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**PHASE I DESK STUDY & SITE
INVESTIGATION REPORT**

PALATINE ROAD

DIDSBURY

Report Ref: A6550/25/SI

AUGUST 2025

Prepared on Behalf of:

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PHASE I DESK STUDY & GEOENVIRONMENTAL SITE INVESTIGATION REPORT

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Report Reference: A6550/25/SI

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Date: 29th August 2025

Prepared for: Affordable and Stylish Ltd

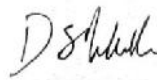
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Definition of Version Code:

- D. Applied during initial drafting of the report before it has been reviewed.
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Written by:



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Director

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1.0 EXECUTIVE SUMMARY

Appointment	A Site Investigation has been commissioned by Affordable and Stylish Ltd ('the Client'), to examine ground conditions for a proposed development at 246 Palatine Road, Manchester M20 2WF.
The Investigation	The investigation comprised two window sampling boreholes with follow-up dynamic probing, in-situ testing, and laboratory geotechnical testing, along with subsequent visits to conduct ground gas monitoring.
The Site	The site is located at Palatine Road, approximately 2.7km northeast of East Didsbury train station. The National Grid Reference for the centre of the site is SJ 83481 90855 (X: 383481, Y: 390855), the closest postcode being M20 2UE. According to the British Geological Survey (BGS), the site is underlain by superficial deposits of Alluvium and bedrock deposits of Wilmslow Sandstone Formation.
Site History	Historically, the site comprised a vacant plot of undeveloped land until the mid-1970s when the existing property was developed. Elevation changes have been recorded on site between the early 1900's and the 1950's, however were not noted between the 50s and 70s, suggesting potential levelling of the area. The on site car port is understood to have been constructed prior to 2003. No significant change has been identified since.
Ground Conditions Encountered	The exploratory holes generally encountered made ground to depths of 1.70m in the south of the site and 2.70m in the north of the site. This was overlying superficial deposits of alluvium, comprising very soft to soft clay and loose to very dense sand to a maximum depth of 8.00m bgl. Groundwater was encountered during the site investigation in both exploratory boreholes at 5.00m bgl. Subsequent monitoring visits identified groundwater levels between 4.43m - 4.52m bgl exclusively within WS01 (north of the site).
Geotechnical Assessment	Shallow strip/pad foundations placed in the natural superficial deposits are not considered appropriate for the current proposed development, due to the presence of deep made ground and soft/ loose alluvium (with a medium volume change potential). Foundation loadings will need to be transferred to competent strata by use of driven or bored piles. Pavement Design - preliminary design value = 1% in Made Ground. Design Sulphate Class = DS-1 ACEC Site Classification = AC-1s
Contamination Assessment	No significant sources of contamination identified during the desk study. Gravel layer containing ash and clinker to the rear of the property should be removed during redevelopment of the garden area. No further visual or olfactory evidence of contamination observed during the ground investigation.
<i>This sheet is intended to provide a summary only of the report. It does not provide a definitive engineering analysis for the purposes of costing or construction and is subject to the limitation of the agreed brief.</i>	

2.0 INTRODUCTION

2.1 Background

A site investigation has been commissioned by Affordable and Stylish Ltd ('the Client'), to examine ground conditions for a proposed development at 246 Palatine Road, Manchester.

2.2 Existing Planning Applications

2.2.1 Planning Application to Manchester City Council, 133426/FO/2022 dated June 2022.

A planning application has been submitted for the site to Manchester City Council and was approved with conditions.

This report aims to address condition 8 of the design notice.

8) a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority. The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and prior to occupation a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development in each phase is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

2.3 Terms of Reference

Earth Environmental and Geotechnical Ltd (EEG) have been commissioned by the Client to undertake a site investigation of the site in accordance with proposal A6550/25 dated 7th May 2025. The objectives of this investigation are as follows:

- *Provide factual information on the work undertaken, including sampling location plan, borehole logs, in-situ testing, and geotechnical testing.*
- *Integrated Phase 1 Environmental Desk Study.*
- *Assessment of ground conditions for foundation design.*

2.4 Report Scope

This report presents a review of the Phase I desk study information, full factual records of the site work carried out, the ground conditions encountered in the exploratory holes, and the in situ and laboratory test results. All information collected has been used to provide an interpretation of the ground conditions, with recommendations on geotechnical design and potential ground contamination risks for the proposed development.

2.5 Limitations of the Study

The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices, or changes in legislation may require a reinterpretation of the report in whole or in part. EEG reserves the right to amend either conclusions or recommendations, considering any further information that may become available. The report is provided for the sole use by the client and is confidential to them. Recommendations within this report are also based on exploratory records and examination of samples and, where applicable, laboratory tests. No liability can be accepted for conditions not revealed by the boreholes, particularly at intervening locations. Whilst every effort is made to ensure accuracy of data supplied, all opinions expressed as to the spatial distribution of strata between sampling locations are for guidance only and no responsibility is accepted as to their accuracy.

3.0 SITE LOCATION & DESCRIPTION

The site (0.09 ha) is located at Palatine Road, approximately 2.7km northeast of East Didsbury train station.

The approximate National Grid Reference for the centre of the site is SJ 83481 90855 (X: 383481, Y: 390855), the closest postcode being M20 2UE.

The site is roughly a rectangular shaped parcel of land with current access via Palatine Road located south of the site.

The site is predominantly occupied by a single residential dwelling with a private driveway, garden space, car port and detached canopy. The central structure is surrounded by mature trees and vegetation. An infestation of Himalayan Balsam has been identified predominantly along the southwest site boundary, along with patches on the north of the plot. The infestation was noted to be present off-site to the southwest of the site.

The site is surrounded by dense woodland and mature trees to the north, west, and east. The south side also contains mature vegetation but includes the primary access point from Palatine Road. The wider surroundings include the Withington Golf Club to the south and River Mersey northwest. Residential properties are situated further along Palatine Road to the east.

The site is bound by wooden fencing north, east and west, with a gated entrance located along the southern boundary facing Palatine Road.

The site location is shown below in Figure 1.

Figure 1: Site Location Plan



Figure 2: General Site Photographs

Photograph viewing northeast showing the front of the existing property



Photograph viewing southeast showing the rear of the existing property



Photograph viewing north showing the pond, north of the existing property



Photograph of representative soils (WS02)

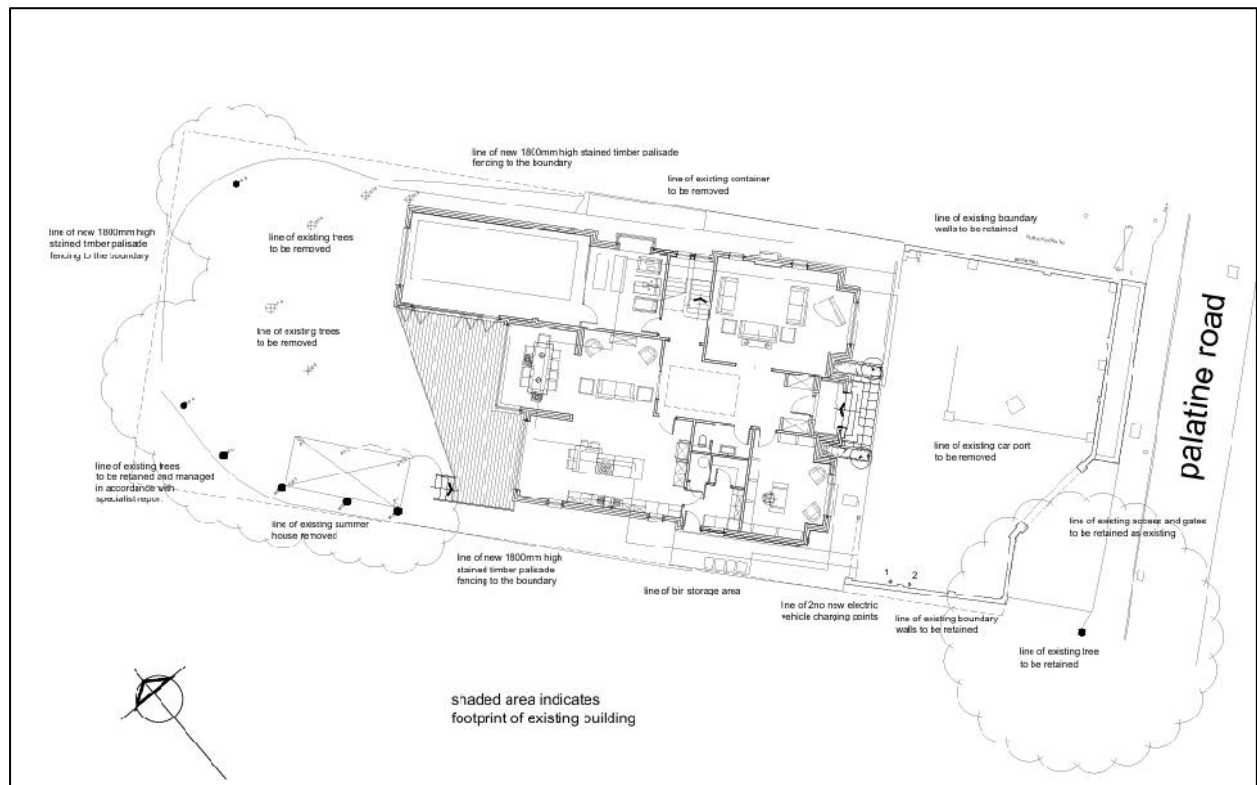


3.1 Proposed Development

It is understood that the Client intends to replace the existing building at Palatine Road, adding new fencing, electric vehicle charging points, removing some trees and outbuildings, and make improvements to the landscape and boundaries.

A proposed development plan is shown in Figure 3 below:

Figure 3: Proposed Development Plan



4.0 REVIEW OF DESK STUDY INFORMATION

4.1 General

The geology of the site is covered by British Geological Survey (BGS) online data and the site specific GroundSure Enviro+Geo Insight report (Appendix 1).

Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site specific GroundSure Enviro+Geo Insight report (Appendix 1).

4.2 Geology

The BGS states the site is not underlain by artificial deposits or made ground. However, multiple records of made ground are recorded in the surrounding area, particularly along the banks of the River Mersey and to the south of the site (7m south).

The site is recorded to be underlain by superficial deposits of Alluvium, comprising of clay, silt and gravel.

The site is recorded to be underlain by bedrock of the Wilmslow Sandstone Formation, comprising of sandstone.

There are 2no. records of linear features within 500m of the site boundary. The closest record refers to a fault 412m west of the site.

There are no records of landslips within 500m of the site boundary.

There are 7no. borehole records identified within 250m of the site. The closest borehole record is 59m northeast of the site. The records are confidential and are therefore inaccessible. The closest available record refers to a borehole drilled to 17.68m bgl located 228m southwest of the site. The record shows generally soft silty clay to a depth of 5.48m, underlain by loose sand with a single dense gravel band to a depth of 10.67m bgl. This was underlain by dense to very dense sand with gravel and cobbles to a depth of 15.75m bgl. Weakly cemented sandstone rockhead was encountered at a 15.75m bgl. A water strike was recorded at 5.48m bgl at the start of the granular material.

The following hazards ratings apply to the site and land within 50m and are presented in the Enviro + Geo Insight Report

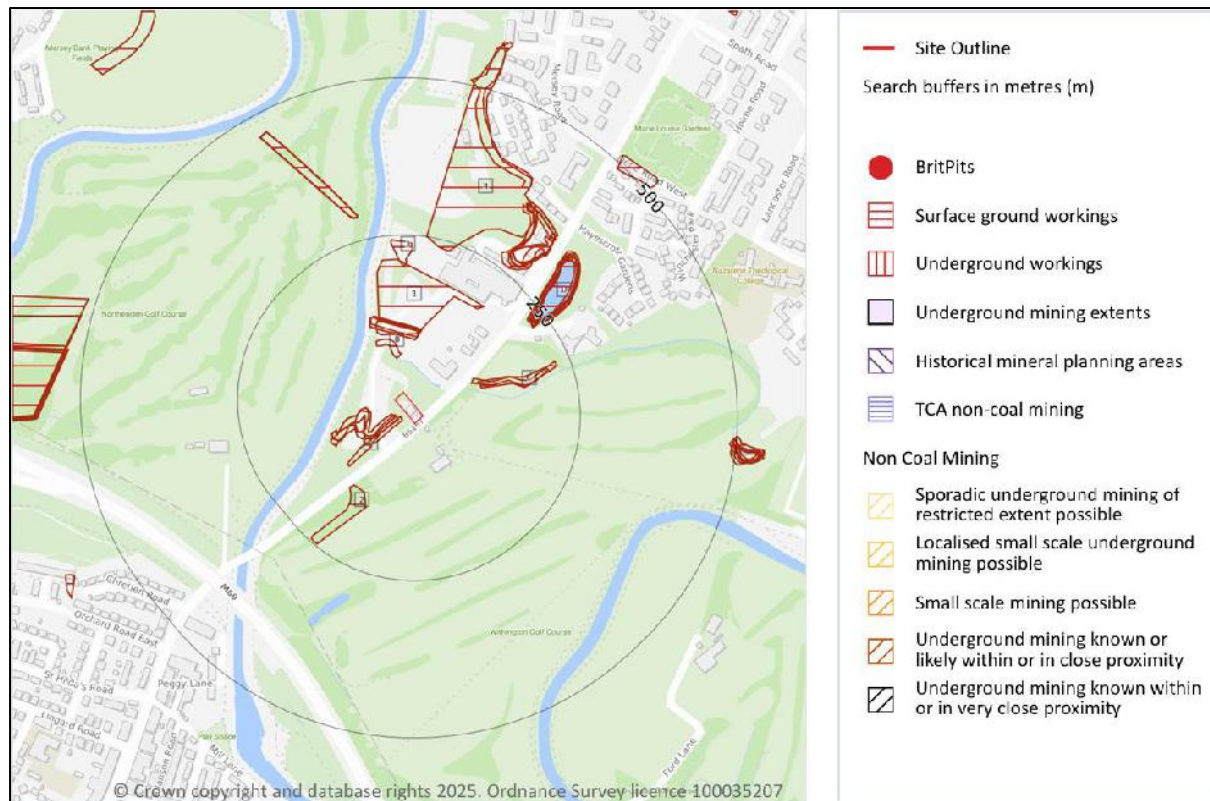
- | | |
|--|------------|
| • Shrink / swell clays: | Very Low |
| • Running sands: | Low |
| • Compressible deposits: | Moderate |
| • Collapsible deposits: | Negligible |
| • Landslides: | Very Low |
| • Ground dissolution of soluble rocks: | Negligible |

4.3 Ground Workings

According to BGS, there are no records of British Pits within 500m of the site.

There are 27no. records of historical surface ground working features identified within 250m of the site boundary. The closest record refers to unspecified ground workings located 11m southwest of the site, mapped in 1923. The remaining records refer to further unspecified ground workings, gravel pit, unspecified pits, unspecified heaps and ponds.

Figure 4: Mining & Ground Workings Map



4.4 Mining and Other Underground Workings

Reference to the Coal Authority shows that the site is not located within an identified coal mining area and is therefore not within a Development High Risk Area.

There are no records for non-coal mining areas located within 1km of the site.

There are no areas of gypsum extraction, brine extraction, tin mining, or clay mining within 1km of the site.

There are no records for non-coal cavities identified within 1km of the site.

There are no records of natural cavities identified within 1km of the site.

There are no records for historical underground working features identified within 1km of the site.

4.5 Radon Potential

The site is not located in a Radon Affected Area as less than 1% of properties above the Action Level. Therefore, radon measures are not required.

4.6 Hydrogeology and Hydrology

The site is recorded to be underlain by superficial deposits of Alluvium, and has been assigned Secondary A aquifer designation with an intergranular flow type and a very low to high permeability. The BGS states the following:

Secondary A *'Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.'*

The site is recorded to be underlain by bedrock of the Wilmslow Sandstone Formation, and has been assigned a Principal aquifer designation with an intergranular flow type and a high permeability. The BGS states the following.

Principal *'Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers.'*

The groundwater vulnerability and soil leaching potential of the site has been classified as high vulnerability for the superficial geology and medium for the bedrock geology vulnerability. The soil leaching potential of the site is classified as high. The BGS states:

'High' *Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.*

'Medium' *Intermediate between high and low vulnerability.*

There are 6no. groundwater abstraction licence records within 2km of the site. The closest record refers to an active licence for spray irrigation- direct, located 581m southeast.

There are 2no. surface water abstraction licence records within 2km of the site. Both records refer to historical licenses for general washing/ process washing and dust suppression, located 823m west of the site.

There are no potable abstraction license records within 2km of the site.

The site is not located within a groundwater Source Protection Zone.

The site is not located within a Source Protection Zone with a confined aquifer.

There are 9no. water network entries within 250m of the site. The closest record refers to Fielden Park Brook, an inland river not influenced by normal tidal action, on the ground surface, located 42m northeast of the site.

There are 4no. surface water features within 250m of the site.

There is 1no. record of a Water Framework Directive (WFD) surface water body catchment located on site. The record refers to the Bollin Dean Mersey Upper operational catchment in the Mersey Upper management catchment.

There is 1no. record of a WFD surface water body located within 500m of the site. The record refers to the River Mersey (upstream of Manchester Ship Canal) located 90m northwest of the site. The water body received a fail chemical rating and a moderate ecological rating in 2019.

There is 1no. record of a WFD groundwater body located on site. The record refers to the Manchester and East Cheshire Permo-Triassic Sandstone Aquifers. The water body received a poor chemical rating in 2019.

4.7 Landfill and Waste Management Activity

There are no records for the current Environment Agency/Natural Resource Wales landfill records within 500m of the site.

There are no records of BGS/DoE non-operational landfill sites within 500m of the site.

There are no records of historical landfill sites from the Local Authority and Historical Mapping Records within 500m of the site.

There is 1no. record of a historic Environment Agency/Natural Resource Wales landfill site within 500m of the site. The record refers to a landfill accepting inert industrial, commercial, household, liquid sludge waste located 445m west.

There are no records of historical waste sites from the Local Authority and Historical Mapping Records within 500m of the site.

There are no records of current Environment Agency/Natural Resources Wales licensed waste sites within 500m of the site.

There are 2no. records of waste treatment, transfer, or disposal sites within 500m of the site. The ten closest records refer to treating waste exemptions and using waste exemptions, non-agricultural waste only, located 295m west of the site.

4.8 Industrial Land Use Information

There are 20no. records of potentially contaminative historical land uses identified within 500m of the site. The closest 3no. records refer to an unspecified ground workings, located 11 - 18m southwest of the site, dated between 1923 - 1981. Other records in the vicinity refer to unspecified heaps and pits, gravel pits, a tunnel, and further unspecified ground workings.

There are 3no. records of historical tanks identified within 500m of the site. All records refer to an unspecified tank located between 336-457m west and northeast, dated 1982-1992.

There is 1no. records of historical energy features identified within 500m of the site. The record refers to an electricity substation located 97m northeast, dated 1989-1992.

There are no records of historical petrol or fuel sites within 500m of the site.

There are 9no. historical garage and motor vehicle repair site records identified within 500m of the site. The closest 3no. records refer to a garage located 288-290m northeast, dated 1964-1994.

There is 1no. record of current potentially contaminative land uses identified within 250m of the site. The record refers to an electricity substation located 104m northeast.

There is 1no. record of a National Geographic Database (NGD) current or recent tank within 250m of the site. The record refers to a roofed storage tank for commercial use, located 105m south of the site, dated 18/04/2014.

There is 1no. record for current petrol or fuel sites within 500m of the site. The record refers to an obsolete petrol station located 475m southwest.

There are no National Grid high voltage underground electricity transmission cables within 500m of the site.

There are no National Grid high-pressure gas transmission pipelines within 500m of the site.

There are no records of historical railway and tunnel features identified within 250m of the site.

There are no historical railway lines identified within 250m of the site.

There are no records of current active railway line records identified within 250m of the site.

There are no underground railway lines or tunnels identified within 250m of the site.

The site is within 500m of the route of the High Speed 2 rail project. The closest record refers to a proposed tunnel located 43m southeast and a proposed tunnel located 172m northwest. These tunnels were part of the original HS2 proposals but are no longer progressing.

The site is not within 500m of the route of the Crossrail 1 rail project.

4.9 Environmental Permits, Incidents and Registers

The Groundsure Report includes records of environmental permits, incidents, and registers within 500m of the site, which are summarised in Table 1 below

Table 1: Environmental Permits, Incidents and Registers within 500m of the site

Permit/Incident/Register	Number	Nearest Record
Sites determined as Contaminated Land (Part 2a Register)	0	N/A
Control of Major Accident Hazards (COMAH)	0	N/A
Regulated explosive sites	0	N/A
Hazardous substance storage/usage	0	N/A
Historical Licensed Industrial Activities (IPC)	0	N/A
Licensed industrial activities (Part A(1))	0	N/A
Licensed pollutant release (Part A(2)/B)	0	N/A
Radioactive Substance Authorisation	0	N/A
Licensed Discharges to controlled waters	1	453m southwest
Pollutant release to surface waters (Red List)	0	N/A
Pollutant release to public sewer	0	N/A
List 1 Dangerous Substances (European Directive E 2006/11/EC)	0	N/A
List 2 Dangerous Substances (European Directive E 2006/11/EC)	0	N/A
Pollution Incidents (EA/NRW)	4	468m northeast
Pollution inventory substances	0	N/A
Pollution inventory waste transfers	0	N/A

Pollution inventory radioactive waste	0	N/A
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There is 1no. record of a licensed discharge to controlled waters within 500m of the site. The record refers to a permit surrendered under EPR 2010 for trade discharges- site drainage from the River Mersey, located 453m southwest of the site.

There are 4no. records of pollution incidents (EA/NRW) within 500m of the site. The closest 3no. records refer to a category 3 (minor) land impact caused by inert materials and wastes, located 468m northeast.

There are no further records of Environmental Permits, Incidents and Registers within 500m of the site.

4.10 Environmentally Sensitive Sites

There are no records of a Site of Special Scientific Interest (SSSI) within 2km of the site.

There are 5no. records of Local Nature Reserves (LNR) located within 2km of the site. The closest record refers to Kenworthy Woods located 930m west.

There are 2no. records of Designated Ancient Woodland located within 2km of the site. The closest record refers to the ancient and semi-natural woodland Black Field Wood located 1709m southwest. The second record refers to Round's wood located 1768m southwest.

There are 3no. records of Green Belts located within 2km of the site, including 1no. on-site record. All records refer to the Merseyside and Greater Manchester Green Belt. The 2no. off-site records are located both 1661m southeast and 1767m northwest.

The site is located within an SSSI Impact Risk Zone.

There are no other records of environmentally sensitive sites within 2km of the site.

4.11 Ecology

An ecological assessment of the site falls outside the brief of this report. Where considered necessary, advice should be sought from an ecological specialist in this respect.

However, the site is classified as non-agricultural land. However, the land 5m northeast is classified as urban.

There is 1no. record of open access land within 250m of the site. The record refers to Northenden Golf Club located 68m northwest.

There is 1no. record of a tree felling license located within 250m of the site. The record refers to a selective fell/ thin (unconditional) located 211m west, dated 18/05/2016.

4.12 Archaeology

An archaeological assessment falls outside the brief of this report. Where considered necessary, advice should be sought from an archaeological specialist in this respect.

However, there are no records of World Heritage Sites, Listed Buildings, Conservation Areas, or Scheduled Ancient Monuments within 250m of the site.

4.13 Potential Flood Risks

Detailed assessment of flood risk is outside the scope of this report. However, reference to Environment Agency records indicates that the site lies within a Zone 3 Flood Zone.

There are 12no. records of flooding from rivers and sea (RoFRaS) on site or within 50m of the site. The risk of flooding from rivers and sea (RoFRaS) on site is classified as high.

There are 4no. records of historical flood events within 250m of the site. The closest 2no. records refer to the Mersey (1964) and Didsbury (2021) fluvial floods located on site.

There are 4no. records of flood defences located within 250m of the site. All records are dated 2022 and are located 28 - 99m northeast and northwest.

There is 1no. records of areas benefitting from flood defences within 250m of the site. The record is located 110m northwest of the site.

There is 1no. record of areas used for flood storage located 7m northeast of the site.

The highest risk of surface water flooding occurring on-site for a 1 in 30-year return event is, 0.3m - 1.0m.

The highest risk of groundwater flooding occurring on-site is moderate. The highest risk of groundwater flooding occurring within 50m of the site is high.

4.14 Site History

The historical development of the site has been determined by reference historical plans and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates to 1849.

The site history of the site is summarised in Table 2, below, followed by selected extracts from maps and aerial photographs.

Table 2: Summary of Site History

Date	Scale	On-Site History	Surrounding Land Use History
1849	1:10,560	The site comprises a vacant plot of undeveloped, agricultural land. A footpath is recorded to run through the centre of the centre of the site, however this footpath is recorded to be adjacent to the site on subsequent maps, and it is therefore assumed that this map is slightly misaligned.	The site is surrounded by vacant, undeveloped land, with patches of woodland and an orchard to the northeast. The River Mersey is located approximately 90m northwest of the site. The 'onsite' footpath continues to the northwest and southeast. A tunnel is recorded 500m north of the site, assumed to run under the Mersey.
1881	1:2,500	A row of trees are located along the southeast boundary of the site, lining Palatine Road. A small slope is recorded along the southeast boundary which continues for	Palatine Road is located directly south of the site running northeast-southwest. Gravel pit located approximately 150m northeast. Fish pond located approximately 250m northeast. A residential property is located directly east of the site with an associated orchard to the north.

Date	Scale	On-Site History	Surrounding Land Use History
		the length of Palatine Road, suggesting the road is slightly raised.	A brook, running roughly east to west, is located approximately 50m northeast and is assumed to connect to the Mersey approximately 100m northwest of the site. Residential properties are located both approximately 150m northeast and southwest. Northenden Bridge located approximately 300m southwest.
1894	1:2,500	There is no significant change compared to the previous map.	Further residential dwellings are located approximately 80 - 170m northeast.
1905 1907 1910 1907-1911 1916	1:10,560 1:2,500	The land has been separated into two parcels of land by a boundary. The southeast half of the site appears to have been raised to the level of the embanked Palatine Road.	Fielden Park is located approximately 400m northwest of the site. The previously undeveloped land to the south of Palatine Road is now recorded as a golf course. By 1916, the area northwest of the Mersey is recorded as a golf course.
1922 1923	1:2,500 1:10,560	There is no significant change compared to the previous map.	A glasshouse is located approximately 200m southwest of the site.
1934-1938 1935	1:10,560 1:2,500	There is no significant change compared to the previous map.	The open area to the west of the site also appears to have been raised, with a scree mound located approximately 60m west of the site. Open land and nearby golf courses are now marked as areas 'liable to floods'. The glasshouse to the southwest is now recorded as a nursery.
1954-1955 1955 1956	1:10,560 1:1,250 1:2,500	The on site slope/ level change is no longer recorded.	The scree mound to the west of the site is now recorded only as a slope.
1966- 1967	1:10,560	There is no significant change compared to the previous map.	There is no significant change compared to the previous map.
1976-1977 1977-1981	1:1,250 1:10,000	A residential property is now recorded on site.	Slight residential development approximately 250m northeast. A motorway is now located approximately 450m southwest of the site.
1988-1989	1:10,000	There is no significant change compared to the previous map.	The slopes and elevation changes previously marked to the west of the site are no longer recorded. A hotel is located approximately 250m northeast.
1989-1992	1:1,250	There is no significant change compared to the previous map.	An access road has been developed approximately 50m west of the site, which continues north to the now labelled 'Ringway Hotel'. An electrical substation is located 100m northeast of the site.
2001	1:10,000	There is no significant change compared to the previous map.	There is no significant change compared to the previous map.
2010	1:10,000	There is no significant change compared to the previous map.	There is no significant change compared to the previous map.
2025	1:10,000	There is no significant change compared to the previous map.	There is no significant change compared to the previous map.

Table 3: Summary of Site History from Aerial Photographs

Date	On-Site History	Surrounding Land Use History
2000	The area features a mix of hard and soft surfaces. A large house with a paved driveway sits centrally south, with a large car port in the southeast corner of the site. The remainder of the site consists of grassy land with scattered vegetation. Trees line all of the boundaries.	Residential properties lie to the northeast of the site, while the River Mersey is located to the west. To the south, a car park and a club house associated with the adjacent golf course to the southeast are present, with ongoing expansion evident in the parking area. Another golf course is situated across the river to the northwest, accompanied by an additional car park to the north. The surrounding landscape features scattered tree coverage, and a road runs directly south of the site, providing access.
2009	Toward the northwest, there appears to be another smaller structure that looks garden-related possibly a shed.	The expansion of the car park in the southeast corner is now complete.
2015	There is no significant change compared to the previous photograph.	There is no significant change compared to the previous photograph.
2019	There is no significant change compared to the previous photograph.	There is no significant change compared to the previous photograph.
2023	There is no significant change compared to the previous photograph.	The car park previously located to the north appears to in the process of being repurposed.

To summarise, from the start of available historical mapping in 1849, the site was part of a larger undeveloped plot of land until the mid-1970's. During this time, it is recorded that the site underwent elevation changes, with the embankment on which the adjacent Palatine Road was situated extended further north, across the site.

By the mid-1950's, this elevation change was no longer recorded, suggesting the area may have been levelled or the slope made more gradual. The existing property on-site was constructed in the mid 1970's, with aerial imaging suggesting the existing car port was developed prior to 2003. The site boundary is recorded to be surrounded by dense, developed vegetation and trees, with the site undergoing minimal change since its initial development.

The area surrounding the site was historically occupied by undeveloped, agricultural land, with the River Mersey located northwest and a brook connecting to the Mersey to the north.

The land northeast of the site was gradually developed for residential use through the early 1900's, with the land south of Palatine Road developed into a golf course.

During the 1930's, the land directly west of the site underwent elevation changes, similar to the site, with a scree mound recorded between 1934 - 1938.

An access road was developed in the land west of the site in the late 1980's, connecting to the hotel northeast of the site.

Figure 5: Ordnance Survey Map Extract 1881

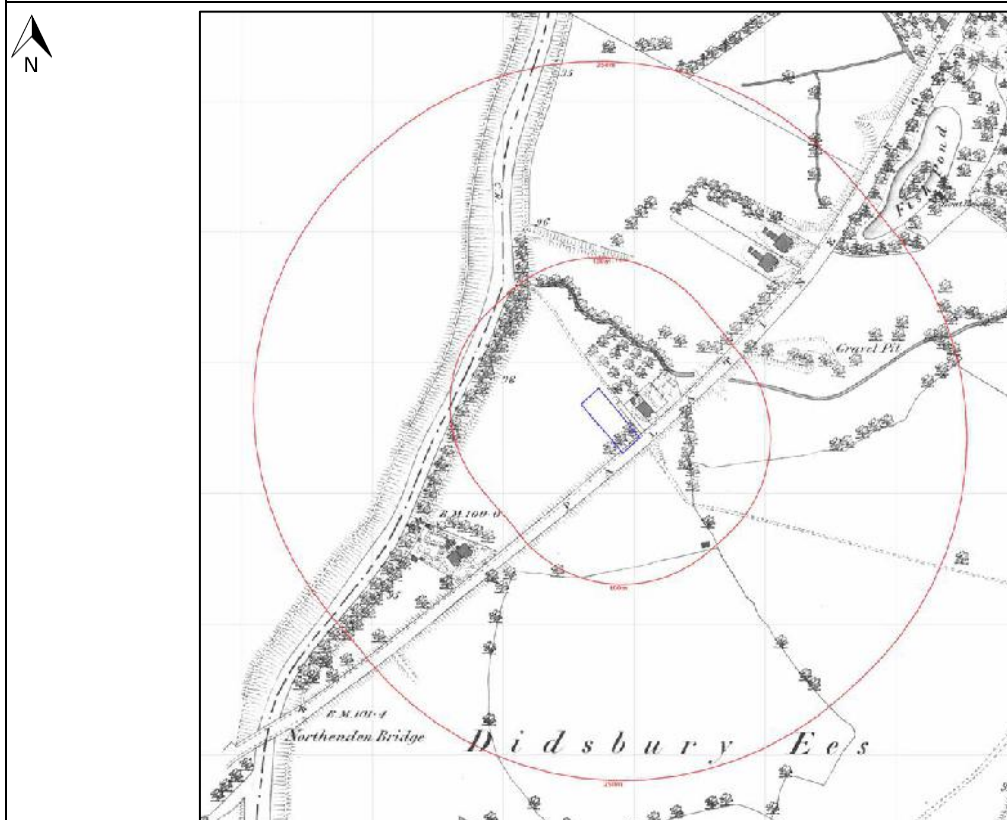


Figure 6: Ordnance Survey Map Extract 1935

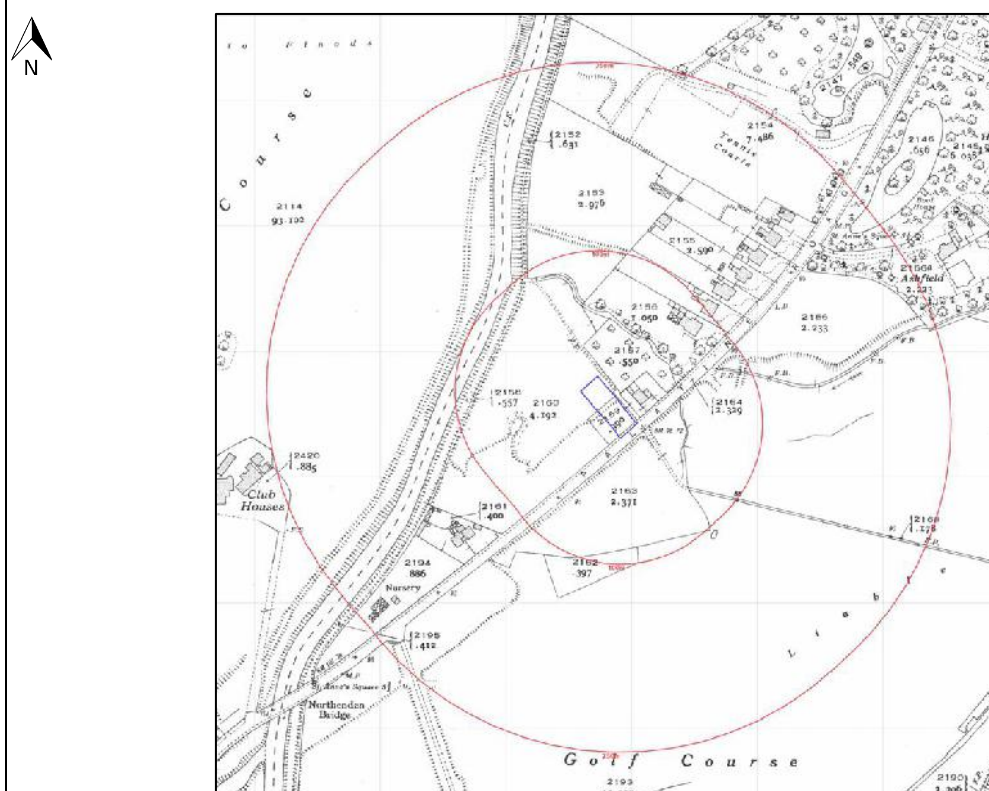


Figure 7: Ordnance Survey Map Extract 1966-1967

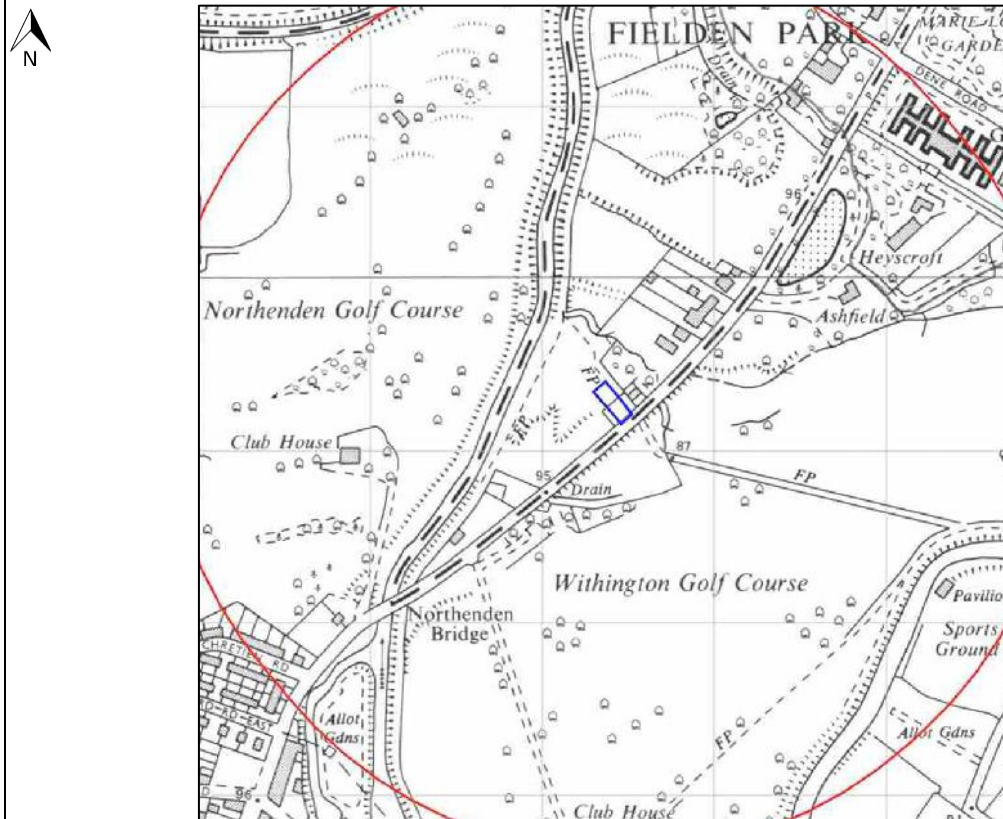


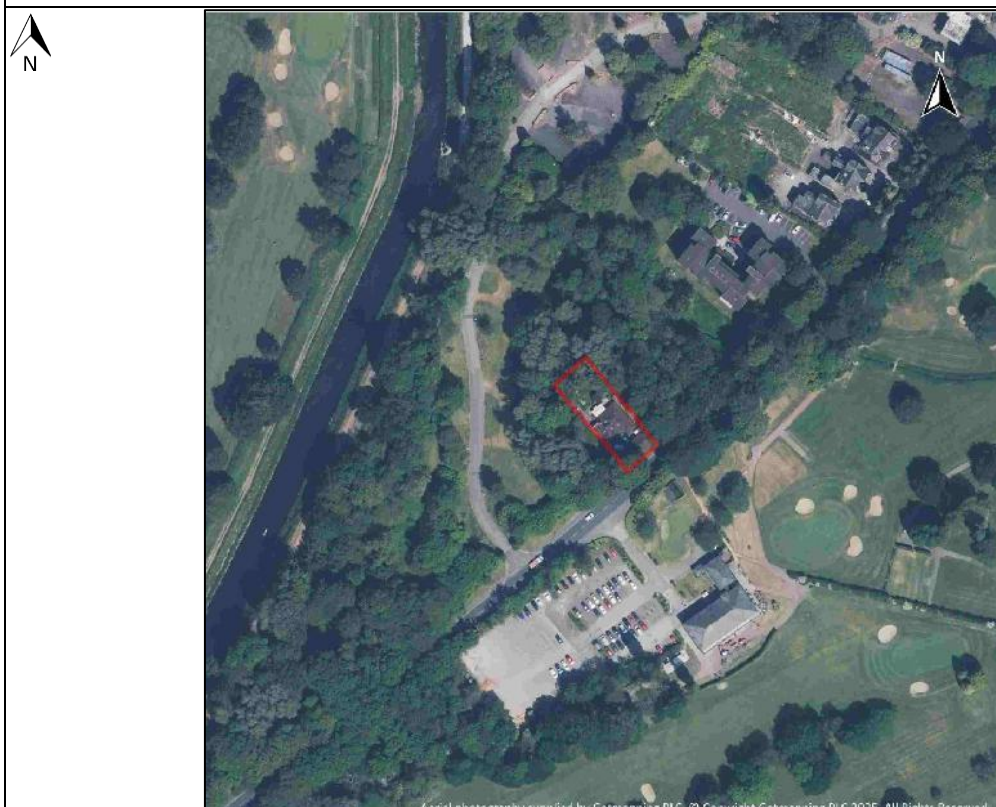
Figure 8: Ordnance Survey Map Extract 1988-1989



Figure 9: Aerial Photograph 2005



Figure 10: Aerial Photograph 2023



5.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

5.1 Introduction

The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by Land Contamination Risk Management Environment Agency, July 2023.

Table 6 provides a Preliminary Conceptual Model (PCM) which considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 4 and Table 5 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and Land Contamination Risk Management Environment Agency, July 2023.

Table 6 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

The PCM/PRA is based on a continued residential end use.

Table 4: Consequence, Probability and Risk

Probability	Consequence,	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health, or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage, and all the elements are present, which means that it is probable an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage, and circumstances are possible for an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term	Moderate – Long term or short-term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that this would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 5: Estimation of Level of Risk by Comparison of Consequence and Probability

		Consequence			
		High	Moderate	Low	Very low
Probability	High Likelihood	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

5.2 Potential Sources

There is therefore a limited potential for contamination due to the low frequency of on and offsite development.

Due to the age of the main building on-site, there is the potential that asbestos containing materials have been used in its construction, however it should be noted that no ACM was observed during the site walkover.

There is also the possibility of ground gas associated with potentially deep made ground where the elevation of the site has changed over time. However, for the purpose of this assessment, the age of any potential made ground must be considered, as it is likely to have substantially degassed.

5.3 Potential Receptors

The following receptors have been considered for the construction and operational stages of the proposed development.

- Current site users.
- Adjacent land users.
- Future land users.
- Construction workers during site development works.
- Surface water and Groundwater within the underlying aquifer

5.4 Potential Pathways

The following pathways have been considered for the construction and operational stages of the proposed development.

- Dermal contact, ingestion, inhalation pathways of potentially contaminated soils.
- Downward vertical migration of leachate to surface waters and shallow groundwater.
- Vertical or lateral migration of ground gas.

Table 6: Preliminary Conceptual Model and Risk Assessment

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Potential soil contamination E.g., Heavy Metals, PAH, and ACM	Dermal contact, ingestion, and inhalation of soils dust	Current Site Users	Unlikely	Moderate	Low	The site currently comprises a vacant property, therefore there is no receptor to be exposed to potentially contaminated soils. The risk rating is assessed as LOW .
		Adjacent land users	Low Likelihood	Moderate	Moderate to Low	The site is directly surrounded by undeveloped land with a golf club to the south. Although it is anticipated that made ground will be present below the site, at this stage no significant contamination sources have been identified. The risk is considered MODERATE to LOW , until ground conditions confirmed. Usual dust control measures should be implemented as part of good site working practices during construction to reduce dust generation.
		Future land users	Low Likelihood	Moderate	Moderate to Low	The proposed development consists of replacing the existing building at Palatine Road on a slightly larger footprint. Again, although it is anticipated that made ground will be present below the site, at this stage no significant contamination sources have been identified. The risk to future site users via direct exposure is considered to be MODERATE to LOW until ground conditions confirmed.
		Construction Workers	Unlikely	Moderate	Low	Construction workers may be exposed to potentially contaminated soils during construction works, however exposure duration will be short-term only. The risk to construction workers is considered LOW . Appropriate health and safety measures (in line with CDM and other relevant health and safety guidance) should be adhered to.
	Downward vertical migration of leachate to shallow groundwater	Groundwater within the Underlying Aquifer	Unlikely	Moderate	Low	The site is underlain by superficial deposits of alluvium with high groundwater vulnerability and a high soil leaching potential, indicating a capacity for pollution transmission to underlying aquifers. The underlying Wilmslow Sandstone Formation bedrock is classified as a principal aquifer with high permeability. However, no significant contamination sources have been identified on-site, and the historical land use suggests limited potential

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
						for leachable pollutants. Given these factors, the risk of downward leachate migration to shallow groundwater is assessed as LOW .
	Lateral migration in surface waters	Surface water	Unlikely	Moderate	Low	Several surface water features lie close to the site, including a river 42m northeast and the River Mersey 90m northwest. The Mersey is recorded to have a poor water quality. No significant contamination sources have been identified on-site. Given the limited development and absence of leachable pollutants, the risk of lateral migration to nearby surface waters is considered LOW .
	Vertical or lateral migration of ground gas	Current Site Users	Unlikely	Moderate	Low	The site is currently a vacant property. The risk is therefore considered to be LOW .
		Adjacent land users	Unlikely	Moderate	Low	The site is directly surrounded by undeveloped land, with a golf club located to the south. Due to the absence of significant adjacent receptors, the risk of lateral migration of ground gas to adjacent land users is considered LOW .
		Future land users	Likely	Moderate	Moderate	The proposed development consists of replacing the existing building at Palatine Road. The site and surrounding area are recorded to have undergone elevation changes between the early 1900's until the late 1980's in some areas. Both the anticipated made ground associated with elevation changes, and the underlying alluvium deposits have the potential to be ground gas generating. The risk to future site users is MODERATE , until ground conditions have been confirmed.
		Construction Workers	Unlikely	Moderate	Low	Construction workers may be exposed to ground gas/depleted oxygen conditions in confined spaces and excavations; however, the duration will be short term. The risk to construction workers from ground gas is considered LOW .
Asbestos Containing Material (ACM)		Current Site Users	Unlikely	Moderate	Low	The site is currently a vacant property and asbestos is only harmful when disturbed. Therefore the risk to current site users is considered to be LOW .
		Adjacent land users	Low Likelihood	Moderate	Moderate to Low	The site is directly surrounded by undeveloped land, with a golf club located to the south. Due to the age of the property, there is the potential for asbestos to be present within its structure, although no evidence of ACM was identified on site.

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
						Disturbance of soil during the construction phase may allow any potential fibres to become airborne. Dust control measures (dampening down) should be implemented as part of good site working practices. The risk is to adjacent site users considered MODERATE to LOW , until ground conditions are confirmed. A pre-demolition asbestos survey of the property is recommended.
		Future land users	Low Likelihood	Moderate	Moderate to Low	The proposed development consists of replacing the existing building at Palatine Road. Due to the age of the property, there is the potential for asbestos to be present within its structure, although no evidence of ACM was identified on site. The risk to future site users is therefore considered MODERATE to LOW , until ground conditions are confirmed.
		Construction Workers	Low Likelihood	Moderate	Moderate to Low	There is a low potential for ACMs to be present in soils at the site. Disturbance of soil during the construction phase may allow fibres to become airborne. The risk is therefore considered MODERATE to LOW . Dust control measures (dampening down) should be implemented as part of good site working practices to reduce the risk to LOW .

6.0 GEOTECHNICAL HAZARDS ASSOCIATED WITH THE DEVELOPMENT

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 activities.

Local Authorities follow NPPF (2012) which requires that a site be suitable for its new use considering of ground conditions and land instability, including from natural hazards to former activities such as mining.

A summary of the geotechnical considerations is provided below in Table 7.

Table 7: Summary of Geotechnical Hazards

Geohazards:	
Highly Compressible Ground	Moderate risk
Collapsible Soils	Negligible risk
Swelling Clay	Very low risk
Running Sand	Low risk
Ground Dissolution	Negligible risk
Landslip	Very low risk
Mining & Quarrying	The site is not located within an identified coal mining area and is therefore not within a Development High Risk Area. There are no records of underground mining or quarrying within 250m of the site.
Geotechnical Design Considerations	
Site Clearance	Prior to any development on-site, the Himalayan Balsam identified across the site would require removal. Aside from the removal of the existing structures and hardstanding (patio) to the rear of the property, no significant site clearance is likely to be required.
Trees	Mature trees are present along the northern site boundaries.
Existing Buildings/Obstructions	A large residential property is situated in the central southern portion of the site. An additional structure (car port) is located in the southeastern corner. The garden area contains another structure to the northwest and features a pond.
Foundations	The depth and type of proposed foundations would depend on the ground conditions present on site. An intrusive ground investigation is recommended prior to any construction works taking place to discover the most suitable foundation options for the site.

Geotechnical Design Considerations	
Floor Slabs	An intrusive geotechnical investigation is recommended prior to any construction works to discover the most suitable floor slab design for the on-site ground conditions.
Groundwater	Exact groundwater conditions are not known at this stage. However, records indicate that the site is underlain by superficial deposits of Alluvium, comprising clay, silt, and gravel, which form a Secondary Undifferentiated Aquifer. Beneath this, the bedrock consists of the Wilmslow Sandstone Formation, classified as a Principal Aquifer. The highest risk of groundwater flooding on site is recorded as moderate, with flooding risk increasing to high within 50m of the site.
Earthworks	The proposed development area is generally flat and level. Significant earthworks are not likely to be required at the site.
Slopes	The site has a generally flat and level, however the surrounding area is noted to slope away from the site.
Retaining Walls	There are no retaining walls present on site.
Chemically aggressive ground conditions	Chemically aggressive grounds are not anticipated beneath the site. Again, an intrusive investigation is recommended.

7.0 SITE INVESTIGATION

7.1 Exploratory Fieldwork

The fieldwork was carried out by EEG on the 3rd and 4th July 2025 which comprised:

- Two window sample boreholes (designated WS01 & WS02) were each sunk to a maximum depth of 8.00m existing ground level. Both boreholes were drilled with the intention of reaching 10.00m bgl, however were terminated early due to borehole collapse between 7.00m - 8.00m bgl.
- Window sampler boring is carried out with a small, track-mounted rig, which uses a chain-driven trip hammer to drive sampling tubes or penetrometers into the ground. These tools are coupled to the anvil of the hammer by solid drill rods. Sampling tubes comprise “windowless samplers,” which are plain sampler tubes in which a continuous disturbed sample is recovered within a semi-rigid plastic liner. To reduce friction within the borehole, sampling tubes of progressively smaller diameter are used as the borehole depth increases. Sampler diameters generally range from between approximately 90mm to 50mm. Standard Penetration Tests (SPTs) were undertaken in the boreholes in accordance with BS EN ISO 22476-3. Groundwater observations were noted where possible. These observations relate to the time of the investigation only, and do not necessarily reflect seasonal fluctuations. Exploratory hole logs are included in Appendix 2.
- Upon completion, following dynamic probe testing was conducted to a maximum depth of 10.00m bgl. Results of the tests are presented in Appendix 3.

Exploratory hole locations were selected prior to the investigation by an EEG engineer based on the proposed development layout and avoiding known services. Each exploratory location was scanned using a Cable Avoidance Tool (CAT) in order to locate unrecorded underground services, and the exploratory locations were repositioned if necessary.

On completion, samples recovered from the site were taken to specialist laboratories for geotechnical testing.

All site investigation work was supervised full time by a representative of EEG. The logging of soils and rocks has been carried out in accordance with BS5930^(2015+A1:2020) except where superseded by the soil and rock description methodology in BS EN14688-1⁽²⁰⁰²⁾, BS EN 14688-2⁽²⁰⁰⁴⁾ and BS EN 14689-1⁽²⁰⁰³⁾.

All sampling locations were surveyed by use of a hand-held Trimble GeoXH GPS instrument that is capable of surveying to an accuracy of less than 10mm depending on satellite coverage, proximity to trees and building structures.

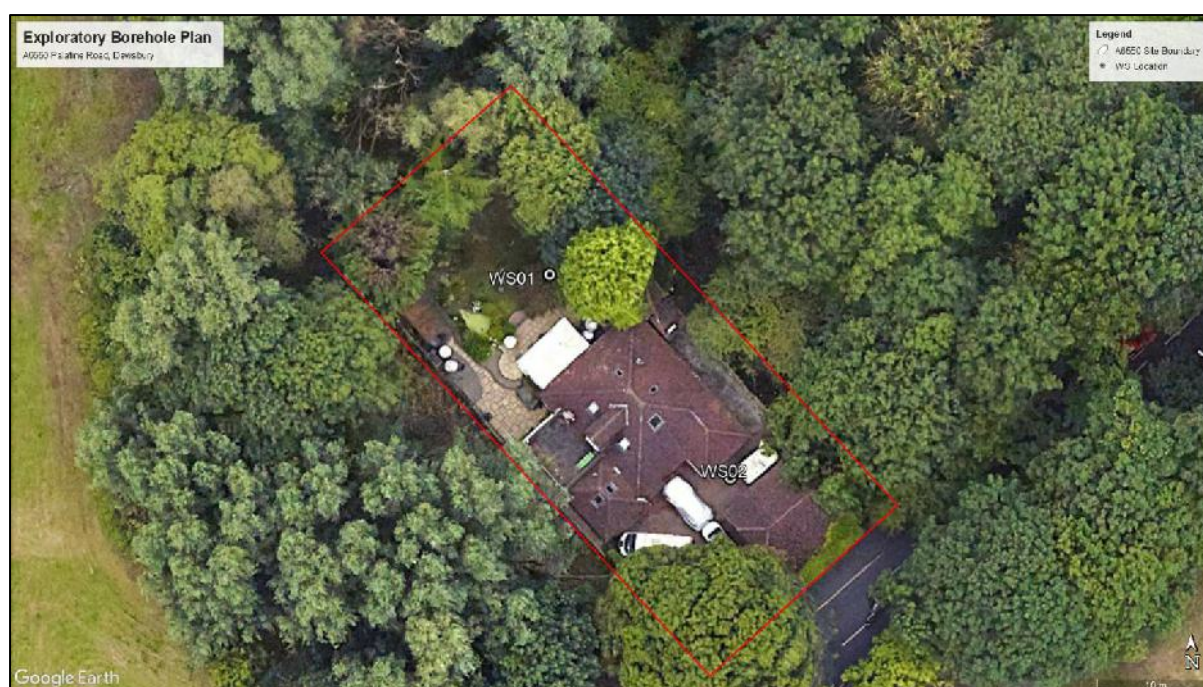
The descriptive terminologies such as firm, etc formerly used within older versions of BS5930 to describe strength now solely relate to consistency. Shear strength is now defined related to results obtained in the field (using a hand vane for example) or in the laboratory (from triaxial tests), as detailed in Table 8 below.

Table 8: Shear Strength Definitions

Term based on measurement	Undrained Strength (c_u) definition in kN/m ² (from BS EN ISO 14688-2: 2004, 5.3, Table 5)
Extremely Low Strength	<10
Very Low Strength	10 to 20
Low Strength	20 to 40
Medium Strength	40 to 75
High Strength	75 to 150
Very High Strength	150 to 300
Extremely High Strength	300 to 600

An Exploratory Hole Location Plan is presented as Figure 11 below.

Figure 11: Exploratory Hole Location Plan



A summary of exploratory holes undertaken during the investigation are presented in Table 9 below.

Table 9: Summary of Exploratory Holes Undertaken

Hole	Type*	Depth (m)	Date Started	Date Finished	Easting (m)	Northing (m)	Backfill Details**
WS01	WS	8.00	03/07/2025	03/07/2025	383477	390864	MW
WS02	WS	8.00	04/07/2025	04/07/2025	383493	390849	MW

*WS = Window Sample Borehole
**MW = Monitoring Well

7.2 Laboratory Testing

7.2.1 Geotechnical Testing

A programme of laboratory testing was carried out on samples taken from the various strata to assist in classification and determine the engineering properties of the materials underlying the site. The tests were scheduled by EEG and carried out by Murray Rix and Envirolab (BRE Suite). The test procedures used were generally in accordance with the methods described in BS1377:1990. Details of the specific tests used in each case are given below:

Table 10: Summary of Laboratory Geotechnical Tests Undertaken

TEST	STANDARD	No.
Moisture Content	BS1377:1990 Part 2, Clause 3.2	4
Liquid Limit, Plastic Limit, Plasticity Index	BS1377:1990 Part 2, Clause 4/5	4
Particle size distribution (wet)	BS1377:1990 Part 2, Clause 9.2	2
BRE SD1	BS1377:1990 Part 3, Clause 5	4
pH value	BS1377:1990 Part 3, Clause 9	4

The results of the laboratory geotechnical tests are discussed in Section 9 and included in Appendix 4.

8.0 GROUND CONDITIONS ENCOUNTERED

8.1 Soil Profile Encountered

The BGS states the site is not underlain by artificial deposits or made ground. The site is recorded to be underlain by superficial deposits of Alluvium, comprising of clay silt and gravel. The site is recorded to be underlain by bedrock of the Wilmslow Sandstone Formation, comprising of sandstone. The sequence of strata encountered beneath the site was as follows:

- **Made Ground** was encountered in all exploratory hole locations from ground level to a maximum depth of 2.70m bgl, comprising:
 - Dark brown fine to coarse SAND with varying quantities of clay and gravel of red brick, sandstone and mudstone, and frequent rootlets (TOPSOIL).
 - Black, angular to subangular, fine to coarse GRAVEL of clinker, coal and ash.
 - Reddish brown fine to coarse SAND with gravel of red brick, sandstone, mudstone and coal.
 - Dark brown CLAY with varying quantities of sand and gravel of red brick, sandstone and mudstone
- **Superficial Deposits**, interpreted as Alluvium, were encountered in all exploratory hole locations to a minimum depth of 8.00m bgl, comprising:
 - Very soft to soft CLAY, with varying quantities of silt, sand and gravel of sandstone, mudstone, siltstone, and coal.
 - Loose to very dense SAND, with varying quantities of silt and gravel of sandstone, mudstone, coal, quartz and rare granite.

The depths of the various materials encountered in the exploratory holes are summarised in Table 11 below.

Table 11: Summary of Ground Conditions Encountered

Borehole Location	Depth to Stratum (m bgl)				Groundwater Strike (m bgl)
	Made Ground		Superficial Deposits		
	Granular	Cohesive	Clay	Sand	
WS01	GL - 1.60 1.70 - 2.70	1.60 - 2.70	2.70 - 4.80	4.80 - 8.00	5.00
WS02	GL - 0.60 0.90 - 1.70	0.60 - 0.90	1.70 - 2.10 2.70 - 5.00	2.10 - 2.70 5.00 - 8.00	5.00

8.2 Observable Indications of Contamination

No visual or olfactory signs of contamination were encountered during the fieldwork.

8.3 Obstructions

No man-made obstructions were observed during the fieldwork.

8.4 Groundwater

Groundwater was encountered in all windowless sample boreholes during the fieldwork at a depth of 5.00m bgl within alluvial sands. During the subsequent monitoring visits, groundwater was observed in one of the installed boreholes, between 4.43m - 4.52m bgl (WS01).

9.0 ENGINEERING PROPERTIES OF SOILS ENCOUNTERED

9.1 General

The following sections discuss the engineering properties of the strata encountered, based on results of in situ and laboratory testing obtained during this investigation.

The results of laboratory geotechnical testing are summarised in the following table.

Table 12: Summary of Laboratory Geotechnical Test Results

Location	Depth (m)	Strata*	CLASSIFICATION								STRENGTH	CHEMICAL		
			Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Modified Plasticity Index (%)	PSD Gravel (%)	PSD Sand (%)	PSD Silt (%)	PSD Clay (%)	Shear Strength (kN/m²)	pH Value	Water Soluble Sulphate SO ₄ (mg/l)
WS01	0.70	MG	-	-	-	-	-	-	-	-	-	-	8.18	<10
WS01	2.00	MG	-	-	-	-	-	-	-	-	-	-	8.42	<10
WS01	3.20	CLAY	33.9	41	17	24	24	-	-	-	-	-	-	-
WS01	4.00 – 4.45	CLAY	27.4	37	15	22	21	-	-	-	-	-	-	-
WS01	6.50	SAND	-	-	-	-	-	40	56	4		-	-	-
WS02	0.50	MG	-	-	-	-	-	-	-	-	-	-	7.09	<10
WS02	1.50	MG	-	-	-	-	-	-	-	-	-	-	8.12	16
WS02	1.80	CLAY	22.9	43	16	27	27	-	-	-	-	-	-	-
WS02	3.00	CLAY	36.3	43	16	27	27	-	-	-	-	-	-	-
WS02	4.50	CLAY	-	-	-	-	-	0	29	55	16	-	-	-

9.2 Made Ground

Made Ground was encountered in both exploratory boreholes between ground level and a maximum depth of 2.70m bgl in WS01 and 1.70m bgl in WS02.

SPT tests carried out in the made ground resulted in **SPT N values** between 11 and 15, as shown on the SPT v Depth Plot in Figure 12 (overleaf).

The **water-soluble sulphate** content of four made ground samples, tested as part of the BRE Suite, ranged from <10mg/l to 16mg/l SO₄, together with **pH values** of 7.09 to 8.42.

9.3 Superficial Deposits

As discussed in Section 8, superficial material was encountered as variable CLAY and SAND in both exploratory hole locations.

9.3.1 Clay

Clay was encountered in both exploratory hole locations, below the made ground, to a maximum depth of 5.00m bgl.

SPT tests carried out in the clay resulted in **SPT N values** between 2 and 7, as shown on the SPT v Depth Plot in Figure 12 (overleaf). This result suggests the clay is very soft to soft.

Atterberg Limit tests were carried out on four samples of the clay. Results of the test reported **liquid limit** values in the range of 37% to 43% and **plastic limit** values in the range of 15% to 17%, resulting in values of **plasticity index** in the range of 22% to 27%. These results suggest the clay to be of **intermediate plasticity**. Results are shown on the Plasticity Chart in Figure 13, overleaf.

Recommended N values and derived design values for the cohesive soils are summarised in Table 13, below.

Table 13: Summary of Design Parameters (Clay)

Depth	SPT N Value Range	Design N Value*	Equivalent Shear Strength** (kN/m ²)	Coefficient of Volume Compressibility** (mv)
3.00	4 - 7	4.75	23 (Low Strength)	0.43 (High Compressibility)
4.00	2 - 5	2.75	13 (Very Low Strength)	0.74 (High Compressibility)
*Based on lower quartile N value and correlations by Peck Hanson and Thornburn ⁽¹⁹⁷⁴⁾				
**Based on correlation by Stroud & Butler ⁽¹⁹⁷⁵⁾				

It is recommended that for assessing ultimate bearing capacities, where the lower values are critical, the lower quartile value of N values is used. Based on the N Values in the above table, the equivalent shear strength values were between 13 kN/m² - 23 kN/m².

For design purposes, a value of plasticity index = 27% is recommended, based on the upper quartile value of the results.

The **coefficient of volume compressibility (mv)** has been estimated using the following correlation by Stroud and Butler ⁽¹⁹⁷⁵⁾: for a clay with a plasticity index of 27%, $mv = 1 / (0.490 \times N \text{ value})$. This correlation gives a value of coefficient of volume compressibility of 0.43 to 0.74m²/MN, as shown in Table 13, above. The results suggest the clay has a **high compressibility**.

In accordance with NHBC Chapter 4.2 Building Near Trees ⁽²⁰⁰³⁾ soils can be classified in terms of volume change potential, using the relationship:

$$I'_p = I_p \times \frac{\% \text{ less than } 425\mu\text{m}}{100\%}$$

I'_p = modified plasticity index,
 I_p = plasticity index.

Based on the laboratory test results, the above relationship and Table 1 of NHBC Chapter 4.2, the samples of clay are shown to have a **medium volume change potential**.

The **Natural Moisture Content (NMC)** and **Liquid Limit (LL)** of the soil can be used to give an indication of **soil desiccation**, i.e., where the NMC is less than 40% of the LL, the soil is inferred to be desiccated, as summarised in Table 14, overleaf.

Table 14: Soil Desiccation Indicators in the Clay

Location	Depth (m)	Liquid Limit (%)	40% Liquid Limit (%)	Natural Moisture Content (%)	Desiccation
WS01	3.20	41	16	33.9	No
WS01	4.00 - 4.45	37	15	27.4	No
WS02	1.80	43	17	22.9	No
WS02	3.00	43	17	36.3	No

The results in the above table show that none of the clay samples tested show evidence of desiccation.

9.3.2 Sand

Variable sand deposits were encountered in both exploratory hole locations, below the clay deposits, between 1.70m and a maximum depth of 5.00m below ground level.

SPT tests carried out in the granular material resulted in **SPT N values** between 4 and 44, as shown on the SPT v Depth Plot in Figure 12 (overleaf). This result suggests the granular material is loose to dense.

Recommended N values and derived design values for the granular soils are summarised in Table 15, below.

Table 15: Summary of Design Parameters (Sand)

Depth	SPT N Value Range	Average N Value	Design N Value*	Equivalent Soil Density	Angle of Internal Friction (degrees)**
2.00	4	4	4	Loose	27.9°
5.00	5 - 21	13	9	Loose	29.6°
6.00	27 - 28	28	27	Medium Dense	35.2°
7.00	34 - 44	39	37	Dense	37.9°
8.00	35 - 42	39	37	Dense	37.9°

*Based on lower quartile N value
 **Based on the correlation by Peck, Hanson and Thornburn⁽¹⁹⁷⁴⁾

For assessing settlements average ground conditions will give a more realistic value of settlements, and the average of N values should be used.

Figure 12: SPT N v Depth Plot

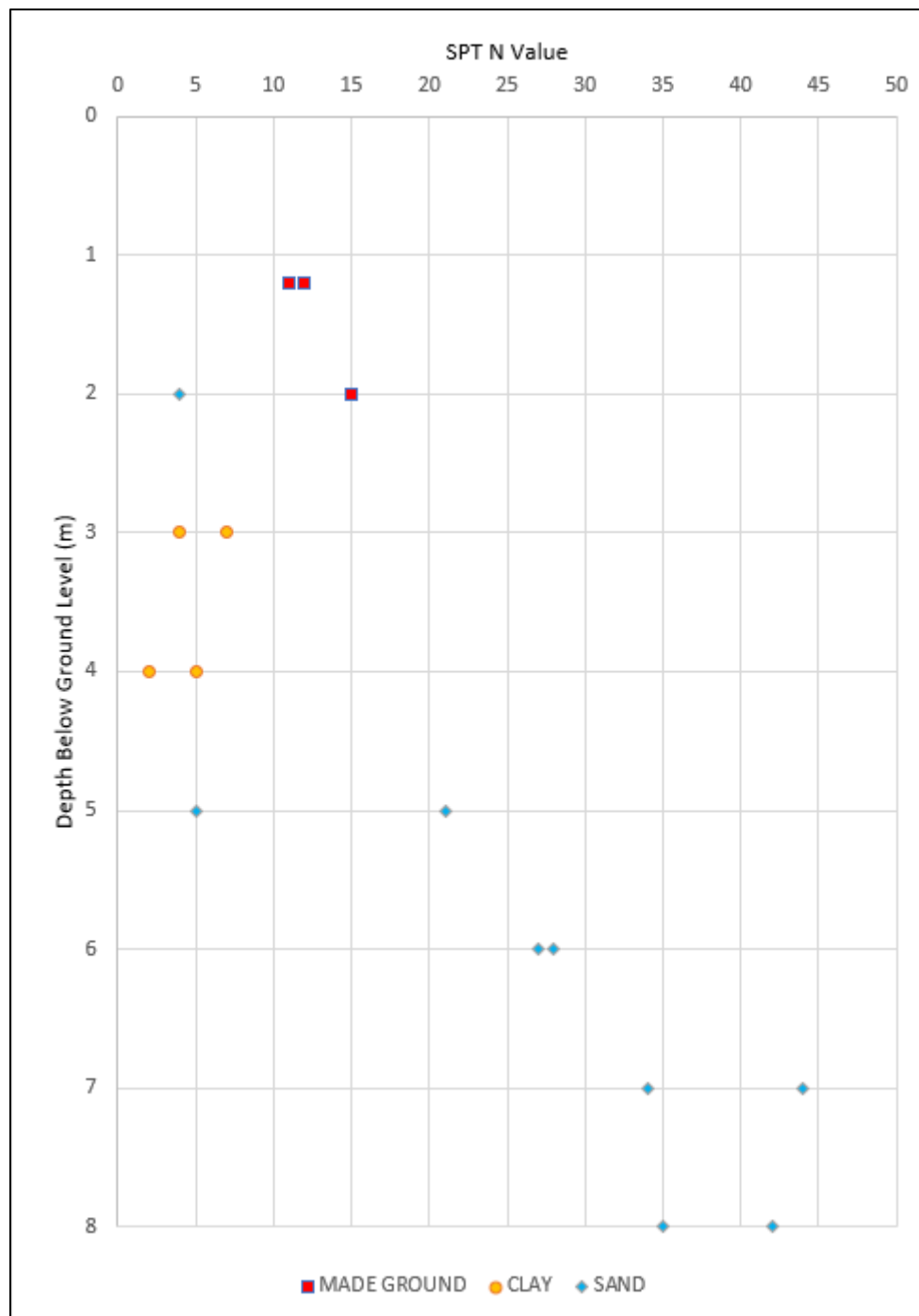
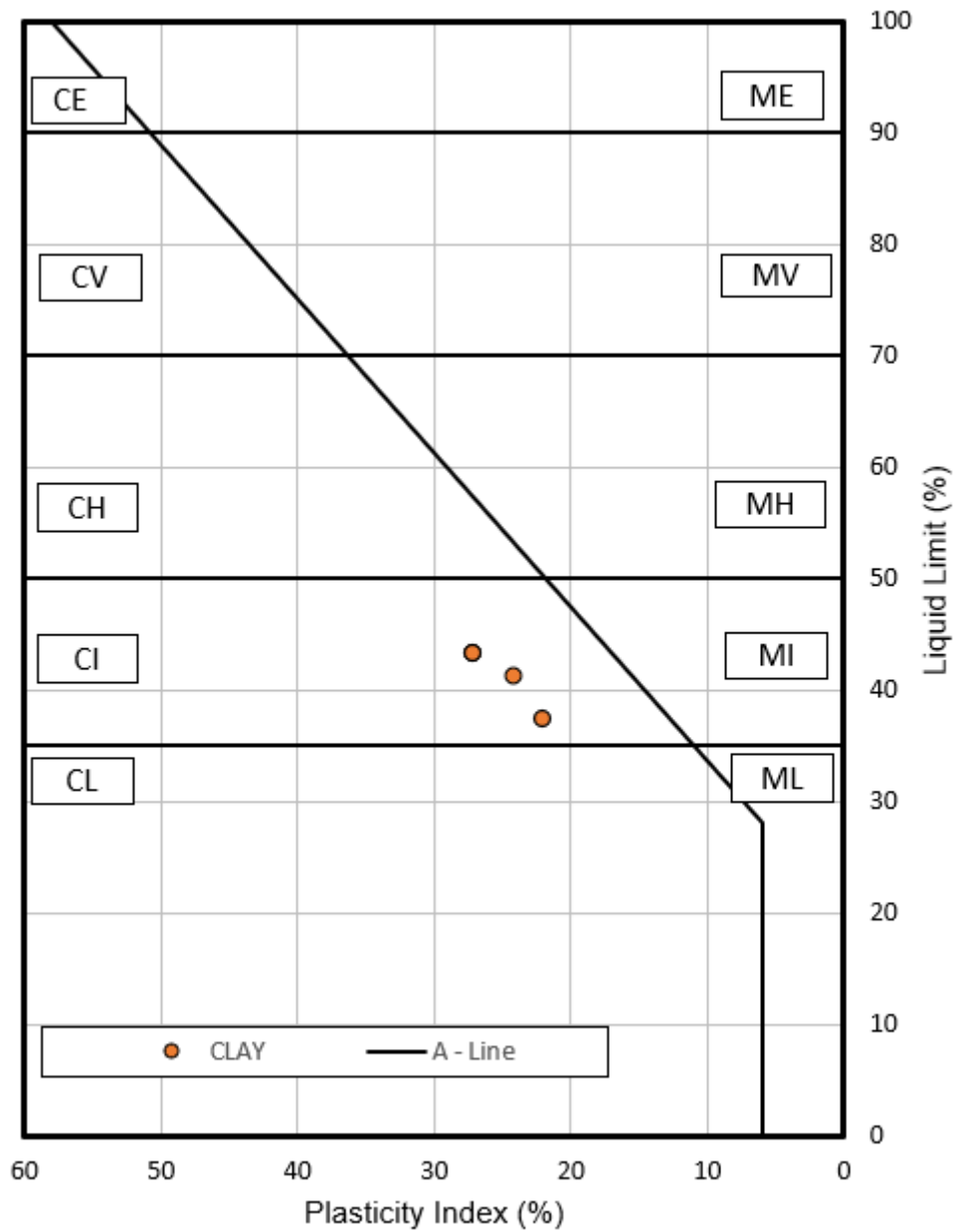


Figure 13: Plasticity Chart



10.0 GEOTECHNICAL ASSESSMENT

10.1 Proposed Development

It is understood that the Client intends to demolish all existing structures on-site and construct a new residential property on a similar footprint.

Detailed information regarding structural loadings and proposed foundation type was not available at the time of authoring this report.

10.2 Ground Conditions Encountered

The exploratory holes generally encountered made ground (up to 2.70m bgl) overlying superficial deposits of clay and sand to a maximum depth of 8.00m bgl.

Groundwater was encountered during the site investigation in both exploratory boreholes at a depth of 5.00m bgl, within the alluvial sands.

Subsequent monitoring visits identified groundwater levels between 4.43m - 4.52m bgl in one of the installed boreholes (WS01).

10.3 Foundation Considerations

Based on the ground conditions encountered, conventional foundations (strip/pad), placed in the superficial deposits, are not considered suitable for the proposed development, due to the variable depth of made ground on-site, as well as the deep, soft alluvial superficial deposits underlying the made ground.

Therefore, foundation loadings should be transferred to competent strata by use of driven or bored piles.

10.3.1 Piled Foundations

Due to the deep and variable made ground and soft superficial driven or bored piles should be adopted. Driven piles would have the advantage of minimising the spoil that is generated, however, the noise and vibration associated with the installation of driven piles may prevent this type of pile from being selected. It should also be noted that driven piles can also potentially create preferential pollutant pathways.

Short bored (cast in-situ) piles installed using continuous flight auger (CFA) techniques may therefore be more appropriate but given the various advantages and limitations of each pile type, and the cost implications, advice should be sought from specialist piling contractors to determine the most suitable and cost-effective type.

They should also be able to give recommended pile diameters and depths and likely pile capacities, with guaranteed performance. It is recommended a pile test be carried out to confirm pile capacities. In assessing the pile capacities, contractors should make an allowance for the effects of negative skin friction, particularly in any Made Ground.

There may be differential settlement between piled structures and the surrounding ground level. Provision should, therefore, be made to make up ground levels at threshold positions, vehicle access doorways, etc. Alternatively, these materials should be removed and replaced in a controlled manner by suitable existing materials or imported engineered fill.

It is essential the advice of a specialist piling contractor is sought and that positive assurances are provided by the piling contractor that their proprietary system is capable of providing the required working loads in the ground conditions encountered.

Floor slabs should be designed as suspended if the piled solution is used.

Bored cast in-place piles would be suitable, and large diameters are achievable and can be quickly installed.

The excavation of bored piles within the soft soils may require temporary or permanent casings or linings to prevent bulging, from grout or concrete injected under pressure.

10.5 Pavement Design

The exploratory boreholes generally encountered Made Ground at a subgrade level. Based on the recommendations for design CBR values provided in Interim advice note 73/06, Revision 1 (2009), a conservative design CBR value of 1% should be adopted in areas where Made Ground is encountered at a subgrade level.

Consideration should be given to the potential differing ground conditions near surface, which could cause pavements to be constructed on variable made ground. In this context a flexible pavement design may be required.

Consideration should also be given to the use of geotextiles to allow reduction of capping thickness. For examples biaxial geogrids such as Tensar SSLA20 and SSLA30 are often used to reduce capping thickness. The advice of a suitable contractor should be sought as to the most appropriate type of geotextile to use in the ground conditions encountered at this site. For guidance, the following table gives a comparison of granular layer thickness with and without the use of a geotextile, in accordance with the requirement of HA25/94 Part 2.

It should be noted the type of construction will depend on proposed finished pavement levels across the site and it is recommended the pavement design is reviewed once these levels are known. In this context, it is essential further in situ CBR testing is carried out once formation levels are known to confirm design CBR values.

Table 16: Comparison of Capping Thickness with and without Geotextile

CBR	Unreinforced			Reinforced with Tensar Geogrid				
	Sub-base	Capping	Total	Sub-base	Capping	No. of grids	Total	Thickness saving
0.5%	Design not suitable			200mm	400mm	2	600mm	-
1.0%	150mm	600mm	750mm	400mm	0	1	400mm	350mm
1.5%	150mm	600mm	750mm	310mm	0	1	310mm	440mm
2.0%	150mm	600mm	750mm	260mm	0	1	260mm	490mm
3.0%	150mm	350mm	500mm	210mm	0	1	210mm	290mm
4.0%	150mm	300mm	450mm	175mm	0	1	175mm	275mm
5.0%	150mm	250mm	400mm	160mm	0	1	160mm	240mm
These figures are suitable for light access roads and car parks, based on 1000 standard axles. For heavier loaded pavements, the advice of specialist contractor should be sought.								

All formation excavations should be examined by a suitably experienced engineer or inspector to check for soft or unsuitable material, which should be removed and replaced with compacted granular fill. Also, to ensure good compaction and remove unevenness, the formation should be compacted with equipment suitable for use in the ground conditions encountered. Careful inspection of this work will also help identify any soft spots at or just below formation level.

10.6 Chemical Attack on Buried Concrete

Chemical tests (see Appendices) show low levels of water-soluble sulphates and near neutral conditions. Based on these conditions, it is recommended that for concrete placed in natural strata the Design Sulphate Class for the site, as defined in BRE Special Digest 1⁽²⁰⁰⁵⁾, be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1s. The recommendations of BRE Special Digest 1 should be followed for concrete foundations and ground bearing floor slabs.

10.7 Suitability of Excavated Materials

Acceptability criteria and testing, and methods of compaction/placement will depend on the type of contract and specification used for the construction of the proposed development and it is recommended that earthworks specifications are reviewed by a suitably qualified engineer once these have been prepared by the relevant parties.

Granular Made Ground could be suitable for re-use as structural fill, providing it is not contaminated and does not contain excessive amounts of clay and providing moisture contents are controlled during placement. The control of moisture contents will be important as the cohesive content of this stratum is likely to be sensitive to moisture content changes.

10.8 Temporary Works

Formations will be susceptible to damage both by weather and trafficking, and should be protected immediately on exposure, particularly in areas where construction plant will access the site.

Excavations in Made Ground are likely to be unstable and should be battered back to an angle of 1 in 2, or a system of close sheeting and shoring adopted to ensure stability, and where personnel are required to enter excavations. All excavations should be adequately supported where personnel are required to enter.

Groundwater seepages could be encountered near surface within excavations, particularly during the wetter months of the year. Pumping of excavations from a suitable located sump is likely to be required to keep excavations dry.

All natural materials on site should be capable of being excavated using conventional excavating machinery.

11.0 GROUND GAS AND RADON GAS CONTAMINATION RISK ASSESSMENT

11.1 Radon Gas

The site is not located within a Radon Affected Area as defined by the Health Protection Agency and therefore radon protection measures are not necessary.

11.2 Analyses of Monitoring Results

The potential risk associated with gases being generated in the ground (whether from natural or man-made sources) depends on the concentrations of gas and its flow rate to the surface. These factors are assessed by monitoring the gas installations in the boreholes. The variable nature of gas generation and the effect of barometric pressure on gas flow means that the volume of gas potentially reaching the ground surface is usually inconsistent over time.

Two monitoring visits were conducted on the 27th July and 4th August 2025. The results recorded methane (CH₄) levels of 0.0% v/v with carbon dioxide (CO₂) levels of 0.2% to 7.8% v/v. Oxygen concentrations of between 9.6% and 16.9% v/v were also recorded. Groundwater was encountered exclusively in WS01 during both visits at depths between 4.43m and 4.52m bgl.

Generally, an absence of flow rates was detected during the monitoring period, however a maximum flow rate of 0.9 litres/hour was detected within WS01 during the second visit. As the steady flow rate during both visits was 0.0 litres/hour, for assessment purposes, a steady flow rate of 0.1 litres/hour has been used based on the limit of detection of the flow meter.

Atmospheric pressure was recorded to be between 1009mb and 1020mb, with the first visit conducted during a falling pressure event (1020 - 1018 over 7 hours).

Full results of the monitoring are presented in Appendix 5.

Table 17 overleaf, adapted from Table 8.5 of CIRIA C665, assessing risks posed by hazardous ground gases to buildings, by Wilson et al. 2007, shows a summary of the current UK practice with respect to appropriate gas protection measures based upon a Gas Screening Value (GSV). A GSV for the site has been obtained by multiplying the maximum concentration of gas by the steady flow rate of 0.1l/h adopted for assessment purposes.

- Carbon dioxide: Steady flow rate = 0.1 l/hr, max concentration = 7.8%
- Methane: Steady flow rate = 0.1 l/hr, max concentration = 0.0%.

Based on the above figures, the GSV is calculated as:

- **Carbon Dioxide:** $GSV = 0.1 \times 7.8 / 100 = 0.0078 \text{ litres/hour}$
- **Methane:** $GSV = 0.1 \times 0.0 / 100 = 0.0 \text{ litres/hour}$

The CIRIA guidance document notes that ‘...the GSV is a guideline value and not an absolute threshold.’

The above results suggest the site can be given a Characteristic Situation 1, i.e. ‘Very Low Risk’ in accordance with Table 17 overleaf, however this would ordinarily be raised to CS2 due to the presence of elevated carbon dioxide (>5%).

Table 17: Characteristic Situation (Wilson et al 2006/2007 modified from Wilson and Card, 1999)

Characteristic Situation	Risk Classification	Gas Screening Value CH₄ or CO₂ (l/hr)	Additional Factors	Typical source of generation
1	Very Low	<0.07	Typically, < 1% methane Typically, < 5% carbon dioxide	Typical made ground
2	Low	<0.7	Borehole air flow rate to not exceed 70l/hr otherwise consider increase to Characteristic Situation 3	Typical made ground
3	Moderate	<3.5		Old landfill, inert waste, flooded mine workings
4	Moderate to High	<15	Quantitative risk assessment	Mine workings susceptible to flooding, completed landfill
5	High Risk	<70		Mineworking unflooded inactive with shallow workings near surface
6	Very High Risk	>70		Recent landfill site

Detailed Assessment

EEG have made reference to *Ground Gas Information Sheet No.1, Using Ternary Plots for Interpretation of Ground Gas Monitoring Results (July 2018)*, which reports that carbon dioxide is widespread in the sub-surface environment at concentrations of up to 21% and is generated by microbial and geochemical processes. Elevated carbon dioxide concentrations are commonly elevated in Glacial Till, Chalk, River Terrace Gravel, Thanet Sand, Lambeth Group and Made Ground.

It is reported that when monitoring wells are installed in these materials, small volumes of organic material are exposed to oxygen, which results in biological respiration or oxidation of the material, resulting in the production of carbon dioxide. Weathering of pyrites and subsequent reactions of acidic pore water with carbonate material can also cause increased concentrations of carbon dioxide in the monitoring well headspace.

Organic material in Made Ground can also degrade to produce carbon dioxide and or methane, in which case the carbon dioxide may be generated so slowly that it will not be emitted from the ground surface in quantities or at a rate that is sufficient to pose a risk to overlying development.

Based on the above information, the gas monitoring data from this investigation has been analysed with respect to methane, carbon dioxide, oxygen, and nitrogen gas ratios to deduce the potential source of the ground gas, as shown in Figures 14 to 16 overleaf.

Figure 14: Gas Ratio Ternary Plot

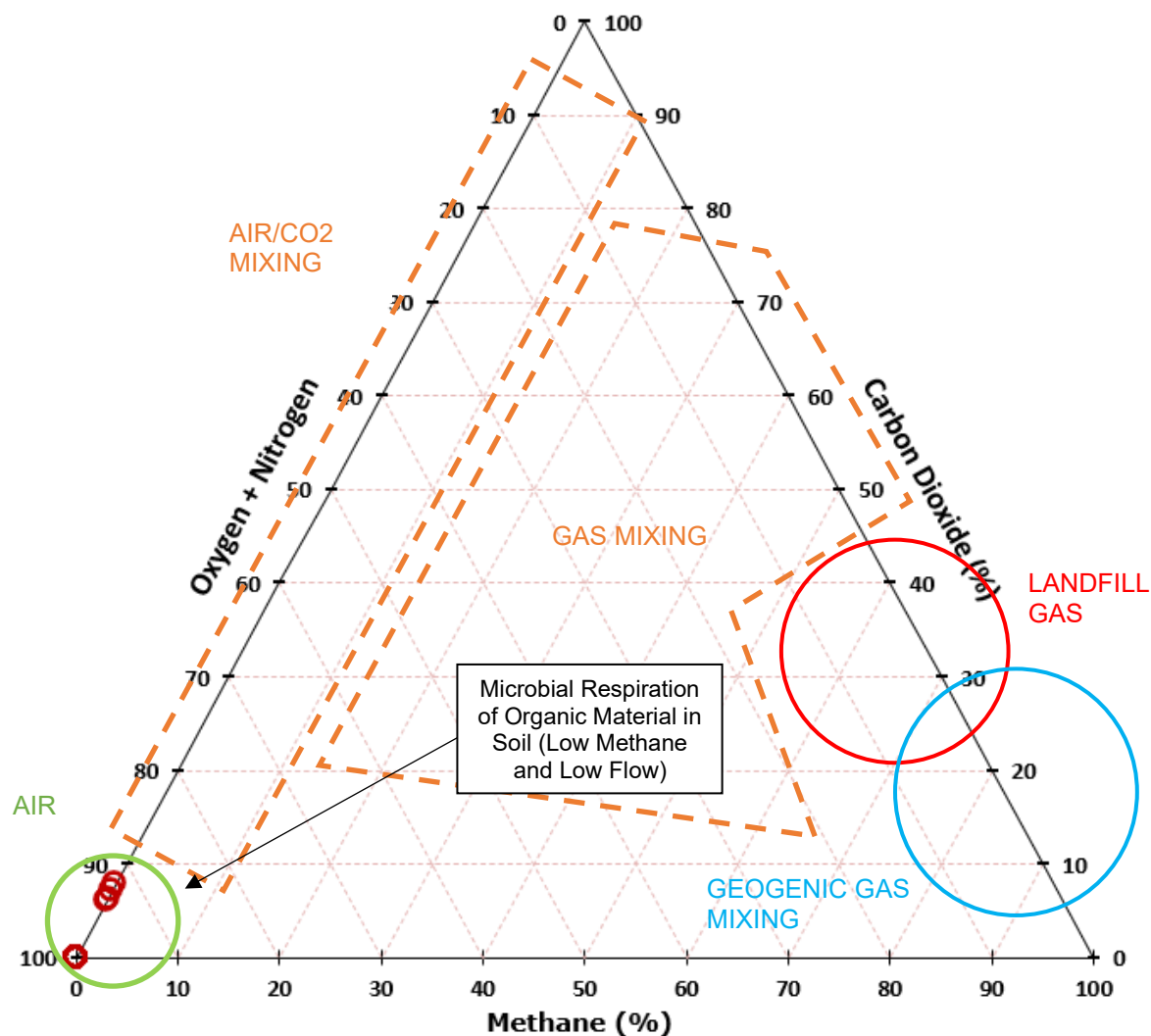


Figure 14 shows the ground gas monitoring results from this site investigation plotted with the gas composition from different sources, adapted from Teasdale et al. 2015. The results show that the gas composition within the monitoring wells at the site is unlikely to be landfill gas.

The results generally correspond to air on the gas ratios ternary plot.

Figure 15: Carbon Dioxide: Oxygen Ratio Plot

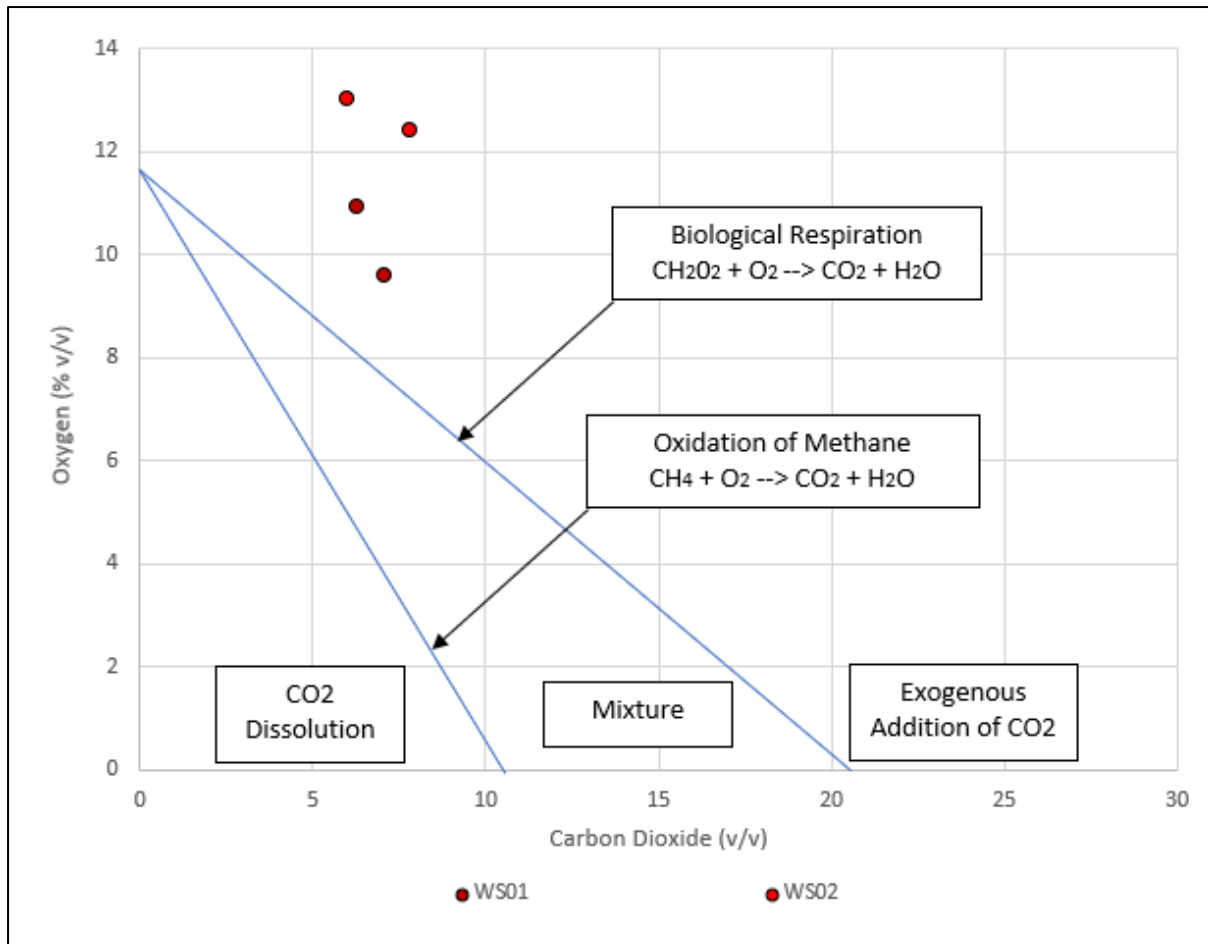


Figure 15 shows that the points that plot to the left of the biological respiration and oxidation of methane lines are caused by dissolution of gas from the ground (or pore) water and from the reaction of rainwater with soil. The points to the right of the biological respiration line are caused by biological respiration (i.e., oxidation of organic material in the soil).

All of the data plots to the right side of the biological respiration line. This indicates that the source of carbon dioxide is likely to be from the oxidation of organic material in the soil.

Figure 16: Nitrogen/Oxygen: Carbon Dioxide Ratio Plot

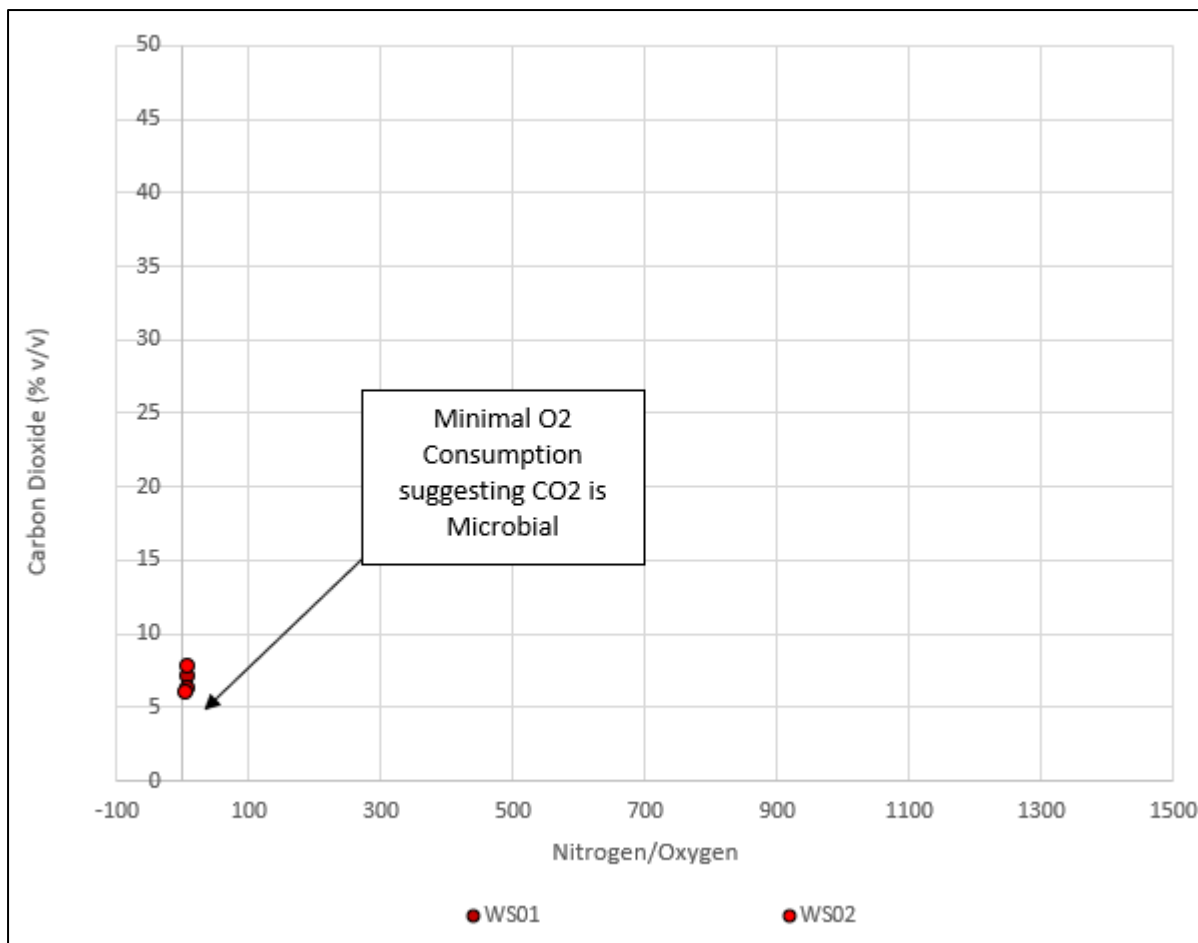


Figure 16 presents an assessment of the nitrogen/oxygen and carbon dioxide ratios. The figure shows all the monitoring results plotted on the left side of the graph, which represents minimal oxygen consumption. There is no data plotting towards the right side of this figure, which would suggest methane oxidation.

The above results and assessment suggest the site can be given a Characteristic Situation 1, i.e., 'very low risk', in accordance with Table 17.

Therefore, ground gas protection measures are not considered necessary at the site.

12.0 CONCLUSIONS & RECOMMENDATIONS

12.1 Soil Contamination

No significant sources of contamination have been identified during the desk study phase of this investigation, with a tentative **MODERATE to LOW** risk to future end users until ground conditions were confirmed. Although made ground to a depth of up to 2.70m bgl was identified during the site investigation phase, no significant sources of contamination were identified.

A made ground gravel layer, containing ash and clinker, was encountered in the borehole in the north of the site (WS01).

Ash and clinker contain metals and hydrocarbons in a crystalline form, and is therefore unlikely to pose a significant leachable risk.

However, it is recommended this layer is removed during the redevelopment of the rear garden area, to remove the likelihood of dermal contact with future end users.

No additional visual or olfactory evidence of contamination was observed during the site investigation.

12.2 Foundation Recommendations

Shallow strip/pad foundations placed in the superficial deposits are not considered appropriate for the current proposed development, due to the variable thickness of the deep made ground, and the soft underlying alluvial deposits.

Foundation loadings should be transferred to competent strata by use of driven or bored piles. Based on the results of the dynamic probe testing, competent ground has been identified between 9.50m - 101.0m bgl.

Due to the medium volume change potential of clay deposits and significant developed trees and vegetation, heave protection measures will be required in the foundation design.

It is recommended that for foundations and ground floor slabs in contact with the superficial deposits, the Design Sulphate Class should be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1.

12.3 Hazardous Ground Gas

The site has been initially classified as CS2 due to marginally elevated concentrations of dioxide (>5%) encountered within the window sample boreholes during both monitoring visits.

However, after a detailed assessment of the data, with specific reference to gas ratios, it is evident that the ground gas composition resembles air, rather than landfill or harmful gases. No oxidation of methane is occurring at the site. The source is likely to be biological respiration (i.e., the oxidation of organic material in the soil) that has been disturbed and released during the drilling process.

Based on this analysis and the low steady flow rates recorded in the window sample boreholes, the risk of ground gas can be considered "very low" with a characteristic situation of CS1, and ground gas protection measures are therefore not necessary at the site.

12.4 Pavement Design

Based on the findings of the site investigation, the soil type at subgrade level was typically made ground. Based on the recommendations for design CBR values provided in Interim advice note 73/06, Revision 1 (2009).

A conservative design CBR value of 1% should be adopted in areas where made ground is encountered at subgrade level.

12.5 Site Personnel

As with all construction sites, personnel working on the site during the construction period should be encouraged to maintain a high standard of personal hygiene and on-site washing facilities should be available.

12.6 Other Matters

Due diligence is required during the construction period, and should any further evidence of contamination be found, appropriate investigation and / or action should be taken. The significance of any contamination not discovered by this investigation is outside the scope of this report.

APPENDIX 1

GROUNDSURE REPORT

246, PALATINE ROAD, MANCHESTER, M20 2WF

Order Details

Date: 01/07/2025
Your ref: A6550/DS/02
Our Ref: GS-GPV-KT8-VJP-2YY

Site Details

Location: 383481 390855
Area: 0.09 ha
Authority: [Manchester City Council](#) ↗



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Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) [Insight User Guide](#) ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	4	10	6	-
16 >	1.2 >	Historical tanks >	0	0	0	3	-
17 >	1.3 >	Historical energy features >	0	0	1	0	-
17	1.4	Historical petrol stations	0	0	0	0	-
17 >	1.5 >	Historical garages >	0	0	0	9	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	5	10	7	-
20 >	2.2 >	Historical tanks >	0	0	0	5	-
21 >	2.3 >	Historical energy features >	0	0	2	0	-
21	2.4	Historical petrol stations	0	0	0	0	-
21 >	2.5 >	Historical garages >	0	0	0	13	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
25 >	3.7 >	Waste exemptions >	0	0	0	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	0	0	1	-	-
27 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	0	0	1	-	-
27 >	4.3 >	Current or recent petrol stations >	0	0	0	1	-
27	4.4	Electricity cables	0	0	0	0	-
27	4.5	Gas pipelines	0	0	0	0	-



28	4.6	Sites determined as Contaminated Land	0	0	0	0	-
28	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.8	Regulated explosive sites	0	0	0	0	-
28	4.9	Hazardous substance storage/usage	0	0	0	0	-
28	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.12	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.13	Radioactive Substance Authorisations	0	0	0	0	-
29 >	4.14 >	<u>Licensed Discharges to controlled waters ></u>	0	0	0	1	-
30	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.16	Pollutant release to public sewer	0	0	0	0	-
30	4.17	List 1 Dangerous Substances	0	0	0	0	-
30	4.18	List 2 Dangerous Substances	0	0	0	0	-
30 >	4.19 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	0	4	-
31	4.20	Pollution inventory substances	0	0	0	0	-
31	4.21	Pollution inventory waste transfers	0	0	0	0	-
32	4.22	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
33 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
35 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
37 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	6
41 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	2
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m



43 >	6.1 >	Water Network (OS MasterMap) >	0	1	8	-	-
44 >	6.2 >	Surface water features >	0	1	3	-	-
45 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
45 >	6.4 >	WFD Surface water bodies >	0	0	1	-	-
45 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
47 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
48 >	7.2 >	Historical Flood Events >	2	0	2	-	-
48 >	7.3 >	Flood Defences >	0	1	3	-	-
49 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	1	-	-
49 >	7.5 >	Flood Storage Areas >	0	1	0	-	-
50 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
51 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
52 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
54 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	5
57 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	2
57	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58 >	10.11 >	Green Belt >	1	0	0	0	2



58	10.12	Proposed Ramsar sites	0	0	0	0	0
59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
59	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
60 >	<u>10.17 ></u>	<u>SSSI Impact Risk Zones ></u>	1	-	-	-	-
61	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
62	11.1	World Heritage Sites	0	0	0	-	-
62	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
62	11.3	National Parks	0	0	0	-	-
62	11.4	Listed Buildings	0	0	0	-	-
63	11.5	Conservation Areas	0	0	0	-	-
63	11.6	Scheduled Ancient Monuments	0	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
64 >	<u>12.1 ></u>	<u>Agricultural Land Classification ></u>	Urban (within 250m)				
65 >	<u>12.2 ></u>	<u>Open Access Land ></u>	0	0	1	-	-
65 >	<u>12.3 ></u>	<u>Tree Felling Licences ></u>	0	0	1	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
66	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
67 >	<u>13.1 ></u>	<u>Priority Habitat Inventory ></u>	0	2	6	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
69 >	<u>14.1 ></u>	<u>10k Availability ></u>	Identified (within 500m)				
70 >	<u>14.2 ></u>	<u>Artificial and made ground (10k) ></u>	0	1	1	2	-

72 >	14.3 >	Superficial geology (10k) >	1	0	1	4	-
73	14.4	Landslip (10k)	0	0	0	0	-
74 >	14.5 >	Bedrock geology (10k) >	1	0	0	3	-
75 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	2	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	15.1 >	50k Availability >	Identified (within 500m)				
77	15.2	Artificial and made ground (50k)	0	0	0	0	-
77	15.3	Artificial ground permeability (50k)	0	0	-	-	-
78 >	15.4 >	Superficial geology (50k) >	1	0	1	4	-
79 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
79	15.6	Landslip (50k)	0	0	0	0	-
79	15.7	Landslip permeability (50k)	None (within 50m)				
80 >	15.8 >	Bedrock geology (50k) >	1	0	0	3	-
81 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
81 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	0	4	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
82 >	16.1 >	BGS Boreholes >	0	0	7	-	-
Page	Section	Natural ground subsidence >					
84 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
85 >	17.2 >	Running sands >	Low (within 50m)				
86 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
87 >	17.4 >	Collapsible deposits >	Negligible (within 50m)				
88 >	17.5 >	Landslides >	Very low (within 50m)				
89 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
91	18.1	BritPits	0	0	0	0	-
92 >	18.2 >	Surface ground workings >	0	5	22	-	-
93	18.3	Underground workings	0	0	0	0	0
93	18.4	Underground mining extents	0	0	0	0	-

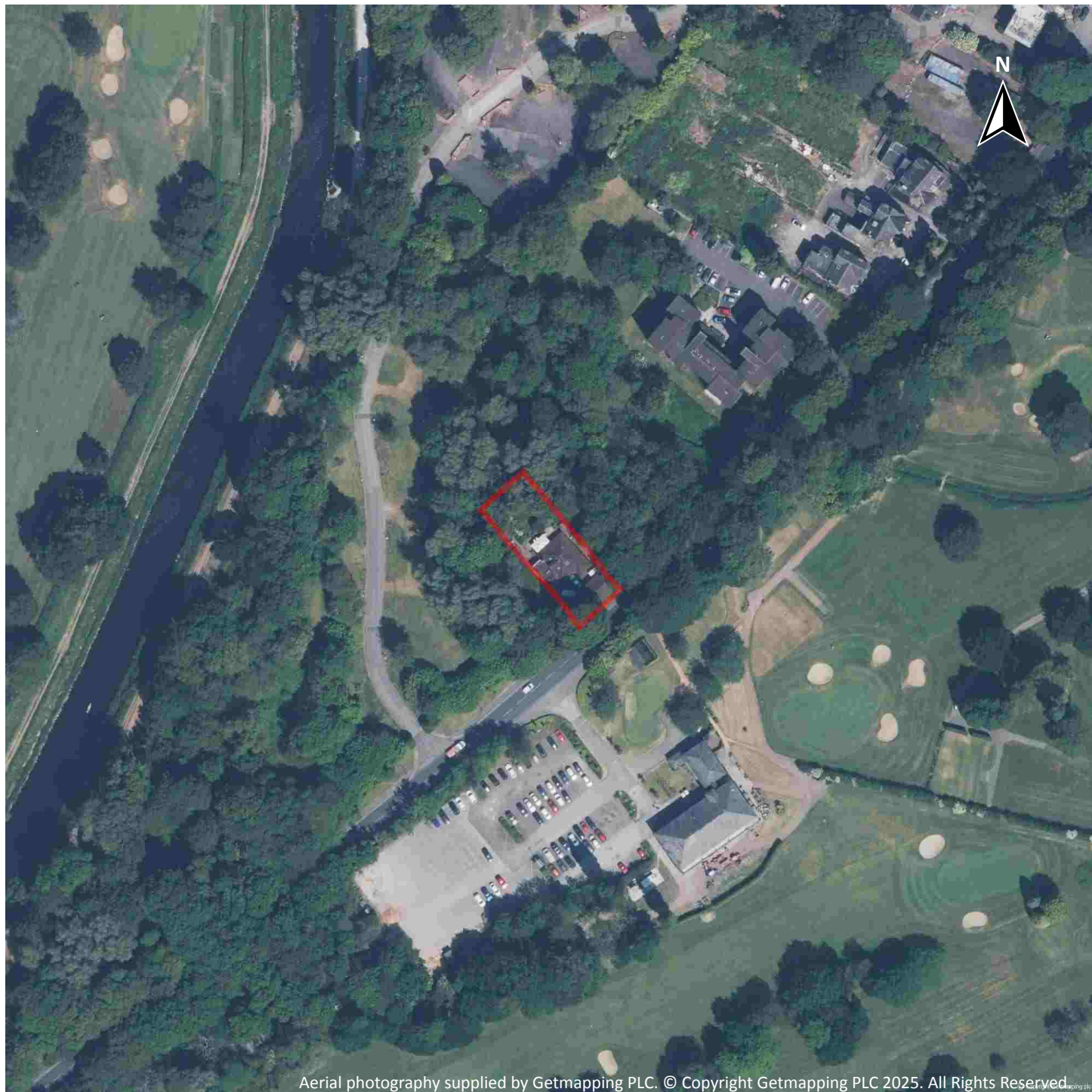


93	18.5	Historical Mineral Planning Areas	0	0	0	0	-
93	18.6	Non-coal mining	0	0	0	0	0
94 >	18.7 >	<u>JPB mining areas</u> >	Identified (within 0m)				
94	18.8	The Coal Authority non-coal mining	0	0	0	0	-
94	18.9	Researched mining	0	0	0	0	-
95	18.10	Mining record office plans	0	0	0	0	-
95	18.11	BGS mine plans	0	0	0	0	-
95	18.12	Coal mining	None (within 0m)				
95	18.13	Brine areas	None (within 0m)				
95	18.14	Gypsum areas	None (within 0m)				
96	18.15	Tin mining	None (within 0m)				
96	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
97	19.1	Natural cavities	0	0	0	0	-
97	19.2	Mining cavities	0	0	0	0	0
97	19.3	Reported recent incidents	0	0	0	0	-
97	19.4	Historical incidents	0	0	0	0	-
Page	Section	<u>Radon</u> >					
99 >	20.1 >	<u>Radon</u> >	Less than 1% (within 0m)				
Page	Section	<u>Soil chemistry</u> >	On site	0-50m	50-250m	250-500m	500-2000m
101 >	21.1 >	<u>BGS Estimated Background Soil Chemistry</u> >	2	0	-	-	-
101	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
101	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	<u>Railway infrastructure and projects</u> >	On site	0-50m	50-250m	250-500m	500-2000m
102	22.1	Underground railways (London)	0	0	0	-	-
102	22.2	Underground railways (Non-London)	0	0	0	-	-
103	22.3	Railway tunnels	0	0	0	-	-
103	22.4	Historical railway and tunnel features	0	0	0	-	-
103	22.5	Royal Mail tunnels	0	0	0	-	-



103	22.6	Historical railways	0	0	0	-	-
103	22.7	Railways	0	0	0	-	-
104	22.8	Crossrail 2	0	0	0	0	-
<u>104</u> >	<u>22.9</u> >	<u>HS2</u> >	0	1	1	0	-

Recent aerial photograph



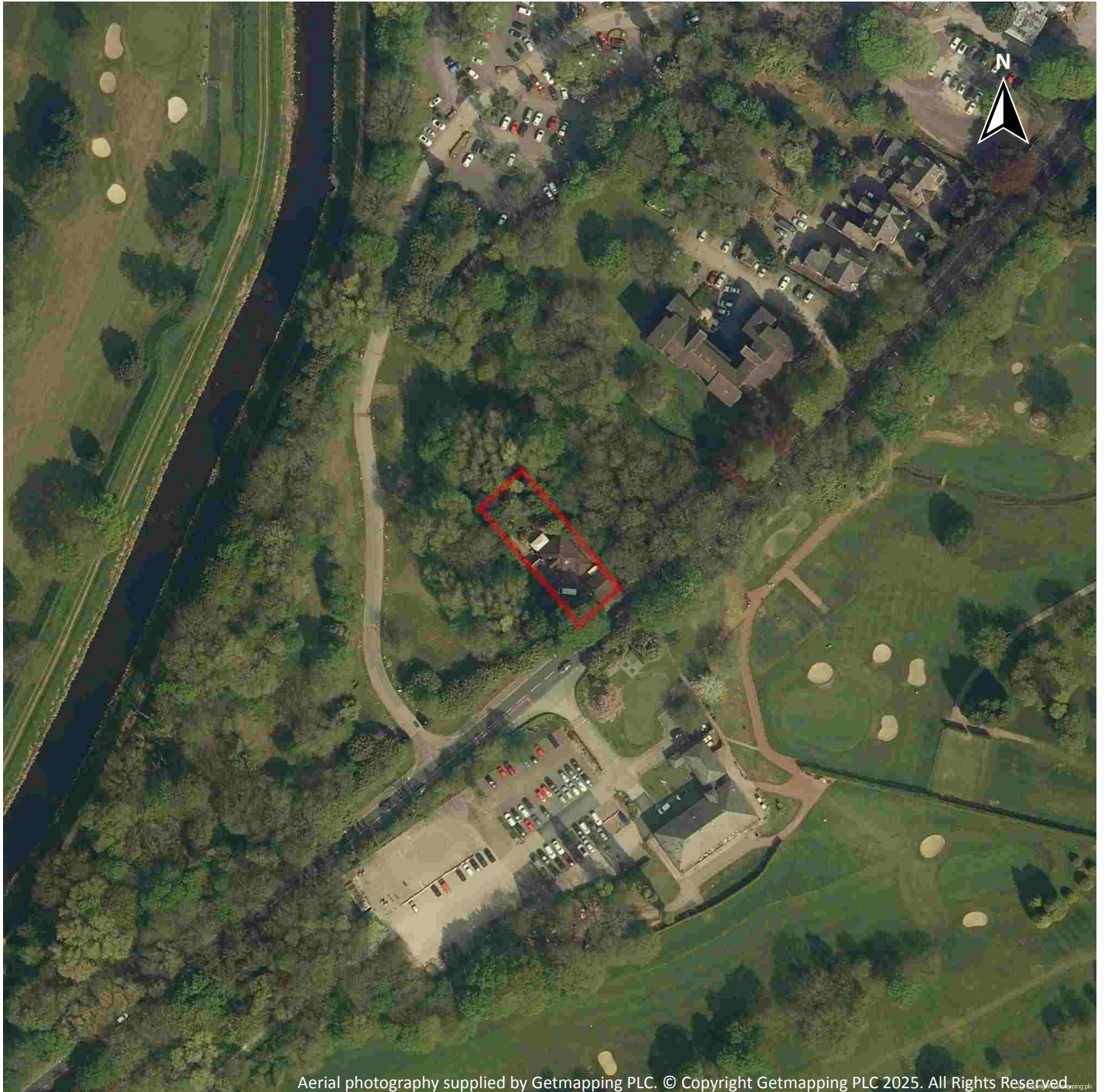
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 07/04/2023

Site Area: 0.09ha



Recent site history - 2019 aerial photograph



Capture Date: 22/04/2019

Site Area: 0.09ha



Recent site history - 2015 aerial photograph



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Capture Date: 11/06/2015

Site Area: 0.09ha



Recent site history - 2009 aerial photograph



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Capture Date: 02/06/2009

Site Area: 0.09ha



Recent site history - 2000 aerial photograph



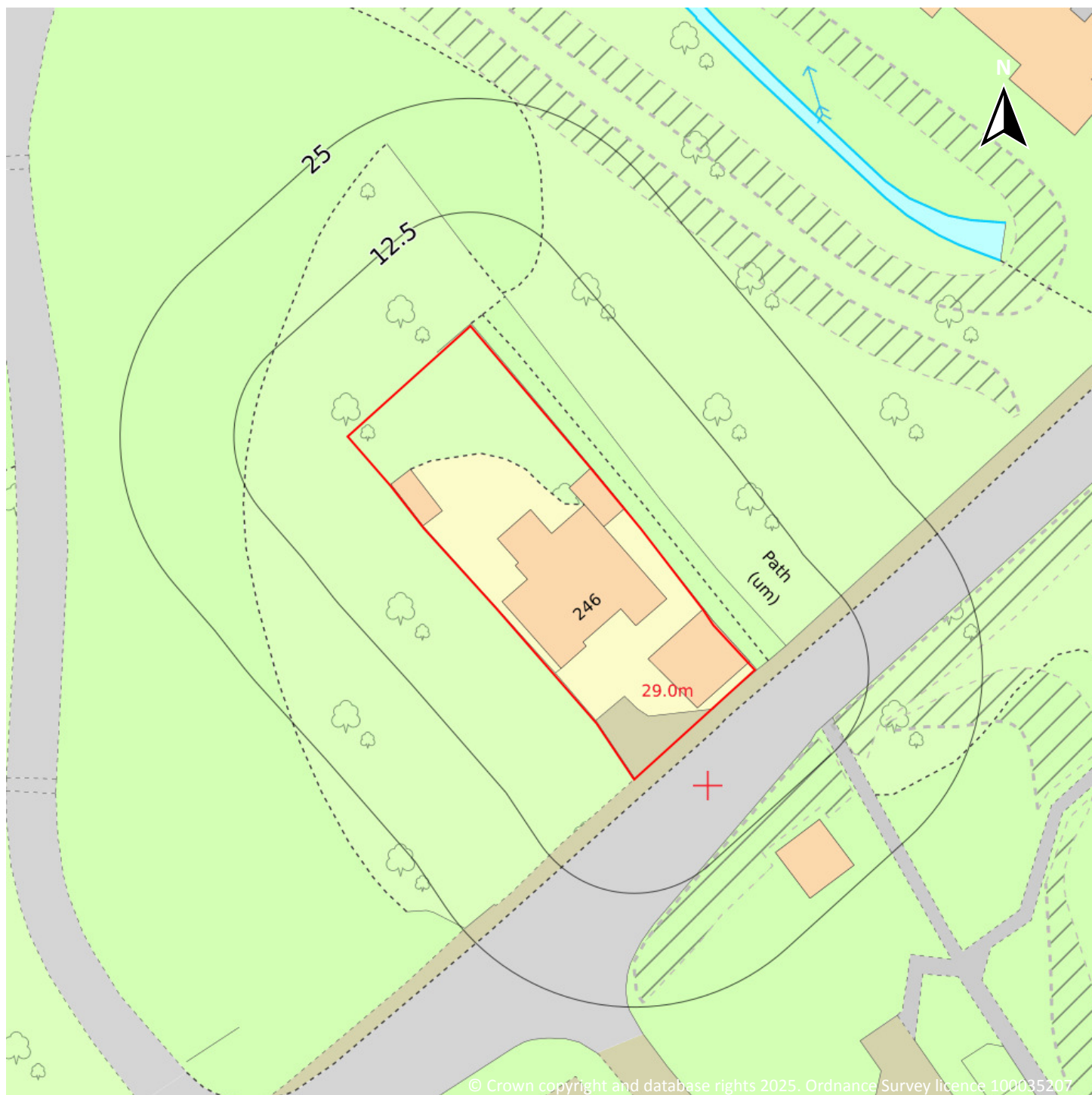
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 27/06/2000

Site Area: 0.09ha



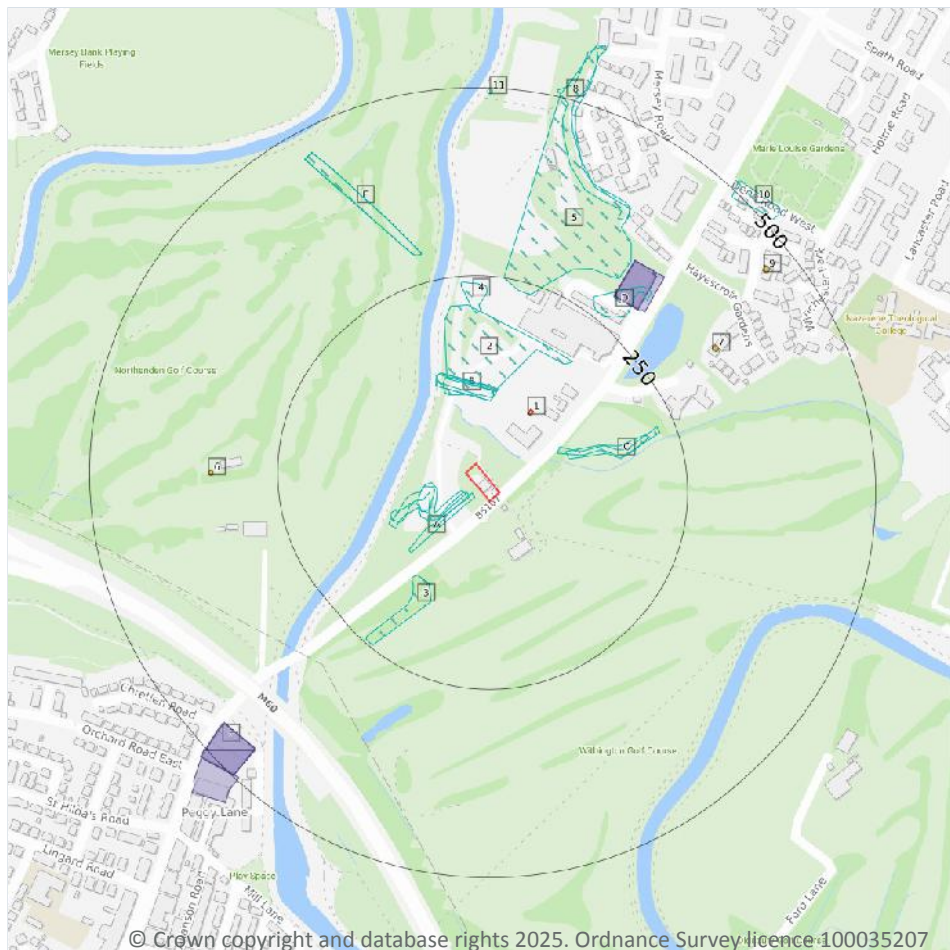
OS MasterMap site plan



Site Area: 0.09ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

20

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	11m SW	Unspecified Ground Workings	1923	929791



ID	Location	Land use	Dates present	Group ID
A	15m SW	Unspecified Ground Workings	1955	871467
A	18m SW	Unspecified Ground Workings	1966 - 1981	986660
A	47m SW	Gravel Pit	1955	851812
B	86m N	Unspecified Heap	1923	867183
B	86m N	Unspecified Heap	1905	999332
B	90m N	Unspecified Heap	1892	908859
B	92m N	Unspecified Pit	1988	926148
C	93m NE	Unspecified Ground Workings	1988	962035
2	100m N	Unspecified Pit	1981	983167
C	103m NE	Unspecified Ground Workings	1981	951579
3	135m SW	Unspecified Heap	1916	841551
4	201m N	Unspecified Pit	1955	974658
5	236m N	Unspecified Pit	1981	827703
D	259m NE	Gravel Pit	1955	851811
E	287m N	Unspecified Heap	1905	875090
E	287m N	Unspecified Heap	1916 - 1923	915435
8	377m NE	Unspecified Ground Workings	1988	813234
10	492m NE	Unspecified Pit	1892	827702
11	492m N	Tunnel	1849	856929

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

3

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)



ID	Location	Land use	Dates present	Group ID
6	336m W	Unspecified Tank	1982 - 1992	154003
7	342m NE	Unspecified Tank	1955 - 1956	133135
9	457m NE	Unspecified Tank	1987	121819

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

1

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	97m NE	Electricity Substation	1989 - 1992	77048

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

9

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-



grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
D	288m NE	Garage	1993 - 1994	24142
D	289m NE	Garage	1964	30311
D	290m NE	Garage	1987 - 1992	28391
F	452m SW	Garage	1982	23120
F	453m SW	Garage	1992	27216
F	455m SW	Garage	1996	28013
F	455m SW	Garage	1980	24118
F	455m SW	Garage	1989 - 1992	26691
F	496m SW	Garage	1980	23192

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

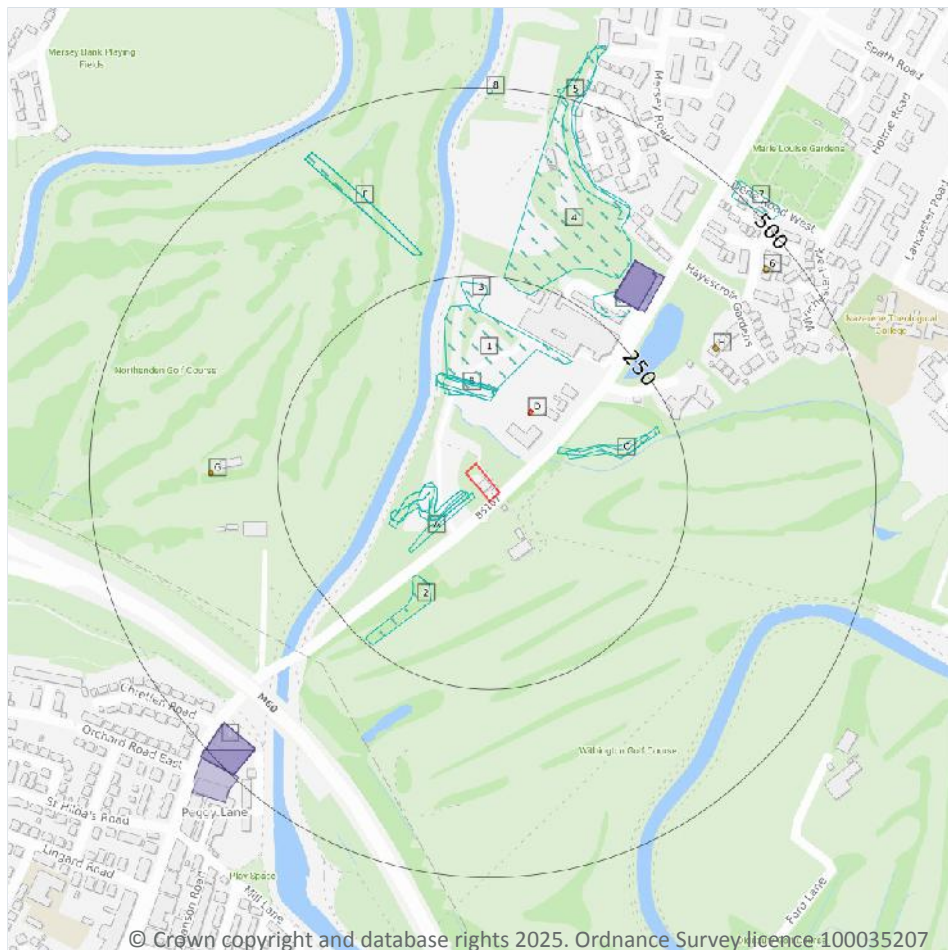
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

22

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
A	11m SW	Unspecified Ground Workings	1923	929791
A	15m SW	Unspecified Ground Workings	1955	871467
A	18m SW	Unspecified Ground Workings	1981	986660



ID	Location	Land Use	Date	Group ID
A	18m SW	Unspecified Ground Workings	1966	986660
A	47m SW	Gravel Pit	1955	851812
B	86m N	Unspecified Heap	1905	999332
B	86m N	Unspecified Heap	1923	867183
B	90m N	Unspecified Heap	1892	908859
B	92m N	Unspecified Pit	1988	926148
C	93m NE	Unspecified Ground Workings	1988	962035
1	100m N	Unspecified Pit	1981	983167
C	103m NE	Unspecified Ground Workings	1981	951579
2	135m SW	Unspecified Heap	1916	841551
3	201m N	Unspecified Pit	1955	974658
4	236m N	Unspecified Pit	1981	827703
E	259m NE	Gravel Pit	1955	851811
F	287m N	Unspecified Heap	1916	915435
F	287m N	Unspecified Heap	1905	875090
F	287m N	Unspecified Heap	1923	915435
5	377m NE	Unspecified Ground Workings	1988	813234
7	492m NE	Unspecified Pit	1892	827702
8	492m N	Tunnel	1849	856929

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

5

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
G	336m W	Unspecified Tank	1992	154003



ID	Location	Land Use	Date	Group ID
G	336m W	Unspecified Tank	1982	154003
H	342m NE	Unspecified Tank	1956	133135
H	342m NE	Unspecified Tank	1955	133135
6	457m NE	Unspecified Tank	1987	121819

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

2

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

ID	Location	Land Use	Date	Group ID
D	97m NE	Electricity Substation	1989	77048
D	97m NE	Electricity Substation	1992	77048

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

13

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

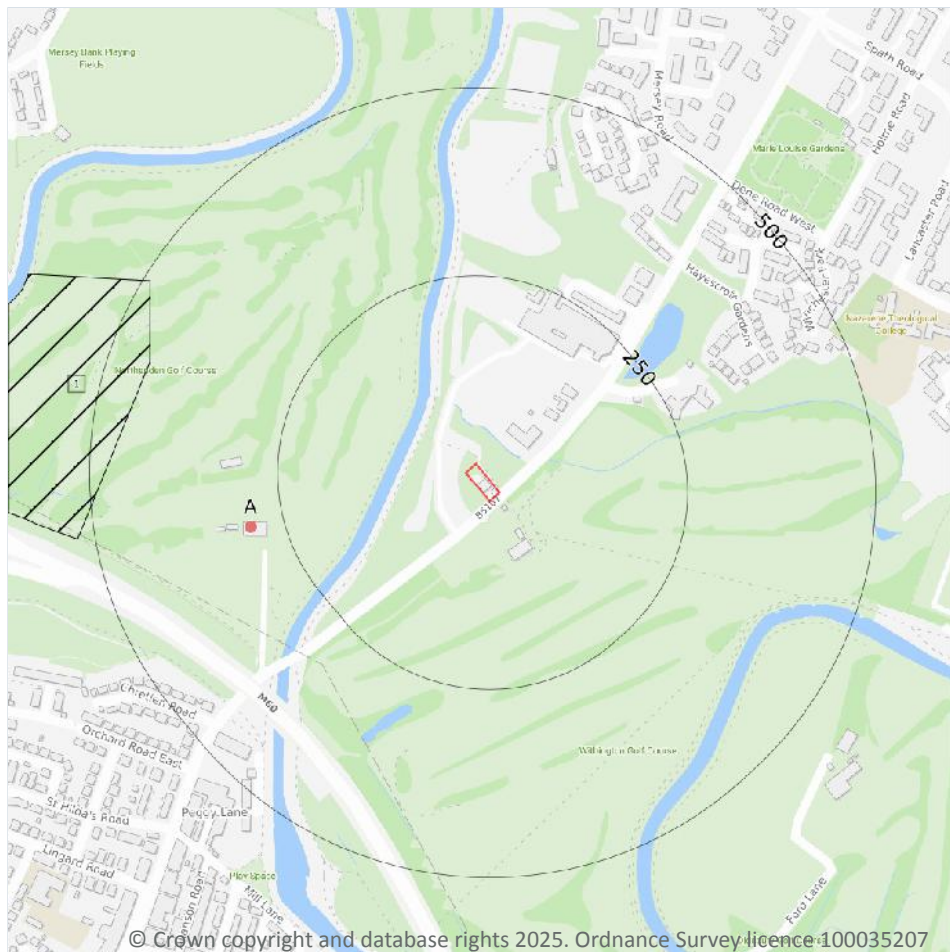


ID	Location	Land Use	Date	Group ID
E	288m NE	Garage	1994	24142
E	288m NE	Garage	1993	24142
E	289m NE	Garage	1964	30311
E	290m NE	Garage	1987	28391
E	290m NE	Garage	1990	28391
E	290m NE	Garage	1992	28391
I	452m SW	Garage	1982	23120
I	453m SW	Garage	1992	27216
I	455m SW	Garage	1996	28013
I	455m SW	Garage	1980	24118
I	455m SW	Garage	1992	26691
I	455m SW	Garage	1989	26691
I	496m SW	Garage	1980	23192

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on [page 23 >](#)

ID	Location	Details		
1	445m W	Site Address: Former Northenden Sewage Works, Princess Parkway, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: F052 Waste Type: Inert, Industrial, Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Manchester City Council First Recorded 31/12/1950 Last Recorded: 31/12/1965

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m

0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m

0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m

2

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

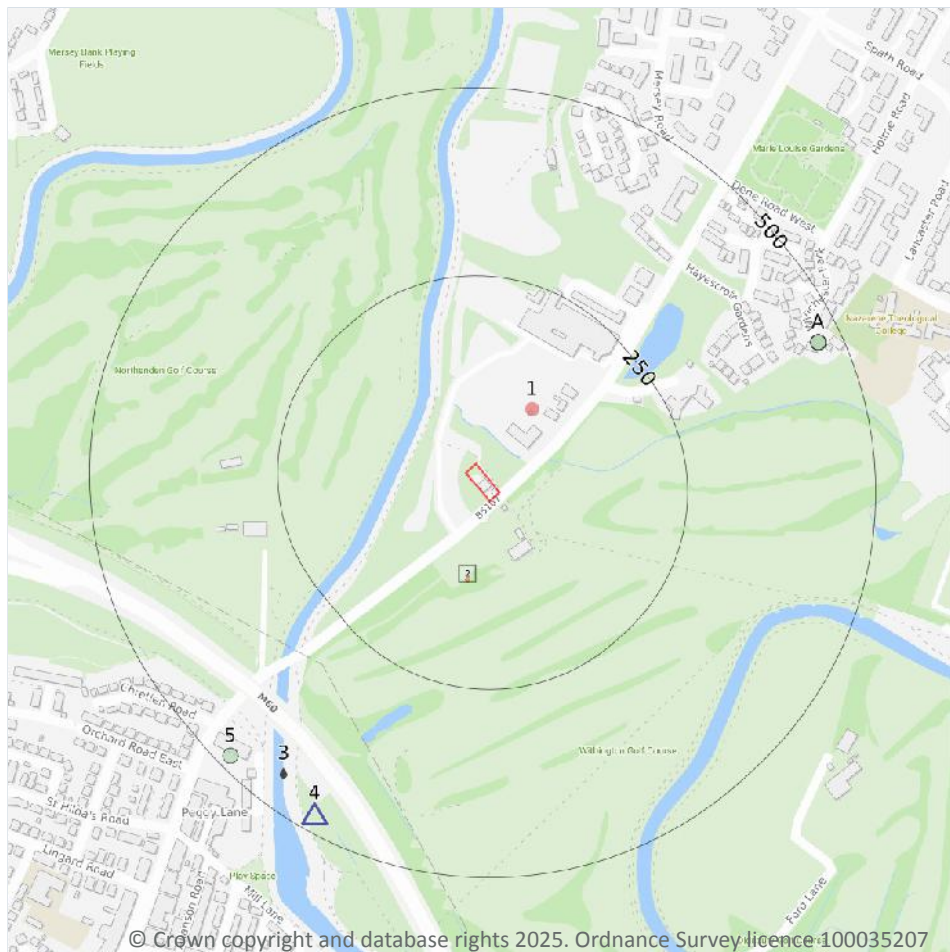
Features are displayed on the Waste and landfill map on [page 23 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	295m W	Northenden Golf Club Palatine Road Manchester Manchester M22 4fr	EPR/PF0508V D/A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction
A	295m W	Northenden Golf Club Palatine Road Manchester Manchester M22 4fr	EPR/PF0508V D/A001	Treating waste exemption	Non-agricultural waste only	Screening and blending of waste

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- NGD current or recent tanks
- ▲ Current or recent petrol stations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

1

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Company	Address	Activity	Category
1	104m NE	Electricity Sub Station	Greater Manchester, M20	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m

1

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Tank description	Activity	Date first identified
2	105m S	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	18/04/2014

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Company	Address	LPG	Status
4	475m SW	OBSOLETE	265, Palatine Road, Northenden, Manchester, Greater Manchester, M22 4ET	Not Applicable	Obsolete

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m**0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m**0**

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m**0**

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m**0**

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.11 Licensed industrial activities (Part A(1))

Records within 500m**0**

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.12 Licensed pollutant release (Part A(2)/B)

Records within 500m**0**

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m**0**

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Licensed Discharges to controlled waters

Records within 500m**1**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Address	Details	
3	453m SW	M60PALATINEROAD,BALVACSITEC OMPOUND,ACCESSVIAWITHINGTO NGOLFCLUB,PALATINEROAD,MANC HESTER,M202UE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRNB3990WE Permit Version: 1 Receiving Water: RIVER MERSEY	Status: SURRENDERED UNDER EPR 2010 Issue date: 27/02/2020 Effective Date: 27/02/2020 Revocation Date: 30/10/2023

This data is sourced from the Environment Agency and Natural Resources Wales.



4.15 Pollutant release to surface waters (Red List)

Records within 500m**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 1 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 List 2 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution Incidents (EA/NRW)

Records within 500m**4**

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Details	
A	468m NE	Incident Date: 24/05/2001 Incident Identification: 6553 Pollutant: Inert Materials and Wastes:Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes:Soils and Clay	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	468m NE	Incident Date: 24/05/2001 Incident Identification: 6553 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	468m NE	Incident Date: 24/05/2001 Incident Identification: 6553 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
5	483m SW	Incident Date: 13/03/2001 Incident Identification: 267 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.20 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.22 Pollution inventory radioactive waste

Records within 500m

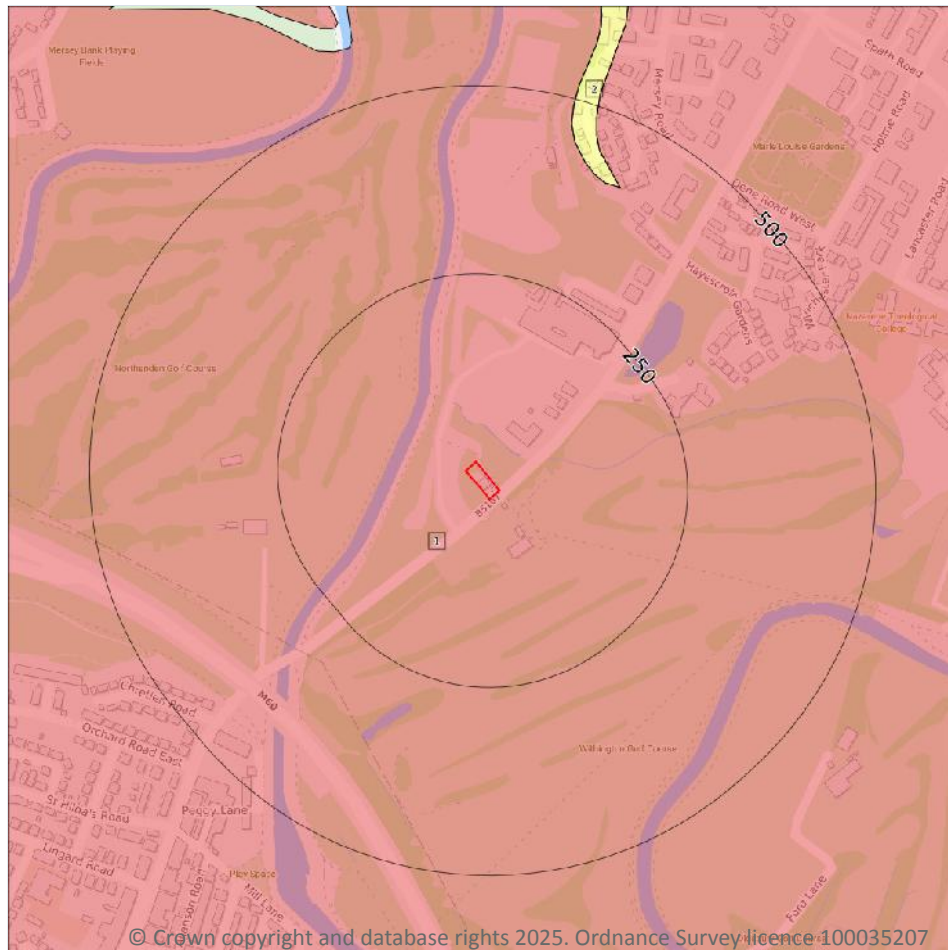
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 33](#) >

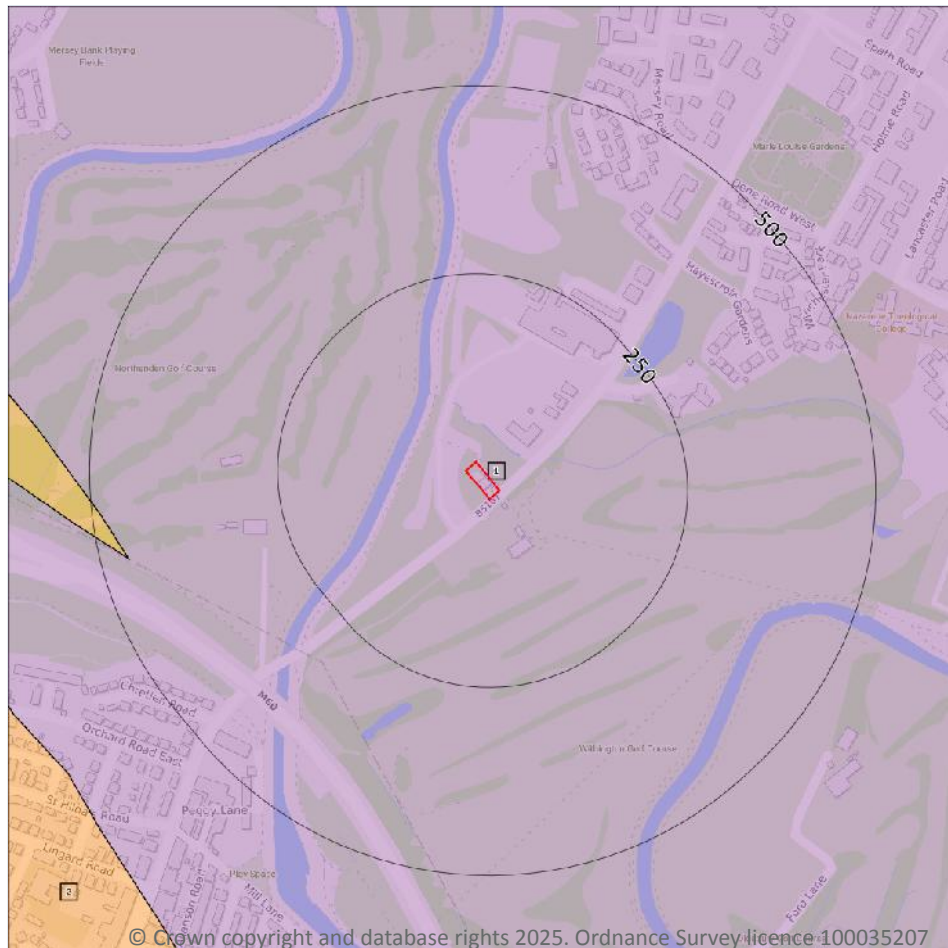
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	408m NE	Secondary 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



This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 35](#) >

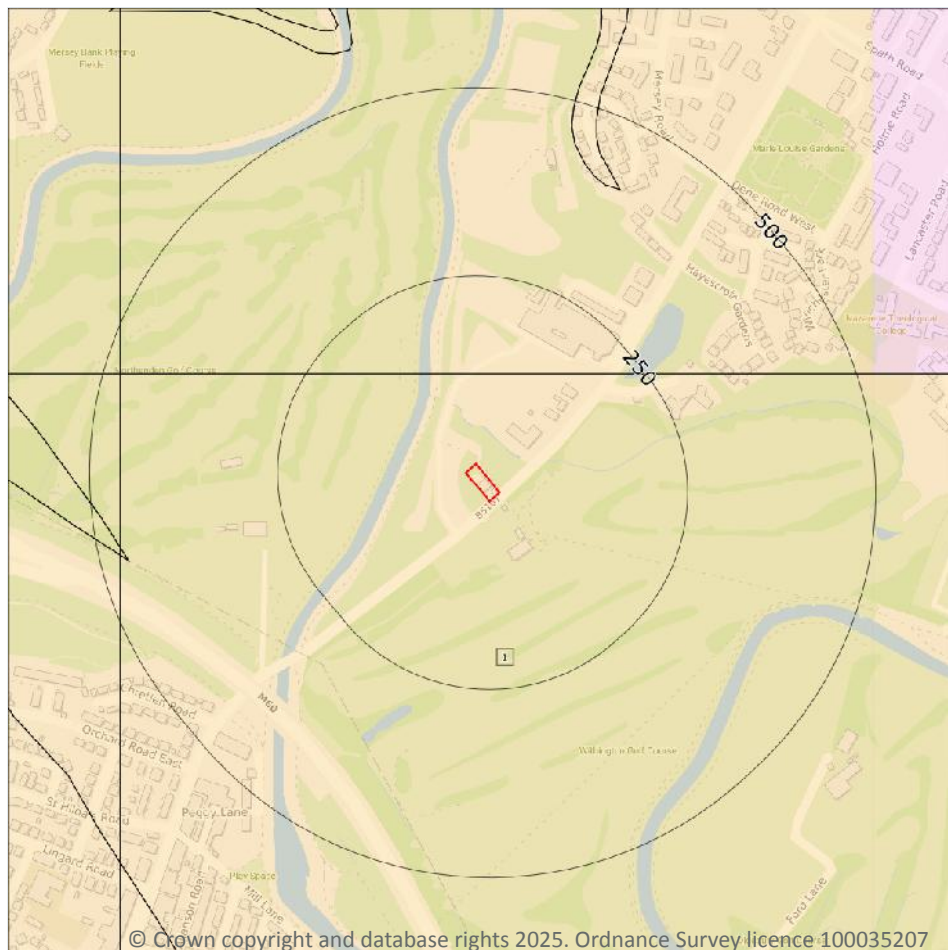
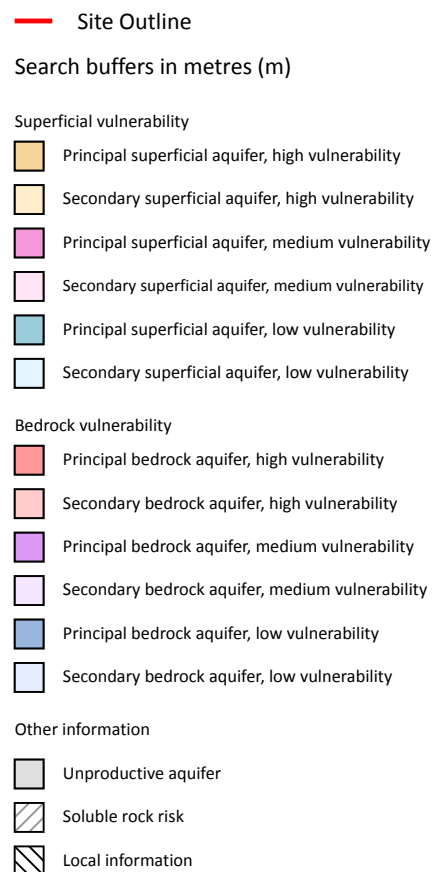
ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	463m W	Secondary 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



This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 37](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

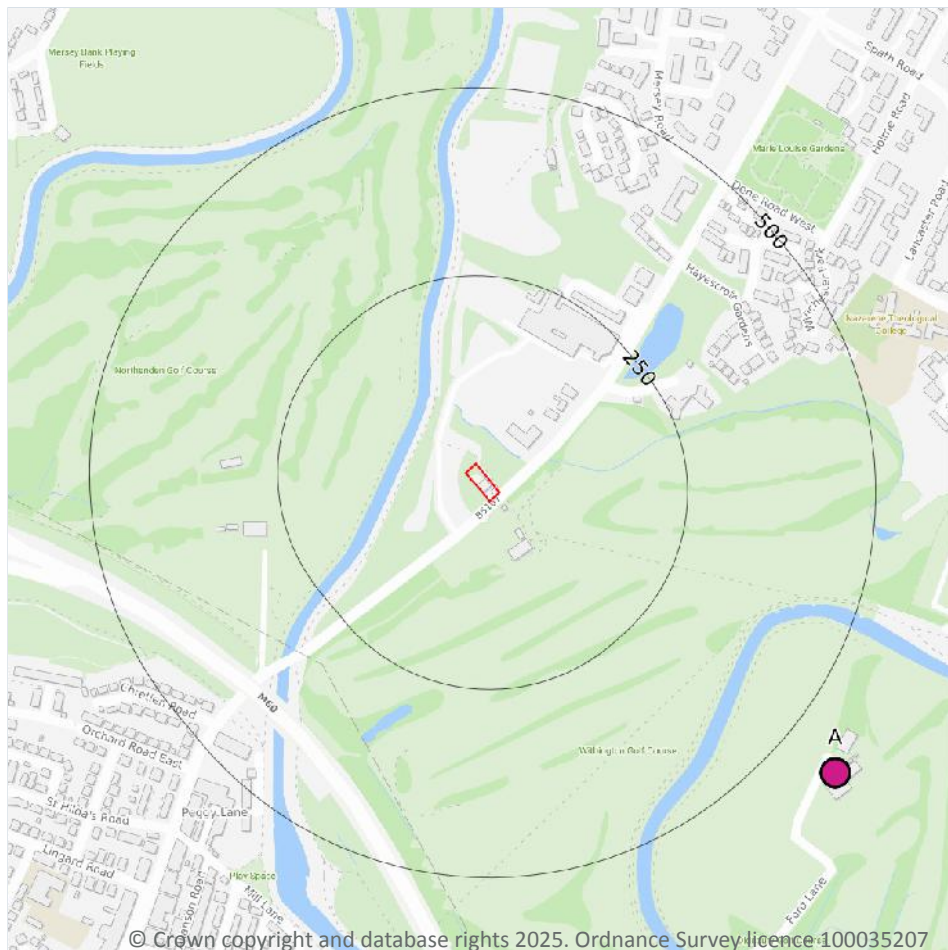
Records on site

0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

6

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 39 >](#)

ID	Location	Details	
A	581m SE	Status: Active Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIDSBURY GOLF CLUB NORTHENDEN WYTHENSHAW Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 68.19 Original Application No: 1053 Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
A	581m SE	Status: Historical Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DIDSBURY GOLF CLUB, NORTHENDEN, WYTHENSHAW," Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/12/1992 Version End Date: -
A	581m SE	Status: Historical Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIDSBURY GOLF CLUB, NORTHENDEN, WYTHENSHAW Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/12/1992 Version End Date: -
-	1740m NW	Status: Active Licence No: 2569015015 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT CHORLTON-CUM-HARDY GOLF CLUB Data Type: Point Name: CHORLTON CUM HARDY GOLF CO LTD Easting: 382230 Northing: 392100	Annual Volume (m ³): 8500 Max Daily Volume (m ³): 70 Original Application No: 7427 Original Start Date: 04/09/1998 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2019 Version End Date: -



ID	Location	Details	
-	1974m S	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 Easting: 383610 Northing: 388860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31-Mar-18 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -
-	1974m S	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 Easting: 383610 Northing: 388860	Annual Volume (m ³): 20975 Max Daily Volume (m ³): 80.67 Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

2

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 39 >](#)

ID	Location	Details	
-	823m W	Status: Historical Licence No: 2569015016 Details: Dust suppression Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MERSEY AT TRAFFORD, MANCHESTER Data Type: Point Name: AMEC / ALFRED MCALPINE JV Easting: 382650 Northing: 391020	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/11/2003 Expiry Date: 31/12/2006 Issue No: 1 Version Start Date: 28/11/2003 Version End Date: -



ID	Location	Details	
-	823m W	Status: Historical Licence No: 2569015016 Details: General Washing/Process Washing Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MERSEY AT TRAFFORD, MANCHESTER Data Type: Point Name: AMEC / ALFRED MCALPINE JV Easting: 382650 Northing: 391020	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/11/2003 Expiry Date: 31/12/2006 Issue No: 1 Version Start Date: 28/11/2003 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0
-----------------------------	----------

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
----------------------------	----------

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

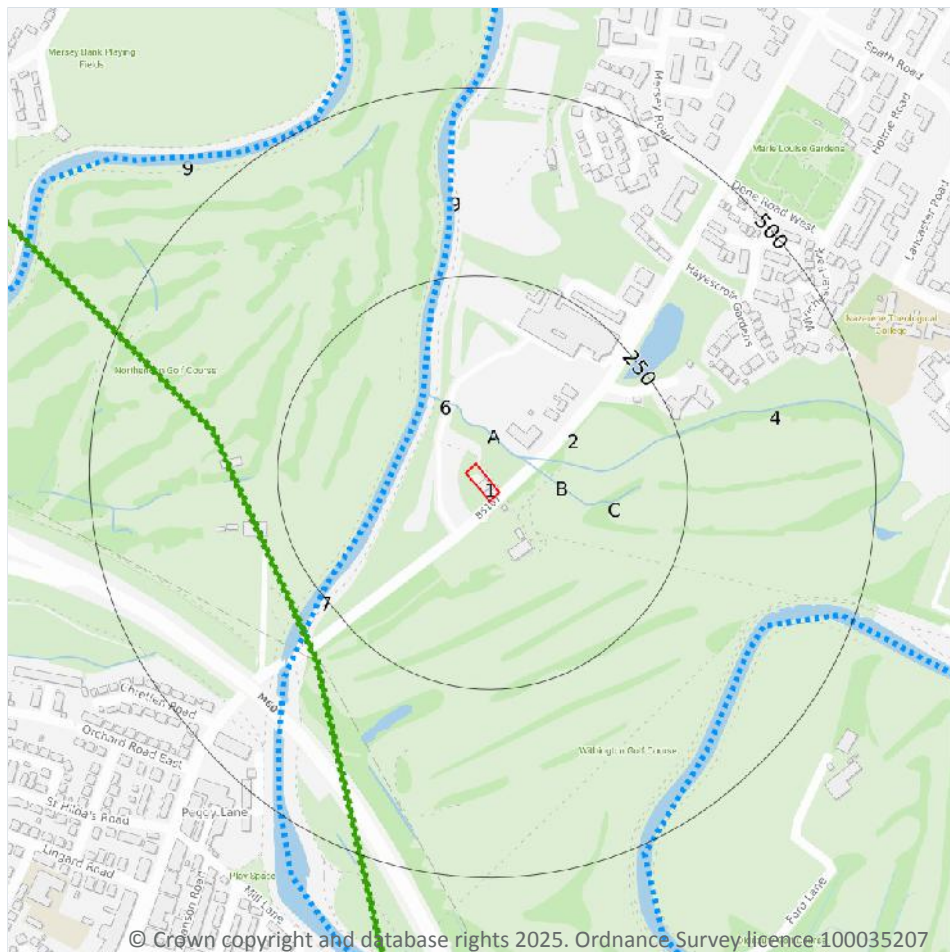
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
----------------------------	----------

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

9

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 43 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	42m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fielden Park Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
B	51m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	51m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fielden Park Brook
4	79m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fielden Park Brook
6	85m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fielden Park Brook
7	90m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Mersey
9	116m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Mersey
C	117m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	166m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 43](#) >

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 43 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Mersey (upstream of Manchester Ship Canal)	GB112069061030	Bollin Dean Mersey Upper	Mersey Upper

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 43 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	90m NW	River	Mersey (upstream of Manchester Ship Canal)	GB112069061030 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.



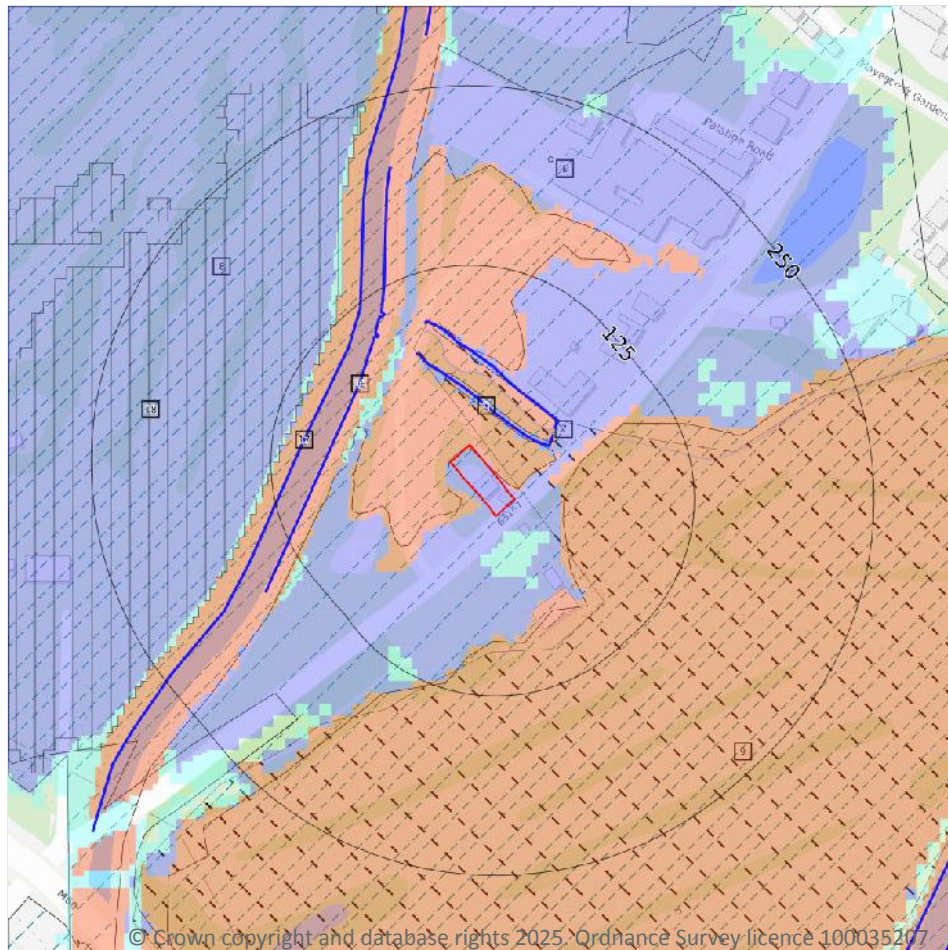
Features are displayed on the Hydrology map on [page 43](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Manchester and East Cheshire Permo-Triassic Sandstone Aquifers	GB41201G101100 ↗	Poor	Poor	Poor	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
 - High
 - Medium
 - Low
 - Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

12

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on [page 47 >](#)



Distance	Flood risk category
On site	High
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	4
----------------------------	----------

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on [page 47 >](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
7	On site	Mers	1964-01-01 1964-01-02	Unknown	Unknown	Fluvial
8	On site	Didsbury	2021-01-20 2021-01-20	Main river	Other	Fluvial
F	201m N	Mers	1998-10-23 1998-10-24	Unknown	Channel capacity exceeded (no raised defences)	No data
F	205m N	Mers	1998-03-03 1998-03-04	Unknown	Channel capacity exceeded (no raised defences)	No data

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	4
----------------------------	----------

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

Features are displayed on the River and coastal flooding map on [page 47 >](#)

ID	Location	Update
C	28m NE	08/11/2022



ID	Location	Update
C	51m NE	08/11/2022
16	80m NW	08/11/2022
17	99m NW	08/11/2022

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m

1

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on [page 47](#) >

ID	Location	
18	110m NW	Area benefiting from flood defences

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

1

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

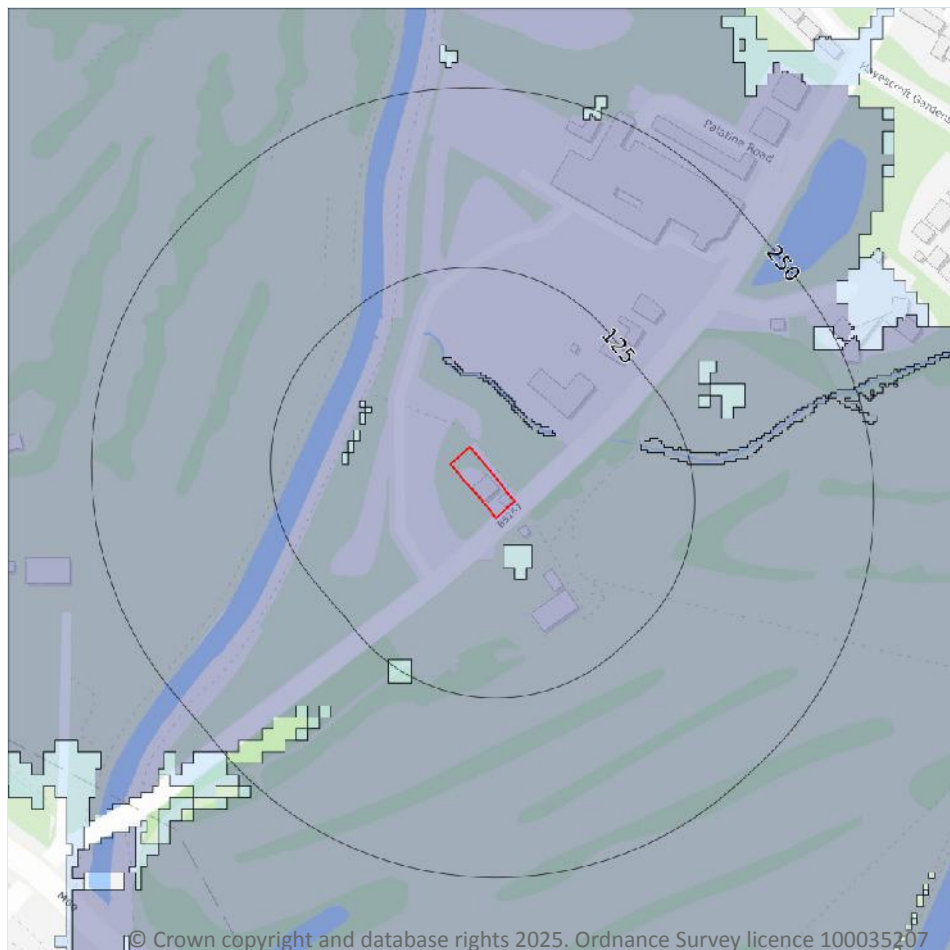
Features are displayed on the River and coastal flooding map on [page 47](#) >

ID	Location	Update
9	7m NE	Flood Storage Area

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on [page 47 >](#)

Location	Type
19m S	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

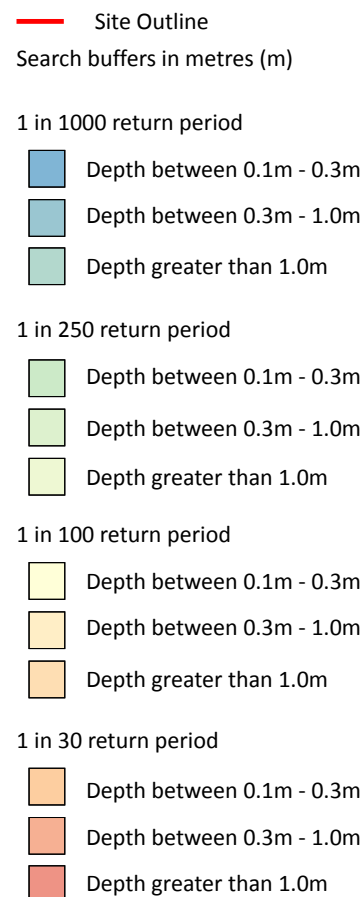
Features are displayed on the River and coastal flooding map on [page 47 >](#)

Location	Type
On site	Zone 3 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 52 >](#)

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

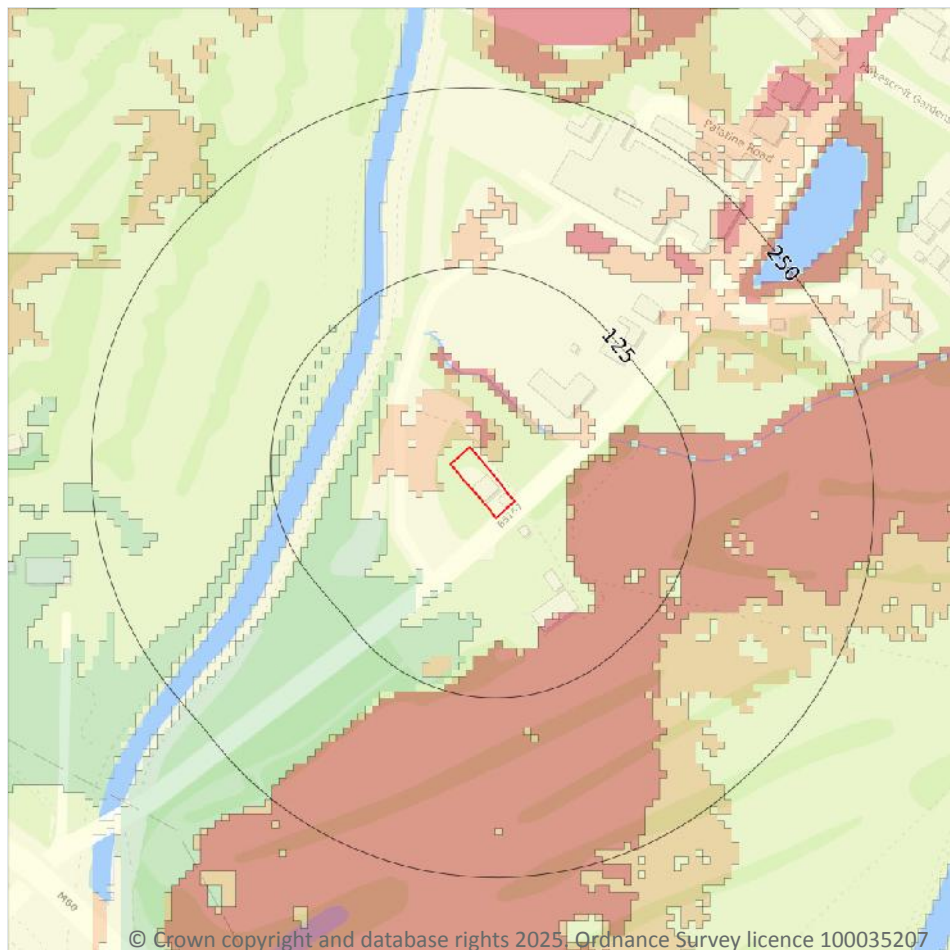
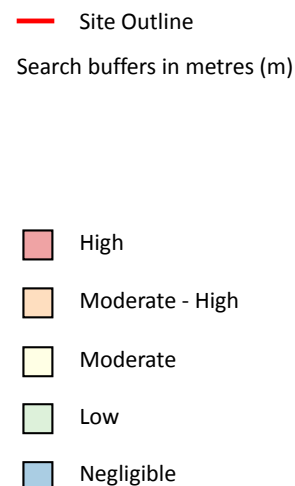
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

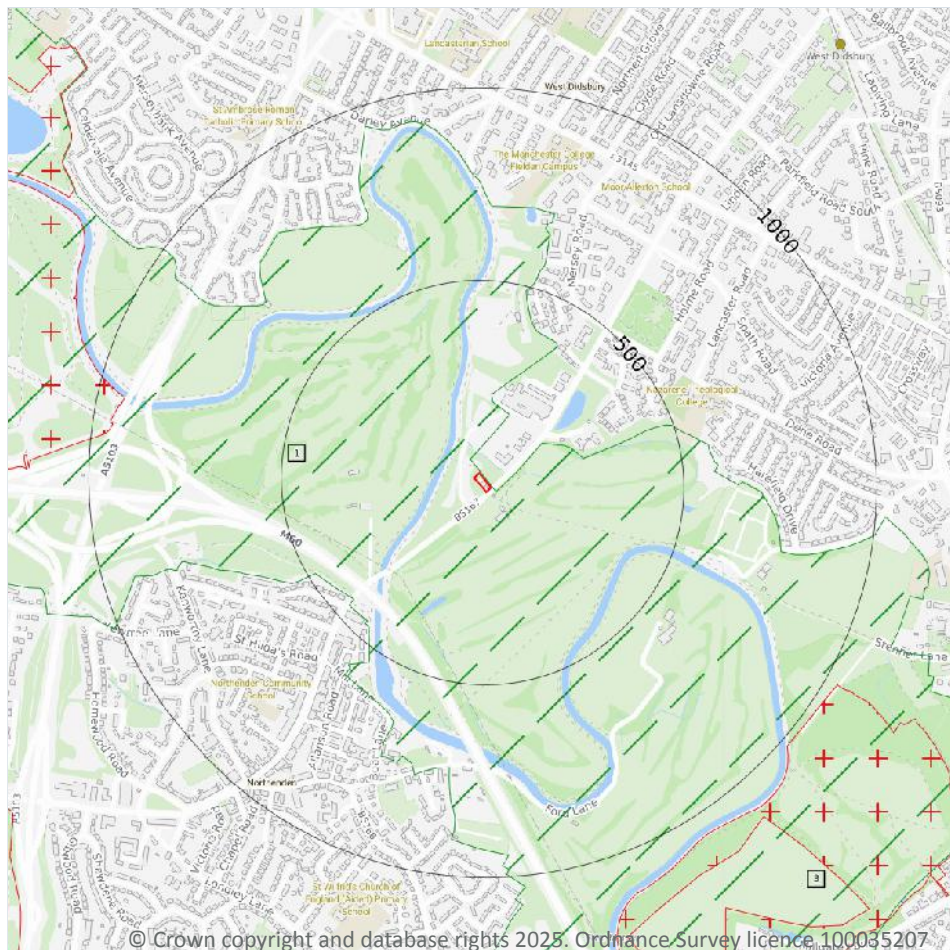
High

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 54 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- Designated Ancient Woodland
- / Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

5

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Data source
2	930m W	Kenworthy Woods	Natural England
3	1019m SE	Stenner Woods And Milgate Fields, Didsbury	Natural England
4	1278m NW	Chorlton Water Park	Natural England
5	1480m SW	Wythenshawe Park	Natural England
-	1858m S	Gatley Carrs	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

2

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Woodland Type
-	1709m SW	Black Field Wood	Ancient & Semi-Natural Woodland
-	1768m SW	Round's Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the



local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

3

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester Green Belt	Manchester
-	1661m SE	Merseyside and Greater Manchester Green Belt	Stockport
-	1757m NW	Merseyside and Greater Manchester Green Belt	Trafford

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

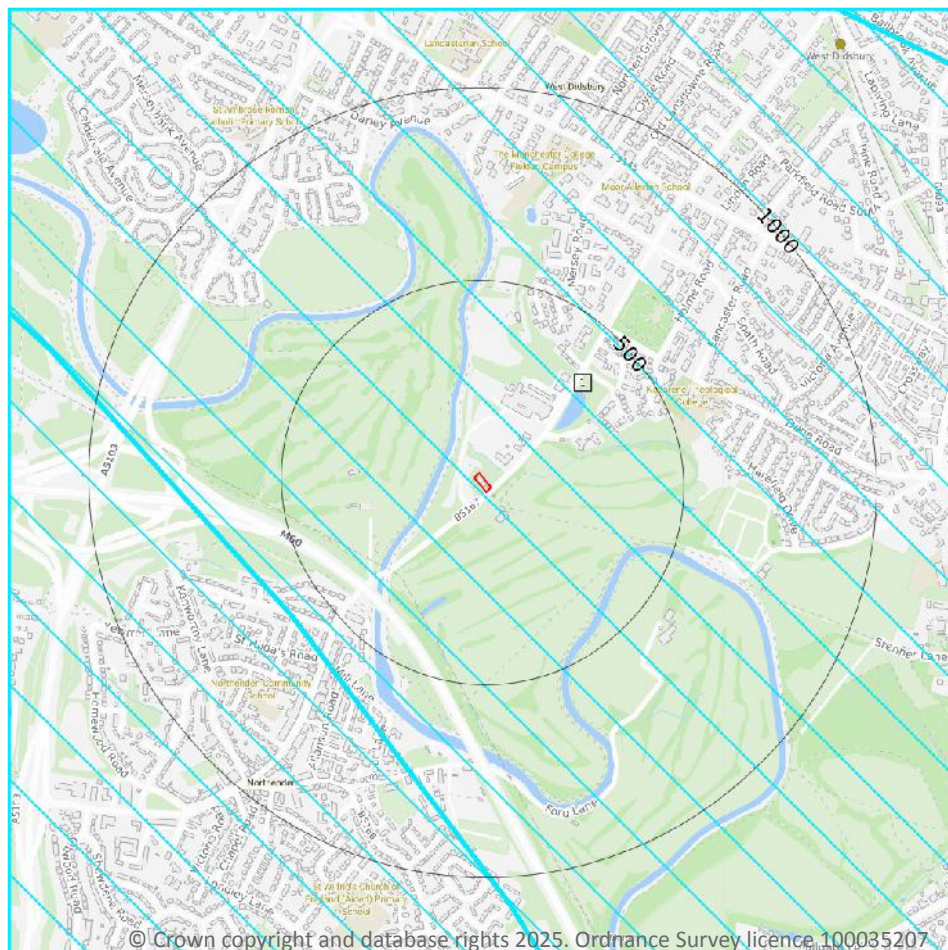
Records within 2000m**0**

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 60](#) >

ID	Location	Type of developments requiring consultation
1	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0000000000000&notes=&location=417554,424273%20(IRZ%20polygon%20centre)

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

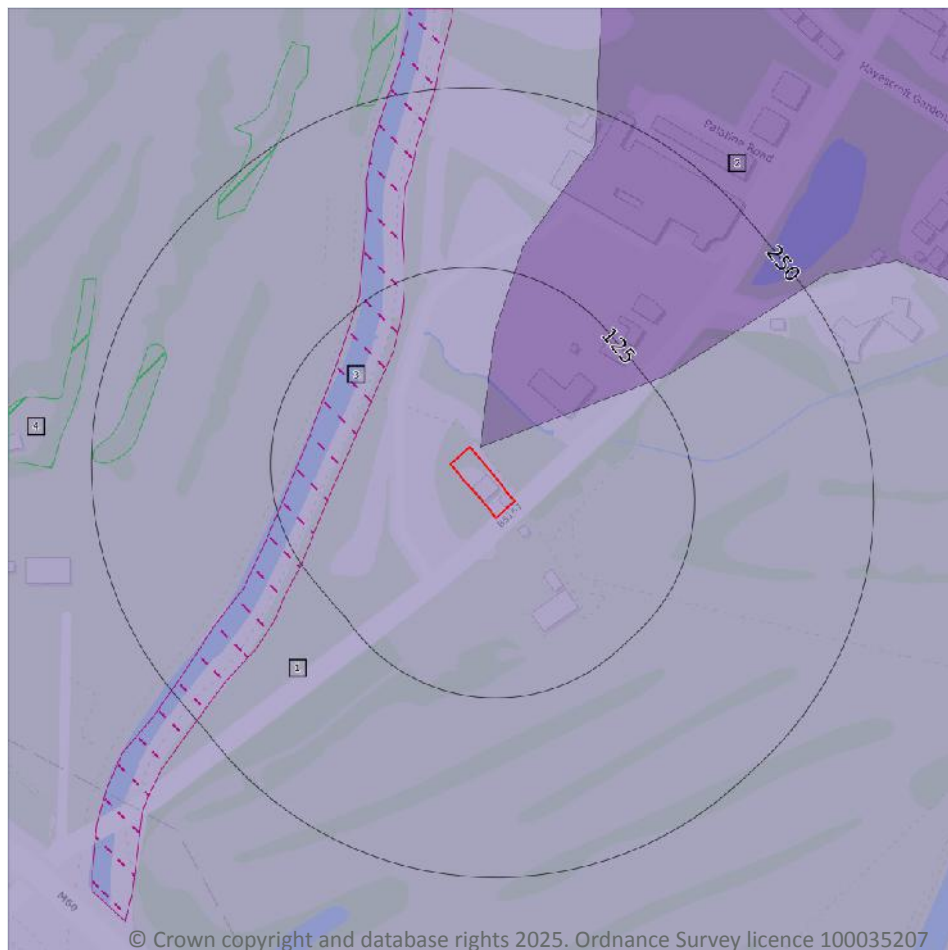
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 64](#) >

ID	Location	Classification	Description
1	On site	Non Agricultural	Non-agricultural/no quality assigned
2	5m NE	Urban	Non-agricultural/no quality assigned

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m

1

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

Features are displayed on the Agricultural designations map on [page 64](#) >

ID	Location	Name	Classification	Other relevant legislation
3	68m NW	Northenden Golf Club	Section 16 Dedicated Land	-

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

1

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

Features are displayed on the Agricultural designations map on [page 64](#) >

ID	Location	Description	Reference	Application date
4	211m W	Selective Fell/Thin (Unconditional)	010/210/15-16	18/05/2016

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

8

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 67](#) >

ID	Location	Main Habitat	Other habitats
1	37m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	37m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	151m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	178m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	238m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	244m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	246m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	246m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0
----------------------------	----------

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0
----------------------------	----------

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

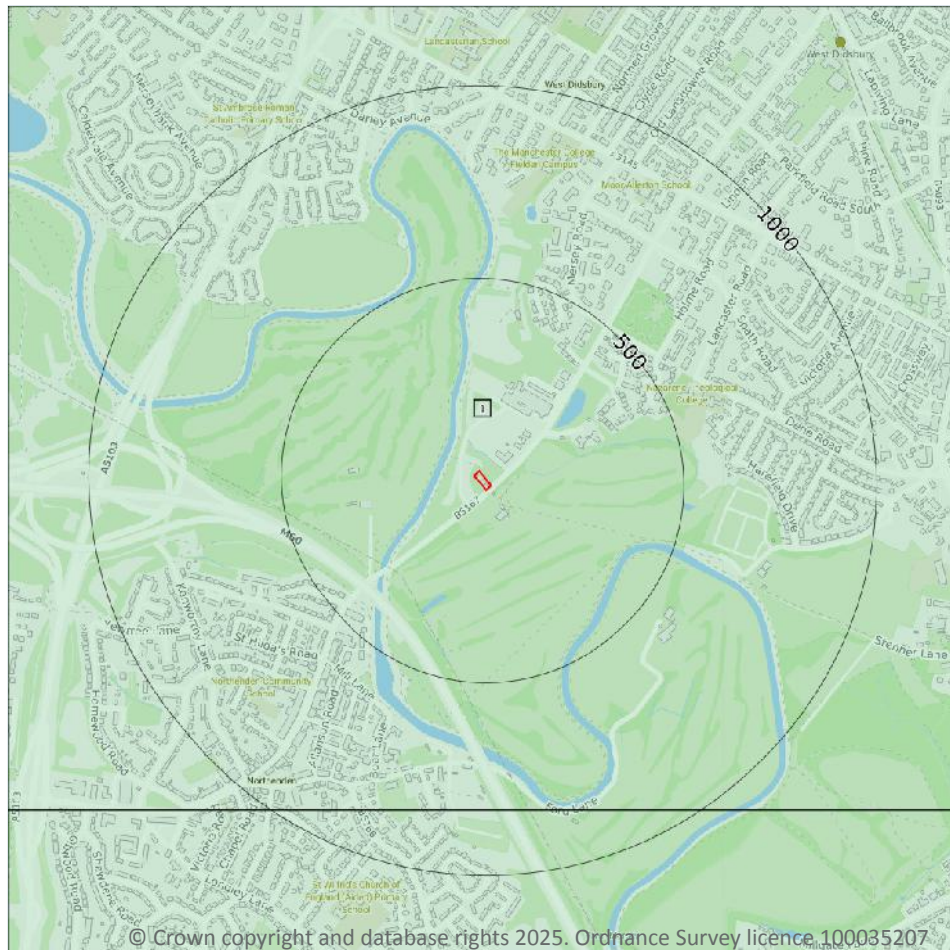
13.4 Limestone Pavement Orders

Records within 250m	0
----------------------------	----------

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 69](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SJ89SW

This data is sourced from the British Geological Survey.



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-  Reclaimed ground
-  Made ground
-  Worked ground
-  Infilled ground
-  Disturbed ground
-  Landscaped ground

Records within 500m	4
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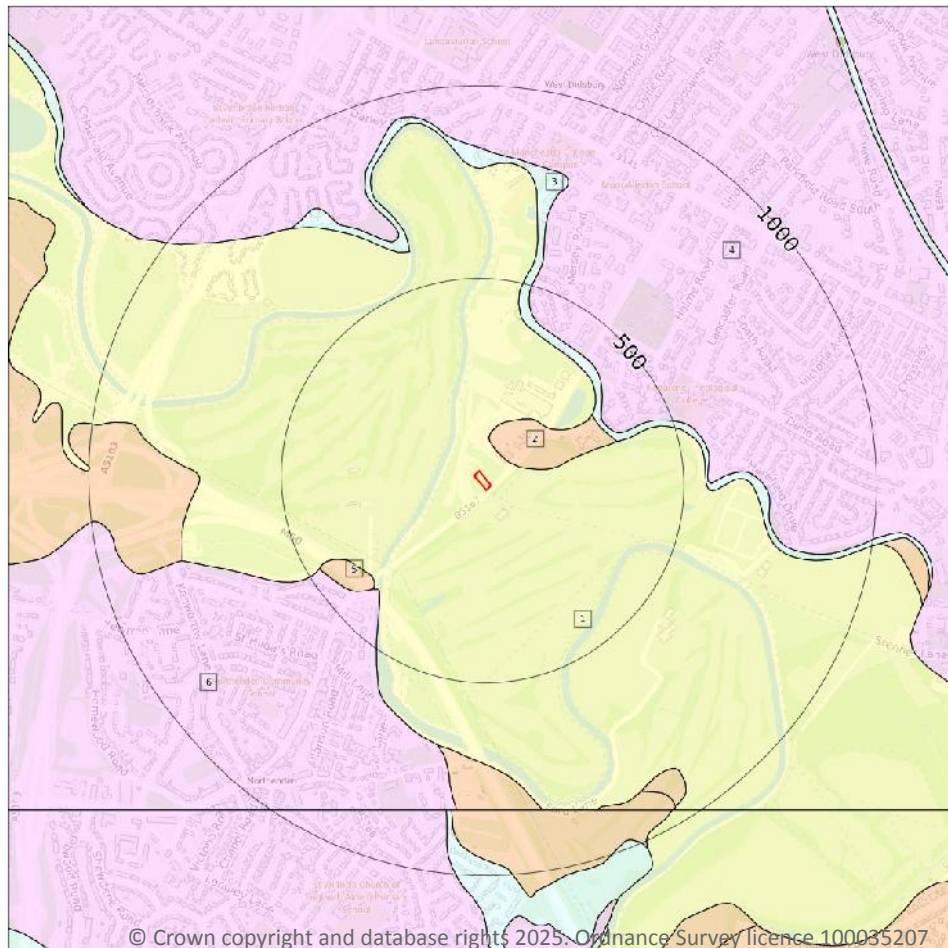
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 70](#) >

ID	Location	LEX Code	Description	Rock description
1	7m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	98m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	373m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	400m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

6

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 72 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
2	69m NE	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
3	319m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
4	333m NE	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	371m SW	RTDU-XSV	River Terrace Deposits (undifferentiated) - Sand And Gravel	Sand And Gravel
6	380m SW	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

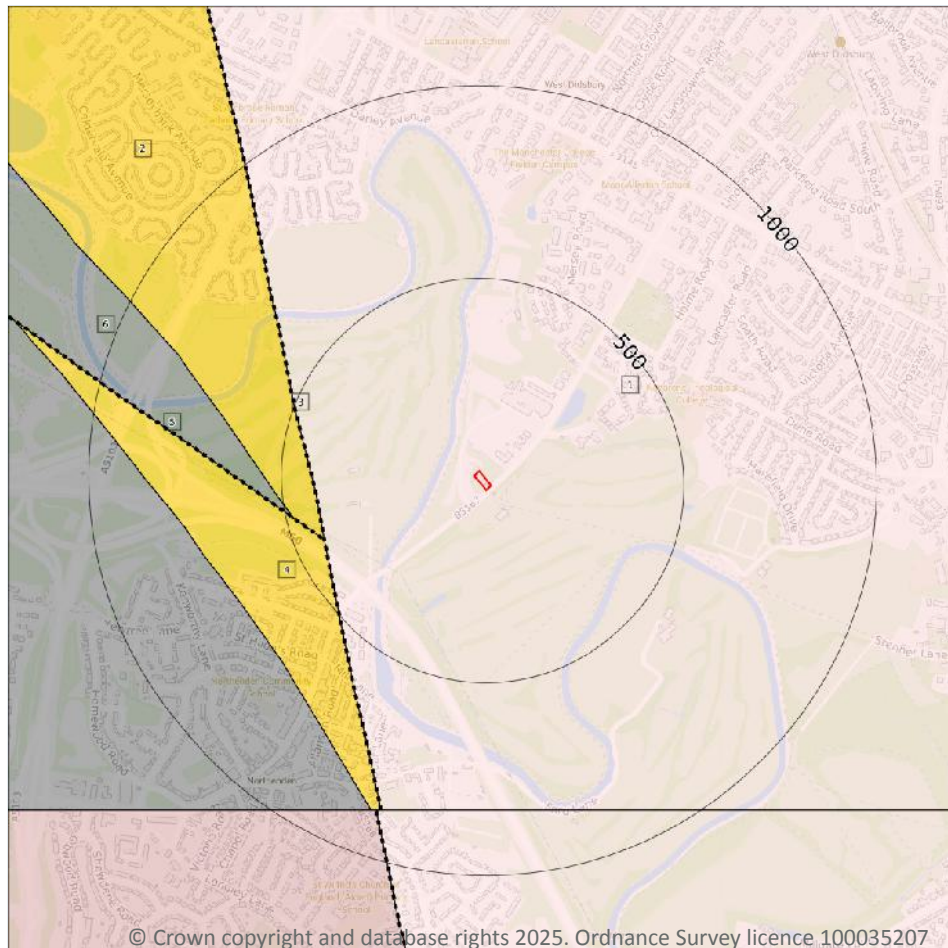
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

4

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 74 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch
2	412m W	HEY-SDST	Helsby Sandstone Formation - Sandstone	Anisian Age - Early Triassic Epoch
4	423m SW	HEY-SDST	Helsby Sandstone Formation - Sandstone	Anisian Age - Early Triassic Epoch
6	481m W	TPSF-SLST	Tarporley Siltstone Formation - Siltstone	Anisian Age - Olenekian Age



This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

2

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

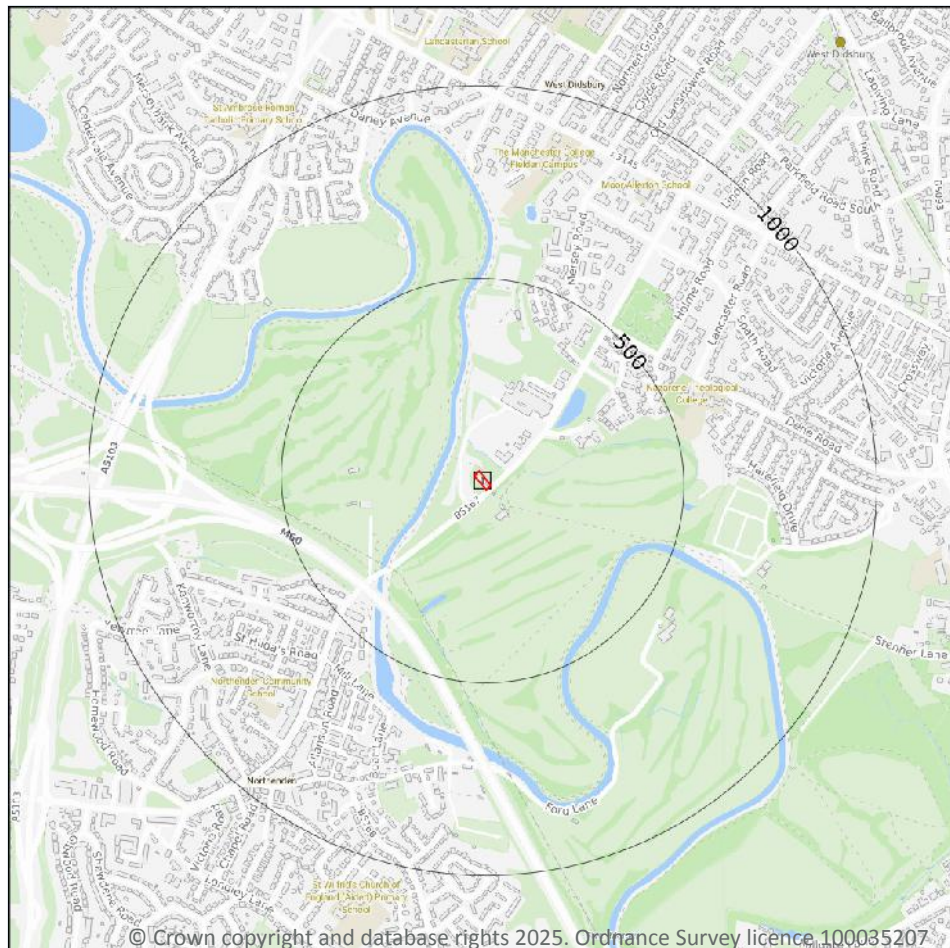
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 74 >](#)

ID	Location	Category	Description
3	412m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
5	423m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 76](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW098_stockport_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

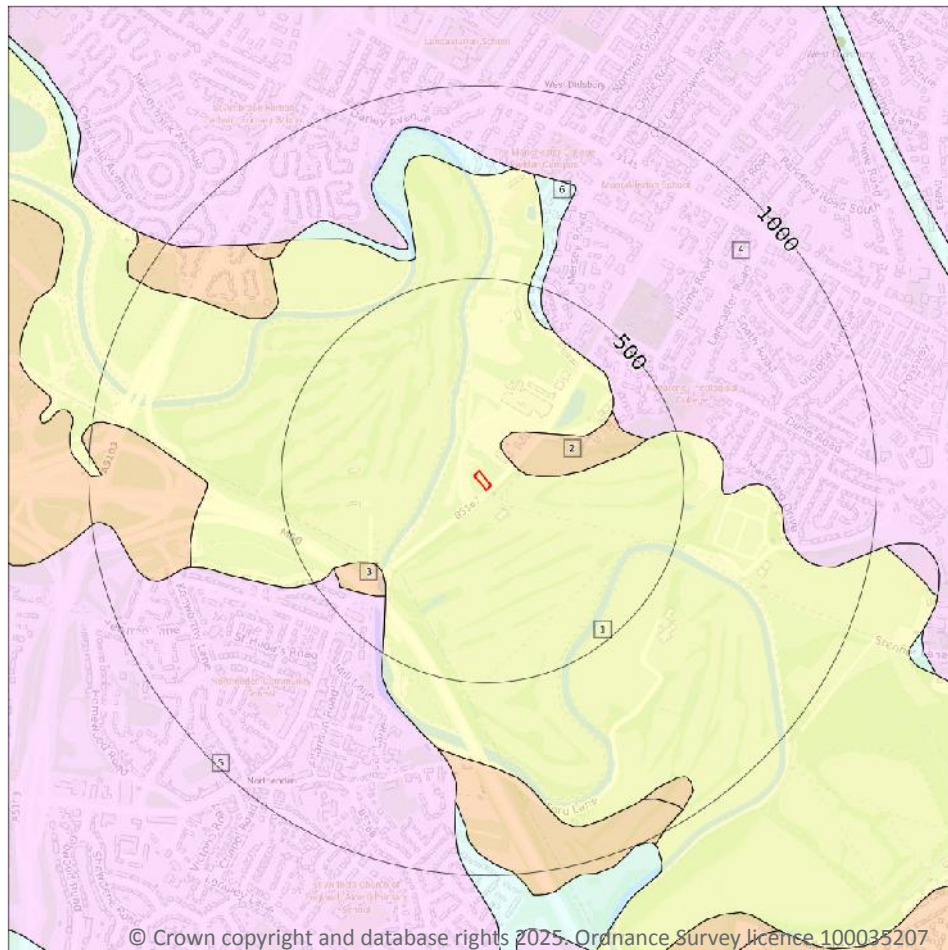
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

6

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 78 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	79m NE	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
3	342m SW	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL
4	366m NE	GFSD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVANSIAN	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	380m SW	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	408m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

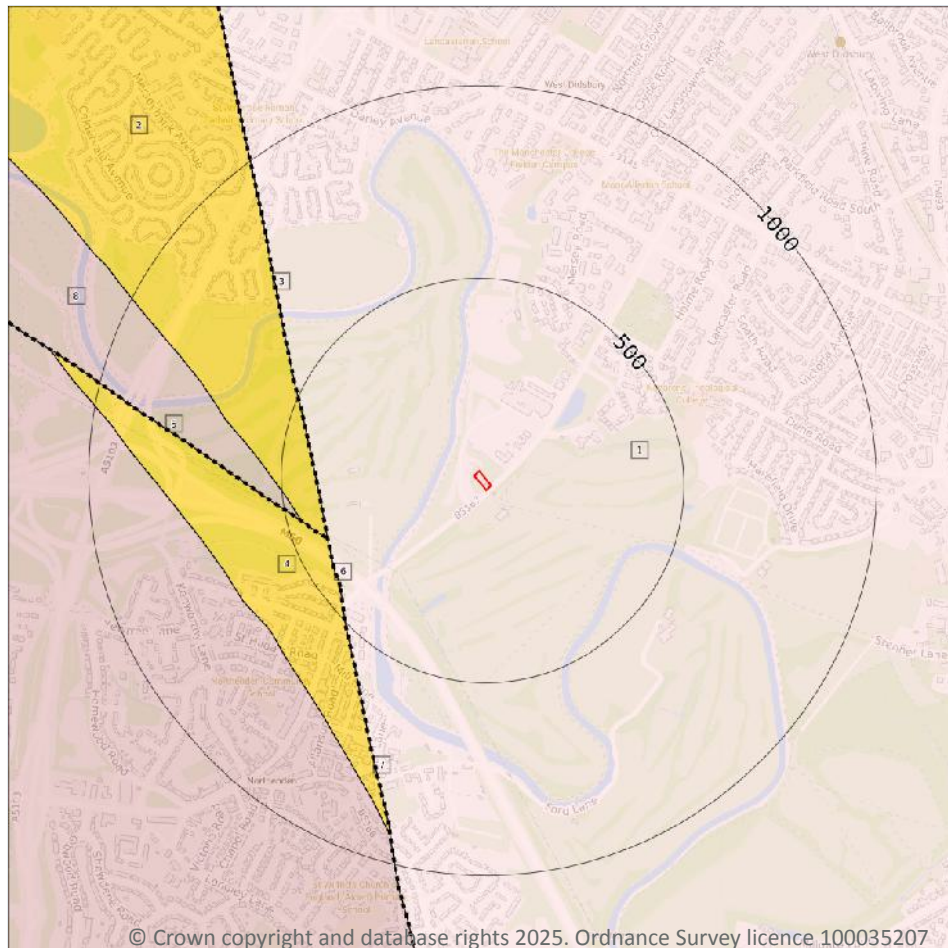
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

4

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 80](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-
2	403m W	HEY-PESST	HELSEBY SANDSTONE FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	ANISIAN
4	413m SW	HEY-PESST	HELSEBY SANDSTONE FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	ANISIAN



ID	Location	LEX Code	Description	Rock age
8	463m W	TPSF-SIMS	TARPORLEY SILTSTONE FORMATION - SILTSTONE, MUDSTONE AND SANDSTONE	OLENEKIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	4
----------------------------	----------

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

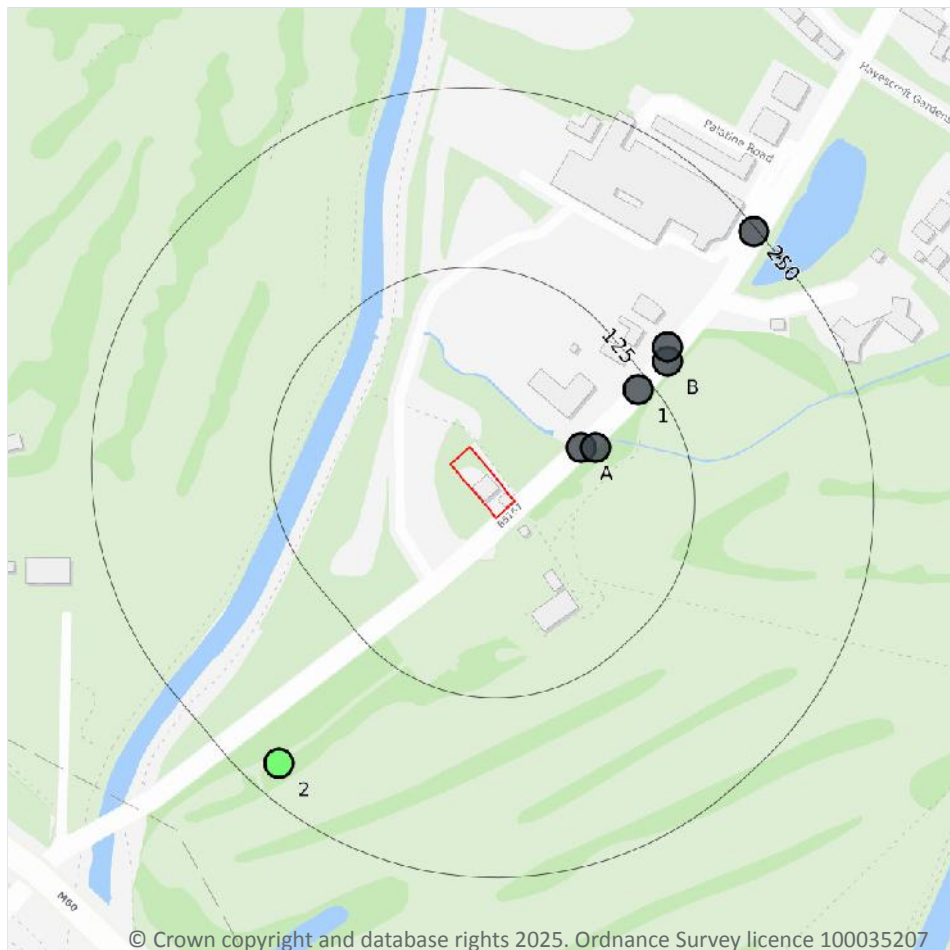
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 80](#) >

ID	Location	Category	Description
3	403m W	FAULT	Fault, inferred
5	413m SW	FAULT	Fault, inferred
6	435m SW	FAULT	Fault, inferred
7	451m SW	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

7

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 82 >](#)

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	59m NE	383550 390880	PALATINE ROAD 1B	-	Y	N/A
A	67m NE	383560 390880	PALATINE ROAD 1	-	Y	N/A
1	116m NE	383590 390920	PALATINE ROAD 1A	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
B	144m NE	383610 390940	PALATINE ROAD 2A	-	Y	N/A
B	150m NE	383610 390950	PALATINE ROAD 2	-	Y	N/A
2	228m SW	383340 390660	SALE EASTERN/NORTHENDEN. 39	17.68	N	864967 ↗
3	247m NE	383670 391030	PALATINE ROAD 3	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

1

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

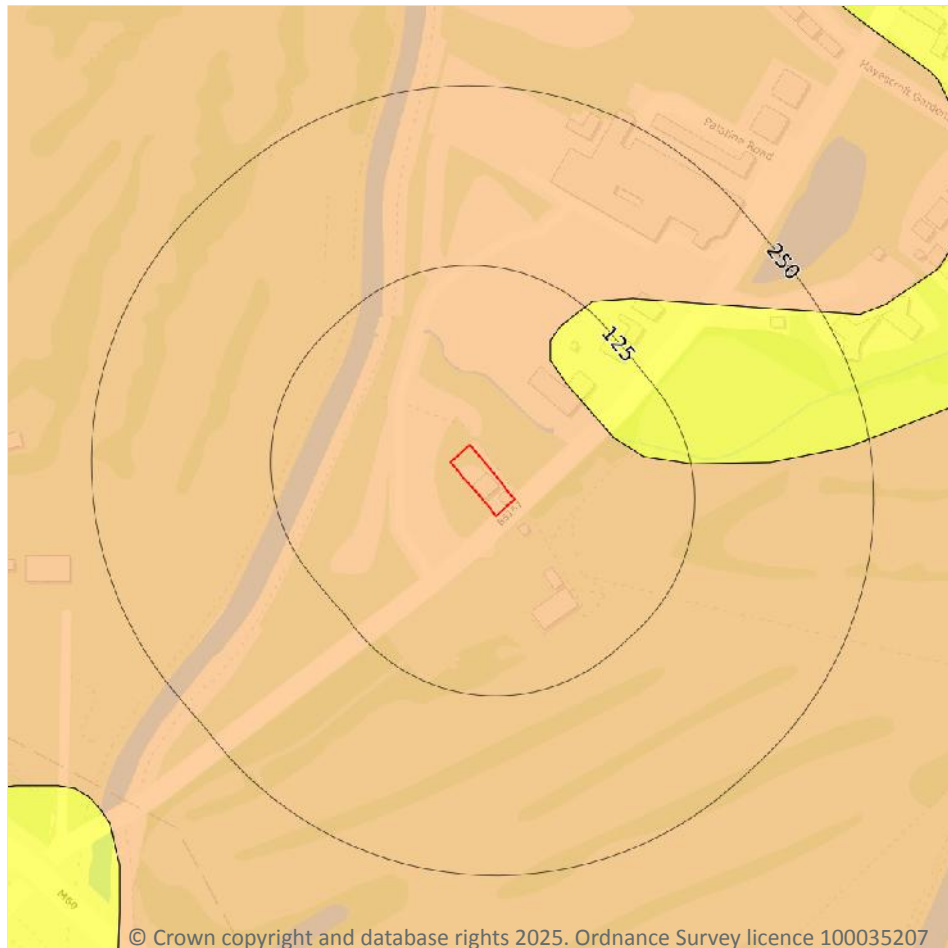
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 84](#) >

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

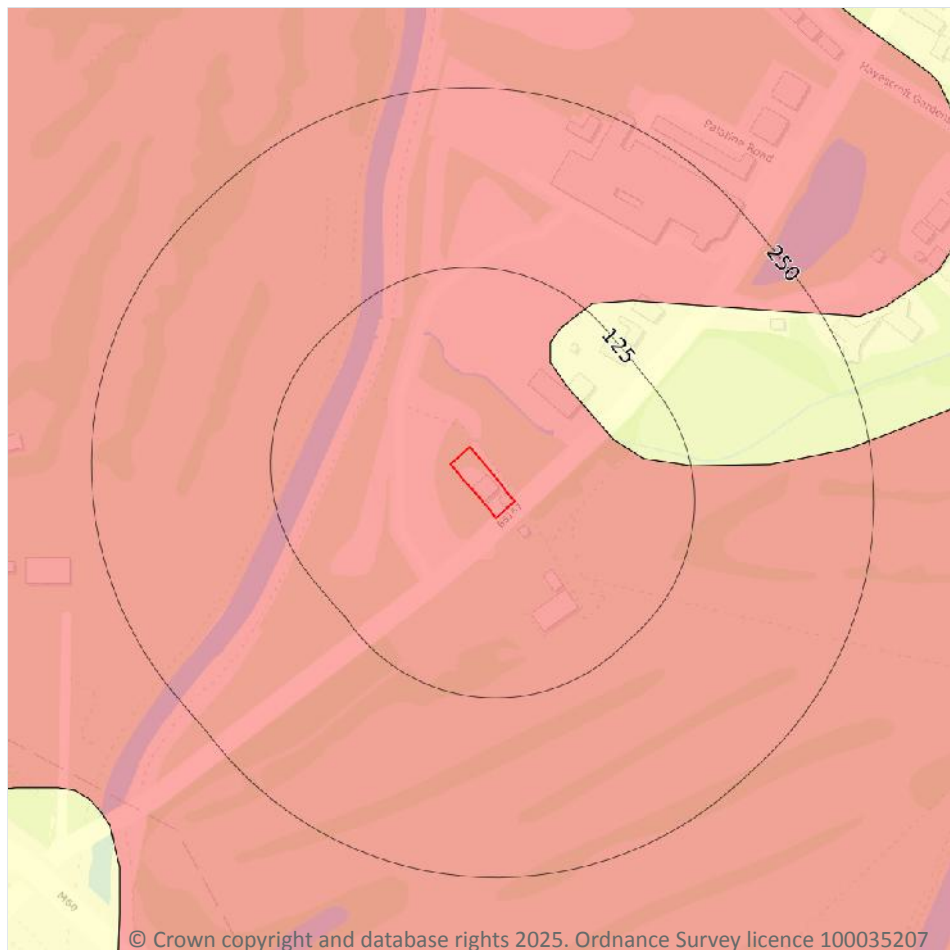
Features are displayed on the Natural ground subsidence - Running sands map on [page 85 >](#)

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

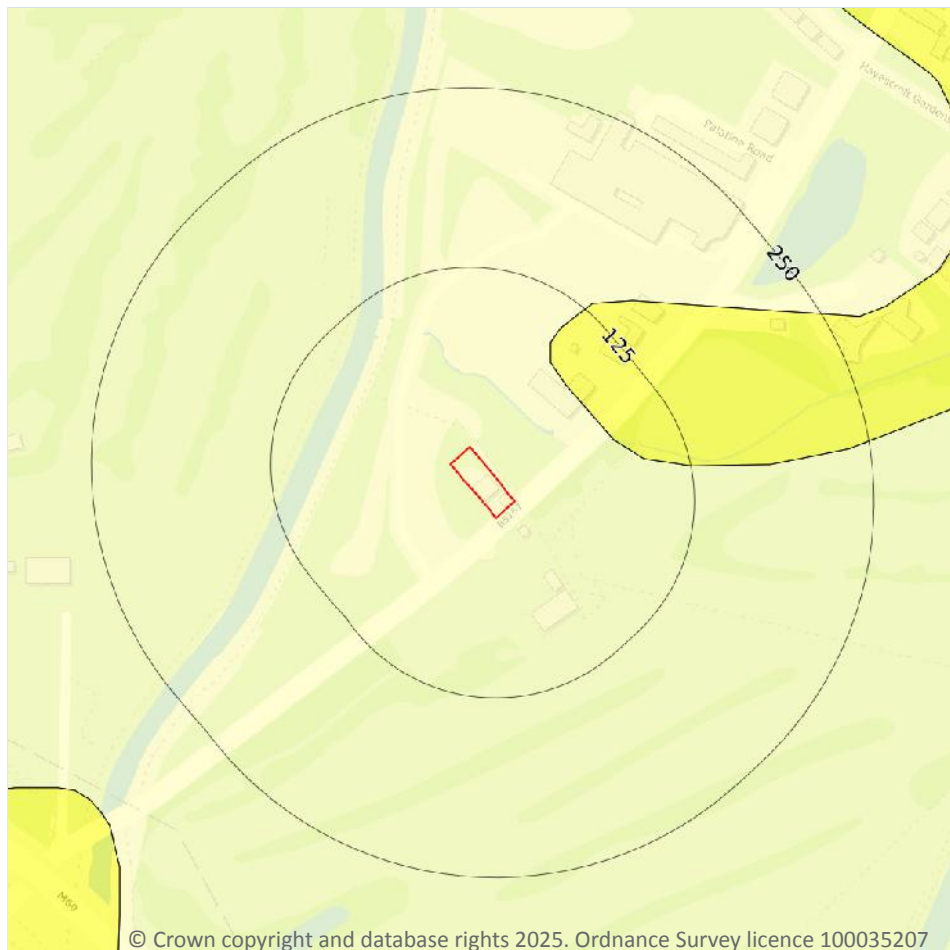
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 86](#) >

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

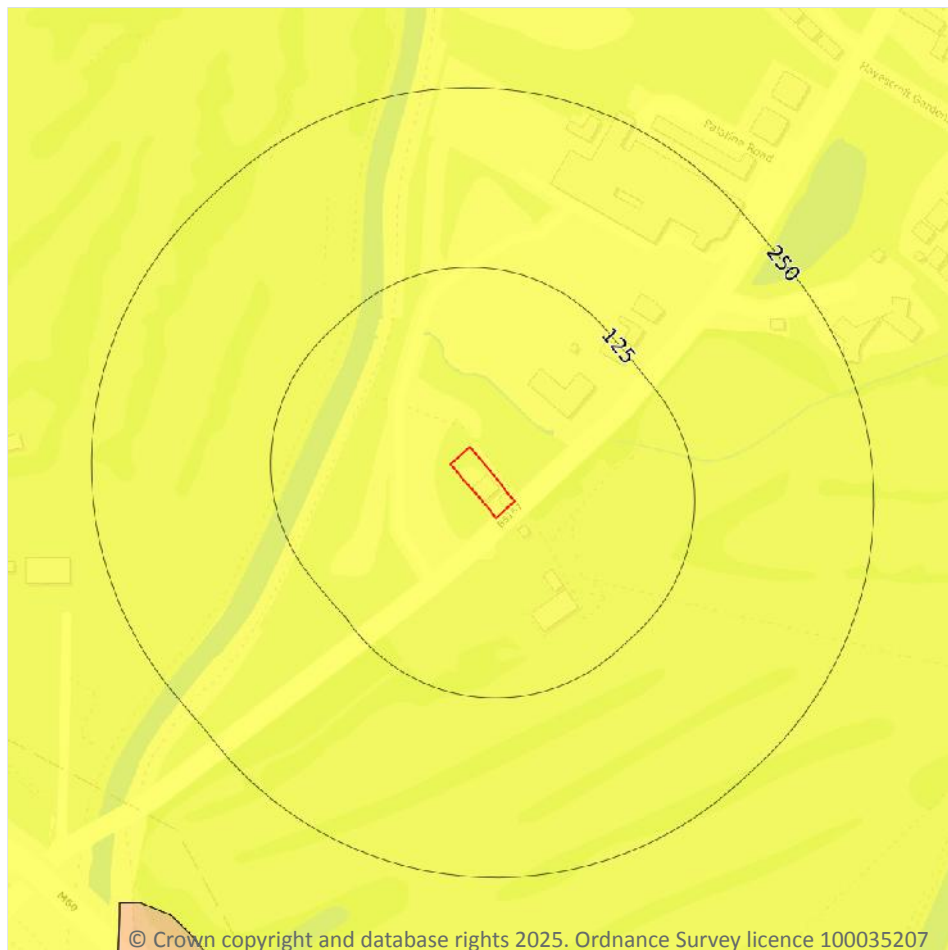
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 87 >](#)

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

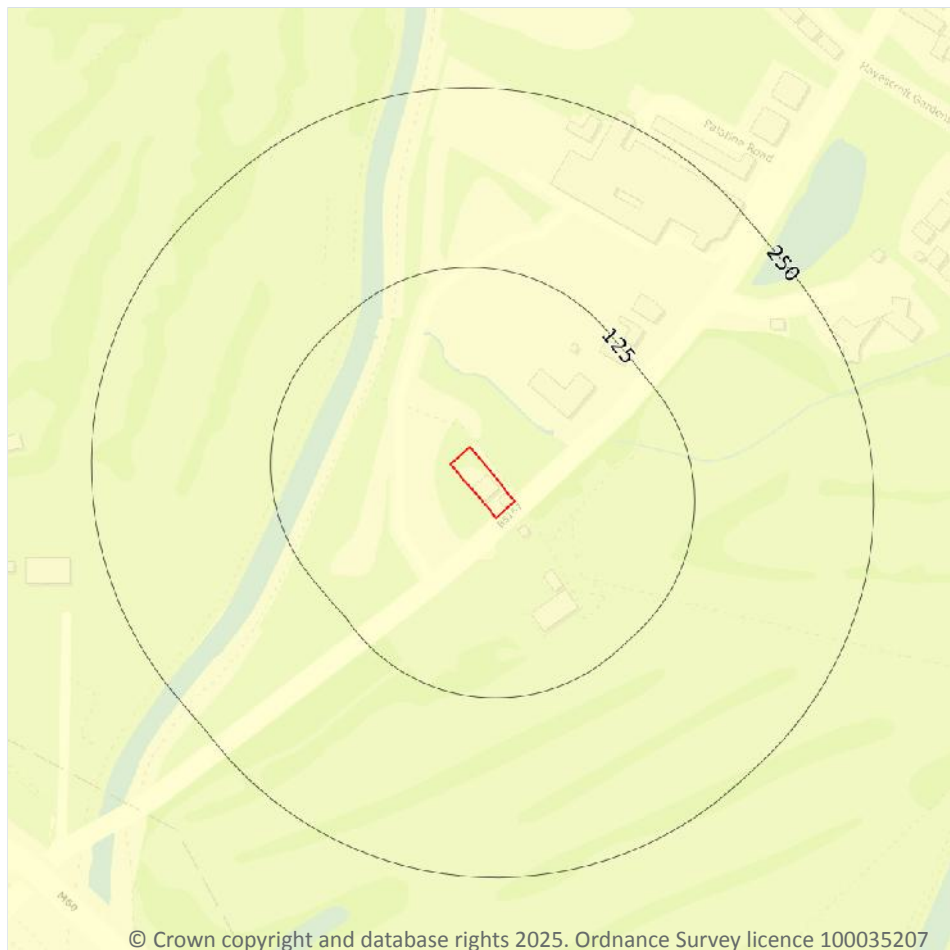
Features are displayed on the Natural ground subsidence - Landslides map on [page 88](#) >

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 89](#) >

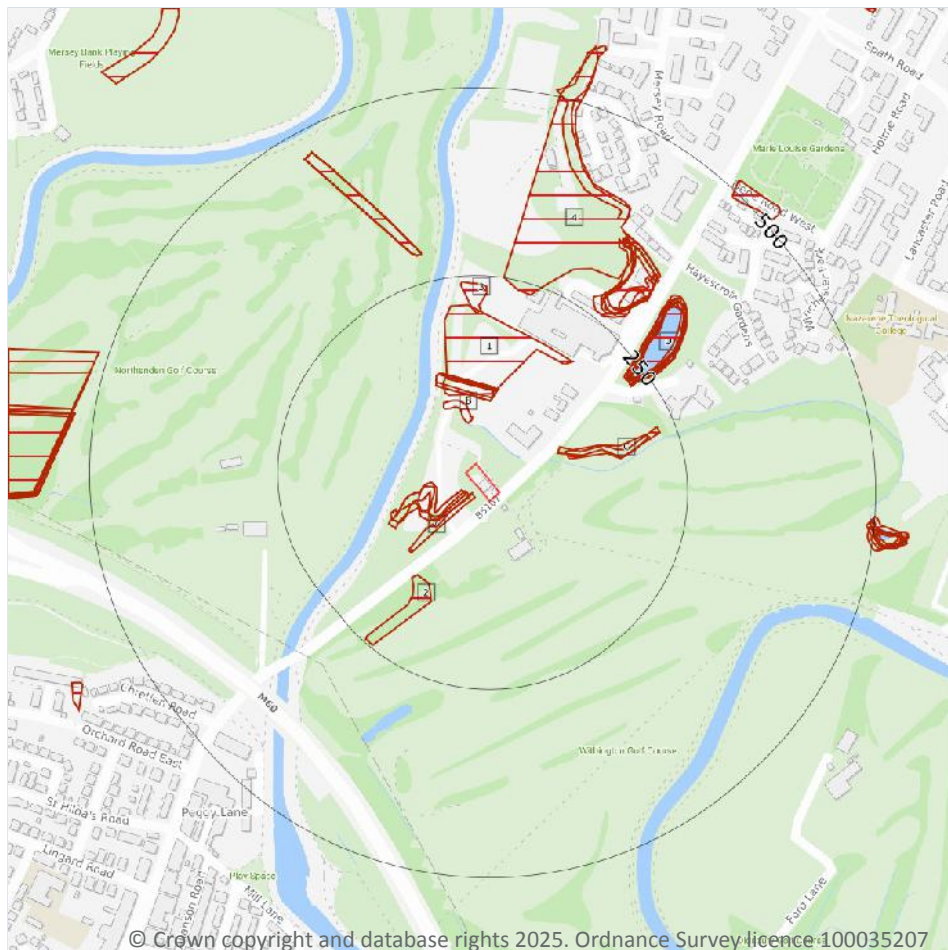
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- ▨ Surface ground workings
- ▨ Underground workings
- ▨ Underground mining extents
- ▨ Historical mineral planning areas
- ▨ TCA non-coal mining
- Non Coal Mining
- ▨ Sporadic underground mining of restricted extent possible
- ▨ Localised small scale underground mining possible
- ▨ Small scale mining possible
- ▨ Underground mining known or likely within or in close proximity
- ▨ Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

27

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 91](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	11m SW	Unspecified Ground Workings	1923	1:10560
A	15m SW	Unspecified Ground Workings	1955	1:10560
A	18m SW	Unspecified Ground Workings	1966	1:10560
A	18m SW	Unspecified Ground Workings	1981	1:10000
A	47m SW	Gravel Pit	1955	1:10560
B	55m N	Pond	1981	1:10000
B	86m N	Unspecified Heap	1905	1:10560
B	86m N	Unspecified Heap	1923	1:10560
B	90m N	Unspecified Heap	1892	1:10560
B	92m N	Unspecified Pit	1988	1:10000
C	93m NE	Unspecified Ground Workings	1988	1:10000
1	100m N	Unspecified Pit	1981	1:10000
C	103m NE	Unspecified Ground Workings	1981	1:10000
2	135m SW	Unspecified Heap	1916	1:10560
3	201m N	Unspecified Pit	1955	1:10560
D	224m NE	Pond	1923	1:10560
D	224m NE	Pond	1938	1:10560
D	224m NE	Pond	1916	1:10560
D	224m NE	Pond	1905	1:10560
D	225m NE	Pond	1966	1:10560
D	226m NE	Pond	1892	1:10560
D	226m NE	Pond	1955	1:10560
D	228m NE	Pond	1988	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
D	229m NE	Pond	1981	1:10000
D	232m NE	Pond	1911	1:10560
D	233m NE	Pond	1938	1:10560
4	236m N	Unspecified Pit	1981	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m **0**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m **0**

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m **0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m **0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).



This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

1

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

Location	Details
On site	Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk .

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.



18.10 Mining record office plans

Records within 500m**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**0**

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

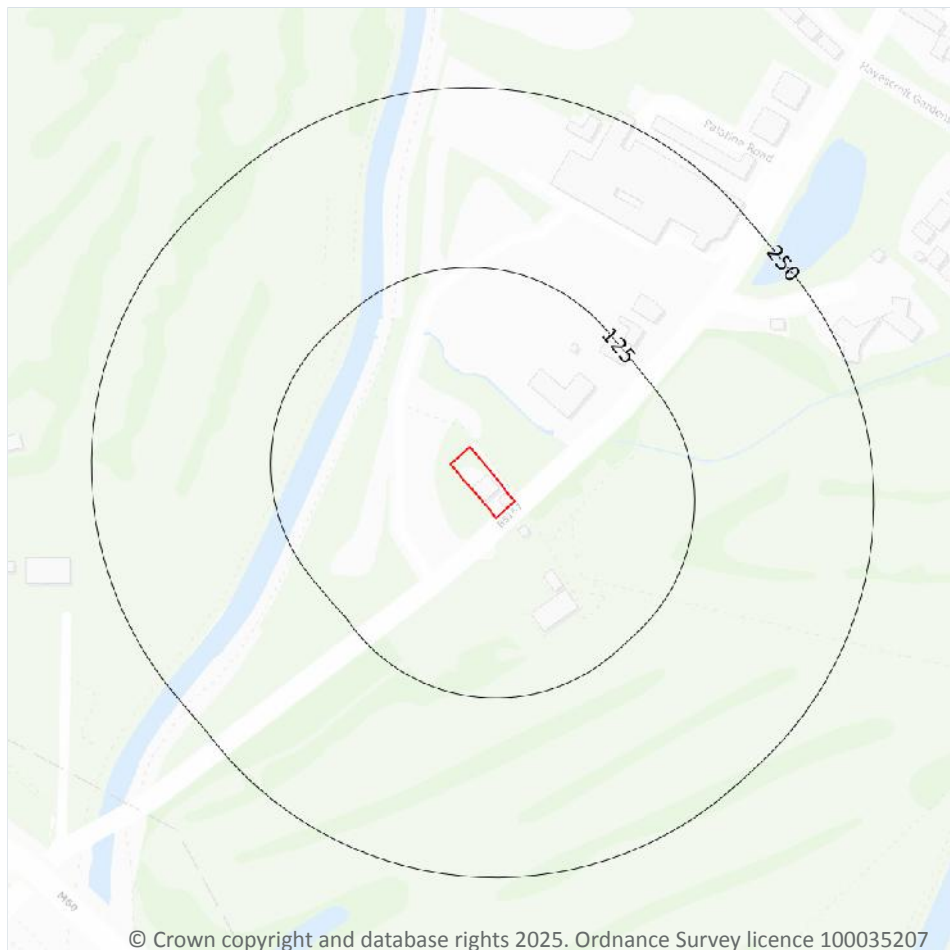
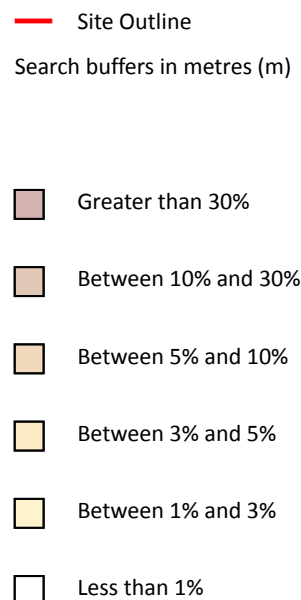
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 99](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None



This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- ... Active railways
- ... Active tunnels
- ... Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

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22.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.



22.8 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m

2

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

Features are displayed on the Railway infrastructure and projects map on [page 102 >](#)

Location	Track Type	Speed (mph)	Speed (km/h)	Status
43m SE	Tunnel	143mph	230kph	Section is scheduled for cancellation
172m NW	Tunnel	143mph	230kph	Section is scheduled for cancellation

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

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Site Details:

246, PALATINE ROAD,
MANCHESTER, M20 2WF

Client Ref:

A6550/DS/02

Report Ref:

GS-3AV-24K-F4B-UBH

Grid Ref:

383481, 390855

Map Name:

County Series

Map date:

1872

Scale:

1:2,500

Printed at:

1:2,500

N

W

E

S

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

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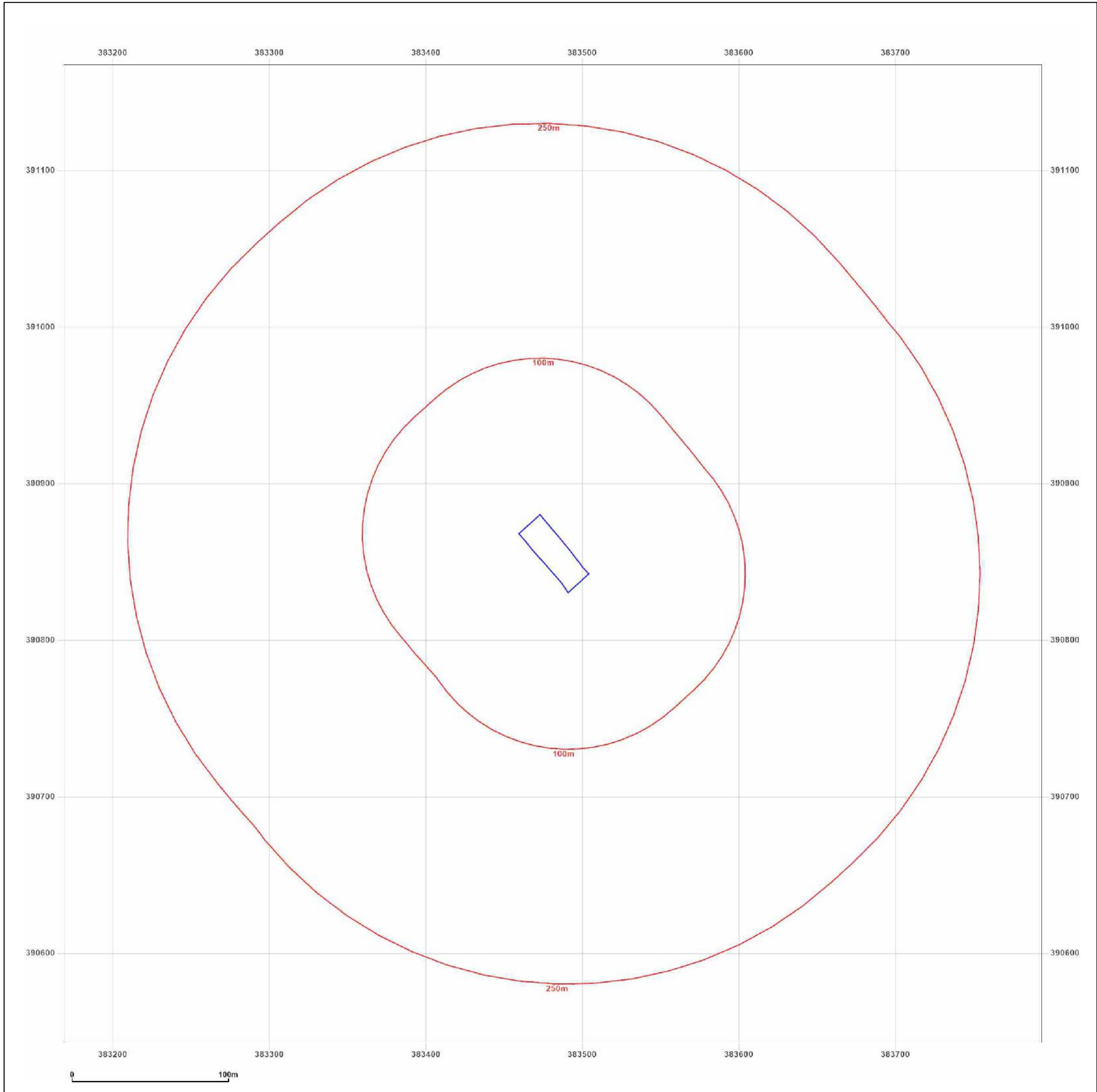
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Production date:

01 July 2025

Map legend available at:

www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

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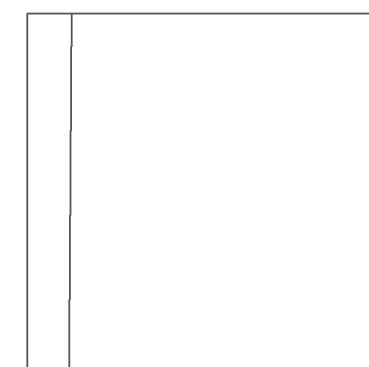
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Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1872

Scale: 1:2,500

Printed at: 1:2,500



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

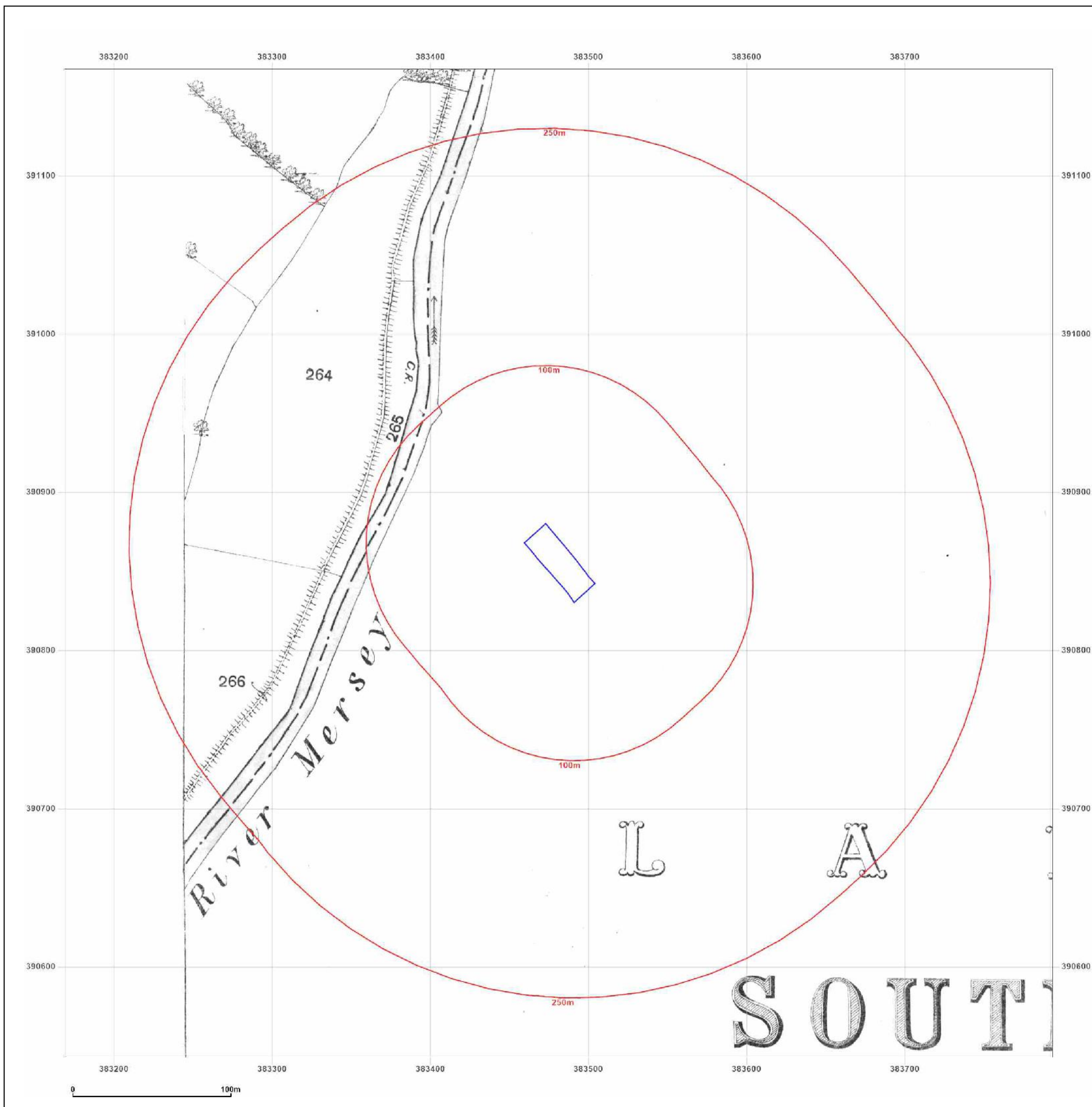


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Production date: 01 July 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



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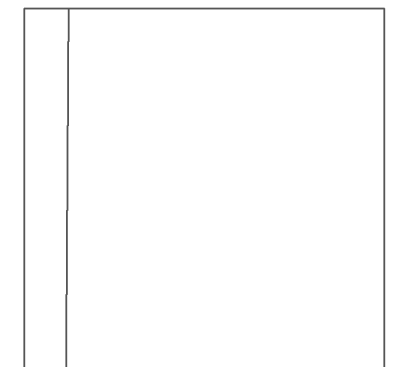
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Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1872

Scale: 1:2,500

Printed at: 1:2,500



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

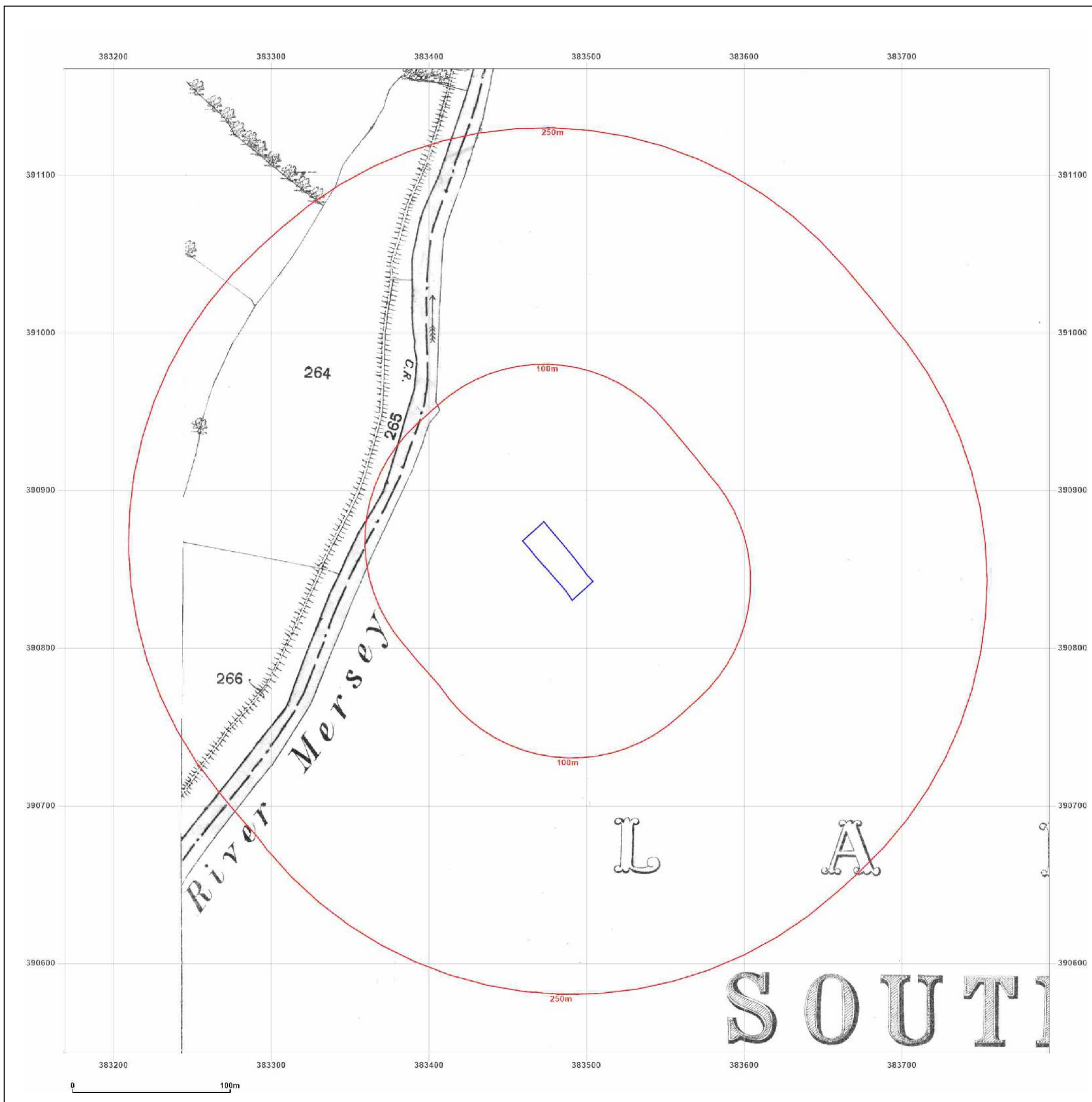


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Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

246, PALATINE ROAD,
MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1872-1874

Scale: 1:2,500

Printed at: 1:2,500



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

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

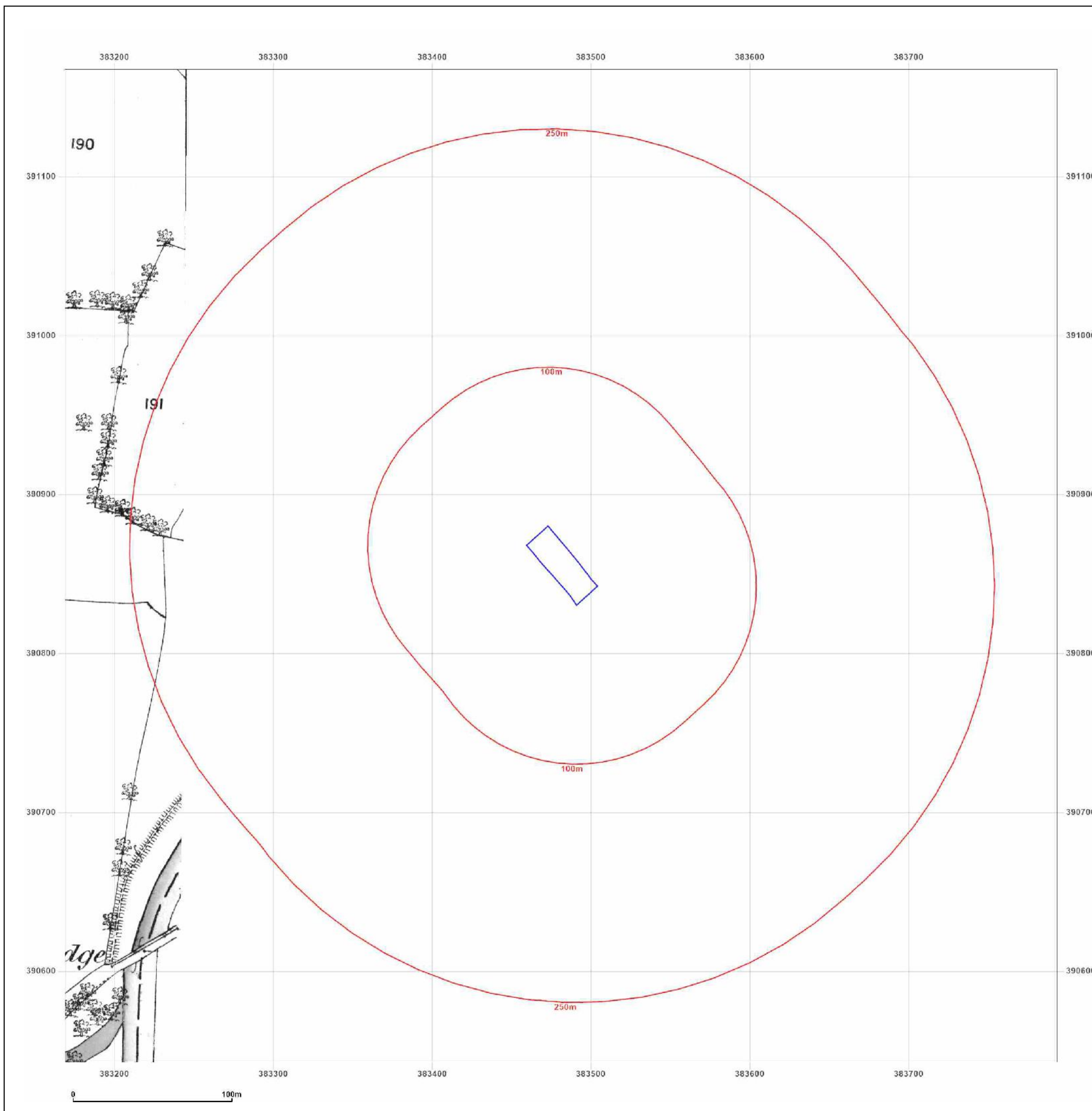


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Site Details:

246, PALATINE ROAD,
MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

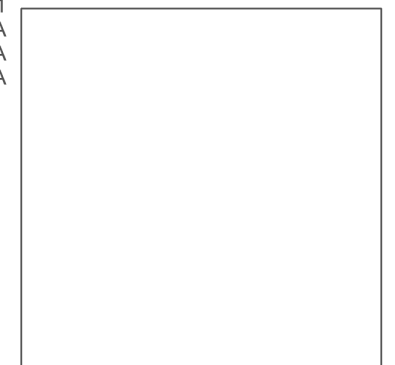
Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
Revised 1881
Edition N/A
Copyright N/A
Levelled N/A

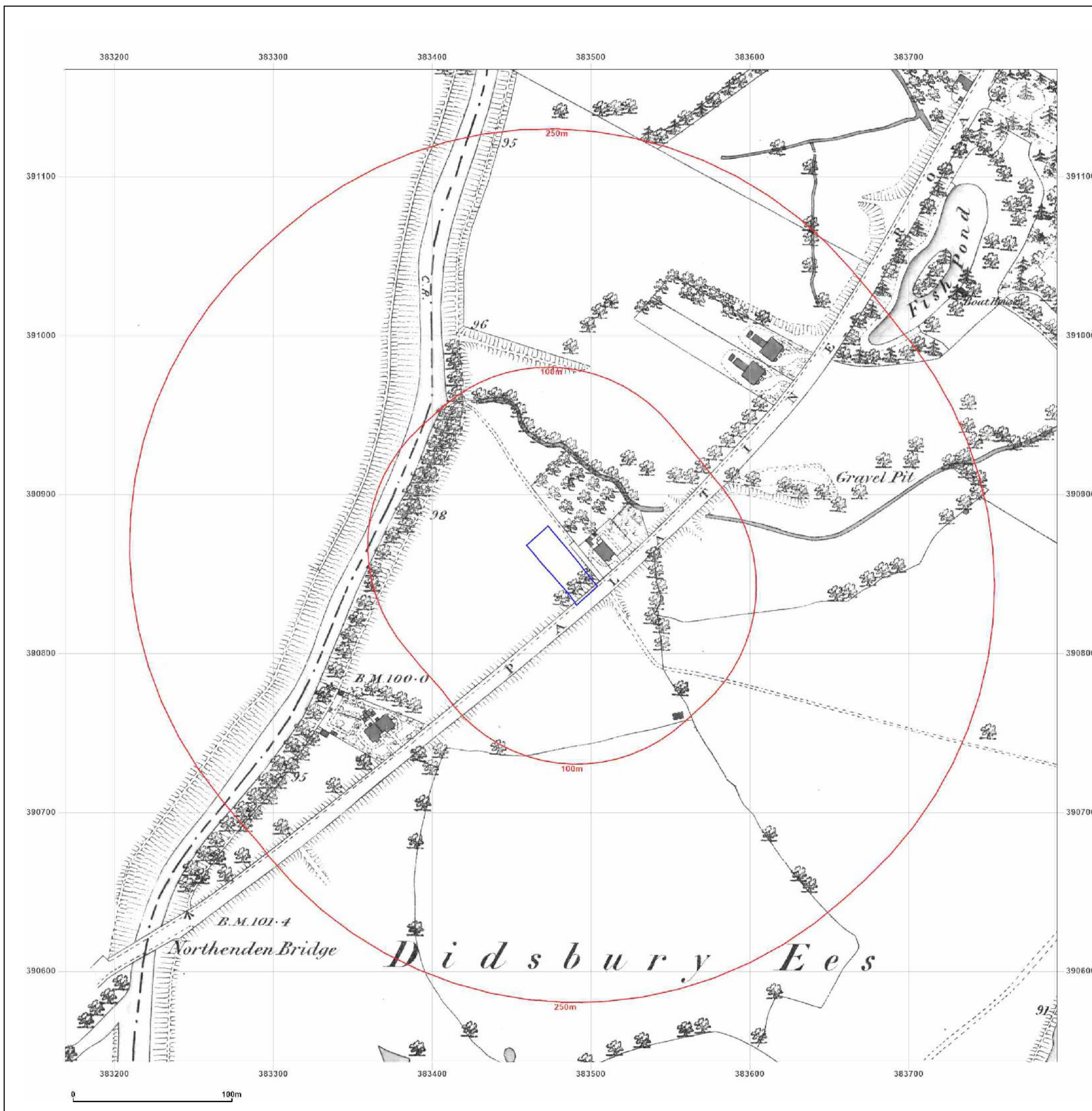


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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1894

Scale: 1:2,500

Printed at: 1:2,500



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

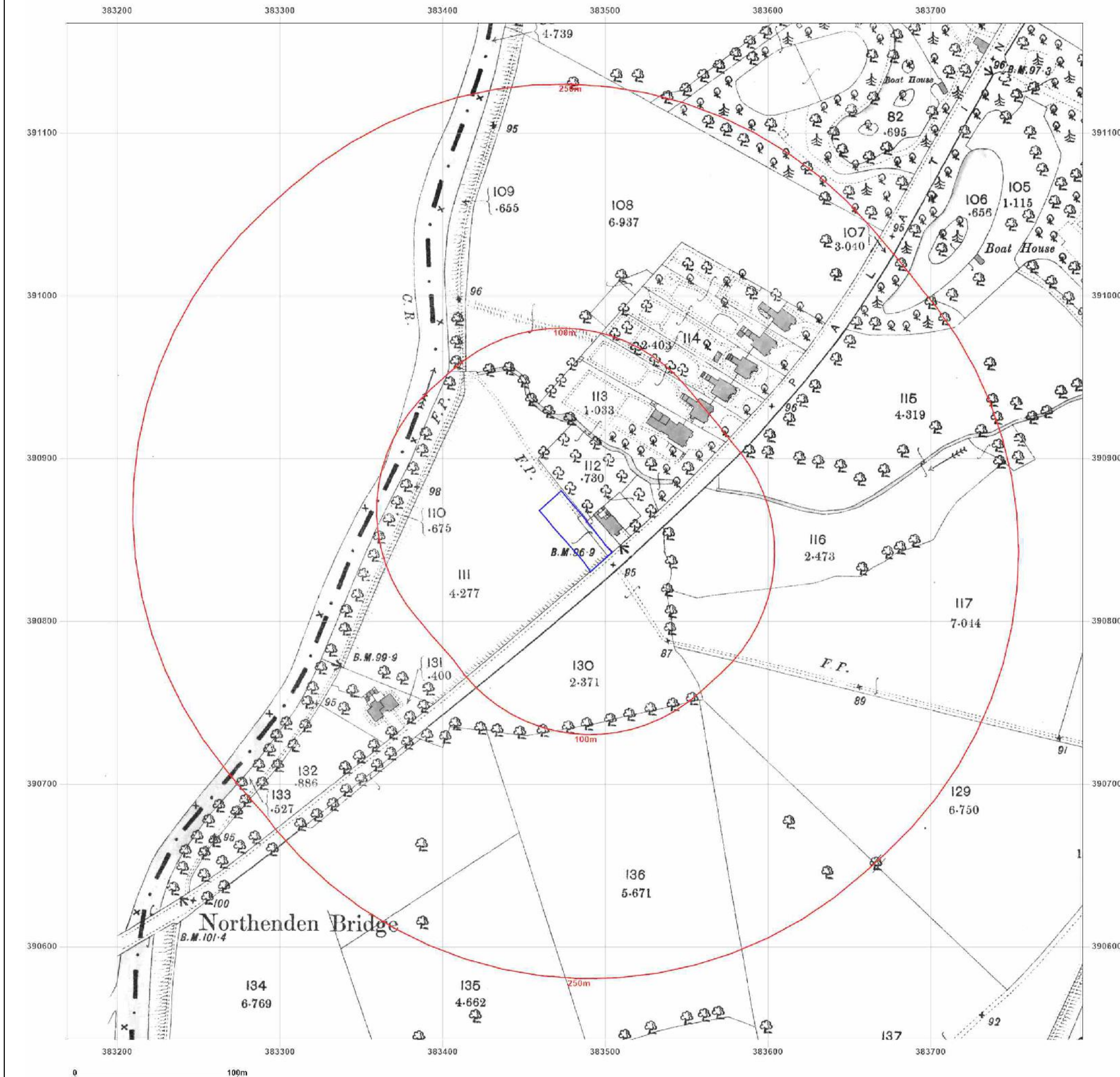


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1898

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1898
Revised 1898
Edition N/A
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Levelled N/A

Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

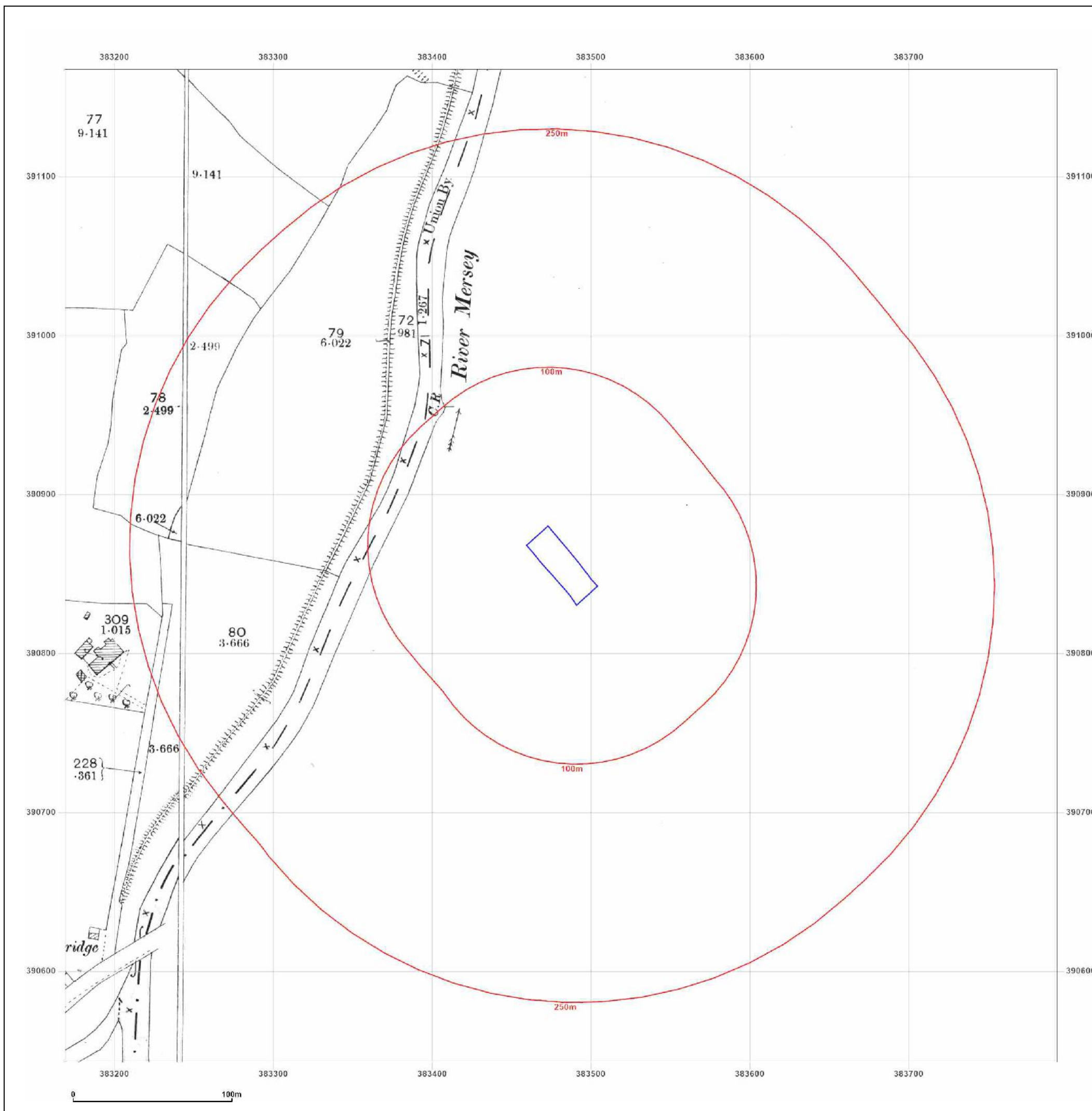


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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

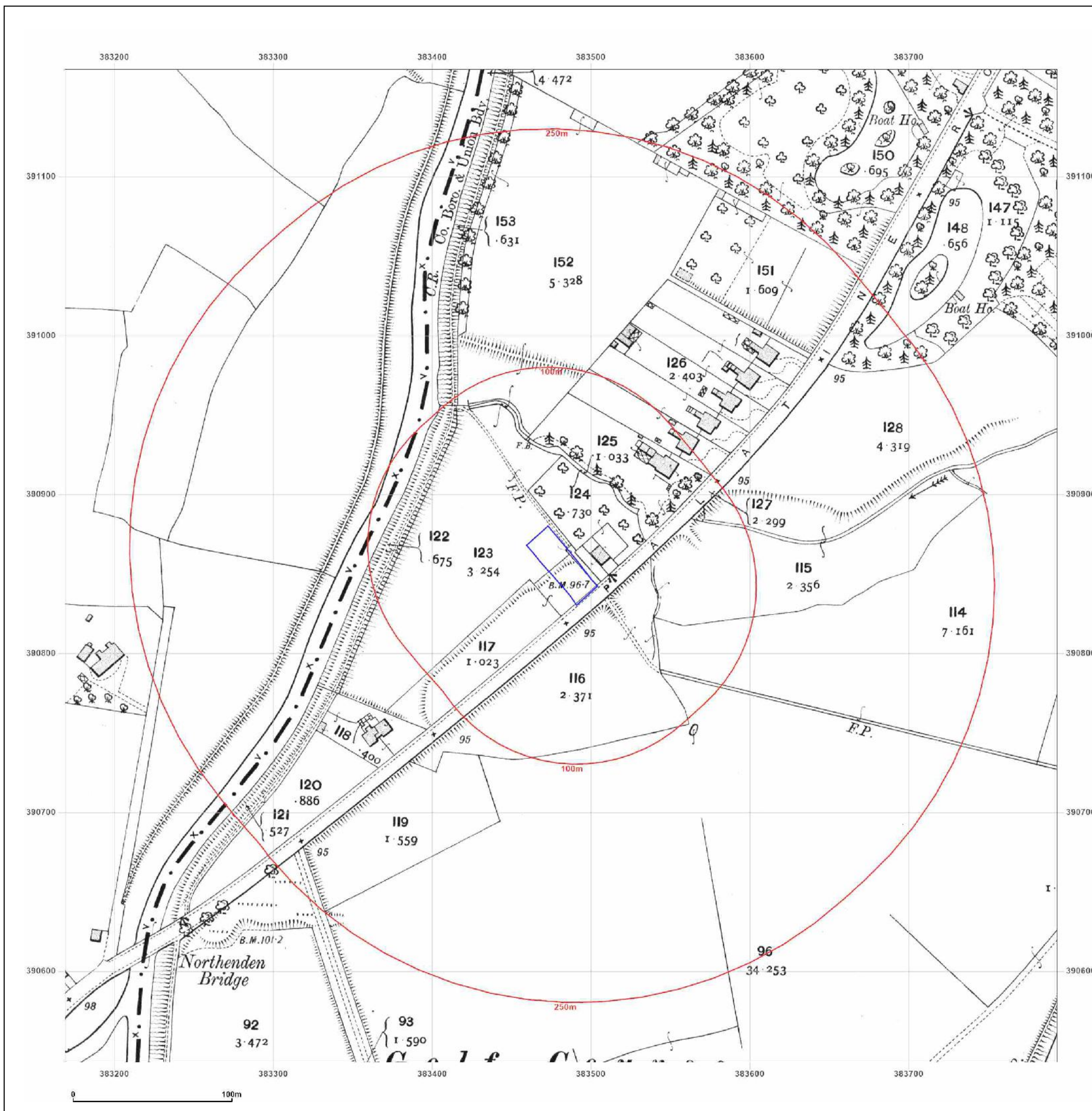


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

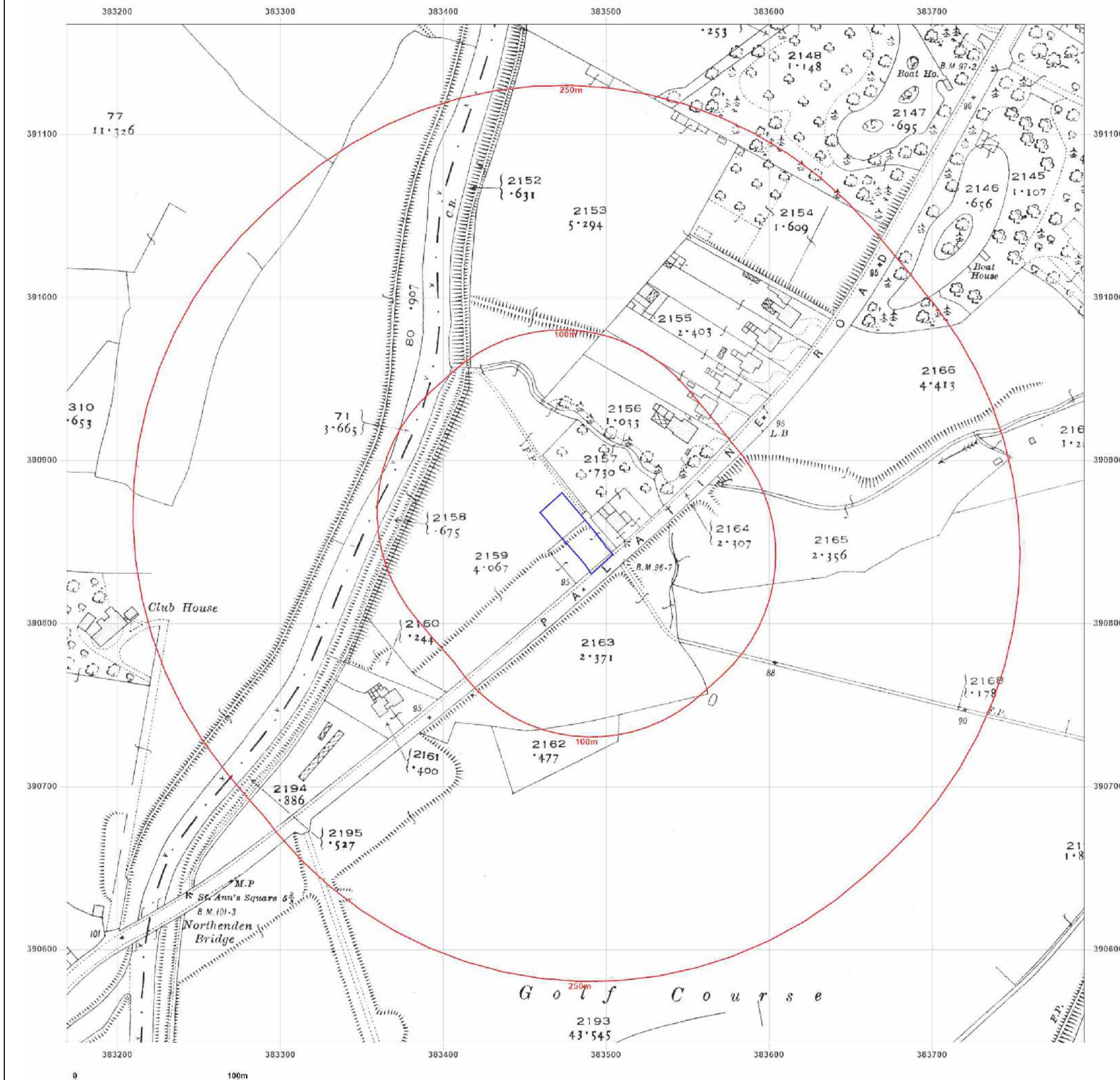


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1935

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1935
Revised 1935
Edition N/A
Copyright N/A
Levelled N/A

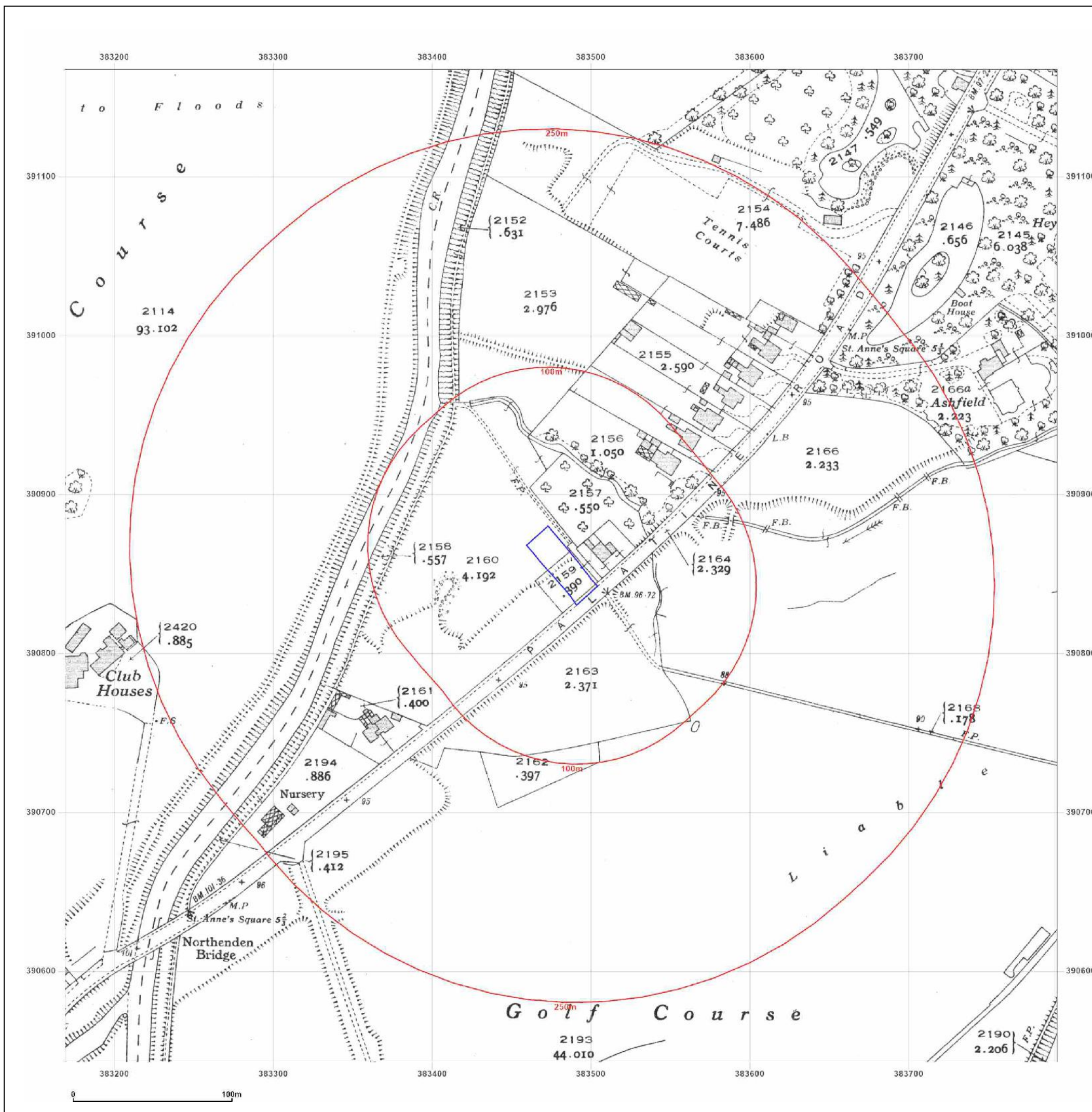


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1949

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1949

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

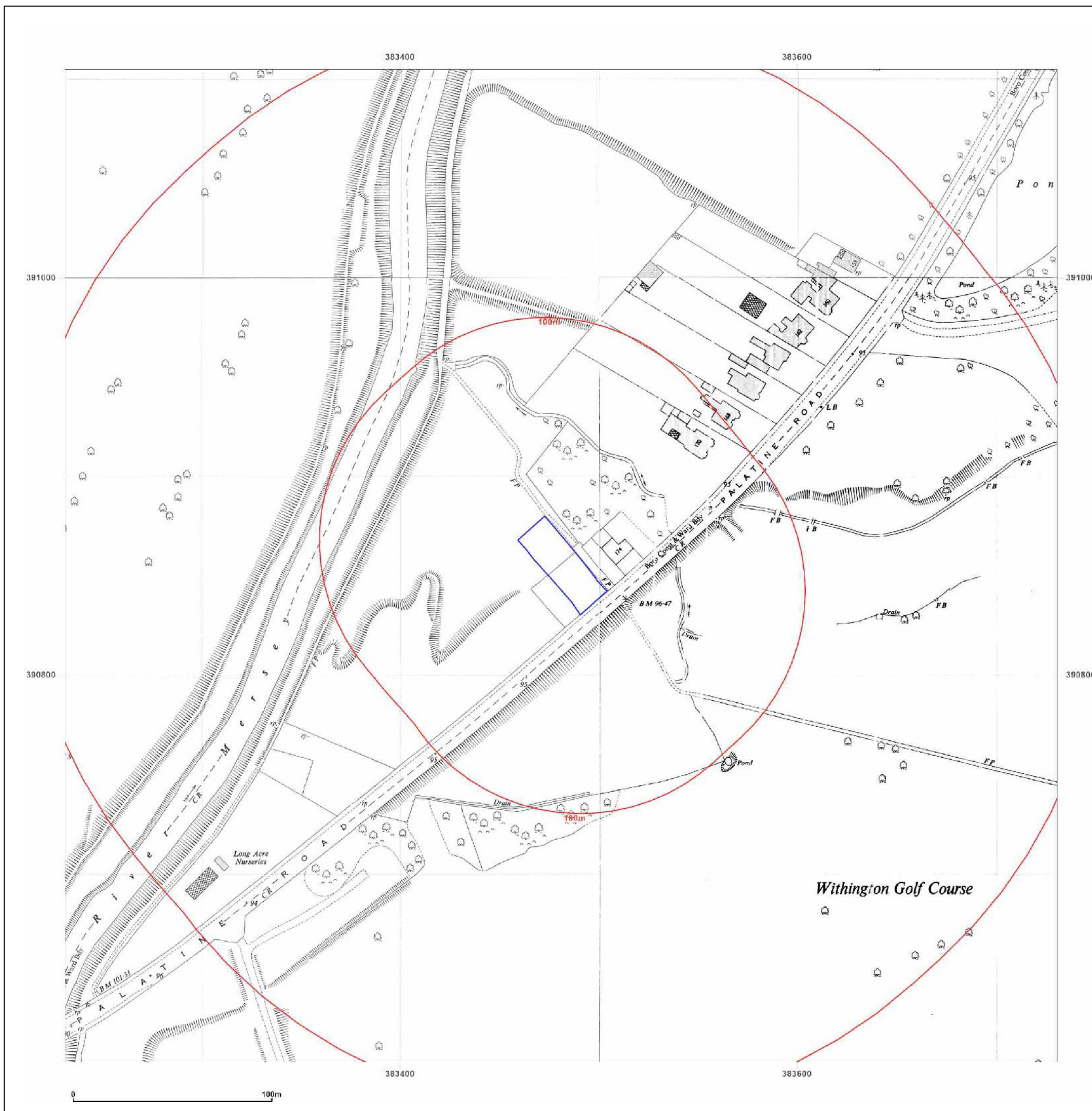


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1949

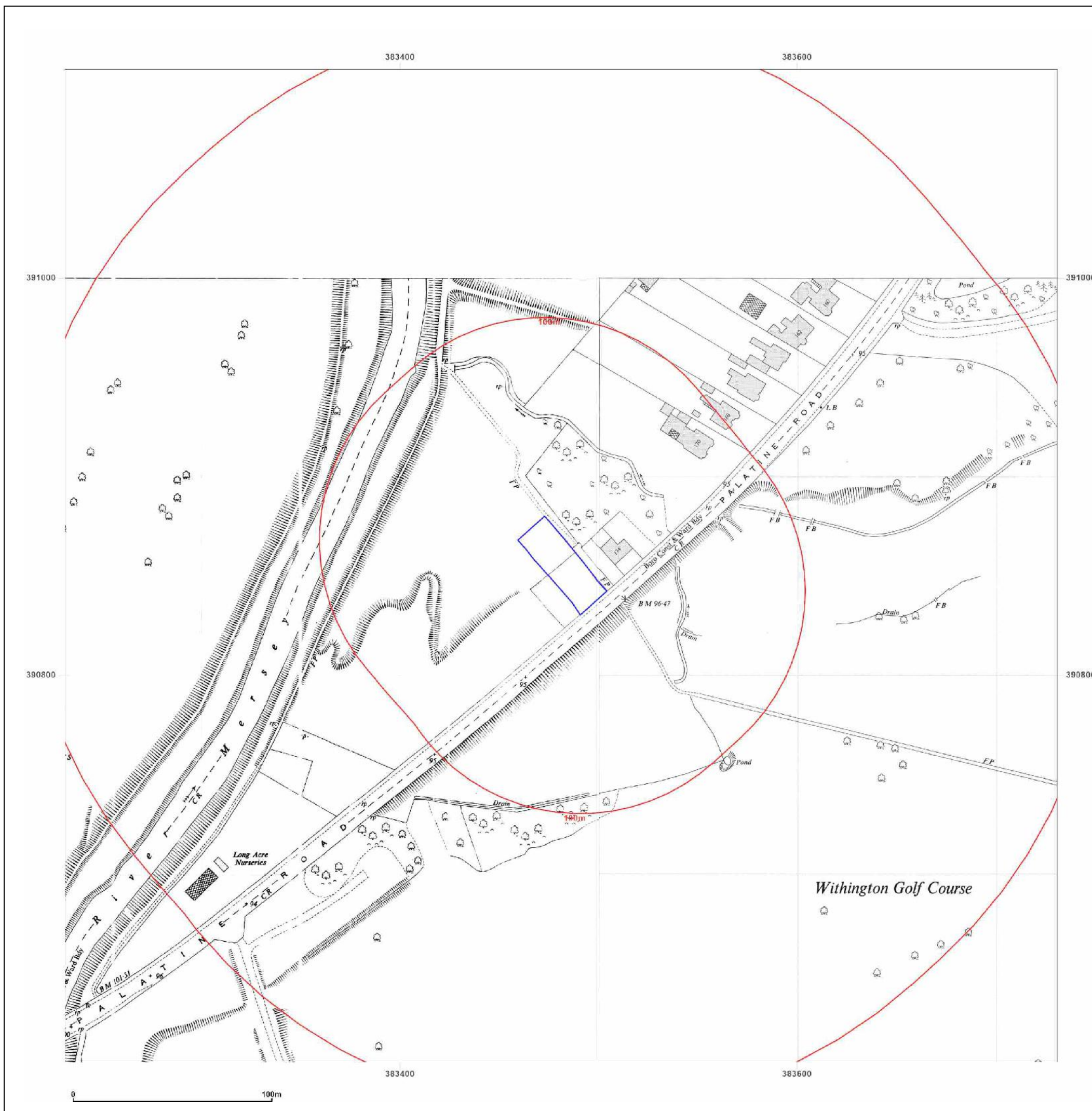


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1956

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1949

Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1949

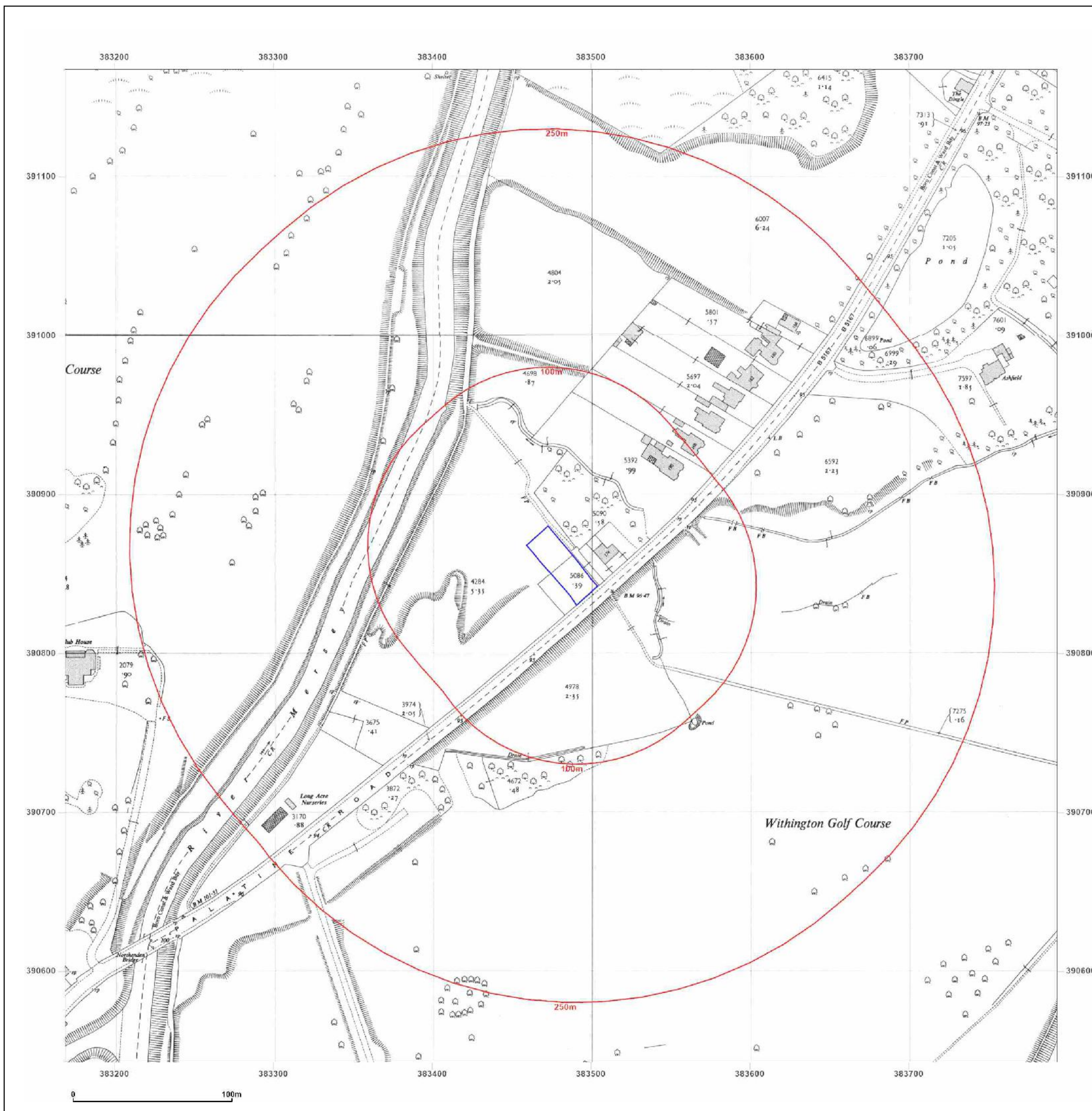


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1976-1977

Scale: 1:1,250

Printed at: 1:2,000



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

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

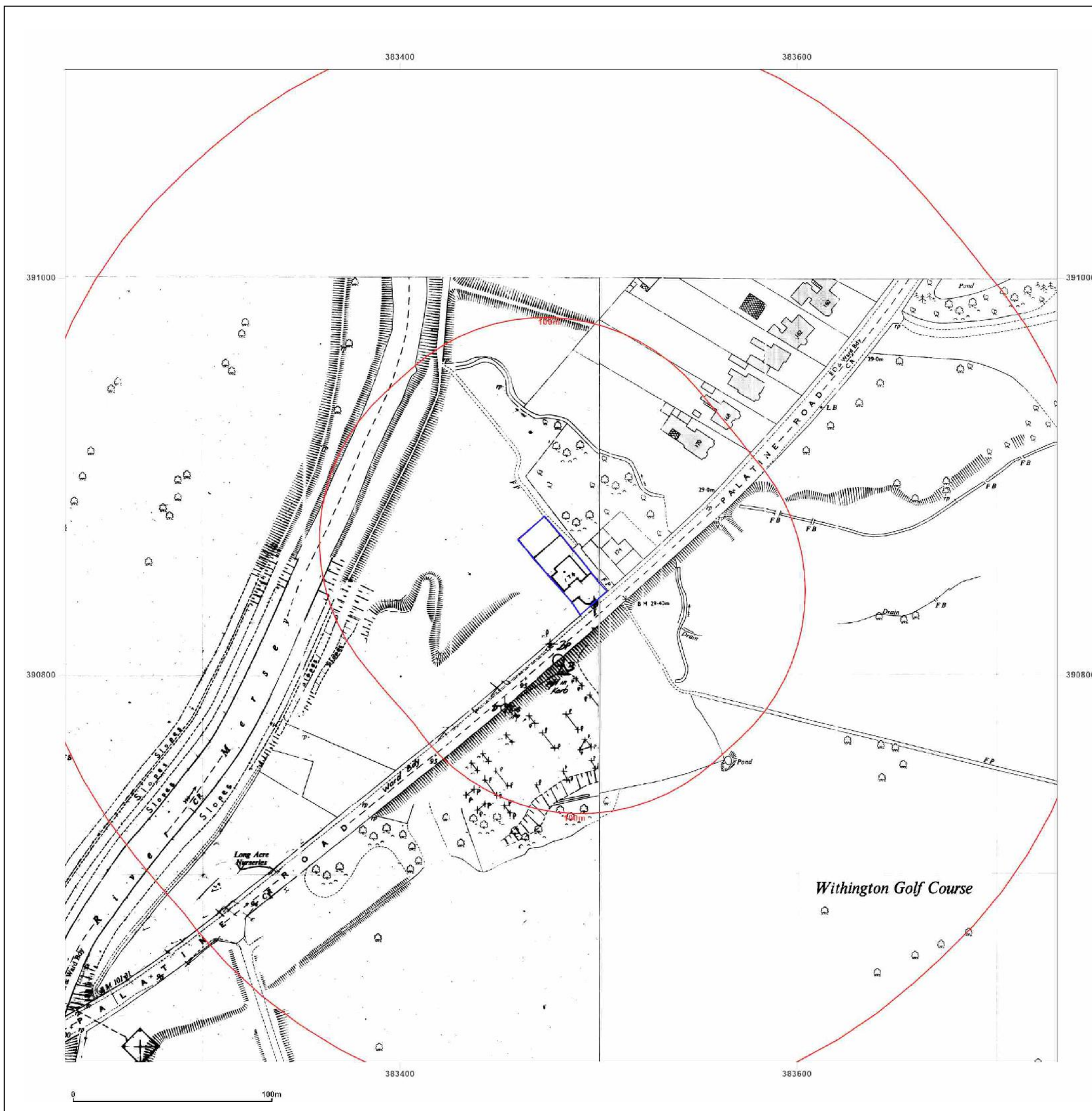


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1978

Scale: 1:1,250

Printed at: 1:2,000



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

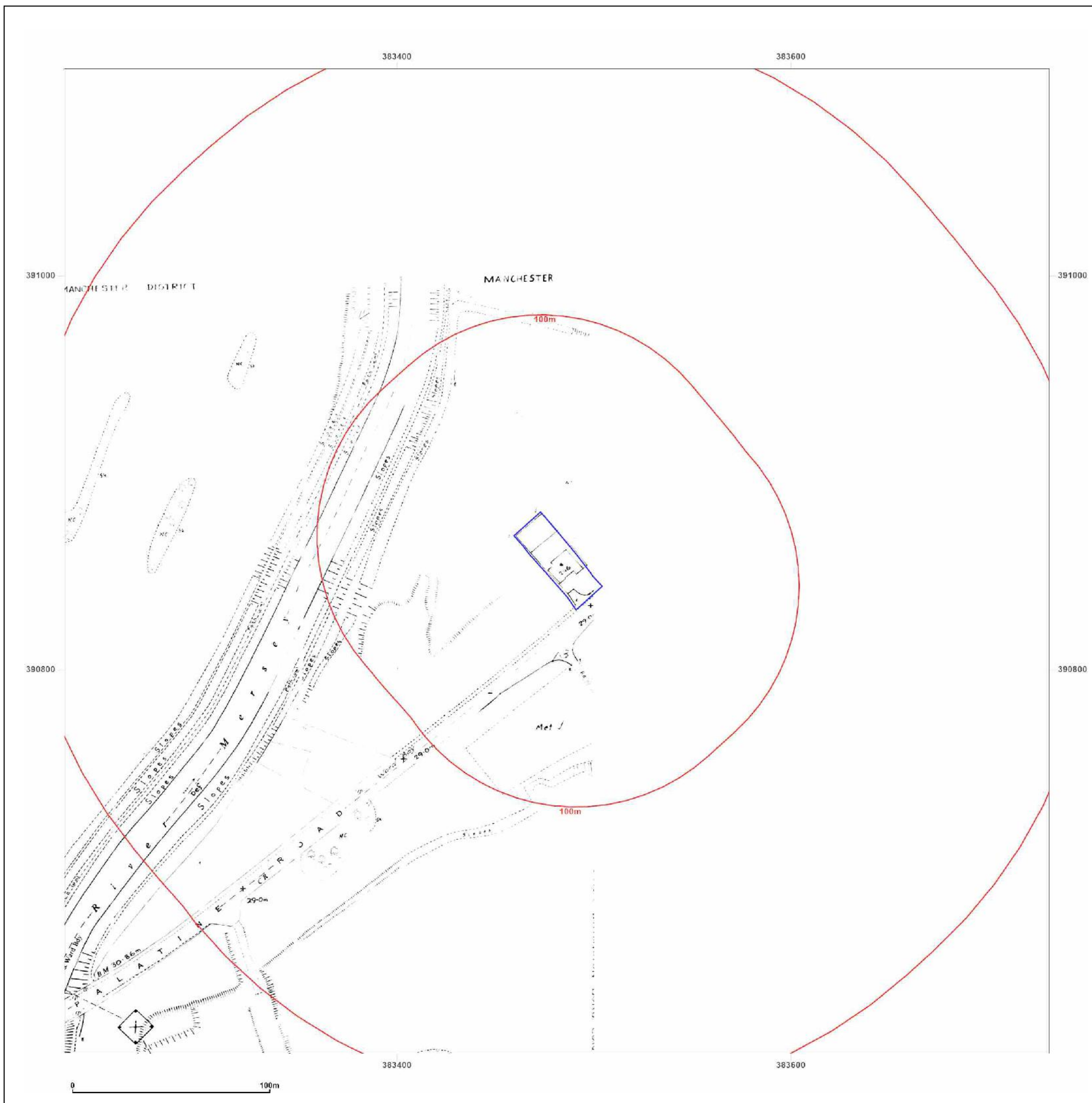


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1982

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1981
Edition N/A
Copyright 1982
Levelled 1958

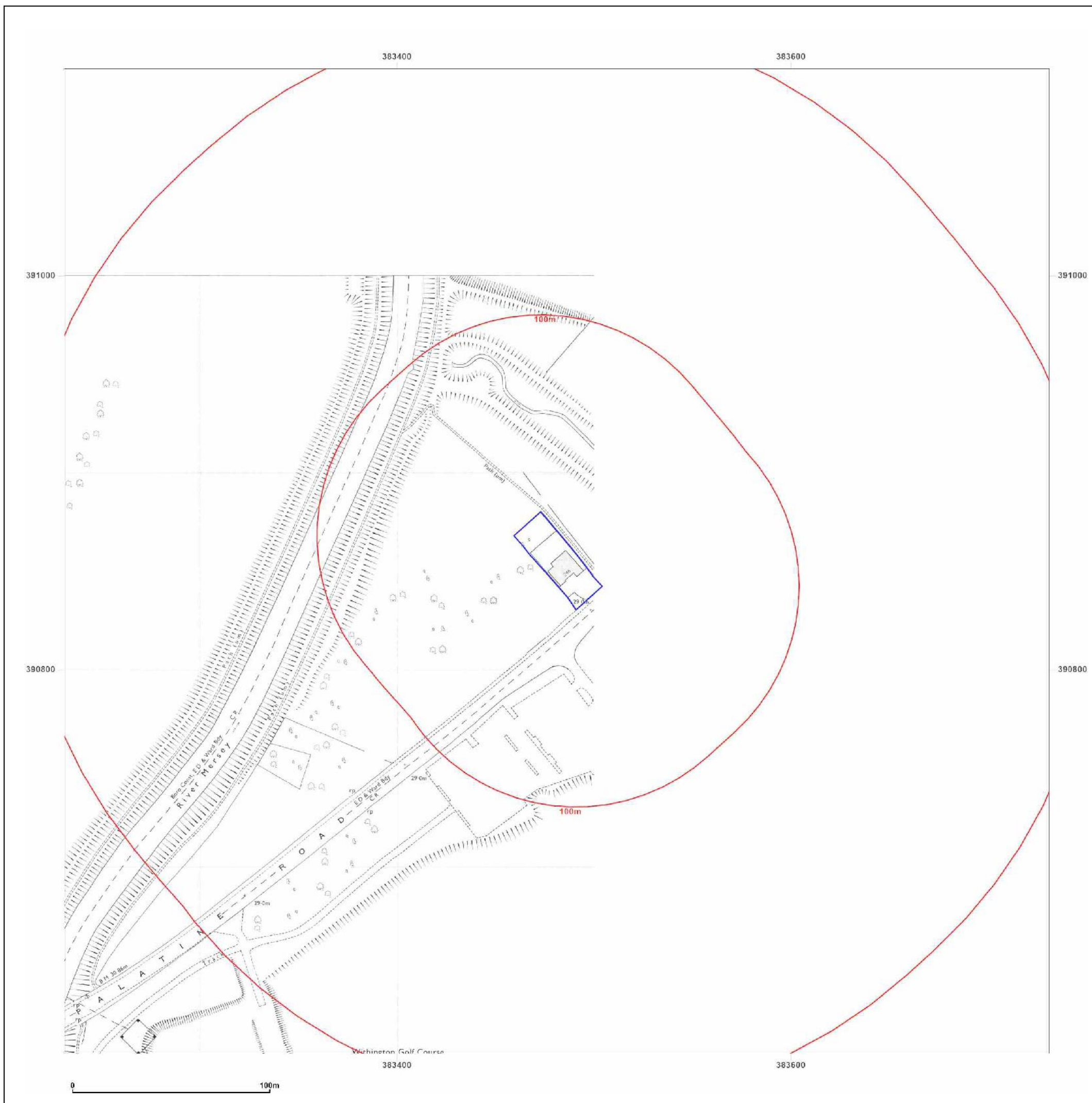


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1982-1987

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958
Revised 1987
Edition N/A
Copyright 1987
Levelled 1958

Surveyed 1958
Revised 1987
Edition N/A
Copyright 1987
Levelled 1958

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

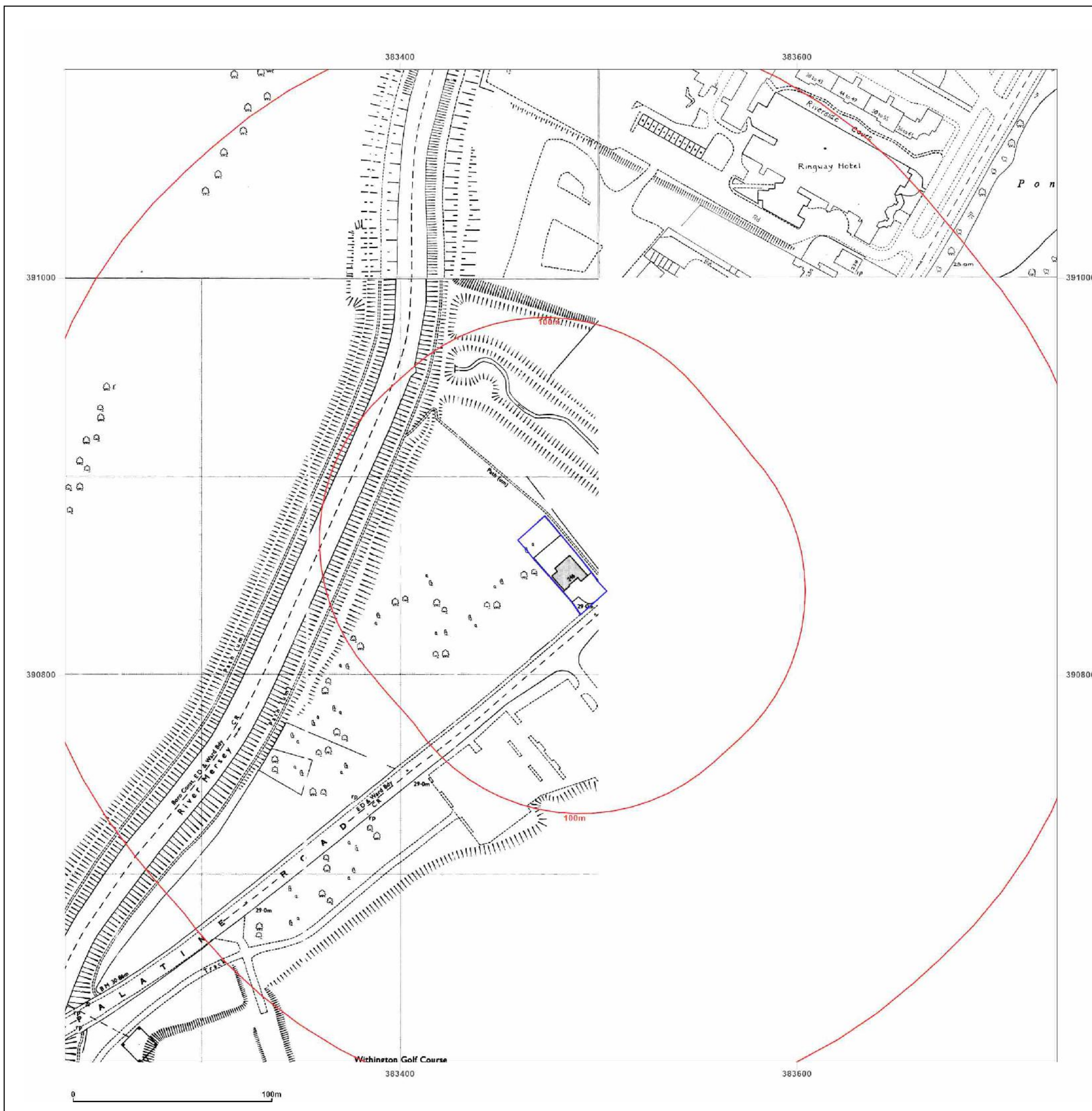


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1989-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1992
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1958
Revised 1990
Edition N/A
Copyright 1990
Levelled 1958

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1958
Revised 1989
Edition N/A
Copyright 1989
Levelled 1958

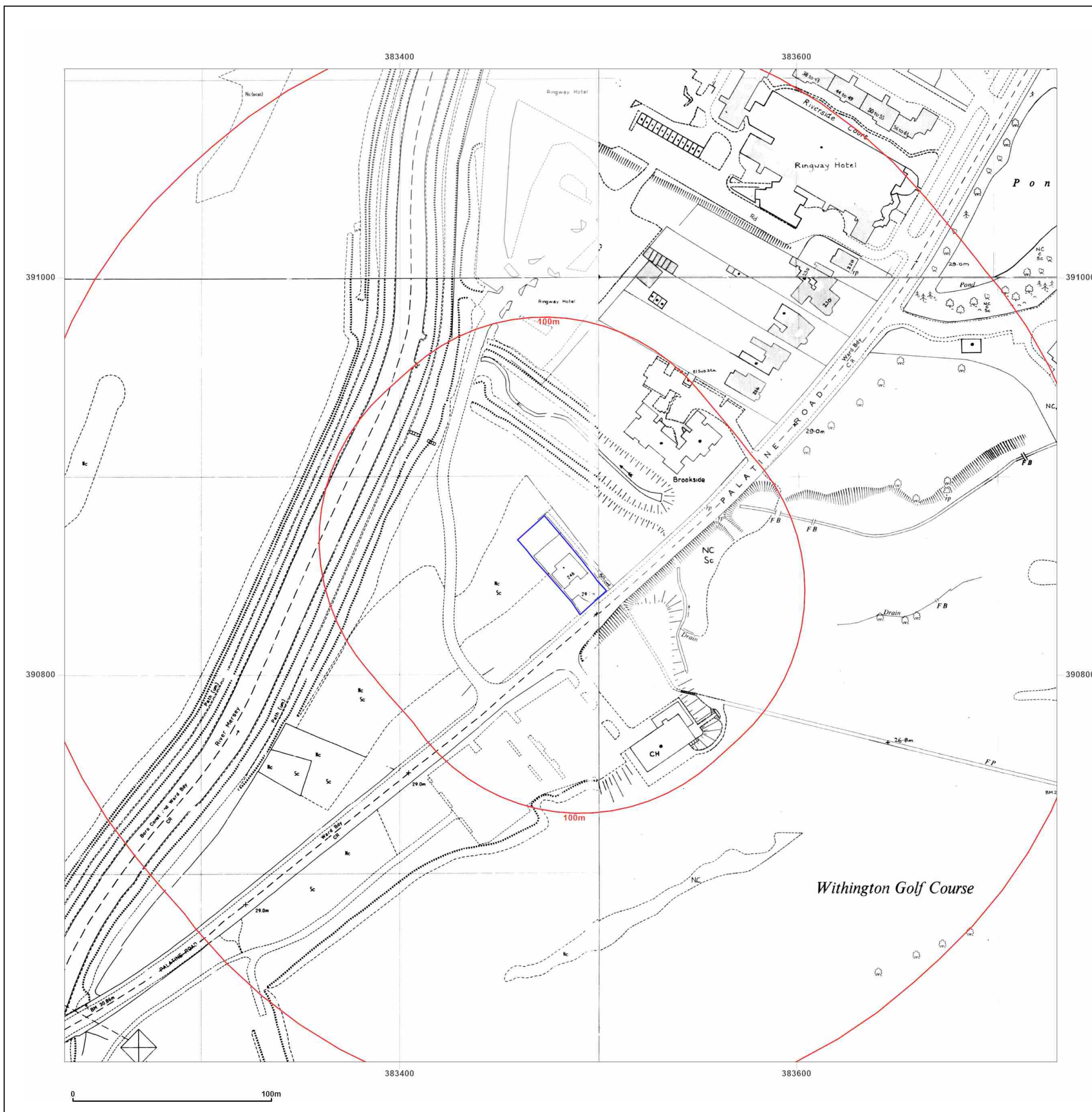


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1989-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised 1992
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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

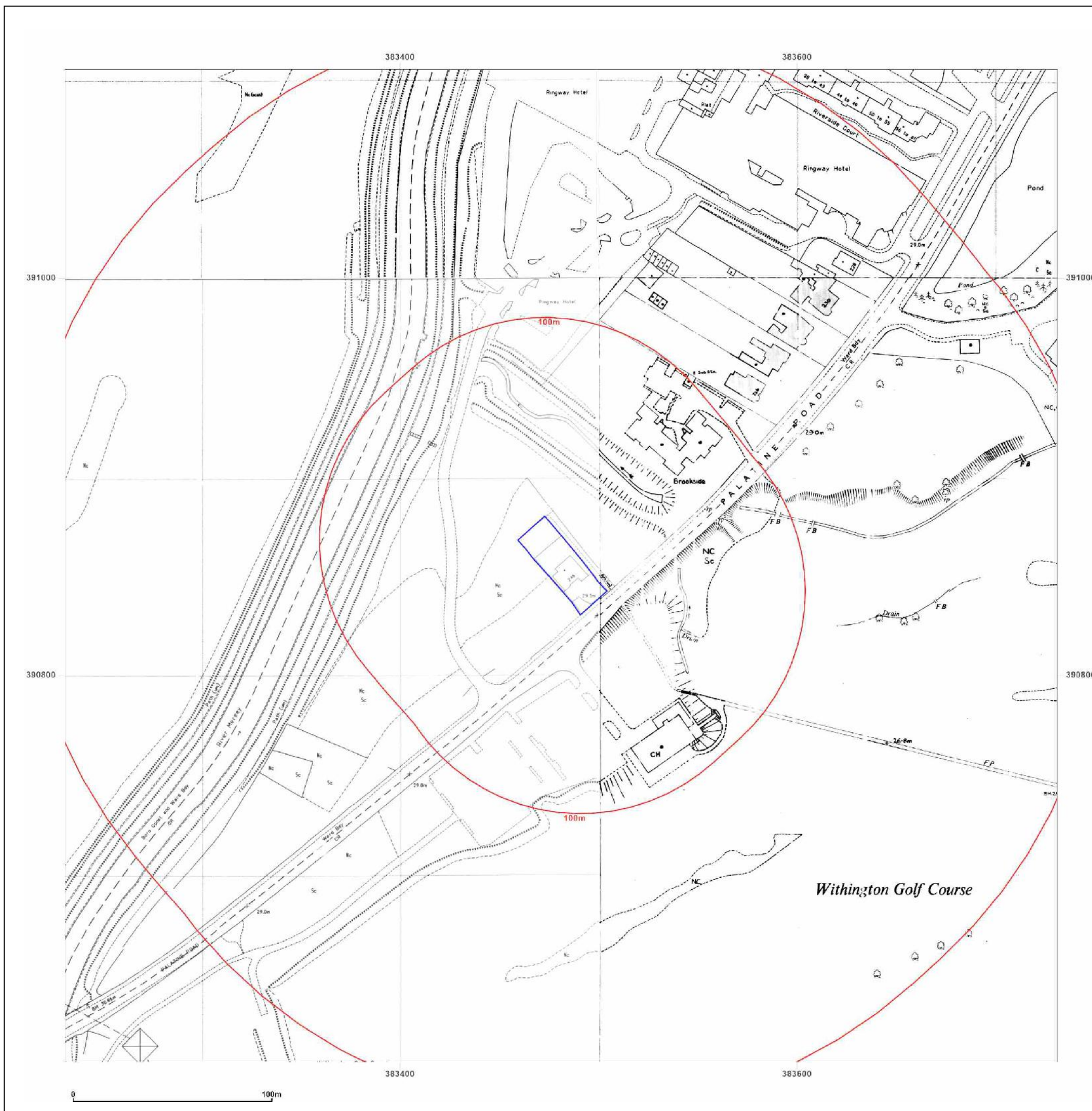


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

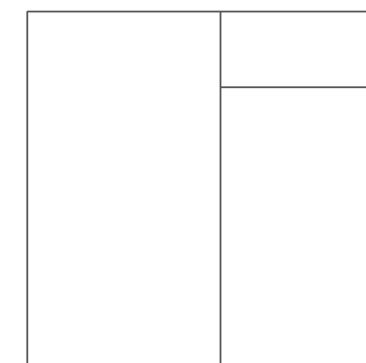
Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A



Surveyed 1992
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

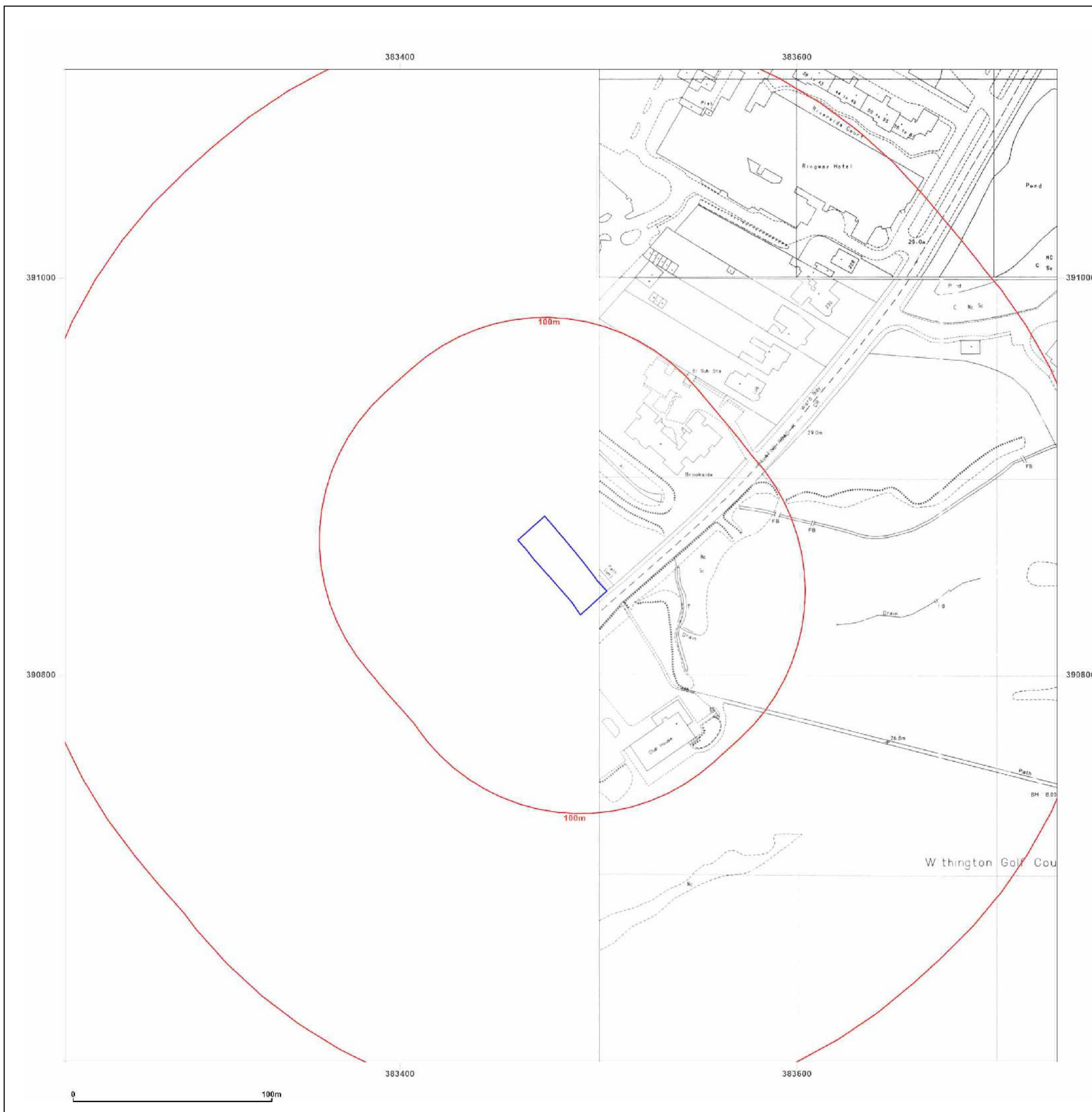


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1992-1993

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

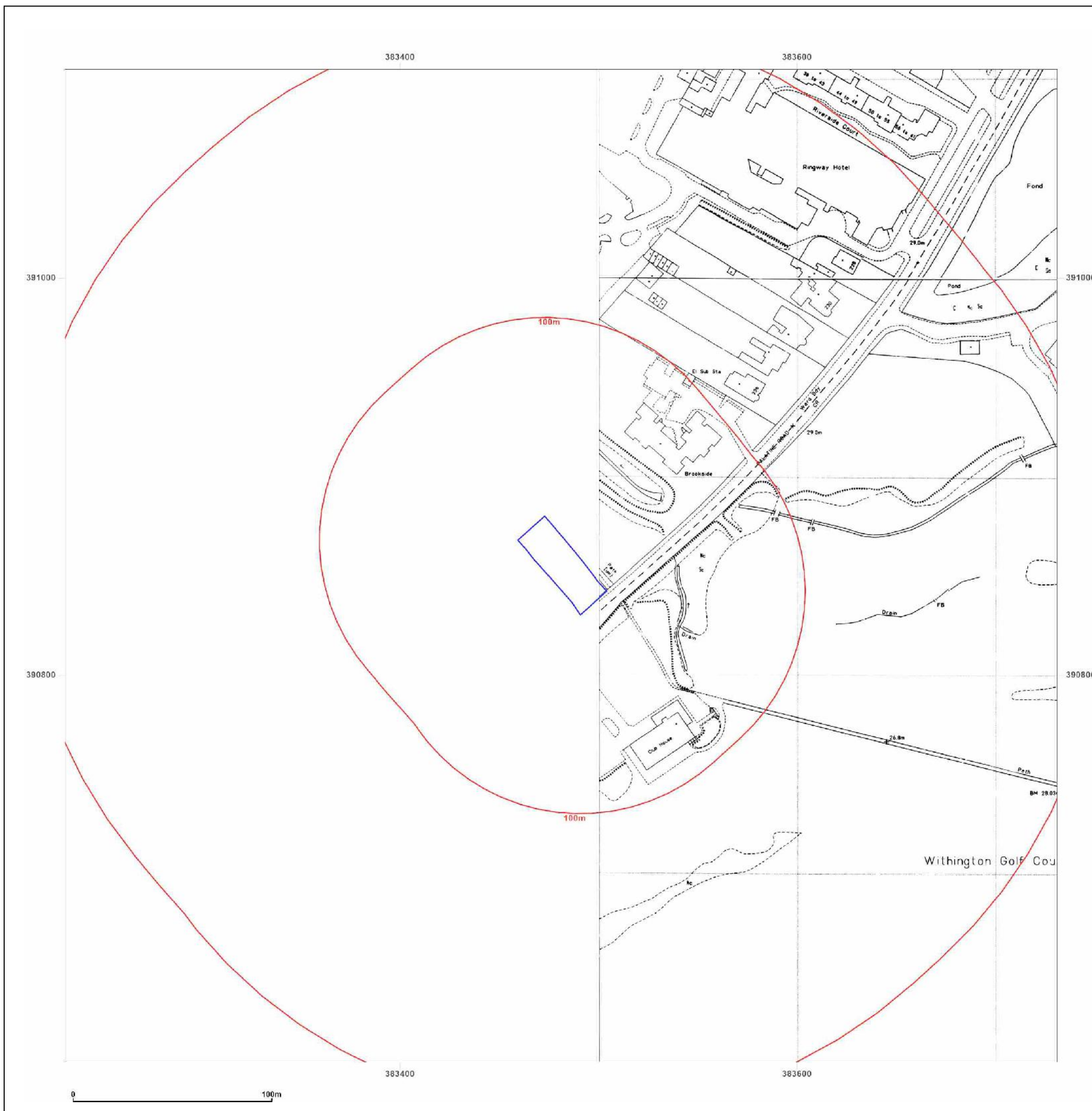


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003



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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

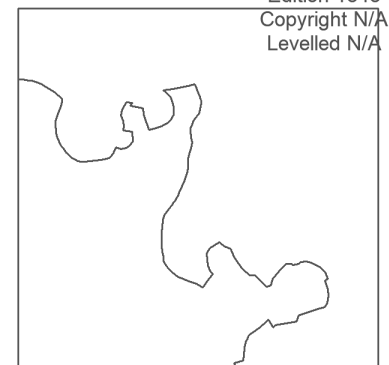
Map date: 1849

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1845
Revised 1849
Edition 1848
Copyright N/A
Levelled N/A

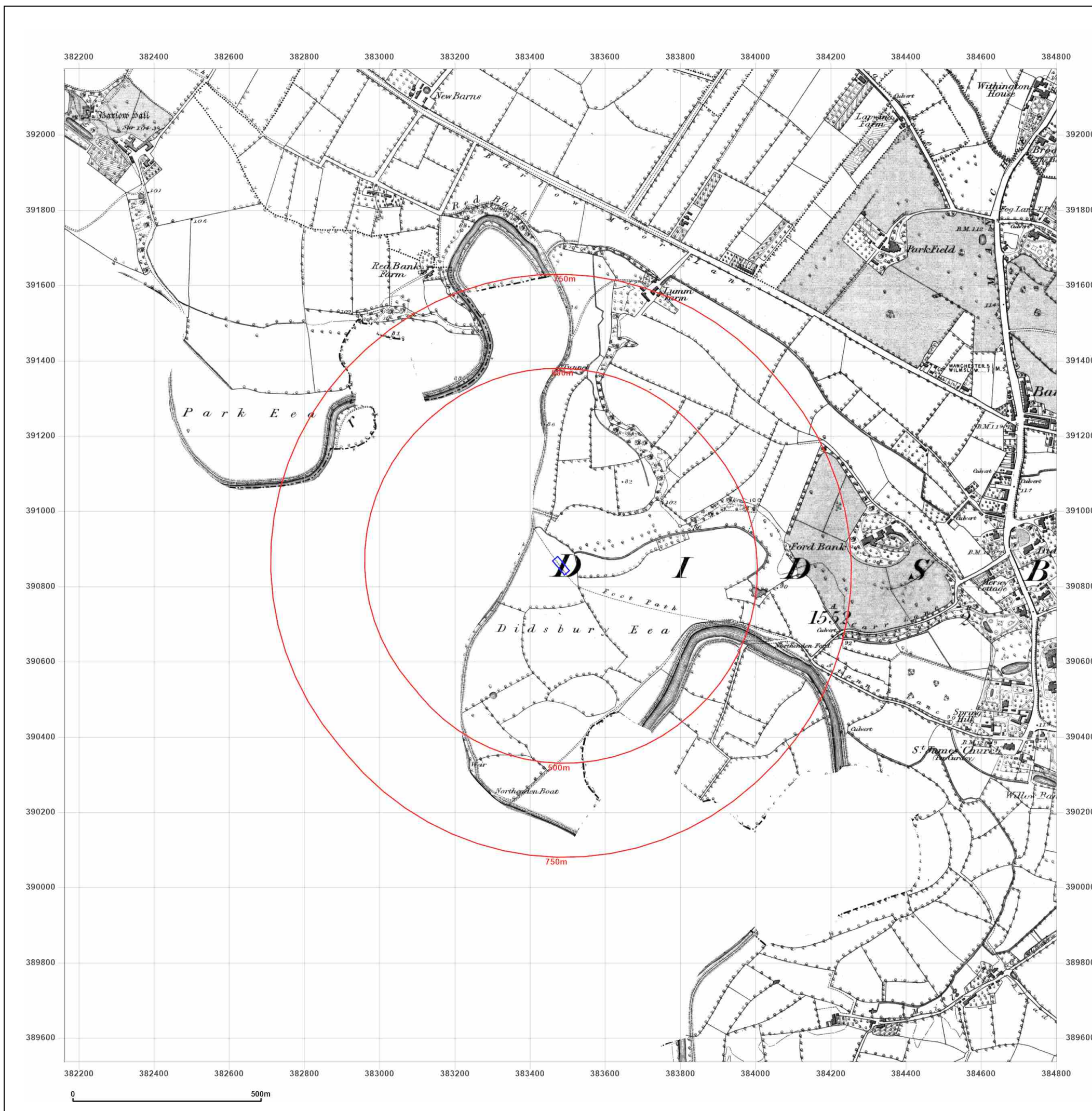


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1892

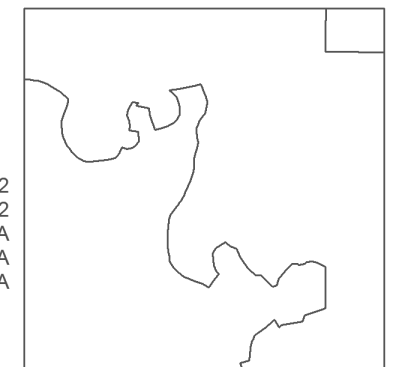
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

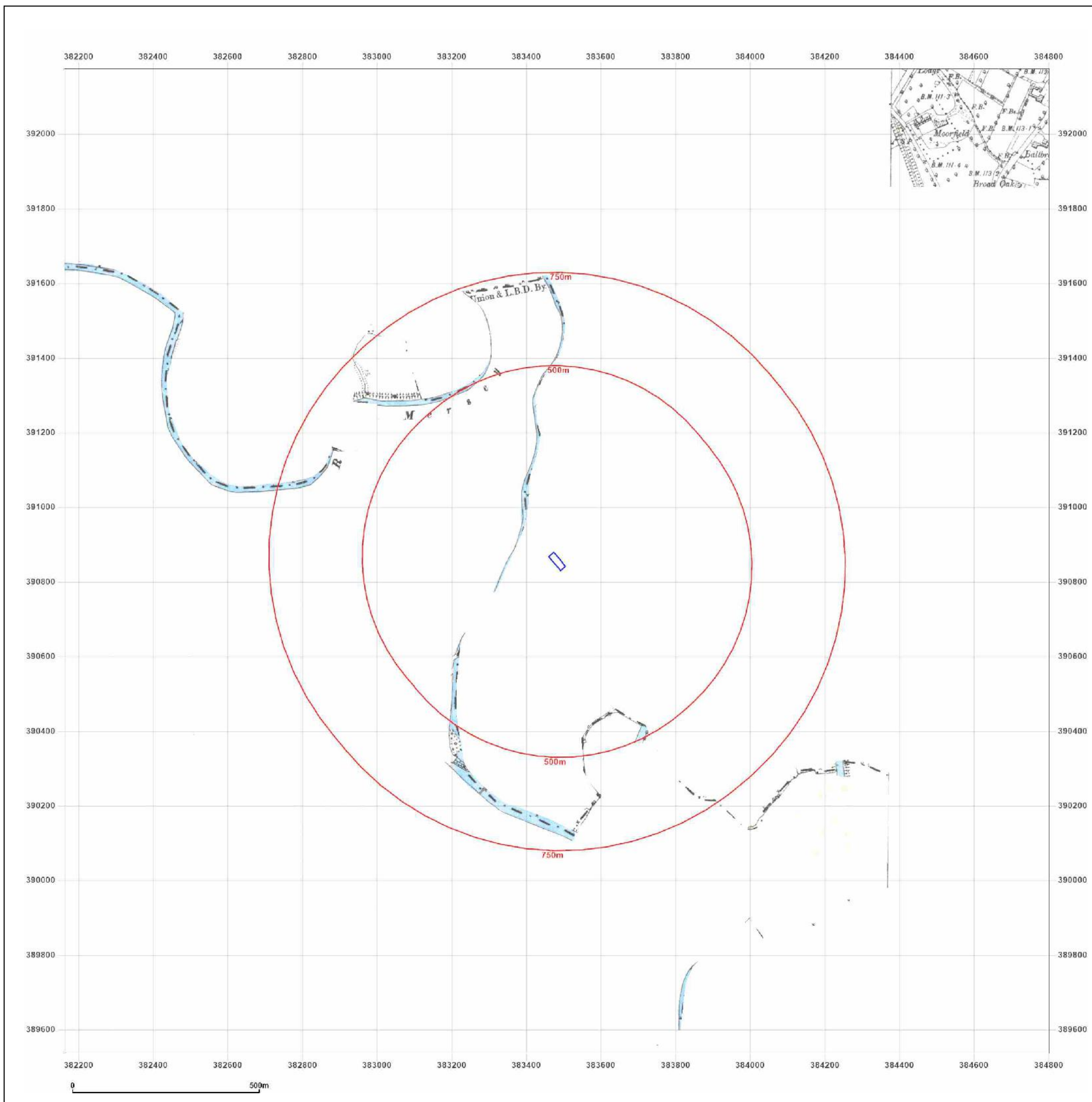


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1897

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

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

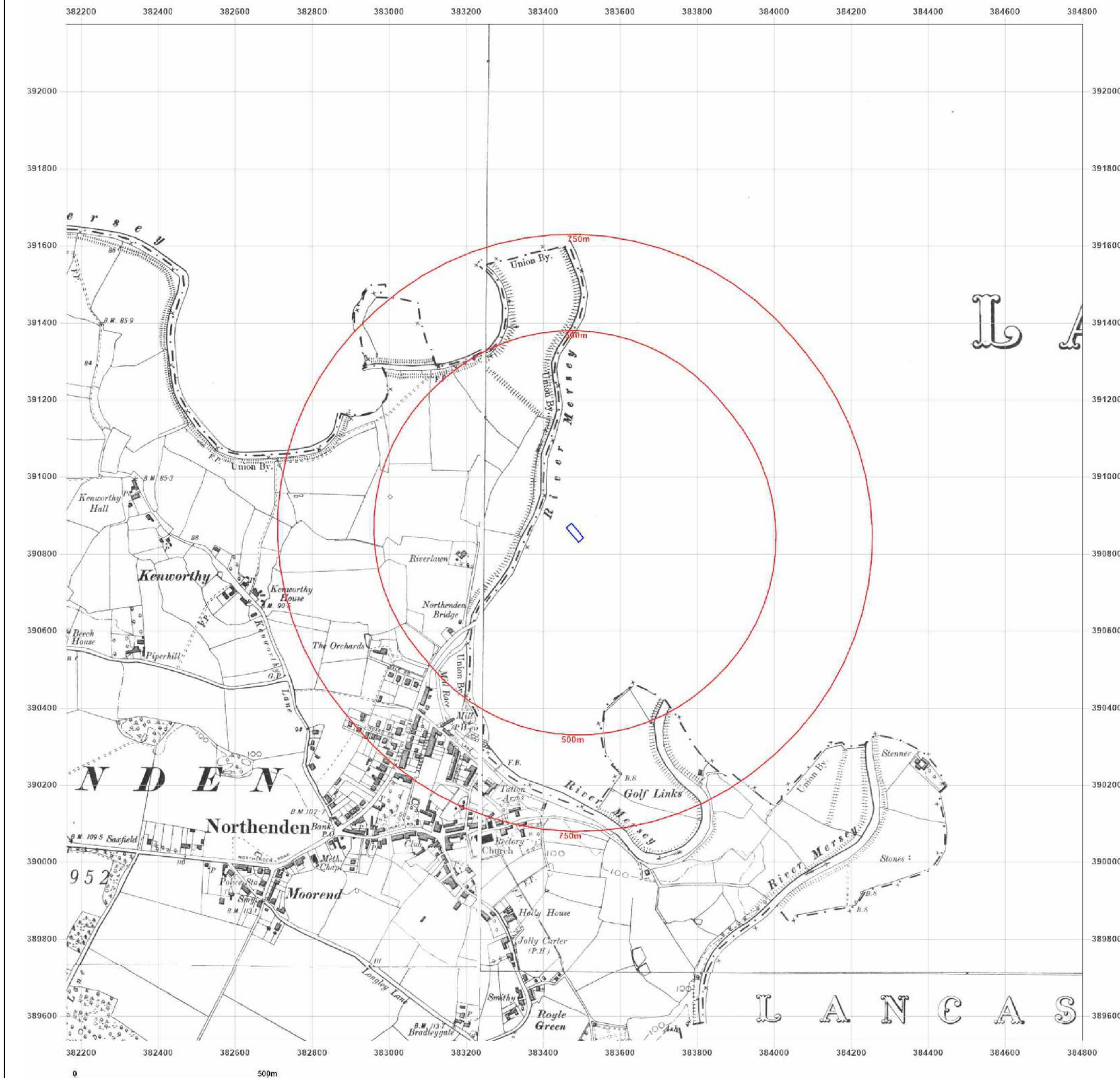


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1892
Revised 1905
Edition N/A
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Levelled N/A

Surveyed 1844
Revised 1905
Edition N/A
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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1907-1911

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1911
Edition N/A
Copyright N/A
Levelled N/A

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

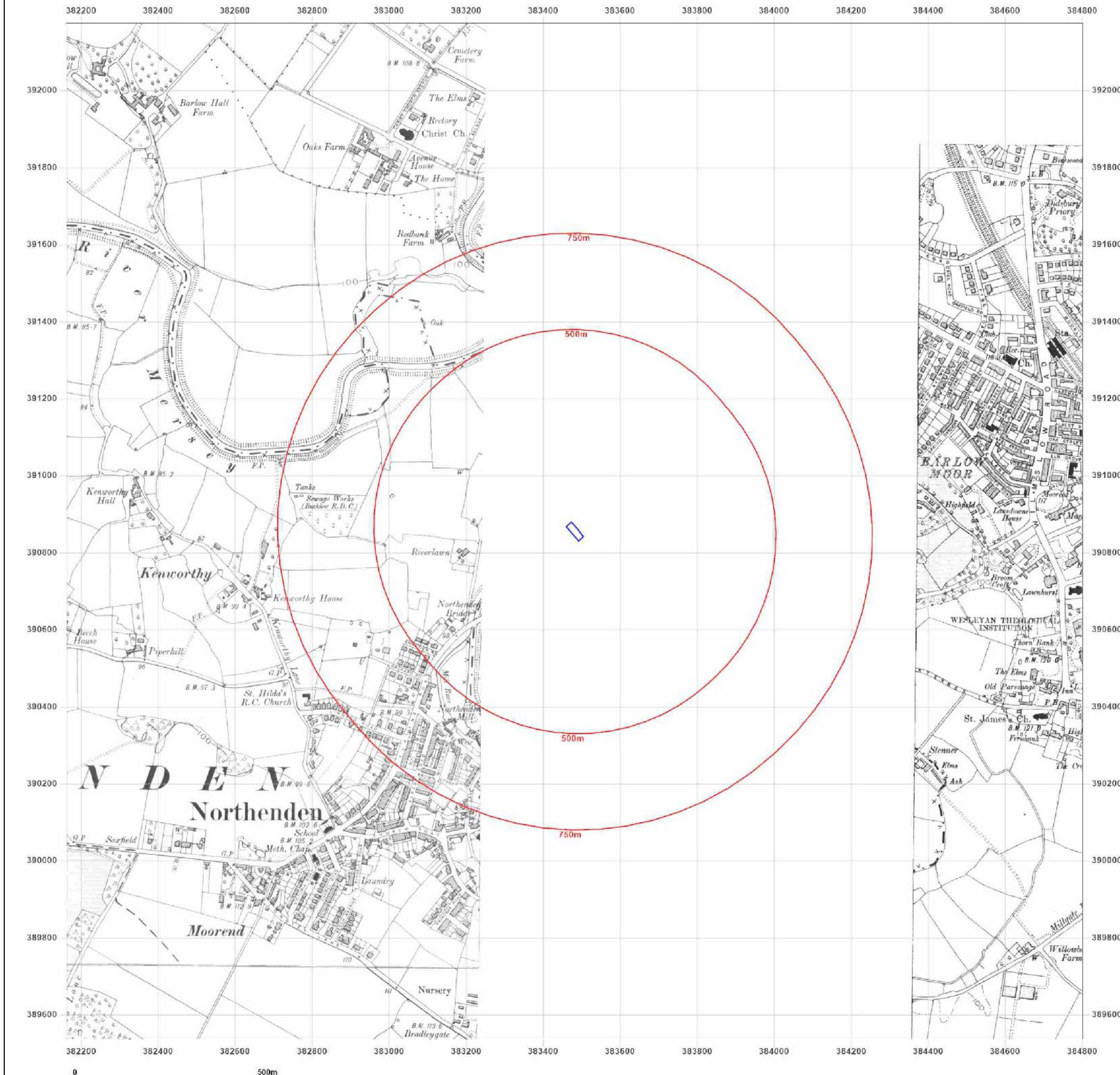


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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1907-1911

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1911
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Revised 1911
Edition 1911
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Surveyed 1873
Revised 1907
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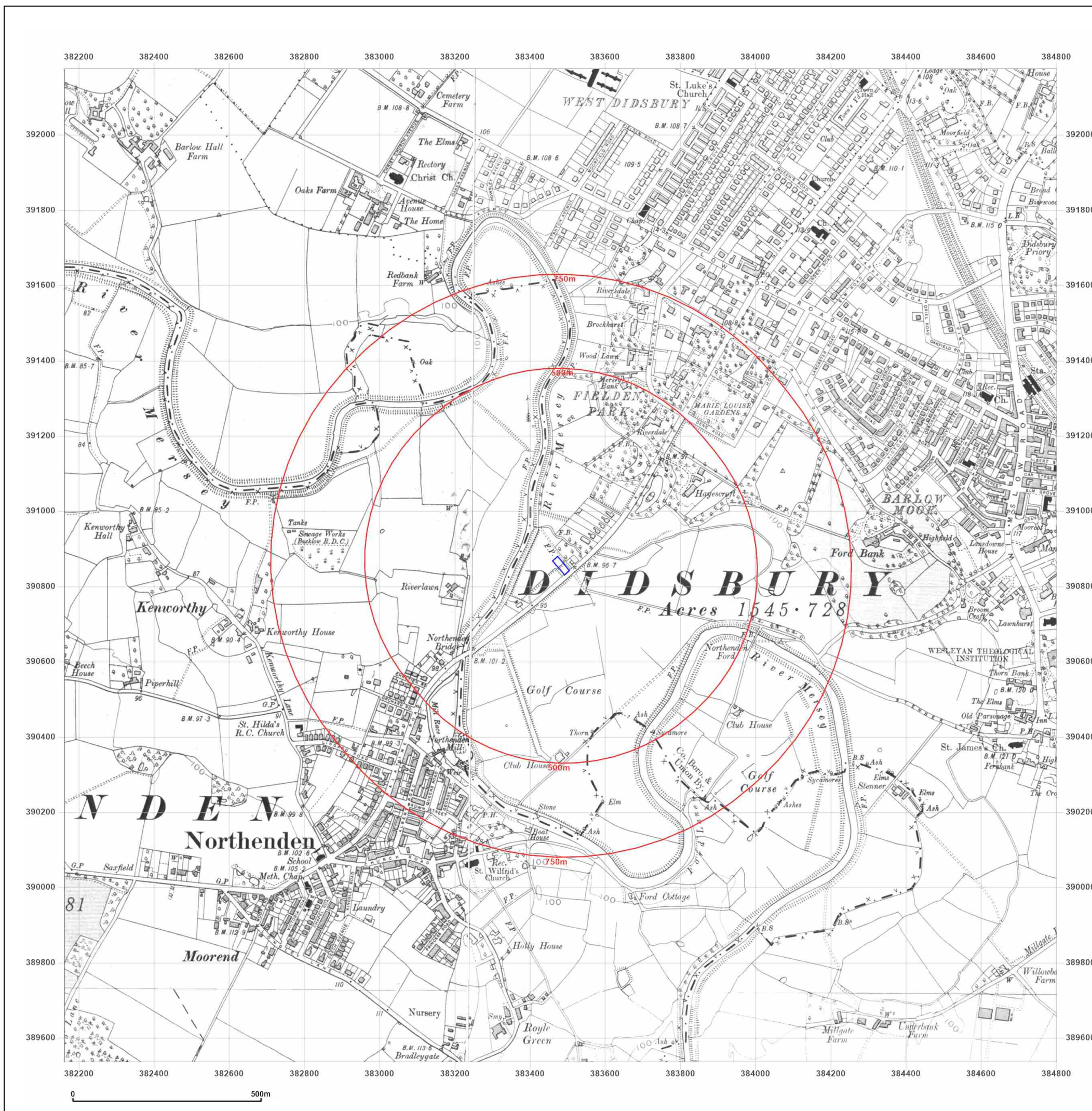


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Site Details:

246, PALATINE ROAD,
MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1916

Scale: 1:10,560

Printed at: 1:10,560



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Surveyed 1844
Revised 1916
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Site Details:

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MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



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Site Details:

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MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1934-1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1844
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Surveyed 1844
Revised 1934
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Site Details:

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MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1938
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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: Provisional

Map date: 1954-1955

Scale: 1:10,560

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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: Provisional

Map date: 1966-1967

Scale: 1:10,560

Printed at: 1:10,560



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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 1977-1981

Scale: 1:10,000

Printed at: 1:10,000



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Levelled 1976

Surveyed 1975
Revised 1977
Edition N/A
Copyright 1977
Levelled 1964

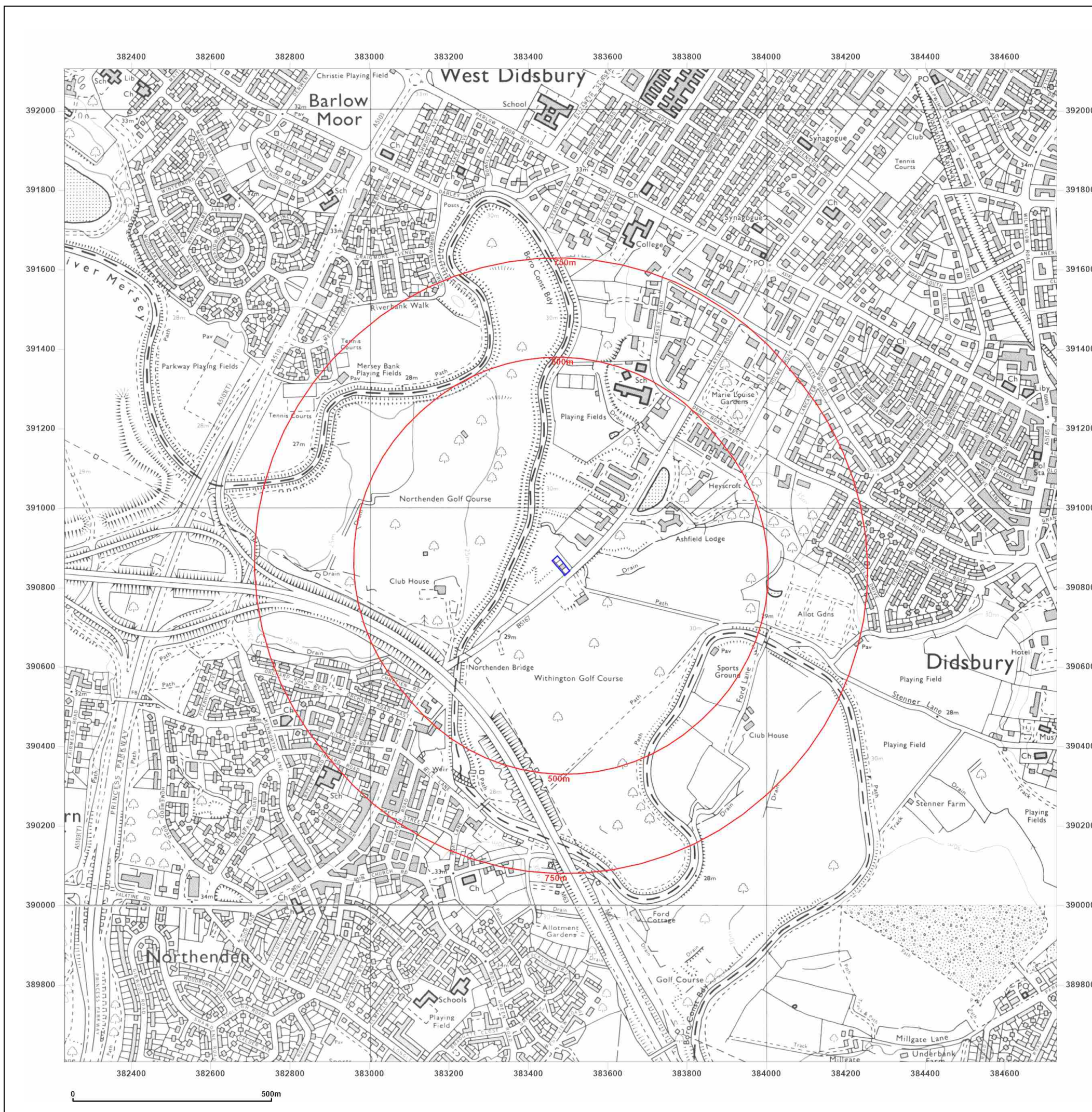


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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid
Map date: 1988-1989
Scale: 1:10,000
Printed at: 1:10,000



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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

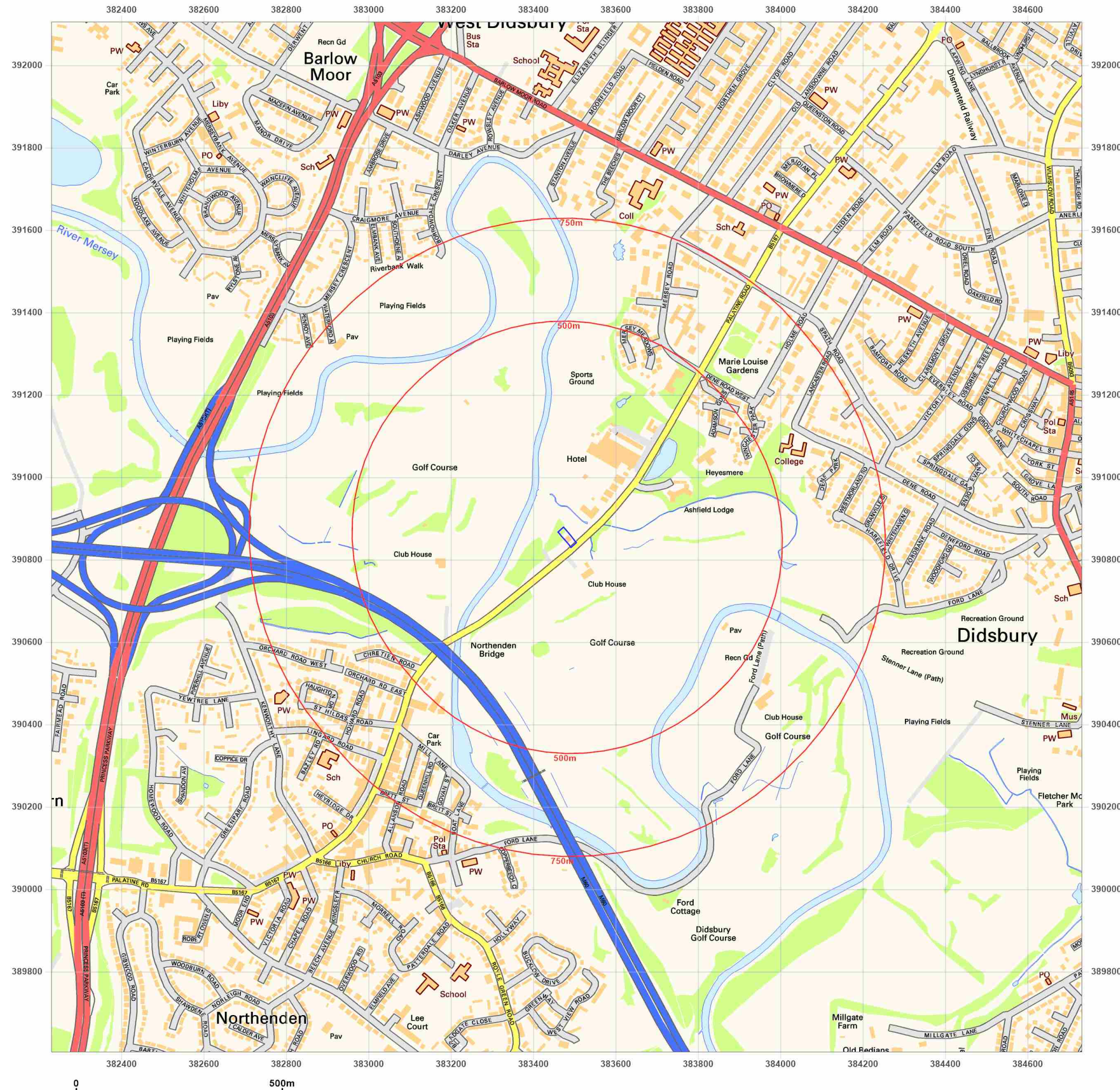


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Site Details:

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Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

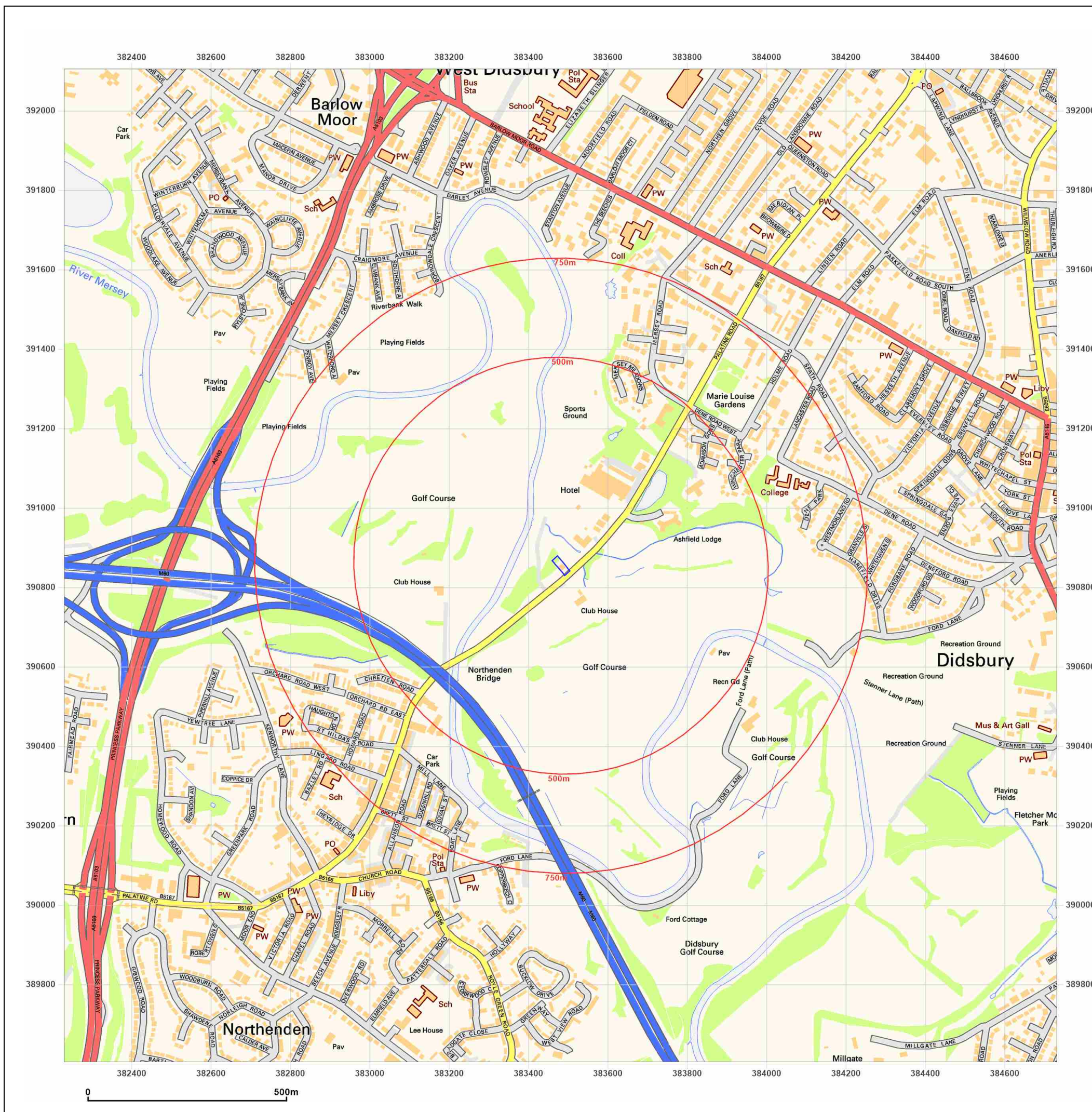


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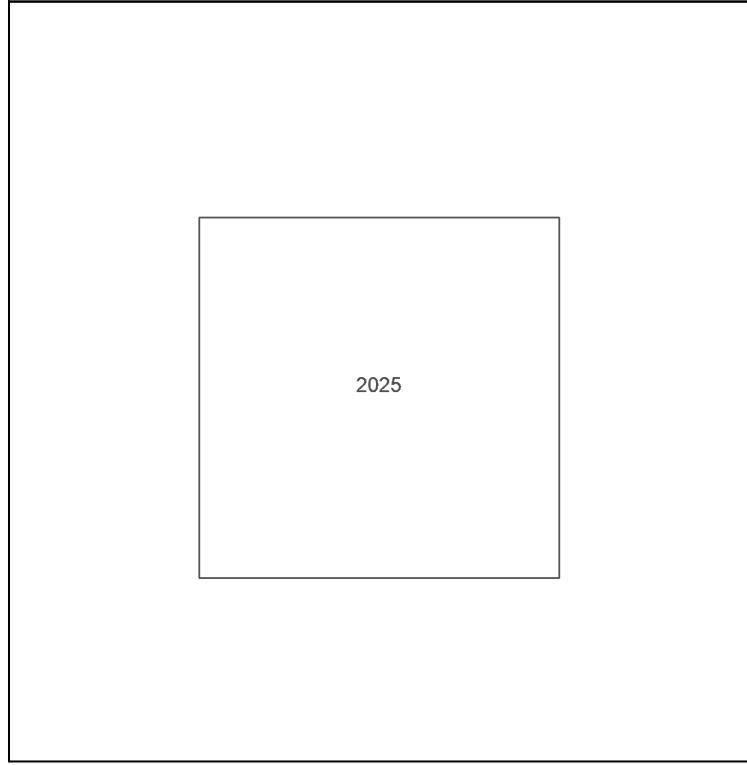
Site Details:

246, PALATINE ROAD,
MANCHESTER, M20 2WF

Client Ref: A6550/DS/02
Report Ref: GS-3AV-24K-F4B-UBH
Grid Ref: 383481, 390855

Map Name: National Grid
Map date: 2025
Scale: 1:10,000
Printed at: 1:10,000

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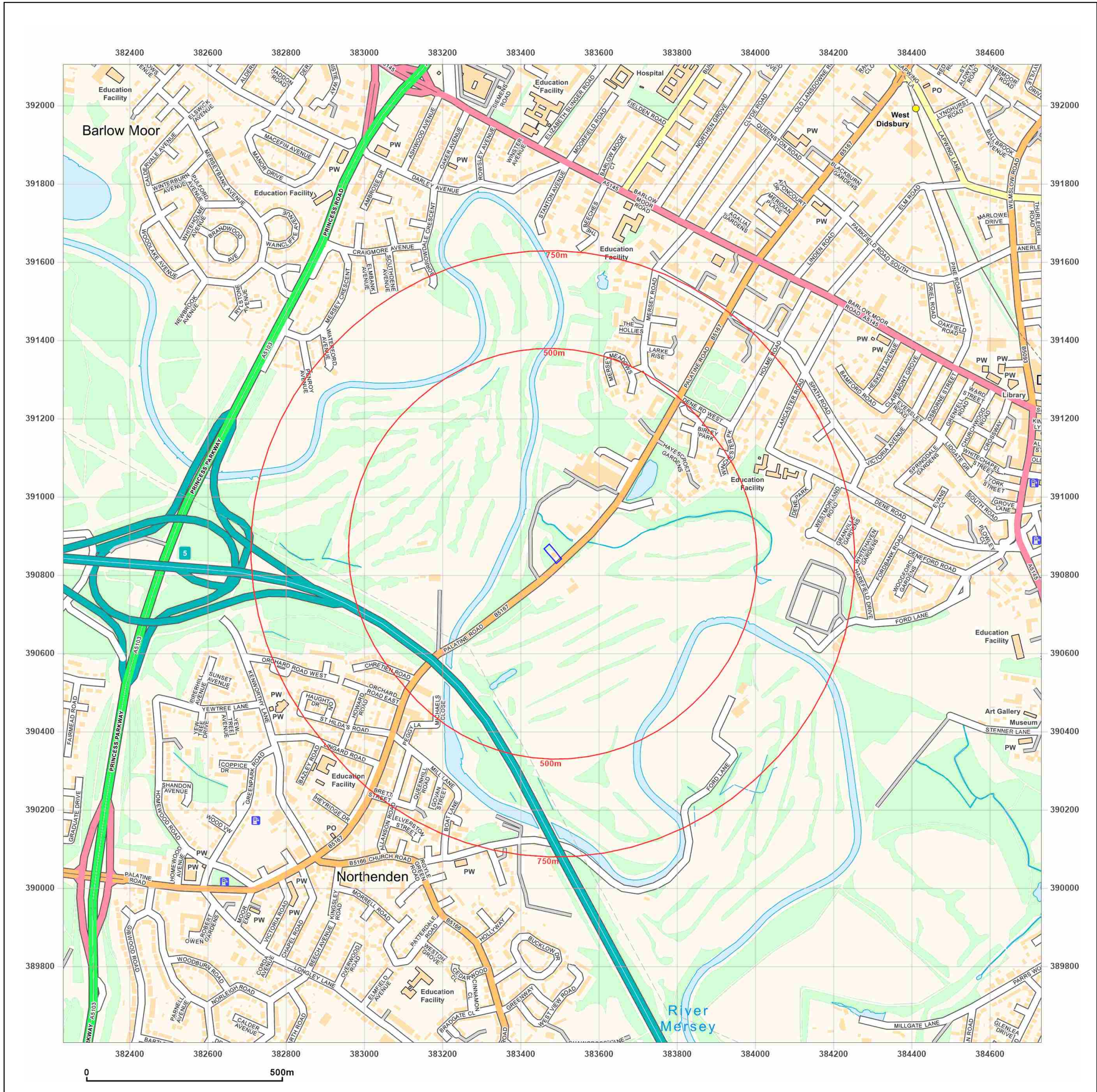


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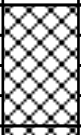
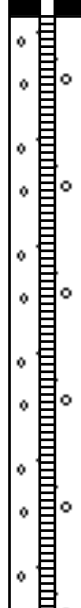
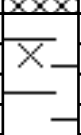
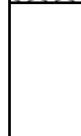
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



APPENDIX 2

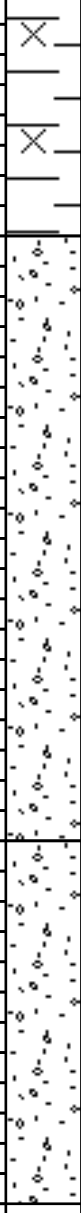
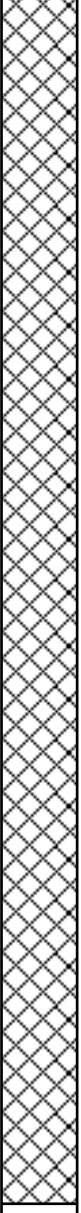
EXPLORATORY HOLE LOGS

 EARTH ENVIRONMENTAL & GEOTECHNICAL <small>A Technica Group Company</small>		Project Title: 246 Palatine Road, Didsbury				<h1>WS01</h1>	
		Project Number: A6550		Client: Affordable & Stylish			
		GL (mAOD): 34.00		N Coord: 390864		E Coord: 383477	
Date: 03/07/2025		Method: Drilling Rig		Driller: PM Sampling		Logged By: TP	

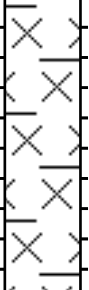
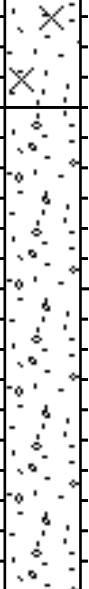
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
0.70	D	N=11 (3,3,3,2)	33.60		0.40	MADE GROUND: Dark brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is subangular to subrounded, fine to coarse of red brick, sandstone and mudstone. Frequent rootlets.		
			33.40		0.60	MADE GROUND: Black, angular to subangular, fine to coarse GRAVEL of clinker, coal and ash.		
1.00	SPT		33.00		1.00	MADE GROUND: Reddish brown, gravelly, fine to coarse SAND. Gravel is angular to subangular, fine to coarse of red brick, sandstone, mudstone and coal.		
2.00	D	N=15 (6,5,2,2)	32.40		1.60	MADE GROUND: Dark brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded, fine to coarse of red brick, sandstone and mudstone.		
2.00	SPT		32.30		1.70			
			32.00		2.00			
3.00	SPT	N=4 (1,1,1,1)	31.30		2.70	Soft, dark greyish brown, silty CLAY.		
			31.00		3.00			
3.20	D							
4.00	SPT	N=5 (1,1,2,1)	30.00		4.00	Borehole Continues		

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level		REMARKS 1. Borehole was scanned and an inspection pit dug to 1.20mbgl. 2. Borehole terminated at 8.00m bgl due to collapses in sand and gravel. 3. Borehole was installed with a monitoring well. 	Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Sealed</th> </tr> </thead> <tbody> <tr> <td>03/07/2025</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Chiselling</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Hours</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Strike	Level	Minutes	Casing	Sealed	03/07/2025	5																	Daily Log Of Depths			Chiselling			Date	Casing	Water	From	To	Hours												
Date	Strike	Level	Minutes	Casing	Sealed																																														
03/07/2025	5																																																		
Daily Log Of Depths			Chiselling																																																
Date	Casing	Water	From	To	Hours																																														

Scale: 1:25

 <div>EARTH ENVIRONMENTAL & GEOTECHNICAL A Technica Group Company</div>		Project Title: 246 Palatine Road, Didsbury				WS01							
		Project Number: A6550		Client: Affordable & Stylish									
		GL (mAOD): 34.00		N Coord: 390864		E Coord: 383477							
Date: 03/07/2025		Method: Drilling Rig		Driller: PM Sampling		Logged By: TP							
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe					
4.30	D	N=5 (1,1,1,2)	29.20		4.80	Soft, dark greyish brown, silty CLAY.							
5.00	SPT		29.00		5.00	Loose to medium dense, light brown, slightly gravelly, fine to coarse SAND. Gravel is angular to subangular, fine to medium of sandstone and coal.							
5.40	D												
6.00	SPT	N=27 (6,6,7,8)	28.00		6.00	Dense to very dense, light brown, gravelly, fine to coarse SAND. Gravel is subrounded to well rounded, fine to coarse of sandstone mudstone and granite.							
6.50	D												
7.00	SPT	N=34 (7,8,9,10)	27.20		7.00								
7.50	D					End Of Borehole At 8.00 m							
8.00	SPT	N=42 (9,10,11,12)	26.00		8.00								
KEY			REMARKS			Water Strikes							
<div>D - Disturbed Sample</div> <div>B - Bulk Sample</div> <div>U - Undisturbed</div> <div>W - Water Sample</div> <div>S - Standard Penetration Test</div> <div>C - Cone Penetration Test</div> <div>N - Penetration Test 'N' Value</div> <div>V - Hand Shear Vane kPa</div> <div> - Groundwater Strike</div> <div> - Groundwater Level</div> <div></div>			<div>1. Borehole was scanned and an inspection pit dug to 1.20mbgl. 2. Borehole terminated at 8.00m bgl due to collapses in sand and gravel. 3. Borehole was installed with a monitoring well.</div> <div>Scale: 1:25</div>			Date			Strike	Level	Minutes	Casing	Sealed
						03/07/2025			5				
			Daily Log Of Depths			Chiselling							
Date			Casing	Water	From	To	Hours						

<div></div> <div>EARTH ENVIRONMENTAL & GEOTECHNICAL <small>A Technics Group Company</small></div>			Project Title: 246 Palatine Road, Didsbury				WS02							
			Project Number: A6550		Client: Affordable & Stylish					Sheet 1 Of 2				
			GL (mAOD): 34.00		N Coord: 390849		E Coord: 383493							
Date: 04/07/2025			Method: Drilling Rig		Driller: PM Sampling		Logged By: TP							
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe						
0.50	D		33.85		0.15	MADE GROUND: Brick paving (0.05m thick) underlain by light grey, slightly gravelly, fine to coarse SAND. Gravel is rounded of sandstone.								
			33.40		0.60	MADE GROUND: Dark brown, gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse of red brick, concrete, sandstone and mudstone.								
1.00	SPT	N=12 (4,3,2,3)	33.10		0.90	MADE GROUND: Orangish brown, slightly sandy, slightly gravelly, CLAY. Gravel is subangular to subrounded of red brick, sandstone and mudstone.								
			33.00		1.00	MADE GROUND: Dark brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is subangular to subrounded, fine to coarse of red brick, sandstone, mudstone and coal.								
1.50	D													
1.80	D		32.30		1.70									
2.00	SPT	N=4 (1,0,2,1)	32.00		2.00	Soft, Greyish brown mottled red, slightly silty, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of sandstone and quartz.								
			31.90		2.10	Loose, brown, gravelly, fine to coarse SAND. Gravel is subangular to rounded, fine to medium of sandstone and mudstone.								
2.50	D													
			31.30		2.70									
3.00 3.00	D SPT	N=7 (1,2,2,2)	31.00		3.00	Soft becoming very soft, dark grey, silty, organic CLAY. Frequent rootlets. Slight organic odour.								
4.00	SPT	N=2 (0,0,1,1)												
			30.00		4.00									
						Borehole Continues								
KEY			REMARKS				Water Strikes							
D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level			1. Borehole was scanned and an inspection pit dug to 1.20mbgl. 2. Borehole terminated at 8.00m bgl due to collapses in sand and gravel. 3. Borehole was installed with a monitoring well.				Date			Strike	Level	Minutes	Casing	Sealed
							04/07/2025			5				
<div></div> <div>Scale: 1:25</div>							Daily Log Of Depths			Chiselling				
							Date			Casing	Water	From	To	Hours

<div></div> <div>EARTH ENVIRONMENTAL & GEOTECHNICAL A Technics Group Company</div>			Project Title: 246 Palatine Road, Didsbury				WS02																												
			Project Number: A6550		Client: Affordable & Stylish					Sheet 2 Of 2																									
			GL (mAOD): 34.00		N Coord: 390849		E Coord: 383493																												
Date: 04/07/2025			Method: Drilling Rig		Driller: PM Sampling		Logged By: TP																												
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe																											
4.50	D	N=21 (5,5,5,6)	29.00		5.00	Soft becoming very soft, dark grey, silty, organic CLAY. Frequent rootlets. Slight organic odour.																													
5.00	SPT				5.40	Medium dense, dark brown, silty, fine SAND.																													
5.60	D				5.40	Medium dense, orangish brown, gravelly, fine to coarse SAND. Gravel is angular to rounded, fine to coarse of sandstone, mudstone and quartz.																													
6.00	SPT	N=28 (6,7,7,8)	28.00		6.00	Medium dense, orangish brown, gravelly, fine to coarse SAND. Gravel is angular to rounded, fine to coarse of sandstone, mudstone and quartz.																													
7.00	SPT	N=44 (11,11,11,11)	7.00																																
7.30	D	7.70	Dense, light brown, slightly silty, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine of sandstone and mudstone.																																
8.00	SPT	N=35 (11,12,7,5)	26.00		8.00	Dense, orangish brown, gravelly, fine to coarse SAND. Gravel is angular to rounded, fine to coarse of sandstone, mudstone and quartz.																													
					End Of Borehole At 8.00 m																														
<div>KEY</div> <div>D - Disturbed Sample</div> <div>B - Bulk Sample</div> <div>U - Undisturbed</div> <div>W - Water Sample</div> <div>S - Standard Penetration Test</div> <div>C - Cone Penetration Test</div> <div>N - Penetration Test 'N' Value</div> <div>V - Hand Shear Vane kPa</div> <div> - Groundwater Strike</div> <div> - Groundwater Level</div> <div></div>			<div>REMARKS</div> <div>1. Borehole was scanned and an inspection pit dug to 1.20mbgl. 2. Borehole terminated at 8.00m bgl due to collapses in sand and gravel. 3. Borehole was installed with a monitoring well.</div> <div>Scale: 1:25</div>			<div>Water Strikes</div> <table><tr><th>Date</th><th>Strike</th><th>Level</th><th>Minutes</th><th>Casing</th><th>Sealed</th></tr><tr><td>04/07/2025</td><td>5</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>						Date	Strike	Level	Minutes	Casing	Sealed	04/07/2025	5																
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<div>Daily Log Of Depths</div> <table><tr><th>Date</th><th>Casing</th><th>Water</th><th>From</th><th>To</th><th>Hours</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>						Date	Casing	Water	From	To	Hours																								
Date	Casing	Water	From	To	Hours																														
<div>Chiselling</div> <table><tr><th>Date</th><th>Casing</th><th>Water</th><th>From</th><th>To</th><th>Hours</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>						Date	Casing	Water	From	To	Hours																								
Date	Casing	Water	From	To	Hours																														

APPENDIX 3

DYNAMIC PROBE TESTING RESULTS

Dynamic Probe Test Results Sheet

DP No: **WS01**

Site: **Palatine Road**

Date: **03-Jul-25**

Job Number: **A6550**

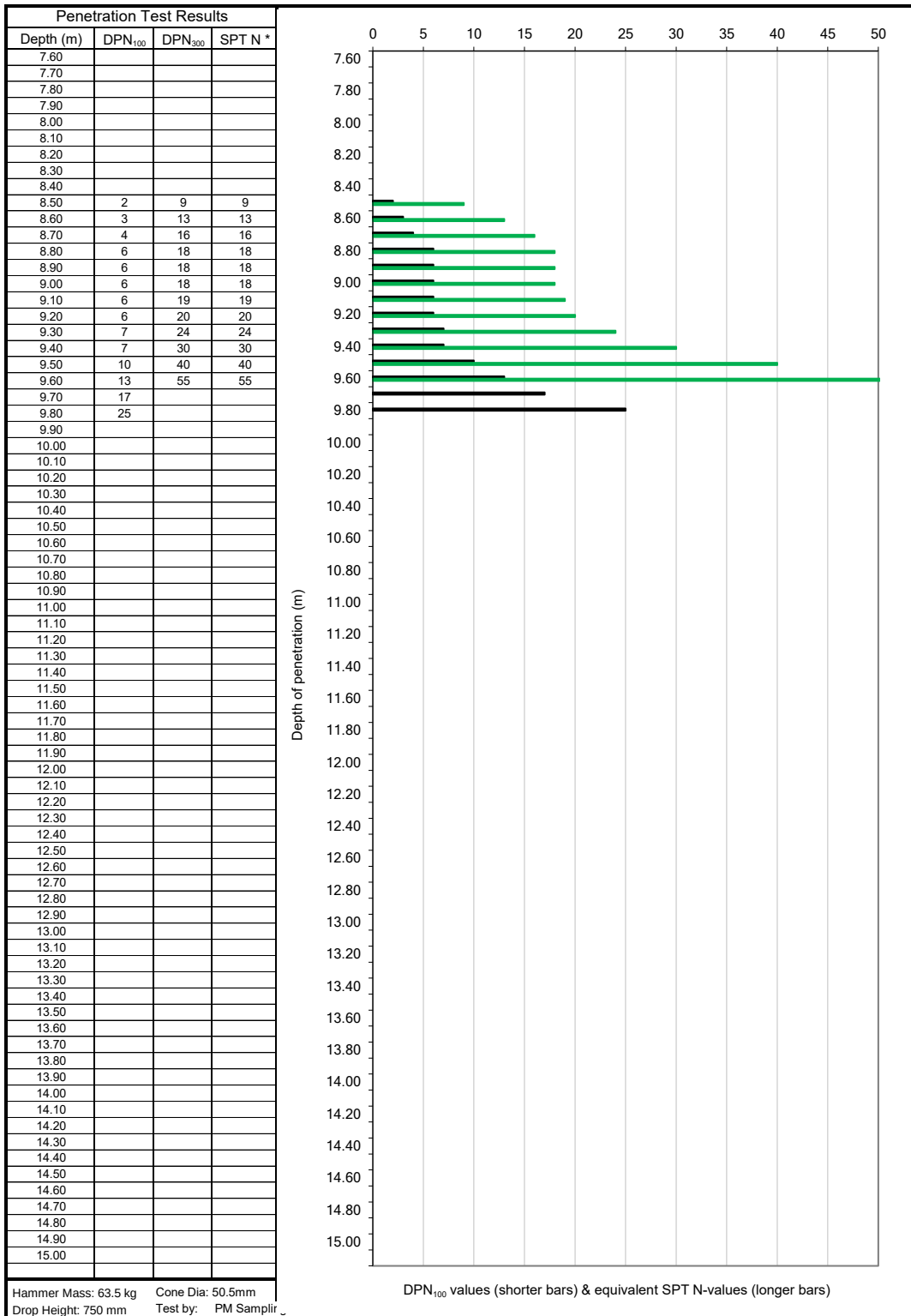
Test Type: **DPSH**

Client: **Affordable & Stylish**

Final Depth: **9.90**

Rig Type: **Competitor 130**

Sheet 2 of 1



Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: PM Samplir

General Remarks:

DPN₁₀₀ = Dynamic penetration resistance for 100mm penetration.

DPN₃₀₀ = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN₁₀₀ values), starting at the depth given.

* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN₃₀₀ values for dynamic probe "super-heavy" test (DPSH).

For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship $DPN_{300} = 1.5 \text{ SPT-N}$. [see Card, G.B., Roche, D.P. & Herbert, S.M., in Geol. Soc. Special Publication No 6, Field Testing in Engineering Geology (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

DP No: **WS02**

Site: **Palatine Road**

Date: **03-Jul-25**

Job Number: **A6550**

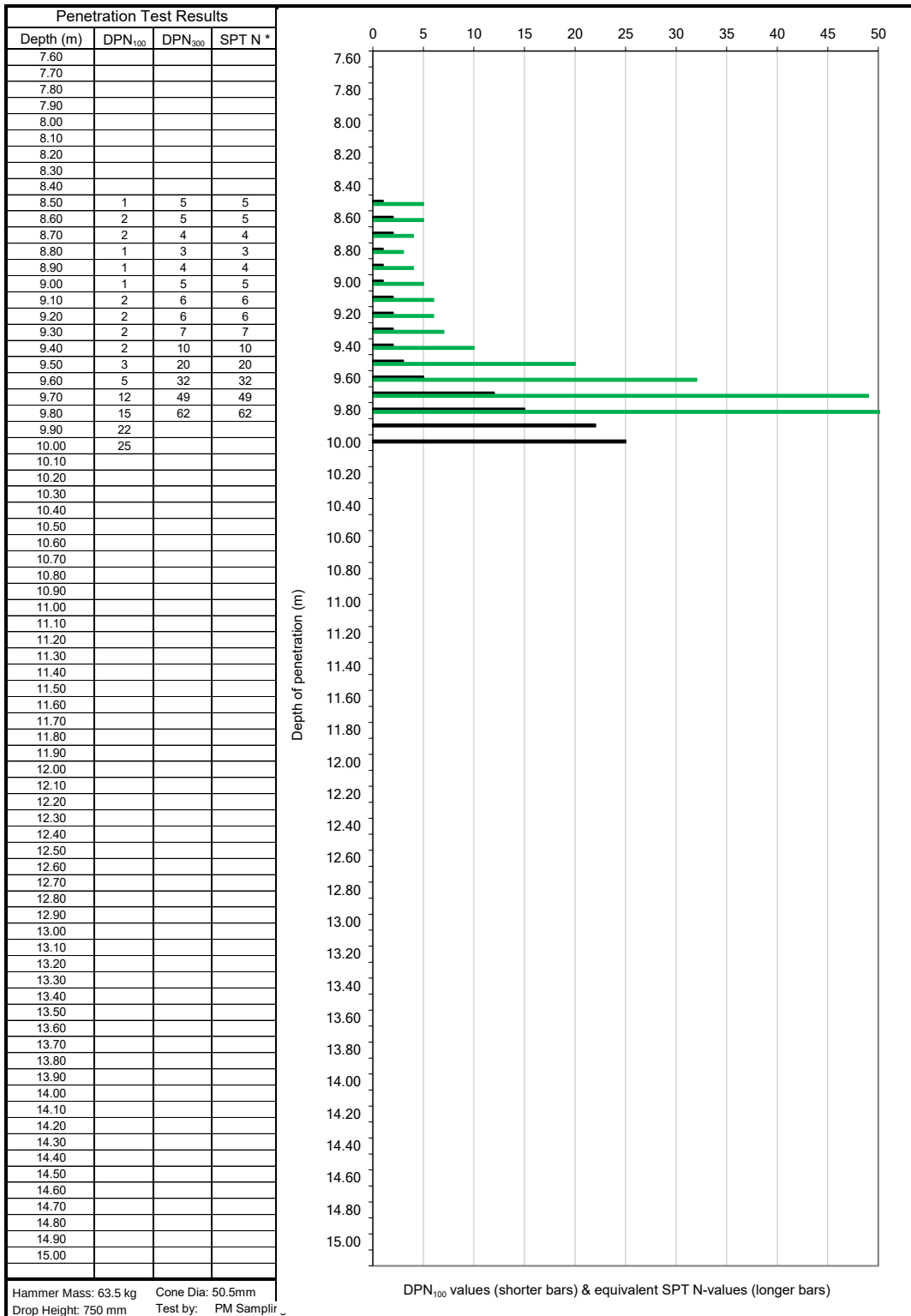
Test Type: **DPSH**

Client: **Affordable & Stylish**

Final Depth: **10.00**

Rig Type: **Competitor 130**

Sheet 2 of 1



Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: PM Samplr

General Remarks:

DPN₁₀₀ = Dynamic penetration resistance for 100mm penetration.

DPN₃₀₀ = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN₁₀₀ values), starting at the depth given.

* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN₃₀₀ values for dynamic probe "super-heavy" test (DPSH).

For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship $DPN_{300} = 1.5 \text{ SPT-N}$. [see Card, G.B., Roche, D.P. & Herbert, S.M., in Geol. Soc. Special Publication No 6, Field Testing in Engineering Geology (1990)]. SPT values are estimated and are for general guidance only.

APPENDIX 4

GEOTECHNICAL TESTING RESULTS

TEST REPORT

Client Earth Environmental & Geotechnical Ltd

Address Houldsworth Mill Business & Arts Centre
Houldsworth Mill
Reddish
Stockport
SK5 6DA

Contract A6550 -
246 Palatine Road, Didsbury

Job Number MRN 25001/52
Date of Issue 01 August 2025
Page 1 of 7

Approved Signatories

S J Hutchings, O P Davies

Notes

- 1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.
- 2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.
- 3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.
- 4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.
- 5 The results included within the report are representative of the samples submitted for analysis.
- 6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

Murray Rix is the trading name of Murray Rix (Northern) Limited. Registered in England 2878361

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

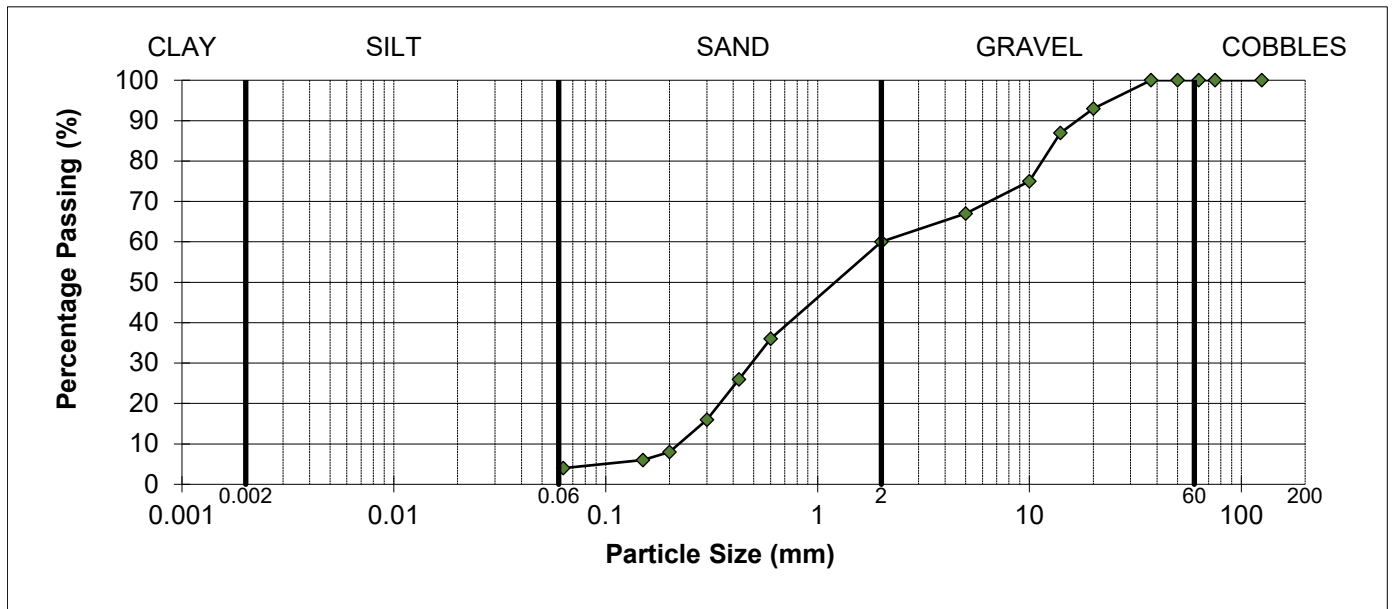
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A6550 - 246 Palatine Road, Didsbury
JOB NUMBER	MRN 25001/52

SAMPLE LABEL	WS01 6.5m D	DATE SAMPLED	03-Jul-25
LAB SAMPLE No	5122308	DATE RECEIVED	07-Jul-25
DATE TESTED	11-Jul-25	SAMPLED BY	Client

MATERIAL	Brown slightly silty very gravelly SAND
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	67	
75	100		2	60	
63	100		0.6	36	
50	100		0.425	26	
37.5	100		0.3	16	
20	93		0.2	8	
14	87		0.15	6	
10	75		0.063	4	



REMARKS

SIGNED



NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

MURRAY RIX
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

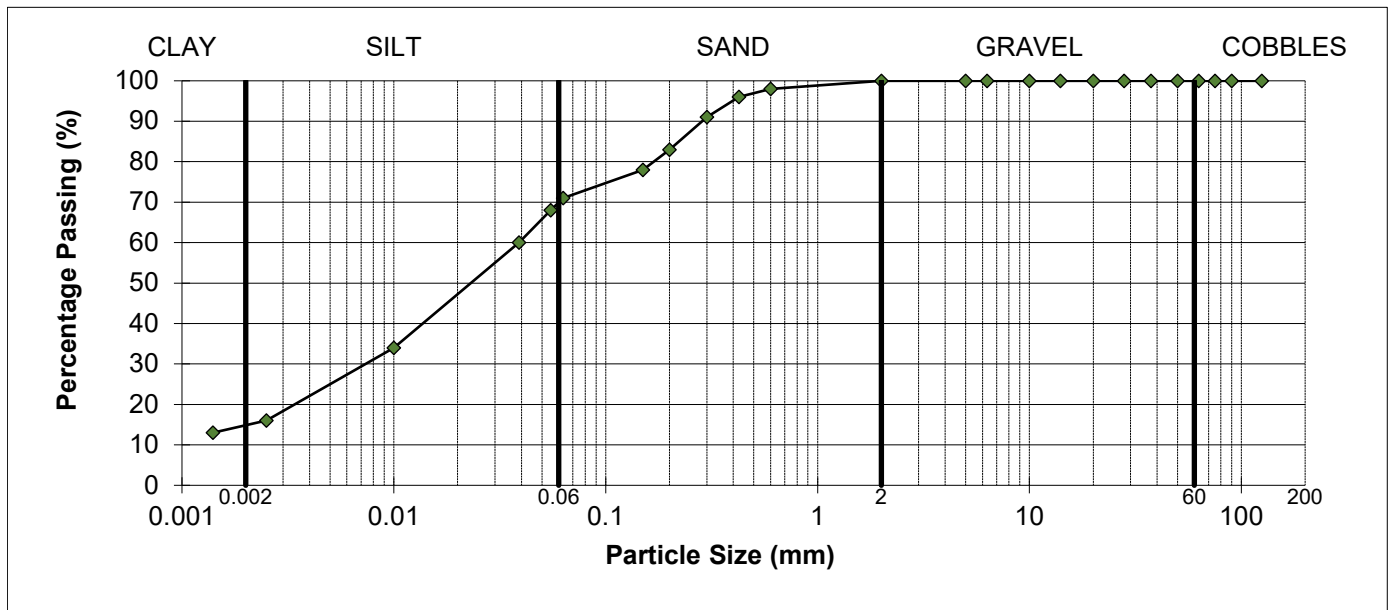
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd		
SITE	A6550 - 246 Palatine Road, Didsbury		
JOB NUMBER	MRN 25001/52		

SAMPLE LABEL	WS02 4.5m D	DATE SAMPLED	04-Jul-25
LAB SAMPLE No	5122319	DATE RECEIVED	07-Jul-25
DATE TESTED	12-Jun-25	SAMPLED BY	Client

MATERIAL	Brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	100	
90	100		0.6	98	
75	100		0.425	96	
63	100		0.3	91	
50	100		0.2	83	
37.5	100		0.15	78	
28	100		0.063	71	
20	100		0.055	68	
14	100		0.039	60	
10	100		0.01	34	
6.3	100		0.0025	16	
5	100		0.0014	13	



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

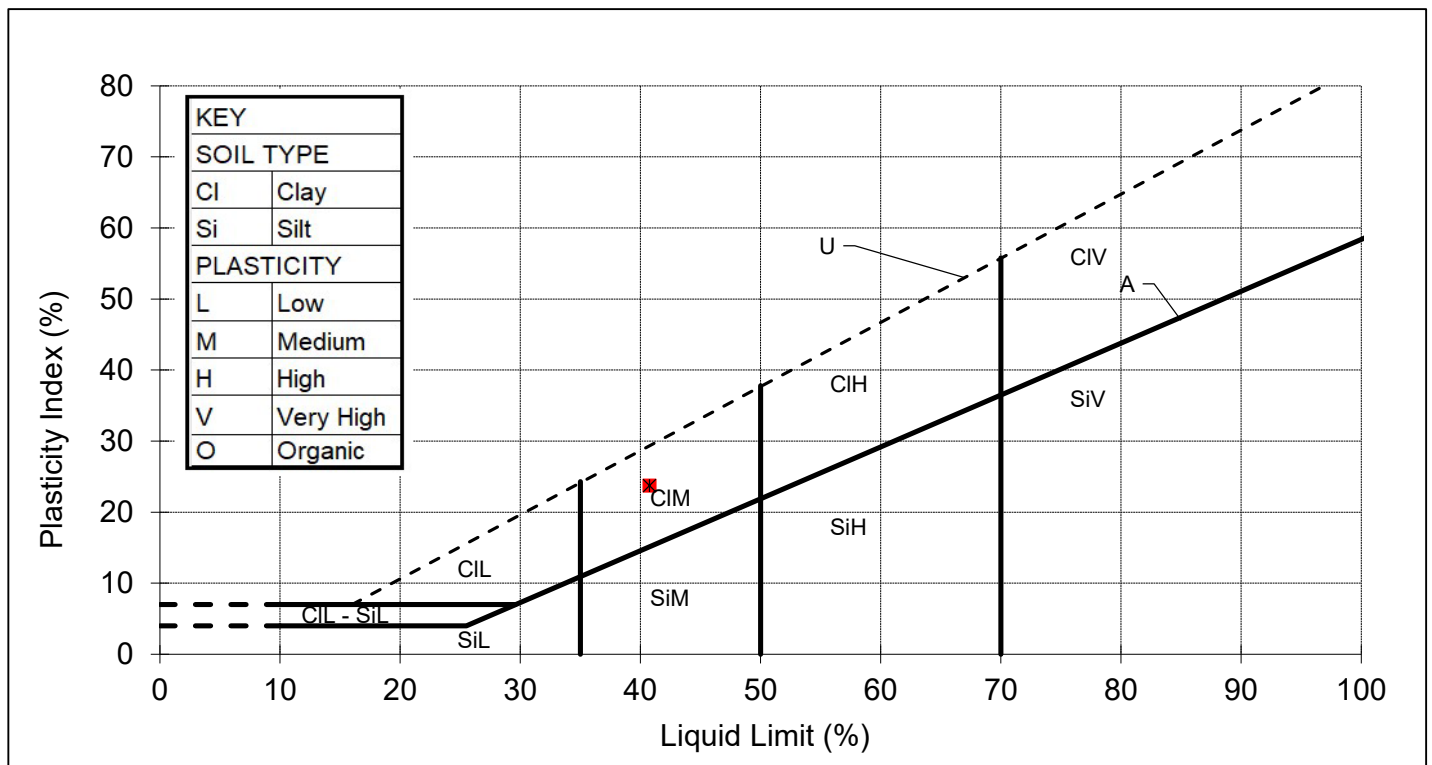
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A6550 - 246 Palatine Road, Didsbury
JOB NUMBER	MRN 25001/52

SAMPLE LABEL	WS01 3.2m D	DATE SAMPLED	03-Jul-25
SAMPLE No.	5122301	DATE RECEIVED	07-Jul-25
DATE TESTED	17-Jul-25	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.6	40.5	1.005	
Determination 2 (avg)	19.9	40.6		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
33.9	41	17	24	98



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

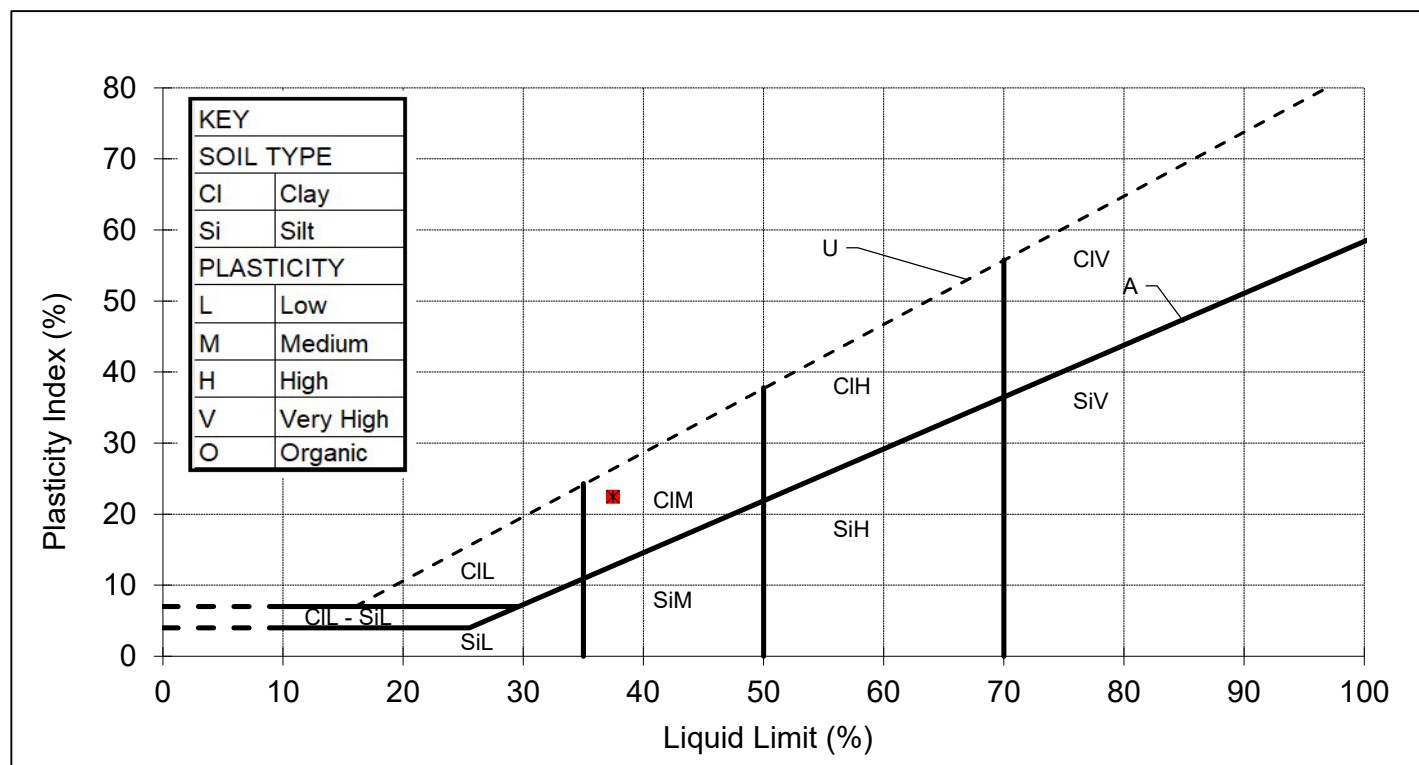
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A6550 - 246 Palatine Road, Didsbury
JOB NUMBER	MRN 25001/52

SAMPLE LABEL	WS01 4.0-4.45m D	DATE SAMPLED	03-Jul-25
SAMPLE No.	5122303	DATE RECEIVED	07-Jul-25
DATE TESTED	17-Jul-25	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)	Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.2	38.2	
Determination 2 (avg)	20.9	38.0	

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
27.4	37	15	22	94



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

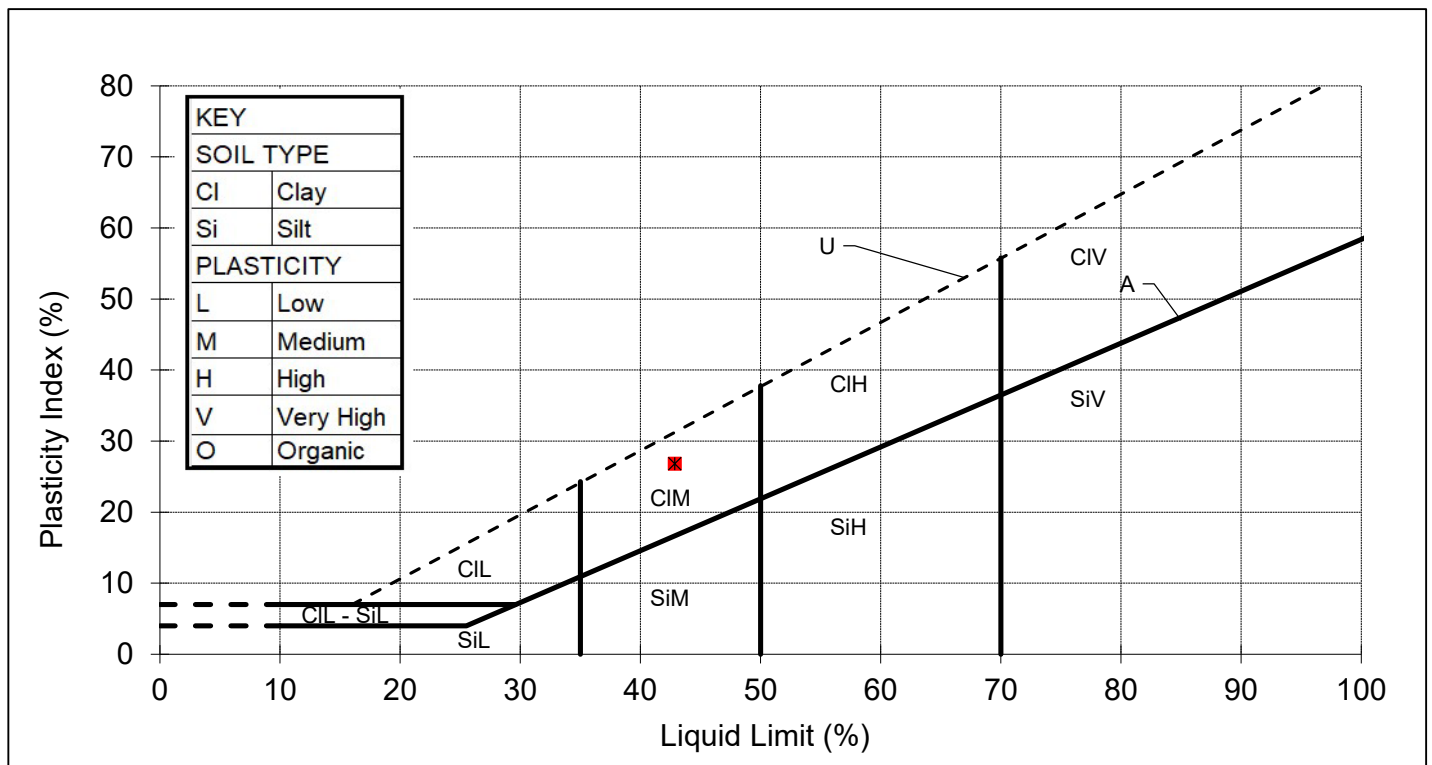
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A6550 - 246 Palatine Road, Didsbury
JOB NUMBER	MRN 25001/52

SAMPLE LABEL	WS02 1.8m D	DATE SAMPLED	04-Jul-25
SAMPLE No.	5122313	DATE RECEIVED	07-Jul-25
DATE TESTED	17-Jul-25	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	42.8	1.001	
Determination 2 (avg)	19.9	42.8		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
22.9	43	16	27	99



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

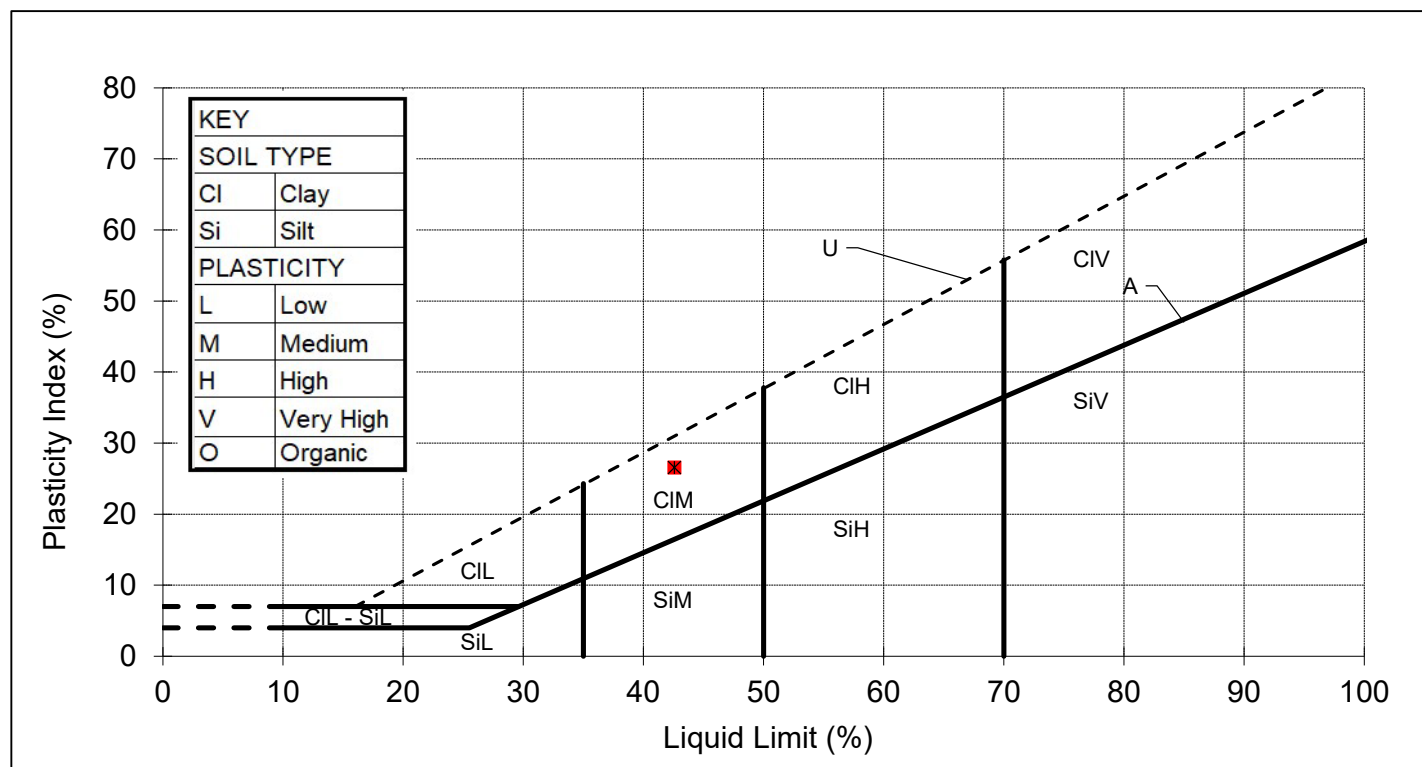
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A6550 - 246 Palatine Road, Didsbury
JOB NUMBER	MRN 25001/52

SAMPLE LABEL	WS02 3.0m D	DATE SAMPLED	04-Jul-25
SAMPLE No.	5122316	DATE RECEIVED	07-Jul-25
DATE TESTED	17-Jul-25	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Hand Picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	41.6	1.022	
Determination 2 (avg)	18.8	41.7		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
36.3	43	16	27	99



REMARKS

SIGNED

NAME

O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE

01-Aug-25

FINAL ANALYTICAL TEST REPORT

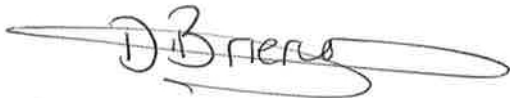
Envirolab Job Number: 25/07263
Issue Number: 1

Date: 11 July, 2025

Client: Earth Environmental & Geotechnical Ltd (Stockport)
Houldsworth Mill Business & Arts Centre ,
Houldsworth Street
Stockport
Cheshire
SK5 6DA

Project Manager: Daniel Shanks
Project Name: 246 Palatine Road, Didsbury
Project Ref: A6550
Order No: A6550/TP/01
Date Samples Received: 04/07/25
Date Instructions Received: 07/07/25
Date Analysis Completed: 11/07/25

Approved by:



Danielle Brierley
Client Services Supervisor

Envirolab Job Number: 25/07263

Client Project Name: 246 Palatine Road, Didsbury

Client Project Ref: A6550

Lab Sample ID	25/07263/1	25/07263/2	25/07263/3	25/07263/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS01	WS01	WS02	WS02						
Depth to Top	0.70	2.00	0.50	1.50						
Depth To Bottom										
Date Sampled	03-Jul-25	03-Jul-25	03-Jul-25	04-Jul-25						
Sample Type	SOIL	SOIL	SOIL	SOIL						
Sample Matrix Code	4ABE	4AB	4AB	4AB						
% Stones >10mm _A	<0.1	<0.1	<0.1	<0.1				% w/w	0.1	A-T-044
pH BRE _D ^{M#}	8.18	8.42	7.09	8.12				pH	0.01	A-T-031s
Ammonium NH4 BRE (water sol 2:1) _D	1.15	<1.00	<1.00	<1.00				mg/l	1	A-T-033s
Chloride BRE, SO4 equiv. (water sol 2:1) _D ^{M#}	<7	<7	<7	<7				mg/l	7	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1) _D	1.4	2.0	2.9	6.7				mg/l	0.4	A-T-026s
Sulphate BRE (water sol 2:1) _D ^{M#}	<10	<10	<10	16				mg/l	10	A-T-026s
Sulphate BRE (acid sol) _D ^{M#}	0.07	0.07	0.04	0.05				% w/w	0.02	A-T-028s
Sulphur BRE (total) _D	0.03	0.03	0.03	0.02				% w/w	0.01	A-T-024s
Magnesium BRE (water sol 2:1) _D	1.5	1.4	<1.0	1.6				mg/l	1	A-T-SOLMETs

Report Notes

General

- This report shall not be reproduced, except in full, without written approval from Envirolab.
- The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
- The results reported herein relate only to the material supplied to the laboratory.
- The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
- Analytical results reflect the quality of the sample at the time of analysis only.
- Opinions and Interpretations expressed are outside our scope of accreditation.
- A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
- If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
- Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript “#”	Accredited to ISO 17025
Superscript “M”	Accredited to MCertS
Superscript “U”	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript “A”	Analysis performed on as-received Sample
Subscript “D”	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript “D” on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript “^”	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis

“Trace Asbestos Identified” will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as “% stones >10mm”.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any “D” subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.

Results “with Clean up” indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.

Where these humic substances have been identified in any IDs from “TPH CWG with clean up” please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	Earth Environmental & Geotechnical Ltd (Stockport), Houldsworth Mill Business & Arts Centre , Houldsworth Street , Stockport, Cheshire, SK5 6DA	Project No:	25/07263
Project:	246 Palatine Road, Didsbury	Date Received:	07/07/2025 (am)
Clients Project No:	A6550	Cool Box Temperatures (°C):	20.2

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	25/07263/1	25/07263/2	25/07263/3	25/07263/4
Client Sample No				
Client Sample ID/Depth	WS01 0.70m	WS01 2.00m	WS02 0.50m	WS02 1.50m
Date Sampled	03/07/25	03/07/25	03/07/25	04/07/25
A-T-024s	11/07/2025	11/07/2025	11/07/2025	11/07/2025
A-T-026s	11/07/2025	11/07/2025	11/07/2025	11/07/2025
A-T-028s	11/07/2025	11/07/2025	11/07/2025	11/07/2025
A-T-031s	11/07/2025	11/07/2025	11/07/2025	11/07/2025
A-T-033s	10/07/2025	10/07/2025	10/07/2025	10/07/2025
A-T-044	11/07/2025	11/07/2025	11/07/2025	11/07/2025
A-T-SOLMETS	11/07/2025	11/07/2025	11/07/2025	11/07/2025

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX 5

GROUND GAS MONITORING RESULTS

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Palatine Road Didsbury	Job No: A6550
Date: 25/07/25	Engineer: HM
Time: 9am	Client:

METEOROLOGICAL & SITE INFORMATION

State of ground:	Dry ☒	Moist ☐	Wet ☐
Wind:	Calm ☒	Light ☐	Moderate ☐ Strong ☐
Cloud cover:	None ☐	Slight ☐	Cloudy ☒ Overcast ☐
Precipitation:	None ☒	Slight ☐	Moderate ☐ Heavy ☐

Barometric pressure (mb): 1020-1018 over 7hrs Local pressure system*: Falling Air temperature (°C): 17

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS01	0	0.0	0.0	0.3	16.9		4.43	5.52	H2S: 0 CO: 0
	15	0.0	0.0	3.3	15.9				
	30	0.0	0.0	4.9	14.3				
	45	0.0	0.0	5.2	13.0				
	60	0.0	0.0	5.5	12.2				
	120	0.0	0.0	5.9	11.3				
	180	0.0	0.0	7.1	9.6				
	240								
	300								

WS02	0	0.0	0.0	7.8	12.4		DRY	2.98	H2S: 0 CO: 0
	15	0.0	0.0	3.5	12.6				
	30	0.0	0.0	3.4	13.2				
	45	0.0	0.0	3.4	13.5				
	60	0.0	0.0	3.4	13.0				
	120	0.0	0.0	3.4	13.9				
	180	0.0	0.0	3.4	14.0				
	240								
	300								

Notes: TOC = top of casing

*The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.
* With reference to the Met Office rolling weather archive*

	Flow (l/hr)	CH ₄	CO ₂	O ₂
MIN	0.0	0.0	0.3	9.6
MAX	0.0	0.0	7.8	16.9
GSV		0	0	

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Palatine Road Didsbury
 Date: 04/08/25
 Time: 2.30PM

Job No: A6550
 Engineer: HM
 Client:

METEOROLOGICAL & SITE INFORMATION

State of ground: Dry ☐ Moist ☒ Wet ☐
 Wind: Calm ☒ Light ☐ Moderate ☐ Strong ☐
 Cloud cover: None ☐ Slight ☐ Cloudy ☒ Overcast ☐
 Precipitation: None ☐ Slight ☐ Moderate ☒ Heavy ☐
 Barometric pressure (mb): 1009-1010 over 7hrs Local pressure system*: Rising Air temperature (°C): 19

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS01	0	0.3	0.0	0.2	16.5		4.52	5.58	H2S: 0 CO: 0
	15	0.7	0.0	2.2	16.3				
	30	0.9	0.0	2.8	15.3				
	45	0.0	0.0	3.2	14.6				
	60	0.0	0.0	3.6	13.8				
	120	0.0	0.0	4.6	12.1				
	180	0.0	0.0	6.3	10.9				
	240								
	300								

WS02	0	0.0	0.0	6.0	13.0		DRY	2.97	H2S: 0 CO: 0
	15	0.0	0.0	3.6	13.4				
	30	0.0	0.0	3.6	13.7				
	45	0.0	0.0	3.6	13.8				
	60	0.0	0.0	3.6	13.8				
	120	0.0	0.0	3.6	13.9				
	180	0.0	0.0	3.6	14.1				
	240								
	300								

Notes: TOC = top of casing

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.
 * With reference to the Met Office rolling weather archive

	Flow (l/hr)	CH ₄	CO ₂	O ₂
MIN	0.0	0.0	0.2	10.9
MAX	0.9	0.0	6.3	16.5
GSV		0	0.0567	

APPENDIX 6

REPORT LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd based on a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget, and staff resources allocated to the project.

Other than that, expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd 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 Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important 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 will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2025 and should be read considering any subsequent changes in legislation, statutory requirements, and industry best 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 Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd 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 Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd 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, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth

Environmental & Geotechnical Ltd 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 Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full of 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 Earth Environmental & Geotechnical Ltd 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. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data 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 Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

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 Earth Environmental & Geotechnical Ltd] 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.