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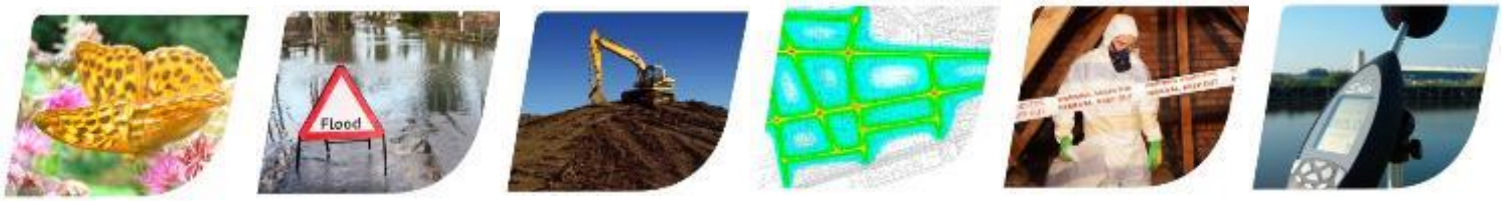
PHASE I GEO-ENVIRONMENTAL SITE ASSESSMENT

2/2A POYNTON ROAD
LONDON
N17 9SP

REC REFERENCE: 1CO101651P1R0

REPORT PREPARED FOR: LILSTONE LTD

JUNE 2016



QUALITY ASSURANCE

Issue/revision	Issue 1	Revision 1	Revision 2
Remarks	Final		
Date	June 2016		
Prepared by	Jane Baird		
Qualifications	BSc (Hons)		
Signature			
Checked by	Charlotte Toth		
Qualifications	BSc (Hons)		
Signature			
Authorised by	Stuart Phillips		
Qualifications	Regional Director		
Signature			
Project number	1CO101651		

EXECUTIVE SUMMARY	
Site Address	2/2a Poynton Road, London, N17 9SP
Grid Reference	534284, 190518
Site Area	0.03 ha
Current Site Use	Currently the site is utilised as a builder's storage yard and includes a large locked metal container for tools and plant, an open metal frame covering building materials and a wooden shed storing bags of sand. Ground cover on site consists of hardstanding concrete.
Environmental Setting	The site is underlain by superficial deposits (Enfield Silt Member) overlying bedrock geology (London Clay Formation) that both contain unproductive aquifers. The nearest groundwater and potable abstraction (historical) is situated approximately 818m north-east of site at Park Well and is detailed as a direct potable water supply. The site is located within a groundwater Source Protection Zone 2 (Outer Catchment) and a groundwater Source Protection Zone 1 (Inner Catchment) is situated 156m north-east of site. Additionally, the site is not located within a groundwater flooding susceptibility area and therefore not considered prone to groundwater flooding.
Site History	Historic maps indicate that prior to 1894 the site comprised open field space. After this date the peripheral of site is seen to be partially covering the rear gardens of surrounding residential properties. A square building is noted on site in 1936 until 1955 when it is no longer present. In maps dated 1988 an electricity substation is identified to be partially located on the south-western corner of site. Currently the site entails a builder's storage yard. An enclosed electricity substation is situated immediately beyond the south-western corner of site.
Radon	The site is not situated within a radon affected area, as less than 1% of properties are above the action level, and therefore no radon protective measures are necessary in the construction of new dwellings or extensions.
Coal Mining / Ground Workings	The site is not within an area that is affected by non-coal mining or coal mining. However, there are ground workings identified close to site, the nearest of which relates to a historic pond located 64m north-west of site between 1869 and 1879.
Initial Conceptual Site Model (CSM)	**On-site:** Made ground associated with previous development of a square building on site (which is no longer present) could be a source of asbestos fibres, metals and polycyclic aromatic hydrocarbons (PAH). **Off-site**: Migration of contaminants from numerous sources including electricity substations, (HV) underground electricity cables nursery, infilled pond, commercial companies, industrial companies and waste sites.

<table>
<tr><td>Preliminary Geotechnical Assessment</td><td>Information from the Groundsure report indicates negligible to moderate geotechnical risks, as shown in the table below.
<table>
<tr><th>Hazard</th><th>Designation</th></tr>
<tr><td>Shrink-Swell Clay</td><td>Moderate</td></tr>
<tr><td>Landslides</td><td>Very Low</td></tr>
<tr><td>Ground Dissolution</td><td>Negligible</td></tr>
<tr><td>Compressible Ground</td><td>Negligible</td></tr>
<tr><td>Collapsible Deposits</td><td>Very Low</td></tr>
<tr><td>Running Sand</td><td>Negligible</td></tr>
</table></td></tr>
<tr><td>Recommendations</td><td>A detailed Phase II intrusive geo-environmental ground investigation should be undertaken in order to confirm the findings of the initial conceptual site model and to determine the environmental characterisation of the site. These works could also be utilised in order to obtain geotechnical information to support the proposed development of the site including allowable bearing pressures for foundations, floor slabs, roads and pavement, soil permeability and concrete design for substructures. Undertaking a single comprehensive investigation is likely to lead to considerable cost savings in the long-run when compared to undertaken two separate phases of works.</td></tr>
</table>

TABLE OF CONTENTS

QUALITY ASSURANCE **1**

EXECUTIVE SUMMARY **2**

1.0 INTRODUCTION **6**

1.1 Background 6
1.2 Proposed Development 6
1.3 Objectives 6
1.4 Sources of Information 6
1.5 Risk Classification 7
1.6 Limitations of the Study 7

2.0 SITE SETTING **8**

2.1 Site Details 8
2.2 Current Site Use 8
2.3 Surrounding Area 9

3.0 SITE HISTORY **10**

3.1 On-Site Historical Development 10
3.2 Off-Site Historical Development 10
3.3 Planning History 11

4.0 ENVIRONMENTAL SETTING **12**

4.1 Geology & Hydrogeology 12
4.2 Geotechnical Data 12
4.3 Coal Mining & Ground Workings 13
4.4 Railways & Tunnels 13
4.5 Hydrology 13
4.6 Radon Risk Potential 13
4.7 Industrial Land Uses 13
4.8 Sensitive Land Uses 14
4.9 Site Sensitivity Assessment 14

5.0 CONSULTATIONS **15**

5.1 Contaminated Land Officer 15
5.2 Landfill Sites and Waste Treatment Sites 15
5.3 Regulatory Database 15

6.0 CONCEPTUAL SITE MODEL (CSM) **16**

6.1 Initial CSM 16
6.2 Contaminant Sources 16
6.3 Potential Pathways 16
6.4 Potential Receptors 17
6.5 Risk Assessment 17
6.5.1 Severity 17
6.5.2 Likelihood 18
6.5.3 Risk Rating 18
6.6 Conceptual Site Model 18

7.0 RECOMMENDATIONS **21**

APPENDICES

Appendix I	Limitations
Appendix II	Glossary
Appendix III	Drawings
	Drawing No. 1CO101651-001 – Site Location Plan
	Drawing No. 1CO101651-002 – Site Layout Plan
	Drawing No. 1CO101651-003 – Proposed Development Plan
Appendix IV	Photographs
Appendix V	Historical Mapping

1.0 INTRODUCTION

1.1 Background

Resource and Environmental Consultants Ltd (REC) has been commissioned by Lilstone Ltd to undertake a Phase I Geo-Environmental Site Assessment at 2 / 2a Poynton Road, London, N17 9SP. A site location plan (Drawing No 1CO101651-001) is presented in Appendix III.

The purpose of this Phase I Desk Top Study (DTS) is to provide geo-environmental information with respect to the proposed development and to provide an assessment of potential contamination at the site.

1.2 Proposed Development

REC Ltd understand that Lilstone Ltd are proposing to redevelop the site with a pair of semi-detached self-contained dwelling houses (C3a) of part 1 and part 2 storeys, which will incorporate accommodation in the roof space. A proposed development plan (Drawing No 1CO101651-003) is provided in Appendix III.

1.3 Objectives

The objectives of the desk based study are to:

- Undertake a site walkover to identify any current areas of potential environmental concern in order to establish the source, pathway, receptor conceptual site model (CSM);
- Review historical plans, geology, hydrogeology, site sensitivity, flood-plain issues, mining records and any local authority information available in order to complete a Phase I Desk Study in line with Environment Agency (EA) document Model Procedures for the Management of Contaminated Land (Contaminated Land Report 11 (CLR11));
- Assess the implications of any potential environmental risks, liabilities, and development constraints associated with the site in relation to the future use of the site and in relation to potential off-site receptors;
- Provide a factual and interpretative report relating to the procured information and provide preliminary recommendations on any potential development issues; and,
- Provide recommendations regarding future works required.

1.4 Sources of Information

Background information was sought from the following sources:

- Groundsure data search;
- Historical mapping dated 1864 to 2014. Historical maps are reproduced in Appendix V;
- On-line planning records held by Haringey Council;
- Environment Agency Groundwater Vulnerability Map - (http://maps.environment-agency.gov.uk/wiyby);
- Radon: Guidance on protective measures for new buildings (BRE Document BR 211, 2015) and HPA Indicative Radon Atlas for England and Wales); and
- British Geological Survey Online Mapping (http://www.bgs.ac.uk).

1.5 Risk Classification

REC Ltd has utilised the available data to classify the site on the basis of its likely contaminated land liability and potential for geotechnical constraints in relation to the property development. The risk classification definitions are summarised below:

Risk	Definition
Low	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property.
Low-Moderate	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property with regard to the proposed use. However, minor issues may require further consideration in the event of a future redevelopment of the site etc.
Moderate	Some potential contaminated land liabilities/geotechnical constraints are likely to affect the property as a result of historical and/or current activities. The risks identified are unlikely to pose an immediate significant issue but the purchaser/developer may wish to make further enquiries of the vendor or undertake further environmental improvements. Redevelopment of the site will likely require further site investigation.
Moderate-High	Some potentially significant contaminated land liabilities/geotechnical constraints have been identified at the property that requires further assessment including intrusive ground investigations.
High	Significant potential contaminated land liabilities/geotechnical constraints have been identified at the property. Further assessment including intrusive ground investigation will be required to determine to level of risk and associated liability.

1.6 Limitations of the Study

The full limitations of this report are presented in Appendix I.

2.0 SITE SETTING

2.1 Site Details

Site Address	2/2a Poynton Road, London, N17 9SP
National Grid Reference	534284, 190518
Site Area	0.03 ha

A site location map is presented in Appendix III.

2.2 Current Site Use

Site Description

A site walkover was conducted by REC on the 6th May 2016 and attended by Jane Baird and Emily Chissell of REC and Paul Coyle of Lilstone Ltd to discuss the site.

The site covers an area of approximately 0.03ha and lies in a largely residential area situated in north London. Currently the site is utilised as a builder's storage yard and includes a large locked metal container for tools and plant, an open metal frame covering building materials and a wooden shed storing bags of sand. There is an outdoor water standpipe and power outlet situated on the southern boundary of site. Ground cover on site consists of hardstanding concrete.

Access to the site is gained via double metal locked gates off Poynton Road which delineates the southern boundary of site. Site security entails a mix of metal and wooden fencing. The local topography is relatively flat and low-lying at approximately 10mAOD.

Selected photographs of the site taken during the walkover are presented in Appendix IV.

Hazardous Materials Storage

No above ground storage tanks (ASTs) or underground storage tanks (USTs) were observed at the site.

Polychlorinated Biphenyls (PCBs)

No electricity sub-stations were identified present on site, however there is a small electricity substation situated immediately beyond the south-western corner of site.

Asbestos Containing Material (ACM)

No fragments of ACM were encountered during the walkover. However, considering the re-development and age of the previous buildings on site there is potential that asbestos is present within the Made Ground.

Waste Storage

The site is used for storage of building materials and equipment with potential buildings wastes.

Drainage Issues

A formal drainage survey has not been completed, however correspondence between the

development planning team at Thames Water and the client have identified that there are public sewers crossing or close to the proposed development.

2.3 Surrounding Area

The surrounding land uses are summarised below:

Direction	Land Use
North	Residential dwellings
East	Residential dwellings
South	Poynton road and residential dwellings beyond
West	Residential dwellings

3.0 SITE HISTORY

3.1 On-Site Historical Development

A review of historical maps pertinent to the site is summarised in Table 3.1 below:

Table 3.1 Summary of Potentially Contaminative Historical Land Uses

Map Edition	Historical Land Use
1864 (1:2,500)	The site comprises open field space.
1894 (1:10,560)	The eastern part of the site encroaches onto the rear gardens of terraced residential properties.
1915 (1:2,500 & 1:10,000)	The western and northern peripheral of site encroaches onto the rear gardens of surrounding terraced residential properties. A pathway is present along the eastern boundary of site.
1920 (1:10,560)	There is a square building potentially situated on the northern part of site.
1955 (1:2,500)	The square building appears to now be off site and is not present from 1970.
1988 (1:2,500)	An electricity substation is partially located on the south-western corner of site.
1991 (1:2,500)	Part of the north-western corner of site encroaches unto the rear gardens of terraced residential properties.
2010 (1:10,000)	The site reflects it current configuration of a builder's storage yard.

3.2 Off-Site Historical Development

A review of potentially contaminative land uses identified on historical Ordnance Survey maps within a 250m radius of the site is summarised below in Table 3.2:

Table 3.2 Summary of Potentially Contaminative Off-Site Historical Land Uses

Surrounding Feature	Distance (m)	Dates	Direction
Nursery	11	1896	South
Pond	64	1869 - 1879	North-west
Electricity substation	136 - 139	1970 - 1991	North-east
Electricity substation	188 - 204	1970 - 1991	North-west
Electricity substation	220 - 221	1984 - 1990	North
Garage	244	1955	North-east

3.3 Planning History

REC has undertaken a review of online planning records held by Haringey Council and no environmentally pertinent information has been obtained for the site.

4.0 ENVIRONMENTAL SETTING

4.1 Geology & Hydrogeology

The British Geological Survey (BGS) map for the site and data search indicates that the site is underlain by the following geological sequence:

Geological Unit	Classification	Description	Aquifer Classification	Sensitivity
Superficial	Enfield Silt Member	Clay and Silt	Unproductive	Low
Bedrock	London Clay Formation	Clay, Silt and Sand	Unproductive	Low

Based on geological mapping, the site is shown to be underlain by superficial deposits comprising the Enfield Silt Member which entails layers of low to very low permeability. The underlying bedrock geology comprises London Clay Formation which entails layers of moderate to very low permeability.

The nearest historical borehole record (TQ39SW3) is located approximately 300m south-west of site and describes surface earth and gravel to 4.57m bgl. Beneath this stratum is the London Clay Formation to 25.91m bgl overlying the Woolwich and Thanet Beds which extends to 44.81m bgl. Chalk is identified between 44.81m bgl to the base of the borehole at 76.50m bgl. No groundwater strikes are detailed; however another nearby borehole record (TQ39SW29) records groundwater being encountered at 2.13m bgl.

The data search indicates that the nearest groundwater and potable abstraction is situated approximately 818m north-east of site at Park Well and is detailed as a direct potable water supply; however is stated as historical.

The site is located within a groundwater Source Protection Zone 2 (Outer Catchment) and there is a groundwater Source Protection Zone 1 (Inner Catchment) situated 156m north-east of site. There is a Secondary A Aquifer relating to Kempton Park Gravel Formation situated 334m west of site which is classified as a minor aquifer with high leaching potential.

Additionally, the site is not located within a groundwater flooding susceptibility area and therefore not considered prone to groundwater flooding.

4.2 Geotechnical Data

Geotechnical Data presented within the Groundsure report identifies the following ground conditions:

Hazard	Designation
Shrink-Swell Clay	Moderate
Landslides	Very Low
Ground Dissolution	Negligible
Compressible Ground	Negligible
Collapsible Deposits	Very Low
Running Sand	Negligible

4.3 Coal Mining & Ground Workings

The site is not within an area that is affected by non-coal mining or coal mining and therefore no Coal Mining Authority / Coal Mining Report was obtained for the purpose of this report. However, there are ground workings identified close to site, the nearest of which relates to a historic pond located 64m north-west of site present between 1869 and 1879.

4.4 Railways & Tunnels

The Groundsure Report indicates that there are no historic or active tunnels and railways within a 250m radius of the site.

4.5 Hydrology

A review of available data identifies there are no surface water features within a 500m radius of the subject site, however there are detailed river network entries as detailed in the table below:

Detailed River Network	Distance (m)	Direction
The Moselle - Culvert	45	South
Culvert	374	West
The Moselle - Culvert	374	West
The Moselle – Primary River	416	East
The Moselle - Culvert	422	East

The site is located within an Environment Agency Floodplain Zone 2; however has a low Risk of Flooding from Rivers and the Sea (RoFRaS).

4.6 Radon Risk Potential

The site is not situated within a radon affected area, as less than 1% of properties are above the action level, and therefore no radon protective measures are necessary in the construction of new dwellings or extensions.

4.7 Industrial Land Uses

According to historical mapping, the subject site has largely comprised open field space prior to 1894. After this date the peripheral of site is seen to be partially covering the rear gardens of surrounding residential properties. A square building is noted on site in 1936 until 1955 when it is no longer present. In maps dated 1988 an electricity substation is identified to be partially located on the south-western corner of site. Currently the site entails a builder's storage yard. An enclosed electricity substation is situated off the south-western corner of site.

Available records identify the following potentially contaminative current land uses located within a 250m radius of the study site:

- One electricity substation is located on the south-western boundary of site;
- National Grid High Voltage (HV) underground electricity transmission cables are laid within the nearby road network and the closest cable lies 5m south of site;
- Three electricity substations, the nearest of which is located 140m north-east of site;

- Two unspecified works/factories, the nearest of which is located 202m east of site;
- A theatre record company is located 225m south-east of site;
- Profill Leisure UK is a vehicle hire and rental company which is located 234m south of site; and
- Eurostar Tyres is a vehicle repair, testing, services, parts and accessories company which is located 249 west of site.

No other current land uses which are potentially contaminative were recorded within a 500m radius of the site.

4.8 Sensitive Land Uses

The following sensitive land uses have been identified within a 2.0km radius of the site:

- Residential properties are located to the immediate north, east and west of site;
- Site of Special Scientific Interest (SSSI) records relating to Walthamstow Reservoirs are located between 816m and 1.9km south-east of site;
- Special Protection Areas (SPA) and Ramsar sites records relating to Lee Valley are located 816m south-east, 1.5km south-east and 1.8km south of site;
- Two records of Nitrate Vulnerable Zones (NVZ) are located 144m north and 596m south-east of site; and
- London Area Greenbelt Land is located over 513m east of the site.

No other environmentally sensitive land uses have been identified within close proximity of the subject site.

4.9 Site Sensitivity Assessment

The site is considered to be located within a **low to medium** sensitivity setting due to the following reasons:

- Residential properties are located in close proximity to site;
- The underlying superficial and bedrock geology is classified as an unproductive aquifer with overall moderate to very low permeable layers;
- The nearest groundwater and potable abstraction is situated approximately 818m north-east of site and is stated as historical;
- The site is located within a groundwater Source Protection Zone 2 (Outer Catchment) and there is a groundwater Source Protection Zone 1 (Inner Catchment) situated 156m north-east of site;
- The site is not located within a Nitrate Vulnerable Zone (NVZ);
- London Area Greenbelt Land is located over 513m east of the site;
- Site of Special Scientific Interest (SSSI), Special Protection Areas (SPA) and Ramsar sites are located over 816m south-east of site; and
- The nearest river network is detailed as a culvert located 45m south of site which connects to a primary river.

5.0 CONSULTATIONS

5.1 Contaminated Land Officer

A request for information regarding contaminated land concerning the site was sent to the contaminated land team at Haringey Council. However, at the time of writing this report no reply has so far been received. Any pertinent information received following the issue of this report shall be forwarded to the client.

5.2 Landfill Sites and Waste Treatment Sites

The Environment Agency and Local Authority identifies the following records of landfill and other waste treatment sites within 1.0km radius of the site:

- An Environment Agency historic landfill site is located 516m east of site at Tottenham Marshes which accepted inert and industrial waste between 1955 and 1962;
- Two waste storage sheds used for facilitating storage and collection of bulk rubbish of a council housing estate, the nearest of which is located 242m west of site; and
- Numerous refuse destructors located over 346m south-east of site.

5.3 Regulatory Database

The following information has been obtained from a commercially available environmental database. The summary table only includes records not otherwise detailed in the report.

Table 5.1 Summary of Groundsure Data

	0-249m	250-500m	Details
Historic IPC Authorisations	0	0	N/A
Part A(2) and Part B Activities and Enforcements	0	1	One Part B Activity recorded at First Choice Dry Cleaners situated 485m south-west of site is detailed with a current permit for dry cleaning processes.
Planning Hazardous Substance Consents and Enforcements	0	0	N/A
Control of Major Accident Hazard (COMAH) sites	0	0	N/A
Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	N/A
Licensed Discharge Consents	0	0	N/A
Pollution Incidents	0	0	N/A
Fuel Stations Entries	0	0	N/A
Licensed Radioactive Substance	0	0	N/A

6.0 CONCEPTUAL SITE MODEL (CSM)

6.1 Initial CSM

In accordance with Environment Agency, CLR 11 (2004) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), REC Ltd have developed an initial CSM to identify potential contamination sources, migration pathways and receptors within the study area.

6.2 Contaminant Sources

On-site Potential Sources

- Made ground from previous development on site identified; and
- Current builder's storage yard.

Off-site Potential Sources

- An electricity substation is located immediately off the south-western boundary of site;
- National Grid High Voltage (HV) underground electricity transmission cables located 5m south of site;
- Historic nursery located 11m south of site;
- Infilled pond located 64m north-west of site;
- Active and historic electricity substations, the nearest of which is located 136m north-east of site;
- Unspecified works/factories are located over 202m east of site;
- A theatre record company is located 225m south-east of site;
- A vehicle hire and rental company which is located 234m south of site; and
- A vehicle repair, testing, services, parts and accessories company which is located 249 west of site;
- Historic garage located 244m north-east of site; and
- A waste storage shed used for facilitating storage and collection of bulk rubbish of a council housing estate is located 242m west of site.

6.3 Potential Pathways

Receptors may be potentially at risk from the identified potential sources of contamination via the following pathways:

- Migration of mobile contaminants on or off site via services, sewers and manmade conduits;
- Direct contact, ingestion and inhalation of contaminants on site;
- Migration of contaminated dusts during earthworks;
- Migration of mobile contaminants into groundwater and transport into surface waters;
- Migration of mobile contaminants directly into the surface waters;
- Migration of hazardous gases; and,
- Uptake of toxins/phytotoxins by plants.

6.4 Potential Receptors

Human Receptors

- Future users of the site and buildings; and
- Users of adjacent areas due to off-site migration of vapours or contaminated dust.

Construction workers are not considered to be a plausible receptor as exposure will managed through the use of appropriate PPE and hygienic working practices, as required under HSE/ CDM regulations. Furthermore exposure is likely to be for a short duration.

Controlled Waters

The site is shown to be underlain by superficial deposits of the Enfield Silt Member which entails layers of low to very low permeability. The underlying bedrock geology comprises London Clay Formation which entails moderate to very low permeability. Both are classified as unproductive aquifers and therefore deemed to be of low sensitivity.

6.5 Risk Assessment

CIRIA 552: Contaminated Land Risk Assessment 'A Guide to Good Practice' provides guidance on risk assessment taking into account factors such as severity of the potential harm that may arise from a successful pollutant linkage, potential magnitude of the hazard, and the sensitivity of the target receptor. Risk assessment is initially assessed by determining the severity of the potential hazard, which takes into account receptor sensitivity and the magnitude of the potential impact as detailed in Tables 6.1 & 6.2 below.

6.5.1 Severity

Table 6.1 Receptor sensitivity

Category	Human sensitivity	Environmental sensitivity
Very Low	Ground workers	Non-sensitive water course
Low	Commercial / Industrial	Secondary Aquifer
Medium	Residential without plant uptake	Principal Aquifer / Sensitive Watercourse
High	Residential with plant uptake	Groundwater Source Protection Zone

Table 6.2 Magnitude of Impact

Category	Example
No Impact	No identified or potential pollutants present
Slight Impact	Minor leaks and spills from fuel infrastructure, inert landfills
Moderate Impact	Major leaks and spills from fuel infrastructure
Gross Impact	Heavily contaminated industrial sites, hazardous landfills

Severity is subsequently assessed considering the potential receptor and magnitude of impact as outlined within table 6.3, overleaf.

Table 6.3 Determination of level of severity for potential hazards

	Receptor Sensitivity			
	Very Low	**Low**	**Moderate**	**High**
No Impact	Minor	Minor	Minor	Minor
Slight Impact	Minor	Minor	Minor	Mild
Moderate Impact	Minor	Minor	Mild	Medium
Gross Impact	Minor	Mild	Medium	Severe

6.5.2 Likelihood

The likelihood of an event is assessed while considering the potential for presence of a contaminant, presence of receptor, and the substantiality of the pollutant pathway. Likelihood is broken down into four separate categories within the CSM as shown in Table 6.4 below:

Table 6.4 Definitions of likelihood categories

Category	Definition
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable.
Low Likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term.
High Likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor.

6.5.3 Risk Rating

Table 6.5 demonstrates the methodology used to provide an overall risk rating within the preliminary CSM with respect to any potential sources of contamination that may affect the site. An overall risk rating is assigned to each potential contaminant considering the assessed likelihood and severity as determined using the methodologies within Tables 6.1 to 6.4.

Table 6.5 Level of risk rating for hazard definition

Likelihood	Severity			
	Minor	**Mild**	**Medium**	**Severe**
Unlikely	Very Low	Very Low	Low	Low / Moderate
Low Likelihood	Very Low	Low	Low / Moderate	Moderate
Likely	Low	Low / Moderate	Moderate	High
High Likelihood	Low / Moderate	Moderate	High	Very High

6.6 Conceptual Site Model

A site specific CSM has therefore been created using the above information and is provided on the following page.

Table 6.6 Conceptual Site Model

Source	Contaminant	Potential migration pathway	Potential Receptors	Likelihood of Occurrence	Magnitude of Occurrence	Overall Risk Rating	Active / Inactive
On-Site							
Made ground associated with previous development	Heavy Metals (As, Cd, Cr, Pb, Hg, Se, Ni)	Ingestion of contaminated soils Dermal contact with contaminated soils	Future Site Users	**Likely**	**Medium**	**Moderate**	**Potentially Active –** further investigation recommended
	Asbestos Fibres In Soil	Inhalation of fibres	Future Site Users	**Likely**	**Medium**	**Moderate**	**Potentially Active –** further investigation recommended
	Polycyclic Aromatic Hydrocarbons (PAHs)	Ingestion of contaminated soils Dermal contact with contaminated soils	Future Site Users	**Likely**	**Medium**	**Moderate**	**Potentially Active –** further investigation recommended
	Potential production of ground gas (CH4 and CO2)	Inhalation of ground gases	Future Site Users	**Likely**	**Medium**	**Moderate**	**Potentially Active –** further investigation recommended
Current builders storage yard	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Vertical and lateral migration within soil	Future Site Users	**Low likelihood**	**Medium**	**Low/ Moderate**	**Potentially Active –** further investigation recommended
Off-Site							
Active electricity substations	Polychlorinated Biphenyls (PCB)	Lateral migration to site	Future Site Users	**Low likelihood**	**Medium**	**Low/ Moderate**	**Potentially Active –** further investigation recommended
HV underground electricity transmission cables	Polychlorinated Biphenyls (PCB)	Lateral migration to site	Future Site Users	**Low likelihood**	**Medium**	**Low/ Moderate**	**Potentially Active –** further investigation recommended
Historic electricity substations	Polychlorinated Biphenyls (PCB)	Lateral migration to site	Future Site Users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance of historic electricity substations being over 136m away from the site and relatively poor mobility of PCB contaminants within ground the linkage is considered inactive.

Source	Contaminant	Potential migration pathway	Potential Receptors	Likelihood of Occurrence	Magnitude of Occurrence	Overall Risk Rating	Active / Inactive
Off-Site							
Historic nursery	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Low likelihood**	**Medium**	**Low/ Moderate**	**Potentially Active –** further investigation recommended
Infilled pond	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the infilled pond is not considered to have an active pollutant linkage.
Unspecified works/ factories	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the unspecified works/ factories is not considered to have an active pollutant linkage.
Theatre record company	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the theatre record company is not considered to have active pollutant linkage.
Vehicle hire and rental company	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the vehicle hire company is not considered to have an active pollutant linkage.
Vehicle repair, testing, services, parts and accessories company	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the vehicle repair, testing, services, parts and accessories company is not considered to have an active pollutant linkage.
Historic garage	Various contamination including heavy metals, petroleum hydrocarbons and PAHs	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low**	**Inactive –** Given the distance from site the historic garage is not considered to have an active pollutant linkage.
Waste storage shed	Potential production of ground gas (CH4 and CO2) in shallow organic impacted soils	Lateral and vertical migration to site	Future site users	**Unlikely**	**Medium**	**Low/ Moderate**	**Inactive –** Given the distance from site the waste storage shed is not considered to have an active pollutant linkage.

7.0 RECOMMENDATIONS

A detailed Phase II intrusive geo-environmental ground investigation should be undertaken in order to confirm the findings of the initial conceptual site model and to determine the environmental characterisation of the site. These works could also be utilised in order to obtain geotechnical information to support the proposed development of the site including allowable bearing pressure for foundations, floor slabs, roads and pavement, soil permeability and concrete design for substructures. Undertaking a single comprehensive investigation is likely to lead to considerable cost savings in the long-run when compared to undertaken two separate phases of works.

APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between REC Ltd and the Client as indicated in Section 1.2.

2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.

3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not be made known or accessible.

5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.

6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.

8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

9. REC cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by REC is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by REC in this connection without their explicit written agreement there to by REC.

10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II

GLOSSARY

TERMS

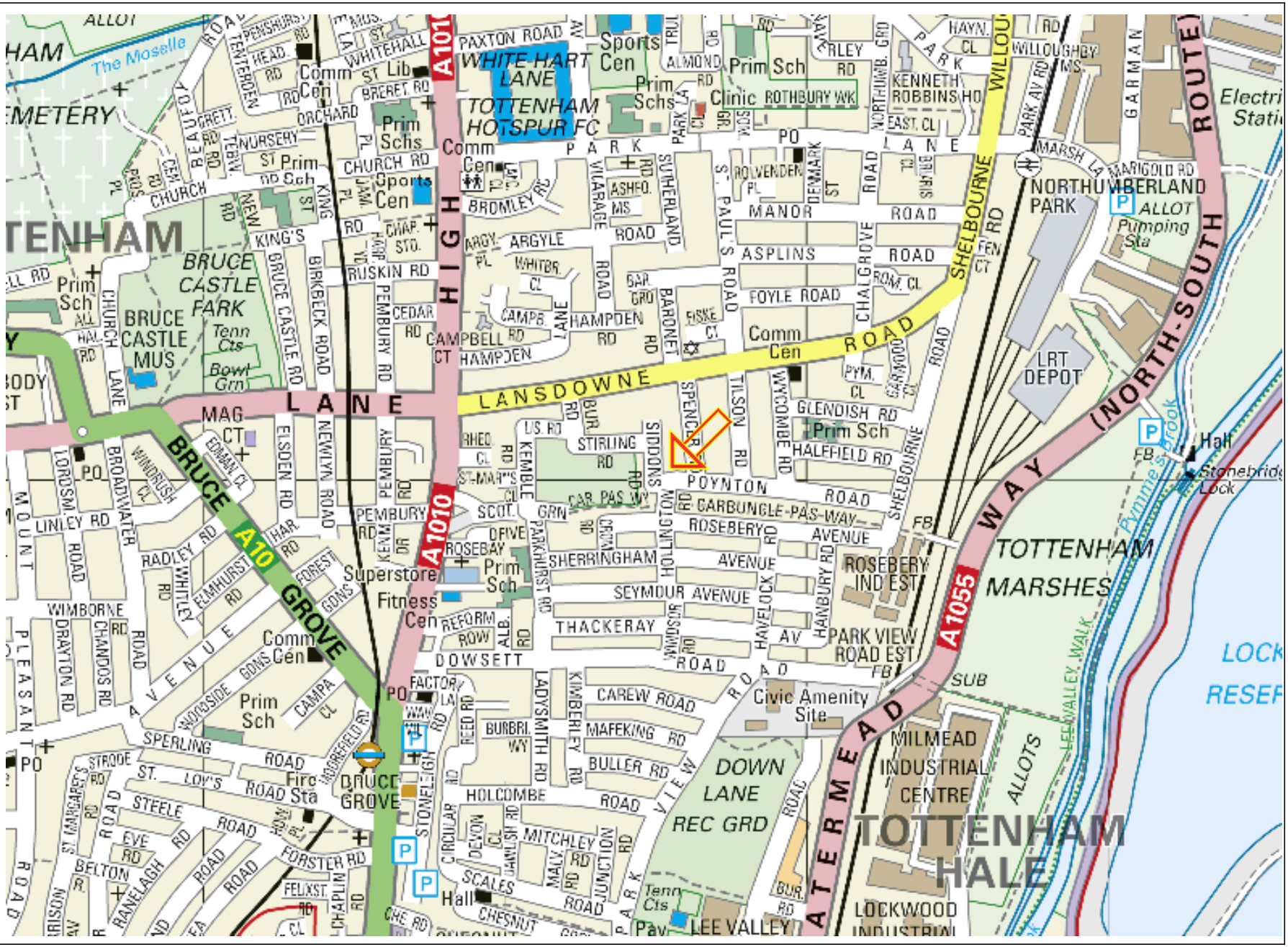
AST	Above Ground Storage Tank
BGS	British Geological Survey
BSI	British Standards Institute
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CIEH	Chartered Institute of Environmental Health
CIRIA	Construction Industry Research Association
CLEA	Contaminated Land Exposure Assessment
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)
DWS	Drinking Water Standard
EA	Environment Agency
EQS	Environmental Quality Standard
GAC	General Assessment Criteria
GL	Ground Level
GSV	Gas Screening Value
HCV	Health Criteria Value
ICSM	Initial Conceptual Site Model
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene)
ND	Not Detected
LMRL	Lower Method Reporting Limit
NR	Not Recorded
PAH	Poly Aromatic Hydrocarbon
PCB	Poly-Chlorinated Biphenyl
PID	Photo Ionisation Detector
QA	Quality Assurance
SGV	Soil Guideline Value
SPH	Separate Phase Hydrocarbon
Sp.TPH (CWG)	Total Petroleum Hydrocarbon (Criteria Working Group)
SPT	Standard Penetration Test
SVOC	Semi Volatile Organic Compound
UST	Underground Storage Tank
VCCs	Vibro Concrete Columns
VOC	Volatile Organic Compound
WTE	Water Table Elevation

APPENDIX III

DRAWINGS

KEY:

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Fax: 0161 868 1301
E-mail: sales@recltd.co.uk
Website: www.recltd.co.uk

Job Title:
2/2a Poynton Road, London, N17 9SP

Client:
Lilstone Ltd

Job No: 1CO101651
Drawn By: JB
Approved by: CT

Notes:

Drawing Title:
1CO101651-001
Site Location Plan

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Website: www.recltd.co.uk

Job Title:
2/2a Poynton Road, London, N17 9SP

Client:
Lilstone Ltd

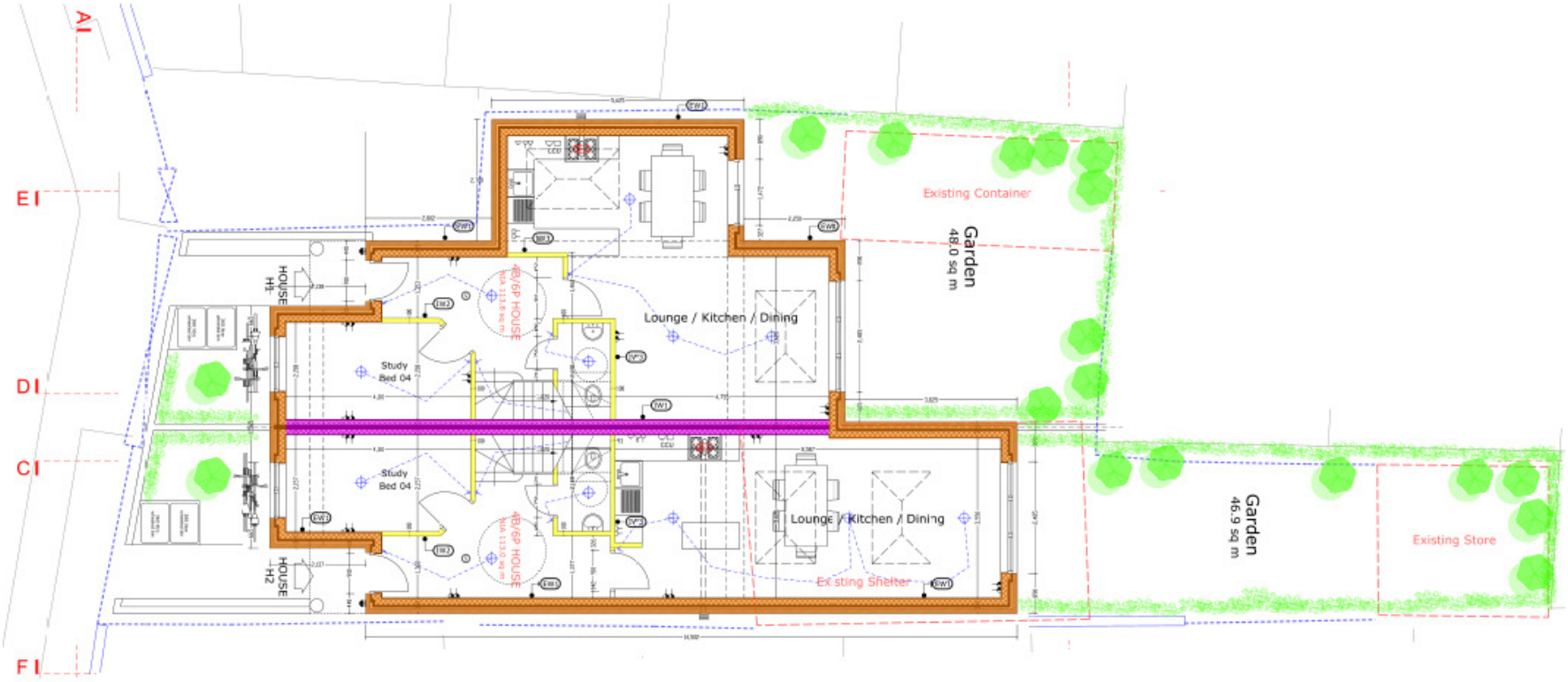
Job No: 1CO101651
Drawn By: JB
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Notes:

Drawing Title:
1CO101651-002
Site Layout Plan

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E-mail: sales@recltd.co.uk
Website: www.recltd.co.uk

Job Title:
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Client:
Lilstone Ltd

Job No: 1CO101651
Drawn By: JB
Approved by: CT

Notes:

Drawing Title:
1CO101651-003 Site Development Plan

APPENDIX IV

SITE PHOTOGRAPHS



PLATE 1 –ACCESS VIA LOCKED DOUBLE METAL GATES OFF POYNTON ROAD



PLATE 2 – BUILDERS STORAGE YARD



PLATE 3 – WESTERN PART OF SITE INCLUDING LOCKED METAL CONTAINER



PLATE 4 – WOODEN SHED USED FOR STORING BAGS OF SAND



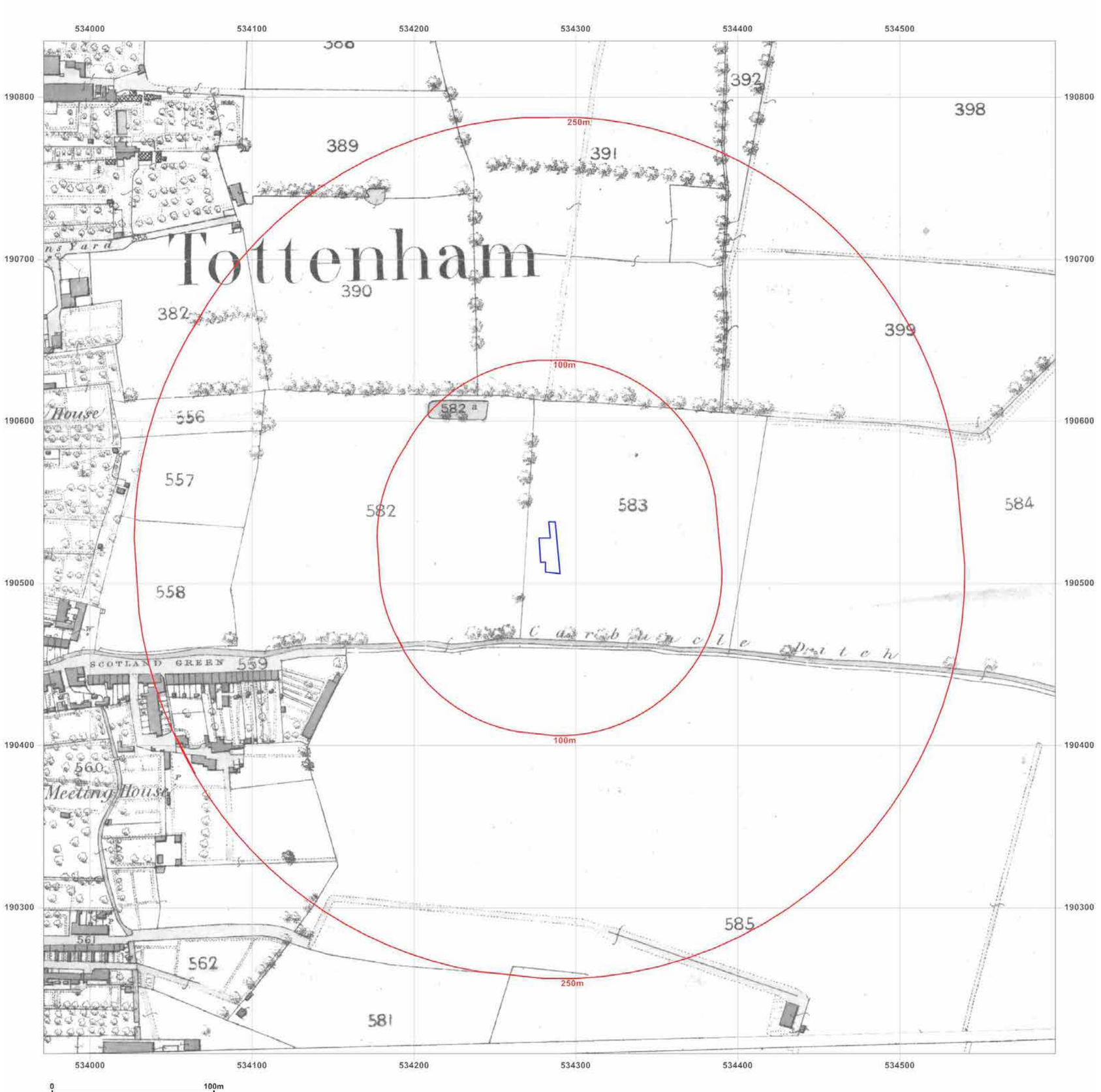
PLATE 5 – VIEW OF SOUTHERN PART OF SITE



PLATE 6– POWER OUTLET AND WATER STANDPIPE LOCATED AT THE ENTRANCE OF SITE

APPENDIX V

HISTORICAL MAPPING



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Site Details:

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LONDON, N17 9SP

Client Ref: 1CO101651-001047
Report Ref: GS-2958780
Grid Ref: 534284, 190522

Map Name: County Series

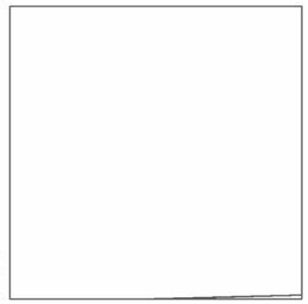
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Edition N/A
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Client Ref: 1CO101651-001047
Report Ref: GS-2958780
Grid Ref: 534284, 190522

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Map date: **1896**

Scale: 1:1,056

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Edition 1896
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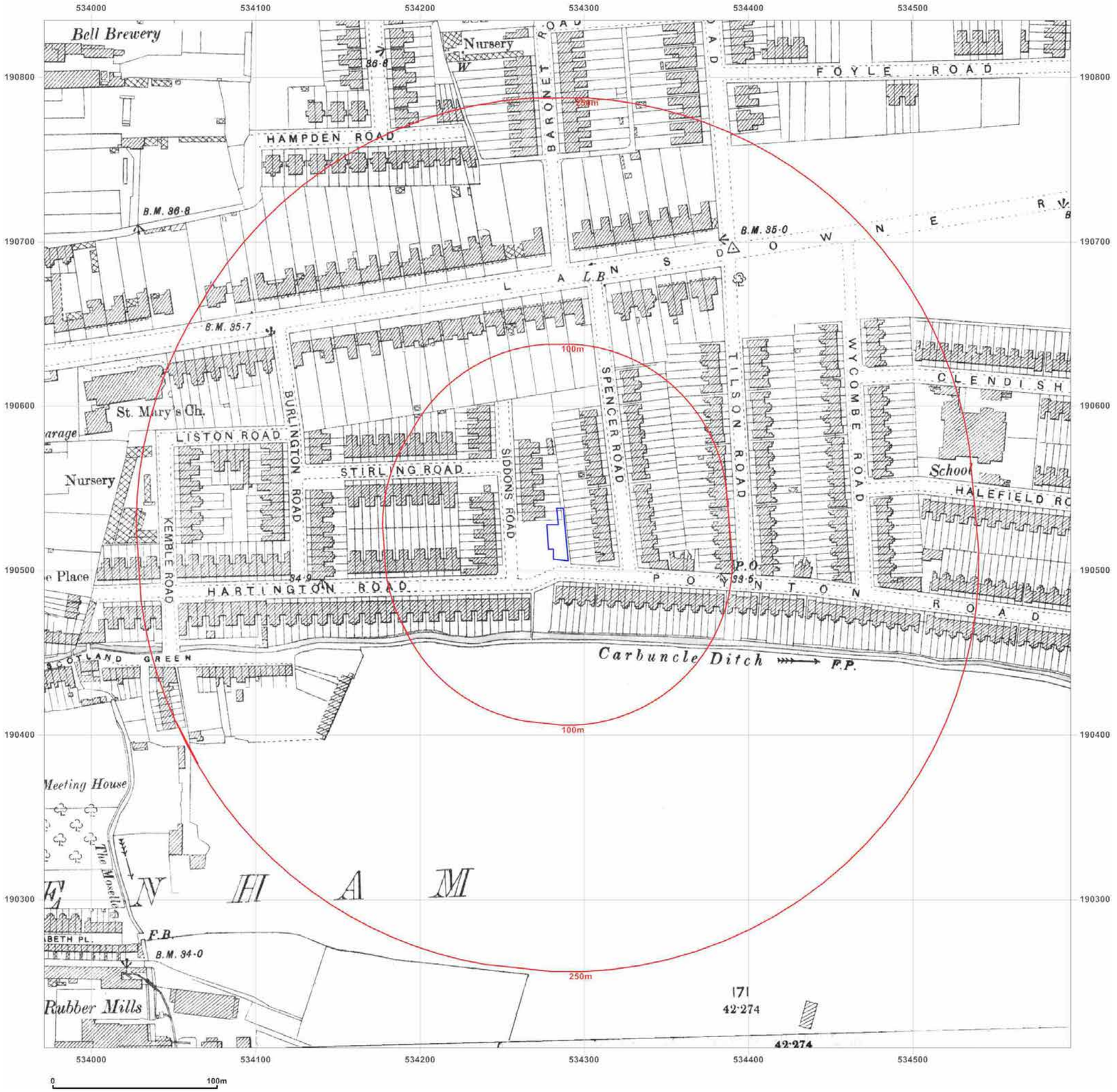
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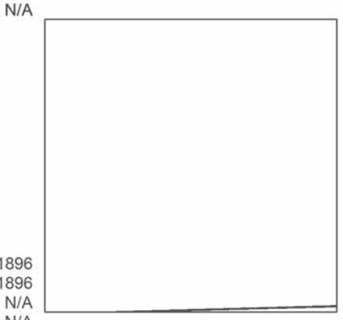
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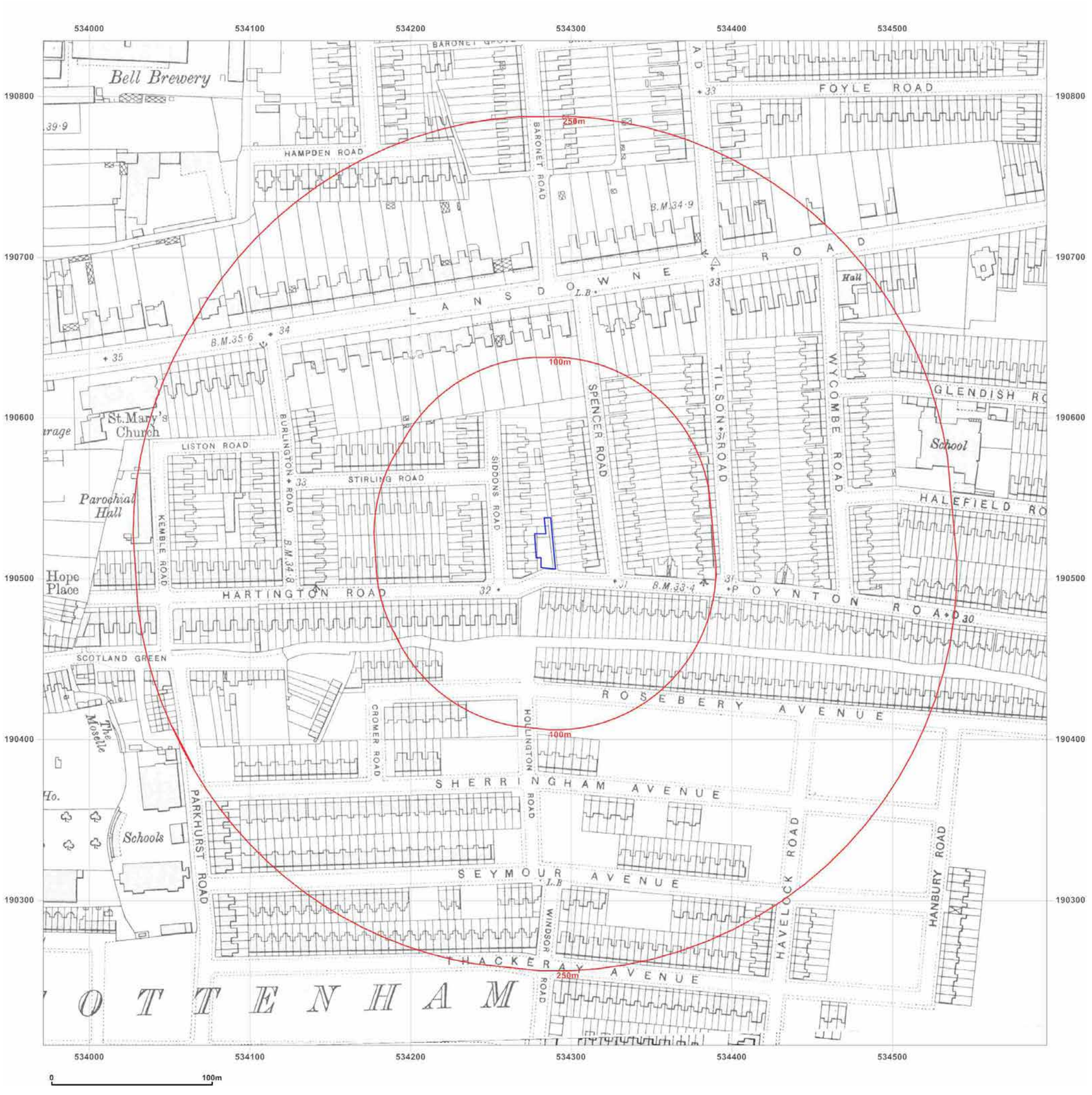
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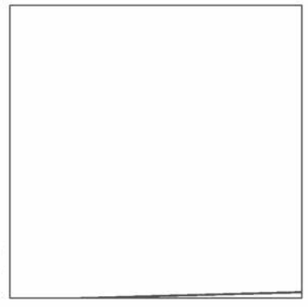
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Report Ref: GS-2958780
Grid Ref: 534284, 190522

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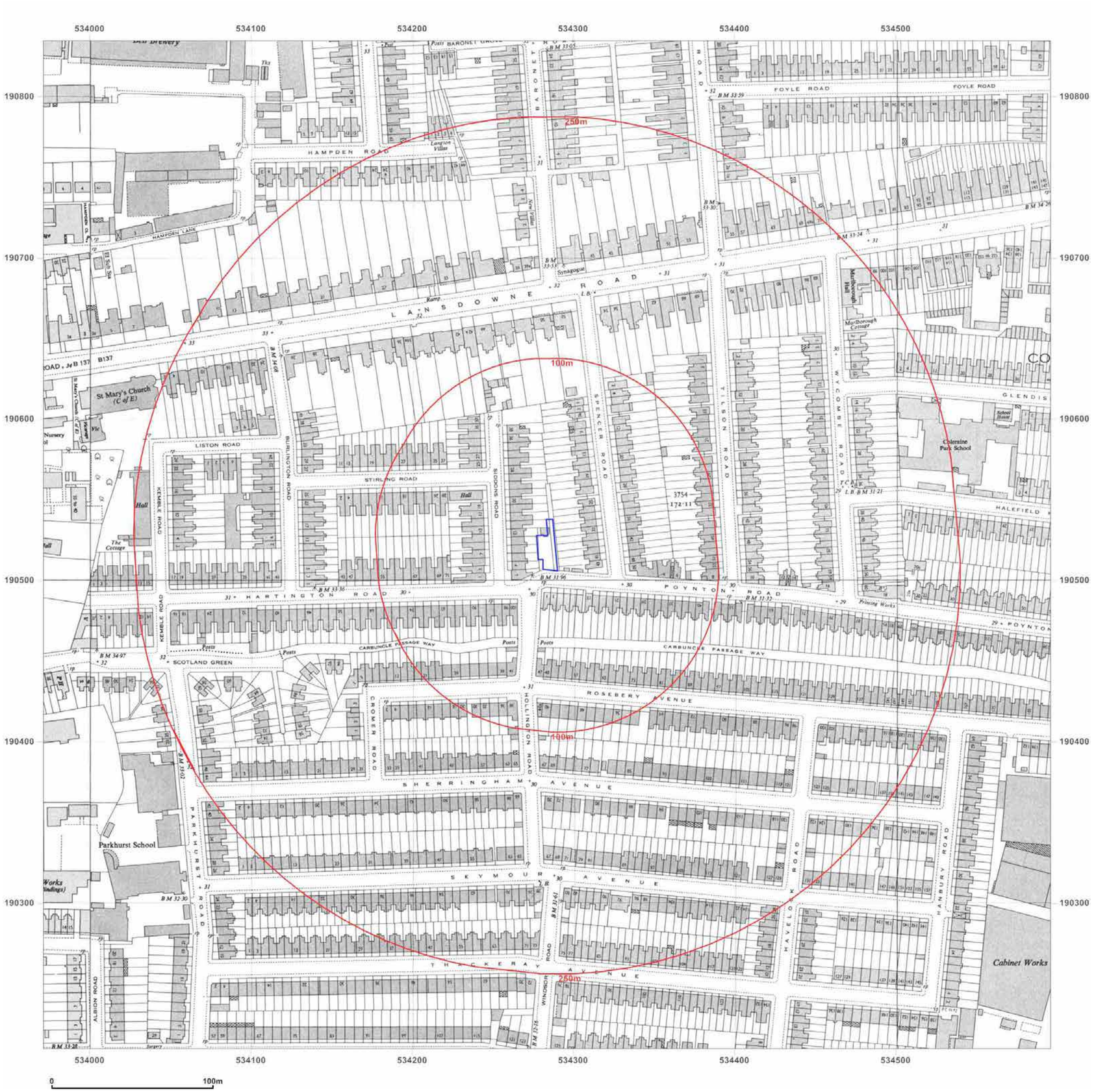
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Grid Ref: 534284, 190522

Map Name: National Grid

Map date: **1955**

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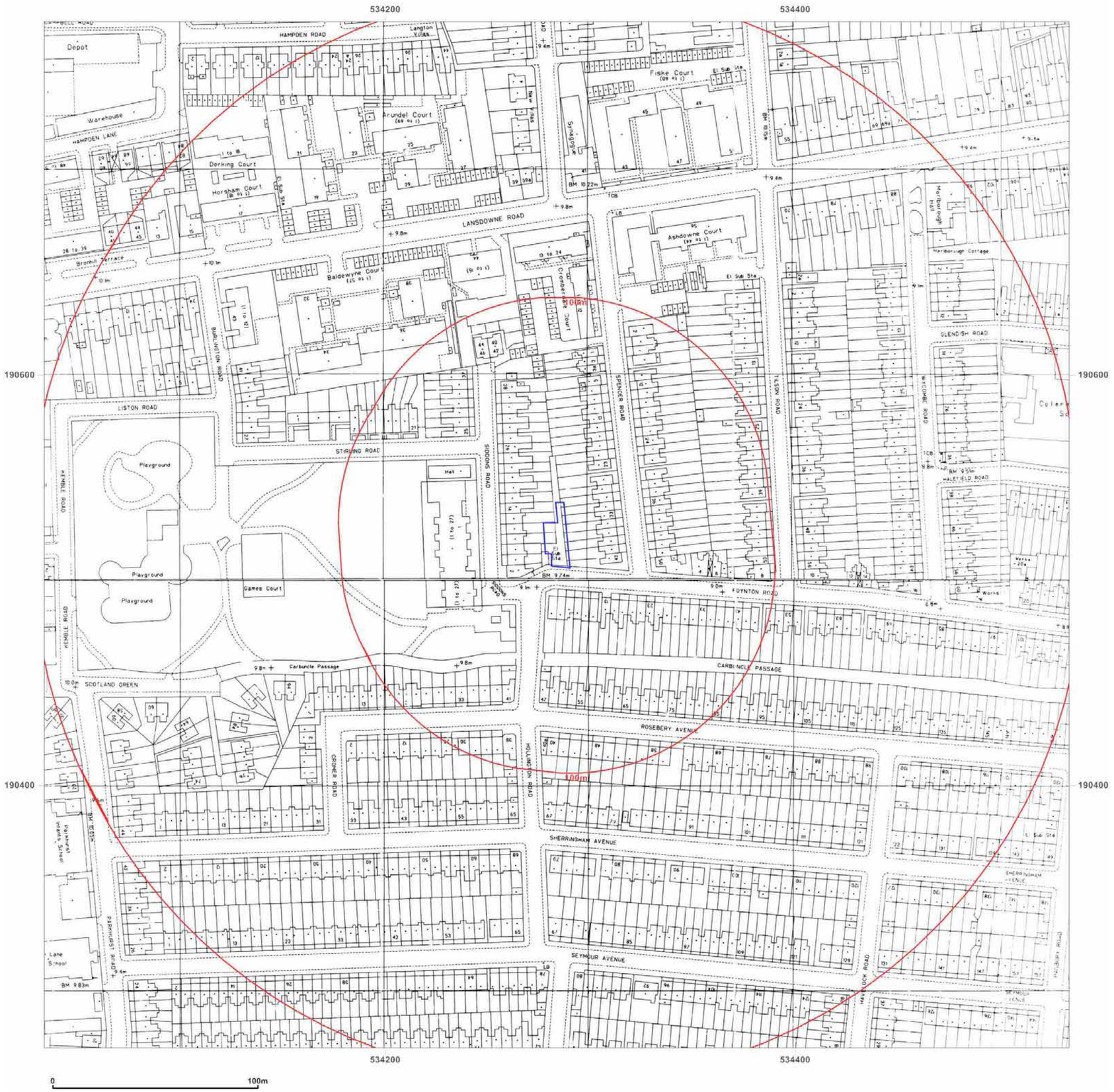
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Client Ref: 1CO101651-001047
Report Ref: GS-2958780
Grid Ref: 534284, 190522

Map Name: National Grid

Map date: **1991**

Scale: 1:1,250

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