

CONTAMINATED LAND RISK ASSESSMENT

Phase 1 Desk Study Report

Site Address

Side Garden of
129 Ashley Lane
Manchester
M9 4WR

Client

Martin Williams

Report Reference

PH1-2020-000070

Prepared by

STM Environmental Consultants Ltd

Date

09/07/2020



**CONSULTING GEO-ENVIRONMENTAL
ENGINEERS AND SCIENTISTS**

Phase 1 Contaminated Land Desk Studies, Geo-Environmental Site Investigations, Environmental Due Diligence, Flood Risk Assessments, Surface Water Management Strategies (SuDS), Ecology, Noise and Air Quality Assessments, Environmental Management Systems, GIS & Data Management Systems

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2 DOCUMENT CONTROL



CONTAMINATED LAND RISK ASSESSMENT Phase 1 Desk Study Report



Site Address:	Side Garden of 129 Ashley Lane Manchester M9 4WR
Site Coordinates:	386726, 401535
Prepared for:	Martin Williams
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It is noted that some of the findings presented in this report are based on information obtained from third parties (i.e. Environmental Search Report). Whilst we assume that all information is representative of the site and of present conditions, we can offer no guarantee as to its validity regarding the short term or long-term history of the Site.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

It should be noted that this report has been produced for environmental purposes only. It should not in any way be construed to be or used to replace a geotechnical survey, structural survey, asbestos survey, buried services survey, unexploded ordnance survey or Invasive Plant Survey.

4 EXECUTIVE SUMMARY

SECTION	SUMMARY
Site Location And Size	The site is located at Side Garden Of 129 Ashley Lane, Manchester, M9 4WR and is centred at national grid reference 386726, 401535. The site has an area of approximately 0.02 ha.
Current Use	The site currently comprises gardens associated with the adjacent residential dwelling.
Proposed Development	The development proposal is for the erection of an apartment block, comprising three two-bedroom apartments with associated amenity space and car parking, within the existing garden plot of the adjacent residential dwelling.
Site History	Examination of Ordnance Survey historic maps revealed that the site comprised open undeveloped land until c. 1891 when the site was sectioned off from the surrounding area. In c. 1931, two small unspecified buildings were developed in the south west corner of the site. By c. 1978, the two buildings were demolished and a Pavilion partially covered the north west corner of the site. In c. 2003, the site was redeveloped and comprised a residential dwelling with large gardens, similar to the present-day. The surrounding area previously comprised a large Brick Works and Clay Pit to the north which was redeveloped into a residential area in the early 2000s.
Geology	The bedrock geology beneath the site consists of Collyhurst Sandstone Formation while superficial deposits of Devensian Till comprising a diamicton were identified.
Topography	The site is at an elevation of approximately 85.0 mAOD (above Ordnance Datum).
Hydrogeology	The site is underlain by a Secondary Undifferentiated Superficial Aquifer and Principal Bedrock Aquifer.
Hydrology	There are no surface water bodies located onsite or within 250m of the site.
Ecology	There are no ecological receptors located onsite or within 250m of the site.
Contamination Assessment	Onsite potential contamination sources include Made Ground while offsite Potentially Contaminative Land Uses include Brick Works, Refuse Heap, Historic Landfill Site, Unknown Filled Ground and Agricultural Land. A conceptual site risk model was developed and a qualitative risk assessment carried out. Potentially significant potential pollutant linkages were identified in respect of:  Human Health Receptors – i.e. Future Occupiers and Construction Workers;  Property Receptors – i.e. Buildings & Services.
Recommendations	Given that potentially significant potential pollutant linkages were identified, it is recommended that an intrusive site investigation is undertaken with the objective of determining the presence and extent of any soil contamination at the site.
This table is intended as a summary of the desk study findings and should be read in conjunction with the main report.	

5 INTRODUCTION

STM Environmental Consultants Ltd (STM) were commissioned by Martin Williams (Client) to undertake a Phase 1 Contaminated Land Risk Assessment (CLRA) at a site located at Side Garden Of 129 Ashley Lane, Manchester, M9 4WR.

The study is required to support a planning application for the erection of an apartment block, comprising three two-bedroom apartments, within the existing garden plot of the adjacent residential dwelling.

6 CONTEXT AND OBJECTIVES FOR THE RISK ASSESSMENT

6.1 Legislative Context

6.1.1 Part IIA

Part IIA of the Environmental Protection Act 1990, which came into force in England in April 2000 and in Wales in July 2001, introduced a new statutory regime for the identification and remediation of contaminated land in the United Kingdom.

The legislation considers risks from contaminated land to human beings, controlled waters (surface and ground water), protected ecological systems and property. Under the legislation "contaminated land" is defined as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that: -

(a) Significant harm is being caused or there is significant possibility of such harm being caused: or

(b) Pollution of controlled waters is being caused, or is likely to be, caused."

In order for land to be considered contaminated, there must be a contaminant, a receptor and a pathway (via which the contaminant can reach the receptor) present at the site. When these three components are identified at a site, a *pollutant linkage* is said to exist.

Pollutant Linkage = Contaminant → Pathway → Receptor

In order for a local authority to determine that a site is contaminated land, it must be satisfied that the pollutant linkage is a *significant pollutant linkage* and that the land in question is causing, or that there is a significant possibility that it will cause significant harm (SPOSH) to humans, habitats, buildings or livestock and crops if remedial work is not carried out.

6.1.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the government's policy on dealing with land contamination through the planning process. It states that planning policies and decisions should ensure that:

-  a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

- after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
- adequate site investigation information, prepared by a competent person, is presented.

6.1.3 Environmental Damage Regulations

The Environmental Damage (Protections and Remediation) Regulations 2015 transpose the provisions of the EU Environmental Liability Directive into law in England and Wales.

The Regulations require action in response to the most significant cases of environmental damage. They cover specific types of:

- damage to species and habitats;
- damage to water; or
- risks to human health from contamination of land.

The Regulations apply to both imminent threats and actual cases of damage. Where these arise, those responsible must take immediate action to prevent damage occurring or remediate damage where it does occur.

The Regulations are based on the polluter pays principle 'requiring those responsible to meet the cost of preventive and remedial measures.

6.2 Objectives

This Desk Study has been written so as to provide an initial overview of the nature and extent of contamination hazards that may exist at the site. It has been undertaken in accordance with the specifications outlined in the British Standard BS 10175:2011+A2:2017 Code of Practice for the Investigation of potentially contaminated sites and the Environment Agency Document, CLR11 Model Procedures for the Management of Land Contamination.

The main objectives of the study were to:

- Enable a conceptual site risk model to be constructed;
- Provide sufficient information for a preliminary qualitative risk assessment to be undertaken;
- Inform the need for and scope of any intrusive investigations that may be required.

6.3 Summary of Research Undertaken

Details of information sources researched in order to compile this desk study are given below.

- Environment Agency Open Data (GIS)
- English Nature Open Data (GIS)
- English Heritage Open Data (GIS)
- British Geological Survey GeoIndex Web Map Service
- Coal Authority Open Data and Web Map Service.
- Historical Ordnance Survey Maps
- Local Authority Planning Application Portal
- Groundsure Enviro Insight Report & Historical Maps

7 SITE DESCRIPTION

7.1 Site Location and Size

The site is located at Side Garden Of 129 Ashley Lane, Manchester, M9 4WR at grid reference is 386726, 401535. The site has an area of approximately 0.02 ha.

The site lies within the jurisdiction of Manchester City Council in terms of the planning process.



7.2 Site Current Use

The site currently comprises gardens associated with the adjacent residential dwelling.

7.3 Surrounding Land Uses

A description of current land uses surrounding the boundaries of the site is given below in Table 1 below.

Table 1: Summary of surrounding land uses

Boundary	Land Use Description
Northern	Residential Dwellings
Eastern	Residential Dwellings
Southern	Ashley Lane/St John's Church
Western	Mapledon Road/Residential Dwellings

7.4 Proposed Development

The development proposal is for the erection of an apartment block, comprising three two-bedroom apartments with associated amenity space and car parking, within the existing garden plot of the adjacent residential dwelling.

The proposed development plans are contained in [Appendix 1](#).

8 SITE HISTORY

8.1 Analysis of Historical Ordnance Survey Mapping

Historical maps published by the Ordnance Survey dating back to the late 1800's were reviewed in order to ascertain any previous industrial use at the site. The Groundsure Historical Maps are presented in [Appendix 2](#). A summary of the historic map analysis is provided in Table 2.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
1848 1:10,560	The site comprises open undeveloped land.	The surrounding area comprises open undeveloped land. Fields Farm 40m SW and Ponds 46m SW, 84m N, 110m SW and 210m NE.
1891 1:10,560	The site has been sectioned off from the surrounding area.	Small-scale residential development in all directions.
1893 1:2,500	No significant changes.	No significant changes.
1906 1:10,560	No significant changes.	Further residential development in all directions including Fields Farm 40m SW and Pond 46m SW. Brick Works with large Clay Pit 36m N including Ponds 84m N and 210m NE.
1908-09 1:2,500	No significant changes.	No significant changes.
1915 1:10,560	No significant changes.	Partial mapping/ Brick Works with large Clay Pit 36m N has expanded and is now located adjacent NW.
1922 1:2,500	No significant changes.	Further residential development in all directions.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
1923 1:10,560	No significant changes.	No significant changes.
1931-33 1:2,500 1:10,560	2no. small unspecified buildings have been developed on the SW corner of the site.	Pond 110m SW no longer present.
1938 1:10,560	No significant changes.	No significant changes.
1949-55 1:1,250 1:2,500	No significant changes.	Part of the Brick Works adjacent NW is now labelled as a Refuse Heap. Allotment Gardens 110m N.
1956 1:10,560	No significant changes.	No significant changes.
1966 1:10,560	No significant changes.	No significant changes.
1975 1:10,000	No significant changes.	Brick Works and Refuse Heaps adjacent NW are no longer active.
1978-79 1:1,250	The 2no. small unspecified buildings have been demolished and a Pavilion partially covers the NW corner of the site.	Partial mapping/area previously used as the Brick Works and Refuse Heaps adjacent NW has been labelled as Ashley Lane Playing Fields.
1980-87 1:1,250 1:10,000	No significant changes.	No significant changes.
1988-94 1:1,250 1:10,000	No significant changes.	No significant changes.
2001 1:10,000	No significant changes.	No significant changes.
2003 1:1,250	The site has been redeveloped and comprises a residential dwelling with large gardens.	Ashley Lane Playing Fields have been redeveloped as a residential area.

Table 2: Summary of historical land use identified from historical maps

Map Year & Scale	POTENTIALLY CONTAMINATIVE LAND USES	
	On Site	Off Site
2010 1:10,000	No significant changes.	No significant changes.
2020 1:10,000	No significant changes.	No significant changes.
Current Use	The site currently comprises gardens associated with the adjacent residential dwelling.	The surrounding area comprises residential development.

9 ENVIRONMENTAL CHARACTERISTICS

A variety of Environmental datasets provided by the Environment Agency, British Geological Society, English Heritage and English Nature and others were screened in order to assess the environmental sensitivity of the site. The Groundsure Environmental Screen Report is presented in [Appendix 3](#). The results are summarised below.

9.1 Geology

9.1.1 Published Geology

According to the BGS Geoindex, the site is located on bedrock of Collyhurst Sandstone Formation. The superficial deposits are Devensian Till comprising a diamicton.

9.1.2 Unpublished Geology

BGS borehole records for the immediate surrounding area were reviewed in order to obtain further information on the ground conditions beneath the site. No relevant information was identified.

9.2 Hydrogeology

The Environment Agency classifies the superficial deposits as a Secondary Undifferentiated Aquifer. The bedrock is classified as a Principal Aquifer. There are no groundwater Source Protection Zones onsite or within 250m of the site.

9.3 Water Abstractions

No Groundwater, Surface Water or Potable Water Abstraction Licenses were identified onsite or within 1500m of the site.

9.4 Groundwater Level

According to BGS, the groundwater is likely to be more than 5.0 metres below the ground surface throughout the year.

9.5 Hydrology

No surface water bodies were identified onsite or within 250m of the site.

9.6 Flood Risk

9.6.1 Flood Zones

The site is not located within a Flood Zone.

9.6.2 Surface Water Flooding (Pluvial)

The highest likelihood of flood events happening at the site are as follows:

Table 3: The highest likelihood of flood events happening at the site.

Return Period	Maximum Modelled Depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

9.6.3 Groundwater Flooding

The risk of groundwater flooding at the site is Low.

9.7 Environmentally Sensitive Sites and Ecological Protection Zones

No Environmentally Sensitive Sites (e.g. Green Belt land, Ancient Woodlands) or Ecological Protection Zones (e.g. Special Scientific Interest (SSSI), Ramsar Sites, Special Areas of Conservation (SAC)) were identified onsite or within 250m of the proposed development.

9.8 Designated Protected Buildings and Monuments

No Listed Buildings or Scheduled Ancient Monuments were identified onsite or within 50m of the proposed development.

9.9 Topography

According to [Elevation Finder](#), the general site level is at 85.0 mAOD.

9.10 Waste Disposal Activities & Landfill Sites

The following Historic Landfill Sites were identified within 250m of the site:

Table 4: Historic Landfill Sites located within 250m of the site.

Site Address	Waste Type	License Issue/ Surrender Date	Distance/ Direction
Land at Moston College	Commercial, Household	31/12/1947 – Unknown	18m NE

9.11 Petrol and Fuel Sites

No Petrol or Fuel Sites were identified onsite or within 500m of the site.

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

No Sites Determined as Contaminated Land were identified onsite or within 500m of the site.

9.13 Dangerous or Hazardous Sites

No Control of Major Accident Hazards (COMAH) or Notification of Installations Handling Hazardous Substances (NIHHS) Sites were identified onsite or within 500m of the site.

9.14 Hazardous Substance Storage/Usage

No consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015 were identified onsite or within 500m of the site.

9.15 IPC Authorisations

No Integrated Pollution Control (IPC) Authorisations were identified onsite or within 500m of the site.

9.16 Part A(1) and IPPC Authorised Activities

No Part A(1) or Integrated Pollution Prevention Control (IPPC) Authorised Activities were identified onsite or within 500m of the site.

9.17 Part A(2) and Part B Activities and Enforcements

No Part A(2) and Part B Activities and Enforcements were identified onsite or within 250m of the site.

9.18 Category 3 or 4 Radioactive Substance Authorisations

No Category 3 or 4 Radioactive Substance Authorisations were identified onsite or within 500m of the site.

9.19 Discharge Consents

No Red List Discharge Consents were identified onsite or within 500m of the site. No Licensed Discharge Consents were identified onsite or within 500m of the site.

9.20 List 1 and List 2 Dangerous Substance Inventory Sites

No List 1 and List 2 Dangerous Substances Inventory Sites were identified onsite or within 500m of the site.

9.21 Pollution Incidents

No Pollution Incidents were identified onsite or within 500m of the site.

9.22 Coal Mining

The site is located in an area potentially affected by Coal Mining. This is outside the scope of this assessment and it is recommended that a Coal Mining Risk Assessment is undertaken at the site.

9.23 Non-Coal Mining

No Non-Coal Mining Areas were identified onsite or within 50m of the site.

9.24 BritPits

The following BritPits were identified within 250m of the site:

Table 5: BritPits located within 250m of the site.

Name	Commodity	Type	Distance/ Direction
Tulketh Street Brickworks	Clay & Shale	Ceased	125m NE

9.25 Radon

A search of the BGS Radon dataset indicates that the property lies in an area with <1% chance of being affected by naturally occurring radon gas. Therefore, it is unlikely to be affected by radon.

9.26 Asbestos

It is possible that Asbestos may exist on the site and that an Asbestos survey may be required in line with The Control of Asbestos Regulations 2012. This is outside the scope of this assessment.

10 RELEVANT PLANNING HISTORY

Manchester City Council's online planning portal was searched in an effort to identify any relevant planning applications. No relevant documents were identified.

11 SITE WALKOVER

A site walkover was not undertaken as part of the initial scope of works. Photographs of the site are presented in [Appendix 4](#).

12 PRELIMINARY CONCEPTUAL RISKMODEL (CRM)

A conceptual site risk model (CRM) aims to summarise all the potential pollutant linkages or risk that may be associated with a site. It considers the potential pollution sources, receptors and pathways by which receptors can be impacted.

12.1 Potential Sources

Potentially contaminative land uses (PCLUs) of concern were identified based on their proximity to the site and whether they had the potential to generate significant quantities of ground gases, vapours and/or mobile volatile contamination (i.e. high pollution migration potential).

Any PCLUs within a 50m radius of the site as well as any PCLUs with high pollution migration potential within 250m of the site were considered to be of concern and were included within the assessment.

A summary is provided in Table 6 below.

Table 6: Summary of potential contamination sources, period of operation and distance from site.

Site Name	Industrial Profile	Approx. Year Use Established	Approx. Year Use Ended	Direction	Approx. Distance from Site (m)
Made Ground	N/A	c. 1931	Current (2020)	Onsite	0
Brick Works	N/A	c. 1906	c. 1975	NW	2
Clay Pit	Unknown Filled Ground	c. 1975	c. 2000	NW	2
Land at Moston College	N/A	c. 1947	Unknown	NE	18
Refuse Heap	Waste: Landfills and Other Waste Treatment & Disposal Sites	c. 1949	c. 1975	NW	27
Fields Farm	Agricultural Land	c. 1906	Unknown	SW	40
Infilled Pond	Unknown Filled Ground	Unknown	c. 1906	SW	46
Infilled Pond	Unknown Filled Ground	Unknown	c. 2000	N	84
Infilled Pond	Unknown Filled Ground	c. 1931	Unknown	SW	110
Infilled Pond	Unknown Filled Ground	Unknown	c. 2000	NE	210

Typical contaminants associated with the above PCLUs are:

-  Acids & Alkalis
-  Asbestos
-  Chlorinated & Non-Chlorinated Solvents
-  Fuels & Fuel Oils
-  Heavy Metals
-  Landfill Gases: Methane & Carbon Dioxide
-  Organic & Inorganic Compounds
-  Pesticides
-  Polychlorinated Biphenyls (PCBs)
-  Polycyclic Aromatic Hydrocarbons (PAHs)
-  Total Petroleum Hydrocarbons (TPHs)
-  Volatile Organic Compounds (VOCs)

Please note, this list is not exhaustive of all contaminants that may be present on or off site.

12.2 Potential Receptors

The potential receptors include human, water, ecological and infrastructure receptors.

12.2.1 Potential Human Health receptors

Potential human health receptors include construction workers and future occupants or users of the site and the proposed development.

12.2.2 Potential Groundwater Receptors

Potential groundwater receptors include the Secondary Undifferentiated Superficial Aquifer and Principal Bedrock Aquifer.

12.2.3 Potential Surface Water Receptors

There are no potential surface water receptors in the vicinity of the site.

12.2.4 Potential Ecological Receptors

There are no potential ecological receptors in the vicinity of the site.

12.2.5 Potential Property Receptors

Potential property receptors include the proposed development as well as neighbouring properties and associated services.

12.3 Potential Pathways

12.3.1 Potential Pathways for Human Receptors

The main pathways via which on and off-site human receptors are likely to come into contact with, or be affected by any contamination present on the site can be summarised as follows:

-  Dermal contact with contaminated soil (i.e. absorption through the skin) – through garden activities such as children playing, gardening etc.
-  Ingestion of contaminated soil (either directly or via soil adhering to vegetables grown on the site)
-  Inhalation of contaminated soil, fugitive dust and vapours.
-  Explosion of landfill gases leading to death/injury

12.3.2 Potential Pathways for Groundwater Receptors

The principal means by which contaminants can reach the groundwater is by leaching (i.e. downward movement through the soil pores with percolating and infiltrating water).

12.3.3 Potential Pathways for Surface Water Receptors

Routes by which contaminants from the site could reach surface water include via overland run-off, drainage and groundwater entering nearby rivers as base flow.

12.3.4 Potential Pathways for Ecological Receptors

The exposure pathways for terrestrial ecological receptors will be similar to those for humans. Pathways for aquatic receptors are via uptake of contaminated sediments and water.

12.3.5 Potential Pathways for Property Receptors

Pathways by which property receptors are exposed to potential contaminants include ground gas and vapour migration through the unsaturated zone and absorption of water containing dissolved contaminants (i.e. as in the case of sulphate attack).

12.4 Potential Pollutant Linkages

The Potential Pollutant Linkages (PPLs) were identified as part of the CRM. These were concerned with the following:

- Risk of direct contact with and inhalation of contaminants to on-site human health receptors (PPL1a)
- Risk of injury/death of on-site human health receptors as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within on-site dwellings. (PPL1b)
- Risk of direct contact with and inhalation of contaminants to off-site human health receptors as a result of on-site contaminants migrating off-site (PPL2a)
- Risk of injury/death to off-site human health receptors as a result of explosion due to migration of on-site ground gas and subsequent accumulation in confined spaces in off-site buildings. (PPL2b)
- Risk of derogation of groundwater quality resulting from the migration of on-site contaminants into the underlying aquifer (PPL3)
- Risk of derogation of surface water quality resulting from the migration and entry of on-site contaminants into the surface water receptor (PPL4)
- Risk of derogation of ecological quality resulting from the migration and entry of on-site contaminants to the ecological receptor during development and after completion (PPL5);
- Risk of damage to buildings and services from on-site contaminants (PPL6a)
- Risk of damage to property as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within buildings (PPL6b).

13 QUALITATIVE RISK ASSESSMENT

For land to be considered ‘contaminated land’ under Part IIA, the potential contamination source must be causing or have the significant possibility of causing harm to designated receptors. It is therefore necessary to focus on pollutant linkages that have the potential to be significant (i.e. those that are most likely to lead to a determination).

The identified PPLs were therefore individually qualitatively assessed using a basic risk assessment methodology which considers “Likelihood” and “Severity” to assess the magnitude of the potential risk. The methodology is summarised in [Appendix 5](#).

Table 7 below summarises the conceptual site risk model (CRM) including the identified PPLs and the results of the qualitative risk assessment.

Table 7: Conceptual Site Risk Model - Potential Sources, Pathways and Receptors identified on the site.

Source/ Potential Contaminants	Potential Contaminants Associated with onsite Made Ground and Offsite Land Use as a Brick Works, Refuse Heap, Historic Landfill Site, Agricultural Land and Unknown Filled Ground: i.e. Acids & Alkalis, Asbestos, Chlorinated & Non-Chlorinated Solvents, Fuels & Fuel Oils, Gases: Methane & Carbon Dioxide, Heavy Metals, Organic & Inorganic Compounds, Pesticides, PCBs, PAHs, TPHs and VOCs.								
	On and Off-Site Contaminants		On Site Contaminants		On Site Contaminants			On and Off-Site Contaminants	
Potential Pathways	• Ingestion of soils, garden vegetables and dust • Ingestion of contaminated drinking water • Dermal absorption • Inhalation of dusts and vapours indoors and outdoors • Migration of ground gases and vapours into properties				Leaching in the unsaturated zone and diffusion in the saturated zone	• Overland run-off • Drainage channels • Base flow	• Direct contact via absorption and ingestion; • Inhalation	• Migration of ground gases and vapours through the unsaturated zone • Attack on water supply service pipes	
Potential Receptors	ON SITE HUMANS Future occupiers, visitors, construction workers		OFF SITE HUMANS Residents, visitors		GROUNDWATER Secondary Undifferentiated & Principal Aquifers	SURFACE WATER None	ECOLOGY None	ON SITE PROPERTY Buildings and services	
Potential Hazards	• Adverse health effects • Injury/Death	Explosion/ Fire - Buildup of Methane/ VOCs in confined spaces	• Adverse health effects • Injury/ Death	Explosion/ Methane build up in confined spaces	Derogation of groundwater quality	• Derogation of surface water quality • Ecological impacts	Derogation of ecological receptor quality	Damage to property and services	Explosion/ Fire - Buildup of Methane/ VOCs in confined spaces
Plausible?	Yes	Yes	No	No	No	No	No	Yes	Yes
PPL ID	PPL1a	PPL1b	PPL2a	PPL2b	PPL3	PPL4	PPL5	PPL6a	PPL6b
SEVERITY	Major (4)	Major (4)	Major (4)	Major (4)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)
LIKELIHOOD	Remote (2)	Remote (2)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Remote (2)	Remote (2)
RISK	Low to Moderate (8)	Low to Moderate (8)	Low (4)	Low (4)	Very Low (3)	Very Low (3)	Very Low (3)	Low to Moderate (6)	Low to Moderate (6)
POTENTIALLY SIGNIFICANT?	YES	YES	NO	NO	NO	NO	NO	YES	YES

13.1 Assessment of Potential Significance of Potential Pollutant Linkages

13.1.1 Potential Risks to On-Site Human Health

PPL1a was considered to have the potential to be significant. Given that a Brick Works, Unknown Filled Ground, Refuse Heap and Historic Landfill Site were previously located within the vicinity of the site and as the proposal is to introduce residential dwellings with amenity space, it is possible that human health receptors (i.e. groundworkers and future occupiers of the dwellings) could be exposed to any potential contamination via direct contact and ingestion and ground gases and vapours via indoor inhalation during groundworks and after completion.

PPL1b was considered to have the potential to be significant as potential sources of explosive ground gases and/or vapours (i.e. Brick Works, Unknown Filled Ground, Refuse Heap and Historic Landfill Site) were identified within the vicinity of the site.

13.1.2 Potential Risks to Off-Site Human Health

PPL2a was considered unlikely to have the potential to be significant. It is considered unlikely that any contaminants present at the site would be of sufficient magnitude as to significantly impact off-site human receptors.

PPL2b was considered unlikely to have the potential to be significant as no potential sources of explosive ground gases (i.e. Landfills, Petrol Stations etc.) were identified on the site.

13.1.3 Potential Risks to Groundwater Receptors

PPL3 was considered unlikely to have the potential to be significant. Although the site is underlain by a Secondary Undifferentiated Superficial Aquifer and a Principal Bedrock Aquifer, it is considered unlikely that any contaminants present at the site would be of sufficient magnitude as to significantly impact groundwater receptors.

13.1.4 Potential Risks to Surface Water Receptors

PPL4 was considered unlikely to have the potential to be significant as no surface water bodies were identified onsite or within 250m of the site.

13.1.5 Potential Risks to Ecological Receptors

PPL5 was considered unlikely to have the potential to be significant as no designated ecological receptors were identified onsite or within 250m of the site.

13.1.6 Potential Risks to Property Receptors

PPL6a was considered to have the potential to be significant. If contaminated, the soil may contain aggressive chemicals (i.e. Sulphates) which may attack building materials and services.

PPL6b was considered to have the potential to be significant as potential sources of explosive ground gases and/or vapours (i.e. Brick Works, Unknown Filled Ground, Refuse Heap and Historic Landfill Site) were identified within the vicinity of the site.

14 CONCLUSIONS

This Phase 1 Desk Study was carried out to support a planning application for the erection of an apartment block, comprising three two-bedroom apartments, within the existing garden plot of the adjacent residential dwelling.

A review of historical maps and planning records suggests that the site and immediate adjacent land have been subject to previous potentially contaminative land uses (PCLUs). Onsite potential contamination sources include Made Ground while offsite PCLUs include Brick Works, Refuse Heap, Historic Landfill Site, Unknown Filled Ground and Agricultural Land.

A conceptual site risk model was developed and a qualitative risk assessment undertaken. The conclusions of the risk assessment are presented in Table 8 below.

Table 8: Summary of qualitative risk assessment

Potential Receptor	Potential Pathway	Potential Hazard	PSPPL?	Risk
On-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	Yes	Low to Moderate
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	Yes	Low to Moderate
Off-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	No	Low
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	No	Low
Groundwater	Percolation/Leaching	Adverse groundwater quality	No	Very Low
Surface Water	Lateral Migration Groundwater baseflow	Adverse Surface water quality	No	Very Low
Ecology	Ingestion/Absorption	Adverse health Injury/Death	No	Very Low
Property	Physical Contact/Absorption	Damage to building and services	Yes/No	Low to Moderate
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Damage to building	Yes/No	Low to Moderate

15 RECOMMENDATIONS

Given that potentially significant potential pollutant linkages (PSPPLs) were identified, it is recommended that an intrusive site investigation is undertaken with the objective of determining the presence and extent of any soil contamination at the site.

15.1 Watching Brief and Discovery Strategy

Therefore, it is recommended that a “watching brief” is kept at all times during the development. Should any unexpected contamination be encountered then the discovery strategy outlined below should be followed.

-  Works should be halted if any suspicious ground conditions are identified by groundworkers;
-  The Contractor should assess the need for any immediate health and safety or environmental management control measures. If control measures are considered to be required, they should be implemented;
-  The Contractor should notify the Client's Environmental Consultant and the Local Planning Authority;

- The Environmental Consultant should attend the site to record the extent of 'contamination' and if necessary, to collect samples;
- If remedial action is considered necessary then the proposed works should be agreed with the Local Planning Authority prior to implementation;
- Once remediation is complete, the Environmental Consultant should collate evidence of work carried out for inclusion in a Remediation Verification Report which should be submitted to the Local Planning Authority.

15.2 Health and Safety

All site works should be carried out in accordance with Health and Safety Executive regulations and guidelines, the Contractor's Construction Health and Safety Plan and the Construction (Design and Management) Regulations 2015.

Precautions should be taken to minimise exposure of site workers during ground works through the implementation of site safety. Such precautions should include, but not be limited to:

- Provision of appropriate Personal Protective Equipment (PPE);
- Availability of site welfare;
- Good personal hygiene, washing and changing procedures;
- Daily safety briefings.

15.3 Services

The local Statutory Water Undertaker should be contacted in the event that new services are proposed as part of the redevelopment in order to determine their specification for the type of pipework which should be used on this site.

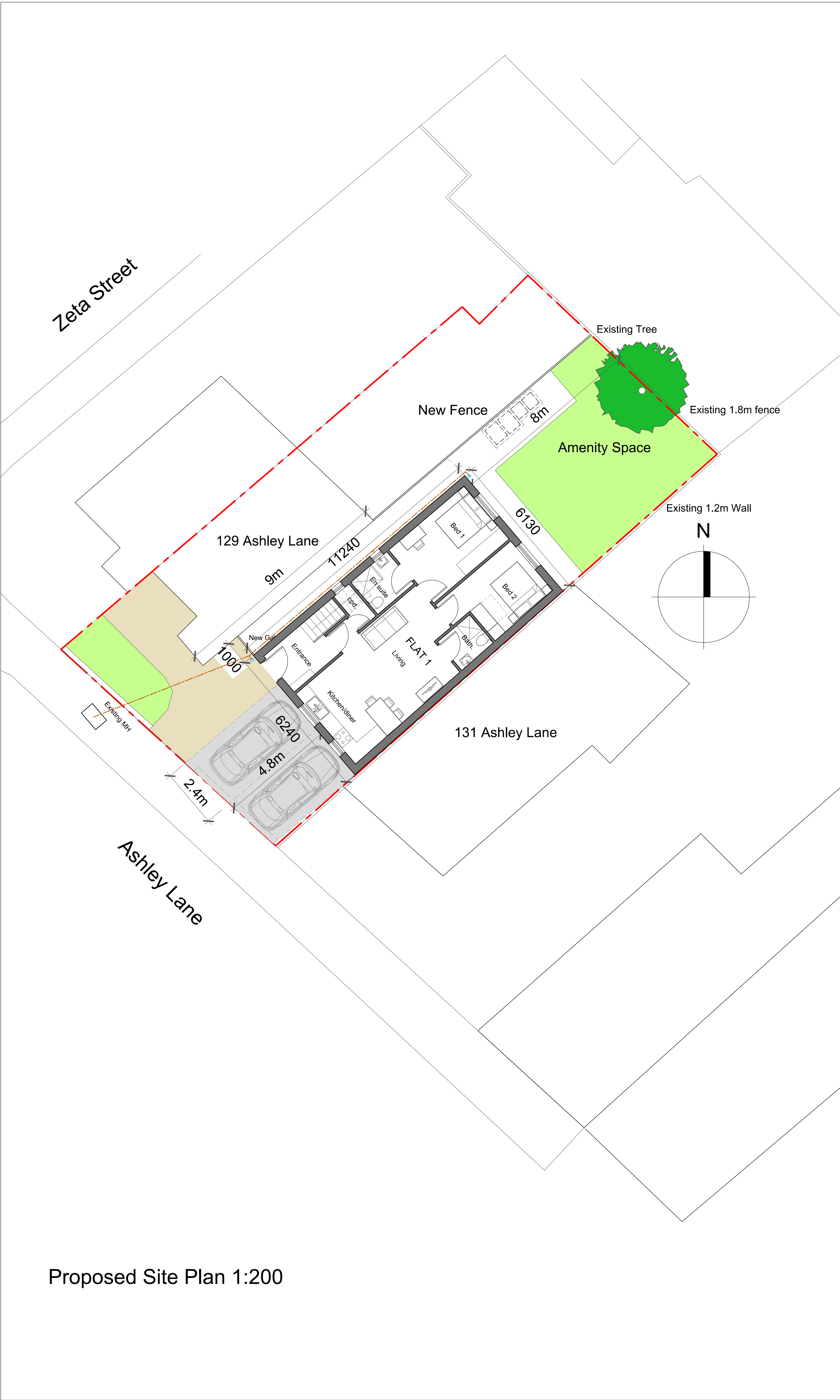
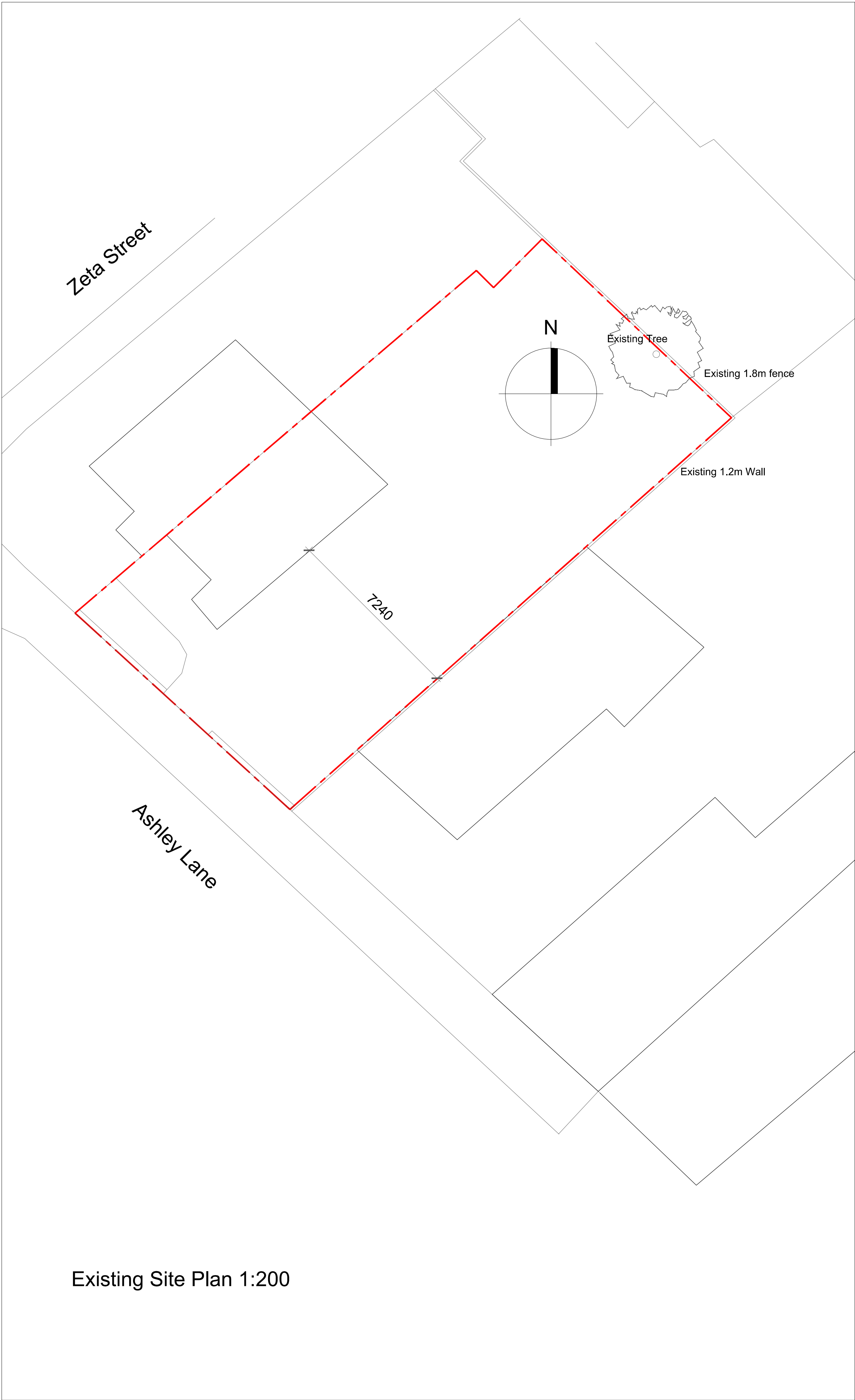
It is recommended that all services, and in particular potable water, should be supplied using materials that are resistant to attack and degradation to chemical attack.

Further information can be found within the published guidance for the '*Selection of Water Supply Pipes to be used in Brownfield Sites*', issued in January 2011 by the UK Water Industry Research.

16 INFORMATION GAPS AND UNCERTAINTIES

Assumptions have been made regarding the nature and scale of the activities that took place on the site and the types of potential contaminants that may have resulted. These assumptions will need to be reviewed along with the Conceptual Site Model should further information come to light.

17 APPENDIX 1 – PROPOSED DEVELOPMENT PLANS



All dimensions are to be checked on site, any discrepancies are to be reported to the Architect before work commences. Do not scale from this drawing.
This drawing is to be read together with all relevant consultants and specialists drawings / documents, with any discrepancies to be reported to the Architect before work commences.
All structural information is indicative only. Details of any structural elements are to be provided by the Structural Engineer.
This drawing is copyright.



Client:	
Mr Sarfraz Muneer	
Project:	
129-131 Ashley Lane, M9 4WR	
Drawing Title:	
Existing and Proposed Site Plans	
Scale:	Date:
1:200@ A1	Feb 2020
Drawing No:	Revision:
032--001	A

18 APPENDIX 2 – HISTORICAL MAPS

Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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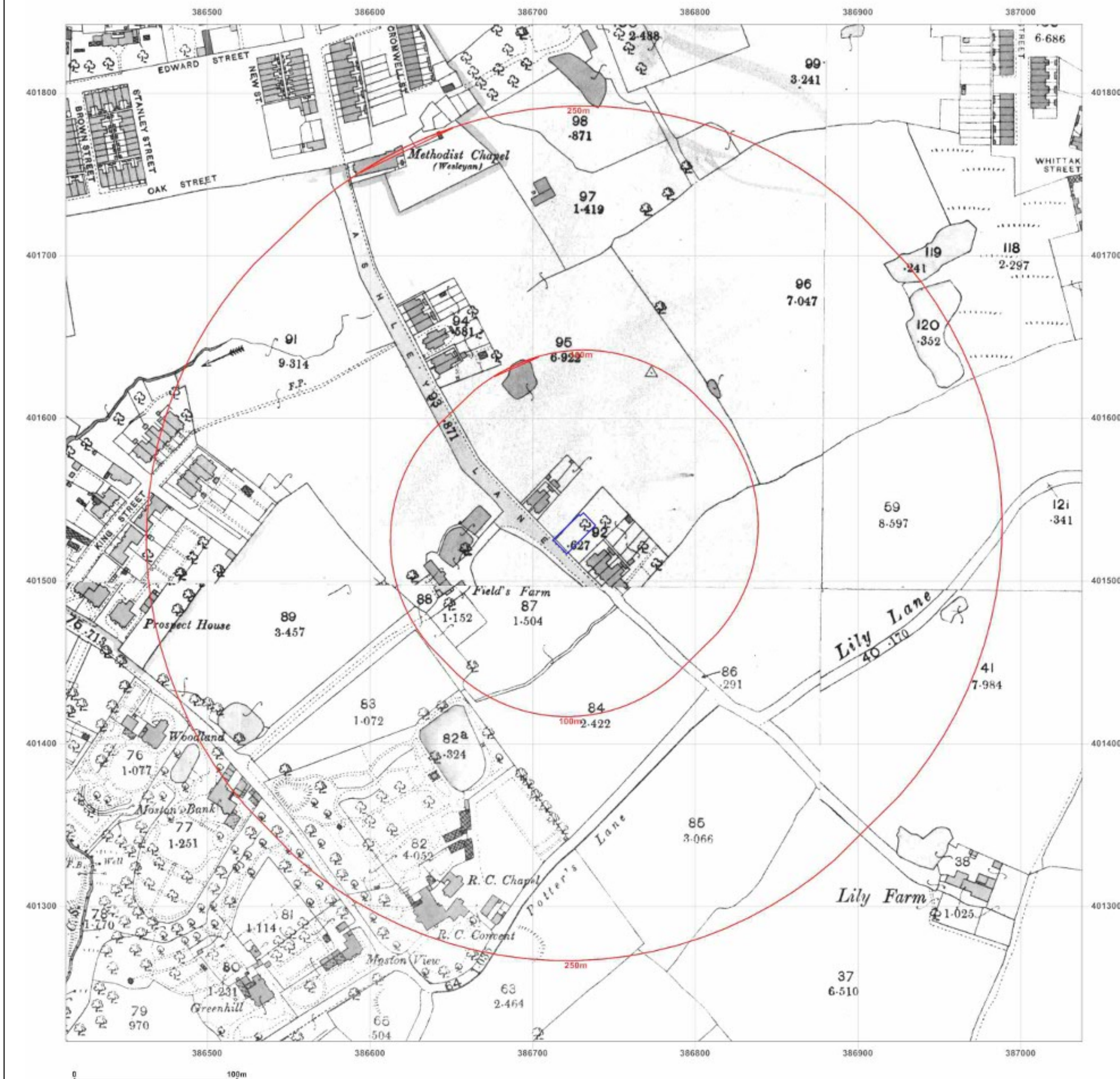


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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: County Series

Map date: 1908-1909

Scale: 1:2,500

Printed at: 1:2,500



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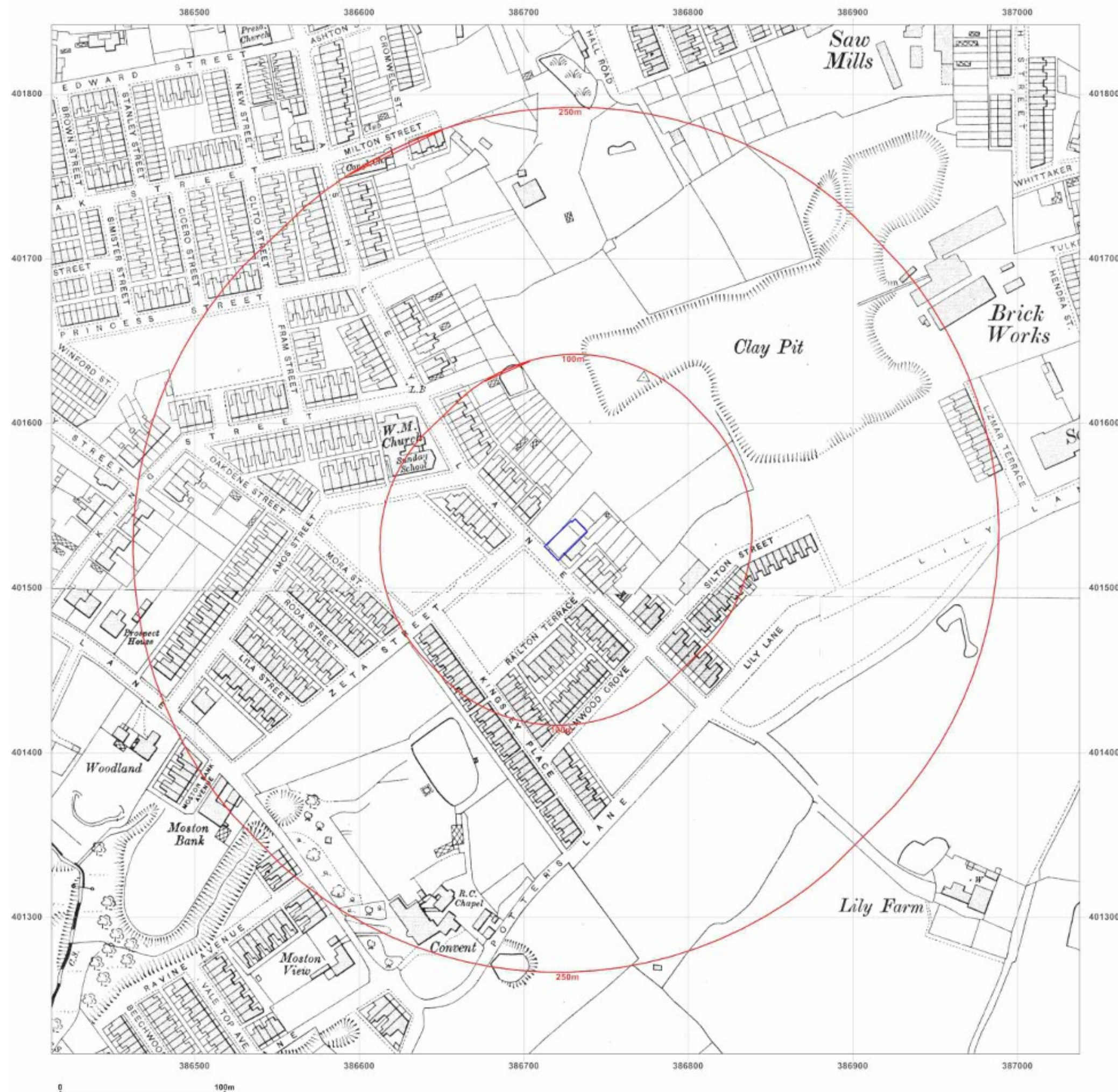


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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: County Series

Map date: 1922

Scale: 1:2,500

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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1949-1950

Scale: 1:1,250

Printed at: 1:2,000



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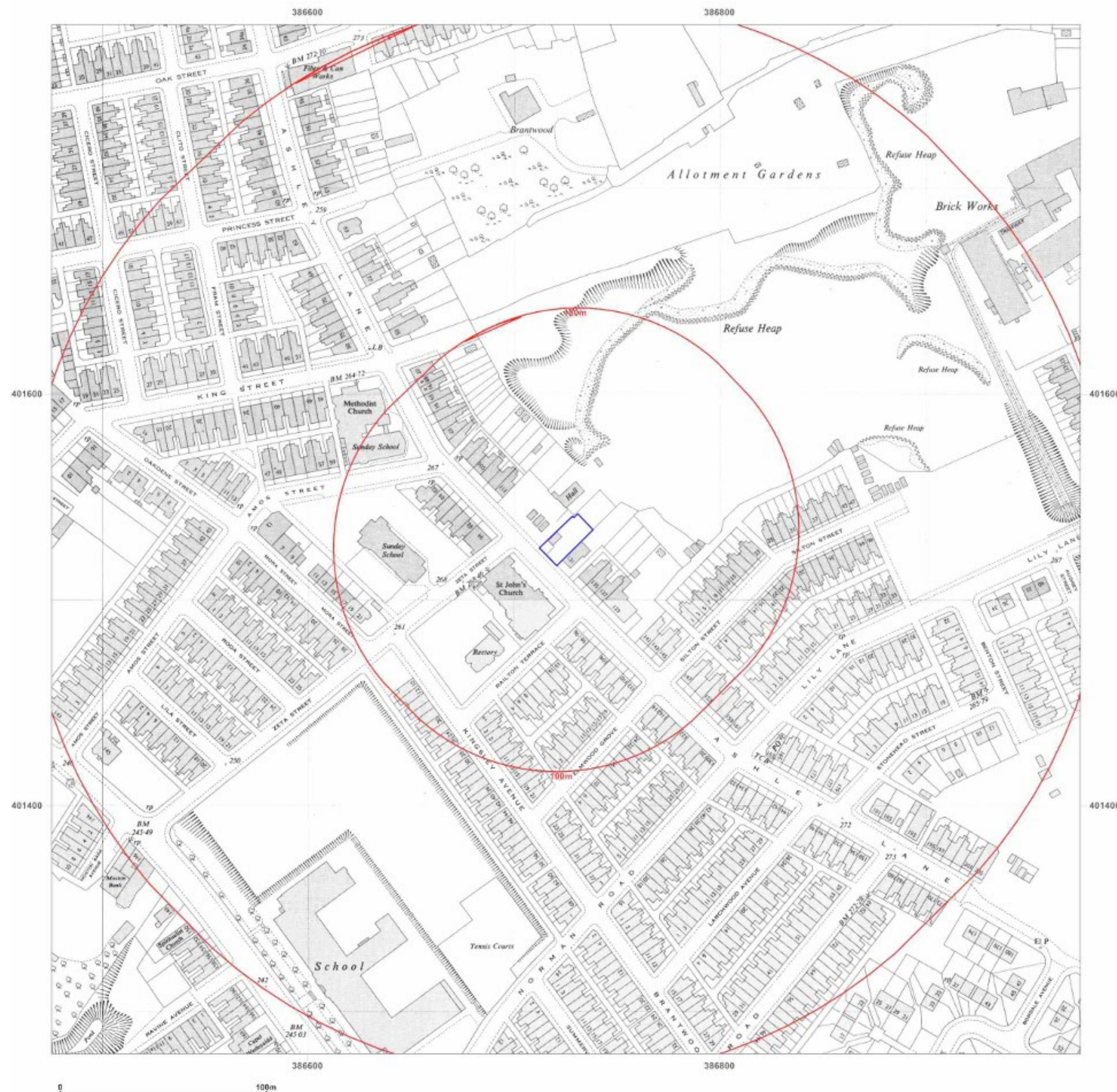


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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1950

Scale: 1:2,500

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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1950-1951

Scale: 1:1,250

Printed at: 1:2,000



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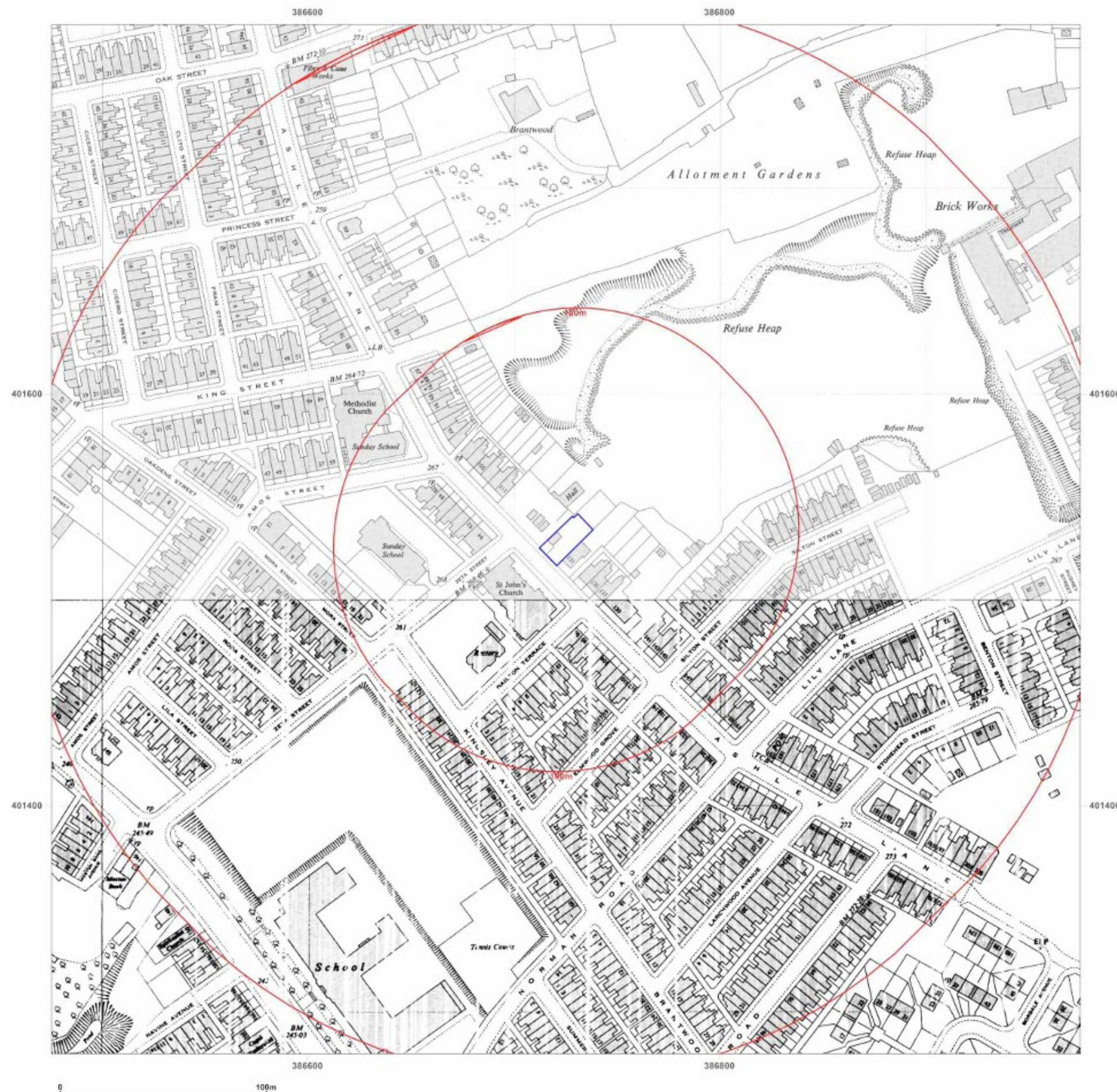


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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1951-1952

Scale: 1:1,250

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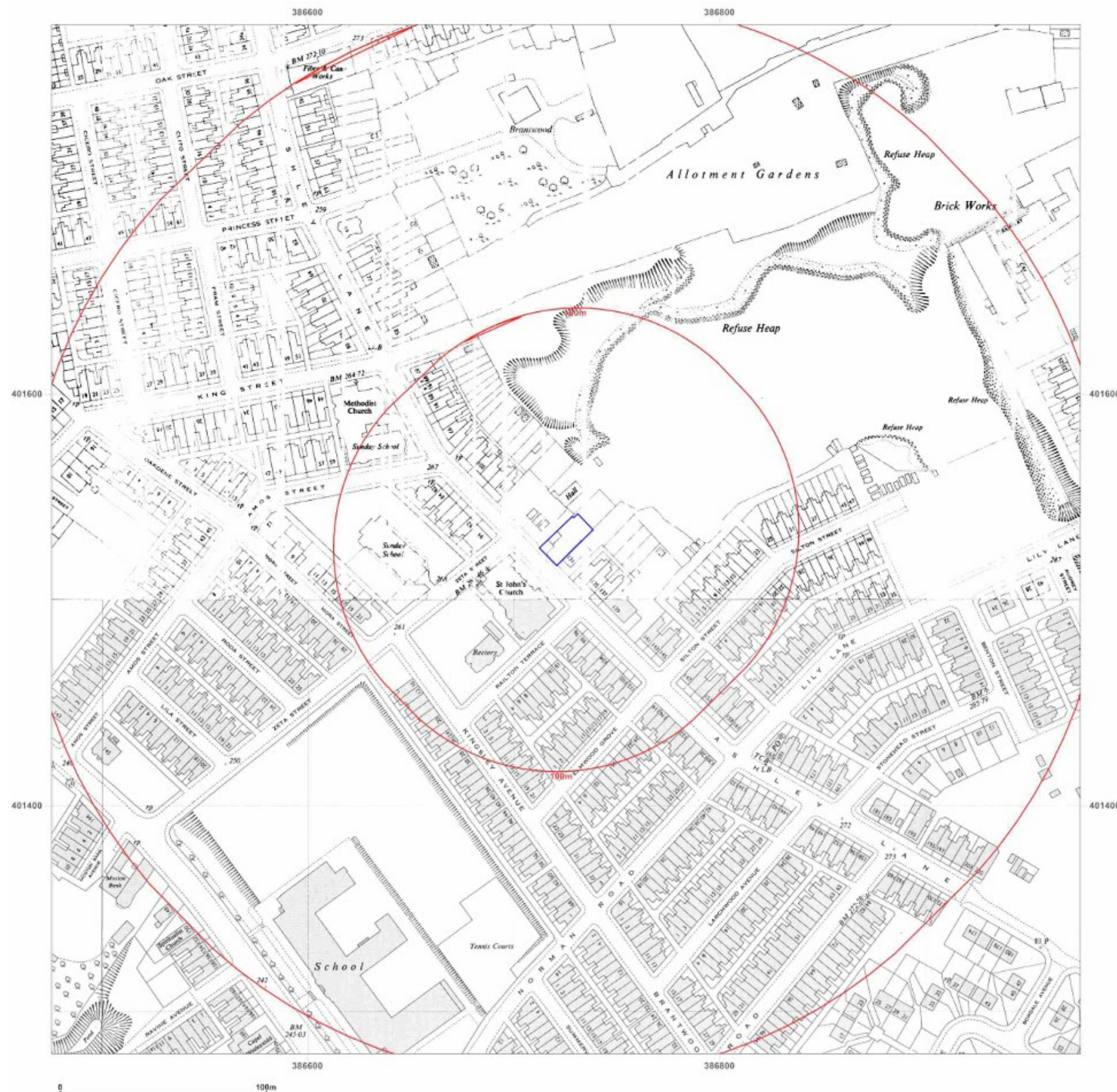


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Site Details:

129 - 131 ASHLEY LANE,
MANCHESTER, M9 4WR

Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1950-1955

Scale: 1:2,500

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Site Details:

129 - 131 ASHLEY LANE,
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Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1978-1979

Scale: 1:1,250

Printed at: 1:2,000



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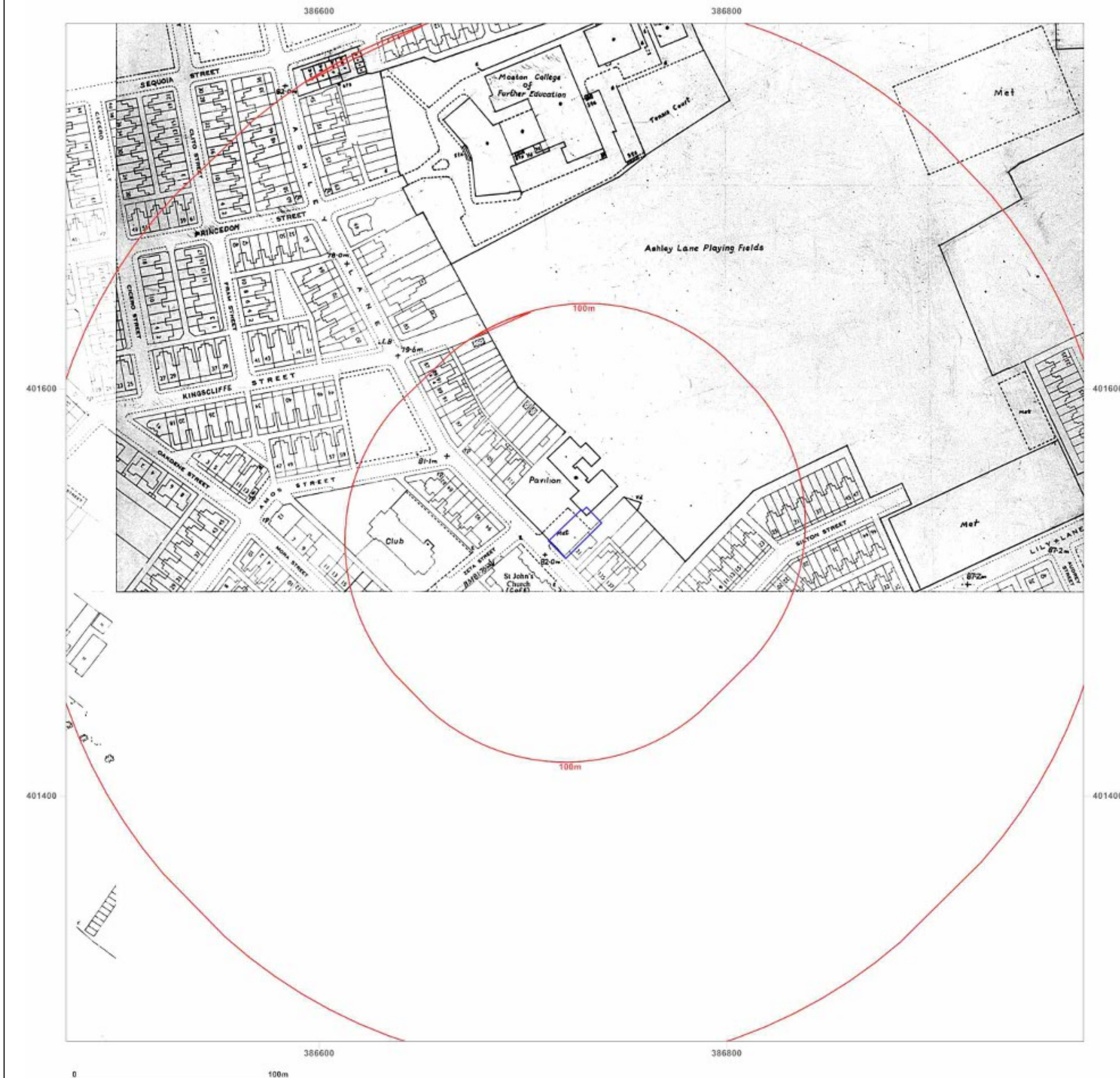


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Site Details:

129 - 131 ASHLEY LANE,
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Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1980-1985

Scale: 1:1,250

Printed at: 1:2,000



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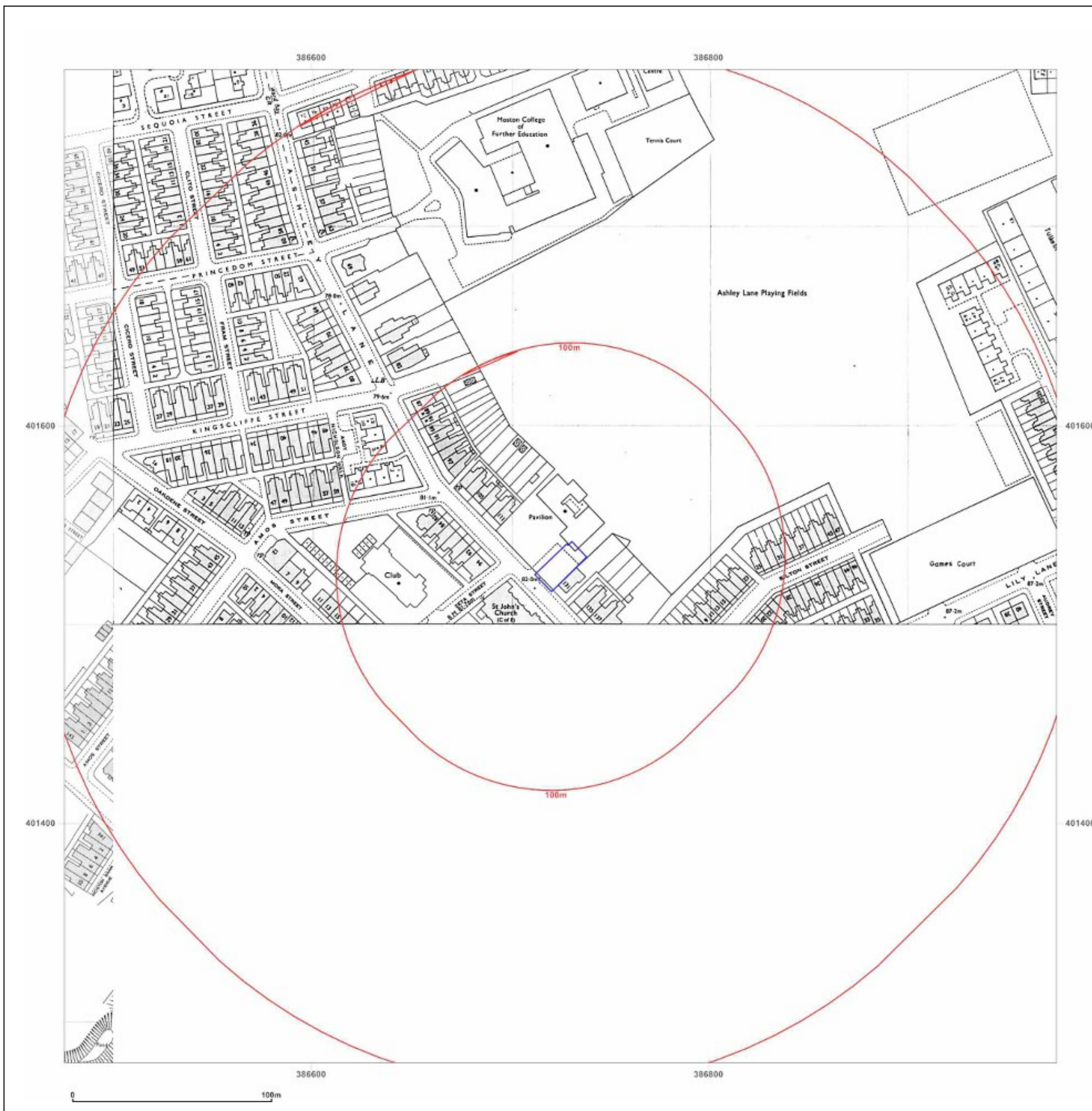


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Site Details:

129 - 131 ASHLEY LANE,
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Client Ref: PH1-2020-000070
Report Ref: GS-6817958
Grid Ref: 386725, 401529

Map Name: National Grid

Map date: 1982-1987

Scale: 1:1,250

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