direct Source: Thames Groundwater Point: Sinclair Laundry, Edmonton - Borehole Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD</p> <p>Annual Volume (m³): 55000 Max Daily Volume (m³): 300 Original Application No: NPS/WR/009203 Original Start Date: 3/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 3/4/2013 Version End Date:</p>
Not shown	864	S	534991 191264	<p>Status: Active Licence No: TH/038/0009/007 Details: Laundry Use Direct Source: Thames Groundwater Point: Empire Laundry Borehole Data Type: Point Name: Montagus Ltd</p> <p>Annual Volume (m³): 56340 Max Daily Volume (m³): 180 Original Application No: NPS/WR/001704 Original Start Date: 27/11/2009 Expiry Date: 31/3/2019 Issue No: 1 Version Start Date: 27/11/2009 Version End Date:</p>
Not shown	1223	E	536220 191800	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Greaves Pumping Station - Nlars Point 27 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1229	S	535020 190900	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Park Well - Nlars Point 26 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1229	E	536231 191816	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Greaves Pumping Station - Nlars Point 27 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:</p>
Not shown	1244	E	536250 192460	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Lower Hall Lane - Nlars Point 28 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1261	E	536271 192445	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Chingford Mill - Nlars Point 28 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1334	SE	535850 191080	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Waterhall - Nlars Point 38 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1348	W	533720 191710	<p>Status: Historical Licence No: 29/38/09/0072 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Thames Groundwater Point: 881 High Road, Tottenham- Borehole Data Type: Point Name: CANNON AUTOMOTIVE LTD</p> <p>Annual Volume (m³): 9092 Max Daily Volume (m³): 219 Original Application No: W/366 Original Start Date: 20/4/1966 Expiry Date: - Issue No: 102 Version Start Date: 31/5/2005 Version End Date:</p>
Not shown	1351	SE	535875 191078	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Waterhall - Nlars Point 38 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:</p>
Not shown	1370	W	533700 191700	<p>Status: Historical Licence No: 29/38/09/0072 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Thames Groundwater Point: 881 High Road, Tottenham Data Type: Point Name: CANNON RUBBER LTD</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: W/366 Original Start Date: 20/4/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/12/1977 Version End Date:</p>
Not shown	1403	NE	536190 192960	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Sw - Nlars Point 48 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1420	NE	536204 192970	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Sw - Nlars Point 48 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:</p>
Not shown	1598	NE	536450 192910	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Se - Nlars Point 47 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:</p>
Not shown	1607	NE	536452 192926	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Se - Nlars Point 47 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1798	S	535559 190417	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackhorse Lane - Nlars Point 25 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:
Not shown	1831	S	535550 190380	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Lockwood Reservoir - Nlars Point 25 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date:
Not shown	1983	NE	536718 193214	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Flanders Weir - Nlars Point 29 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/7/2013 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
36	747	NE	535646 192594	Status: Active Licence No: TH/038/0009/049 Details: Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Salmons Brook Data Type: Point Name: LondonWaste Limited	Annual Volume (m ³): 111600 Max Daily Volume (m ³): 3600 Application No: NPS/WR/017795 Original Start Date: 3/9/2015 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 3/9/2015 Version End Date:
Not shown	1960	NE	536700 193200	Status: Active Licence No: 29/38/08/0194 Details: Potable Water Supply - Storage Direct Source: Thames Surface Water - Non Tidal Point: Chingford Supply Channel - River Lee Diversion Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 200937400 Max Daily Volume (m ³): 2636735 Application No: RS1266 Original Start Date: 20/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/9/1966 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
4	373	NE	535280 192440	<p>Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole B Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): 438000 Max Daily Volume (m³): 1200 Original Application No: - Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 2 Version Start Date: Version End Date:</p>
5A	414	NE	535330 192450	<p>Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole A Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): 438000 Max Daily Volume (m³): 1200 Original Application No: - Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 2 Version Start Date: Version End Date:</p>
6A	414	NE	535330 192450	<p>Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: Thames Groundwater Point: Coca Cola, Edmonton-borehole Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA/N/1367 Original Start Date: 8/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: Version End Date:</p>
7A	421	NE	535330 192460	<p>Status: Historical Licence No: 29/38/09/0161 Details: Water Bottling Direct Source: Thames Groundwater Point: Nobel Road Borehole Data Type: Point Name: COCA-COLA ENTERPRISES LTD</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA6408 Original Start Date: 25/7/1996 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: Version End Date:</p>
Not shown	1223	E	536220 191800	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Greaves Pumping Station - Nlars Point 27 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>
Not shown	1229	S	535020 190900	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Park Well - Nlars Point 26 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1229	E	536231 191816	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Greaves Pumping Station - Nlars Point 27 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
Not shown	1244	E	536250 192460	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Lower Hall Lane - Nlars Point 28 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>
Not shown	1261	E	536271 192445	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Chingford Mill - Nlars Point 28 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
Not shown	1334	SE	535850 191080	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Waterhall - Nlars Point 38 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>
Not shown	1351	SE	535875 191078	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Waterhall - Nlars Point 38 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
Not shown	1403	NE	536190 192960	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Sw - Nlars Point 48 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>
Not shown	1420	NE	536204 192970	<p>Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Sw - Nlars Point 48 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
Not shown	1598	NE	536450 192910	<p>Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Se - Nlars Point 47 Data Type: Point Name: THAMES WATER UTILITIES LTD</p> <p>Annual Volume (m³): 65700000 Max Daily Volume (m³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1607	NE	536452 192926	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: William Girling Se - Nlars Point 47 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
Not shown	1798	S	535559 190417	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackhorse Lane - Nlars Point 25 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
Not shown	1831	S	535550 190380	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Lockwood Reservoir - Nlars Point 25 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:
Not shown	1960	NE	536700 193200	Status: Active Licence No: 29/38/08/0194 Details: Potable Water Supply - Storage Direct Source: Thames Surface Water - Non Tidal Point: Chingford Supply Channel - River Lee Diversion Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 200937400 Max Daily Volume (m ³): 2636735 Original Application No: RS1266 Original Start Date: 20/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1983	NE	536718 193214	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Flanders Weir - Nlars Point 29 Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m ³): 65700000 Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/6/1995 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
1	0	On Site	1	Inner catchment
3	72	SW	2	Outer catchment
2	497	S	1	Inner catchment

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
402	E	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
25A	590	SE	535510 191780	River Name: Salmon Brook Reach: Deephams Stw - Pymmes Brook End/Start of Stretch: End of Stretch NGR	D	D	F	F	F
Not shown	1191	NE	535660 193170	River Name: Salmon Brook Reach: Deephams Stw - Pymmes Brook End/Start of Stretch: Start of Stretch NGR	D	D	F	F	F

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
27A	590	SE	535510 191780	River Name: Pymmes Brook (r.channel) Reach: Salmon Brook - Lee End/Start of Stretch: Start of Stretch NGR	E	D	D	D	D
28A	590	SE	535510 191780	River Name: Salmon Brook Reach: Deephams Stw - Pymmes Brook End/Start of Stretch: End of Stretch NGR	E	D	D	D	D
29A	590	SE	535510 191780	River Name: Pymmes Brook (l.channel) Reach: Salmon Brook - Lee End/Start of Stretch: Start of Stretch NGR	E	D	D	D	D
30	672	E	535700 192300	River Name: Salmon Brook Reach: Deephams Stw - Pymmes Brook End/Start of Stretch: Sample Point NGR	E	D	D	D	D
Not shown	1174	NE	535660 193150	River Name: Salmon Brook Reach: Stag Hill - Houndsden Gutter End/Start of Stretch: Sample Point NGR	E	E	E	E	E
Not shown	1174	NE	535660 193150	River Name: Salmon Brook Reach: Houndsden Gutter - Deephams Stw End/Start of Stretch: Sample Point NGR	E	E	E	E	E
Not shown	1191	NE	535660 193170	River Name: Salmon Brook Reach: Deephams Stw - Pymmes Brook End/Start of Stretch: Start of Stretch NGR	E	D	D	D	D

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details
1	41	E	River Name: Pymme's Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
2	42	NE	River Name: Pymme's Brook Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
3	149	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
4	158	E	River Name: Pymme's Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
5	176	E	River Name: Pymme's Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
6	397	E	River Name: Pymme's Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

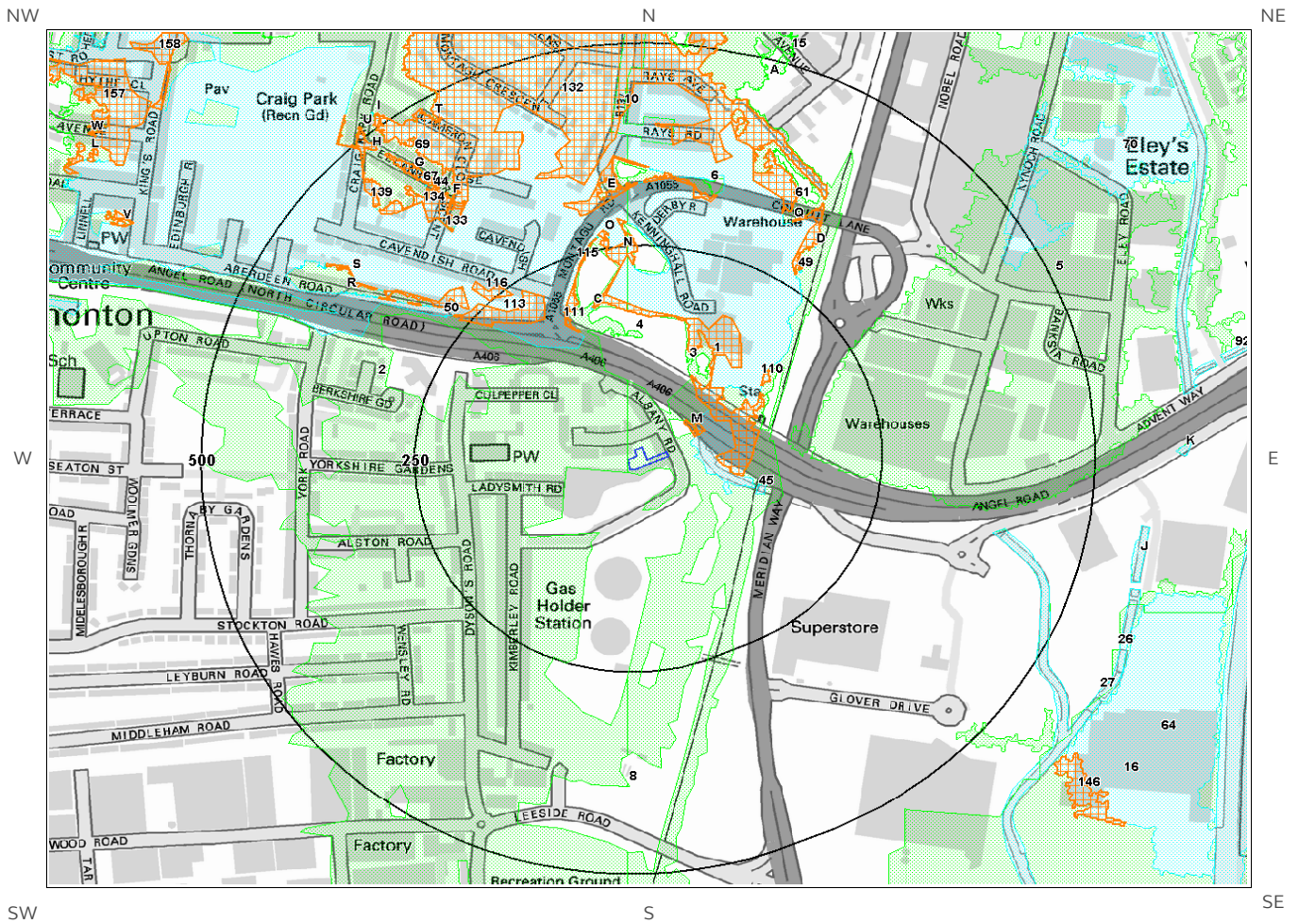
6.11 Surface Water Features

Are there any surface water features within 250m of the study site?

No

Database searched and no data found.

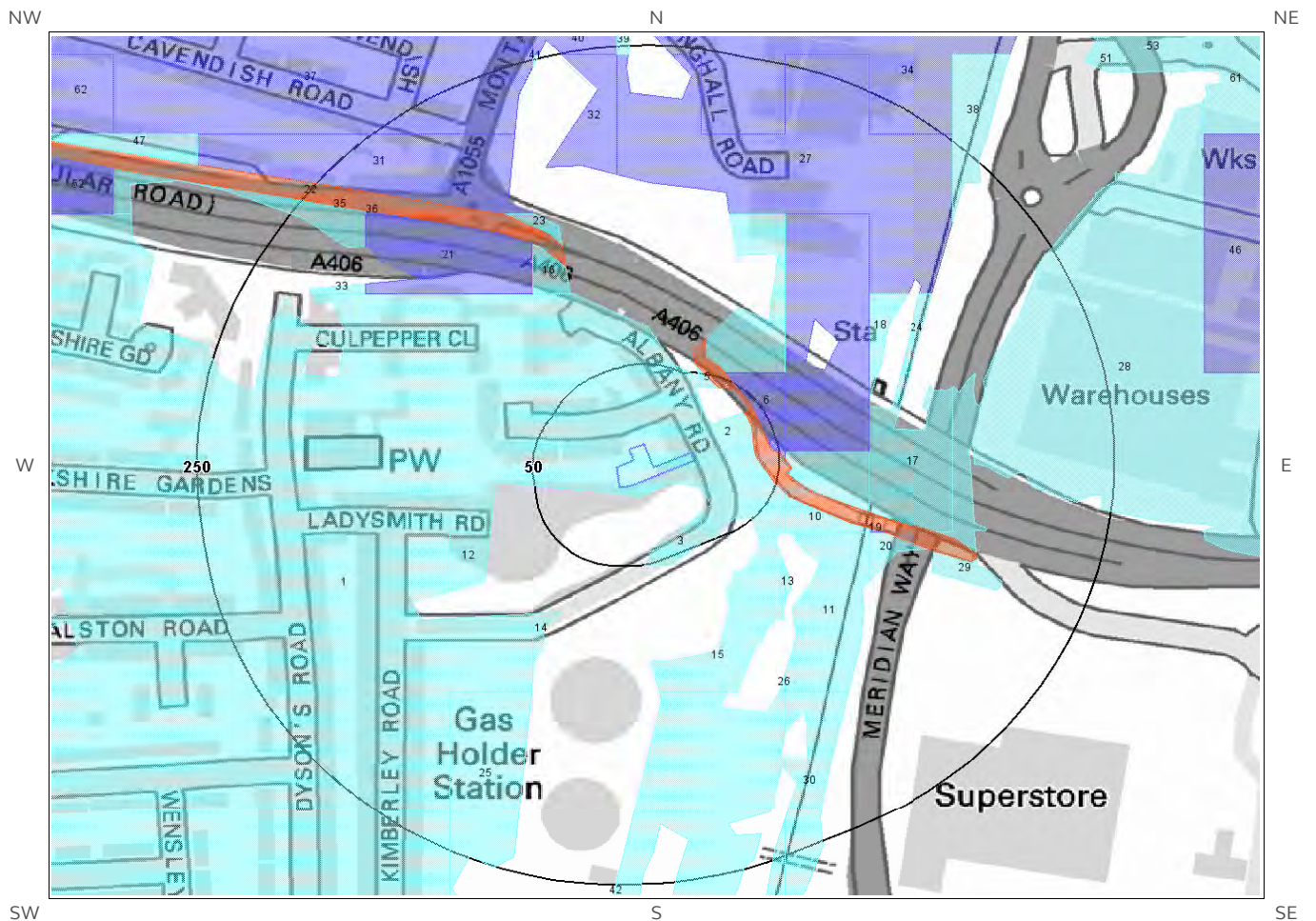
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



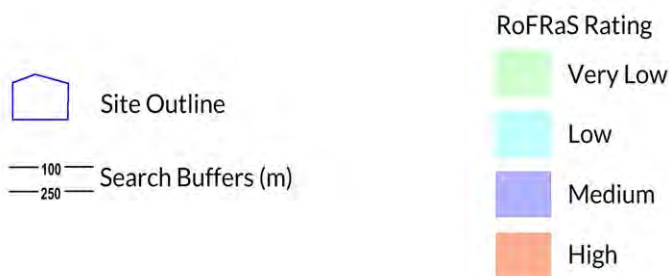
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Yes

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	0	On Site	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)
2	2	W	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)
3	113	N	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)
4	137	N	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)
5	142	E	19-Jun-2017	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	29	E	19-Jun-2017	Zone 3 - (Fluvial Models)
2	111	E	19-Jun-2017	Zone 3 - (Fluvial Models)
3	181	N	19-Jun-2017	Zone 3 - (Fluvial Models)
4	185	N	19-Jun-2017	Zone 3 - (Fluvial Models)
5	191	N	19-Jun-2017	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Low (greater than 1 in 1000 but less than 1 in 100) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRaS flood Risk
1	0.0	On Site	Low
2	5.0	E	Low
3	32.0	SE	Low
4A	35.0	E	High
5	41.0	N	Low
6	44.0	NE	Medium

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? Yes

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

7.8 Groundwater Flooding Confidence Areas

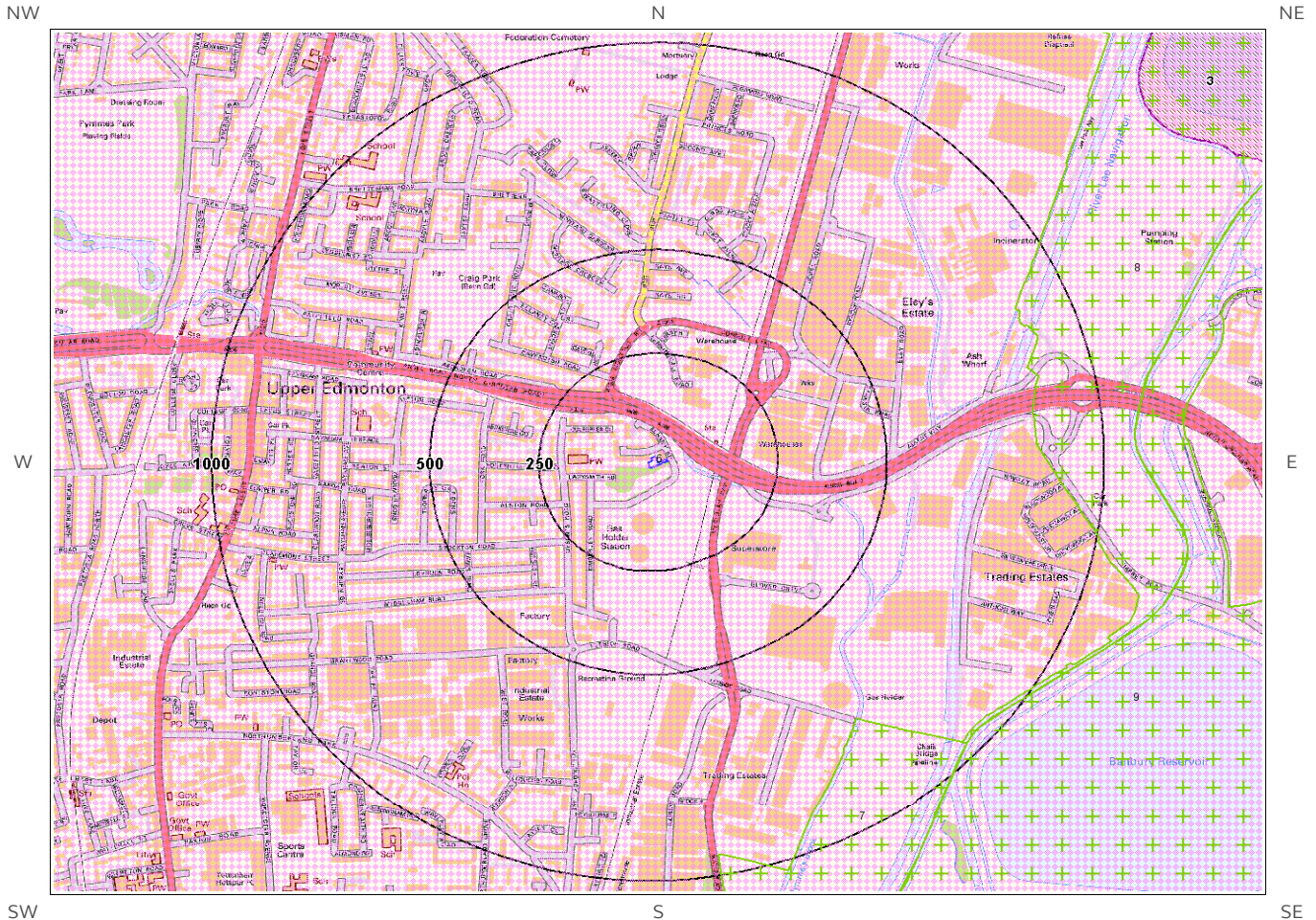
What is the British Geological Survey confidence rating in this result?

Not Applicable

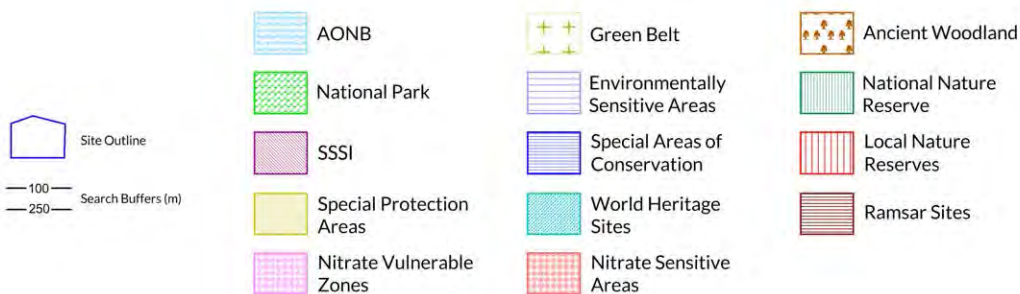
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

3

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1366	S	Walthamstow Reservoirs	Natural England
3	1388	NE	Chingford Reservoirs	Natural England
Not shown	1787	S	Walthamstow Reservoirs	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

1

The following Special Protection Area (SPA) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SPA Name	Data Source
Not shown	1366	S	Lee Valley	Natural England

8.5 Records of Ramsar sites within 2000m of the study site:

1

The following Ramsar records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ramsar Site Name	Ramsar Site Status	Data Source
Not shown	1366	S	Lee Valley	Listed	Natural England

8.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

1

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
6	0	On Site	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

3

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ID	Distance	Direction	Green Belt Name	Local Authority Name
7	756	SE	London Area Greenbelt	Haringey London Borough
8	843	E	London Area Greenbelt	Enfield London Borough

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

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Telephone: 08444 159 000
info@groundsure.com

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BGS Geological Hazards Reports and general geological enquiries:
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Arcadis

Arcadis, 10, MEDAWAR ROAD,
GUILDFORD, GU2 7AR

Groundsure Reference: GS-4021758

Your Reference: PO0067007-1

Report Date 27 Jun 2017

Report Delivery Method: Email - pdf

Geo Insight

Address: ALBANY ROAD,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

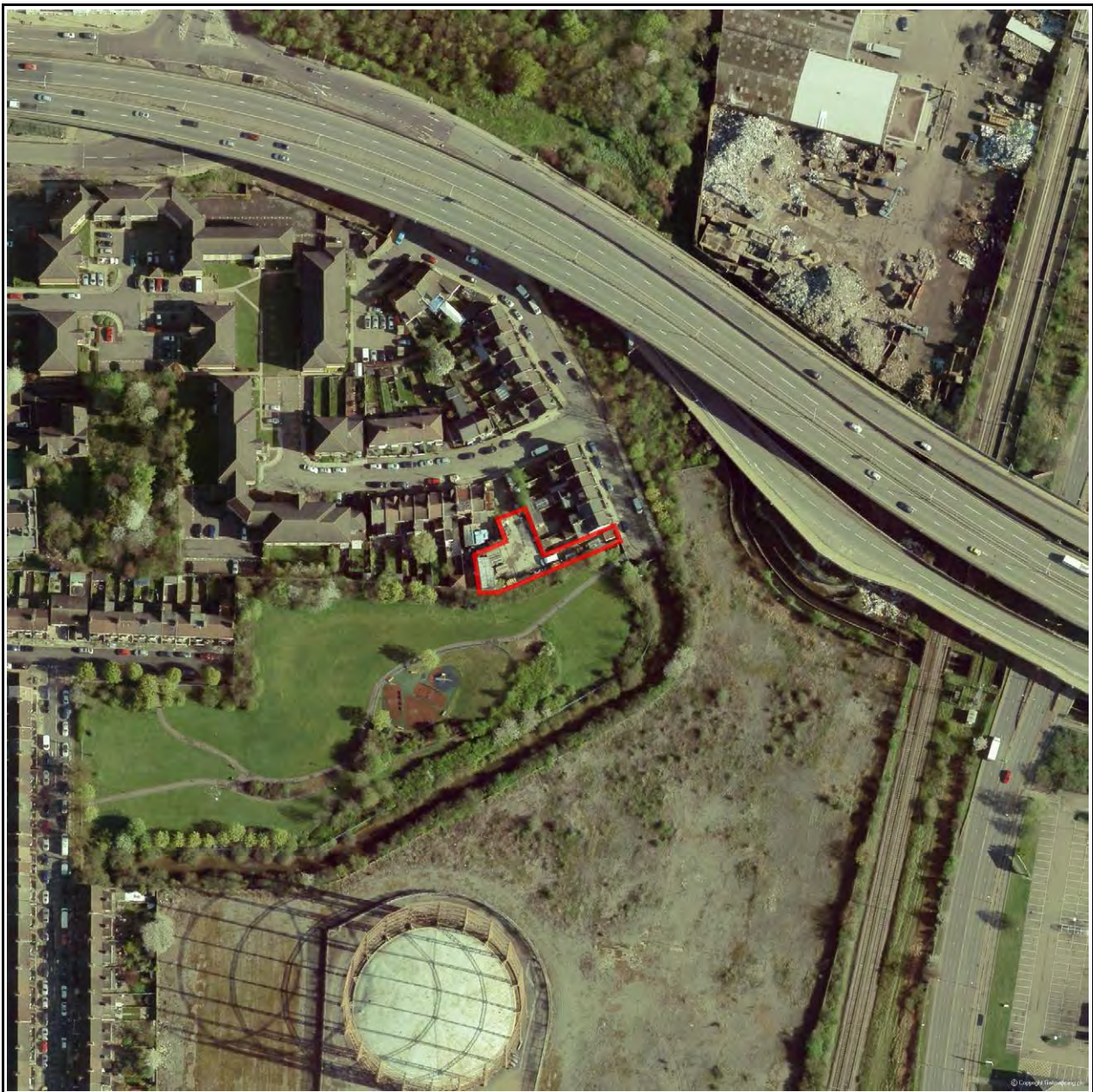
Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Address: ALBANY ROAD,
Date: 27 Jun 2017
Reference: GS-4021758
Client: Arcadis

NW N NE



SW S SE

Aerial Photograph Capture date: 28-Apr-2013
Grid Reference: 535023,192138
Site Size: 0.05ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale		
1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of faults within 500m of the study site boundary at 1:10,000 scale?	No
Section 2: Geology 1:50,000 Scale		
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and Faults

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

No

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings

	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	2	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	0	4

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	0	0	0
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

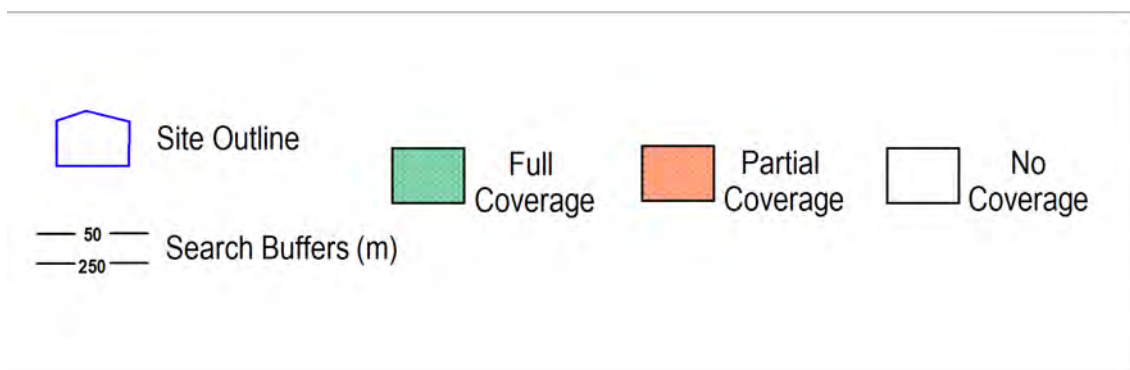
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Negligible				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	15		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	2	0	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	8	11	60	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	14	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	No coverage
2	0.0	Some deposits are mapped	Full	Full	No coverage

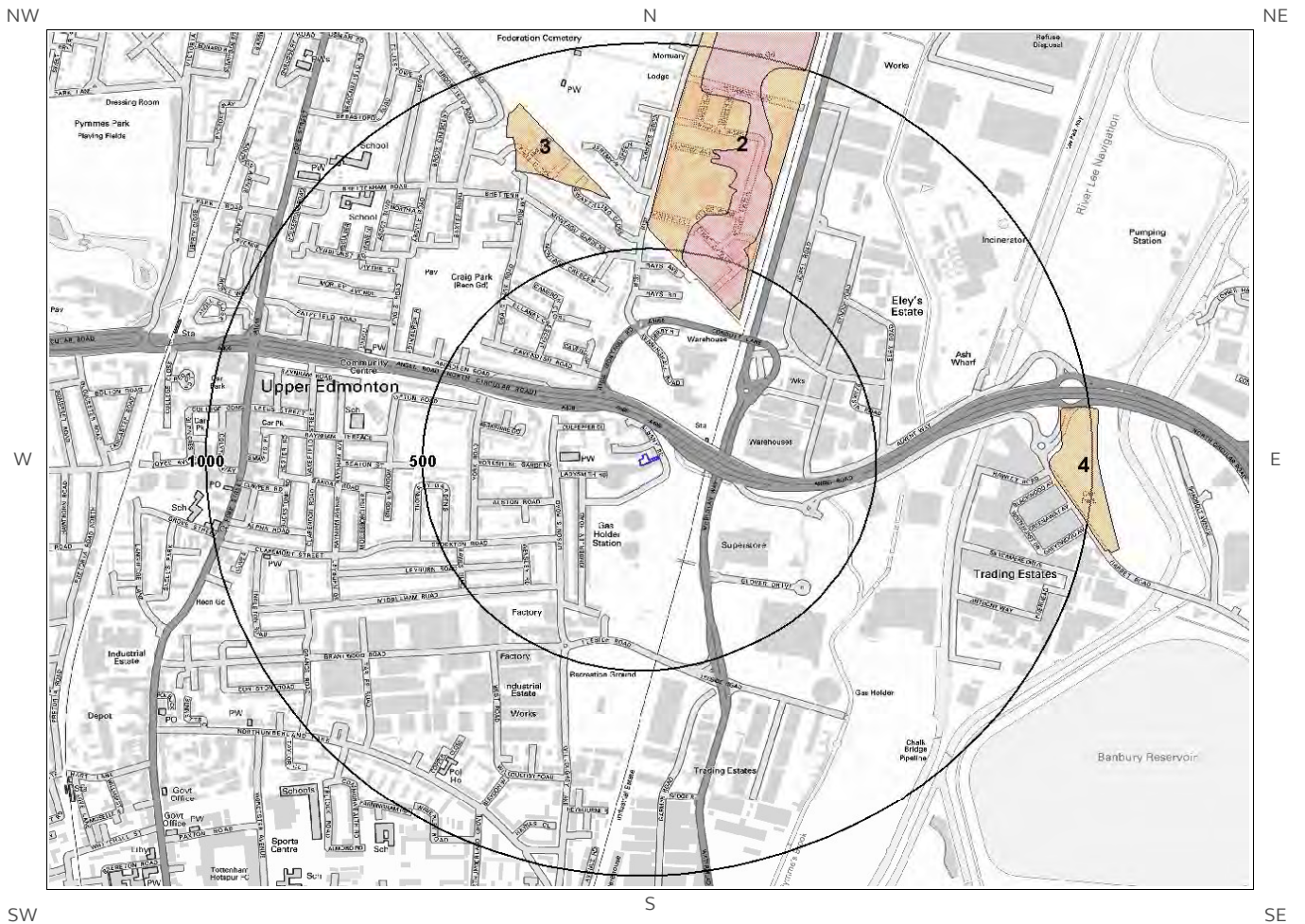
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

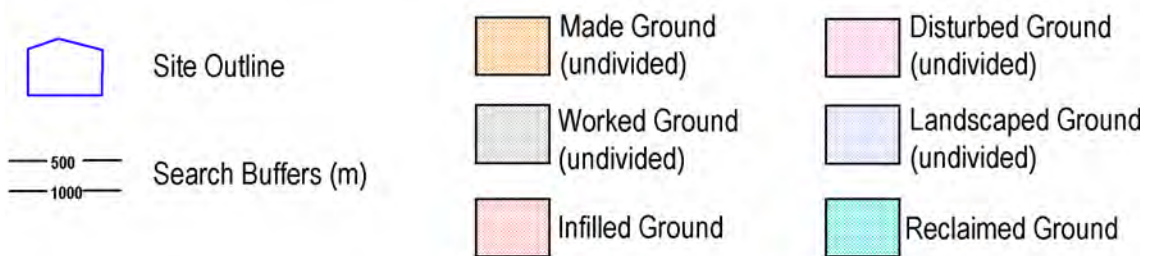
1 Geology (1:10,000 scale).

1.1 Artificial Ground Map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

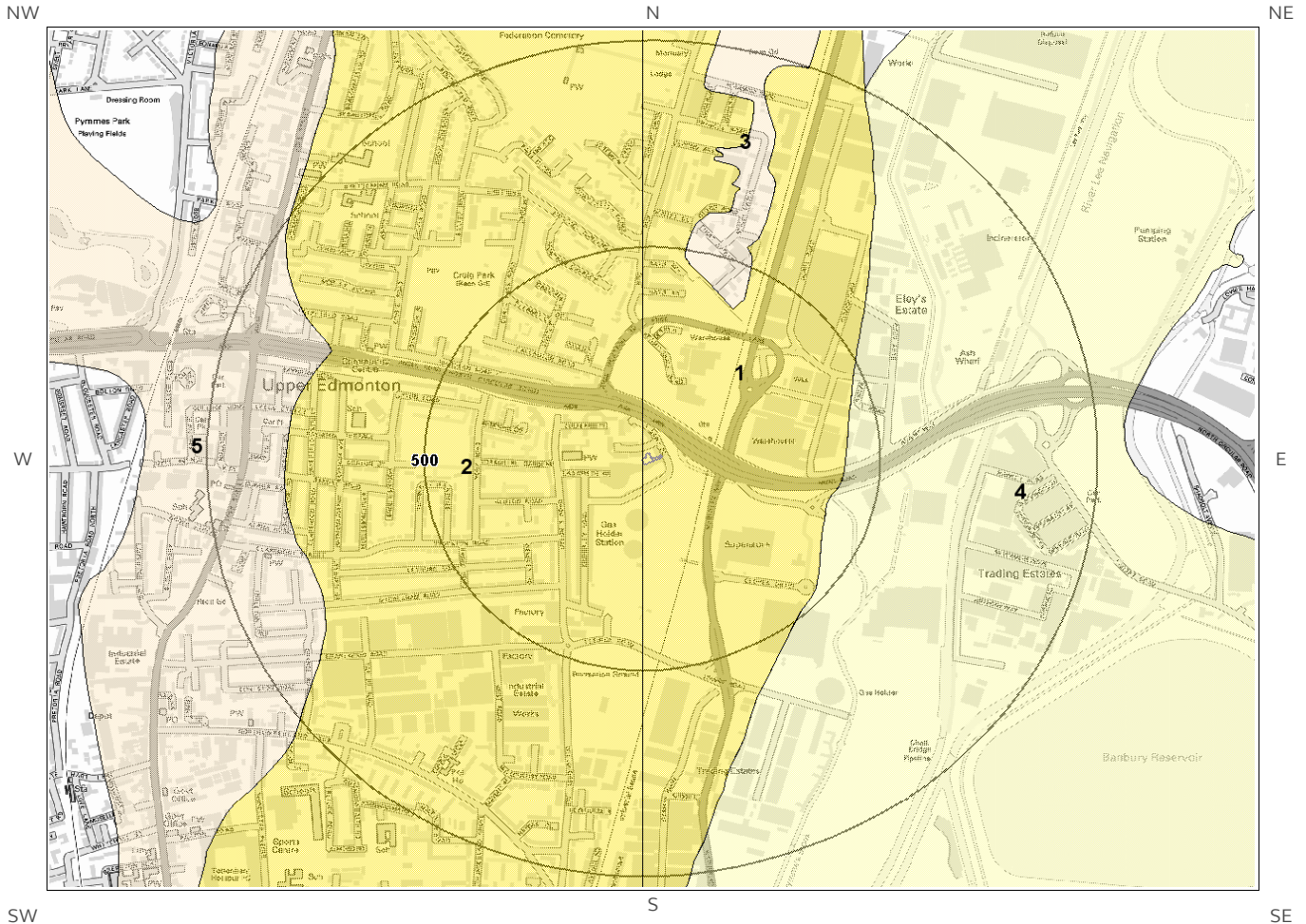
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes


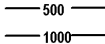
ID	Distance	Direction	LEX Code	Description	Rock Description
1	381.0	NE	MGR- UNKNOWN	Made Ground (Undivided)	Unknown/unclassified Entry
2	390.0	NE	WMGR- UNKNOWN	Infilled Ground	Unknown/unclassified Entry

1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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-  Site Outline
-  Search Buffers (m)

1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ESI-Z	Enfield Silt Member - Silt	Silt
2	0.0	On Site	ESI-Z	Enfield Silt Member - Silt	Silt
3	390.0	NE	KPGR-XSV	Kempton Park Gravel Formation - Sand And Gravel	Sand And Gravel
4	393.0	E	ALV-C	Alluvium - Clay (unlithified Deposits Coding Scheme)	Clay

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

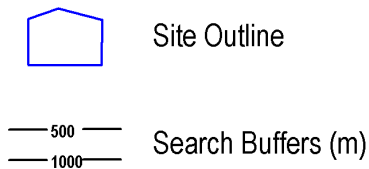
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and Faults Map (1:10,000 scale)



Bedrock and Faults Legend

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1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLAY	London Clay Formation - Clay	Eocene Epoch
2	0.0	On Site	LC-CLAY	London Clay Formation - Clay	Eocene Epoch

1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale? No

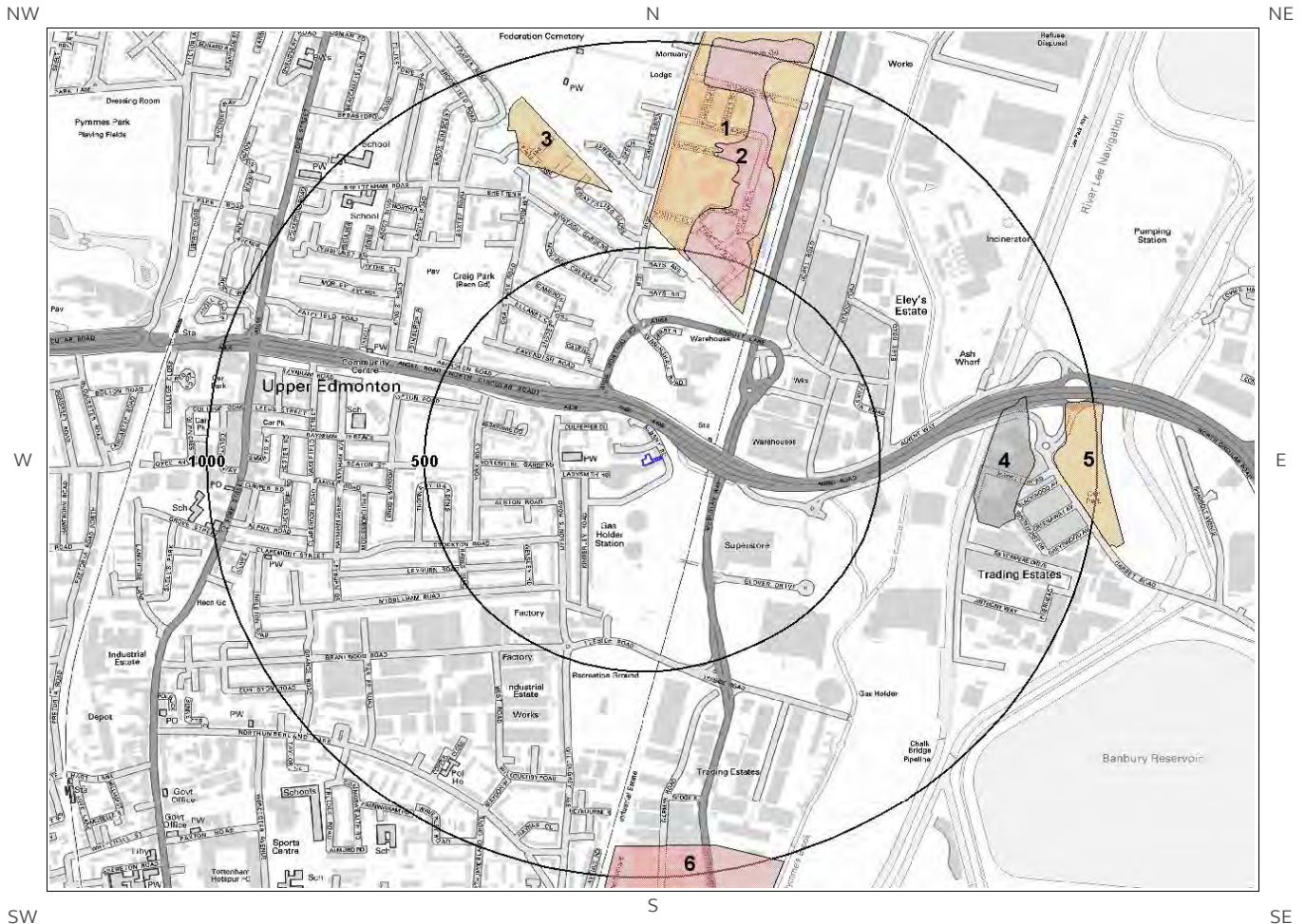
Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

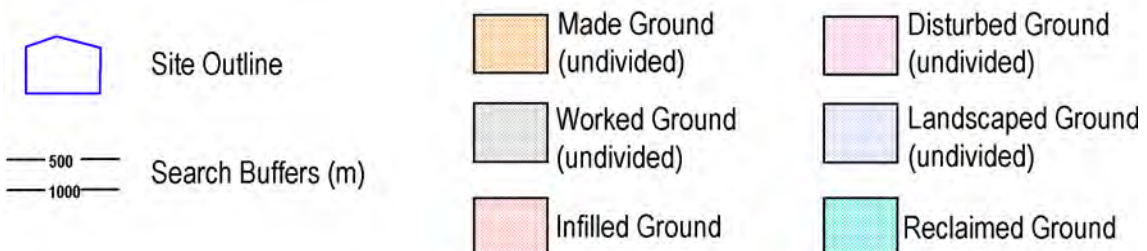
2 Geology 1:50,000 Scale

2.1 Artificial Ground Map



Ground Workings Legend

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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

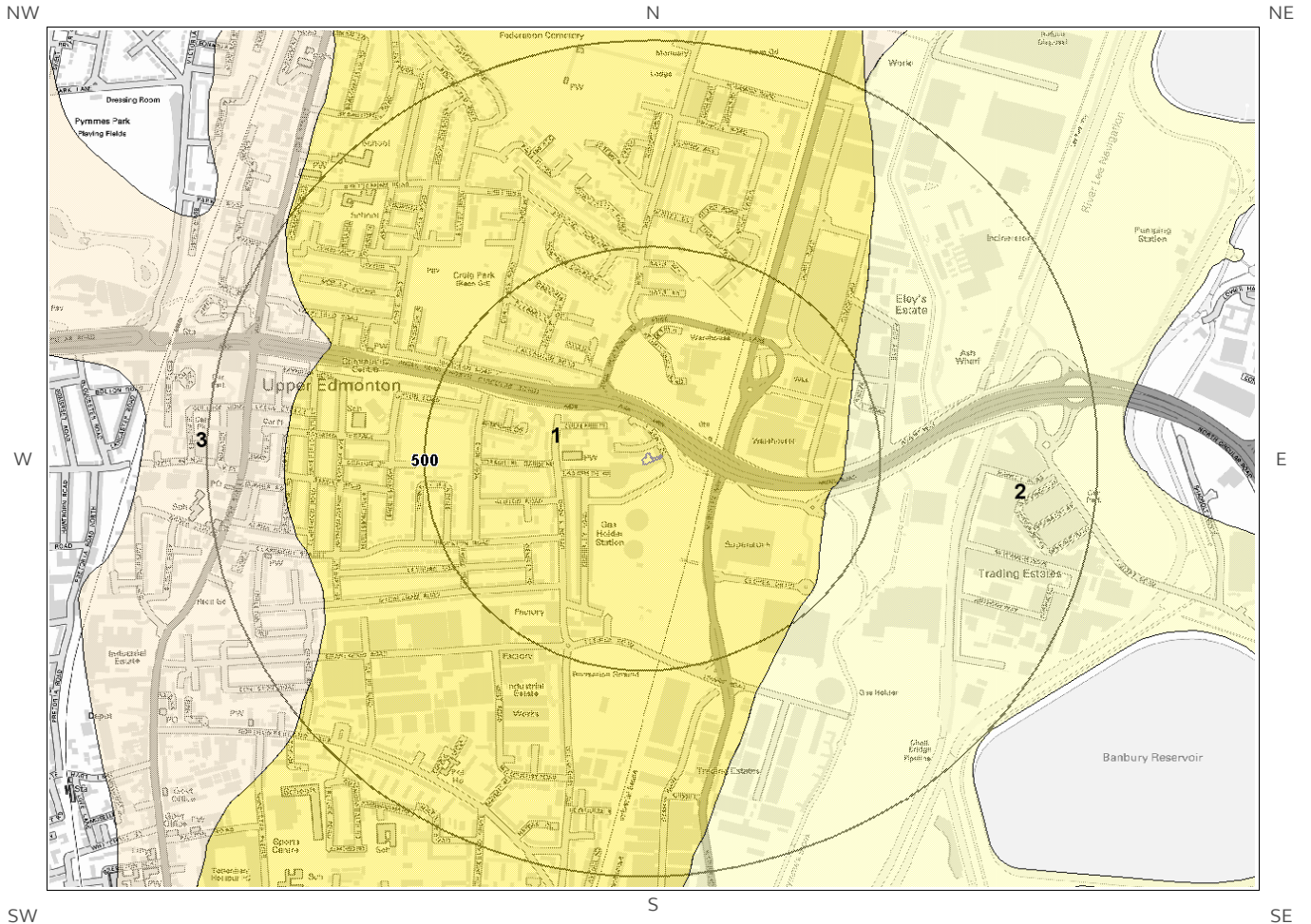
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	392.0	NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	402.0	NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

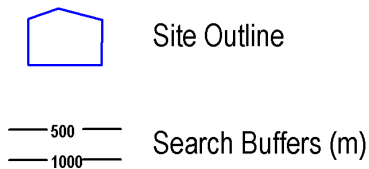
Database searched and no data found.

2.2 Superficial Deposits and Landslips Map (1:50,000 scale)



Ground Workings Legend

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2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ESI-XCZ	ENFIELD SILT MEMBER	CLAY AND SILT
2	388.0	E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Low	Very Low
0.0	On Site	Mixed	Low	Very Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

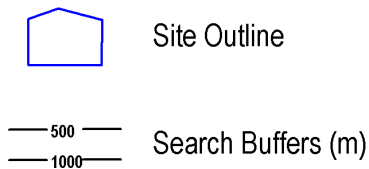
Database searched and no data found.

2.3 Bedrock and Faults Map (1:50,000 scale)



Ground Workings Legend

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2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Very Low
0.0	On Site	Mixed	Moderate	Very Low

2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

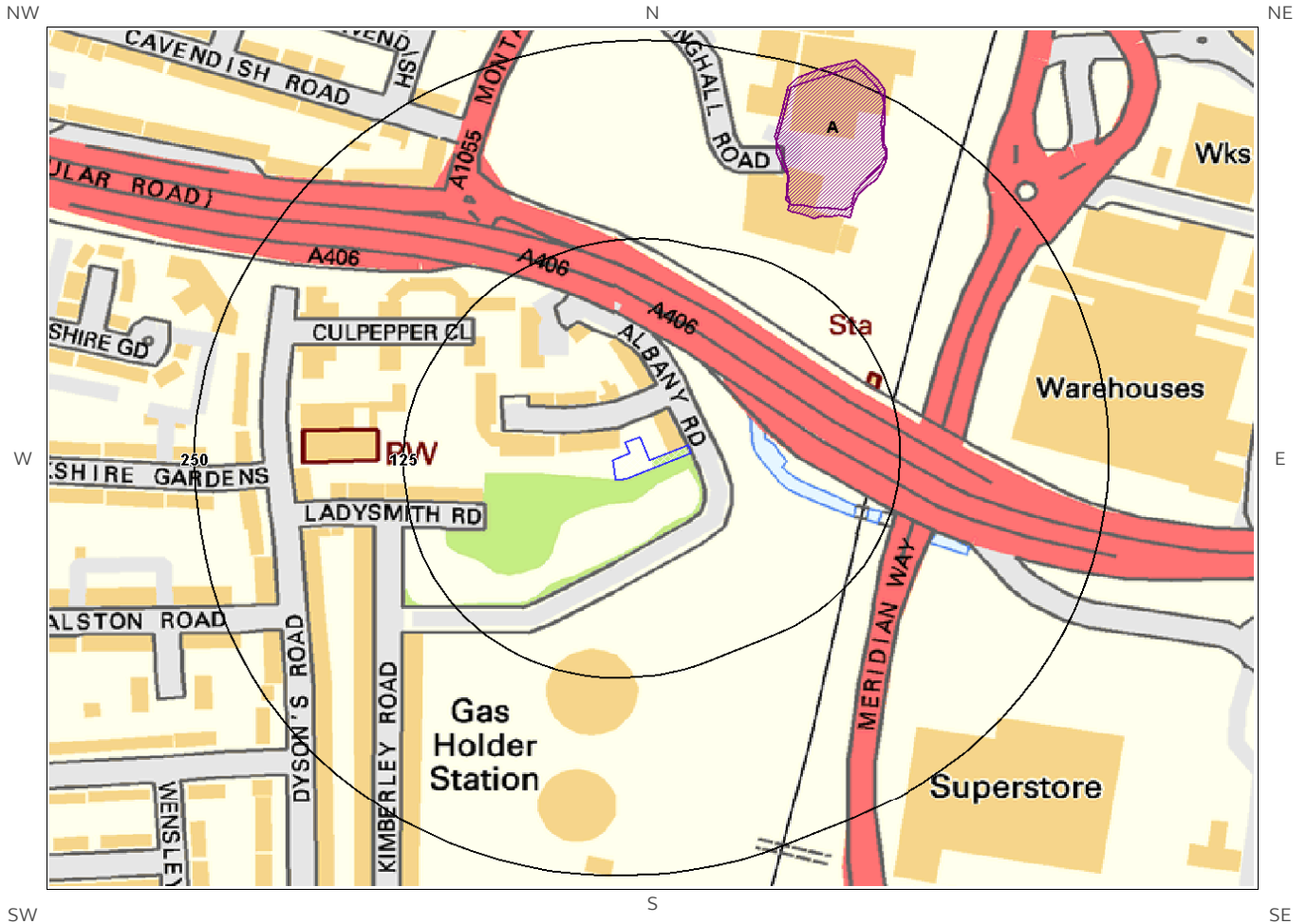
3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection



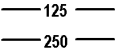


Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Search Buffers (m)
-  Historic Underground Workings
-  Current Ground Workings

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? **Yes**

ID	Distance (m)	Direction	NGR	Use	Date
1A	160.0	NE	535131 192341	Pond	1920
2A	164.0	N	535130 192346	Pond	1913

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? **No**

Database searched and no data found.

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

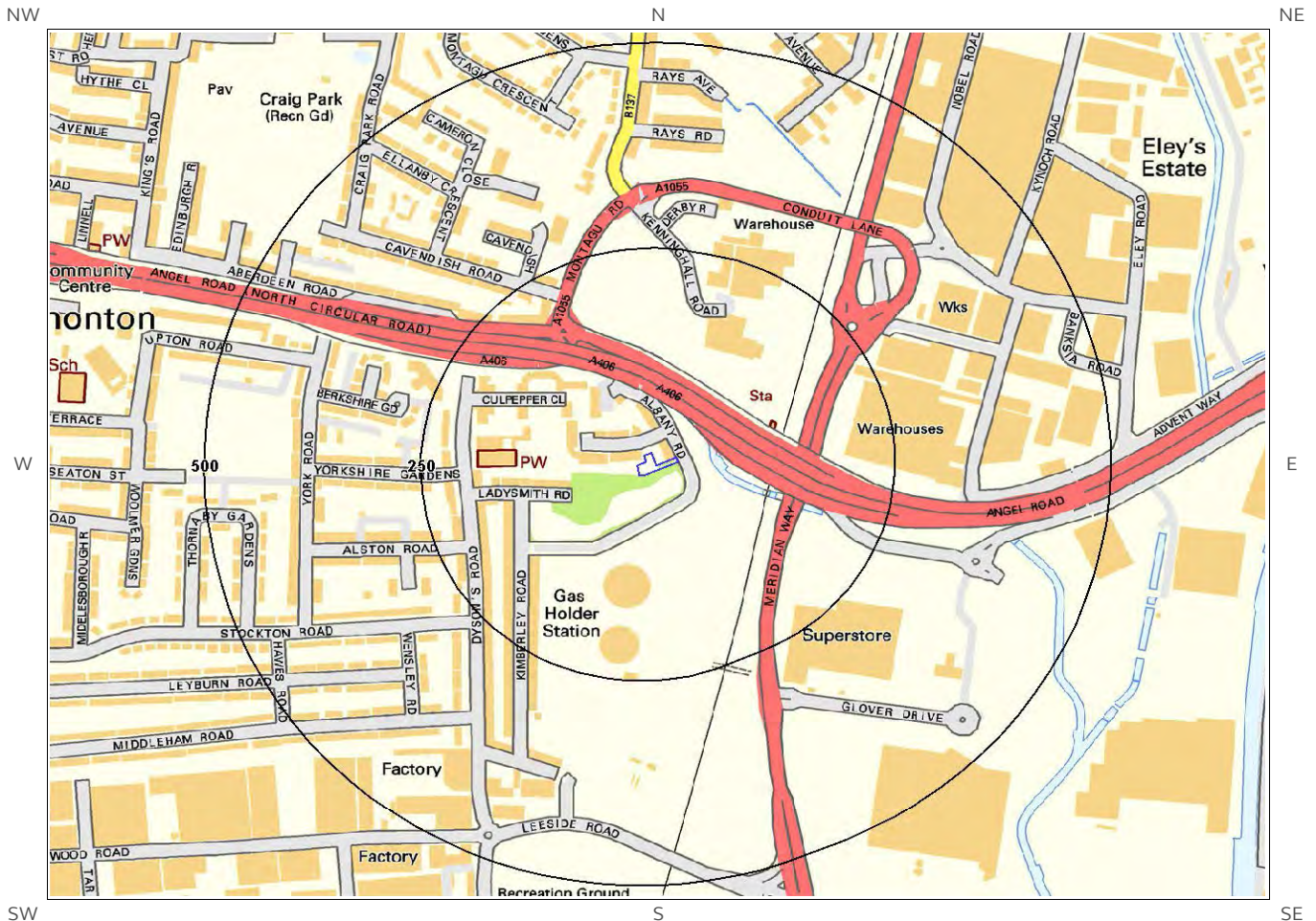
Are there any BGS Current Ground Workings within 1000m of the study site boundary? **Yes**

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	504.0	N	535180 192635	Sand & Gravel	Angel Road Gravel Pits	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	701.0	NE	535467 192709	Sand & Gravel	Eley's Gravel Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	708.0	N	535192 192843	Sand & Gravel	Angel Road Gravel Pits	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	932.0	N	535220 193065	Sand & Gravel	Montagu Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

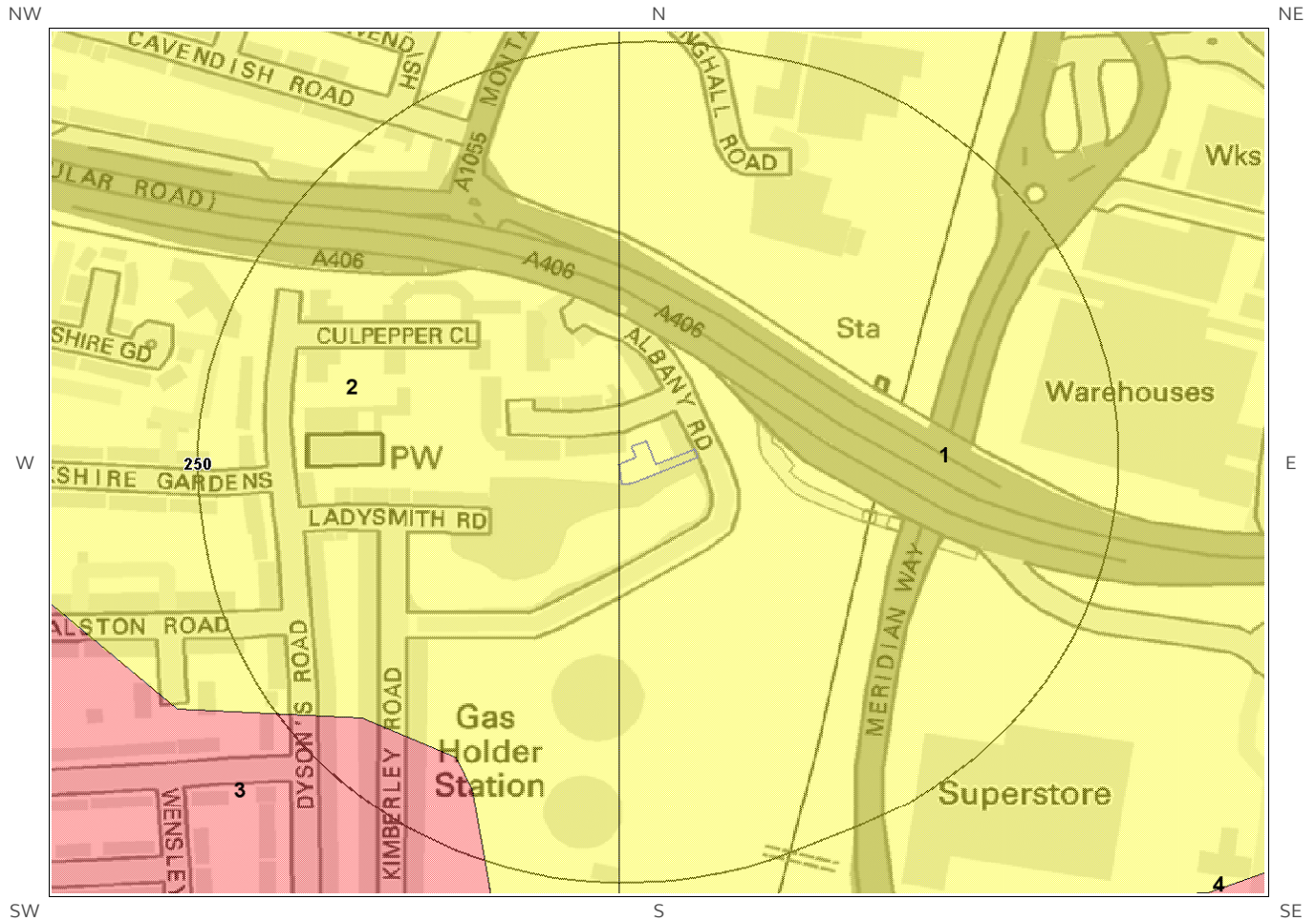
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

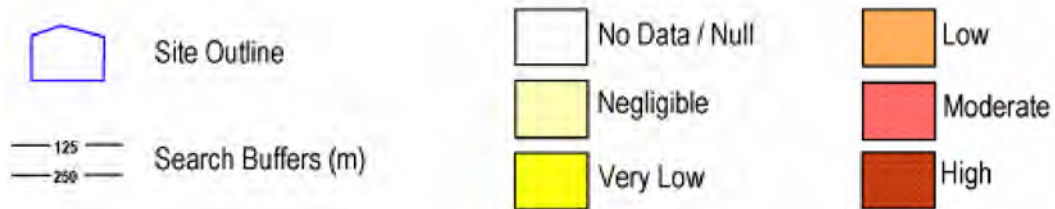
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay Map

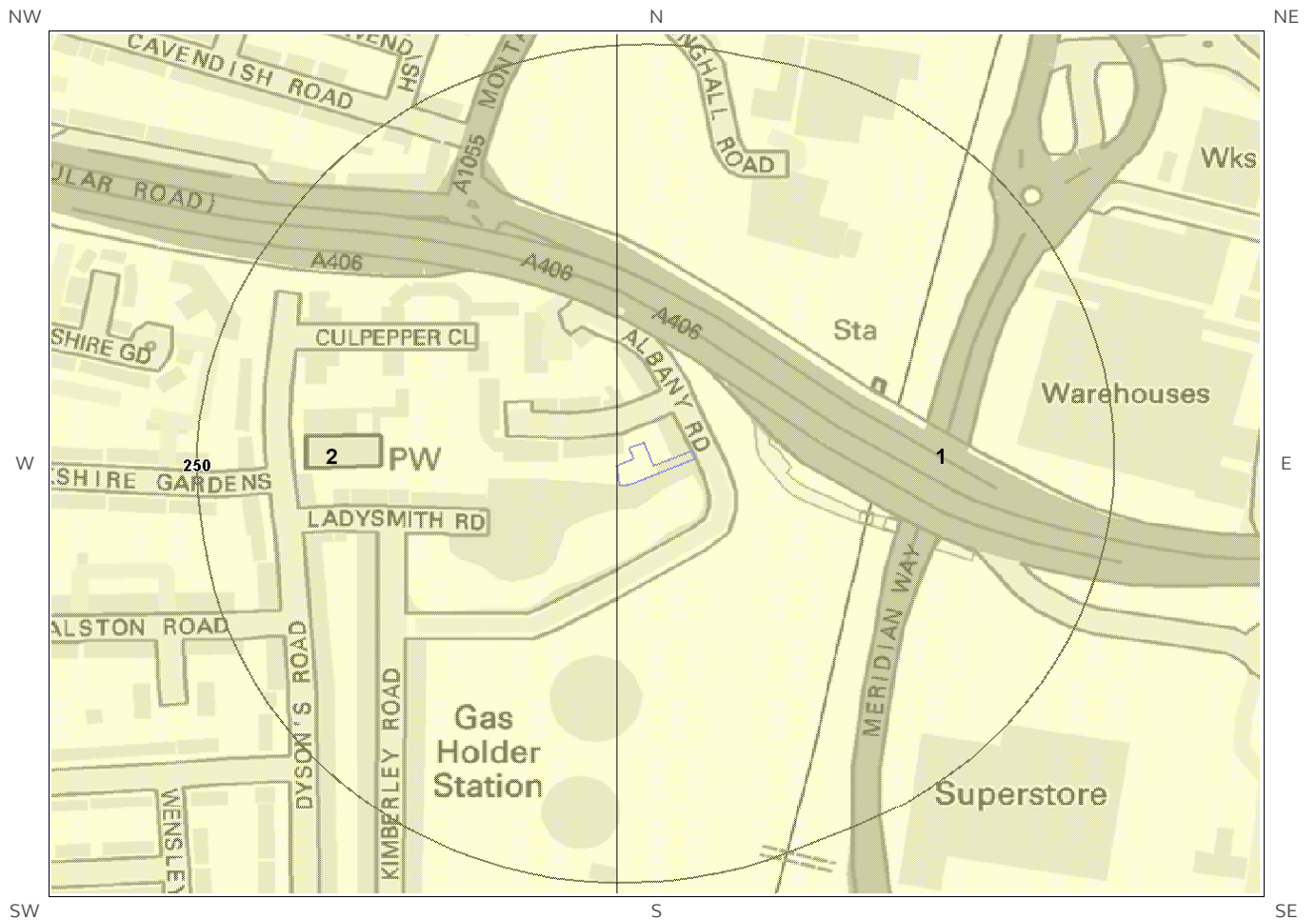


Shrink Swell Clay Legend

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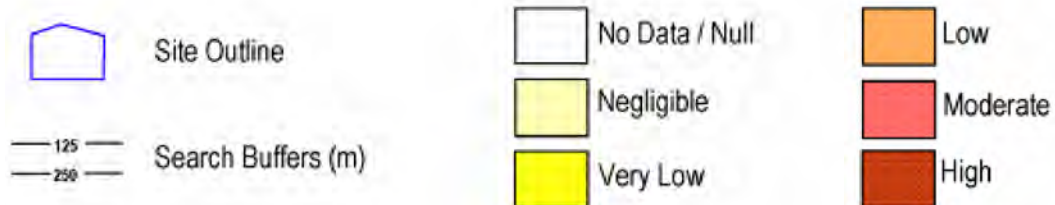


6.3 Ground Dissolution of Soluble Rocks Map

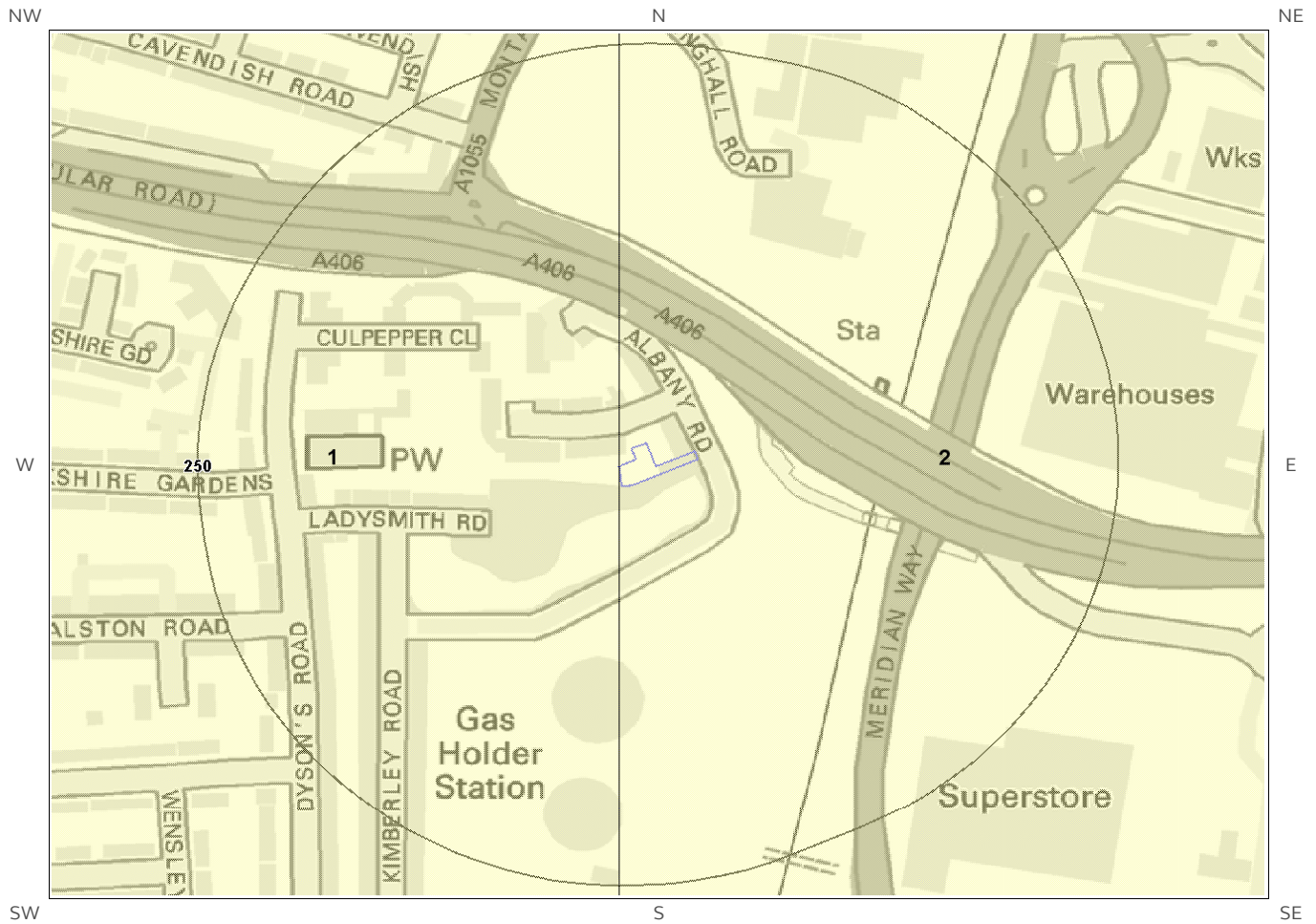


Ground Dissolution Soluble Rocks Legend

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6.4 Compressible Deposits Map



Compressible Deposits Legend

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6.5 Collapsible Deposits Map

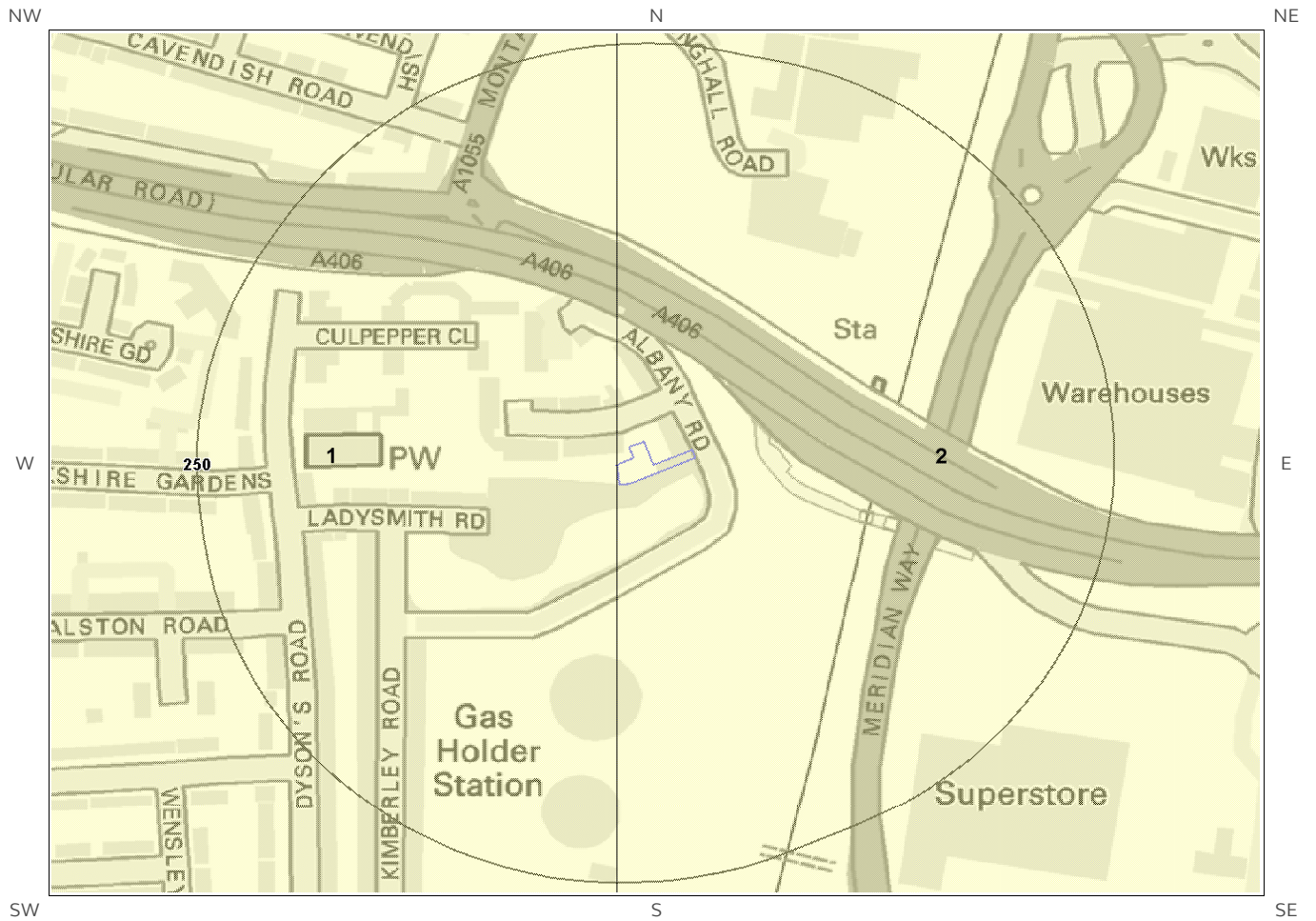


Collapsible Deposits Legend

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6.6 Running Sand Map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? Very Low

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
2	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
2	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

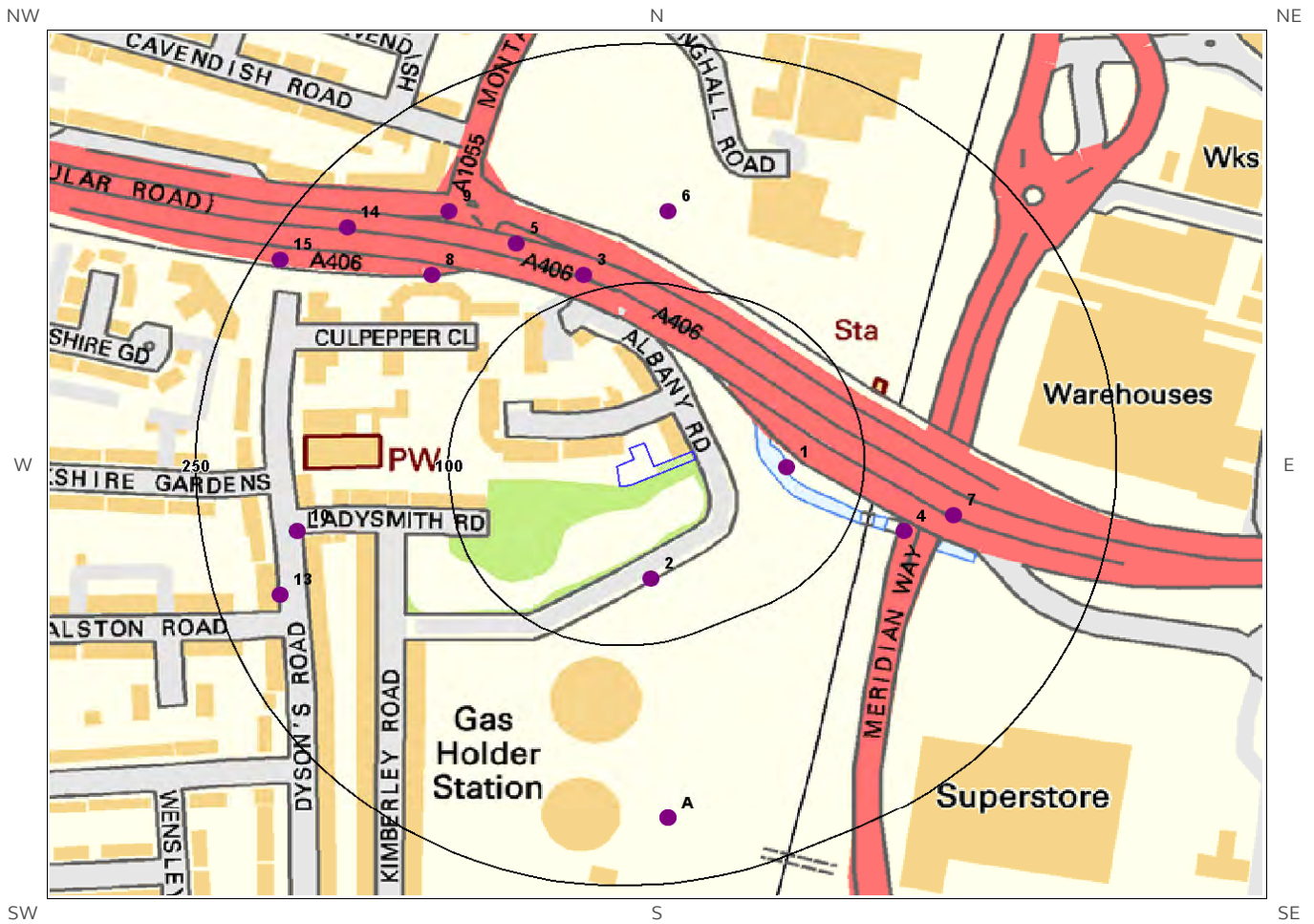
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

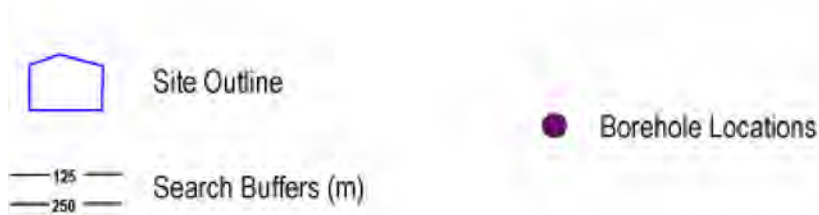
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records Map



Borehole Records Legend

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7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

15

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	54.0	E	535100 192140	TQ39SE92	30.0	A406 NORTH CIRCULAR ROAD 209
2	60.0	S	535020 192070	TQ39SE195	121.92	GAS WORKS TOTTENHAM
3	111.0	N	534980 192260	TQ39SW158	15.0	A406 NTH.CIRCULAR ROAD BH208
4	131.0	E	535170 192100	TQ39SE94	15.0	A406 NORTH CIRCULAR ROAD 210
5	144.0	NW	534940 192280	TQ39SW157	20.0	A406 NORTH CIRCULAR RD BH111
6	145.0	N	535030 192300	TQ39SE91	-1.0	A406 NORTH CIRCULAR ROAD 307
7	157.0	E	535200 192110	TQ39SE95	-1.0	A406 NORTH CIRCULAR ROAD 211
8	159.0	NW	534890 192260	TQ39SW13	6.86	BRITISH OXYGEN CO ANGEL ROAD EDMONTON
9	183.0	NW	534900 192300	TQ39SW398	19.81	MONTAGU ROAD/NORTH CIRCULAR JUNCTION EDMONTON 254
10	194.0	W	534810 192100	TQ39SW21	10.0	MIDDLESEX C.C. EDMONTON BH209
11A	210.0	S	535030 191920	TQ39SE6/A	11.43	TOTTENHAM GAS WORKS
12A	210.0	S	535030 191920	TQ39SE6/B	9.5	TOTTENHAM GAS WORKS
13	213.0	W	534800 192060	TQ39SW399	17.37	DYSON ROAD EDMONTON 255
14	217.0	NW	534840 192290	TQ39SW156	10.0	A406 NTH.CIRCULAR ROAD BH207
15	238.0	NW	534800 192270	TQ39SW20	15.24	MIDDLESEX C.C. EDMONTON BH208

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

- #1: scans.bgs.ac.uk/sobi_scans/boreholes/794406
 - #2: scans.bgs.ac.uk/sobi_scans/boreholes/794509
 - #3: scans.bgs.ac.uk/sobi_scans/boreholes/804101
 - #4: scans.bgs.ac.uk/sobi_scans/boreholes/794408
 - #5: scans.bgs.ac.uk/sobi_scans/boreholes/804100
 - #6: scans.bgs.ac.uk/sobi_scans/boreholes/794405
 - #7: scans.bgs.ac.uk/sobi_scans/boreholes/794409
 - #8: scans.bgs.ac.uk/sobi_scans/boreholes/803944
 - #9: scans.bgs.ac.uk/sobi_scans/boreholes/12702487
 - #10: scans.bgs.ac.uk/sobi_scans/boreholes/803960
 - #11A: scans.bgs.ac.uk/sobi_scans/boreholes/794314
 - #12A: scans.bgs.ac.uk/sobi_scans/boreholes/794315
 - #13: scans.bgs.ac.uk/sobi_scans/boreholes/12702488
 - #14: scans.bgs.ac.uk/sobi_scans/boreholes/804099
 - #15: scans.bgs.ac.uk/sobi_scans/boreholes/803959
-

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

2

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	London	No data	No data	No data	No data	No data
0.0	On Site	London	No data	No data	No data	No data	No data

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? Yes

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	0	On Site	535073 191974	Railway Sidings	1951
2	0	On Site	535034 192108	Railway Sidings	1951
3A	0	On Site	535052 191988	Railway Sidings	1920
4G	0	On Site	535046 192203	Railway Sidings	1938
5	0	On Site	535194 192354	Railway Sidings	1938
37G	0	On Site	535046 192203	Railway Sidings	1938

ID	Distance (m)	Direction	NGR	Details	Date
38	0	On Site	535148 192298	Railway Sidings	1959
39I	0	S	535131 192250	Railway Sidings	1960
40	1	S	535035 192042	Railway Sidings	1914
6	2	W	534965 192079	Railway Sidings	1951
7	2	S	535162 192043	Railway Sidings	1920
41	5	S	534977 192047	Railway Sidings	1936
8	13	NE	535078 192181	Railway Sidings	1920
9H	14	NE	535075 192142	Railway Sidings	1920
42H	14	NE	535075 192142	Railway Sidings	1920
10A	21	SE	535074 191981	Railway Sidings	1974
11A	21	SE	535074 191981	Railway Sidings	1968
43I	33	SE	535132 192250	Railway Sidings	1965
44	34	SE	535139 192217	Railway Sidings	1976
12	56	E	535205 192359	Railway Sidings	1920
13B	58	NE	535174 192363	Railway Sidings	1920
14B	62	E	535169 192360	Railway Sidings	1951
15	63	SE	535072 191959	Railway Sidings	1951
45	66	E	535180 192351	Railway Sidings	1936
46	67	E	535186 192363	Railway Sidings	1914
16C	77	NE	535169 192360	Railway Sidings	1974
17C	77	NE	535169 192360	Railway Sidings	1988
18B	78	NE	535204 192378	Railway Sidings	1968
19J	82	E	535158 192243	Railway Sidings	1920
47J	82	E	535158 192243	Railway Sidings	1920
20	89	E	535174 192237	Railway Sidings	1894
48	90	S	534954 192030	Railway Sidings	1972
21D	93	E	535173 192174	Railway Sidings	1864
22D	93	E	535173 192174	Railway Sidings	1866
23	94	NE	535157 192260	Railway Sidings	1897

ID	Distance (m)	Direction	NGR	Details	Date
24	96	E	535180 192192	Railway Sidings	1864
49	96	E	535193 192341	Railway Sidings	1896
25K	100	E	535168 192205	Railway Sidings	1920
50K	100	E	535168 192205	Railway Sidings	1920
26	104	E	535228 192206	Railway Sidings	1968
51	104	E	535164 192185	Railway Sidings	1867
27E	108	SE	535082 192018	Railway Sidings	1988
28E	108	SE	535082 192018	Railway Sidings	1974
52	109	SE	535114 191972	Railway Sidings	1896
53	124	SE	535137 192037	Railway Sidings	1867
29M	125	E	535157 192045	Railway Sidings	1920
30	127	E	535228 192206	Railway Sidings	1951
31	127	E	535228 192206	Railway Sidings	1974
54	128	SE	535241 192245	Railway Sidings	1959
55	130	S	535003 191868	Railway Sidings	1968
56P	131	SE	535132 191969	Railway Sidings	1914
57	136	E	535287 192354	Railway Sidings	1936
32L	137	E	535289 192358	Railway Sidings	1938
58L	137	E	535289 192358	Railway Sidings	1938
59M	140	SE	535161 192045	Railway Sidings	1976
60	141	SE	535237 192232	Railway Sidings	1965
61M	141	SE	535161 192046	Railway Sidings	1960
62N	144	SE	535061 191592	Railway Sidings	1956
63N	144	SE	535061 191592	Railway Sidings	1956
64O	148	SE	535058 191908	Railway Sidings	1967
65O	156	SE	535057 191904	Railway Sidings	1977
66	161	SE	535078 191855	Railway Sidings	1967
67	172	SE	535126 191809	Railway Sidings	1977
68	173	SE	535061 191592	Railway Sidings	1968

ID	Distance (m)	Direction	NGR	Details	Date
69P	175	SE	535140 191951	Railway Sidings	1967
70	176	SE	535335 191845	Railway Sidings	1956
71	193	SE	535092 191937	Railway Sidings	1977
33Q	196	SE	535171 191908	Railway Sidings	1920
72Q	196	SE	535171 191908	Railway Sidings	1920
73	209	NE	535253 192480	Railway Sidings	1896
74	235	S	535035 191870	Railway Sidings	1896
34F	243	S	534987 191809	Railway Sidings	1966
75	246	SE	535160 191922	Railway Sidings	1968
76S	246	S	534988 191811	Railway Sidings	1955
35F	247	S	534989 191810	Railway Sidings	1974
36R	248	NE	535172 192409	Railway Sidings	1920
77R	248	NE	535172 192409	Railway Sidings	1920
78	249	S	534951 191819	Railway Sidings	1915
79S	249	S	534987 191809	Railway Sidings	1955

Any records that have been identified are represented on the Railways and Tunnels Map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Name	Type
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
105	E	Lea Valley Lines	Rail
108	E	Lea Valley Lines	Rail
108	E	Lea Valley Lines	Rail
108	E	Not given	Multi Track
108	E	Not given	Multi Track
108	E	Lea Valley Lines	Rail
108	E	Lea Valley Lines	Rail
109	E	Lea Valley Lines	Rail
109	E	Lea Valley Lines	Rail

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

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Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

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www.coal.gov.uk



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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-sept-2016/>

APPENDIX C

Zetica UXO Maps

REGIONAL UNEXPLODED BOMB RISK

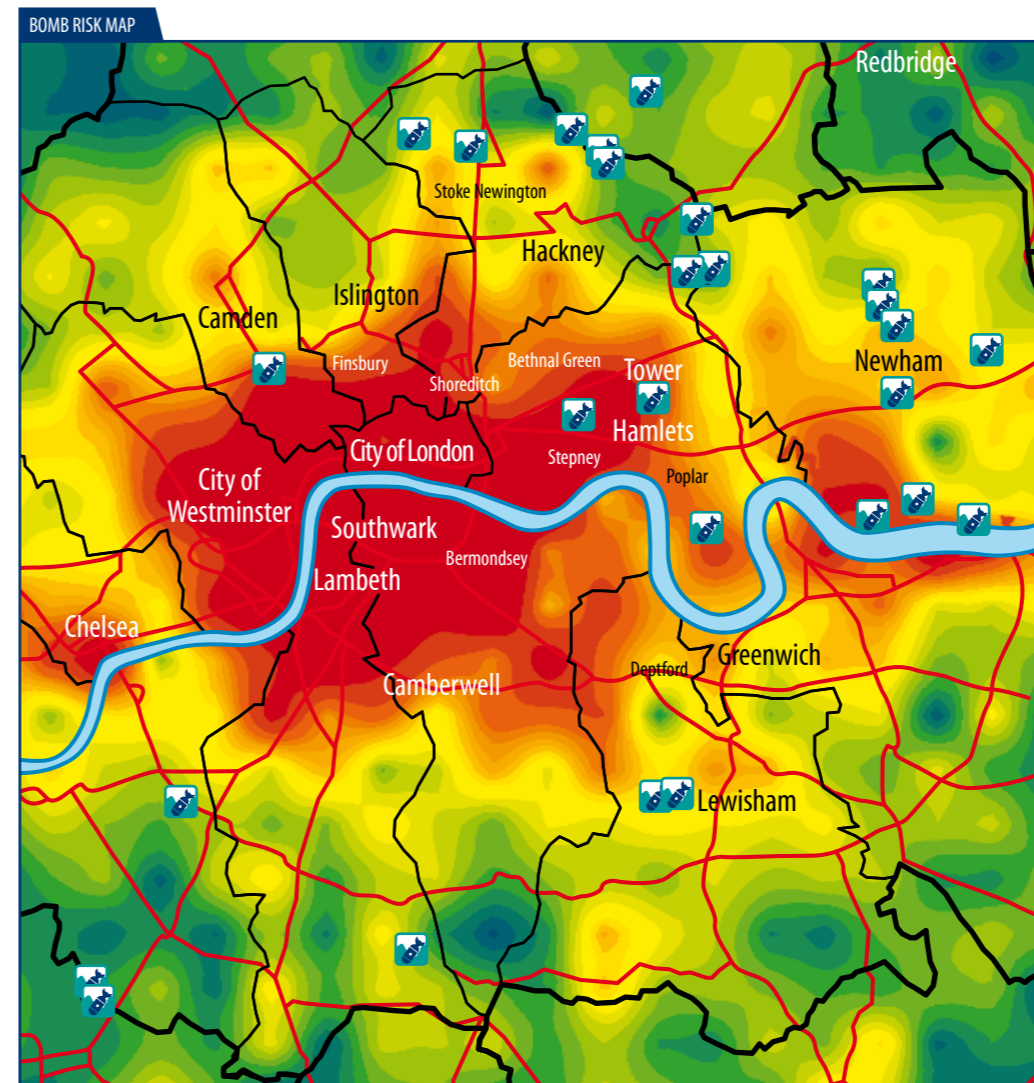
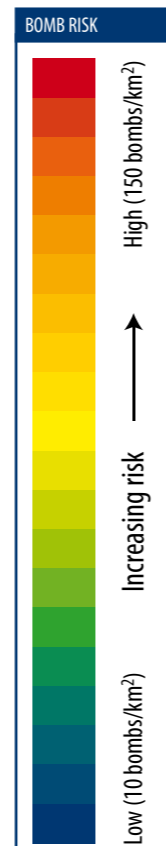
LONDON – East Central

NUMBER OF BOMBS PER BOROUGH			
Borough	High Explosive	Parachute mines	Incendiary*
Bermondsey	809	11	39
Bethnal Green	281	9	8
Camberwell	1197	11	68
City of London	393	9	16
Deptford	717	12	46
Finsbury	208	4	21
Hackney	613	16	13
Islington	568	7	40
Lewisham	1366	15	58
Poplar	755	20	20
Shoreditch	279	6	12
Southwark	593	9	30
Stepney	1212	9	19
Stoke Newington	193	9	21

London and its approaches are renowned for the heavy bombing inflicted on them during WWII. This is reflected in the number of UXB found since the war and so it is accepted that a significant risk from UXB exists across the London area. On average, less than 10% of high explosive and 50% of incendiary bombs failed to explode. This map shows the relative increase in this risk based on bombing densities.

*Larger incendiary devices only. This figure does not include the numerous smaller incendiary devices (eg. 1kg devices).

The information in this UXB risk map is derived from a number of sources and should be read in conjunction with the 'Users' Guide' attached. The often inaccessible nature and changing ground conditions in estuaries and riverbeds (eg. movement of silt that may contain ordnance) means that historical bombing records of these areas may be poor or inaccurate, and further assessment of the bomb risk may be required as part of a site specific study. Zetica cannot guarantee the accuracy or completeness of the information or data.



KEYPOINTS

Abandoned bombs

UXB hazard map

This map can be used as part of a preliminary risk assessment in line with CIRIA guidance (C681).

A FOUR-STEP PROCESS



Risk assessment and method statement from a qualified explosive ordnance clearance (EOC) operative.



Surface geophysical survey to allow shallow groundwork.



MAGCONE detects UXBs and obstructions on piling layout to the no-risk depth.



Detected UXBs can be dealt with by our EOC engineers and a Clearance Certificate issued for the site.

zetica

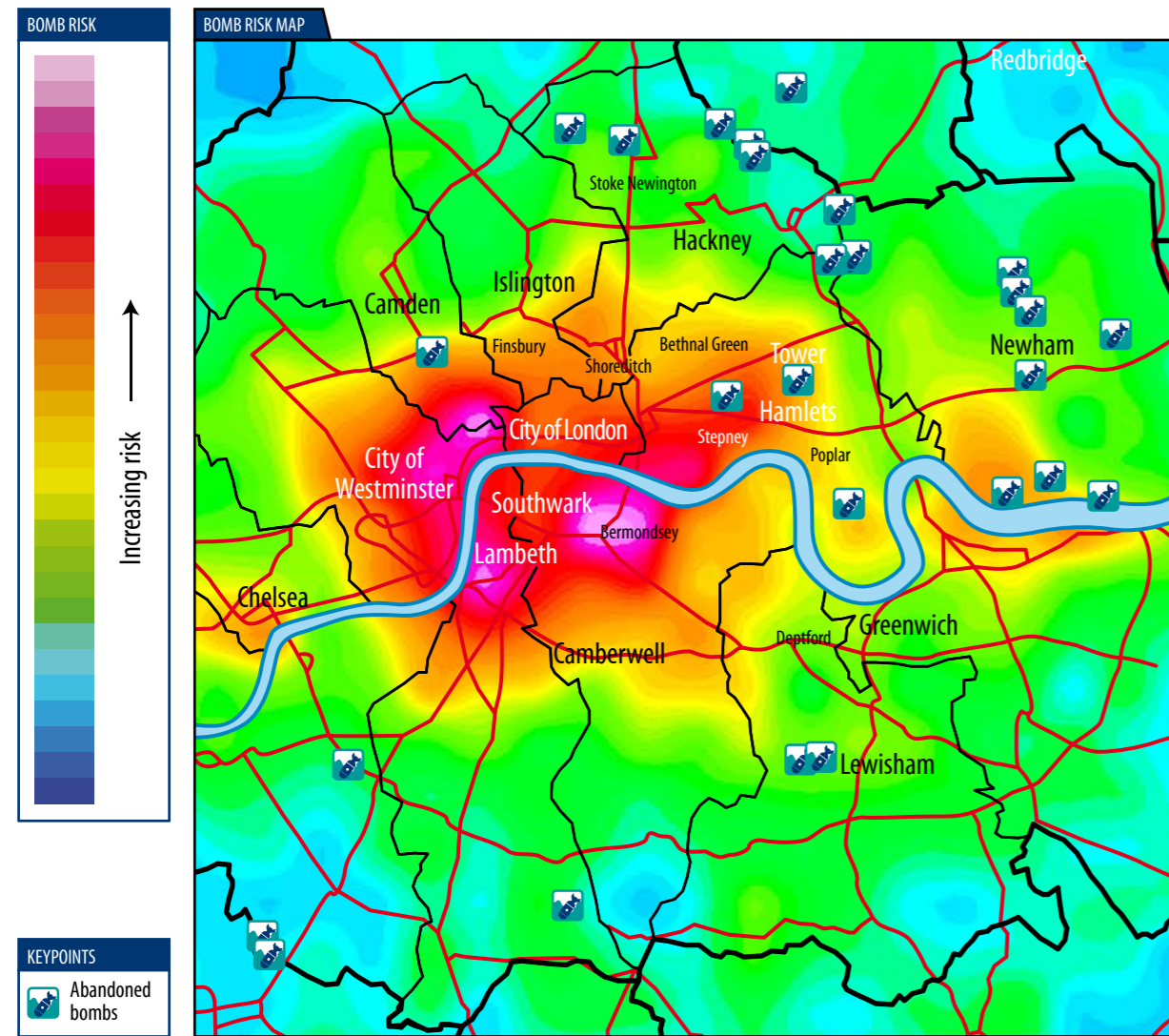
For more details on this and related services, telephone: +44 (0) 1993 886682 or visit our website: www.zetica.com

RISK MITIGATION AND INVESTIGATION

LONDON – East Central

Risk mitigation map

This map is based on Zetica's bomb risk map and can be used as a guide to the relative risk of intrusive activities such as piling, drilling or deep bulk excavation, and the likelihood that some form of risk mitigation may be recommended. However, this map is a guide only and, in practice, a detailed desk study may conclude that extensive risk mitigation is not required even in a high risk area.



Investigation options

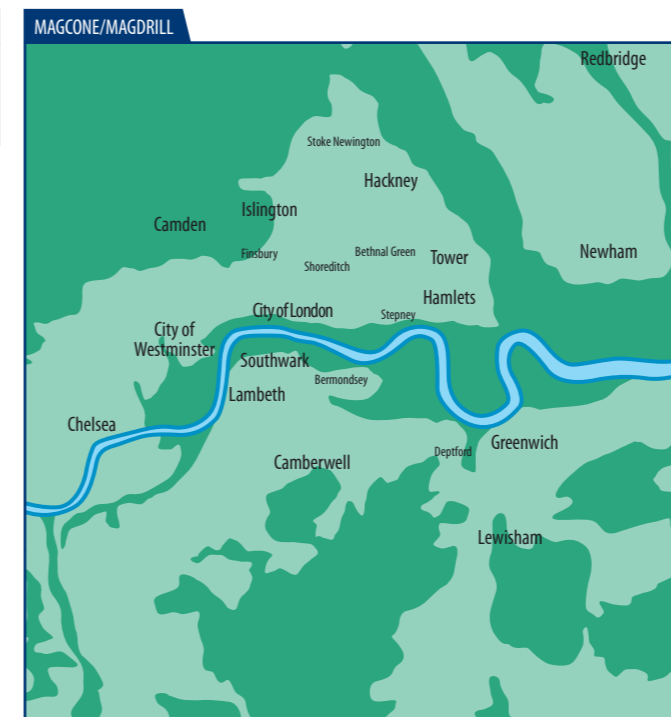
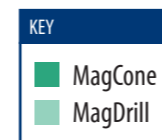
The unexploded bomb (UXB) risk for intrusive site works, such as drilling or piling that usually extend to depths greater than can be mapped from surface, can be effectively managed by clearing borehole or pile locations using MagCone or MagDrill techniques.

For the London area, the geology is extremely complex with a complicated succession that includes several units that are unsuitable for MagCone techniques. To give a first order approximation as to which technique might be appropriate for a site, a simplified map has been produced.

This map has been compiled from the BGS Solid and Drift map sheets 256, 257, 270 and 271. The complex geology has been reduced to three areas coloured grey, green and pink. Areas that involve units that are probably only suitable for MagDrill, which include gravels, are shown in pink. Areas that involve units probably suitable for MagCone, such as London Clay or alluvium, are coloured green. Where



chalk crops out at surface or there is negligible soil cover over chalk, it is shown in grey. This map is for indicative purposes only and specific site geology needs to be taken in to account, especially close to the boundaries shown on the map.



MagCone/MagDrill map

This map compilation provides a guide to appropriate intrusive UXB detection methods. The map is based on British Geological Survey maps at 1:50,000 scale. Soft, compressible alluvial materials can typically be investigated using MagCone (CPT-based) methods whereas sands and dense gravels from River Terrace deposits are typically investigated using MagDrill (drilling-based) methods. The use of an inappropriate method could result in insufficient depth of detection or a less cost effective technique being used.

BOMB MAP USERS' GUIDE

Sources of information and explanation of bomb risk

Why?

Unexploded bombs (UXB) still present a risk to construction projects long after the end of the Second World War (WWII). UXBs often entered the ground unnoticed at high velocity and penetrated to a depth of several metres. Here they remain – vulnerable to disturbances from construction work. Beyond the depth of shallow excavation work, the greatest risk is to piling, drilling and probing crews. A piling rig could repeatedly hit a UXBs with considerable force before the crew realises an obstruction has been impacted. It could then be up to 72 hours before the detonator activates.

Who?

The responsibility for avoiding UXB risk usually lies with construction companies or house builders particularly those who are redeveloping urban sites. In addition, project engineering or environmental consultants are expected to advise their clients of a site's history. Other interested parties include those organisations whose employees are physically at most risk from intrusive works, normally piling companies, drillers or probing operators.

How?

UXB risk should be assessed for every site, but especially those in known heavily bombed areas or those situated near war-time strategic installations that were priority targets for enemy aircraft, for example, airfields. Zetica's regional bomb risk map is therefore a first point of reference from which the relative, potential abundance of UXBs can be judged. Consultants then advise their clients that an ordnance-risk desk study is required, which they may obtain from external sources. Construction companies or house builders who assess their own risk could choose to come direct to Zetica.

When?

Do not wait for the piling or drilling company to be on site before thinking about UXB risk – it will inevitably cause delays and higher costs. Request the regional bomb risk map from Zetica as soon as a site is being considered, and then use it to help you or your clients to decide if an ordnance-risk desk study is required.

Where?

Maps can be obtained for any county in England, Scotland, Wales or Northern Ireland – or for any London borough. They can help determine the areas that were most heavily bombed – but no part of the country should be considered 100% safe from UXB risk. Even remote rural areas can have a high risk if, for example, they were locations for decoy airfields or beacons that were lit to fool enemy pilots into thinking they had located a burning city that had been successfully hit by others in the raid.

How to use this regional map of London

This map is designed to give you an indication of the potential risk from UXBs in your area. If you are conducting work that involves excavation, piling or other disturbance of the ground, then you should use the map to identify the category of risk for your site.

The risk boundaries are a guide, compiled from data based on the political areas for which records are held; being just outside a high-risk area does not mean there is no UXB risk. You should use the map to assist in your decision of whether to investigate the UXB risk further.

Information on the regional risk remaining from UXBs in the UK

Zetica has built the largest UXB database of its kind in the UK. It includes a unique digital library of bomb census data, and maps showing key strategic points and bombing densities from the First and Second World Wars. The main sources of information include records from central government (Public Records Office), the Ministry of Defence, and the German Luftwaffe.

Using information from this database, Zetica has published maps of UXB risk on a regional, county and borough scale. The maps indicate relative degrees of UXB risk based on available records for bombing densities and known targeted areas for regions within the UK. The risk is broken down into individual boroughs, towns or cities. The data are based on the historical boroughs and are then overlaid onto the modern map. It is important to note that more-detailed research may be required for individual sites, particularly where proximity to a potential WWII target means the local risk may be higher.

Relative UXB risk across London

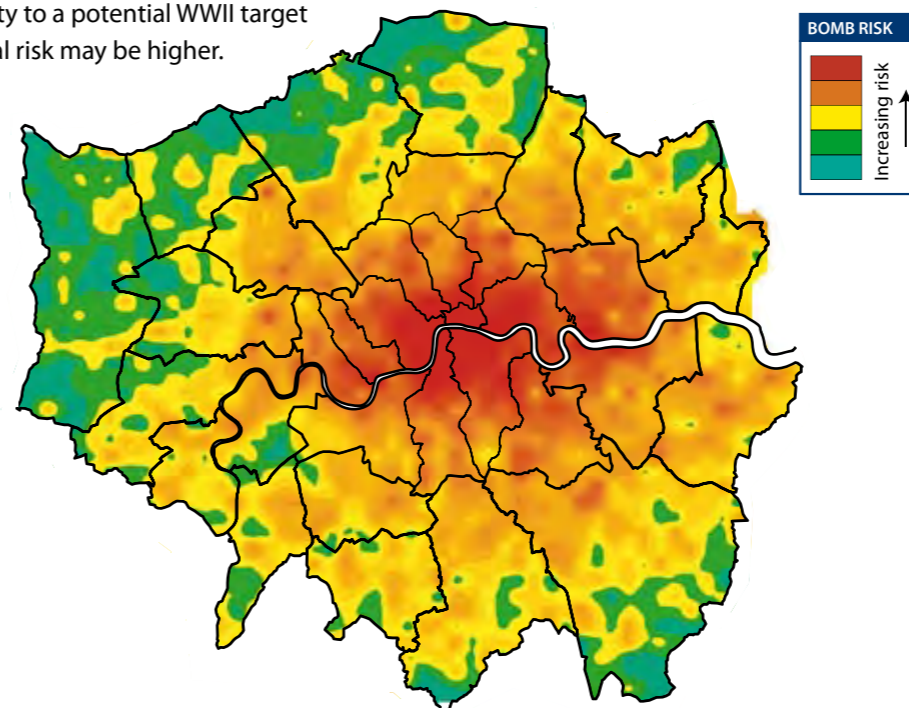
The relative risk for the London area is established by plotting the recorded bombing densities. These are represented as counts of high explosive bombs in km² area.

The areas coloured green represent a record of less than 10 bombs per km². Compared to other areas of the UK, this still represents a significant risk.

However, this is much lower than parts of Central London, where the red colouration indicates in excess of 150 bombs falling per km², representing a very significant UXB risk.

Other WWII targets

Other regions with the risk of UXBs are key strategic points as defined by the government during WWII as representing potential enemy targets. Where these exist outside areas mapped as high, moderate or low risk, a site-specific assessment of the UXB risk may be required.



What to do if...

...you have a site that has a potential UXB risk

In the absence of current legislation requiring you to address the risk from UXBs, your responsibilities under health and safety legislation and regulations such as construction design and management require that you address all identified risks. The first stage is to request further advice from a professional adviser such as Zetica, or to gain more site-specific information by commissioning an ordnance-risk desk study. Then a strategy to deal with the risk can be established that is tailored to your proposed work.

...you find a suspect item or require advice

If during site works you find a suspect (ordnance-related) item, it is very important that you do not touch or move it (even if it has already been moved by an excavator). If it is clearly ordnance related, then dial 999 and ask for the police. Ensure that the area around the item is kept as clear as possible without placing yourself at risk. If you are unsure and do not wish to cause undue alarm, or you just require some advice, then you can call Zetica. We have experienced qualified UXB specialists on hand who can offer support and advice during any site works.

More-detailed procedures should be established in advance if you are in an area where the risk of finding a UXB is shown to be significant (moderate to high).

Site-specific desktop studies

Zetica is able to provide high-quality, site-specific UXB risk information for any residential, industrial or commercial property in the UK. These desktop studies provide details of the bombing density within an area and for the site itself, in order to indicate the risks of UXBs still being present. A risk assessment is provided to facilitate informed decision making on whether any further risk mitigation measures are required.

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