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**MANCHESTER ENTERPRISE ACADEMY,
SIMONSWAY, WYTHENSHAW,
MANCHESTER, M22 9RH**

PHASE 1 SITE INVESTIGATION REPORT

Carried out for: Willmott Dixon Construction Ltd

Lead Consultant: Kier Business Services Ltd



**MANCHESTER ENTERPRISE ACADEMY,
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DISCLAIMER

This report should be read with the Service Constraints Report Limitations & Planning Requirements set out in Appendix A.



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**MANCHESTER ENTERPRISE ACADEMY,
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PHASE 1 SITE INVESTIGATION REPORT

1. INTRODUCTION

1.1 Background Information

1.1.1 TerraConsult Limited was commissioned by Willmott Dixon Construction Ltd to carry out a preliminary site investigation at Manchester Enterprise Academy in Wythenshawe. Kier Business Services Ltd are the lead project designers. The purpose of the report is to provide preliminary information on conditions at the site for a new block of classrooms for the academy to enable the number of pupils to be doubled in size. There will also be a new 4G (MUGA) pitch constructed.

1.1.2 This report has been devised to generally comply with the relevant principles and requirements of a range of guidance including:

- Part IIA of the Environment Protection Act, 1990;
- Contaminated Land (England) (Amendment) Regulations 2012 and Contaminated Land Statutory Guidance (DEFRA, April 2012);
- National Planning Policy Framework (HCA, March 2012);
- BS5930:2015: “Code of practice for site investigations”;
- BS10175: 2011 +A1:2013 “Investigation of Potentially Contaminated Sites - Code of Practice”;
- DEFRA/Environment Agency (2004) Report CLR11 “Model Procedures for the Management of Land Contamination”;
- Environment Agency (2011) Report GPLC1 “Guiding Principles for Land Contamination”;
- Environment Agency (2013) Report GP3 “Groundwater protection: Principles and Practice” Version 1.1.

1.1.3 TerraConsult’s service constraints and report limitations are presented in Appendix A and a description of environmental risk assessment methodology and terminology is presented in Appendix B.

1.2. Development Proposals

1.2.1 The proposed development of the site is indicated on the following drawings from Ryder Landscape Consultants:

- 16008-RYD-00-XX-GA-L-20000 (3) General Arrangement
- 16008-RYD-00-XX-GA-L-20004 Existing & Proposed Overlay

1.2.2 The development is summarised below:

- The proposed location of the new school building is to be on the site of an existing landscaped area. The proposed 3 storey school building will likely comprise of steel frame construction with ground bearing concrete or suspended slab, suspended composite metal deck concrete floors, lightweight external walls and a lightweight metal deck roof. Column loads are likely to be in the order of 1,450kN (unfactored).
- A 4G football pitch, new MUGA for basketball and netball ,
- hard surfaced car parking (two areas, one in west and one in northwest,
- associated hard and soft landscaping; and
- new below ground drainage will be required including removal of an existing attenuation tank from below the southern end of the new building and construction of a new attenuation tank below the 4G football pitch.

1.2.3 The findings and conclusions of the risk assessments have been set out and recommendations given for the proposed end use as a school. If there is a subsequent change in the proposed land the risk assessments and conclusions should be reviewed to determine whether they are still applicable for the revised end use.

1.3. Planning Status & Requirements

1.3.1 This report is designed to comply with the requirements of The National Planning Policy Framework (NPPF, 2012) and is intended to be used by the developer as part of the submission to gain planning for the works.

1.4 Scope of the Investigation

1.4.1 The scope of the investigation was to meet the requirements to provide information for planning purposes and for design of the development. The specific activities carried out are as follows:

- undertake a desk study of available information to include a review of existing reports, history of the site and geo-environmental data;
- carry out a site walk over;
- develop a preliminary conceptual site model and refine this according to the findings of the investigation;
- assess the general nature and extent of contamination at the site and carry out a contamination risk assessment to determine if the site poses a risk to potential receptors; and
- provide recommendations for an intrusive investigation to assess contaminated land and geotechnical issues.

1.5. Previous Investigations

- 1.5.1 Previous site investigation reports carried out prior to construction of the current academy building have been provided by Kier for review. These are discussed in Section 4.

2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

- 2.1.1 The site is indicated in Figure 1 below and the site location is summarised in Table 1:



Figure 1: Site Location

Table 1: Summary of Site Location

Location	Manchester Enterprise Academy is located off Simonsway, Wythenshawe, about 10 km south of the centre of Manchester
Grid Reference	382110 387210
Post Code	M22 9RH
Site Area	7.92 ha
Site Shape	The site has maximum plan dimensions of 325 m by 220 m and is irregular in shape.
Topography	The elevation is at approximately 56 to 58 mOD. The site slopes slightly downwards from the east to the west. There are also some “mounds” on the site. Topographical survey gives further detail and topography is discussed more in Section 2.2 below.

2.2 Site Description

2.2.1 A site visit was undertaken on 31st May 2016. Photographs of the site are presented in Appendix C. The walkover is summarised below:

Table 2: Summary of Description of the Site and its Environs

Current Use:	Manchester Enterprise Academy
Access	Main access to site is from the west from Greenwood Road. There is also vehicular access from the south from Simonsway but this access is normally just used for buses.
Existing Buildings & Structures	Main academy building in southwest of site. Sports hall relatively centrally on the site with an adjacent changing room block. To the west of the sports hall there is a semi-derelict building which was the site offices from when the academy was constructed. There is also a small wooden garden type shed next to this.
Site Surface	Asphalt parking areas to west and north of academy building, Some asphalt around buildings. Two larger asphalt areas centrally and on eastern edge. MUGA pitches to north of sports hall. Northern and south eastern parts of site are grassed, northern part has sports pitches marked out.
Vegetation	Generally cut grass with some semi-mature trees in the southern half of the site. Mature trees along some of the boundaries. Along the northern boundary there is some scrub/brambles.
Storage Tanks	Below Ground Tanks: Stormwater attenuation tank below southern part of proposed building. Above Ground Tanks: None present.
Services	A number of service covers were noted, see tanks above and Section 2.4 for more details.
Asbestos	No potential Asbestos Containing Materials (ACMs) noted in the buildings or on the ground surface
Waste Disposal/ Materials Storage	Generally waste absent. Minor amount present adjacent to former site office (bulk bags of sand, pallets, etc).
Surrounding Area	Residential to the north, north east and west. To southeast there are offices. Simonsway to the south.
Ecology	There is no evidence of protected burrowing animals (e.g. badgers) or habitats suitable for protected amphibians (e.g. Great Crested Newts). Trees are present on the site and these should not be cut down during the nesting season. No evidence of invasive plant species were noted. <i>These comments on the ecology are for initial preliminary assessment. They are based on the assessment of personnel who are not trained ecologists and does not constitute a Phase I Habitat Survey or similar.</i>



Figure 2: Aerial Photograph from 02/06/09 When the Academy was Under Construction (from Groundsure report, Appendix D)

- 2.2.2 There are a number of raised areas of soils on the site described as “Mounds” in this report. These are present to the north and east of the main academy building and in the area of the proposed 4G football pitch. The mounds to the north and east of the academy building are up to 2 m high. The mounds in the vicinity of the proposed 4G football pitch are probably up to 1 m in height. This height of fill being indicated by the ground level of trees which are in depressions surrounded by the raised mounds. It is expected that the mounds will be a combination of: demolition material from the former school and excavation arisings of Made Ground and geotechnically poor quality natural soils.

2.3 History

- 2.4.1 The following information has been gathered to detail relevant land use changes for the site and its surroundings. The maps used are previous editions of the County Series and Ordnance Survey dating back to 1897. These maps are presented in Appendix C.
- 2.4.2 The first map studied dated 1877 shows the site to be undeveloped farmland with a small copse and buildings in the south eastern part of the site along with a small pond which is about 15 m off the site which is present until the 1977 map of the area. There are other historic ponds 165 m west of the site and 190 m east.
- 2.4.3 The map dated 1935 and 1938 shows the buildings to be named as North Poundswick Farm and that the houses to the north east on Leybrook Road had been built. No change to the site itself is indicated on the 1954 map with an increase in housing to the northeast of the site.
- 2.4.4 The 1960 and 1967 maps show the former school (the Poundwick Grammar School) along with playgrounds and tennis courts. There is housing shown to the north, west and south. Little or no further change is shown on the subsequent maps to 1977 when an L-shaped building is shown to have been added to the west of the school. The 1992 map indicates the school to be named Poundswick High School.
- 2.4.5 The 1977 map indicates that on the land to the south east of the site there the off-site office block.
- 2.4.6 The 2010 1:25,000 map shows the former school buildings all to be present which is thought to be out of date.
- 2.4.7 The current academy is thought to have been constructed in 2008/2009 and the previous school buildings demolished during this period. These are shown on the 1:25,000 map of 2014.

2.5 Services Search

- 2.5.1 Services information was provided by Willmott Dixon. The services on the site are as follows:
- Electricity apparatus owned by Electricity North West;
 - ESP Utilities (close to the site, but unlikely to be within the site boundary);
 - Manchester City Council (possible street lighting apparatus in the south and west);
 - National Grid Gas (western part of the site);
 - British Telecom (southern part of the site);
 - United Utilities (connection shown , but limited details); and
 - Virgin Media (southwestern part of the site).

3. ENVIRONMENTAL SETTING

3.1 Data Summary

3.1.1 A summary of the environmental background information (geology, hydrology, hydrogeology, database information etc.) and regulator consultation information has been tabulated and presented below. The source information for this table is presented in Appendix D or is referred to in Table 3 below. The table below represents the base data used to formulate the conceptual ground model.

Table 3: Data Summary: Environmental Setting & Regulator Contact		
	Data Source	Data Summary
Regional Geology	GroundSure Report	The majority of the site was shown to be underlain by drift deposits comprising Glacial Till (Boulder Clay) with no drift deposits in the southeast of the site. Bedrock is Bollin Mudstone Member of the Mercia Mudstone Formation – this is mudstone with beds of siltstone.
Minining	BGS Maps & Coal Authority Website	The site is not located in a Coal Authority Referral or Standing Advice Area. The site is not in an area affected by historic brine or salt extraction.
Quarrying	Historic OS Plans – see Appendix D	From the historic maps, there is no evidence of mineral extraction or quarrying at the site (e.g. brick pits, sand and gravel extraction etc.).
Hydrogeology	GroundSure Report – see Appendix D Environment Agency Web Site, 03/06/2016	Source Protection Zone – none underlying or in the vicinity of the site. Aquifer (drift) – Secondary - undifferentiated Aquifer (solid) – Secondary B Groundwater Abstractions – No groundwater abstractions in the area of the site, the closest located 2 km from the site. Not in a Surface Water Safeguard Zone Not in a Groundwater Safeguard Zone
Hydrology	Ordnance Survey 1:25,000 scale map of the area.	Nearest watercourse – 720 m from the site but see culvert below.
	Environment Agency Web Site, 03/06/2016	The site is in Flood Zone 1, where the risk of flooding from rivers is classified as low. The nearest Flood Zone 2/3 with an indicated risk of flooding is about 700 m from the site. Pollution Incidents – none within 250 m of the site. Discharge Consents – nearest located 480 m from the site into the River Medlock.
	Drainage Plans	Foul and surface water drainage service plans show connections are on site, although there are only limited details regarding the location of apparatus.
	Buried Culverts	None currently identified on site but there is the Baguley Brook which is in a culvert which runs along the western side of Greenwood Road 30 m west of the site
Radon Potential	Building Research Establishment, 2015, ‘Radon: Guidance on protective measures for new buildings’	Site in an area where neither basic nor full protection measures are required and a geological assessment is not required. Therefore no radon protection measures required at this location.

Other Radiation	Historic land use (see below) GroundSure Report – see Appendix D	No reasonable grounds for believing land to be radioactively contaminated (in accordance with 2005 extension of Part IIA of The Environment Protection Act 1990).
Ordnance	Zetica Bomb Risk Map	Moderate risk for unexploded ordnance.
Environmental Database Information	GroundSure Report – see Appendix D	Full reference should be made to the report, however a brief summary follows. There are no industrial adjacent to the site, the nearest is a former corporation yard 151 m from the site. There is a backfilled pond close to the south eastern site boundary below the adjacent office building. There was formerly an electric substation on the site in the 1970s to 1990s.
	Industrial Processes (from EnviroCheck GroundSure Report– see Appendix D)	There are no registered Integrated Pollution Control (IPC) Sites, Registered Radioactive Substances sites, Control of Major Accident sites (COMAH), Explosives Sites or Notification of Installations Handling Hazardous Substances (NIHHS) within 250m of the site.
	Environment Agency Web Site, 03/06/2016	No landfill sites were noted in the surrounding area, with the closest over 2km from the site. No Waste Treatment & Transfer, Consented Discharges or Pollution Incidents within 1 km of the site.
Land-fill Search	Ordnance Survey Historical Mapping (from GroundSure Report– see Appendix D)	None within 1.5 km of the site.
Trade Directories	Trade Directory Entries recorded in 250m radius (from GroundSure Report)	None.
Fuel Stations	Fuel Stations recorded in 250m radius (from GroundSure Report – see Appendix D)	None within 1.5 km of the site.
Ecology	Sites of Ecological Importance (from GroundSure Report) MAGIC website 03/06/2016 http://magic.defra.gov.uk/website/magic/	There are no sites of Special Scientific Interest (SSSI), Special Protection Areas, Conservation Areas, National Nature Reserves, National Parks, Areas of Outstanding Natural Beauty or RAMSAR (wetlands) within 2km of the site. There is a Local Nature Reserve 1.9km from the site. The nearest Greenbelt land is 726 m from the site.
Archaeological & Building Heritage	Manchester City Council	Buildings of local or historic interest – there are no buildings on the site or on adjacent land that have been recorded as being of “local interest.”
	Natural England Web Site 03/06/2016	The site/buildings are not within areas of outstanding natural beauty or a national park.
	English Heritage Web Site 03/06/2016	There are no scheduled ancient monuments buildings in historic parks and gardens on site or buildings within the curtilage of scheduled ancient monuments.
	MAGIC website 03/06/2016 English Heritage website 03/06/2016 http://list.english-heritage.org.uk/mapsearch.aspx	There are no sites of archaeological interest on or adjacent to the site.
Regulator Contact	Manchester City Council	Contact with the Council was not made at this stage but they will require a Phase 1 site investigation as part of the planning process.
	Environment Agency	Contact with the Environment Agency was not made at this stage.

4. PREVIOUS INVESTIGATIONS/REPORTS

4.1 Reports Provided for Review

4.1.1 TerraConsult were provided with the following documents relating to the site investigations carried out prior to the construction of the current academy and these should be reviewed in association with this report:

- GEA Letter Report: Site Investigation at Parklands School, Wythenshawe – Preliminary Findings. 10/01/07
- GEA Report: Site Investigation at Parklands School, Wythenshawe. Report No J06360 Issue No 1. 13/02/07
- GEA Letter Report: Gas Monitoring at Parklands High School, Wythenshawe. 23/07/08
- GEA Letter Report: Additional Testing at Parklands High School, Manchester. 10/10/08
- GEA Letter Report: Remediation Strategy for Application No 087475/VO/2008/S2: Parklands. 24/10/08

4.2 Preliminary Site Investigation Findings Letter Report of 10/01/07

4.2.1 This is a relatively short report which presented the preliminary site investigation findings prior to issue of the main investigation report discussed in Section 4.3 below so it is not reviewed here.

4.3 Report Ref J06360 Issue No 1. Main Site Investigation Report of 13/02/07

4.3.1 The site investigation comprised:

- No formal desk study but a basic review of historical mapping and environmental database information provided;
- 18 shallow dynamic (window) sample boreholes;
- four rotary cored boreholes to 12 m;
- installation of monitoring wells and two rounds of monitoring;
- chemical laboratory testing (8 samples tested for contaminants and also some for BRE Special Digest 1 concrete suite);
- geotechnical laboratory testing; and
- interpretative report and design recommendations.

4.3.2 The Desk Study findings were:

“The desk study indicated that the site had previously been undeveloped farmland prior to the construction of the existing school between 1954 and 1960. At the same time the majority of the surroundings were developed into the residential area of Wythenshawe. A previous ground investigation indicated a thin covering of made ground beneath which firm becoming stiff clay was encountered and graded into Mercia Mudstone within around 2.0 m. This material was initially very weak and became less weathered with depth, typically with SPT “N” values of over 75 occurring within 3.0 m. Groundwater was measured as seepages at depths of between 0.5 m and 1.2 m. Contamination testing has not previously been undertaken. On the basis of the desk study information the site is assessed to have a low risk of contamination.”

4.3.3 The location of the exploratory holes is presented on the attached drawing which has been annotated to also indicate the new academy building and the currently proposed development

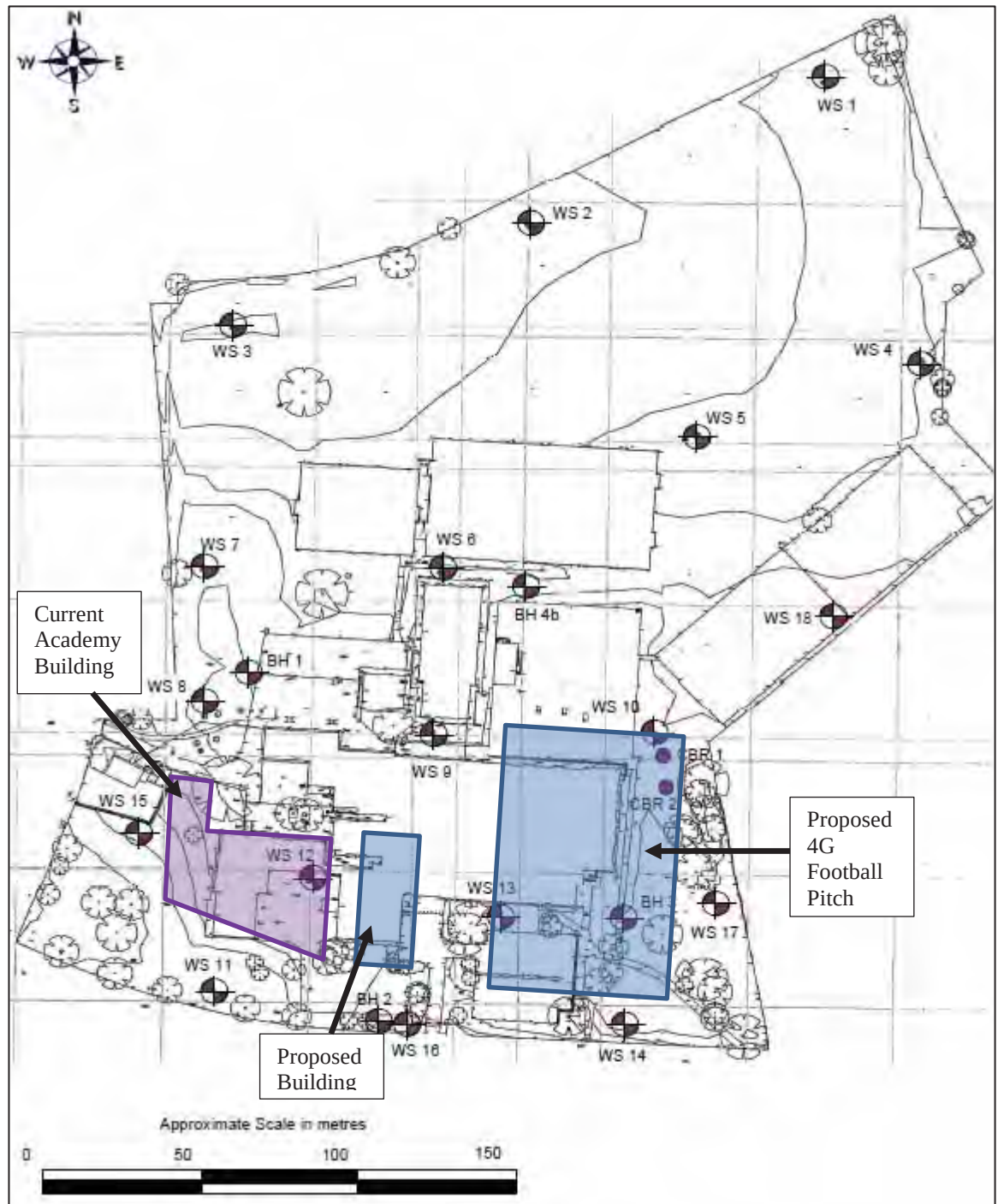


Figure 3: Location of Previous Site Investigation Holes

4.3.4 The ground conditions were:

- Made Ground: usually less than 0.60 m, but was 0.9 to 1.0 m thick in WS3, WS6 and WS7 but was 1.4 m thick in WS11 (adjacent to a sewer). The Made Ground was a “humic sandy clay with traces of gravel, ash, coal and occasionally clinker or brick fragments.” Layers of Tarmac in WS6 and WS11. WS17 had ash, slag and clinker.

- Natural soils:
 - Glacial Till soft or firm becoming stiff orange brown and grey mottled silty sandy clay. This material was found to extend to depths of between 0.7 m and 2.1 m. Laboratory analysis has identified these soils to be of low shrinkability.
 - Weathered bedrock - firm becoming stiff sandy clay was found to extend to depths of between 1.6 m and 2.3 m.
- Bedrock: Mercia Mudstone - layers of very weak to strong highly fractured mudstone and siltstone.
- Refusal with an SPT in excess of 75 generally occurred at depths of between 2.0 m and 3.0 m.
- Groundwater was found to rest at depths of between about 0.30 m and 1.00 m in the area of the proposed buildings.
- In general contamination was not encountered but elevated concentrations were encountered as follows at just two locations but these concentrations were lower than the adopted screening criteria(see Figure for locations):
 - WS9: elevated PAH and TPH thought to be from tarmac fragments;
 - WS17: elevated arsenic and nickel.
- Note that no samples were tested for the presence of asbestos as part of this investigation.
- No remediation was proposed because: *“the laying of the hard covering of the proposed car park and location of the proposed buildings will effectively break any contamination pathway.”*
- Initial gas results suggest a Gas Characteristic Situation 1 – see Section 4.3 for a more detailed assessment.
- The geotechnical; assessment by GEA is presented below but this is thought by TerraConsult to be a very conservative assessment of the bearing capacity of the soils and bedrock:

Spread foundations bearing within the stiff clay encountered at a minimum depth of 0.75 m may be designed to apply a net allowable bearing pressure in the order of 150 kN/m², increasing to around 250 kN/m² at a depth of between 2.0 m and 3.0 m where the mudstone was encountered. Given the anticipated column loadings it is, however considered that the depth and size of such pads may prove uneconomical and consideration could alternatively be given to piled foundations. Continuous flight auger piles are considered to be the most suitable with a preliminary design suggesting that a 600 mm diameter pile founding at a depth of 8 m should provide a safe working load in the order of 800 kN/m².



Figure 4: Location of Previous Site Investigation Holes

4.4 Gas Monitoring Letter Report of 23/07/08

- 4.4.1 This report is based on four rounds of monitoring carried out in January and March 2007 with air pressures ranging from 980 to 1018 mBar. Two sets of readings were taken with ambient air pressures less than 1000 mBar. Monitoring included the well in WS17 which is the closest to the off-site pond to the south east. The gas monitoring did not detect methane and only slightly elevated concentrations of methane. It was concluded that ground gas Characteristic Situation 1 conditions apply.

4.5 Additional Testing Letter Report of 10/10/08

- 4.5.1 This is a relatively short report which presented the results of additional testing carried out on 8th September 2008. This work was to increase the number of samples tested for contaminants in areas of landscaping. Four more dynamic sampling holes were carried out together with additional CBR testing. The ground conditions were similar to the main SI report and all the concentrations measured were lower than the screening criteria for residential use with gardens (plant uptake). The chemical test results are not provided and the number of samples tested is not known. Just the previously tested sample from WS17 had a concentration in excess of the screening criteria and it was recommended that this material should be either removed from site or placed below hard standing.

4.6 Remediation Strategy Letter Report of 24/10/08

- 4.6.1 This is a two page report which addresses some minor queries from the Council regarding:
- The TPH and PAH concentrations in WS9 confirming that this material could remain in its current location below hard standing;
 - Comment on the quality of topsoil confirming that the concentrations of contaminants were lower than the screening criteria for residential use with gardens (plant uptake);
 - The site profile had been designed to avoid importing or exporting soil;
 - There was no need to have chemically resistant pipework for water supply pipes; and
 - Confirmation of action to be carried out if any suspected contaminated soils were encountered during the construction works.

5. HAZARD ASSESSMENT & PRELIMINARY CONCEPTUAL SITE MODEL

5.1 Hazards Identified with the Proposed Development

- 5.1.1 The hazard identification is based on the assumptions presented below:
- the site will be a school development;
 - drinking water will be from mains supply.

5.2 Potential Sources of Contamination

- 5.2.1 For the purpose of this assessment the potential contaminants of concern have been considered according to whether they are likely to have originated from on-site or off-site sources.

Potential On-site Sources of Contamination

- Made Ground: possible metals, metalloids, asbestos, PAH and petroleum hydrocarbons – note no testing for asbestos in 2007 SI;
- Possible Mounds: possible metals, metalloids, asbestos, PAH and petroleum hydrocarbons relating to potential construction wastes;
- Former electrical sub-station: PCB's and petroleum hydrocarbons;

Potential Off-site Sources of Contamination

- Potentially infilled pond to the southeast – based on the data from the previous investigation this does not present a significant source for the proposed investigation so this is not considered further.

5.2.2 Regarding the potential sources of ground gas, the site is not within 250 m of a landfill. There is a historic pond located off site to southeast which has been developed over and poses a negligible off-site source in relation to ground gases. The previous investigation had not encountered elevated gas concentrations so there no significant source of ground gases at or around the site. The composition of the “mounds” is not known but this will be removed from around the building and from below the area of the 4G football pitch there will be no significant source of ground gas that could affect the development. It should be noted that the existing mounds are unlikely to be composed of material which could be a source of gas because this material would not have been used in in these locations when the current school was built if it had been a possible source of gas. Note that the ground gas investigation in 2007 concluded that ground gas Characteristic Situation 1 (CS1) conditions apply so no mitigation measures are required for gases.

5.2.3 There is no need to carry out any gas monitoring but because the groundwater level was high in the previous investigation. However, it is recommended that eight monitoring wells are installed as part of a Phase 2 investigation and primarily monitor them for the groundwater level. It would be prudent to monitor the ground gas conditions additionally to confirm that the gas situation is CS1 and we have allowed for monitoring these wells on three occasions over one month.

5.3 Potential Receptors of Contamination

5.3.1 Based on the data previously discussed, the following potential receptors to contamination have been identified:

Table 4: Identified Potential Receptors	
Sensitive Receptors	
A	Humans – Pre development completion, i.e. working on site during demolition and construction.
B	Humans living on the site post construction.
C	Controlled waters – Surface Waters (rivers and streams) – primarily the culverted Baguley Brook 30 m to the west of the site.
D	Perched groundwater in Made Ground and Controlled waters – (groundwater – Secondary B Aquifer).
E	Local flora and fauna during and post demolition and construction.
F	Building structure and services.

5.3.2 The possible contaminant linkages are discussed below. It should be noted not all may be formed between all sources and receptors.

5.3.3 The preliminary assessment of risks undertaken for the development considers potential risks to receptors A to F in Table 5 above. The receptors A to F incorporate each of the receptors normally required by the Local Authority to be considered in their planning conditions relating to land contamination;

- Human Health (A & B)
- Property (including buildings, crops, livestock, pets, woodland, service lines) (E & F)
- Adjoining land (D & F)
- Groundwater and surface water (C & D)
- Ecological systems (E)
- Buildings and structures (F)

5.3.4 It should be noted that there are no archaeological sites or ancient monuments considered to be within the zone of influence of the site. They are therefore not considered in the risk assessment.

5.3.5 The closest of each of the above receptor categories to the site are considered to be;

On-site

- Site users
- Buildings
- Flora and fauna
- Secondary (undifferentiated) drift aquifer
- Secondary A bedrock aquifer

Off-site

- Culverted Bagley Brook (30 m west)
- Industrial/Commercial
 - Offices (<10 m southwest)
- Residential

- Adjacent (<10m west, north and east)
- Road (~100 m south)

5.3.6 The possible contaminant linkages are discussed below. It should be noted not all may be formed between all sources and receptors.

5.4 Identification of Pathways

Pathways to Human Health

5.4.1 There are various routes by which a potential contaminant may reach a receptor. For example, in areas where contaminated material is exposed, dermal contact with the material, inhalation or ingestion of dust may occur.

5.4.2 Inhalation or ingestion of dust and water could occur during the construction and development phase at the site. Pathways from dermal contact with soil and groundwater may also arise. It is considered that the risk of short term exposure for ground workers and other construction workers is low unless there are asbestos fibres in the Made Ground.

5.4.3 Post construction, the surface of the development area will be occupied with buildings, hard standing (including MUGA pitches) with extensive landscaped areas / playing fields. This is significant in that a number of potential pathways are possible such as long term direct contact and dust inhalation/ingestion is also applicable.

Ground Gas

5.4.4 There is no viable ground gas source so there is no need to assess ground gas pathways.

Pathways to Controlled Waters

5.4.5 Groundwater levels at the site are anticipated to be low and at a depth of more than 5 m within the bedrock. Previous investigations have shown groundwater to be present at shallow depth. Lateral migration of potentially contaminated groundwater offsite (either via permeable Made Ground or the underlying aquifer) must be considered.

5.4.6 The vertical leaching of contaminants from the Made Ground into the groundwater is a potential pathway for contaminants to impact upon groundwater. The presence of thin or absent drift deposits (comprising probably weathered bedrock deposits) means it is possible that Made Ground contaminated materials are in contact with the Secondary A Aquifer (Bollin Mudstone Member). Shallow groundwater was encountered in previous intrusive investigations in shallow deposits.

5.4.7 Surface run off from contaminated areas into surface watercourses must also be considered. Due to the presence of minimal hard standing site surface especially during the construction phase, this will be uncontrolled prior to and during the groundworks phase when this must be carefully managed. Post construction surface run-off will be limited and controlled through drains or infiltration through landscaped areas. There are not any viable overland migration pathways for surface run off to reach any controlled waters receptors

Other Pathways

- 5.4.8 Other potential pathways that are possibly less significant to the site but still require consideration are; potential phytotoxic effects on sensitive landscaping plants; chemical attack on foundations and services and permeation of contaminants through domestic water pipes. The risk to buildings from ground gases has been discussed under human health above.

5.5 Contaminant Linkages

- 5.5.1 For each contamination source there are potential contaminant linkages with all receptors. However, in the context of this site, not all of the contaminant linkages are plausible. The likelihood of the various pathways linking the contaminants to the receptors is presented in Table 5 below:

Table 5: Matrix of Contaminant Linkages							
Source/ Contaminated Medium	Pathway	Receptor					
		A - Humans using the site pre-development completion	B - Humans living on the site post construction	C – Surface Water	D - Groundwater	E - Flora & fauna	F - Building & Services
Soil/Made Ground/ Mounds	Ingestion	S	P	-	-	P	-
	Dermal Contact/Direct Contact	S	P	-	-	P	P
	Inhalation	S	S	-	-	S	-
	Infrastructure/Drainage	P	P	P	P	P	P
	Groundwater	P	P	U	U	U	P
	Surface water	P	P	U	P	P	P
Groundwater	Ingestion	P	P	-	-	P	-
	Inhalation	S	P	-	-	P	-
	Dermal Contact	P	P	-	-	P	-
	Groundwater	P	P	U	P	U	P
	Surface Water	P	P	U	U	P	P
Gas (CH ₄ CO ₂)	Migration	-	-	-	-	-	-
Key to significance of contaminant linkages S = Significant Pathway P = Possible Pathway U = Unlikely Pathway - =Not Applicable Only Significant and Possible contaminant linkages are taken forwards to the next part of the risk assessment.							

5.6 Conceptual Site Model

- 5.6.1 In accordance with BS 10175, a schematic section has been developed for the site based on the previously presented data and contaminant linkage assessment:

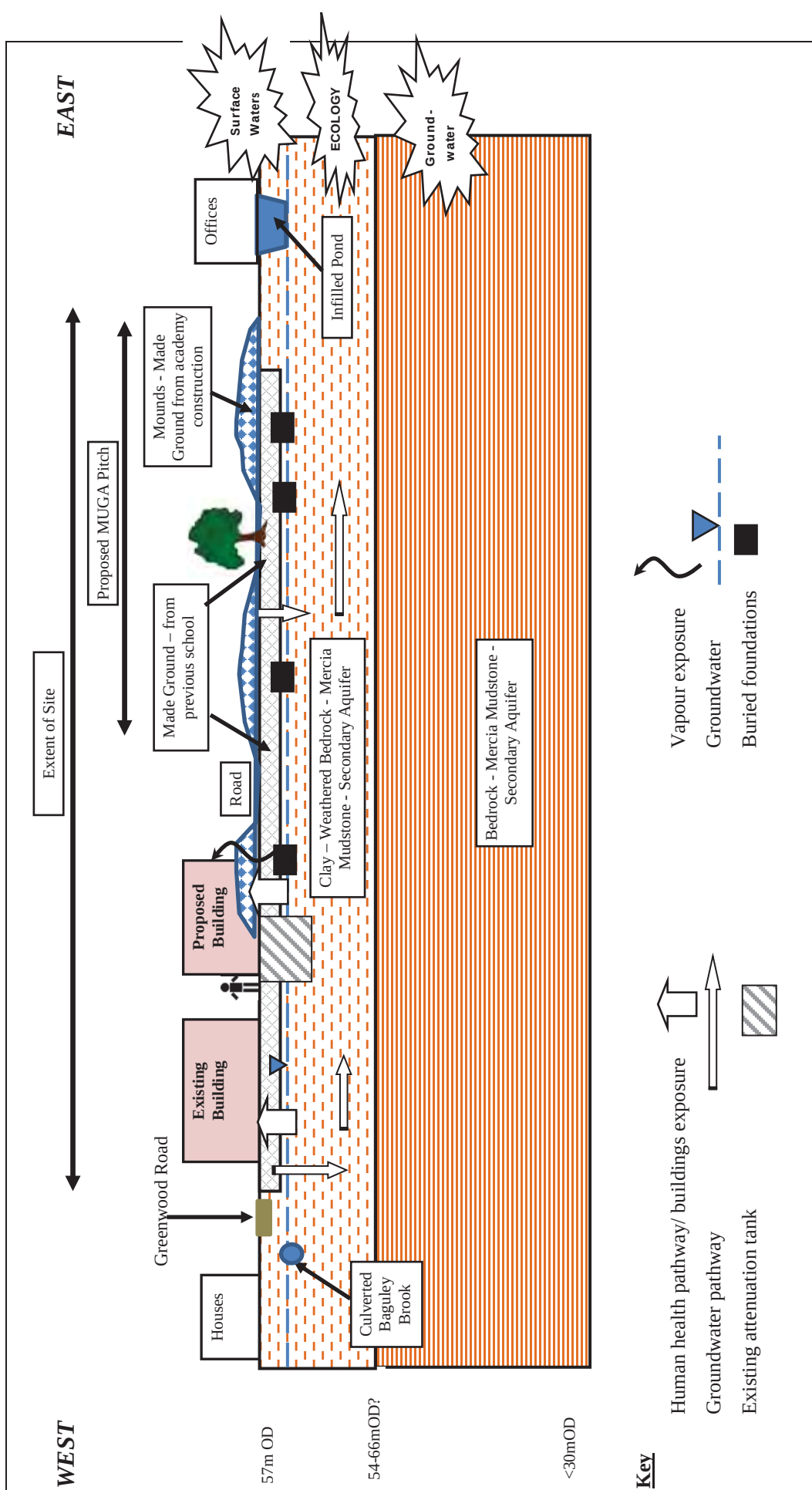


Figure 5: Preliminary Conceptual Ground Model - Schematic Section (not to scale)

- 5.6.2 The model shows the predicted geology and topography, the major on site potential contamination sources and vulnerable receptors. Levels shown are relative to Ordnance Datum and are based on published data previously presented in the report, although the drawing may not be considered to scale.
- 5.6.3 The information presented above represents the preliminary conceptual ground model that may need to be revised based on information obtained as part of any future intrusive investigation. A number of sensitive receptors and potential pathways and sources (in association with a list of likely contaminants) have been identified.
- 5.6.4 The ground model and proposed end use described above are not considered to be representative of the standard housing (with vegetable uptake) or standard industrial land-use conceptual models as defined in SR3 “Updated Technical Model to the CLEA Model” (SC050021/SR3, 2011), as the proposed development is for a school.

5.7 Preliminary Contamination Hazard Assessment

- 5.7.1 The preliminary hazard assessment is based on current available guidance published by a number of sources and is summarised in Appendix B. A preliminary conceptual site model for this site has been established using the desk study information and has been used as a basis for the preliminary hazard assessment. The significant and possible potential pathways are only considered for the hazard assessment.
- 5.7.2 The preliminary hazard assessment is a qualitative assessment of the risks posed by each viable pollution link identified. The hazard assessment leads to a recommended subsequent activity that could be:
- Action Required (AR) in the short term to break existing contaminant-pathway-receptor (CPR) link;
 - Site Investigation Required (SIR) with objectives for risk estimation, or
 - No Action Required (NAR) at this stage.
- 5.7.3 The hazard assessment is summarised in Table 6 below.

Table 6: Preliminary Hazard Assessment							
Hazard Identification				Hazard Assessment			
Link	Contaminant	Pathway	Receptor	Probability	Consequence	Risk	Hazard Assessment
1	Contaminated soil/groundwater	Ingestion (via soil dust) and inhalation (via soil dust and vapours), ingestion through dirty hands, dermal contact with soil/water.	A- Humans using the site during construction.	High Likelihood	Mild	Medium/Low	SIR - Total soil and groundwater concentration of relevant contaminants and ground gas vapours for contractors and designer's risk assessments.
2		Ingestion (via soil dust) and inhalation (via soil dust and vapours), ingestion through dirty hands, dermal contact with soil/water.	B- Humans using the site after development completion.	Medium/Reasonably Foreseeable	Medium	Medium	SIR- Total soil and groundwater concentration of relevant contaminants for contractor's risk assessments.
3		Via service pipes	B- Humans using the site after construction. F- Building structures	Low/Unlikely	Medium	Medium/Low	SIR - Total soil and groundwater concentration of relevant contaminants and ground gas vapours and designer's risk assessments.
4		Downward migration	D- Perched groundwater	Medium/Reasonably Foreseeable	Mild	Medium/Low	SIR- Total soil and groundwater concentration of relevant contaminants for contractor's risk assessments.
5		Downward migration	D - Secondary aquifer/water supply	Low/Unlikely	Mild	Low	NAR – However, analysis will be undertake of other pathways
6	Contaminated soil / groundwater	Ingestion, inhalation, dermal/direct contact	E- Ecology (Flora/Fauna)	Medium/Reasonably Foreseeable	Mild	Low	NAR – However, assessment is prudent in relation to potential re-use of soils in areas of landscaping / playing fields.
7	Contaminated groundwater	Secondary Aquifer/ Surface water	E- Ecology (Flora/Fauna)	Low/Unlikely	Medium	Medium/Low	SIR - Total soil and groundwater concentration of relevant contaminants for designer's risk assessments.
8	Contaminated soil/groundwater	Direct contact.	F- Building structures.	Medium/Reasonably Foreseeable	Medium	Medium	SIR - Total soil and groundwater concentration of relevant contaminants for designer's risk assessments.

5.7.4 From Table 6 a range of risk ranking from low to medium was established. Potentially moderate and high risks require quantification and consideration prior to development. The site investigation objectives described above should represent part of a detailed main stage investigation that should include overall characterisation of the ground in association with obtaining and analysing the information described above.

5.8 Geotechnical Hazards Associated with the Development

- 5.8.1 In addition to the environmental hazards, there are also geotechnical hazards associated with the stability of the ground (including load bearing capacity, slope stability and effects of ground (mining) cavities). Local Authorities follow NPPF (2012) which requires that “site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining.” A summary of the geotechnical considerations is provided below:

Table 7: Summary of Geotechnical Hazards	
Geohazards:	
Highly Compressible Ground	Yes – Made Ground present in “mounds” which could be up to 2.5 m thick.
Collapsible Soils	No
Swelling Clay	Yes – Anticipate low volume change potential clay present.
Running Sand	No
Ground Dissolution	No
Landslip	No
Mining & Quarrying	There is no evidence of mining or mineral extraction or quarrying at the site.
Geotechnical Design Considerations	
Site Clearance	Currently area of site being developed is landscaping. Topsoil strip required with limited number of semi-mature trees to be removed.
Trees	Trees present on site. Check whether there are any Tree Preservation Orders. Foundation design to take into account trees.
Existing Buildings / Obstructions	Foundations of former school buildings could be present in area of new building and new MUGA pitch. Therefore below ground obstructions should be expected. There is an existing stormwater attenuation tank below the southern part of the proposed new building which will be relocate to under the new MUGA pitch.
Foundations	We have assessed the previous site investigation and consider that their proposed bearing capacity of 250 kPa on the bedrock to be highly conservative. We believe that for the proposed maximum column load of 1,450 kN, it should be possible for this to be safely and economically be founded on spread footings less than 1.75 m square on the bedrock. Therefore piles should not be required. However one rotary hole is recommended to confirm bedrock conditions in the vicinity of the building.
Floor Slabs	Ground bearing floor slabs envisaged.
Groundwater	Groundwater anticipated to be at shallow depth of 0.5 to 1.0 m depth below the level of the base of the mounds.
Earthworks	Bulk earthworks will be required to excavate and remove the mounds of material in the eastern half of the proposed building and in the MUGA pitch. It is possible that more than 15,000 m ³ of soils may have to be removed from the site.
Slopes	Slope stability considered to be a significant issue as part of this development.
Retaining Walls	One retaining wall anticipated around the northeast corner of the building. This will have a retained height of about 1.5 m. It is currently proposed that this will be a gabion wall.
Chemically aggressive ground conditions	Possibility for low pH and high sulphate concentrations which could be detrimental to below ground concrete.

6. CONCLUSION

6.1 Environmental Risk Assessment

- 6.1.1 A preliminary risk assessment has been carried out based on the contaminant-pathway-receptor model as defined in Statutory Guidance to Part IIA of the Environment Protection Act, 1990, and in accordance with BS 10175: 2011 +A1 2013 “Investigation of Potentially Contaminated Sites – Code of Practice”. There has been a previous site investigation carried out at the site in 2007 and 2008 for the site when it was redeveloped into the current academy. The findings of this investigation indicated that there was generally a thin layer of Made Ground at the site and the concentration of contaminants was generally low with no remediation required to be carried out. One omission as part of this previous investigation was the absence of any testing for asbestos.
- 6.1.2 As part of the development for the academy it appears that a relatively large quantity of excavation arisings were retained on the site in the form of mounds of soils.
- 6.1.3 In order to make a more detailed assessment of the potential hazards, a Phase 2 intrusive investigation was carried out to develop a more comprehensive conceptual ground model of the site. This detailed the characteristic ground conditions and elements of the surrounding environment and has assisted with identifying the potential contaminants of contamination, the potential receptors of the contamination and the potential pathways between them.
- 6.1.4 The results of the risk assessments indicate that there is a possibility of a significant source of contaminants present at the site due to the presence of Made Ground, mounds of possible construction waste and the use of the site as a school. Based on the previous investigation this is thought to be unlikely but testing should be carried out to confirm as anticipated that there are no potential risks to receptors including humans, controlled waters and ecological receptors. No specific precautions are expected to be required with respect to radon and hydrocarbons for the development. Although risks from ground gases are not expected to be present, it is considered prudent that a minimal amount of monitoring is undertaken to confirm this is the situation. Chemical testing is also required to confirm the waste classification of the mound materials on site because a significant quantity will be disposed of off site.
- 6.1.5 Notwithstanding the above, it is possible that unexpected visual or olfactory ground contamination could be encountered in groundworks. The Local Authority Environmental Health Officer should be advised if any unsuspected contamination be encountered and it is recommended that a suitably qualified environmental consultant is engaged to assist with assessment of the affected ground. Suspected contaminated ground should be sampled and tested appropriately in accordance assessed risks. Suspected contaminated ground should be stockpiled if necessary and subsequently disposed or re-used on site as required and as agreed with the Council. Such areas should be marked on a plan and testing results incorporated into a verification report. The material should only be re-used in areas where compliance of the remediation targets is achieved.

6.2 Geotechnical Design

- 6.2.1 The geotechnical hazards associated coal mining and quarrying at the site are negligible and no special precautions are required to be made in relation to the proposed development.
- 6.2.2 The mounds of material which appear to have been placed over the eastern area of the new building and across the area of the MUGA pitch will have to be removed in order to construct these structures. There could be more than 15,000 m³ of soils may have to be removed from the site.
- 6.2.3 There are likely to be foundations present from former school buildings below the proposed new building and below the MUGA pitch.
- 6.2.4 We have assessed the previous site investigation report and consider that their proposed bearing capacity of 250 kPa on the bedrock to be highly conservative. We believe that for the proposed maximum column load of 1,450 kN, it should be possible for this to be safely and economically be founded on spread footings less than 1.75 m square on the bedrock. Therefore piles should not be required. However one rotary hole is recommended to confirm bedrock conditions in the vicinity of the building.
- 6.2.5 Groundwater anticipated to be at a relatively shallow depth of 0.5 to 1.0 m below the level of the base of the mounds.
- 6.2.6 One retaining wall anticipated around the northeast corner of the building. This will have a retained height of about 1.5 m. It is currently proposed that this will be a gabion wall. No special considerations are anticipated to be required for this retaining structure.
- 6.2.7 The pH and sulphate content of the soils requires checking with respect to its potential attack of concrete and take appropriate action in terms of specifying a suitable mix in line with Building Research Establishment Special Digest 1 Concrete in Aggressive Ground (2005).

6.3 Recommendations for Phase 2 Site Investigation

- 6.3.1 In order to make a quantitative assessment of the potential risks and so any required remedial measures can be designed; we recommend that a main combined geo-environmental and geotechnical investigation is carried out in accordance with BS 10175: 2011+A1:2013 and BS 5930:2015. The main objectives of the investigation as set out by Kier are:
 - 1. To obtain sufficient information regarding the existing building foundations, subsoil and groundwater regime to enable adequate and economic designs to be prepared for the foundations and ground floor construction to the building extensions, sub-base solutions for the any local remedial works to external hard landscaped areas, and for below-ground drainage.
 - 2. To recommend appropriate (and economic) foundation solutions for the proposed building extensions.

3. To establish former site uses and any significant geo-environmental features or risks; such as the potential for migration of ground borne pollutants from historic industrial or coal mining activities.
4. To determine the impact assessment and potential influence of any trees located nearby on the ground conditions and proposed form of construction due to ground water uptake and root action etc. Site survey works shall however be co-ordinated to ensure minimal damage to the existing tree roots.
5. To determine the feasibility of the use of ground-bearing construction for the new areas of internal ground floor slab, and to provide detailed recommendations for ground preparation and sub-base for same.
6. To determine the aggressiveness of the chemical environment with regard to buried concrete and to define the ACEC classification.
7. To identify the presence and nature of potentially harmful gases and to define any specific gas protection measures that may be required for the new buildings.
8. To assess the suitability of excavated material for re-use as backfill.
9. To determine the contamination status, including asbestos screen and identification, of surplus excavated material for disposal.
10. To identify the presence and extent of contaminated material above acceptable limits for the intended site use, including general landscaping, school playing fields and for growing medium with potential plant uptake.
11. To input into a future site waste management plan for the proposed project, if required.
12. To identify the presence of any material that may be harmful to construction workers and future users of the site.
13. To support a full Planning Application for the proposed development and to satisfy council requirements relating to site contamination.
14. To assess the ground conditions in the northern playing fields even though there is currently no anticipated new development in this area.

6.3.2 The proposed scope of the intrusive investigation comprises:

- 6 No window sample boreholes to a depth of 2.5 to 3.5 m or to rockhead if shallower within the footprint of the proposed building.
- 9 No window sample boreholes to a depth of 1.5 to 2.5 m all to prove the thickness on Made Ground across the rest of the site.
- Each hole to have with SPT tests.
- 8 No groundwater (and gas) monitoring wells;
- 12 No hand dug inspection pits to a maximum depth of 1.20 m to determine the thickness of the Made Ground and carry out DCP CBR testing;
- Obtain samples for chemical and geotechnical testing;
- Three rounds of groundwater and gas monitoring.

- Chemical and geotechnical laboratory analysis of soil samples.
- Geoenvironmental assessment of the site with generic qualitative risk assessments.
- Up to 15,000 m³ of excess soil to be sent off site for disposal so a waste assessment to be carried out to assess the Made Ground and classify them in accordance with Landfill Waste Acceptance Criteria.
- Geotechnical assessment of the ground conditions.

6.3.3 Of the above exploratory holes, four of the hand dug pits and six of the shallower window samples holes are in the north of the site. These have no specific objectives with relation to the currently proposed development. Their purpose is to provide general coverage of the northern area of playing fields so there is site investigation data available for the area when future developments of the site are planned.

6.3.4 There is a negligible risk from ground gases for the development so there is no need to carry out any gas monitoring but because the groundwater level was high in the previous investigation the eight monitoring wells are required primarily to monitor them for the groundwater level. The ground gas conditions will also be measured to confirm the gas conditions at the time of the water monitoring. The wells will be monitored on three occasions over one month.

6.3.5 The proposed hole locations are set out in Figure 6 and the purpose of the holes indicated on the following table:

Table 8: Purpose of Exploratory Holes		
Exploratory Hole Type	Exploratory Hole No	Target Area
Rotary Cored	RC100	Hole to a depth of 12 m to allow bedrock conditions to be determined below centre of new building.
Dynamic Percussive (Window sampler) Boreholes. (WS)	WS101 to WS105	To assess shallow ground conditions and depth to bedrock including allow SPT's to be undertaken. To allow collection of samples for contamination and geotechnical testing. Two of these holes to be located in mound. Two holes installed with monitoring wells.
	WS106	Hole in northeast corner of building adjacent to proposed retaining wall and to investigated mound materials. Monitoring well installed
	WS107 to WS109	Holes investigated in area of new MUGA pitch to enable sampling of mounded soils. WS 107 in area of proposed attenuation tank. WS107 and WS109 to have monitoring wells.
	WS110 to WS115	Investigation in area of possible future construction works. Three holes to have monitoring wells.
Hand Dug Trial Pits. (TP)	TP116	To allow collection of sample of mound material for contamination testing.
	TP117 & TP118	Holes investigated in area of new MUGA pitch to enable sampling of mounded soils. Pits to include TRL/DCP tests.
	TP119 & TP120	Pits in area of westerly car park extension. Pits to include TRL/DCP tests.
	TP121	To allow collection of sample of mound material for contamination testing.
	TP122 & TP123	Pits in area of northerly car park extension. Pits to include TRL/DCP tests.
	TP124 to TP127	Investigation in area of possible future construction works. Pits to include TRL/DCP probes
Note: Exploratory locations to be checked to ensure they avoid underground services.		

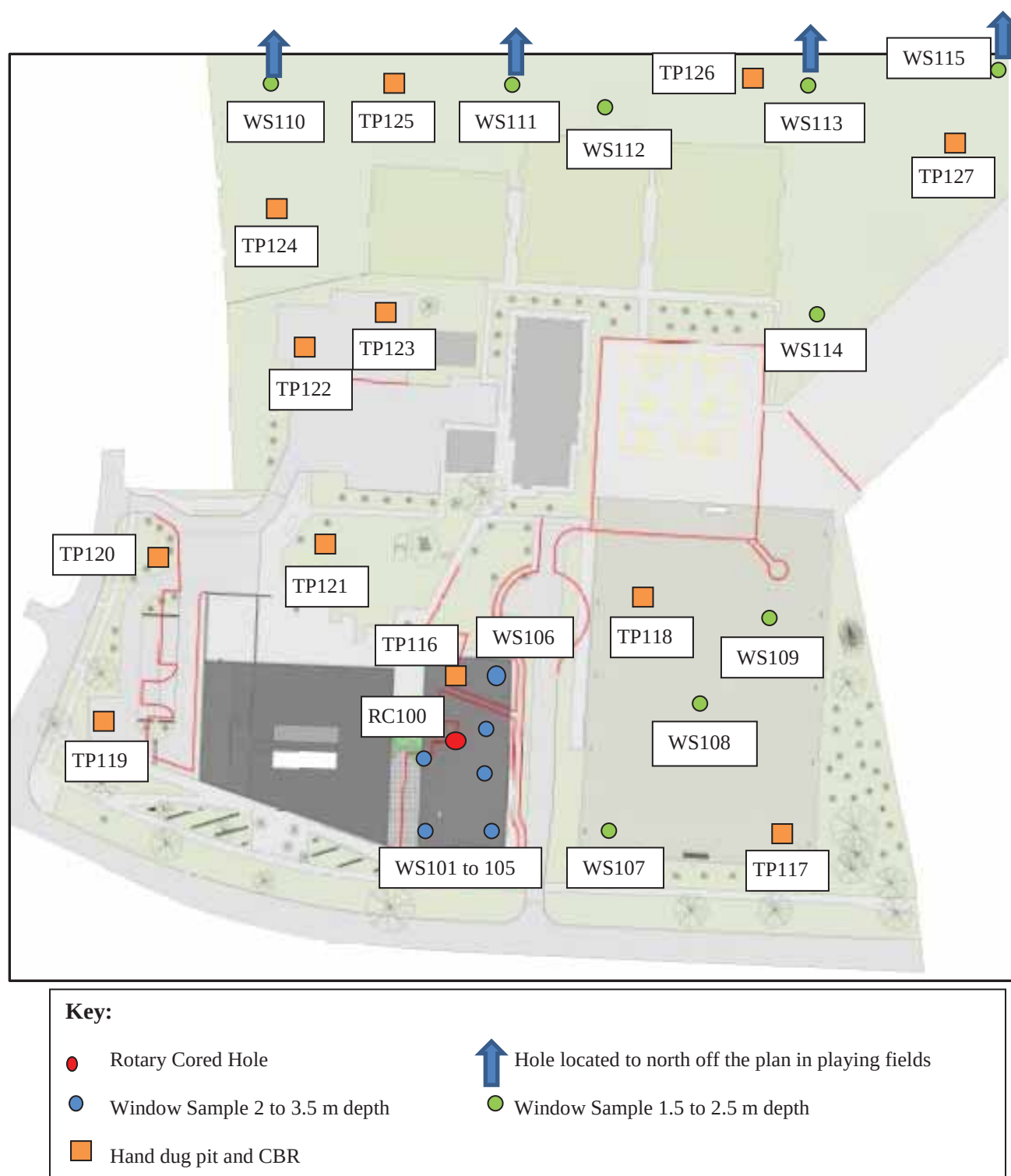


Figure 6: Location of Proposed Exploratory Holes

6.3.6 Proposed quantities and suites of chemical testing are indicated in the following table:

Table 9: Proposed Chemical Test Suites				
Determinand	Soil Suite 1	Soil Suite 2	Landfill WAC Suite	Water Suite
Anticipated Number of Samples	14	6	5	3
Index Tests				
Asbestos Screen	10screens in total One Positive Full Quantification		-	-
pH	✓	✓	✓ (L)	✓
Electrical Conductivity	-	-	✓ (L)	✓
Dissolved Solids	-	-	✓ (L)	-
Alkalinity	-	-	-	✓
Hardness	-	-	-	✓
Metals				
As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn	✓	✓	✓ (L)	✓
Ba, Mo, Sb	-	-	✓ (L)	-
Inorganics				
Ammonium	-	✓	-	✓
Cyanide - Total	✓	✓	-	✓
Chloride (2:1 extract on soil samples)	✓	✓	✓ (L)	✓
Fluoride (2:1 extract on soil samples)	-	✓	✓ (L)	✓
Nitrate (2:1 extract on soil samples)	-	✓	✓ (L)	✓
Sulphate (2:1 extract on soil samples)	✓	✓	✓ (L)	✓
Organics				
Phenols - Total (monohydric)	✓	✓	✓ (L)	✓
Total Organic Carbon (TOC)	-	✓	DOC & TOC	-
PAH (Speciated USEPA 16)	✓	✓	✓ (S)	✓
TPH (C ₈ to C ₃₆) TPH CWG (RBCA) Speciation	-	✓	-	✓
Mineral Oil (C ₁₀ to C ₄₀)	-	✓	✓ (S)	
Benzene, Toluene, Ethyl Benzene, Xylenes (BTEX);	-	✓	✓ (S)	✓
Poly Chlorinated Biphenyls (PCBs)	-	-	✓ (S)	-
NOTE ✓ = Test required on all samples ***= Test required on selected samples only - allowed for 5 No in total 2. All soil samples to be tested and reported in accordance with EA MCERTS for Soils Scheme 3. WAC Leachate preparation and reporting in accordance with ISO/EN/BS12457:Part 3 with results reported in terms of both mg/kg and mg/l for a 10:1 leachate extract. 4. (S) test carried out on soil sample, (L) test on leachate prepared from soil sample in accordance with Landfill WAC Criteria 5. It should be noted that the suites and quantities of chemical laboratory testing proposed have based on our current assessment of the site risks in order to provide an assessment of the risk. If the Phase 1 or 2 investigations encounter different conditions then the type and quantity of testing may require revision. If it is proposed that soils are to be sent off site for disposal at a landfill site then additional testing is likely to be required in order to meet the Environment Agency's requisite testing requirements for waste disposal.				

6.4 Health and Safety

6.4.1 As outlined within the HSE publication "Successful Health and Safety Management – HSG65" this report should inform your development of safe systems of work and information as an input into the safety management system. The contents of this report may be used to supplement the contents of the Health and Safety File as required under the Construction Design and Management (CDM) Regulations 2015.

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DRAWINGS

Drawings from Ryder Landscape Consultants:

16008-RYD-00-XX-GA-L-20000 (3) General Arrangement
16008-RYD-00-XX-GA-L-20004 Existing & Proposed Overlay



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- All coordinates are set to dimensional points to enable easy cross referencing on site
- All vertical points are to be verified on site and any discrepancies should be clarified by the Landscape Architect
- Hatching is not a technical representation of surface patterns, contractors are to follow the line of direction specified on drawings .
- Where no line of direction is given contractor to contact Landscape Architect before laying.
- All details should be checked on site and conflicts reported to the design office.

KEY

- [illegible]

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Title
General Arrangement

Scale @ A1	Drawn By	Checked By	Date
1 : 500	SO	GO	05/09/16
Drawing Number			Rev.
16008-RYD-00-XX-GA-L-20000			P0.2



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- Where no line of direction is given contractor to contact Landscape Architect before laying.
- All levels should be checked on site and conflicts reported to the design office.

...if in doubt ask

Proposed Surfacing Areas

Hard Landscape = 205,687 m² (includes proposed extension area of 1,472,581 m²)
Soft Landscape = 17,258.32
Existing buildings on site including existing parking = 14,592.22 m²

Existing Surfacing Areas

Hard Landscape = 83,887.71 m²
Soft Landscape = 61,244.51 m²
Existing buildings on site including existing parking = 15,582.22 m²

Variance between existing and proposed = 4088.88 m²

Rev	Revision description	Drawn	Checked	Date

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Client
Willmott Dixon

Project
Manchester Enterprise Academy

Title
Existing & Proposed Overlay

Scale @ A1 1 : 500	Drawn By SO	Checked By GO	Date 05/19/16
Drawing Number 16008-RYD-00-XX-GA-L-20004	Rev. P0.1		

APPENDICES

List of Appendices

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Appendix B	Environmental Risk Assessment Methodology and Terminology
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Appendix D	GroundSure EnviroInsite Report

APPENDIX A

Service Constraints, Report Limitations & Planning

Service Constraints, Report Limitations & Planning Requirements

This consultancy contract, report and the site investigation (together comprise the "Services") were compiled and carried out by TerraConsult Limited (TCL) for Willmott Dixon Construction Ltd (the "client") and the project consultants Kier Business Services Ltd on the basis of a defined programme and scope of works and the terms of a contract between TCL and the "client." The Services were performed by TCL with all reasonable skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by TCL taking into account the limits of the scope of works required by the client, the prevailing site conditions, the time scale involved and the resources, including financial and manpower resources, agreed between TCL and the client. TerraConsult Ltd cannot accept responsibility to any parties whatsoever, following the issue of this report, for any matters arising which may be considered outwith the agreed scope of works.

Other than that expressly contained in the above paragraph, TCL provides no other representation or warranty whether express or implied, is made in relation to the Services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of TCL. If a third party relies on this report, it does so wholly at its own and sole risk and TCL disclaims any liability to such parties.

It is TCL's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without TCL 's review and advice shall be at the client's sole and own risk.

The information contained in this report is protected by disclosure under Part 3 of the Environmental Information Regulations 2004 pursuant to the provisions of Regulation 12(5) without the consent in writing of a Director of TerraConsult Limited.

The report was written in June 2016 and should be read in light of any subsequent changes in legislation, statutory requirements and industry practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of TCL. In the absence of such written advice of TCL, reliance on the report in the future shall be at the client's own and sole risk. Should TCL be requested to review the report in the future, TCL shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between TCL and the client.

The observations and conclusions described in this report are based solely upon the Services that were provided pursuant to the agreement between the client and TCL. TCL has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report. TCL is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, TCL did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, radon gas or other radioactive or hazardous materials.

The Services are based upon TCL's observations of existing physical conditions at the site gained from a walkover survey of the site together with TCL's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst TerraConsult Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report. Further TCL was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. TCL is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to TCL and including the doing of any independent investigation of the information provided to TCL save as otherwise provided in the terms of the contract between the client and TCL.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and TCL] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.

Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements) and the term 'geoenvironmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. The geoenvironmental sections are written in broad agreement with BS 10175:2011+A1 2013. For the geotechnical aspects of the report, the general requirements of Eurocode 7 (BS EN 1997-2:2007) are to produce a Ground Investigation Report (GIR) which shall form part of the Geotechnical Design Report (GDR). The geotechnical section of this report is intended to fulfil the general requirements of the GIR as outlined in BS EN 1997-2, Section 6. The GIR contains the factual information including geological features and relevant data, and a geotechnical evaluation of the information stating the assumptions made in the interpretation of the test results. This report shall not be considered as being a GDR.

Planning Requirements

The National Planning Policy Framework (NPPF, 2012) has twelve core land-use planning principles, two of which directly relate to the potential for pollution and contaminated land:

- Requirement to “*contribute to conserving and enhancing the natural environment and reducing pollution*” and setting out of a preference for developments to be on land of “*lesser environmental value*”; and
- “*encourage the effective use of land by re-using land that has been previously developed (brownfield land), providing that it is not of high environmental value.*”.

In accordance with the core principles of NPPF, Paragraph 109 clarifies that enhancing the natural environment includes:

- “*preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*”.

Paragraph 121 of NPPF states that planning policies and decisions for developments should also ensure that:

- “*the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or 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.*”.

This report has been prepared and authorised by staff that are competent as defined in the NPPF.

Unexploded Ordnance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA Report C681 (Stone et al 2009). A non-UXO specialist screening exercise has been carried out for the site by considering any evidence of UK defence activities on or near the site evident from the gathered desk study information and the unexploded aerial delivered bomb (UXB) regional risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experience in the desk study, field investigation and clearance of UXO/UXB.

APPENDIX B

Environmental Risk Assessment Methodology & Terminology

ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY & TERMINOLOGY

LEGISLATION OVERVIEW

This report includes hazard identification and environmental risk assessment in line with the risk-based methods referred to in relevant UK legislation and guidance. Government environmental policy is based upon a “suitable for use approach,” which is relevant to both the current use of land and also to any proposed future use. The contaminated land regime is the statutory regime for remediation of contaminated land that causes an unacceptable level of risk and is set out in Part 2A of the Environmental Protection Act 1990 (“EPA 1990”). The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment given the current use and circumstances of the land. Part IIA provides a statutory definition of contaminated land under Section 78A(2) 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 a significant possibility of such harm being caused;*
- or*
- (b) Pollution of controlled waters is being, or is likely to be, caused.”*

In order to assist in establishing if there is a “significant possibility of significant harm” there must be a “contaminant linkage” for potential harm to exist. That means there must be a source(s) of contamination, sensitive receptors present and a connection or pathway between the two. This combination of contaminant-pathway-receptor is termed a “contaminant linkage or CPR linkage.”

Part IIA of The Environmental Protection Act 1990 is supported by a substantial quantity of guidance and other Regulations. Key implementing legislation of the Part 2A regime includes the Contaminated Land (England) Regulations 2006 (SI 2006/1380) as amended by the overarching legislation for the contaminated land regime, which implements the provisions of Part IIA of the Environmental Protection Act 1990 (as inserted by section 57 of the Environment Act 1995), came into force on 14th July 2000 together with recent amended regulations: Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263). Revised Contaminated Land Statutory Guidance was published by DEFRA in April 2012. Part IIA defines the duties of Local Authorities in dealing with it. Part IIA places contaminated land responsibility as a part of planning and redevelopment process rather than Local Authority direct action except in situations of very high pollution risk.

In the planning process guidance is provided by National Planning Policy Framework (NPPF) of March 2012 which requires that a site which has been developed shall not be capable of being determined “contaminated land” under Part IIA. In practice, Planning Authorities require sites being developed to have a lower level of risk post development than the higher level of risk that is required in order to determine a site as being contaminated in accordance with Part IIA. This is to ensure that there is a suitable zone of safety below the level for Part IIA determination and prevent recently developed sites becoming reclassified as contaminated land if there are future legislative or technical changes (e.g. a substance is subsequently found to be more toxic than previously assessed this increases its hazard).

The criteria for assessing concentrations of contaminants and hence determining whether a site represents a hazard are based on a range of techniques, models and guidance. Within this context it is relevant to note that Government objectives are:

- (a) to identify and remove unacceptable risks to human health and the environment;
- (b) to seek to bring damaged land back into beneficial use;
- (c) to seek to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

These three objectives underlie the “suitable for use” approach to risk management and remediation of contaminated land. The “suitable for use” approach focuses on the risks caused by land contamination. The approach recognises that

the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Risks therefore should be assessed on a site-by-site basis.

The "suitable for use" approach then consists of three elements:

- (a) *ensuring that land is suitable for its current use* - in other words, identifying any land where contamination is causing unacceptable risks to human health and the environment, assessed on the basis of the current use and circumstances of the land, and returning such land to a condition where such risks no longer arise ("remediating" the land); the contaminated land regime provides the regulatory mechanisms to achieve this;
- (b) *ensuring that land is made suitable for any new use, as planning permission is given for that new use* - in other words, assessing the potential risks from contamination, on the basis of the proposed future use and circumstances, before official permission is given for the development and, where necessary to avoid unacceptable risks to human health and the environment, remediating the land before the new use commences; this is the role of the town and country planning and building control regimes; and
- (c) *limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to the current use or future use of the land for which planning permission is being sought* - in other words, recognising that the risks from contaminated land can be satisfactory assessed only in the context of specific uses of the land (whether current or proposed), and that any attempt to guess what might be needed at some time in the future for other uses is likely to result either in premature work (thereby running the risk of distorting social, economic and environmental priorities) or in unnecessary work (thereby wasting resources).

The mere presence of contaminants does not therefore necessarily warrant action, and consideration must be given to the scale of risk involved for the use that the site has, and will have in the future.

OVERALL METHODOLOGY

The work presented in this report has been carried out in general accordance with recognised best practice as detailed in guidance documents such as in the CLR 11 Model Procedures for the Management of Land Contamination (Environment Agency, 2004), and BS10175:2011+A1 2013. Important aspects of the risk assessment process are transparency and justification. The particular rationale behind the risk assessments presented is given in this appendix.

The first stage of a two-staged investigation and assessment of a site is the Preliminary Investigation (BS 10175:2011), often referred to as the Phase 1 Study, comprising desk study and walk-over survey, which culminates in the Preliminary Risk Assessment. A preliminary conceptual site model (CSM) is developed which identifies potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. From the geo-environmental perspective, the Hazard Identification process uses professional judgement to evaluate all the hazards in terms of potential contaminant linkages (of contaminant source-pathway-receptor). Potential contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The scope of the Ground Investigation is based on the findings of the Preliminary Risk Assessment and is designed to reduce uncertainty in the geotechnical and geo-environmental hazard identification. The Ground Investigation comprises fieldwork, laboratory testing and usually also on-site monitoring. The Ground Investigation may include the Exploratory, Main and Supplementary Investigations described in BS 10175:2011+A1 2013. The results of the Ground Investigation reduces uncertainty in the geotechnical and geo-environmental risks. Depending on the findings more detailed investigations or assessments may be required.

PRELIMINARY RISK ASSESSMENT

Current practice recommends that the determination of potential liabilities that could arise from land contamination be carried out using the process of risk assessment, whereby “risk” is defined as:

- “(a) The probability, or frequency, or occurrence of a defined hazard; and*
- (b) The magnitude (including the seriousness) of the consequences.”*

The UK’s approach to the assessment of environmental risk is set out in by the Department of the Environment Transport and the Regions (2000) publication “A Guide to Risk Assessment and Risk Management for Environmental Protection” (also called Greenleaves II). This established an iterative, systematic staged process which comprises:

- (a) Hazard identification;
- (b) Hazard assessment;
- (c) Risk estimation;
- (d) Risk evaluation;
- (e) Risk assessment;

At each stage during the development process, the above steps are repeated as more detailed information becomes available for the site.

For an environmental risk to be present, all three of the following elements must be present:

- Source/Contaminant: hazardous substance that has the potential to cause adverse impacts;
- Receptor: target that may be affected by contamination: examples include human occupants/users of site, water resources (rivers or groundwater), or structures;
- Pathway: a viable route whereby a hazardous substance may come into contact with the receptor.

The absence of one or more of each component (contaminant, pathway, receptor) would prevent a contaminant linkage being established and there would be no significant environmental risk.

The identification of potential contaminant linkages is based on a Conceptual Model of the site, which is subject to continual refinement as additional data becomes available. As part of a Preliminary Risk Assessment (Desk Study and site walk over) a Preliminary Conceptual Site Model (PCSM) is formed. Based on the PCSM, potential contaminant linkages can be assessed. If the PCSM and hazard assessment indicate that a contaminant linkage is not of significance then no further assessment or action is required for this linkage. For each significant and potential linkage a risk assessment is carried out. The linkages which potentially pose significant risks may require a variety of responses ranging from immediate remedial action or risk management or, more commonly, further investigation and risk assessment. This next stage is termed a Phase II Main Site Investigation and should provide additional data to allow refinement of the Conceptual Site Model and assess the level of risk from each contaminant linkage.

Definition of Risk Assessment Terminology

The criteria used for risk assessment are broadly based on those presented in DETR’s “A Guide to Risk Assessment and Risk Management for Environmental Protection” (2000). The Severity of the risk is classified according to the criteria in Table B.1 below:

Table B.1 Severity/Consequence of Risk	
Severe	Acute risks to human health. Catastrophic damage to buildings/property (e.g. by explosion). Direct pollution of sensitive water receptors or serious pollution of other controlled water (watercourses or groundwater) bodies.
Medium	Harm to human health from long-term exposure. Slight pollution of sensitive controlled waters (surface waters or aquifers) or pollution of other water bodies. Significant effects on sensitive ecosystems or species.
Mild	No significant harm to human health in either short or long term. No pollution of sensitive controlled waters, no more than slight pollution of non-sensitive waters. Significant damage to buildings or structures. Requirement for protective equipment during site works to mitigate health effects.
Negligible	Damage to non-sensitive ecosystems or species. Minor damage to buildings or structures. No harm or pollution of water.

The probability of the risk occurring is classified according to criteria given in Table B.2 below:

Table B.2: Probability of Risk Occurring	
High likelihood	Contaminant linkage may be present, and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor.
Medium/Reasonably Foreseeable	Contaminant linkage may be present, and it is probable that the risk will occur over the long term.
Low/Unlikely	Contaminant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Negligible/Not credible	Contaminant linkage may be present but the circumstances under which harm would occur are improbable.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability, as shown in Table B.3 below:

Table B.3: Comparison of Severity and Probability					
		Severity			
		Severe	Medium	Mild	Negligible
Probability	High likelihood	Very High Risk	High Risk	Medium/Low Risk	Low Risk
	Medium/Reasonably Foreseeable	High Risk	Medium Risk	Low Risk	Near Zero
	Low/Unlikely	High/Medium Risk	Medium/Low Risk	Low Risk	Near Zero
	Negligible/Not credible	Medium/Low Risk	Low Risk	Low Risk	Near Zero

The various risk rankings provide guidance for recommended actions, whether this is:

- AR - Action Required, Remediation or mitigation or site investigation works required
- SIR - Site Investigation Required, further assessment is required.
- NAR - No Action Required.

A description of the evaluated risk is as follows:

Table B.4 – Description of the Classified Risks and Likely Action Required	
Evaluated Risk	Recommended Actions
Very High Risk	AR: There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High Risk	AR: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate Risk	SI: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	NAR: It is possible that harm could arise to a designated receptor from an identified hazard, but there is a low likelihood of this hazard occurring and if realised, harm would at worst normally be mild.
Near Zero	NAR: There is a negligible possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

MANAGEMENT OF CONTAMINATED LAND

When risk assessment of the site has been completed and this indicates that remedial works are required, the main guidance in managing this process is set out in the DEFRA/EA publication CLR11 (2004) “Model Procedures for the Management of Land Contamination.” The stages of managing remediation are as follows:

- (a) Options Appraisal and develop Remediation Strategy;
- (b) Develop Implementation Plan and Verification Plan;
- (c) Remediation, Verification and Monitoring.

The Remediation Strategy sets out the remediation targets, identifies technically feasible remedial solutions and presents an evaluation of the options so that these can be assessed enabling that the most suitable solution is adopted. An outline of the proposed remedial method should be presented. Agreement should be sought of the appropriate statutory bodies for the Remediation Strategy before proceeding to the next stage.

The Implementation Plan is a detailed method statement setting out how the remediation is to be carried out including stating how the site will be managed, welfare procedures, health and safety considerations together with practical measures such as details of temporary works, programme of works, waste management licences and regulatory consents required. Agreement should again be sought of the appropriate statutory bodies for this Plan.

The Verification Plan sets out the requirements for gathering data to demonstrate that the remediation has met the required remediation objectives and criteria. The Verification Plan presents the requirements for a wide range of issues including the level of supervision, sampling and testing regimes for treated materials, waste and imported materials, required monitoring works during and post remediation, how compliance with all licenses and consents will be checked etc. Agreement should again be sought of the appropriate statutory bodies for the Verification Plan. On completion of the remediation a Verification Report should be produced to provide a complete record of all remediation activities on site and the data collected as required in the Verification Plan. The Verification Report should demonstrate that the remediation has met the remedial targets to show that the site is suitable for the proposed use.

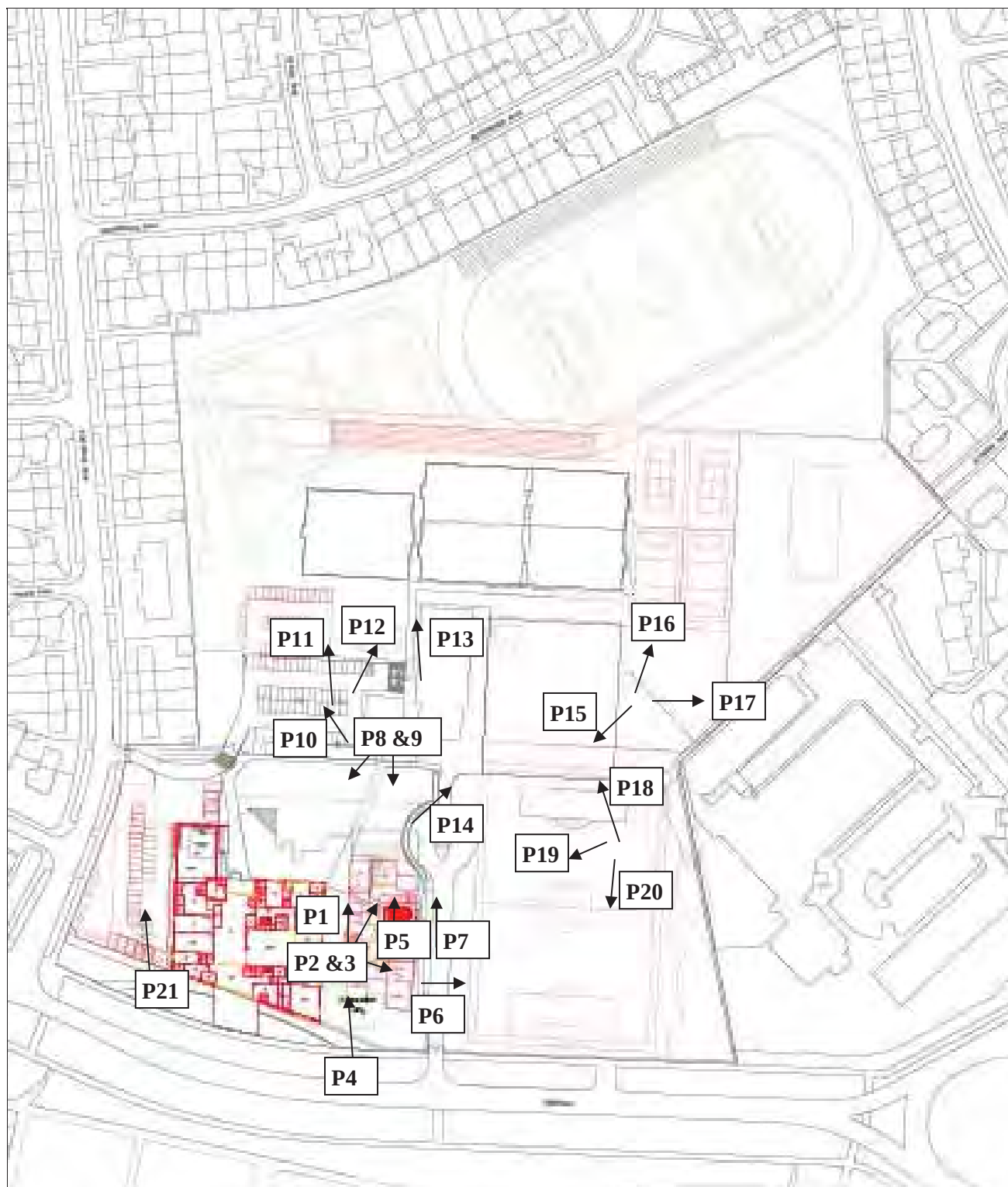
GLOSSARY

TERMS		UNITS	
AST	Above Ground Storage Tank	m	Metres
BGS	British Geological Survey	km	Kilometres
BSI	British Standards Institute	%	Percent
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes	%v/v	Percent volume in air
CIEH	Chartered Institute of Environmental Health	mb	Milli Bars (atmospheric pressure)
CIRIA	Construction Industry Research Association	l/hr	Litres per hour
CLEA	Contaminated Land Exposure Assessment	ha	Hectare (10,000 m ²)
CSM	Conceptual Site Model	µg/l	Micrograms per Litre (parts per billion)
DNAPL	Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)	ppb	Parts Per Billion
DWS	Drinking Water Standard	mg/kg	Milligrams per kilogram (parts per million)
EA	Environment Agency	ppm	Parts Per Million
EQS	Environmental Quality Standard	mg/m ³	Milligram per metre cubed
GAC	General Assessment Criteria	Mg/m ³	Megagram per metre cubed
GL	Ground Level	µg/m ³	Microgram per metre cubed
GSV	Gas Screening Value	m bgl	Metres Below Ground Level
HCV	Health Criteria Value	m bcl	Metre Below Cover Level
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel)	mOD	Metres Above Ordnance Datum (sea level)
ND	Not Detected	kN/m ²	Kilo Newtons per metre squared
LMRL	Lower Method Reporting Limit	kPa	Kilo Pascal – same as kN/m ²
NR	Not Recorded	µm	Micro metre
OD	Ordnance Datum		
PAH	Poly Aromatic Hydrocarbon		
PCB	Poly-Chlorinated Biphenyl		
PID	Photo Ionisation Detector		
PCSM	Preliminary Conceptual Site Model		
SGV	Soil Guideline Value		
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		
VSCs	Vibro Stone Columns		
VOC	Volatile Organic Compound		

APPENDIX C

Site Photographs

Location of Photographs

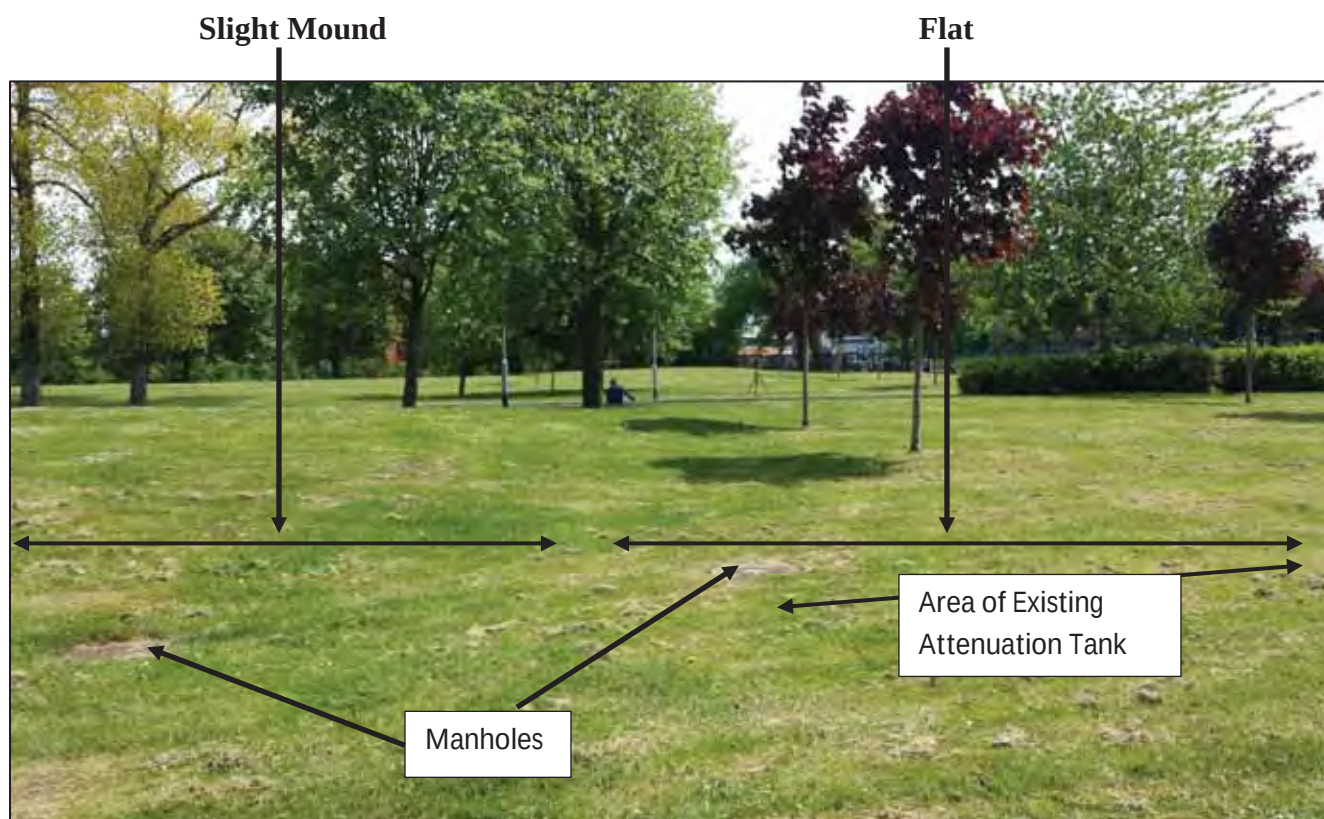




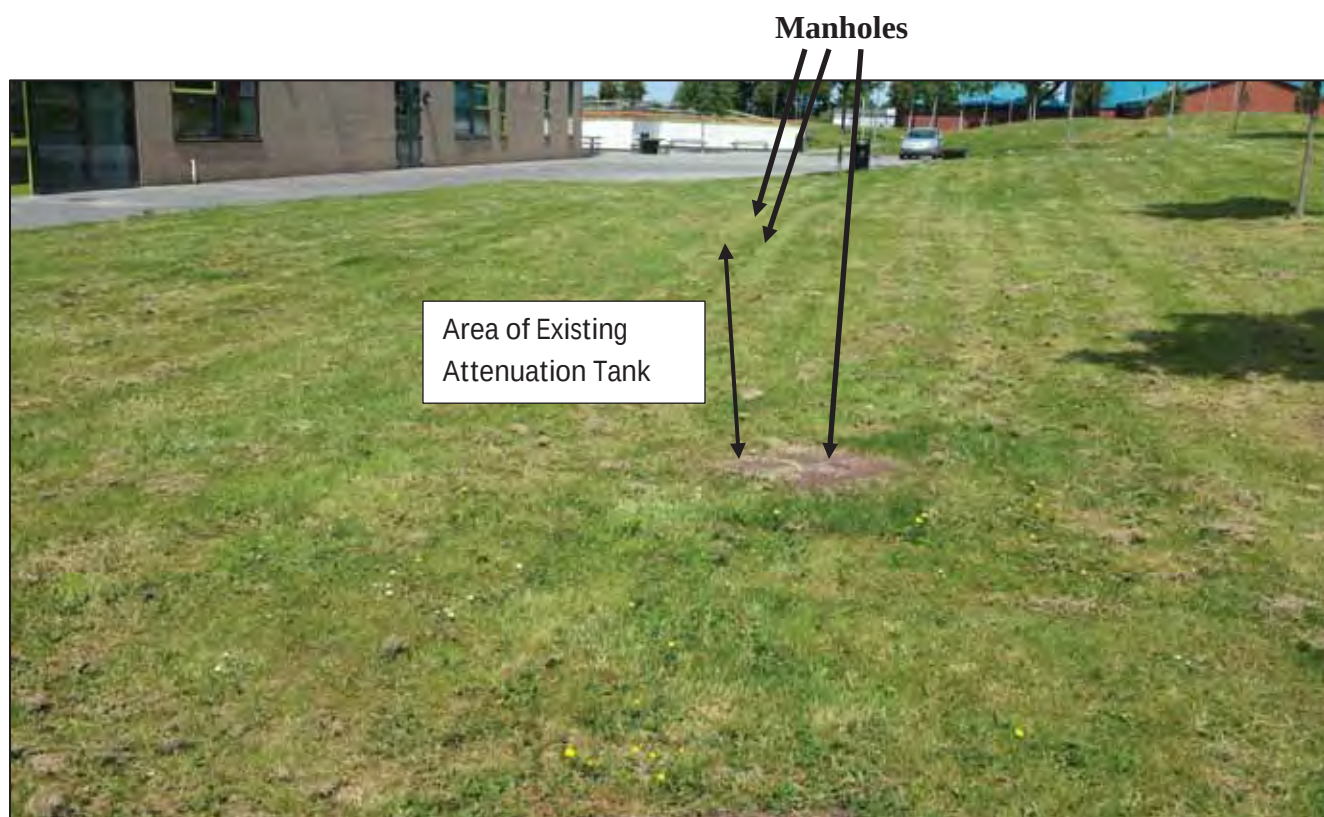
Photograph 1: Northerly View of Northern Area of New Building



Photograph 2: North Easterly View of Northern Area of New Building Including Mounds



Photograph 3: Easterly View of Southern Area of New Building



Photograph 4: Northerly View of Southern End of Site of Area of Existing Attenuation Tank



Photograph 5: Northerly View of North Eastern Area of New Building – Grassed Mound



Photograph 6: Easterly View of Southern End of Eastern Part of the Site



Photograph 7: Northerly View of Central Part of Site – Bus Turning Circle



Photograph 8: Southerly View Towards Proposed New Building



Photograph 9: South Westerly View of Northern End of Existing Main Academy Building



Photograph 10: North Westerly View of Northern Car Park



Photograph 11: Overgrown Raised Beds and Foundation For Former Temporary Building



Photograph 12: Former Site Office Used by Contractor During School Construction, Was used for Teaching, Now not Used.



Photograph 13: Northerly View Towards All Weather Sports Pitches, Sports Hall on Right



Photograph 14: North Easterly View of Hard Standing Adjacent to Sports Hall



Photograph 15: South Westerly View of Hard Standing Adjacent to Sports Hall



Photograph 16: Grasses Sports In Northeast of Site



Photograph 17: Tarmacked Sports Pitch on East of Site



Photograph 18: Northerly View of Eastern Part of Site

Trees in Depressions



Photograph 19: South Westerly View from South Eastern Part of Site



Photograph 20: Southerly View of South Eastern Part of Site



Photograph 21: Northerly View of Western Car Park

APPENDIX D

GroundSure EnviroInsite Report (Historical Maps & Environmental Data on the Site and Surrounding Land Use)



Terra Consult

Bold Business Centre, Bold Lane,
Bold Lane,
Sutton, WA9 4TX

Groundsure
Reference:

HMD-147-3007342

Your Reference: PO15418

Report Date 27 May 2016

Report Delivery Method: Email - pdf

Groundsure Enviro Insight

Address: MANCHESTER ENTERPRISE ACADEMY, SIMONSWAY, MANCHESTER, M22 9RH

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,

A handwritten signature in black ink, appearing to be 'J. O.', followed by a period.

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight



Groundsure Enviro Insight

Address: MANCHESTER ENTERPRISE ACADEMY, SIMONSWAY, MANCHESTER, M22 9RH
Date: 27 May 2016
Reference: HMD-147-3007342
Client: Terra Consult

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 02-Jun-2009
Grid Reference: 382119,387245
Site Size: 7.92ha

Report Reference: HMD-147-3007342
Client Reference: PO15418

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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	0	0	1	14
1.2 Additional Information – Historical Tank Database	0	0	0	2
1.3 Additional Information – Historical Energy Features Database	3	5	0	9
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	0	0
1.6 Potentially Infilled Land	0	2	11	40
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	0	0
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	0
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	0	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	0	0
2.2 Records of COMAH and NIHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
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 Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	0	0	0	0
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	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	1

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	1	3	1	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
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	0	0	0	2
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	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
	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology

0-500m

6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	1	2	0	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?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very 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?	No
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?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

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	0
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	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
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	1
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
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 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	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	1	3

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?	Very Low
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.

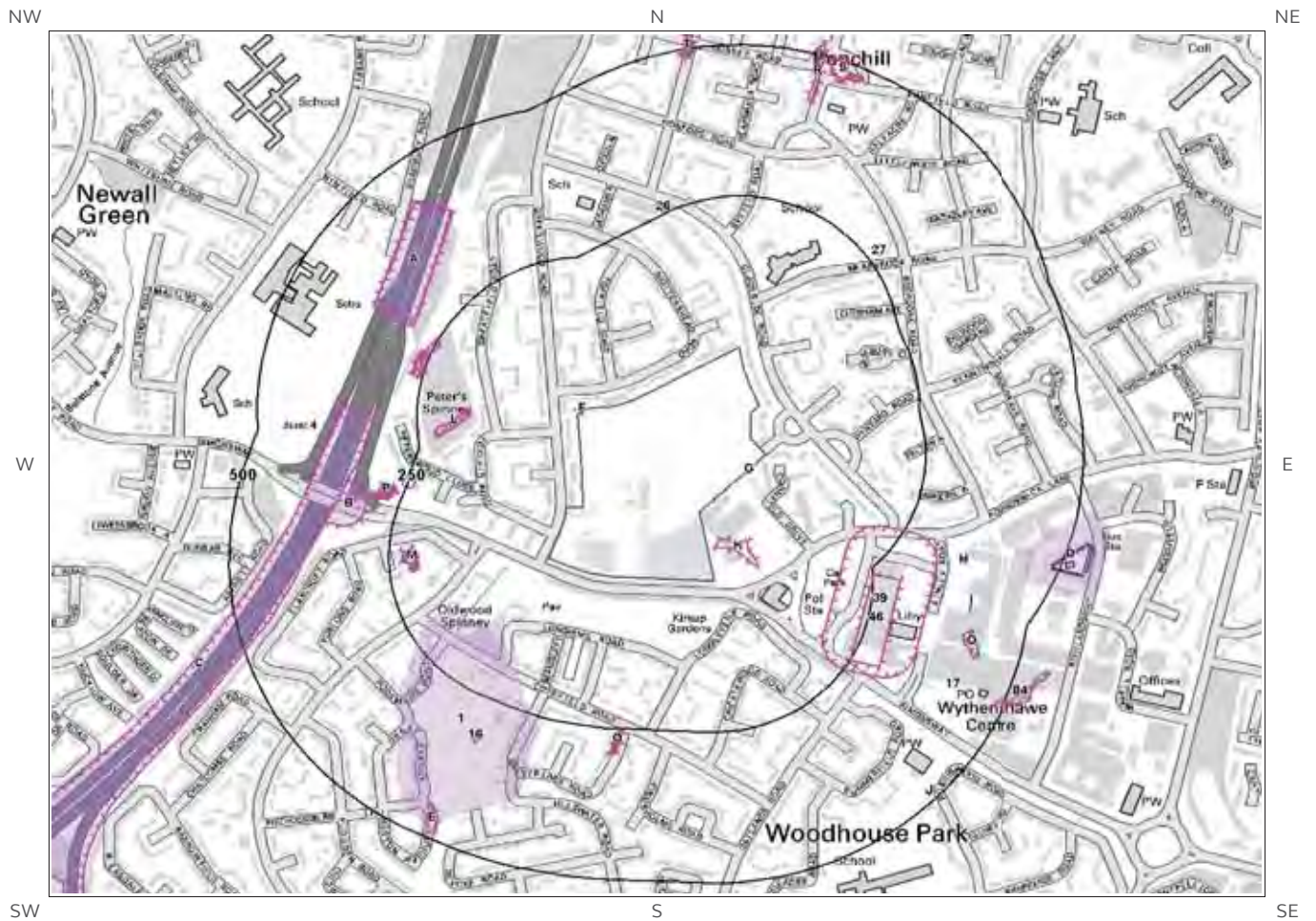
Note: Maps

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: 15

ID	Distance [m]	Direction	Use	Date
1	151	SW	Corporation Yard	1967
2A	293	NW	Cuttings	1975
3A	299	NW	Cuttings	1995
4A	299	NW	Cuttings	1989
5B	299	W	Unspecified Pit	1975
6B	299	W	Unspecified Pit	1989
7B	299	W	Unspecified Pit	1995
8C	317	W	Cuttings	1989
9C	317	W	Cuttings	1995
10C	317	W	Cuttings	1975
11D	442	E	Bus Station	1995
12D	442	E	Bus Station	1989
13E	450	SW	Unspecified Heap	1989
14E	450	SW	Unspecified Heap	1995
15E	450	SW	Unspecified Heap	1975

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: 2

ID	Distance (m)	Direction	Use	Date
16	312	SW	Tanks	1998
17	412	SE	Unspecified Tank	1978

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:

17

ID	Distance (m)	Direction	Use	Date
18F	0	On Site	Electricity Substation	1995
19F	0	On Site	Electricity Substation	1978
20F	0	On Site	Electricity Substation	1987
21G	1	SE	Electricity Substation	1995
22F	1	N	Electricity Substation	1974
23G	3	SE	Electricity Substation	1978
24G	3	SE	Electricity Substation	1987
25F	7	N	Electricity Substation	1995
26	251	NW	Electricity Substation	1985
27	265	NE	Electricity Substation	1985
28H	353	SE	Electricity Substation	1982
29H	353	SE	Electricity Substation	1992
30I	401	SE	Electricity Substation	1982
31I	402	E	Electricity Substation	1992
32J	485	SE	Electricity Substation	1992
33J	485	SE	Electricity Substation	1982
34J	486	SE	Electricity Substation	1978

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:

0

Database searched and no data found.

1.6 Potentially Infilled Land

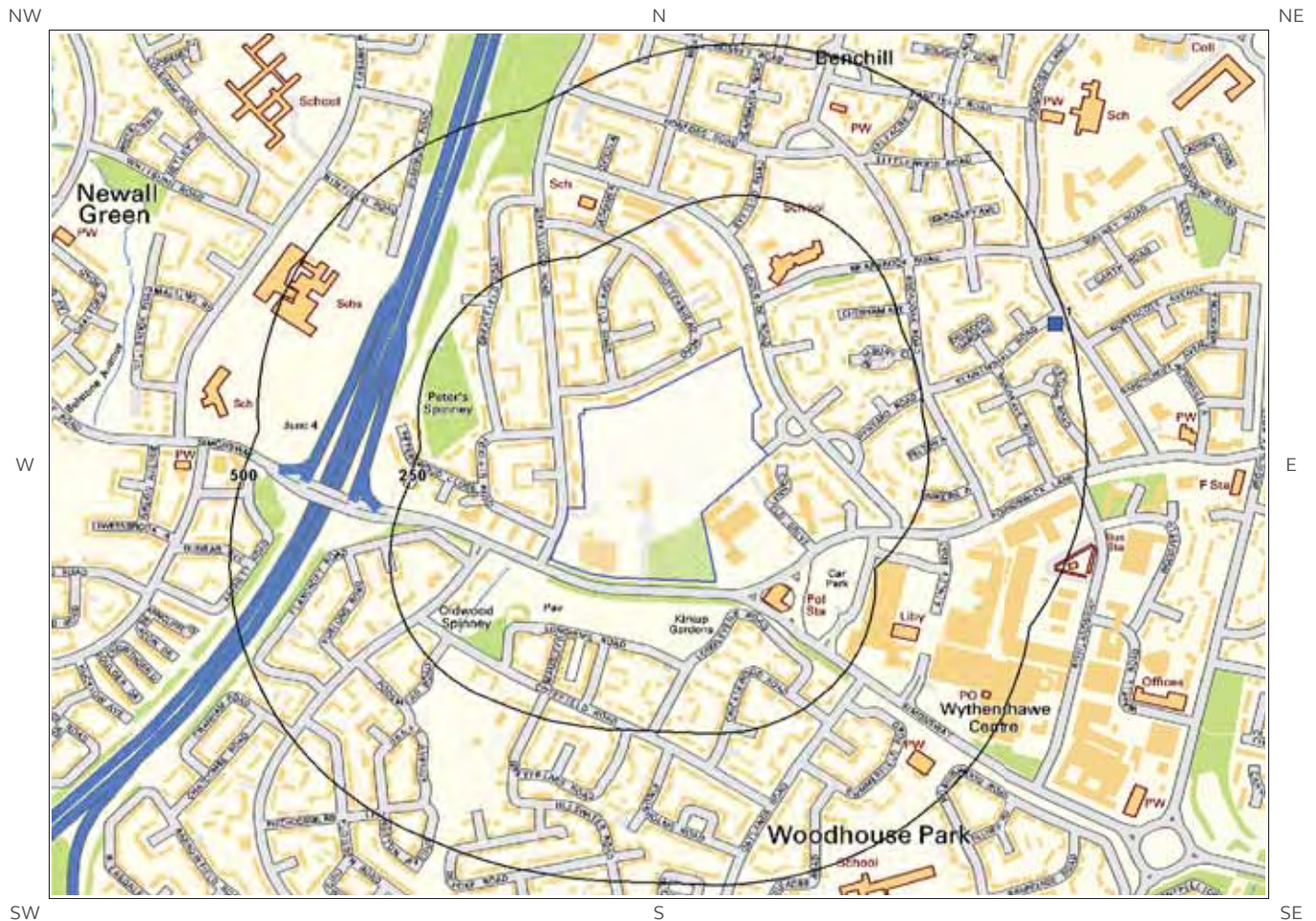
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 53

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

ID	Distance(m)	Direction	Use	Date
35K	15	E	Pond	1975
36K	15	E	Pond	1967
37L	165	W	Ponds	1938
38L	167	W	Ponds	1954
39	189	E	Pool	1989
40M	204	W	Pond	1907
41M	204	W	Pond	1897
42M	204	W	Pond	1938
43M	205	W	Pond	1907
44M	205	W	Pond	1907
45M	207	W	Pond	1954
46	240	E	Pool	1995
47N	243	NW	Ponds	1954
48N	251	W	Pond	1938
49N	252	W	Pond	1907
50N	252	W	Pond	1907
51O	252	S	Pond	1938
52N	252	W	Pond	1907
53O	254	S	Pond	1897
54O	254	S	Pond	1907
55O	255	S	Pond	1907
56O	255	S	Pond	1907
57P	262	W	Pond	1897
58P	262	W	Pond	1907
59P	262	W	Pond	1938
60P	262	W	Pond	1907
61P	262	W	Pond	1907
62P	264	W	Pond	1954
63A	293	NW	Cuttings	1975
64A	299	NW	Cuttings	1995
65A	299	NW	Cuttings	1989
66B	299	W	Unspecified Pit	1995
67B	299	W	Unspecified Pit	1975
68B	299	W	Unspecified Pit	1989
69C	317	W	Cuttings	1989
70C	317	W	Cuttings	1975
71C	317	W	Cuttings	1995

72Q	401	E	Ponds	1938
73Q	401	E	Ponds	1954
74Q	401	E	Pond	1967
75R	423	N	Ponds	1907
76R	423	N	Ponds	1907
77E	450	SW	Unspecified Heap	1975
78E	450	SW	Unspecified Heap	1989
79E	450	SW	Unspecified Heap	1995
80S	464	N	Pond	1907
81S	464	N	Pond	1907
82S	466	N	Pond	1897
83S	466	N	Pond	1907
84	484	SE	Ponds	1967
85T	486	N	Pond	1907
86T	486	N	Pond	1907
87T	488	N	Pond	1907

2. Environmental Permits, Incidents and Registers Map



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2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency 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:

0

Database searched and no data found.

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:

0

Database searched and no data found.

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:

1

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

ID	Distance (m)	Direction	NGR	Details
1	480	E	382740 387510	Address: MCC COACH PARK SWO, DAWSON STREET/RIVER MEDLOCK, WATER STREET, GREATER MANCHESTER Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991245 Permit Version: 1 Receiving Water: Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01-Apr-1993 Revocation Date: 16/04/1993

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:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

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

0

Database searched and no data found.

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

0

Database searched and no data found.

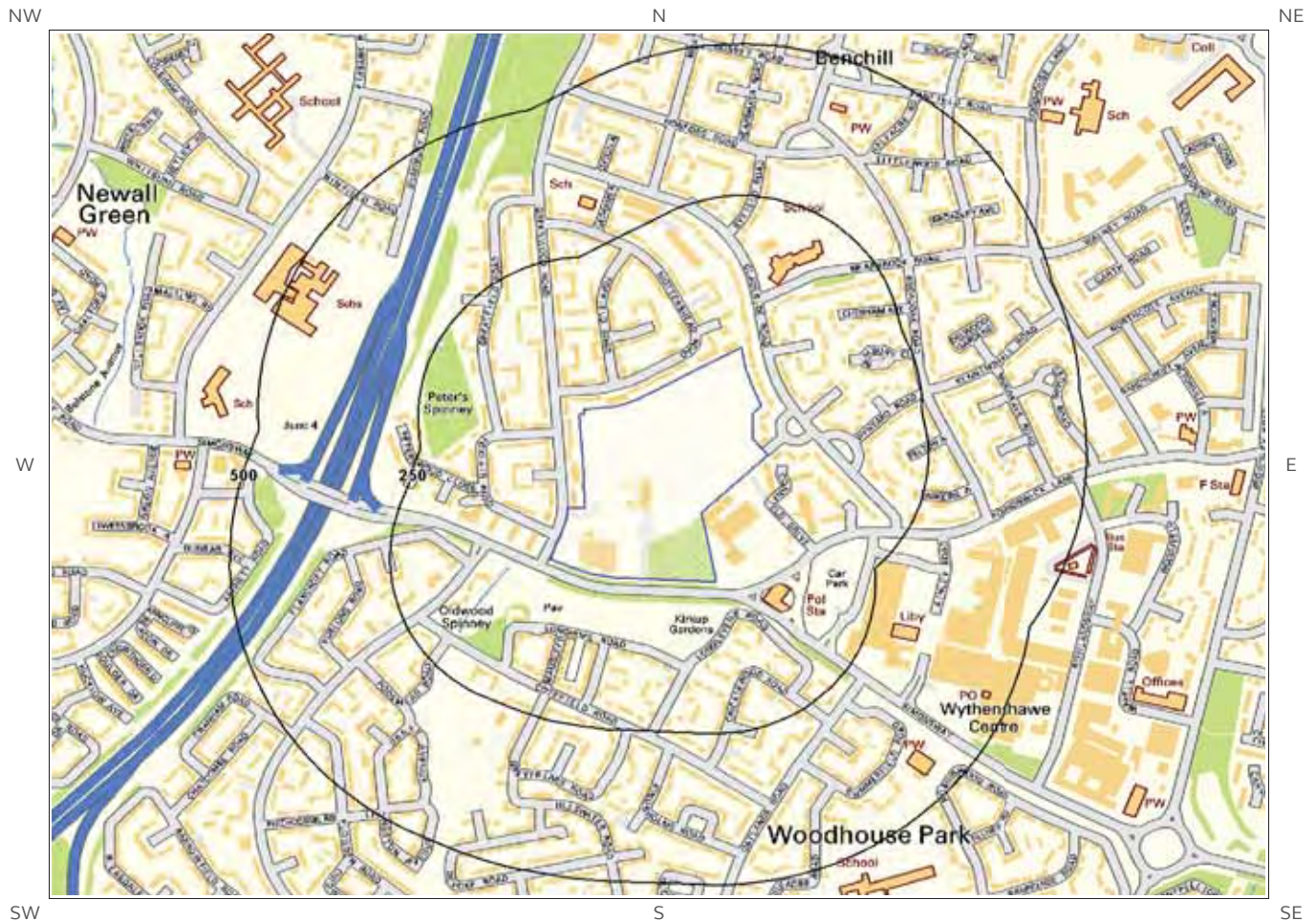
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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?

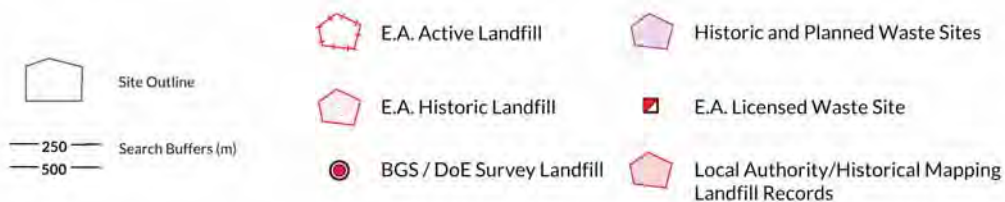
0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

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:

0

Database searched and no data found.

3.2 Other Waste Sites

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

0

Database searched and no data found.

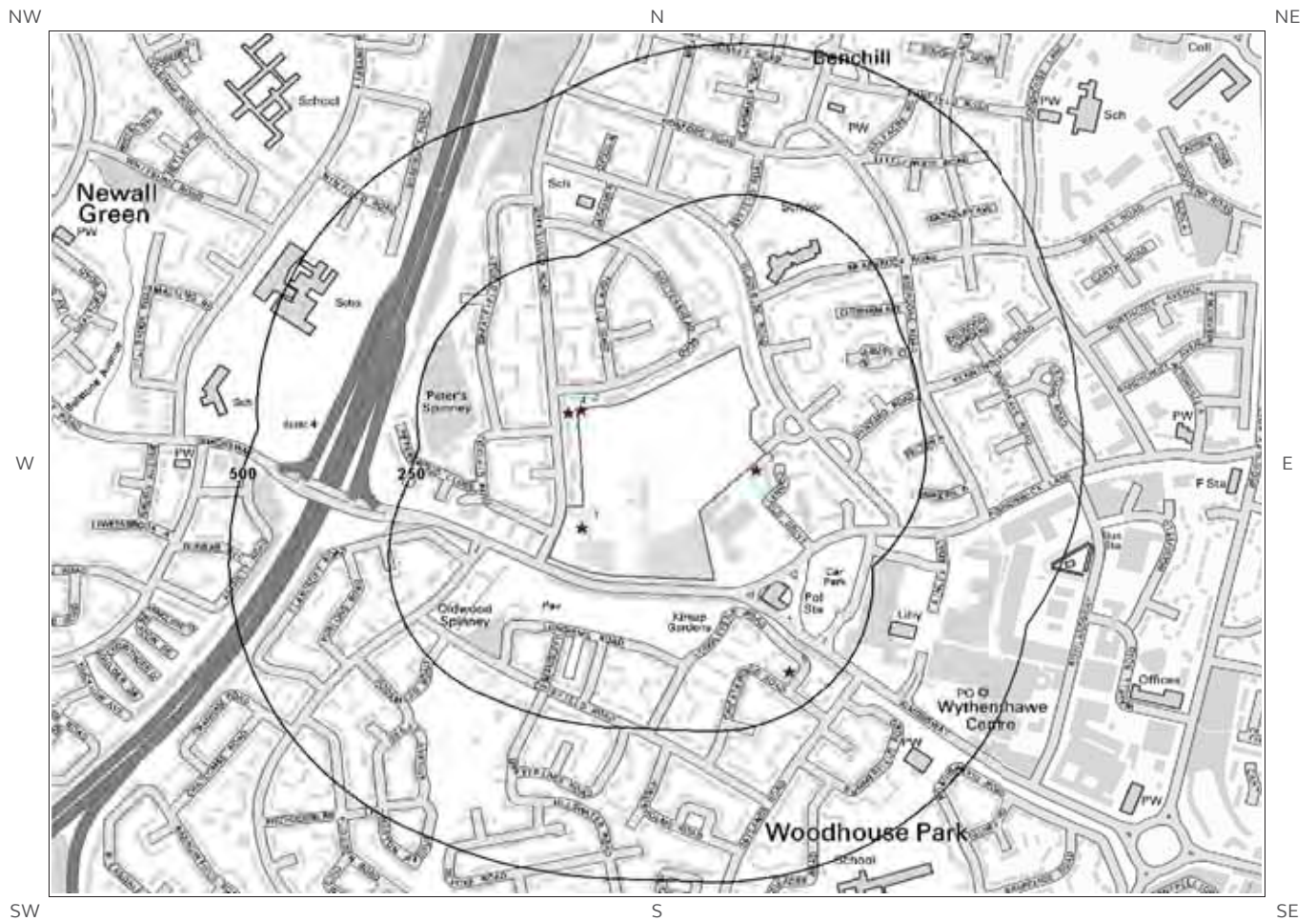
3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

1

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
Not shown	1402	NW	380701 387901	Site Address: Southmoor Road, Wythenshawe, Manchester, M23 9LT Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SMU001 EPR reference: EA/EPR/AP3892CC/S002 Operator: South Manchester University Hospitals N H S Trust Waste Management licence No: 53585 Annual Tonnage: 5000.0 Issue Date: 25/09/1996 Effective Date: - Modified: - Surrendered Date: 16/11/2004 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Wythenshawe Hospital Clinical Waste Transfer Station Correspondence Address: -, -

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

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

5

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0	On Site	Electricity Sub Station	382001 387171	M22	Electrical Features	Infrastructure and Facilities
2	3	W	Electricity Sub Station	381999 387366	M22	Electrical Features	Infrastructure and Facilities
3	10	SE	Electricity Sub Station	382274 387266	M22	Electrical Features	Infrastructure and Facilities
4	14	W	Electricity Sub Station	381980 387361	M22	Electrical Features	Infrastructure and Facilities
5	192	SE	Ringway Plumbing & Gas Ltd	382325 386933	54, Longlevens Road, Manchester, M22 1AX	Industrial Repairs and Servicing	Repair and Servicing

4.2 Petrol and Fuel Sites

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

0

Database searched and no data found.

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
TILLD	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

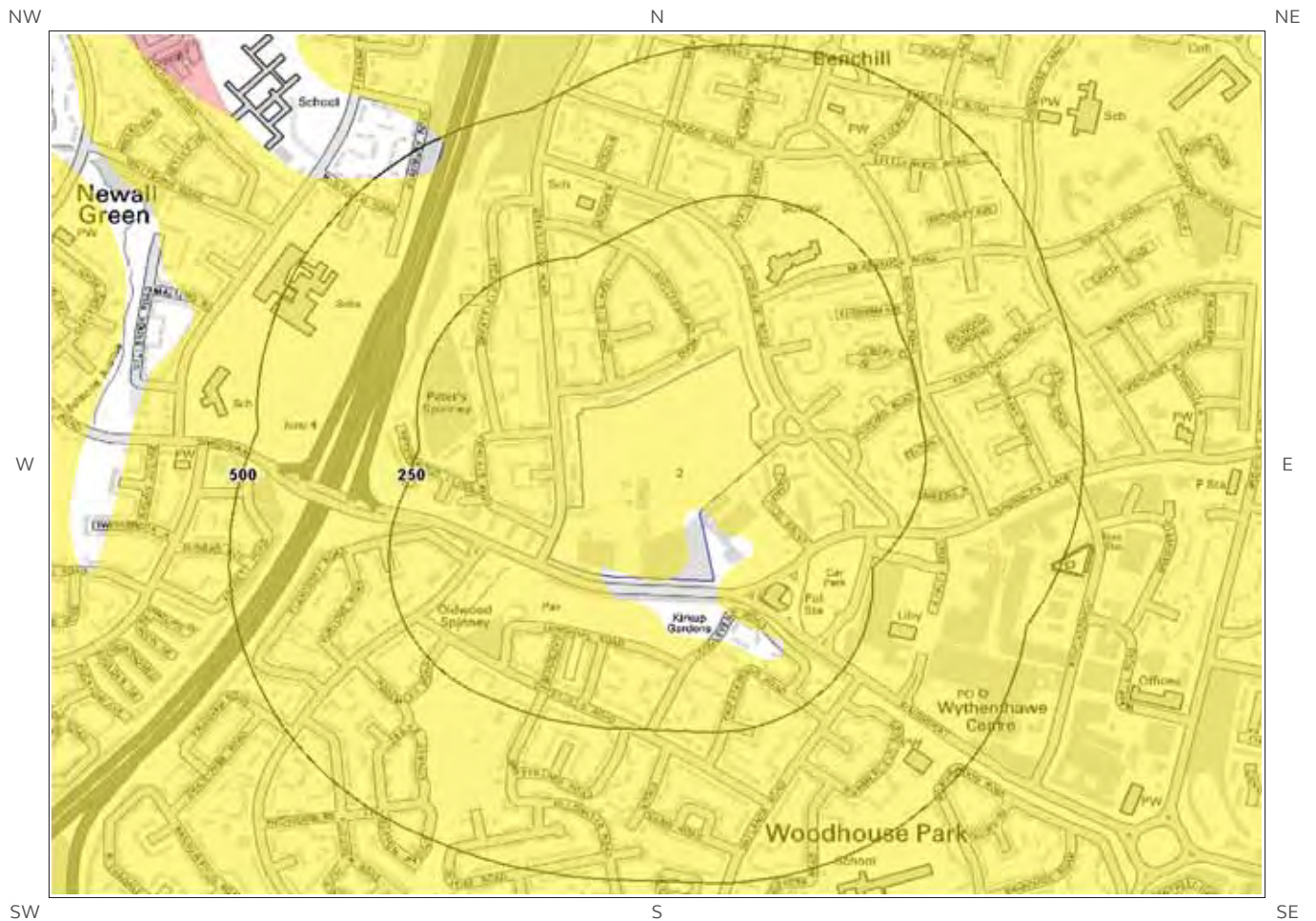
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
BOM-MDST	BOLLIN MUDSTONE MEMBER	MUDSTONE

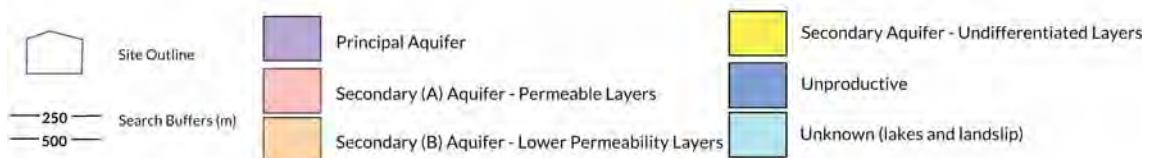
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



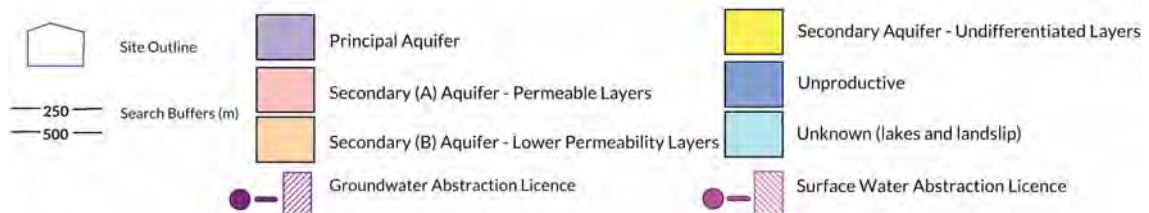
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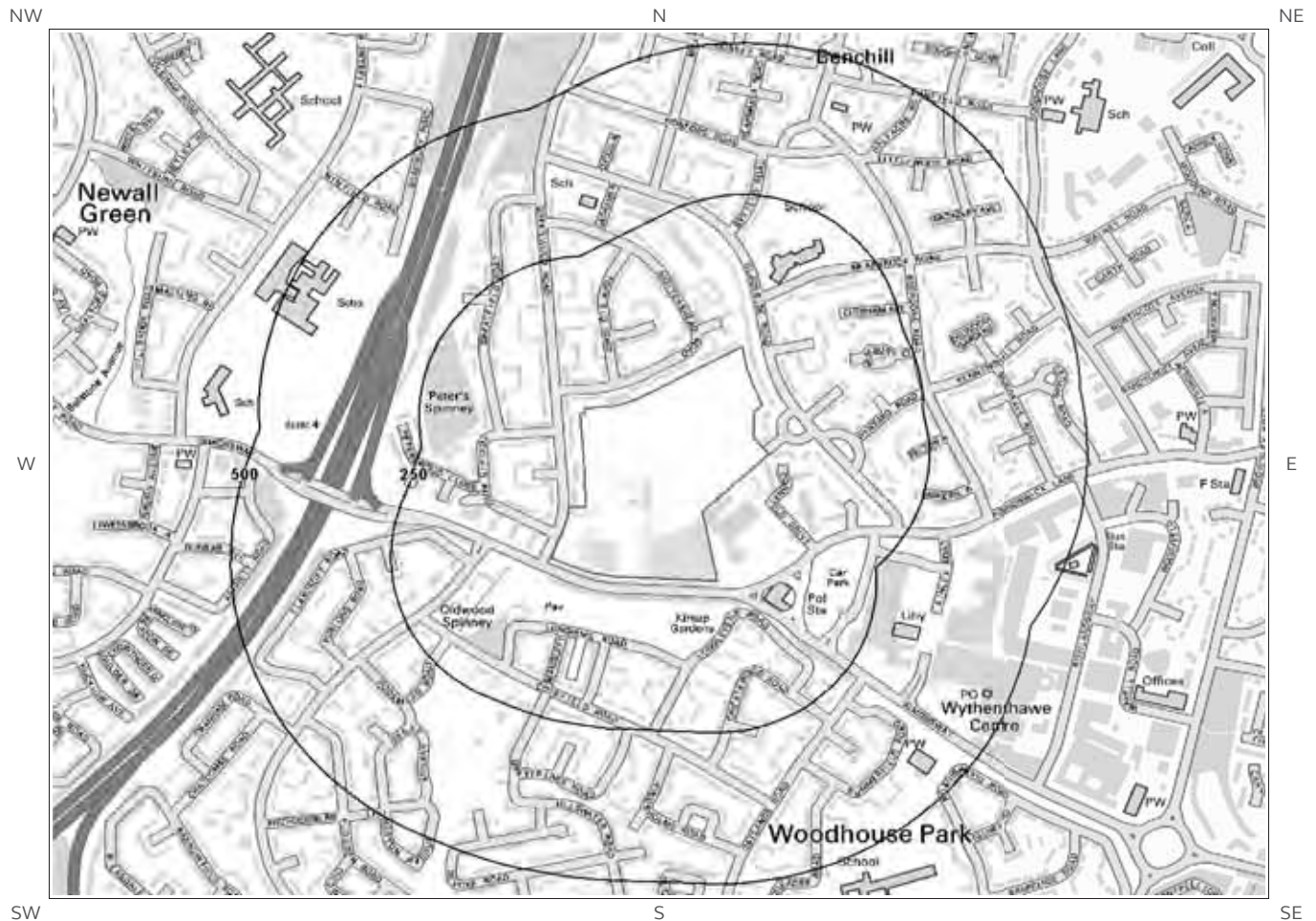
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



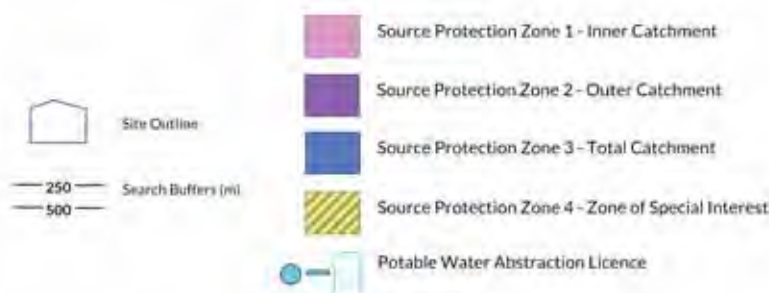
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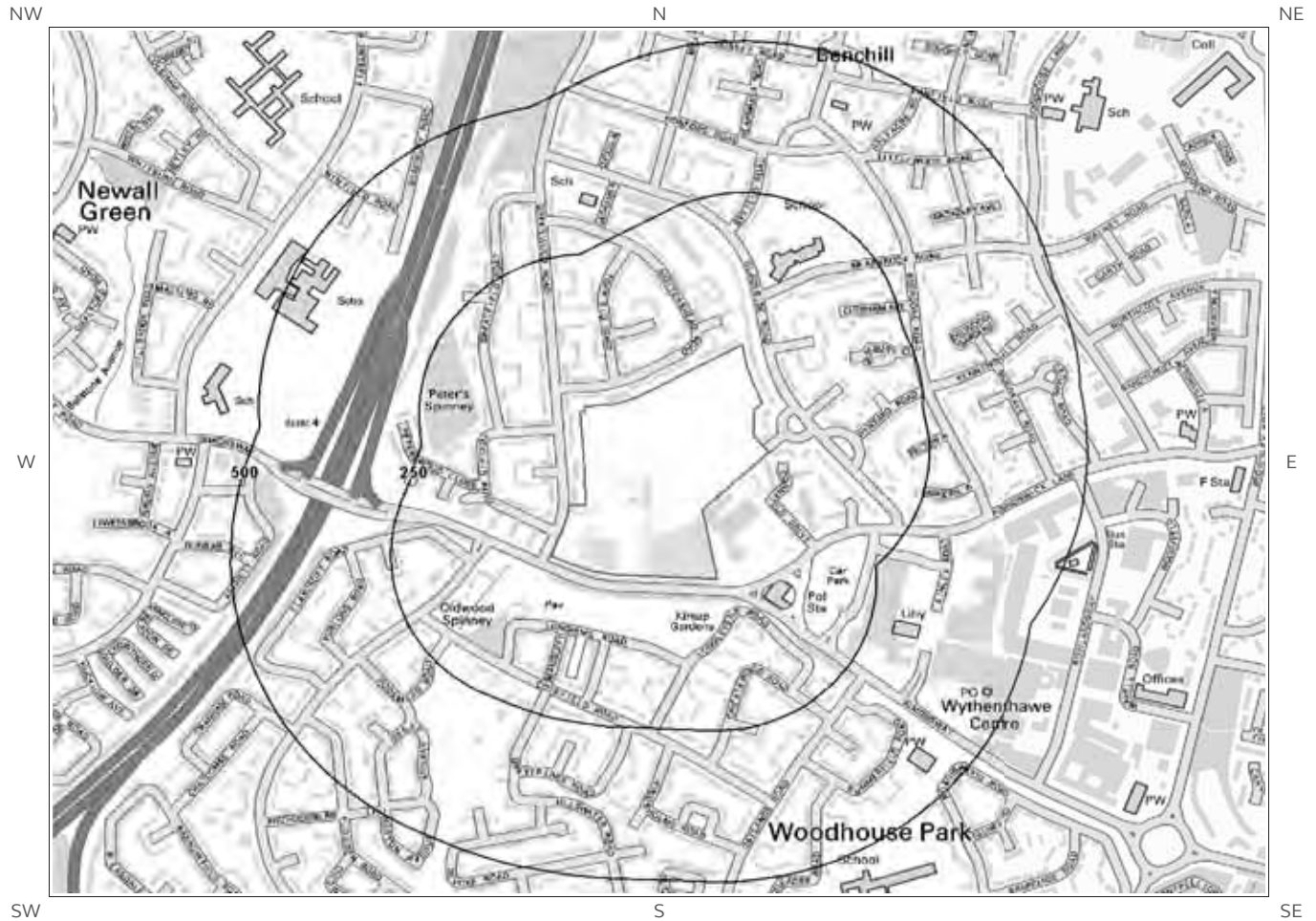
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



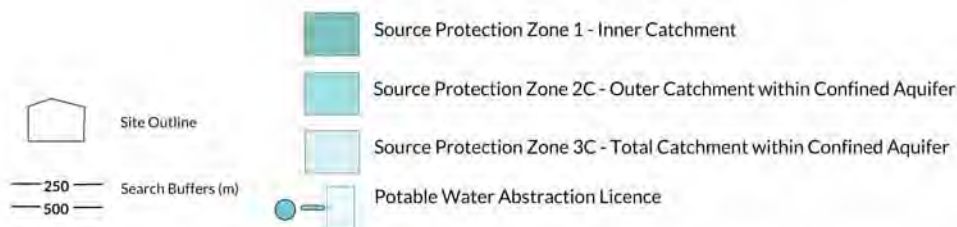
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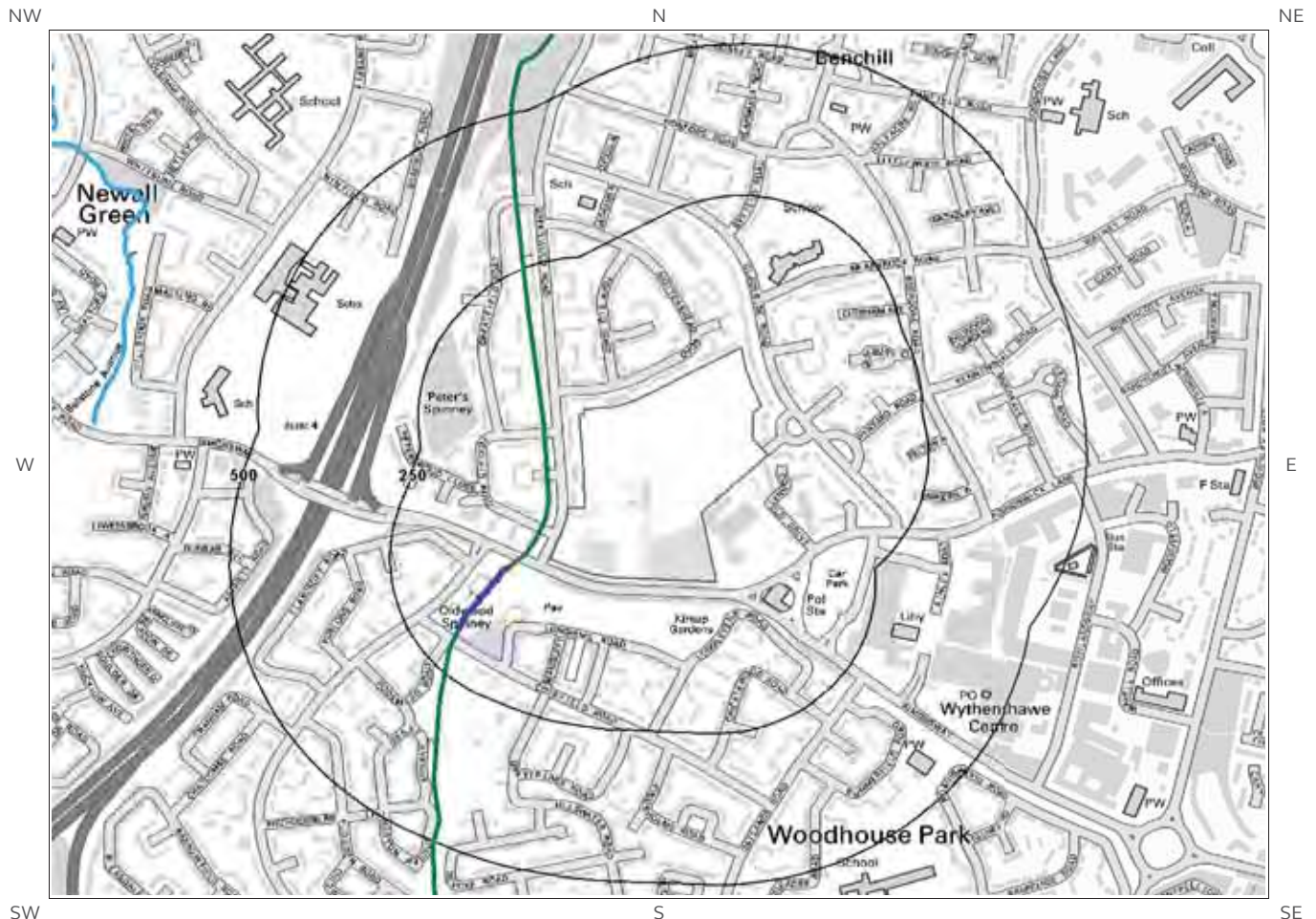
6d. Hydrogeology – Source Protection Zones within confined aquifer



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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'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
2	0	On Site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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'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	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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
Not shown	1946	NE	383610 388860	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: "underground Strata: Borehole At Sharston, Manchester" Data Type: Point Name: MR KHALID SALEEM Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: S7517 Original Start Date: 15/11/2002 Expiry Date: 31/3/2018 Issue No: 1 Version Start Date: 15/11/2002 Version End Date:
Not shown	1946	NE	383610 388860	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: Underground Strata: Borehole At Sharston, Manchester Data Type: Point Name: MR KHALID SALEEM Annual Volume (m³): 20975 Max Daily Volume (m³): 80.67 Original Application No: S7517 Original Start Date: 15/11/2002 Expiry Date: 31/3/2018 Issue No: 1 Version Start Date: 15/11/2002 Version End Date:

6.4 Surface Water Abstraction Licences

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

No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

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

No

Database searched and no data found.

6.6 Source Protection Zones

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

No

Database searched and no data found.

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 information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
499	NW	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 information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

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	30	W	River Name: Baguley Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
2	67	W	River Name: Baguley Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
3	185	SW	River Name: Baguley Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined

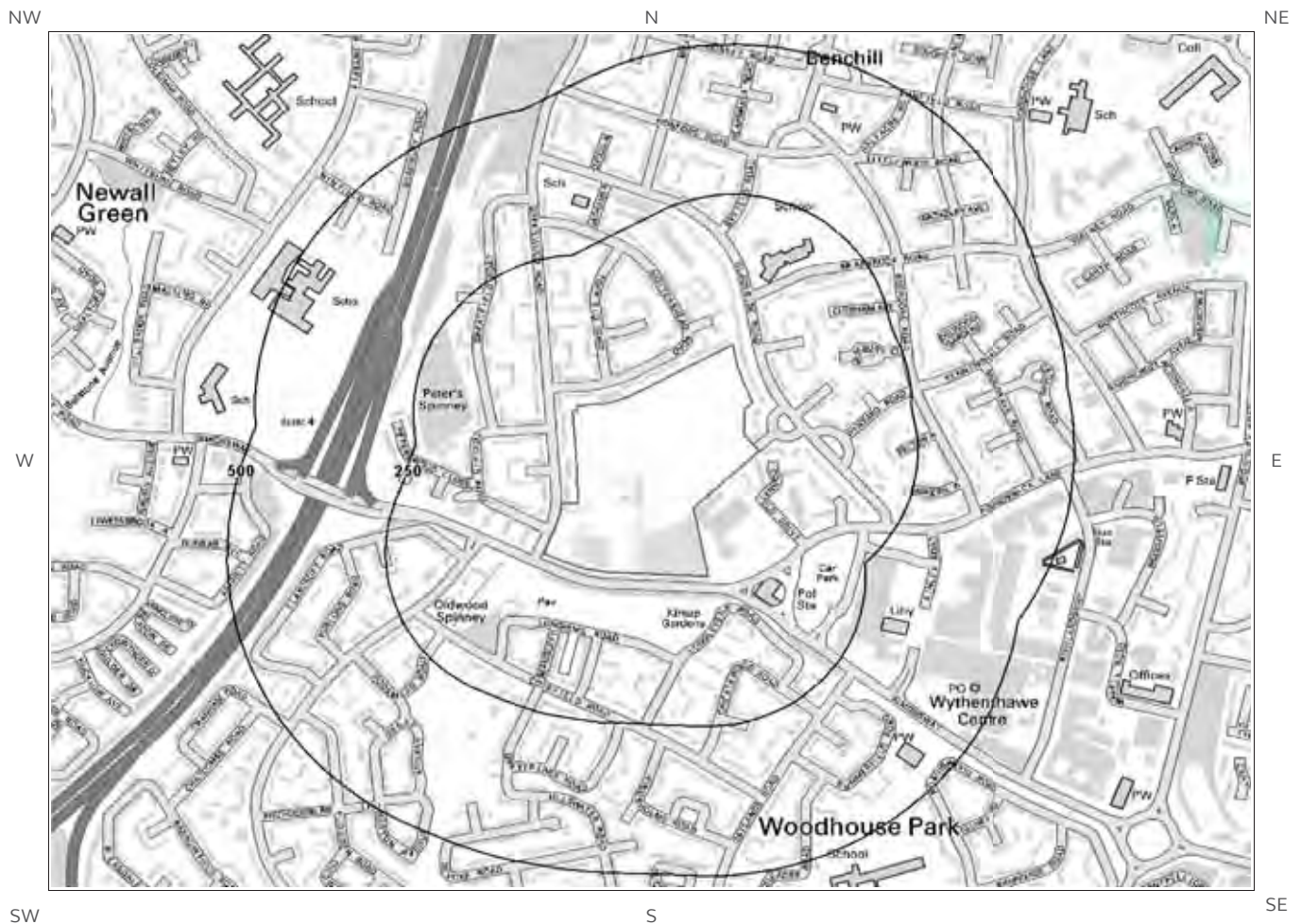
6.11 Surface Water Features

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

No

Database searched and no data found.

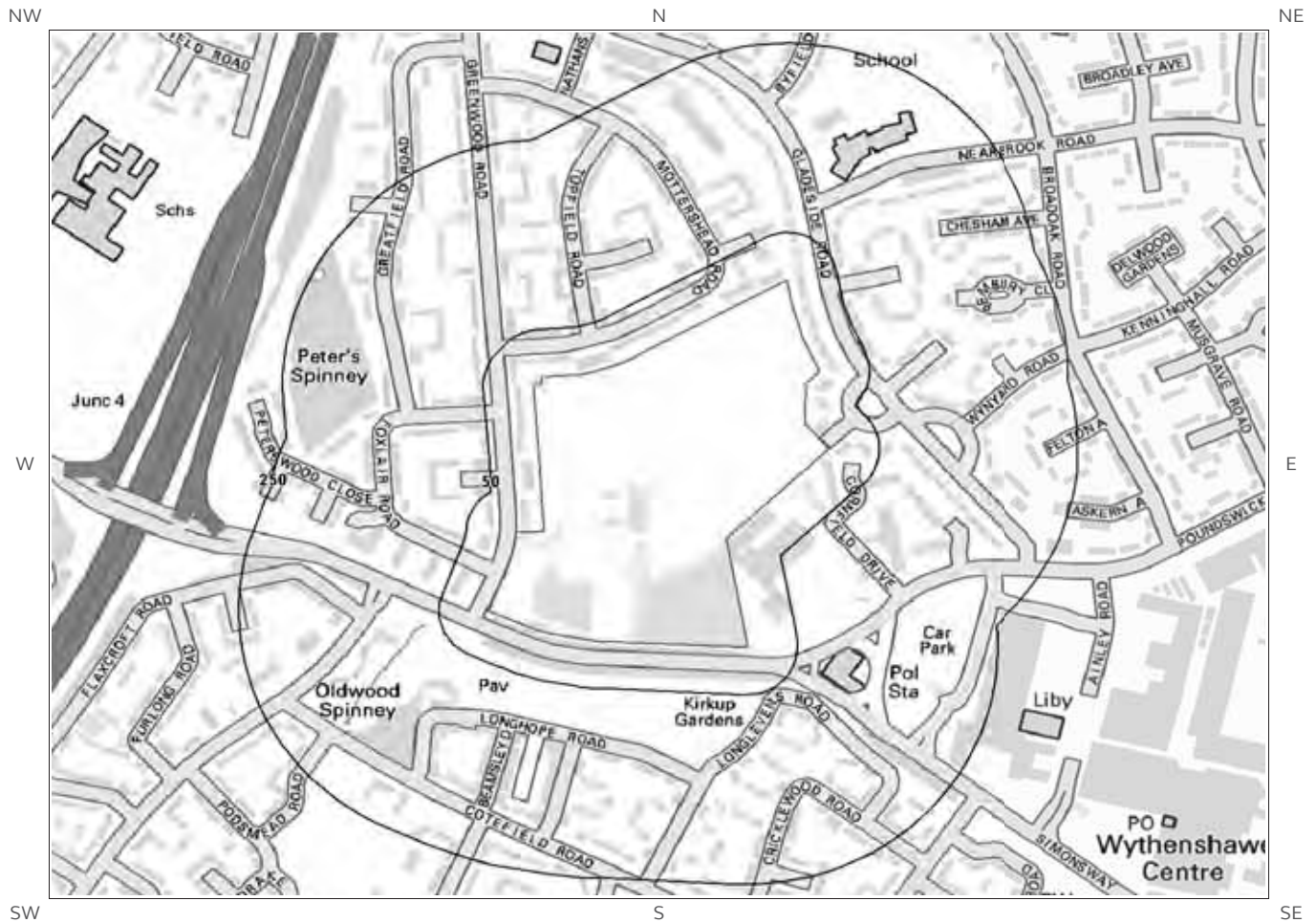
7a. Environment Agency Flood Map for Planning (from rivers and the sea)



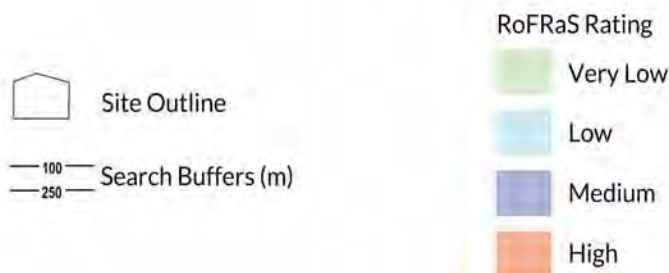
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7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency 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:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

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.

Database searched and no data found.

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

What is the highest risk of flooding onsite? Very Low

The Environment Agency 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 Very Low (less than 1 in 1000) chance of flooding in any given year.

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? No

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? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

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?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

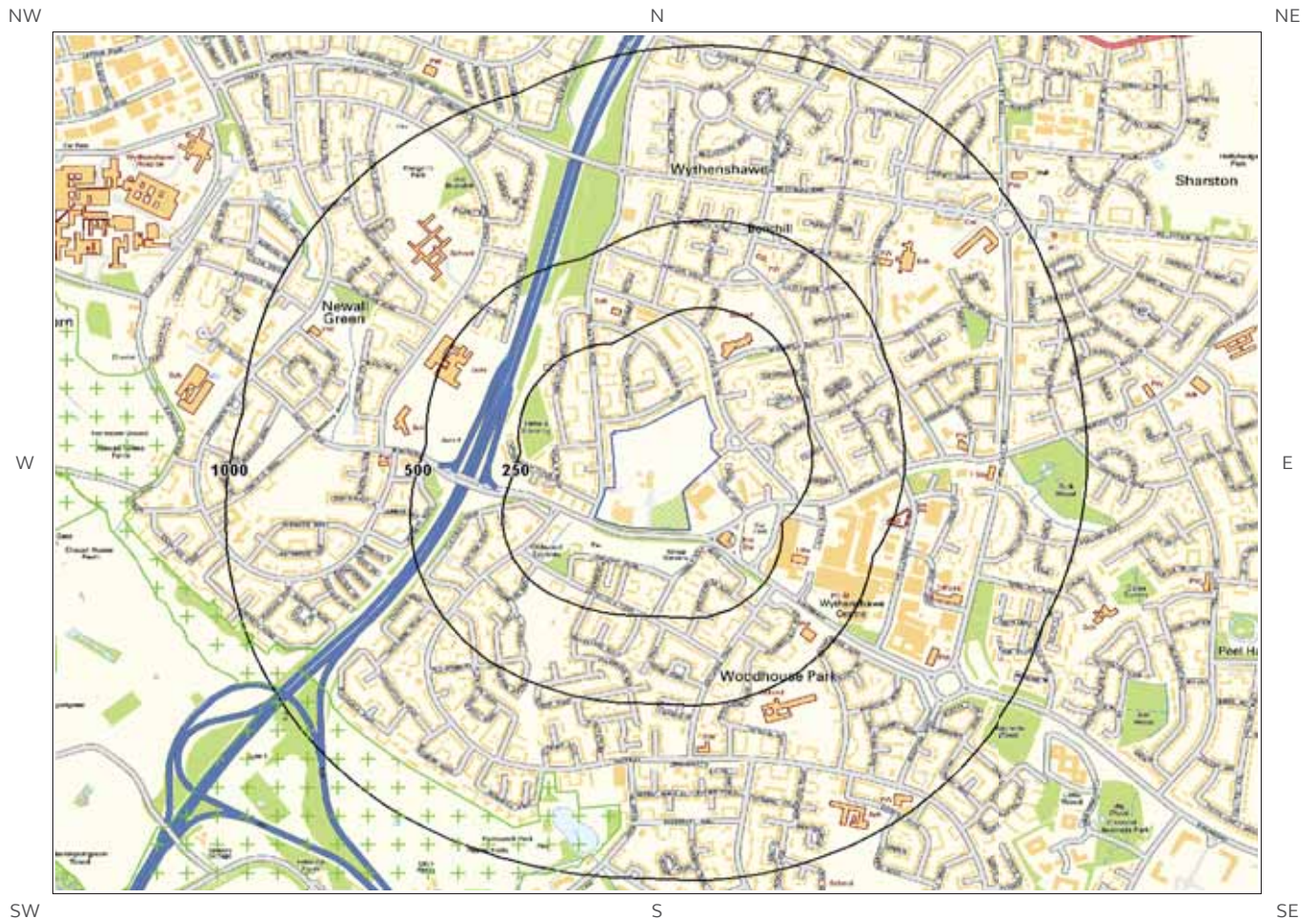
What is the British Geological Survey confidence rating in this result?

Moderate

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:

Database searched and no data found.

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

Database searched and no data found.

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

Database searched and no data found.

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

Database searched and no data found.

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

Database searched and no data found.

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:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
Not shown	1873	N	Wythenshawe Park	Natural England

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:

0

Database searched and no data found.

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

4

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
2	726	S	Liverpool, Manchester and West Yorks Greenbelt	Manchester District (B)
3	1340	W	Liverpool, Manchester and West Yorks Greenbelt	Trafford District (B)
Not shown	1642	E	Liverpool, Manchester and West Yorks Greenbelt	Stockport District (B)
Not shown	1950	W	Liverpool, Manchester and West Yorks Greenbelt	Trafford District (B)

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? Very Low

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

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. 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

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com



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Hampshire RG27 8NW
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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client’s order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client’s obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or

subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

- (a) supplied to the Client's specification(s) and in any event
- (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © Groundsure Limited June 2013



Terra Consult

Bold Business Centre, Bold Lane,
Bold Lane,
Sutton, WA9 4TX

Groundsure
Reference:

HMD-147-3007343

Your Reference: PO15418

Report Date 27 May 2016

Report Delivery Method: Email - pdf

Groundsure Geo Insight

Address: MANCHESTER ENTERPRISE ACADEMY, SIMONSWAY, MANCHESTER, M22 9RH

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,

A handwritten signature in black ink, appearing to be 'D. Kelly', followed by a large, stylized circular flourish.

Managing Director
Groundsure Limited

Enc.
Groundsure Geoinsight



Groundsure Geo Insight

Address: MANCHESTER ENTERPRISE ACADEMY, SIMONSWAY,
MANCHESTER, M22 9RH

Date: 27 May 2016

Reference: HMD-147-3007343

Client: Terra Consult

NW N NE



SW S SE

Aerial Photograph Capture date: 02-Jun-2009

Grid Reference: 382119,387245

Site Size: 7.92ha

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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 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow 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

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & 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 relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 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
	1.4.2 Is the property in an area where Radon Protection Measures 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 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	2	6	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	1
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Very Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Very Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	0	2

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	3	1	5

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched
7.3 Historical Railways	0	0	0	Not Searched
7.4 Active Railways	0	0	0	Not Searched

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:098

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

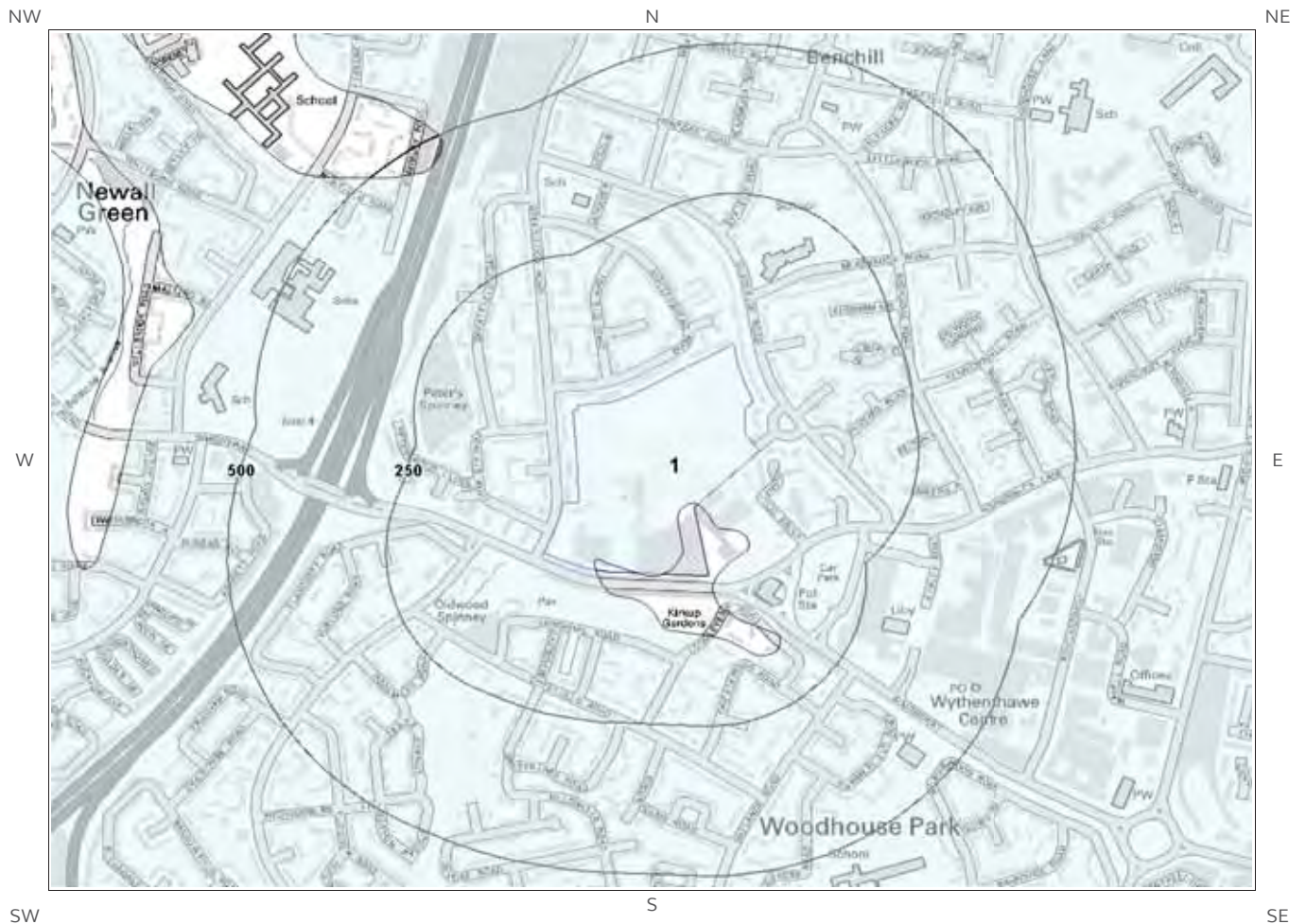
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

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

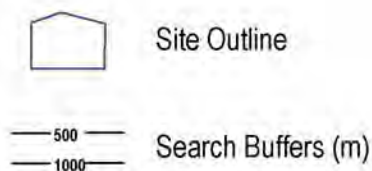
Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



**Superficial Deposits and Landslips
Legend**

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1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON

1.2.2 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	High	Low

1.2.3 Landslip

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

Database searched and no data found.

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.

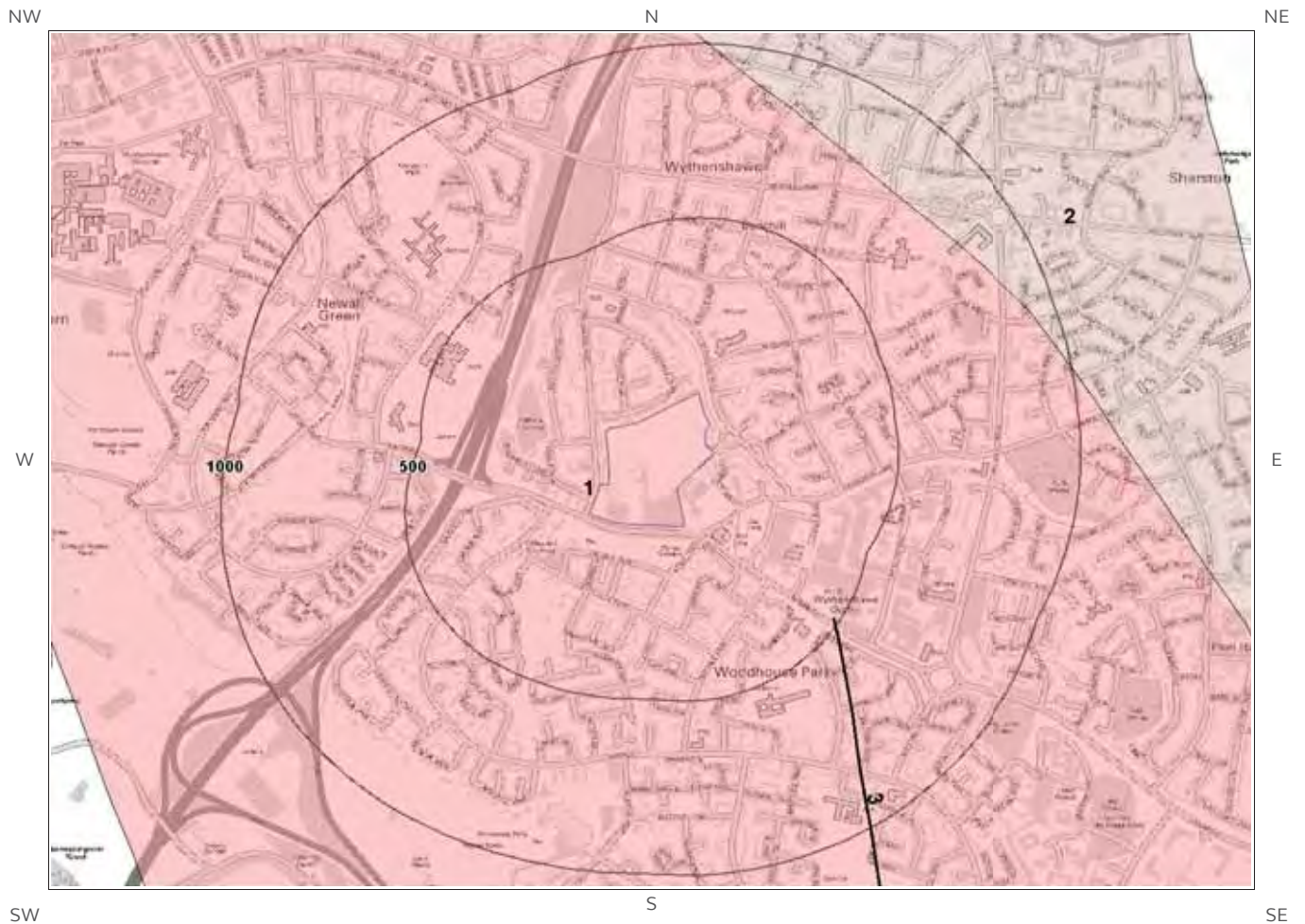
1.2.4 Landslip Permeability

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

Database searched and no data found.

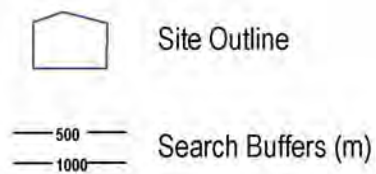
* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



Bedrock and Faults Legend

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1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:098

1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	BOM-MDST	Bollin Mudstone Member - Mudstone	Anisian

1.3.2 Permeability of Bedrock Ground

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

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

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
3	483.0	SE	FAULT	Fault, inferred, displacement unknown

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 nationwide coverage.

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

1.4 Radon Data

1.4.1 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

1.4.2 Radon Protection

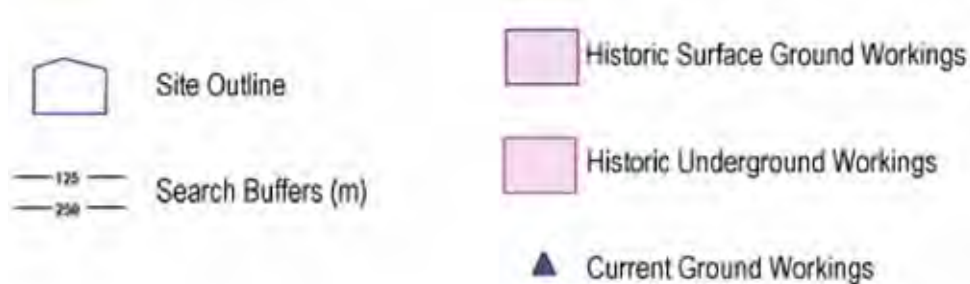
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

2 Ground Workings Map



Ground Workings Legend

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2 Ground Workings

2.1 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

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	15.0	E	382255 387132	Pond	1975
2A	15.0	E	382255 387132	Pond	1967
3	167.0	W	381799 387343	Ponds	1949
4B	204.0	W	381735 387117	Pond	1897
5B	204.0	W	381735 387117	Pond	1907
6B	207.0	W	381732 387118	Pond	1949
7	240.0	E	382460 387019	Pool	1995
8	243.0	NW	381748 387454	Ponds	1949

2.2 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.

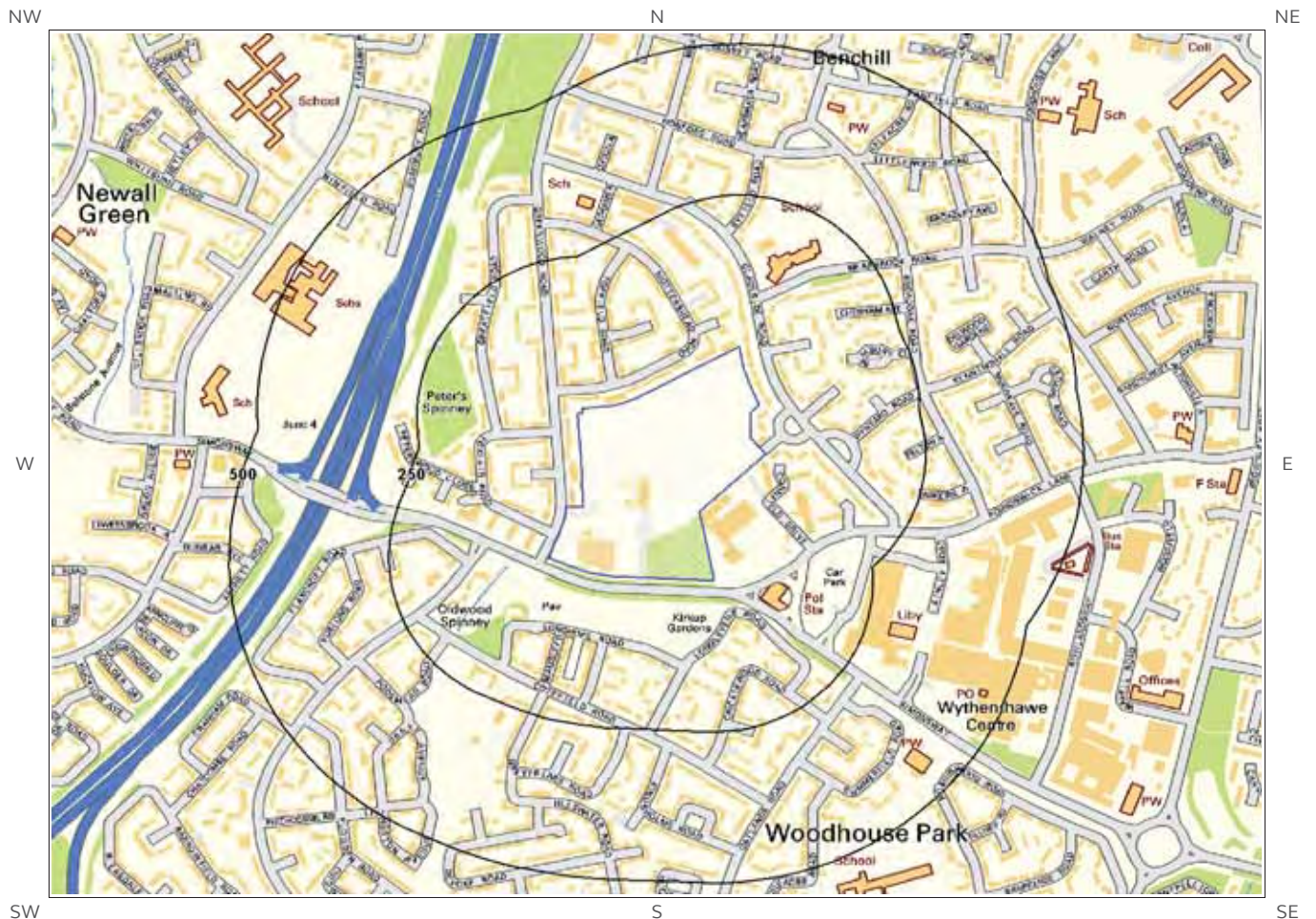
2.3 Current Ground Workings

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? No

Database searched and no data found.

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and
Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 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.

3.2 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.

3.3 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.

3.4 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.

3.5 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.

3.6 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.

3.7 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? Yes

The following information provided by the Coal Authority is not represented on mapping.

Distance (m)	Direction	Details
968.0	S	For further information regarding Brine extraction, Groundsure recommends obtaining a Brine report. This can be ordered through the Coal Authority (www.groundstability.com or 0845 762 6848).

3.8 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.

3.9 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.

3.10 Clay Mining

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

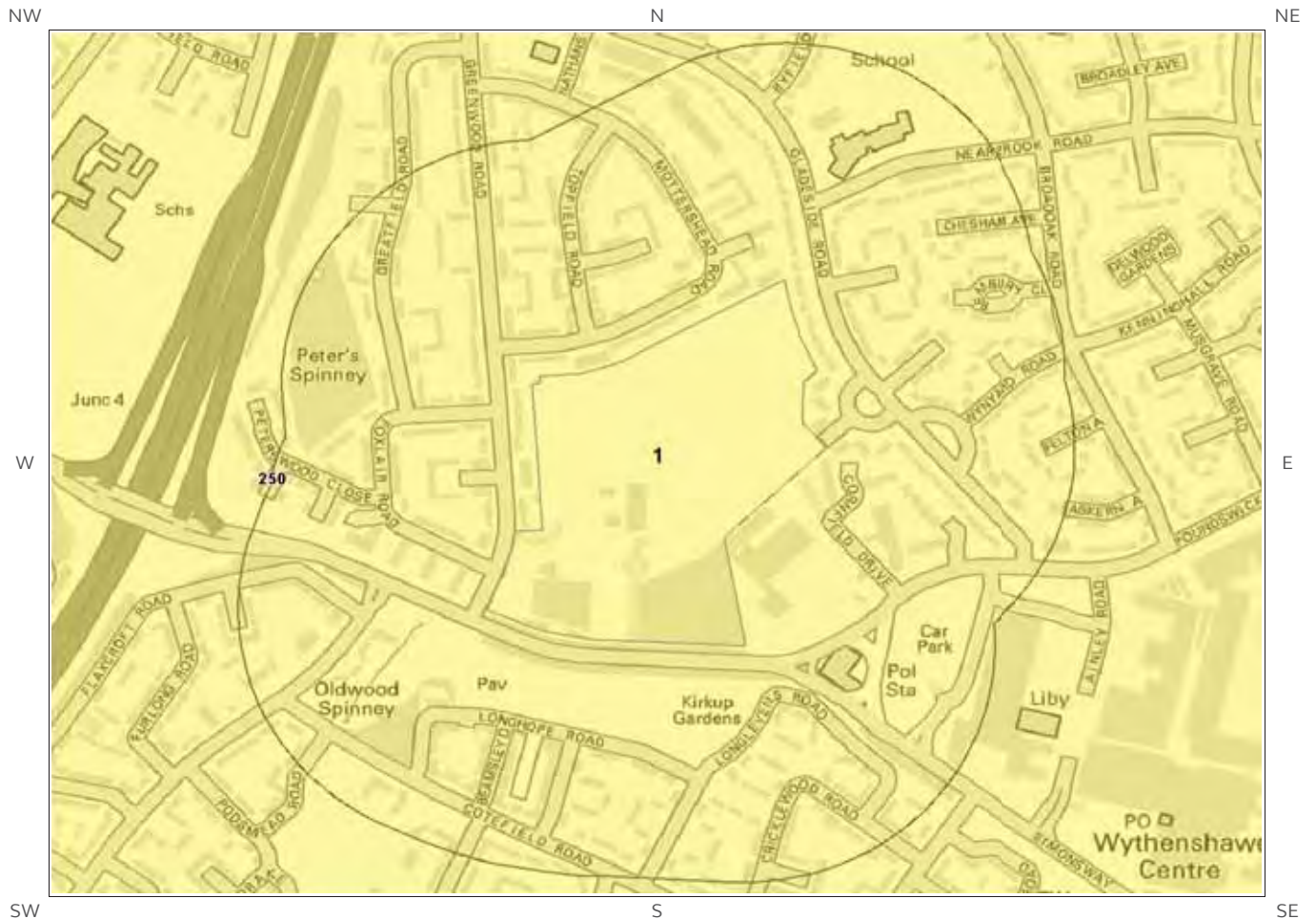
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

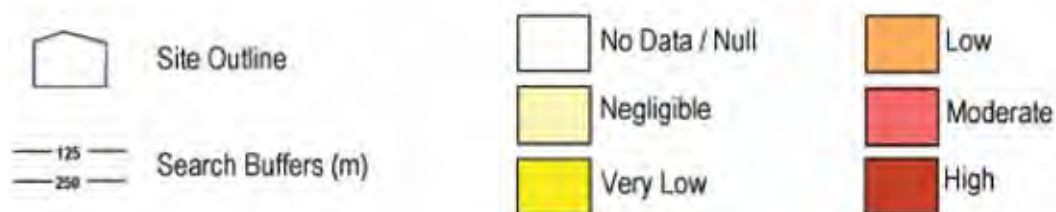
4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

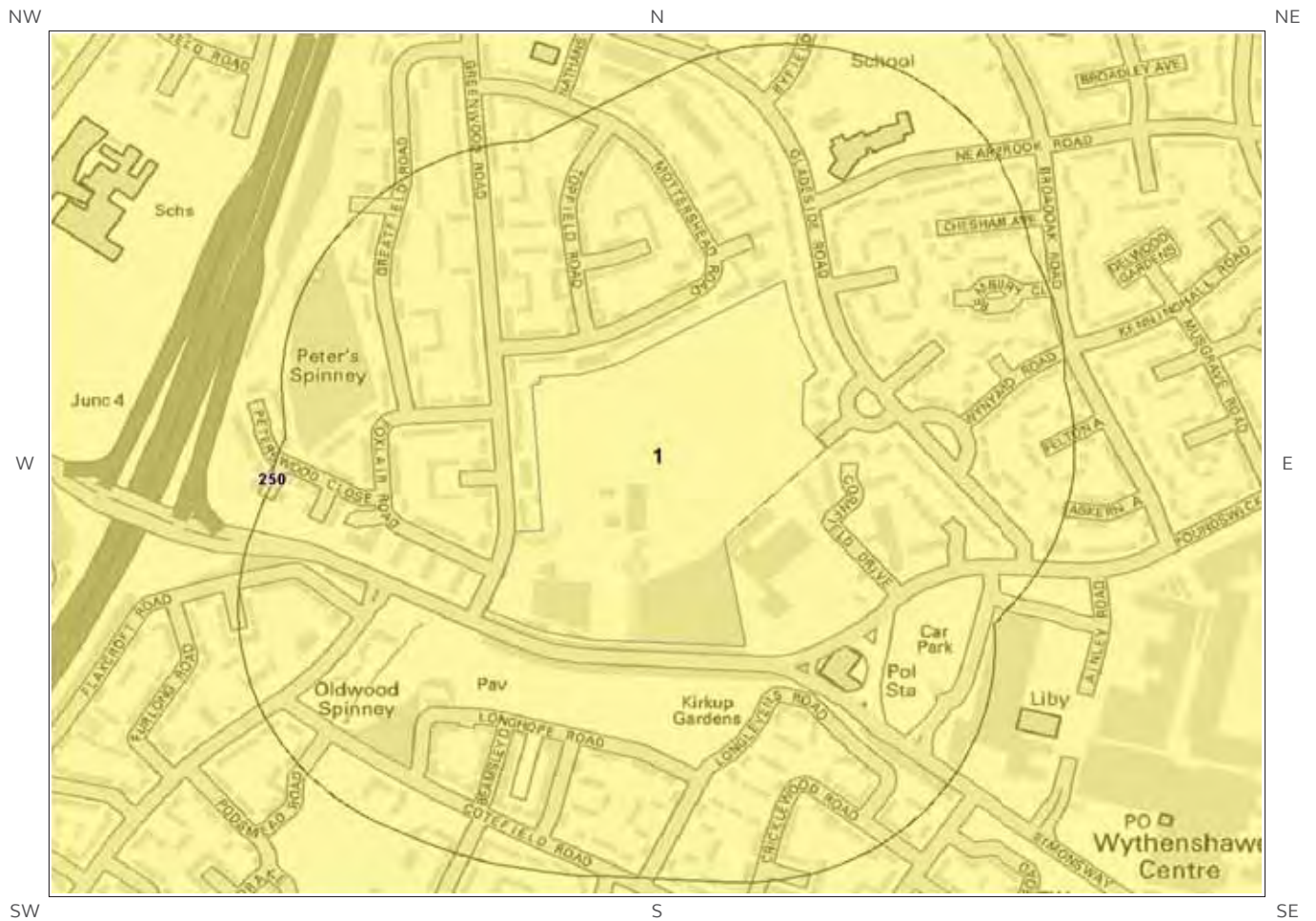


Shrink Swell Clay Legend

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4.2 Landslides Map

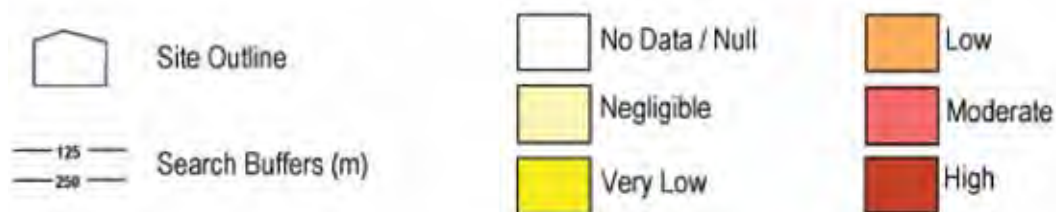


Landslides Legend

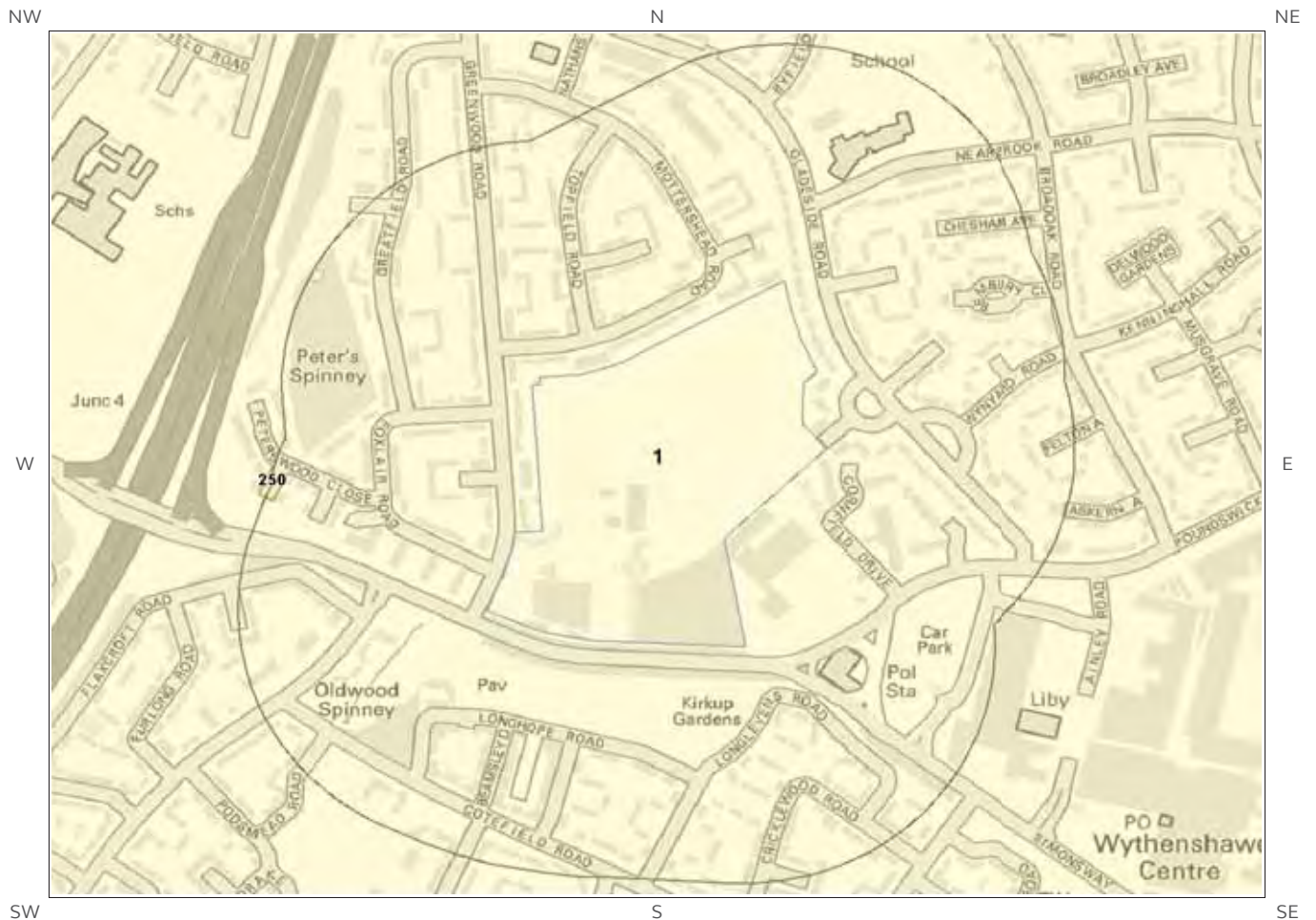
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4.3 Ground Dissolution Soluble Rocks Map



4.4 Compressible Deposits Map

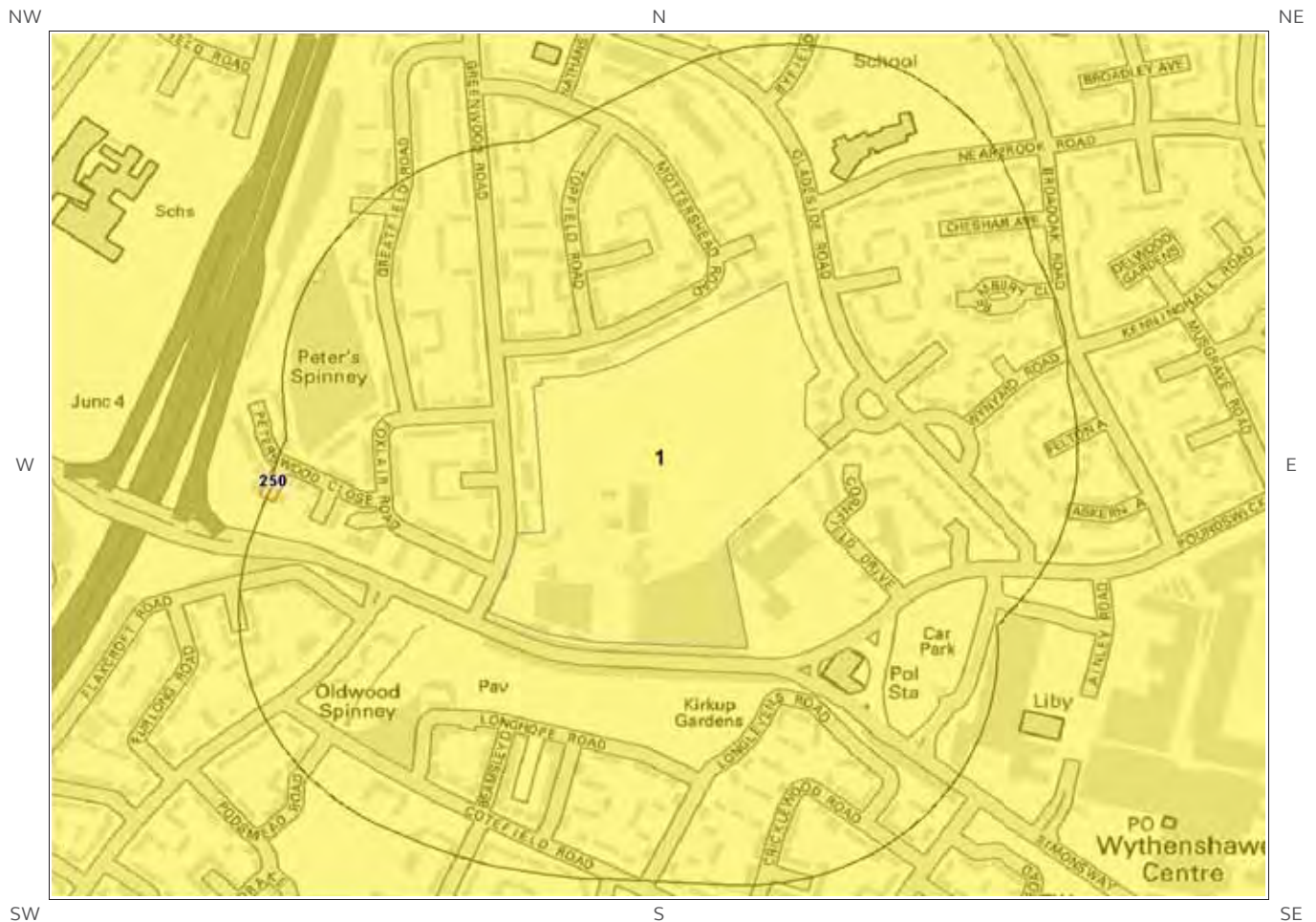


Compressible Deposits Legend

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4.5 Collapsible Deposits Map

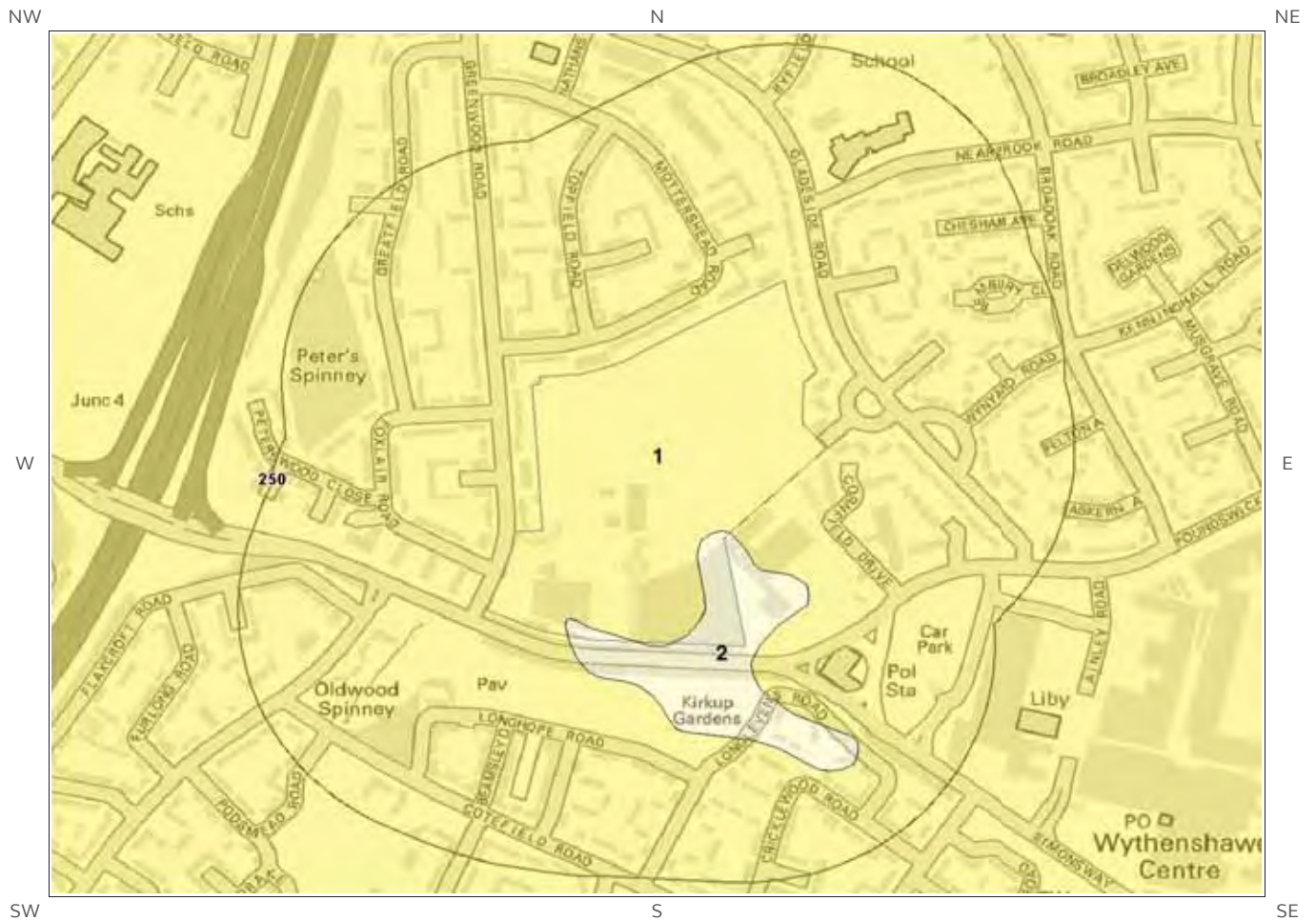


Collapsible Deposits Legend

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4.6 Running Sand Map



Running Sand Legend

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4 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

4.1 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.

4.2 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.

4.3 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.

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

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

4.5 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.

4.6 Running Sands

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

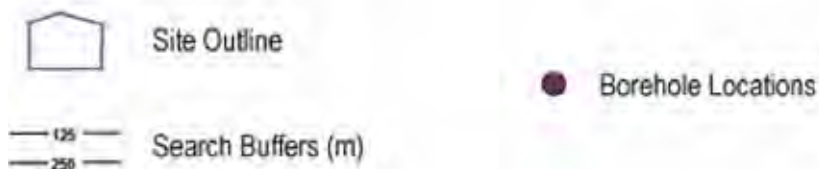
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased 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.

5 Borehole Records Map



Borehole Records Legend

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5 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:

2

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	230.0	W	381730 387190	SJ88NW885	4.5	M56 WIDENING JUNCTIONS 4 - 6 BH13
2	242.0	E	382520 387220	SJ88NW1002	2.5	ASKERN AVENUE BENCHILL MANCHESTER TPE

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/915566

#2: scans.bgs.ac.uk/sobi_scans/boreholes/915683

6 Estimated Background Soil Chemistry

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

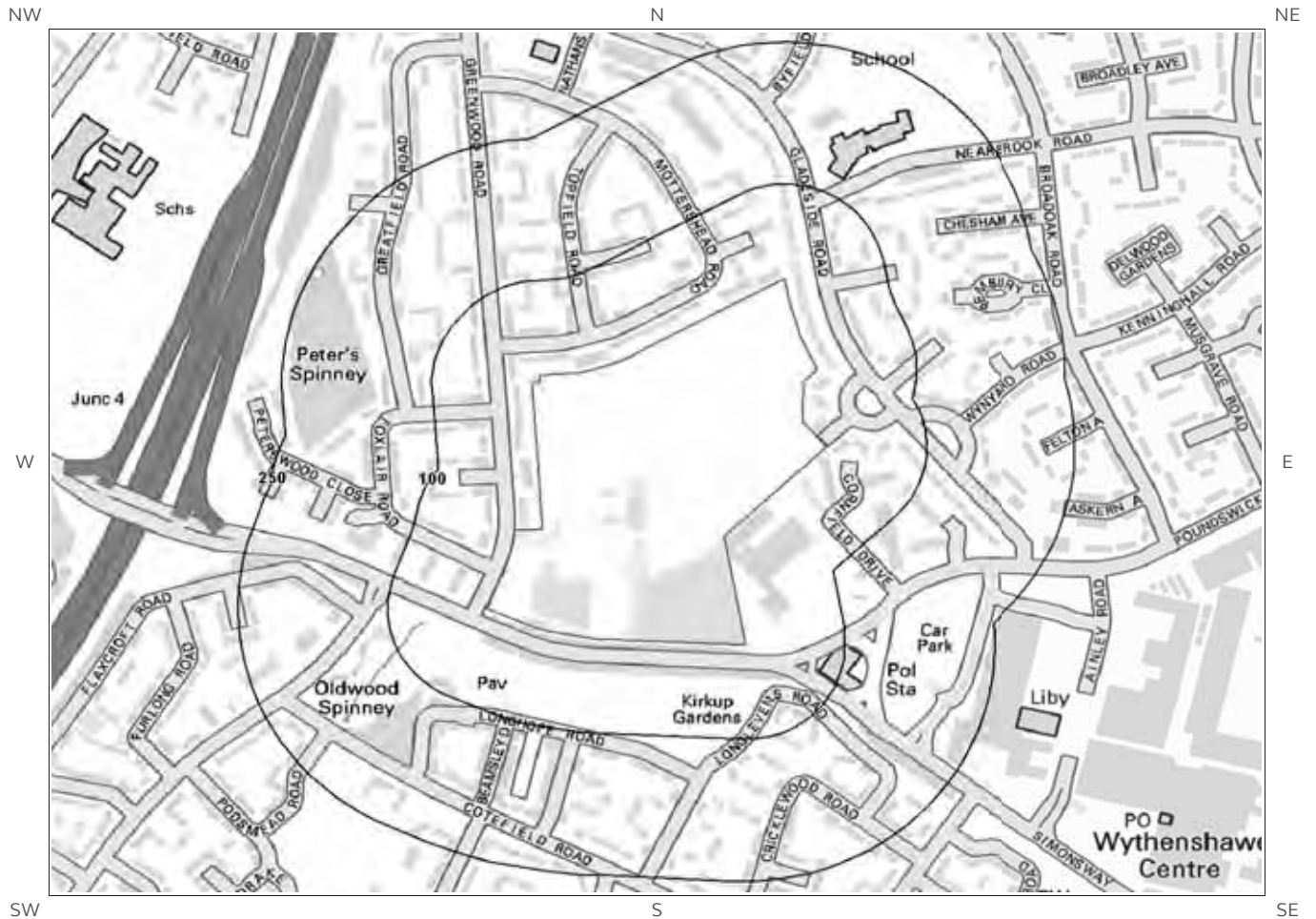
9

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	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
29.0	N	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
84.0	S	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
87.0	S	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
98.0	S	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
131.0	N	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg
211.0	E	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	<100 mg/kg

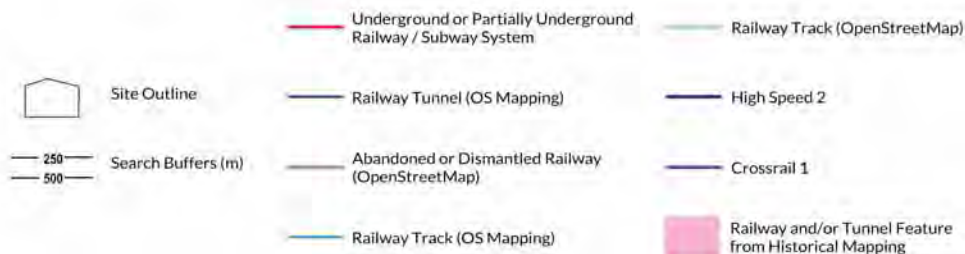
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend

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7 Railways and Tunnels

7.1 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.

7.2 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? No

Have any historical railway or tunnel features 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.

7.3 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.

Note: 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.

7.4 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?	No

Database searched and no data found.

Note: 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.

7.5 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?	Yes
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.

Contact Details



Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

British Gypsum

British Gypsum Ltd
East Leake
Loughborough
Leicestershire
LE12 6HX



The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
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Getmapping PLC

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Hampshire RG27 8NW
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Website: <http://www1.getmapping.com/>



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Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure.

Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client (“Payment Date”). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law



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Website: www.terraconsult.co.uk



FS 573193



EM5 573194



Site Details:

MANCHESTER ENTERPRISE
ACADEMY, SIMONSWAY,
MANCHESTER, M22 9RH

Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: County Series

Map date: 1897-1899

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1876
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1897
Edition 1899
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

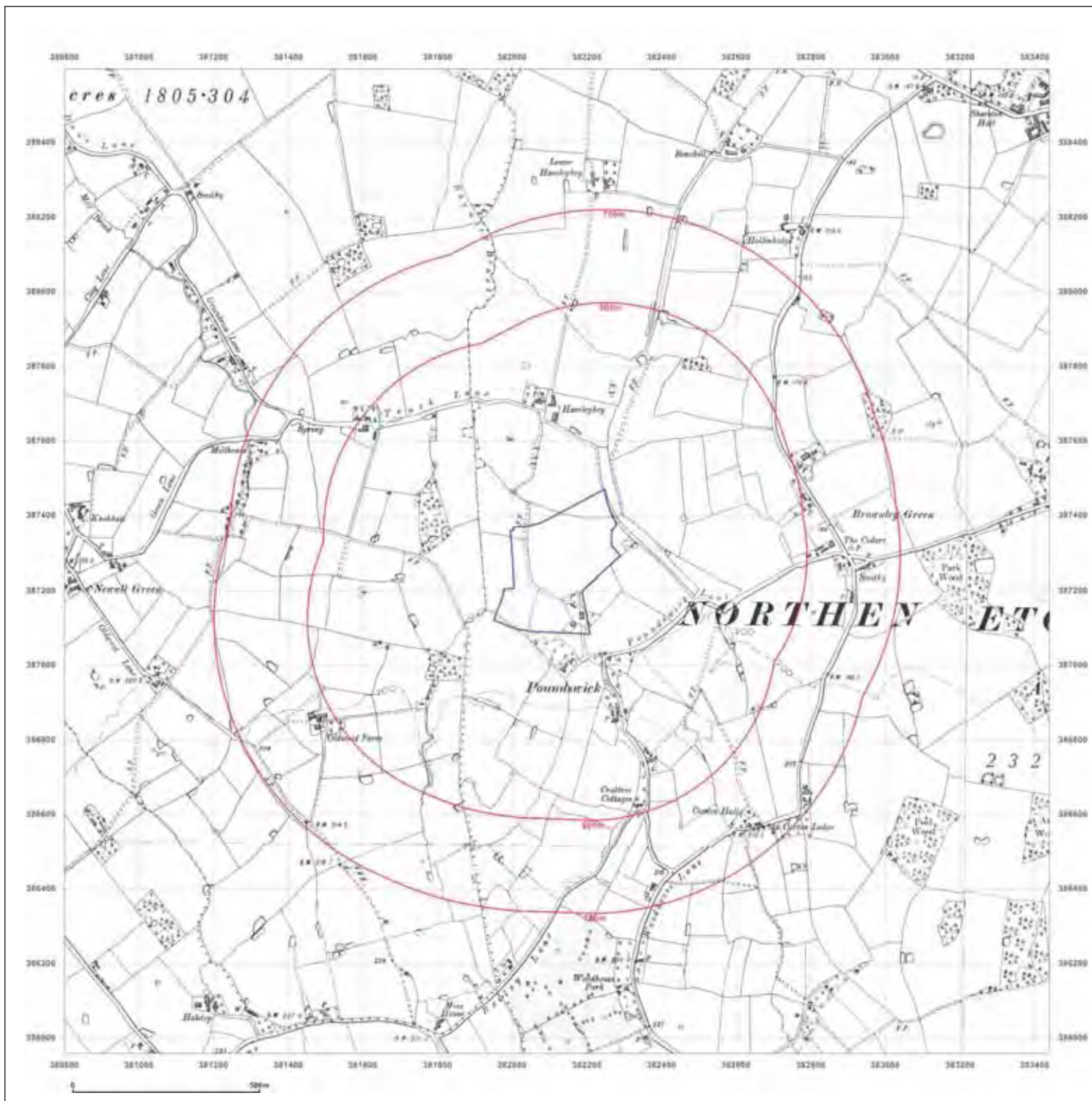


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MANCHESTER, M22 9RH

Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: County Series

Map date: 1907-1910

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1910
Edition 1910
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

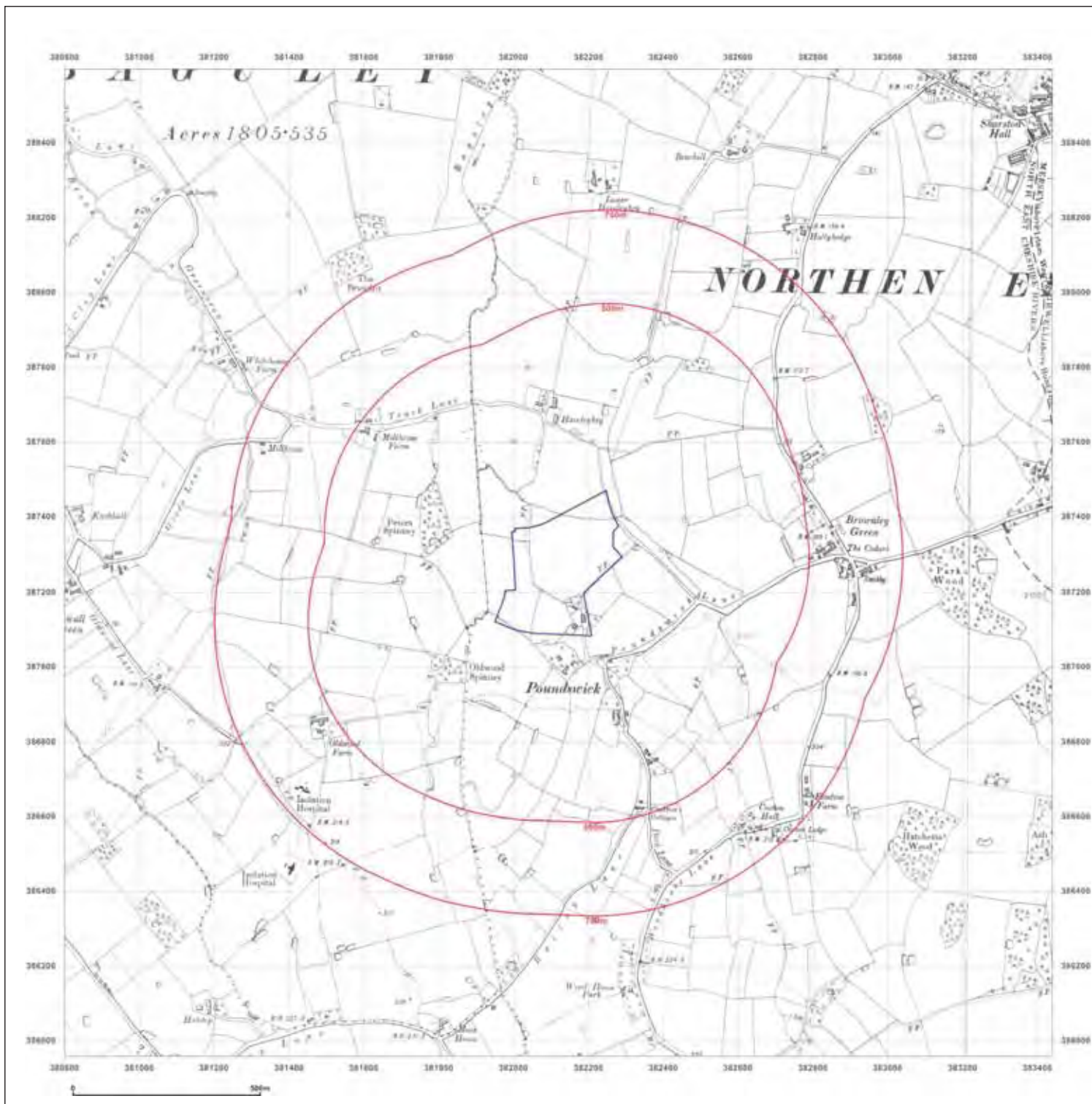


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MANCHESTER, M22 9RH

Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: County Series

Map date: 1907-1911

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1911
Edition 1911
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

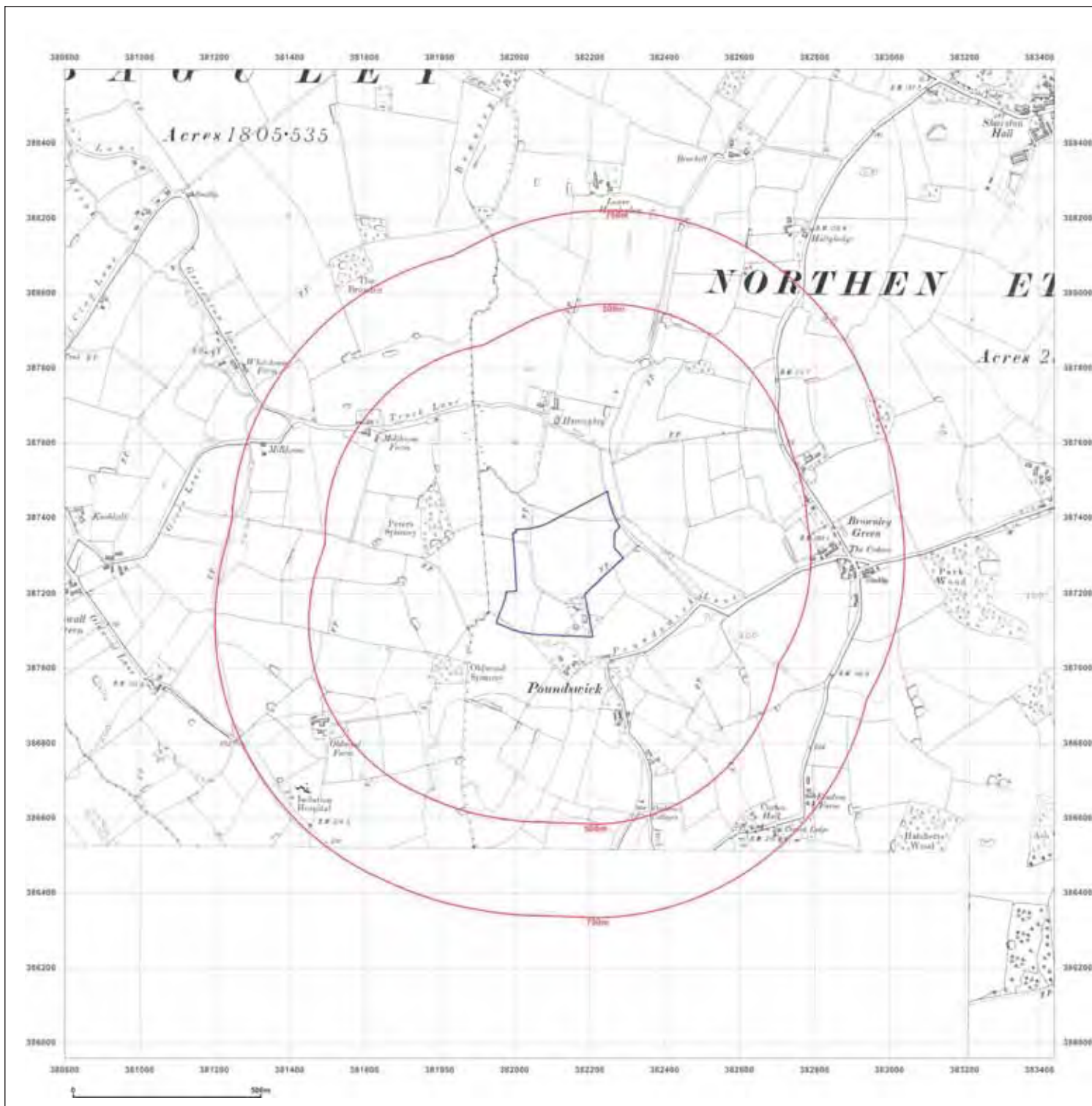


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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

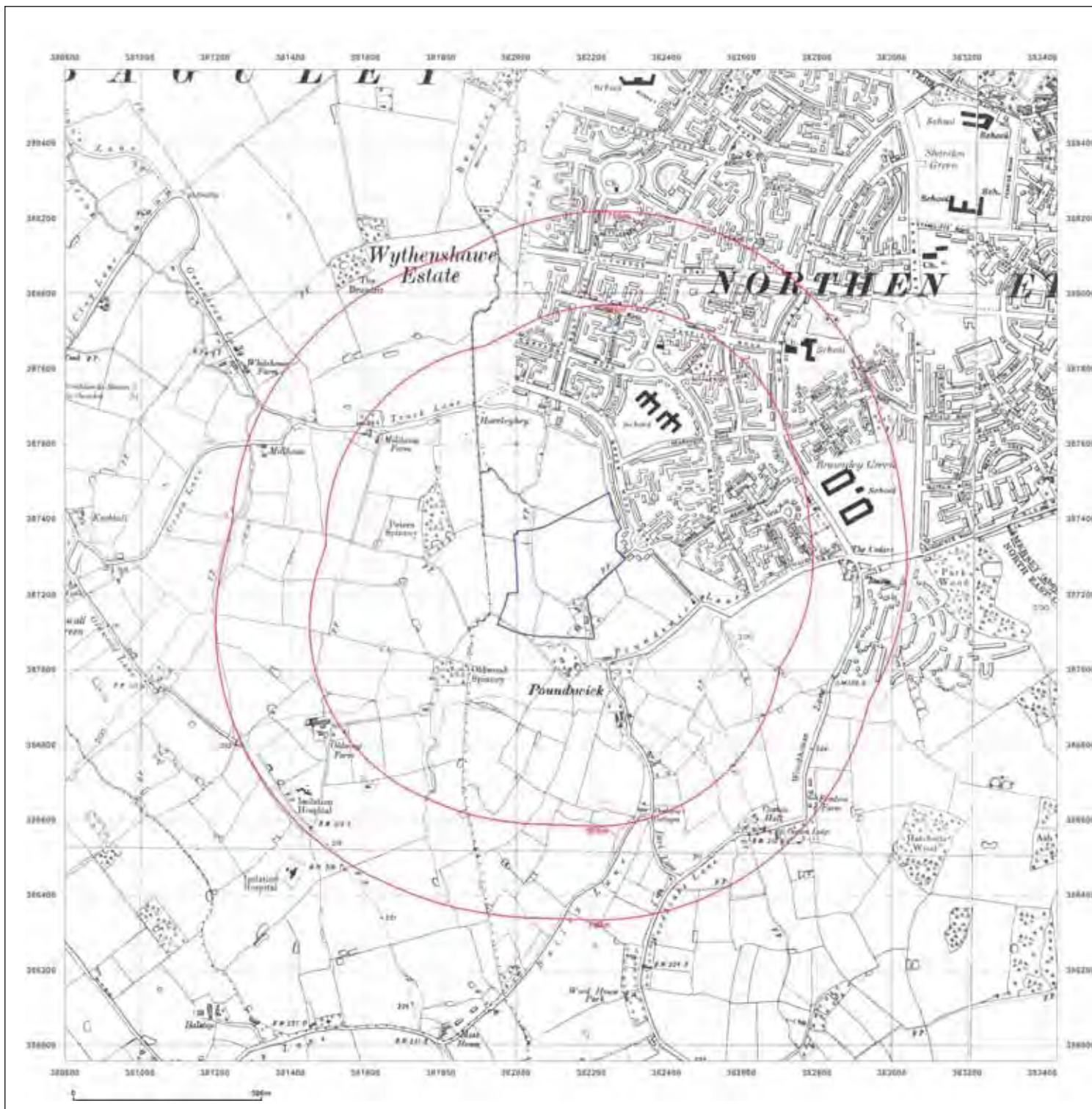


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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: Provisional

Map date: 1954

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1949
Revised 1954
Edition N/A
Copyright N/A
Levelled N/A

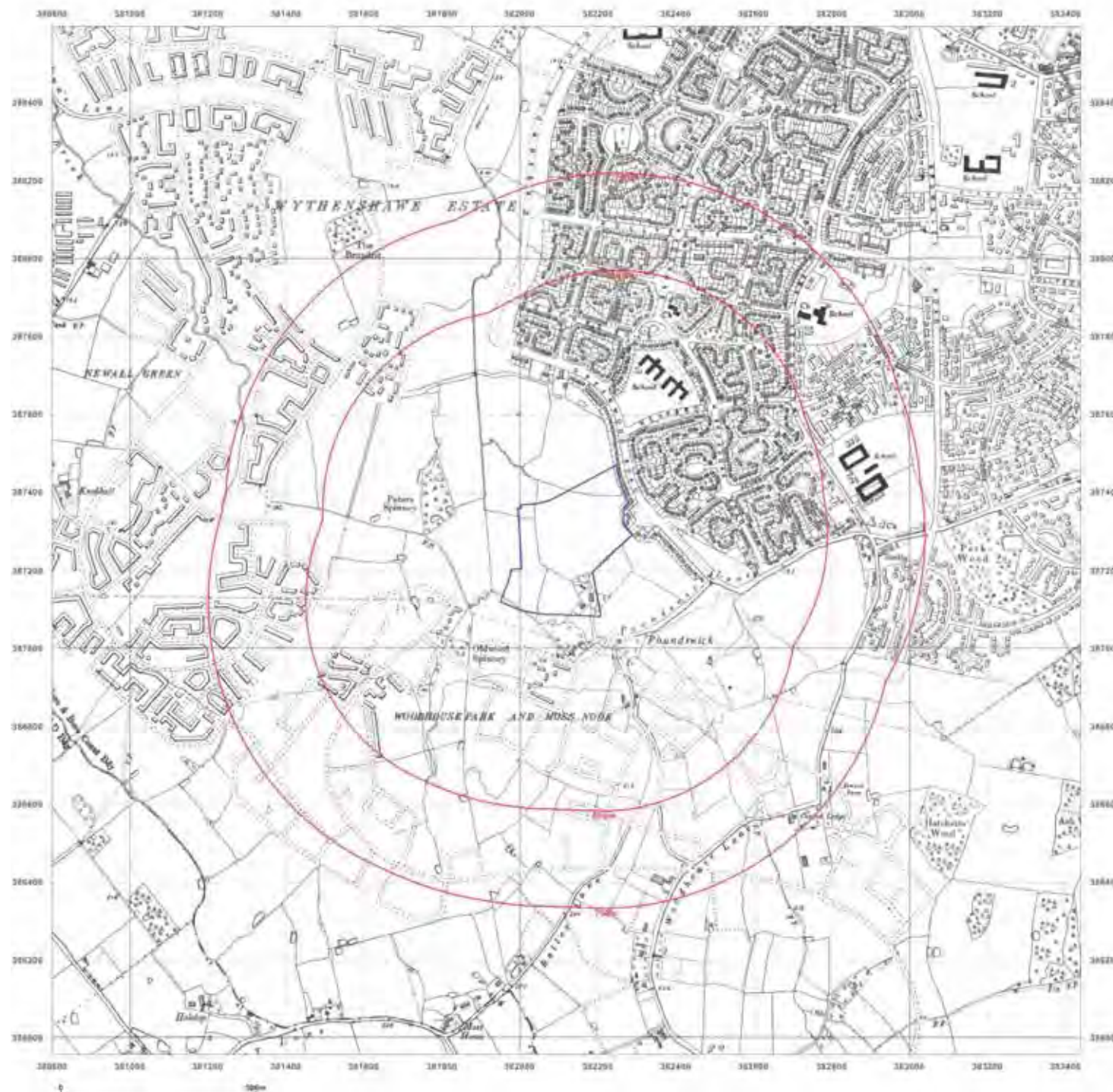


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MANCHESTER, M22 9RH

Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: Provisional

Map date: 1967

Scale: 1:10,560

Printed at: 1:10,560



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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: National Grid

Map date: 1977

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
Revised 1977
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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: National Grid

Map date: 1989

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1984
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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: National Grid

Map date: 1995

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1954
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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

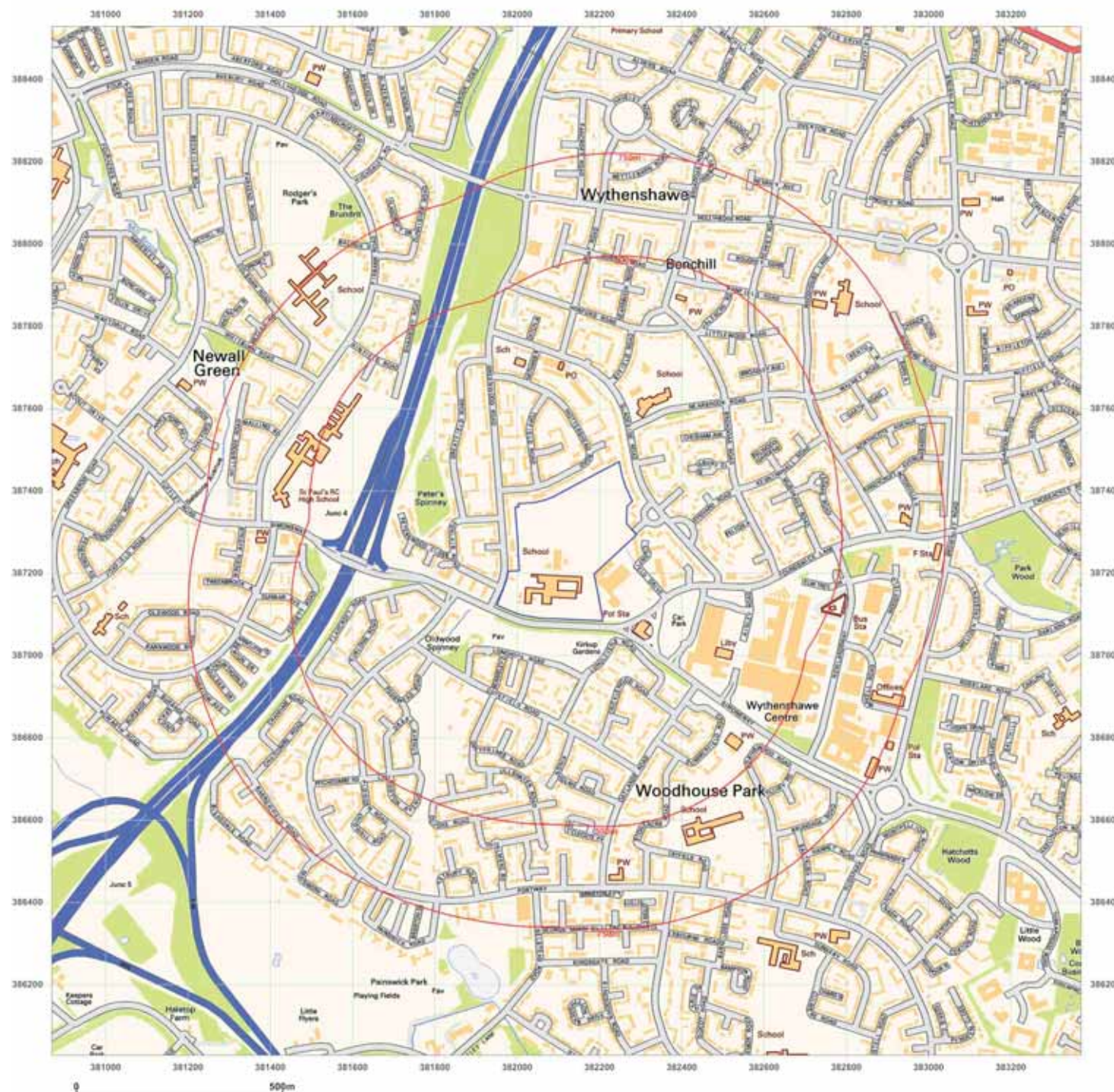


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Client Ref: PO15418
Report Ref: HMD-147-3007344
Grid Ref: 382120, 387278

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000

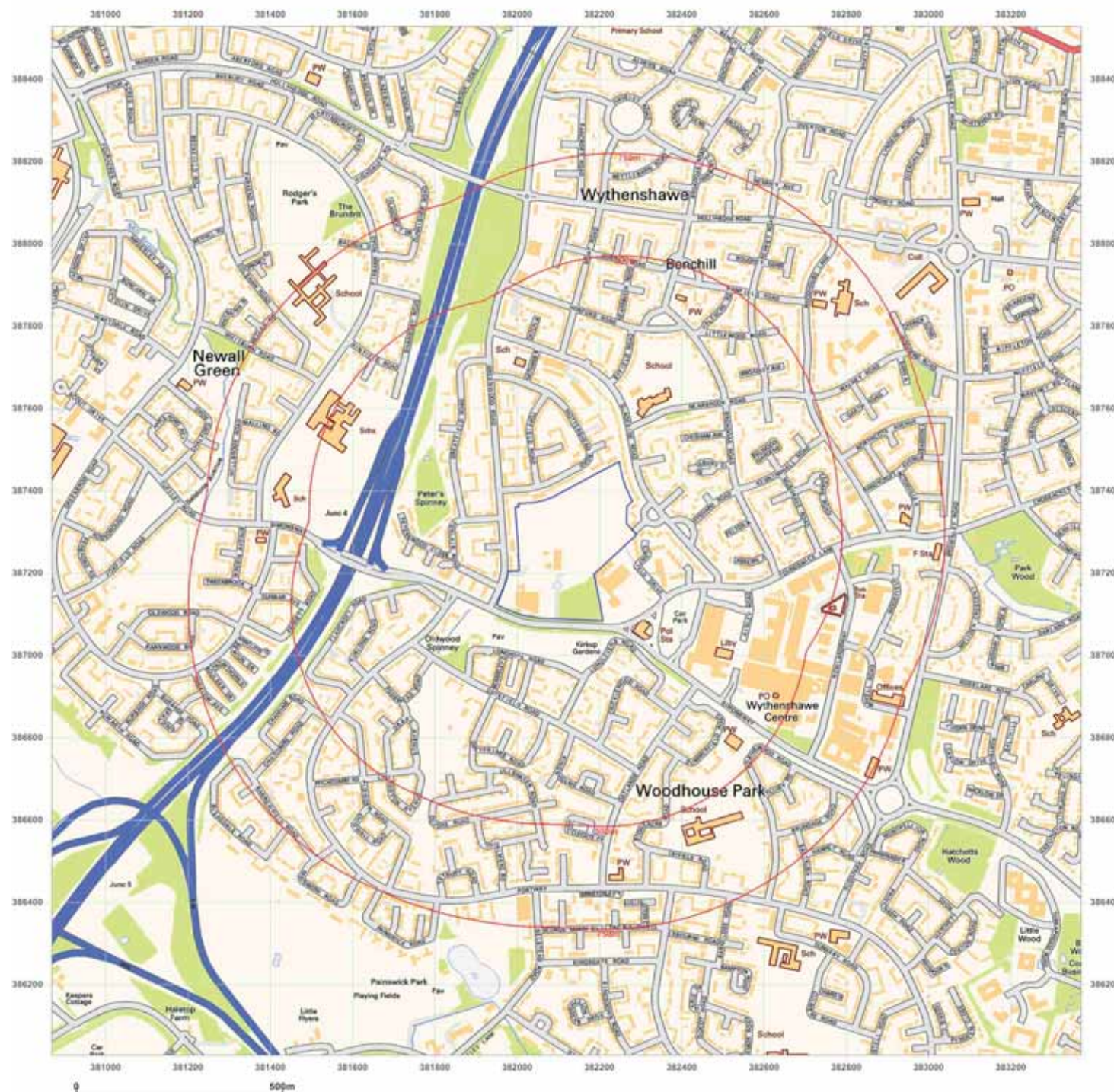


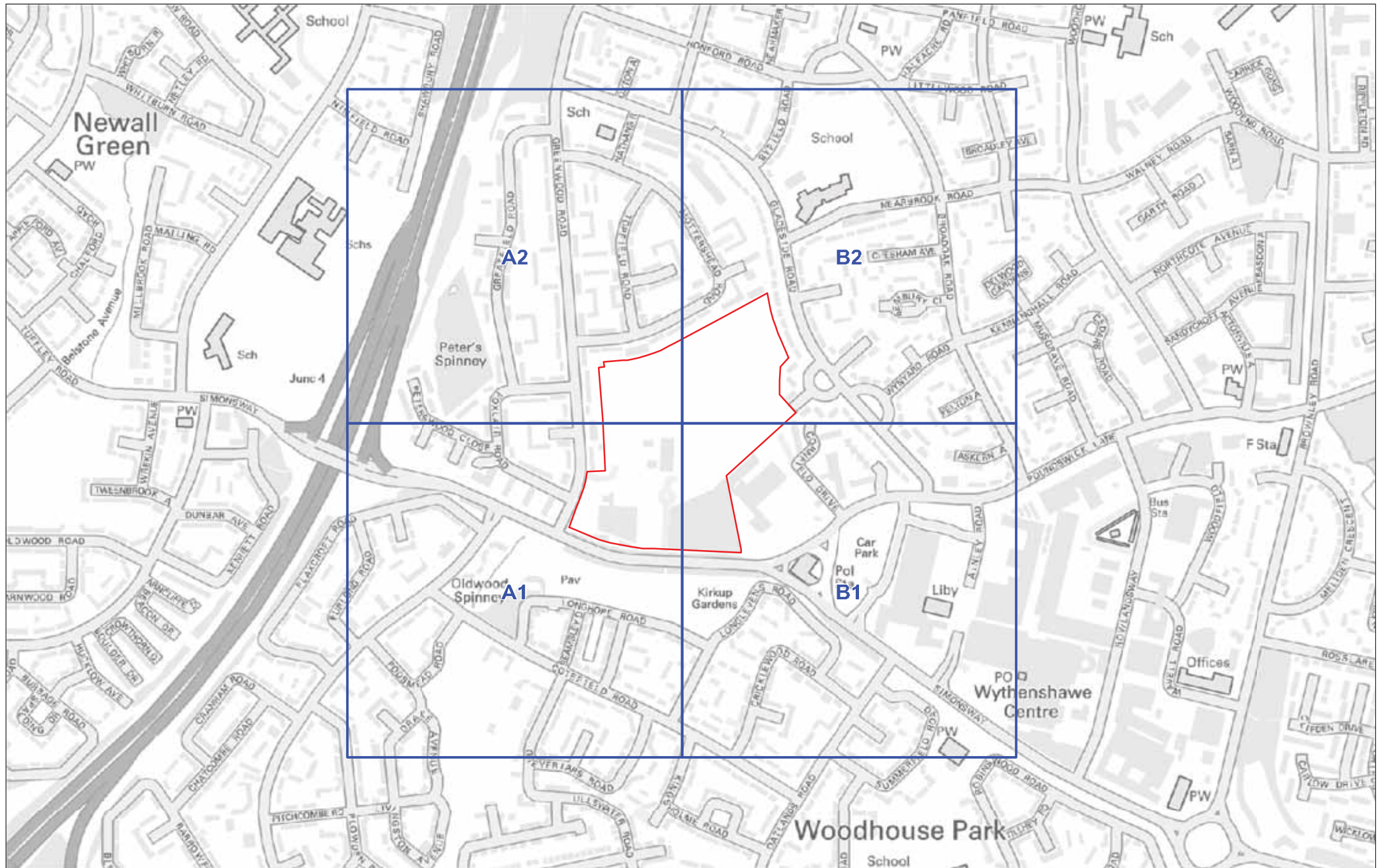
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Site Details:

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A1
Grid Ref: 381869, 387027

Map Name: National Grid

Map date: 1960

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1960
Revised 1960
Edition N/A
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Surveyed 1959
Revised 1959
Edition N/A
Copyright 1960
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Surveyed 1960
Revised 1960
Edition N/A
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Client Ref: PO15418

Report Ref: HMD-147-3007344_1250scale_A1

Grid Ref: 381869, 387027

Map Name: National Grid

Map date: 1974-1975

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A1
Grid Ref: 381869, 387027

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
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Surveyed N/A
Revised N/A
Edition N/A
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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A1
Grid Ref: 381869, 387027

Map Name: National Grid

Map date: 1992-1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed 1982
Revised 1982
Edition N/A
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Client Ref: PO15418

Report Ref: HMD-147-3007344_1250scale_A1

Grid Ref: 381869, 387027

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
Revised 1995
Edition N/A
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Surveyed 1995
Revised 1995
Edition N/A
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MANCHESTER ENTERPRISE
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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A2
Grid Ref: 381869, 387527

Map Name: National Grid

Map date: 1960

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1959
Revised 1959
Edition N/A
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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A2
Grid Ref: 381869, 387527

Map Name: National Grid

Map date: 1974-1978

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

MANCHESTER ENTERPRISE
ACADEMY, SIMONSWAY,
MANCHESTER, M22 9RH

Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A2
Grid Ref: 381869, 387527

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_A2
Grid Ref: 381869, 387527

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1960

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1977-1982

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1982-1987

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1992-1995

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B1
Grid Ref: 382369, 387027

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B2
Grid Ref: 382369, 387527

Map Name: National Grid

Map date: 1960

Scale: 1:1,250

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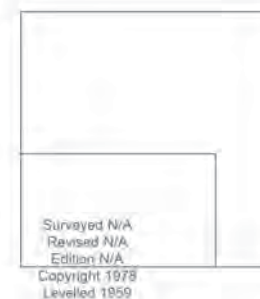
Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B2
Grid Ref: 382369, 387527

Map Name: National Grid

Map date: 1978

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B2
Grid Ref: 382369, 387527

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

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Client Ref: PO15418
Report Ref: HMD-147-3007344_1250scale_B2
Grid Ref: 382369, 387527

Map Name: National Grid

Map date: 1992-1995

Scale: 1:1,250

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